

# KATALOG



**SONDERANFERTIGUNGEN • VERTEILERSYSTEME  
ROHRE • ROHRFORMTEILE**



## LIEBE KUNDINNEN UND KUNDEN, LIEBE GESCHÄFTSFREUNDE! *DEAR CUSTOMERS AND BUSINESS ASSOCIATES!*

In einem Umfeld der ständigen Veränderung bedeutet es auch für Unternehmen wie KMH, sich den gegebenen Marktbedürfnissen bestmöglich anzupassen.

Die Globalisierung der Märkte in den letzten Jahrzehnten hat zu einer Ausweitung des Wettbewerbs im Standardsegment sowohl durch deutsche als auch internationale Unternehmen geführt. Standardteile von verschiedensten Herstellern ob aus Europa oder Fernost überschwemmen den Markt. Der Trend geht hier zu noch stärkerem Wettbewerb in den verschiedenen Qualitäts- und Preissegmenten.

Neben der Globalisierung leben wir jedoch auch in einer Zeit immer stärkerer Individualisierung. Die Generation „Y“ lebt die Individualität wie zuvor keine andere Generation. **Heute ist fast alles möglich.** Nicht nur im Privaten sondern auch im Beruflichen. Die Grenzen des Machbaren verschieben sich immer weiter. Dieser Megatrend hat natürlich auch Auswirkungen auf unseren Markt. Die Nachfrage nach Sonderanfertigungen ist so groß wie noch nie, sei es die zusätzliche Erdungslasche oder das technisch anspruchsvolle Bauteil.

In Zeiten von taggleichen sowie Übernacht-Lieferungen von Bestellungen durch große Online-Versandhändler besteht auch in unserem Marktsegment ein großer Wunsch nach immer kürzeren und vor allem verlässlichen Lieferzeiten.

Diesen Herausforderungen stellt sich KMH.

*An environment of constant change requires the best possible adaptation to current market needs, even for companies such as KMH.*

*Globalisation of markets in recent decades has led to increased competition in the standard segment among both German and international companies. Standard parts from various manufacturers whether from Europe or the Far East are flooding the market. The trend here is towards even stronger competition in various quality and price segments.*

*Besides globalisation, we also live in times of ever-increasing individualisation. Generation “Y” lives this individualisation like no other generation before. **Today virtually everything is possible.** Not only in private but also in professional life. The limits of feasibility are constantly pushed further. Of course, this mega-trend also has an impact on our market. The demand for custom-made products is greater than ever before, be it for an additional earthing lug or a technically sophisticated component.*

*In times of same-day or overnight deliveries by large online mail-order companies, there is also a growing demand for ever shorter and, above all, reliable delivery times in our market segment.*

*KMH is facing up to this challenge.*

## UNSER ANTRIEB? ERSTKLASSIGE PRODUKTE MIT BESTEM SERVICE VERBINDEN.

Für Rohrsysteme werden vorwiegend beide Komponenten benötigt: Standardteile und Sonderanfertigungen. KMH deckt vom einfachen Bauteil bis zur komplexen kundenindividuellen Sonderanfertigung die ganze Produktpalette ab. Das bedeutet für KMH auch eine enorme Variantenvielfalt. Auf diese sind wir besonders stolz. **Seit 35 Jahren hören wir nicht da auf, wo der Wettbewerb aufhört** – wir machen alles möglich.

Komplexität geht immer auch mit gewissen Herausforderungen einher, die KMH gut zu meistern weiß:

- Wir liefern unsere Standardteile kostengünstig mit hoher Qualität und kurzen Lieferzeiten.
- Wir liefern kundenindividuelle Sonderanfertigungen zur richtigen Zeit an den richtigen Ort.

Das Ziel von KMH ist es für seine bestehenden Kunden den gewohnt zuverlässigen Service dauerhaft zu sichern und für unsere Neukunden die attraktivste Alternative am Markt zu sein. Im Standardbau und insbesondere bei Sonderanfertigungen.

Deshalb wollen wir mit unserem neuen Logistikkonzept auch genau das noch stärker in den Fokus unseres Handelns einbinden. Kurze und verlässliche Lieferzeiten bei gewohnt hoher Qualität und zu einem fairen Preis.



## OUR MOTIVATION? CONNECTING BEST PRODUCTS WITH EXCELLENT SERVICE.

*For pipe systems, usually both components are required: Standard parts and special designs. KMH covers the entire product range from the simple component to complex custom-made products. For KMH this also means an enormous variant diversity. And we are particularly proud of this.*

**For over 35 years we never quit where the competition ends** – we make things happen.

*Complexity always goes hand in hand with certain challenges and KMH has the capability to master them:*

- We supply our high quality standard parts cost-effectively and with short delivery periods.
- We deliver custom-made special designs to the right place at the right time.

*KMH's goal is to permanently ensure the usual reliable service for existing customers and to be the most attractive alternative on the market for our new customers. In standard designs and, in particular, in custom-made products.*

*With our new logistics concept, we strive to put even more focus on precisely this aspect in our activities. Short and reliable delivery times at the usual high quality and at a fair price.*



## IHRE ZUFRIEDENHEIT LIEGT UNS AM HERZEN.

Um auf die unterschiedlichen Bedürfnisse seitens unserer Kunden einzugehen, werden wir die unterschiedlichen Anforderungen für Standardbau und Sonderanfertigung noch stärker priorisieren. Kurzfristig verfügbar haben, was kurzfristig geliefert werden muss. Verlässlich liefern, was individuell gefertigt und benötigt wird.

Für Sie maßgeschneidert von uns – von unseren engagierten Mitarbeiterinnen und Mitarbeitern, bei denen wir uns an dieser Stelle für ihren täglichen unermüdlichen Einsatz bedanken wollen.

Dankeschön an Sie, unsere treuen Kunden, denn Sie machen uns stolz: indem Sie uns jeden Tag durch Unterstützung und Zusammenarbeit zeigen, was echte Partner auszeichnet.

„Der Mensch hat die Eigenart, eine einmal gebildete Meinung erst dann zu ändern, wenn er vor Tatsachen gestellt wird, die es unmöglich machen, die bisherige Meinung weiter aufrechtzuerhalten. Worte schaffen das nicht.“ Und weil das so ist, möchten wir Sie durch Taten überzeugen! Probieren Sie es doch einmal mit KMH – wir sind einfach ... anders!

Wir sind heute nicht ohne Grund die Nr. 1 im Sonderbau. Und Standard können wir natürlich auch!

Mit herzlichen Grüßen aus Bassum,  
Familie Kammann

## YOUR SATISFACTION IS OUR AMBITION.

*In order to meet the wide-ranging demands of our customers, we will set even greater priority on the different requirements for standard products and special designs. Ensuring short-term availability of parts that require short notice delivery. Deliver reliably what is required and needs to be manufactured individually.*

*Custom made for you by us – from our committed employees, whom we herewith would like to thank for their daily tireless efforts.*

*Thank you, our loyal customers for making us proud: by daily demonstrating what distinguishes real partnership through your support and cooperation.*

*“People have a peculiarity of only changing an existing opinion, once they are confronted with facts that refute this opinion. Words alone are not enough.” Being aware of this fact, we want to convince you through our actions! Try KMH – we are simply ... different!*

*It is for a good reason that we are the leaders in custom made production. And standard is no problem for us either!*

*With warm regards from Bassum,  
Family Kammann*



**WIR MÖCHTEN MIT TATEN ÜBERZEUGEN!**  
*WE WANT TO CONVINCE YOU THROUGH OUR ACTIONS!*

## VERÄNDERUNG AKTIV GESTALTEN

Mit unserem Portfolio an herausragenden Kunden und individuellen Produkten im Rücken, machen wir den nächsten Schritt in Richtung Zukunft, um noch besser zu werden. Für Sie!

Die zurückliegenden Jahre standen bereits im Zeichen großer Veränderungen für unsere Fertigung: neue Produktionsflächen, neue Produktionsstrukturen und Technologien. Hier wollen wir aber nicht aufhören und verharren. Vielmehr hinterfragen wir im Rahmen unseres kontinuierlichen Strebens nach Verbesserung permanent unser Handeln. Seien es neue Technologien, Organisationsstrukturen und -abläufe oder auch Mitarbeiterqualifikationen.

Wir sind permanent bestrebt, durch neue Technologien unsere Produktionsgeschwindigkeit für Sie zu erhöhen und die Qualität zu verbessern.

Wir richten unsere Strukturen und Prozesse an der Wertschöpfung aus, um Ihnen ein effizient gefertigtes Produkt zu liefern.

Wir entwickeln die Qualifikation unserer Mitarbeiter stetig weiter, um so die Grundvoraussetzungen zu schaffen, Ihrem Individualitätsgrad und Ihren Qualitätsansprüchen gerecht zu werden oder sogar voraus zu sein.

Bei all diesen Veränderungen und Weiterentwicklungen haben wir ständig den Fokus auf eine Sache: Für Sie, unsere Kunden, ein noch besserer Anbieter für innovative und individuelle Produkte zu werden.

Vielen Dank für Ihr Vertrauen.

## CREATE CHANGES ACTIVELY

*With our portfolio of excellent customers and individual products at our backs, we are taking the next step towards the future to become even better, for you!*

*The past years have already stood for big changes in our production: New production areas, new production structures and technologies. But, we do not intend to stop here and rest.*

*In our pursuit to constantly improve, we rather review and examine our activities. Whether it is new technologies, organizational structures and processes but also qualifications of our employees.*

*By investing in new technologies, we are permanently determined to increase our production speed, and improve the quality for you.*

*We continuously develop and align our structures and processes to create added value in order to supply you with an efficiently manufactured product.*

*The qualifications of our employees are consistently being improved to form the basic requisite in order to meet your individuality and demand for high quality or indeed to be ahead.*

*With all these changes and further developments, we constantly focus on one thing: To become an even better supplier of innovative and individual products for you, our customers!*

*We thank you for your trust.*



**Martina Kammann**  
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Geschäftsführende Gesellschafterin  
*CEO*



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Produktionsleiter  
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UNSER STARKES KMH-TEAM  
*OUR STRONG KMH-TEAM*

# INHALT

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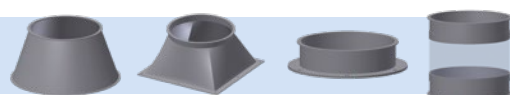
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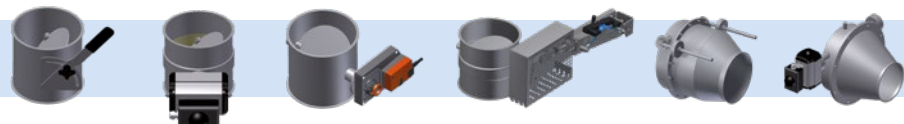
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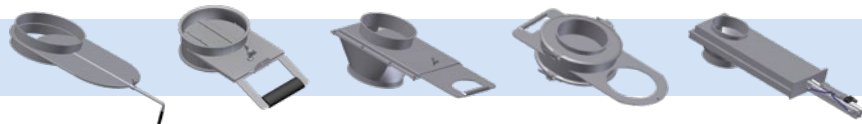
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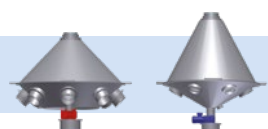
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Vertretungen national – international, KMH-Marken, Produktinformationen, Technische Informationen

*Agencies national – international, KMH-Brands, Product information, Technical information*

KMH-Sonderanfertigungen

*KMH-Special designs*

Rohre, Anschweißenden, Einschiebrohre, Ringdichtungen und Spannringe

*Pipes, Welding ends, Insertible pipes, Ring seals and Clamping rings*

Rohrbögen, Segmente

*Pipe bends, Segments*

T-Stücke, Gabelstücke, Konische Gabelstücke, Hosenrohre, Konische Hosenrohre

*T-pieces, Forks, Conical forks, Y-Pieces, Conical Y-Pieces*

Kontrollstutzen, Gummideckel, Deckelarretierungen, Plexiglasrohre, Kontrollrohre, Reinigungsrohre

*Inspection tees, Rubber covers, Locking covers, Plexi-glass and Inspection pipes, Cleaning pipes*

Konusstücke, Übergangsstücke, Anschlussstutzen, Adapterstücke, Blinddeckel, Lochgitter, Zusatzluftdrosseln & -deckel, Schlauchanschlussstutzen, Schläuche, Schlauchschellen, Schlauchadapter, Kompensatoren, Sackstutzenentöpfe, Sackschnallen, Regen- und Deflektorhauben, Dachdurchführungen, Regenkragen, Ausblasrohre

*Cone pieces, Transition pieces, Connecting pieces, Adapter pieces, Blanking covers, Sheet metal lattices, Air covers, Air bleeds, Hose connections, Hoses, Hose clamps, Adapters for hoses, Compensators, Bagging spouts, Sack straps, Rain caps, Jet caps, Rain collars, Ceiling ducts, Exhaust pipes*

Spannringe, Schnellverschlussspannringe, Bördeldichtringe, Flansche, KMH Vario-Rohrschellen, Rohrschellen, Zubehör

*Clamping rings, Quick-lock clamping rings, Sealing rings, Flanges, KMH Vario Pipe-clamps, Pipe clamps, Accessories*

Deckenklappkästen, Rohrklappkästen

*Two-way symmetrical and asymmetrical valves*

Rohrdrosselklappen, Rückschlagklappen, Absperrklappen, Freiflussklappen

*Throttle valves, Non-return valves, Shut-off valves, Free flow valves*

Luft- und Rohrregulierschieber, Auslaufschieber, Schieber, Rohrschieber, Redler- und Silo- Auslaufschieber

*Airflow and Pipe regulator gates, Outlet gates, Regulator gates, Redler- and Silo-outlet gates*

Drehrohrverteiler

*Swing spout distributors*

Erdungsclips, Erdungslaschen, Erdungskabel, Abschneid- und Bördelvorrichtungen, Spraylacke, Zubehör

*Earthing clips and wires, Cutting- and flange fixtures, Lacquer sprays, Accessories*

Allgemeine Geschäftsbedingungen, Stichwortverzeichnis A–Z

*General terms and conditions, Subject Index A–Z*

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## DIE KUNST DER VERTEIL- TECHNIK

KMH ist einer der führenden Hersteller in Europa von spannring- oder flanschverbundenen Rohren, Komponenten und Systemen für Aspiration und Schüttgüter aller Art. Aus Stahl und Edelstahl.

Wir bieten ein umfangreiches Katalogprogramm mit Rohren, Rohrformteilen und Verteilersystemen im „Baukastensystem“.

Unsere Spezialität sind individuelle Rohrsysteme und maßgeschneiderte Sonderanfertigungen aller Art, um schnell und flexibel auf Ihre individuellen Anforderungen reagieren zu können.

Alles komplett aus eigener Herstellung –  
 Made in Germany.

Wir sind: schnell, innovativ und kompetent in der Umsetzung.

Seit über 35 Jahren. Weltweit.

Ob Standardprogramm, Serie oder Einzelanfertigung –  
 wir sind für unsere Kunden da!

## THE ART OF DISTRIBUTION TECHNOLOGY

*KMH is one of the leading manufacturers in Europe for clamping ring- or flange-connected pipes, components and systems for aspiration and bulk goods of all kinds. Made of black steel and stainless steel.*

*We offer a comprehensive catalogue range with pipes, formed pipe parts and distribution systems in the "modular system".*

*We specialise in individual pipe systems and special customized products of all kinds, in order to be able to respond quickly and flexibly to your special requirements.*

*All entirely from our in-house manufacturing –  
 Made in Germany.*

*We are: fast, innovative and competent in the implementation.*

*For over 35 years. Worldwide.*

*Whether standard range, series or individual production –  
 we are at the service of our customers!*



# DIE KMH-PRODUKTFAMILIE

## THE KMH-PRODUCT FAMILY

### STANDARDPRODUKTE LEISTUNGSFÄHIGE ROHRSYSTEME AUS DEM KMH-BAUKASTEN

Das Baukastensystem unserer Standardprodukte umfasst Tausende exakt aufeinander abgestimmte Produkte. Es ist flexibel und leicht zu handhaben – die benötigten Komponenten auswählen, miteinander verbinden und schon lassen sich einfach und schnell komplexe Installationen realisieren.

### STANDARD PRODUCTS HIGH PERFORMANCE PIPE SYSTEMS FROM THE KMH-MODULAR CONSTRUCTION SET

*The modular system of our standard products includes thousands of perfectly coordinated products. It is flexible and easy to manage – select the required components, interconnect them, and you can quickly and easily implement complex installations.*

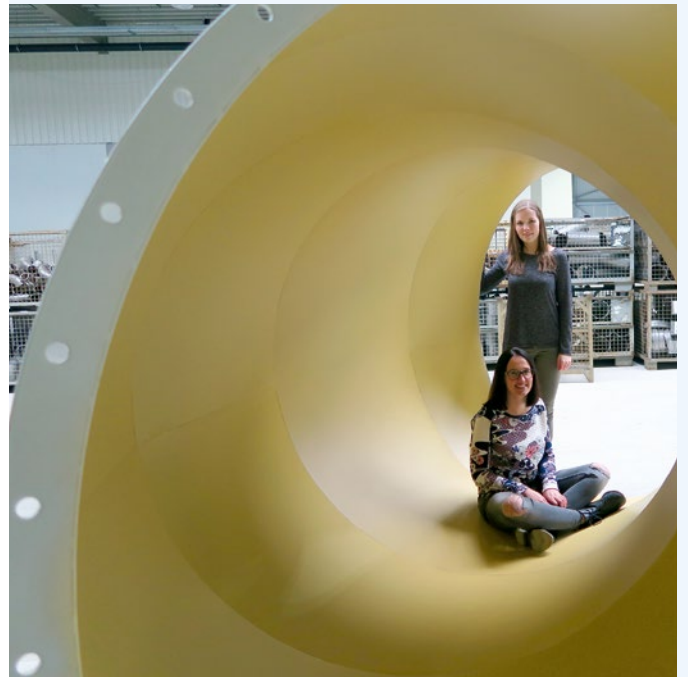


### SONDERANFERTIGUNGEN SONDERTEILE, EINE SPEZIALITÄT VON KMH

Ob modifizierte Standardprodukte aus dem Katalog oder Neuentwicklungen: wo das Standardsystem nicht ausreicht, haben wir uns auf individuelle Lösungen "SPEZIALISIERT". KMH-Sonderanfertigungen werden nach Ihren Vorgaben und Bedürfnissen kompatibel zum Standardsystem produziert.

### SPECIAL PRODUCTIONS CUSTOM-MADE PARTS, A SPECIALITY OF KMH

*Whether modified standard products from the catalogue or new developments: Where the standard system is not enough, we have "SPECIALIZED" in individual solutions. KMH special productions are produced according to your specifications and requirements and compatible with standard systems.*





## **ATEX** **SICHER VOR DEM GROSSEN KNALL**

Für alle Unternehmen, die ATEX-relevante Güter in Rohrsystemen transportieren, liefern wir von KMH das gesamte Produktspektrum in ATEX-konformer Ausführung.

## **ATEX** **PROTECTED AGAINST THE BIG BANG**

*For all companies which transport ATEX-relevant products in pipe systems, we supply the entire KMH product range in ATEX-compliant design.*



## **PROTECT** **HERRLICH OBERFLÄCHLICH**

Veredelung: gebürstet, poliert, electropoliert.  
Beschichtungen: z.B. Antihaftbeschichtungen, chemikalienbeständige Beschichtungen

## **PROTECT** **SUPERBLY SURFACED**

*Finishing: brushed, polished, electro-polished.  
Surfacing: e.g. non-stick coatings, chemical-resistant coatings.*



# KMH-PHILOSOPHIE

Wir haben über **35 Jahre Erfahrung** in der Rohrsystemfertigung. Dabei konzentrieren wir uns auf das Wesentliche. Nämlich auf die Baukastenprodukte, die Sie **von heute auf morgen** benötigen. Lieferung ab Werk. **Voll SPEED.**

Wir haben für Sie (fast) **das volle Programm auf Lager**. Sie bestimmen nur noch die Oberfläche (gepulvert, gebeizt, gestrahlt, verzinkt, ...). **Wir haben POWER.**

Individuelle Fertigung ist Teil unserer KMH-Philosophie: Wir bauen auch komplizierteste Sonderprodukte **innerhalb kürzester Zeit** nach technischer Klärung. Maßgeschneiderte Sonderanfertigungen aller Art sind unsere Spezialität. **Wir sind FLEXIBEL.**

**WIR SIND DIE NR. 1 IM SONDERBAU.**

## KMH-PHILOSOPHY

*We have over **35 years' experience** in pipe system manufacturing. We focus on the essentials. Namely, the modular products you need **from one day to the next**. Delivery ex works. **Full SPEED.***

*We have (almost) the **full range in stock** for you. You just decide the surface (powdered, pickled, blasted, galvanized, ...). **We have POWER.***

*Individual manufacturing is part of our KMH philosophy: We build even the most complicated special products within **the shortest delivery time** after technical clarification. Customised special constructions of all kinds are our speciality. **We are FLEXIBLE.***

**WE ARE THE NO.1  
IN SPECIAL CONSTRUCTIONS.**





# VERTEILEN – ENTSTAUBEN – VERSORGEN: DIE OPTIMALE LÖSUNG FÜR IHRE ANWENDUNG

*DISTRIBUTE – DUST OFF/ POLISH – SUPPLY:  
THE BEST SOLUTION FOR YOUR APPLICATION*

## BRANCHEN

- z. B.
- Lüftungs- und Umwelttechnik
  - Futtermittelindustrie
  - Mühlen- und Anlagenbau
  - Nahrungs- und Genussmittelindustrie
  - Chemische Industrie
  - Pharmazeutische Industrie
  - Kunststoffindustrie
  - Papierindustrie
  - Recycling
  - Halbleiterindustrie
  - u. v. m.

## PRODUKTE

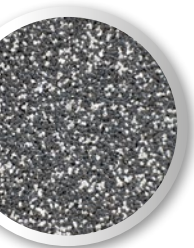
- z. B.
- Saatgut
  - Gewürze
  - Tierfutter
  - Getreide
  - Baustoffe
  - Granulate
  - Pulver
  - Tabak
  - Schweißrauch
  - Ölnebel
  - Lösemittel
  - Schleifstäube
  - Niederdruckversorgung
  - u. v. m.

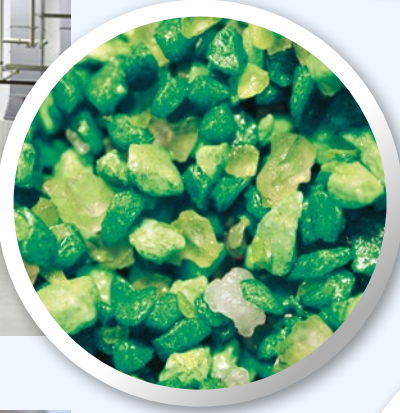
## SECTORS / INDUSTRIES

- e.g.
- Ventilation and Environmental technology
  - Feed industry
  - Mill and plant construction
  - Foodstuffs
  - Drinks and tobacco industries
  - Chemical industry
  - Pharmaceutical industry
  - Plastics industry
  - Paper industry
  - Recycling
  - Semi-conductor industry
  - etc.

## PRODUCTS

- e.g.
- Seeds
  - Spices
  - Animal feed
  - Cereals
  - Building materials
  - Granules
  - Powder
  - Tobacco
  - Welding fumes
  - Oil mist
  - Solvents
  - Grinding dust
  - Low-pressure supply
  - etc.





# DIE TECHNISCHEN SEITEN VON KMH: DAS SOLLTEN SIE WISSEN!

## Materialien:

- Stahl DC 01, DC 04
- Edelstahl 1.4301,  
Temperaturbeständigkeit: 450°C \*  
\* in Abhängigkeit vom Dichtungsmaterial und Durchflussmedium
- **andere Materialien auf Anfrage (z.B. 1.4571, 1.4404)**

## Oberflächen:

### Pulverbeschichtung:

- **Grundierung:** innen und außen, RAL 7032,  
Schichtstärke 40–50µ,  
EP-PE (Epoxi-Polyester-Mischung), lebensmittelgeeignet,  
Temperaturbeständigkeit bis 120°C
- **Lackierung:** innen und außen, diverse RAL Farben  
Schichtstärke 40–50µ,  
PE-Lack (Polyester),  
Temperaturbeständigkeit bis 120°C
- **ableitfähiger Lack auf Anfrage**
- **Hinweis:** Die Schichtdecke innen ist optisch deckend.  
Sie ist grundsätzlich nur erforderlich, um einen temporären  
Korrosionsschutz unter Lager- und Transportbedingungen bis  
zum Einbau der Produkte zu erreichen.

### Edelstahl:

- gebeizt und passiviert
- **gestrahlte Oberflächen auf Anfrage**
- **polierte Oberflächen auf Anfrage**

### Verzinkung:

- **Feuerverzinkung** nach DIN ISO 1461, Schichtstärke 70–150µ  
Temperaturbeständigkeit bis 200°C
- **Galvanische Verzinkung** nach DIN 50961-Zn 8/B,  
Temperaturbeständigkeit bis 120°C

### Schützen und Veredeln:

- Beschichten (z.B. PTFE, ICS)
- Auskleiden (z.B. Rhino Hyde, Kryptane, RCH 1000)
- Veredeln (z.B. Bürsten, Polieren)

## Toleranzen:

- Durchmesser und Rundheit entspr. DIN EN 10296-1
- Längen und Winkelmaße entspr. DIN ISO 2768-1-V  
**Ausnahme:** Winkeltoleranz  $\pm 1^\circ$  für ballige Segmente  
und Übergangsstücke mit Neigung
- Allgointoleranzen für Schweißkonstruktionen  
entspr. DIN ISO 13920 T1-B
- Festigkeit und Dichtheit der Spannringverbindung  
entspr. DIN EN 12237

## Für Rohrteile gilt:

- Außen  $\varnothing$  Rohr +12mm = Außen  $\varnothing$  Bördelkante (6mm Bördelkante)
- für Verbindungen mit Flanschen lose hinter Bördelkante:  
Außen  $\varnothing$  Rohr +16mm = Außen  $\varnothing$  Bördelkante (8mm Bördelkante)

## Montagemöglichkeiten:

### Spannringverbindung:

- Anzugsmoment 10Nm
- **Spannring galv. verzinkt** mit eingelegter Dichtmasse  
(lebensmittelgeeignet) für: 1–1,5; 2 und 3mm Rohrbau  
Durchmesser 80–630mm
- **Spannring VA** mit eingelegter Dichtmasse  
(lebensmittelgeeignet) für: 1–1,5 und 2mm Rohrbau  
Durchmesser 80–630mm
- **Spannring für Bördeldichtring** für 1–2mm Rohrbau  
Durchmesser 80–630mm  
galv. verzinkt und VA
- **Bördeldichtringe:** EPDM, NBR, Silikon und Viton  
für 1–2mm Rohrbau
- **EPDM, NBR und Silikon auch leitfähig**

### Flanschverbindung:

- **Flansche:** DIN 24154 Teil 1, Teil 2
- **Bördeldichtringe:** EPDM, NBR, Silikon und Viton  
für Losflanschverbindungen
- **EPDM, NBR und Silikon auch leitfähig**

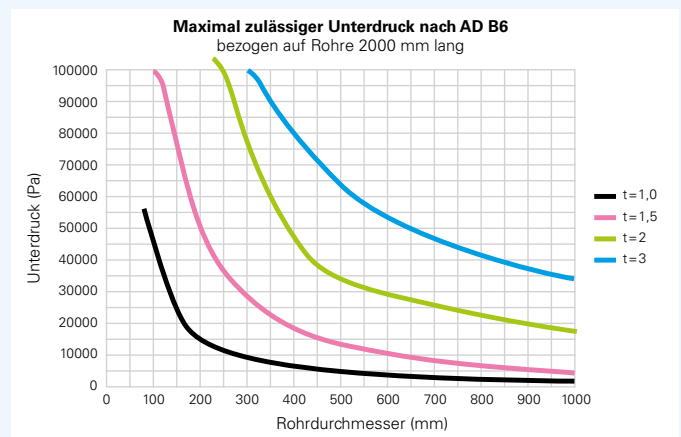
### Bitte beachten:

Die ausgewählten Bördeldichtringe müssen zu Materialstärke  
und Medium passen!  
Weitere Informationen siehe Kapitel 6, Seite 90/91.

## Potenzialausgleich durch:

- **KMH-Erdungsclip** (für Edelstahl und verzinkte Produkte,  
einfache Montage ohne Werkzeug) **oder**
- **Erdungslaschen** mit Erdungskabel
- **leitfähige Bördeldichtringe** bei Edelstahl und verzinkt

## Unterdruck:



Technische Informationen finden Sie auch unter:  
**[www.kmh.net/downloads](http://www.kmh.net/downloads)**

# THE TECHNICAL SIDE OF KMH: WHAT YOU SHOULD KNOW!

## Materials:

- Steel DC 01, DC 04
- Stainless steel 1.4301,  
temperature resistant to 450°C \*  
\* depending on seal material and medium flow
- other materials on request (e.g. 1.4571, 1.4404)**

## Surfaces:

### Powder coating:

- Primer:** inside and outside, RAL 7032,  
layer thickness 40–50µ,  
EP-PE (Epoxy-polyester blend), Food grade  
Temperature resistant to 120°C
- Coating:** inside and outside, various RAL colours  
layer thickness 40–50µ,  
PE coating (Polyester),  
Temperature resistant to 120°C
- conductive coating on request**
- Advice:** Layer thickness on the inside:  
The surface is optically covered. The coating on the inside  
is only necessary to provide temporary corrosion protection  
in storage and transport conditions until products have been  
installed.

### Stainless steel:

- white pickled and passivated
- blasted surface on request**
- polished blasted surface on request**

### Galvanizing:

- Hot dip galvanizing:** in accordance with DIN ISO 1461,  
layer thickness 70–150µ, temperature resistant to 200°C
- Galvanized zinc plating:** in accordance with DIN 50961-Zn 8/B,  
temperature resistant to 120°C

### Protect and Refine:

- Coating (e.g. PTFE, ICS)
- Protect (e.g. Rhino Hyde, Kryptane. RCH 1000)
- Refine (e.g. brushed, polished)

## Tolerances:

- Diameter and circularity corr. DIN EN 10296-1
- Lengths and angles corr. DIN ISO 2768-1-V  
**Exceptions:** Angle tolerance  $\pm 1^\circ$  for spherical segments  
and sloping transition pieces
- General tolerances for welded constructions corr.  
DIN ISO 13920 T1-B
- Strength and tightness of the clamping ring connection  
according to DIN EN 12237

### Applicable to piping:

- Outer  $\varnothing$  pipe + 12mm = Outer  $\varnothing$  flanged edge (6mm flanged edge)
- for connections with loose flanges behind flanged edge:  
Outer  $\varnothing$  pipe + 16mm = Outer  $\varnothing$  flanged edge (8mm flanged edge)

## Mounting options:

### Clamping ring connection:

- Torque 10Nm
- Galvanized zinc clamping:** ring with sealant inserted  
(food grade) for: 1–1.5; 2 und 3mm piping  
diameter 80–630mm
- Clamping ring VA** with sealant inserted  
(food grade) for: 1–1.5 und 2mm piping  
diameter 80–630mm
- Clamping ring for sealing ring** for 1–2mm piping  
diameter 80–630mm  
galvanized zinc and VA
- Sealing rings:** EPDM, NBR, Silicone and Viton  
for 1–2mm piping
- EPDM, NBR and Silicone also conductive**

### Flange connection:

- Flange:** DIN 24154 part 1, part 2
- Sealing rings:** EPDM, NBR, Silicone and Viton  
for loose flange connections
- EPDM, NBR and Silicone also conductive**

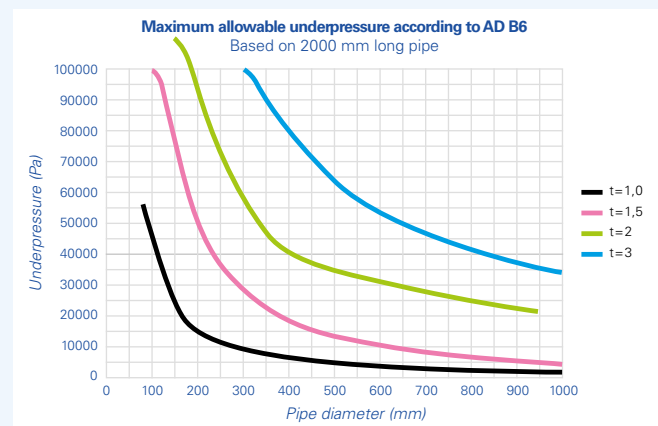
### Please note:

The sealing rings selected must match the material  
thickness and the medium!  
For further information see section 6, page 90/91.

## Potential equalisation:

- KMH grounding clip** (for stainless steel and galvanized  
products, installation without tools) or
- grounding lugs** with wires
- conductive sealing rings** for stainless steel and galvanized

## Underpressure:



# DRUCK? DAMIT KÖNNEN WIR UMGEHEN!

Druckstoßfeste Produkte von KMH sind nicht nur gerechnet, sondern BAM-geprüft.

## Sicherheit von KMH:

*Druckstoßfeste Rohre und Rohrformteile von KMH, gefertigt um bei Explosionen*

- dem Druckstoß standzuhalten
- Gefährdung von Personen zu vermeiden

*Und das alles aus dem KMH-Baukastenprogramm in Stahl und Edelstahl (Sonderteile auf Anfrage).*



| Druckstoßfest:                                       | bis 1bar      |  | bis 3bar      | bis 10bar     |
|------------------------------------------------------|---------------|--|---------------|---------------|
| <b>Verbindung:<br/>Spannring mit Bördeldichtring</b> |               |  |               |               |
| Rohre 1,0mm, Formteile 1,5mm                         | DN 80-DN 630  |  | DN 80         | DN 80         |
| Rohre 1,5mm, Formteile 1,5mm                         | DN 80-DN 630  |  | DN 100-DN 120 | DN 100-DN 120 |
| Rohre 2,0mm, Formteile 2,0mm                         | DN 100-DN 630 |  | DN 100-DN 300 | DN 150-DN 250 |
| <b>Verbindung:<br/>Flansch T2 lose</b>               |               |  |               |               |
| Rohre 1,0mm, Formteile 1,5mm                         | DN 80-DN 630  |  | DN 80         | DN 80         |
| Rohre 1,5mm, Formteile 1,5mm                         | DN 80-DN 630  |  | DN 100-DN 120 | DN 100-DN 120 |
| Rohre 2,0mm, Formteile 2,0mm                         | DN 100-DN 630 |  | DN 100-DN 450 | DN 100-DN 250 |
| Rohre 2,0mm, Formteile 3,0mm                         | DN 100-DN 630 |  | DN 150-DN 450 | DN 150-DN 250 |
| Rohre 3,0mm, Formteile 3,0mm                         | DN 150-DN 630 |  | DN 150-DN 800 | DN 150-DN 250 |
| <b>Verbindung:<br/>Flansch T2 verschweißt</b>        |               |  |               |               |
| Rohre 1,0mm, Formteile 1,5mm                         | DN 80-DN 630  |  | DN 80         | DN 80         |
| Rohre 1,5mm, Formteile 1,5mm                         | DN 80-DN 630  |  | DN 100-DN 120 | DN 100-DN 120 |
| Rohre 2,0mm, Formteile 2,0mm                         | DN 100-DN 630 |  | DN 100-DN 800 | DN 100-DN 250 |
| Rohre 2,0mm, Formteile 3,0mm                         | DN 100-DN 630 |  | DN 150-DN 800 | DN 150-DN 400 |
| Rohre 3,0mm, Formteile 3,0mm                         | DN 150-DN 630 |  | DN 150-DN 800 | DN 150-DN 400 |

### Bitte beachten!

keine Einschiebrohre  
keine Kontrollrohre Plexiglas  
keine Reinigungsrohre  
keine Schnellverschlussspannringe

1bar, 3bar, 10bar

keine Kontrollrohre  
(nur als T-Stück mit Blinddeckel)

10bar

Kontrollrohre nur bis DN 300, in t=2mm  
mit Innendeckel

1bar, 3bar

Kontrollrohre > DN 300 als T-Stück  
mit Blinddeckel

1bar, 3bar

### Blinddeckel nur in geflanschter Ausführung

mit Blinddeckel/T2

|               |       |       |
|---------------|-------|-------|
| DN 80-DN 450  | t=4mm | 1bar  |
| DN 500-DN 630 | t=6mm |       |
| DN 80-DN 300  | t=5mm | 3bar  |
| DN 315-DN 450 | t=6mm |       |
| DN 500-DN 800 | t=8mm |       |
| DN 80-DN 120  | t=4mm | 10bar |
| DN 150-DN 200 | t=6mm |       |
| DN 250-DN 400 | t=8mm |       |

# PRESSURE? WE CAN HANDLE THAT!

Pressure surge resistant products from KMH are not only calculated but also BAM-approved.

## Safety from KMH:

Pressure surge resistant pipes and pipe segments from KMH, produced in order to

- withstand pressure surge
- prevent safety risks of people

All available in steel and stainless steel from our KMH modular program (customized parts on request).



| <b>Pressure surge resistant:</b>                          | <b>up to 1 bar</b> | <b>up to 3 bar</b> | <b>up to 10 bar</b> |
|-----------------------------------------------------------|--------------------|--------------------|---------------------|
| <b>Connection: Clamping ring with flared sealing ring</b> |                    |                    |                     |
| Pipes 1,0mm, segments 1,5mm                               | DN 80-DN 630       | DN 80              | DN 80               |
| Pipes 1,5mm, segments 1,5mm                               | DN 80-DN 630       | DN 100-DN 120      | DN 100-DN 120       |
| Pipes 2,0mm, segments 2,0mm                               | DN 100-DN 630      | DN 100-DN 300      | DN 150-DN 250       |
| <b>Connection: Flange T2 loose</b>                        |                    |                    |                     |
| Pipes 1,0mm, segments 1,5mm                               | DN 80-DN 630       | DN 80              | DN 80               |
| Pipes 1,5mm, segments 1,5mm                               | DN 80-DN 630       | DN 100-DN 120      | DN 100-DN 120       |
| Pipes 2,0mm, segments 2,0mm                               | DN 100-DN 630      | DN 100-DN 450      | DN 100-DN 250       |
| Pipes 2,0mm, segments 3,0mm                               | DN 100-DN 630      | DN 150-DN 450      | DN 150-DN 250       |
| Pipes 3,0mm, segments 3,0mm                               | DN 150-DN 630      | DN 150-DN 800      | DN 150-DN 250       |
| <b>Connection: Flange T2 welded</b>                       |                    |                    |                     |
| Pipes 1,0mm, segments 1,5mm                               | DN 80-DN 630       | DN 80              | DN 80               |
| Pipes 1,5mm, segments 1,5mm                               | DN 80-DN 630       | DN 100-DN 120      | DN 100-DN 120       |
| Pipes 2,0mm, segments 2,0mm                               | DN 100-DN 630      | DN 100-DN 800      | DN 100-DN 250       |
| Pipes 2,0mm, segments 3,0mm                               | DN 100-DN 630      | DN 150-DN 800      | DN 150-DN 400       |
| Pipes 3,0mm, segments 3,0mm                               | DN 150-DN 630      | DN 150-DN 800      | DN 150-DN 400       |

### Please note:

|                                                               |                   |
|---------------------------------------------------------------|-------------------|
| no Insertable pipes                                           |                   |
| no Inspection pipes (Plexi-glass)                             | 1bar, 3bar, 10bar |
| no Cleaning pipes                                             |                   |
| no Quick-lock clamping rings                                  |                   |
| no Inspection pipes (only as T-piece with end cap)            | 10bar             |
| Inspection pipes only up to DN300 in t=2mm (with inlet cover) | 1bar, 3bar        |
| Inspection pipes >DN300 as T-piece with end cap               | 1bar, 3bar        |

### End cap only in flanged edition

|                  |       |       |
|------------------|-------|-------|
| with end cap/ T2 |       |       |
| DN 80-DN 450     | t=4mm | 1bar  |
| DN 500-DN 630    | t=6mm |       |
| DN 80-DN 300     | t=5mm | 3bar  |
| DN 315-DN 450    | t=6mm |       |
| DN 500-DN 800    | t=8mm | 10bar |
| DN 80-DN 120     | t=4mm |       |
| DN 150-DN 200    | t=6mm |       |
| DN 250-DN 400    | t=8mm |       |



## SONDERTEILE

### *SPECIAL DESIGNS*

# S

# S



### INNOVATIV, FLEXIBEL UND VERY SPECIAL

Wo Standardkomponenten an ihre Grenzen stoßen, schlägt die Stunde von **KMH-FLEX**. Individuelle Modifikationen, innovative Lösungen, verschiedene Materialien und Oberflächen ...

Wir entwickeln **KMH-FLEX** auf Grundlage der Kundenspezifikationen, optimal auf das Gesamtsystem abgestimmt, aus einer Hand in erstklassiger Qualität und hoher Wirtschaftlichkeit.

**KMH-FLEX ...**  
**Ihr Plus an Möglichkeiten,**  
**das entscheidend ist.**



### *INNOVATIVE, FLEXIBLE AND VERY SPECIAL*

*When standard components reach their limits, it is time for **KMH-FLEX**. Individual modifications, innovative solutions, different materials and surfaces ... we develop **KMH-FLEX** on the basis of customer specifications, optimally adapted to the complete system, from one source in first-class quality surfaces and high efficiency.*

**KMH-FLEX ...**  
**Your plus on possibilities,**  
**that makes the difference!**



# INDIVIDUELLE FERTIGUNG: WIR SIND DIE NR.1 IM SONDERBAU

*INDIVIDUAL PRODUCTION:*

*WE ARE THE NO. 1 IN CUSTOM-MADE PRODUCTS*

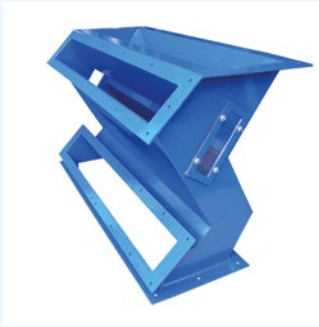
## SONDERLÖSUNGEN INKLUSIVE

Weil die erste Lösung nicht immer auch die beste ist, planen und fertigen wir alle nur denkbaren Sonderteile. Profitieren Sie von der Summe unserer Möglichkeiten. Individuelle Lösungen sind ein Mehr an Service... eine Spezialität von KMH.

## EXPERTISE FOR CUSTOMISATION

*Since not every solution at hand is the best, we produce all possible kinds of special designs. Benefit from the sum of our skills. Individual solutions are added value... a speciality of KMH.*

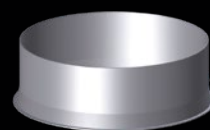
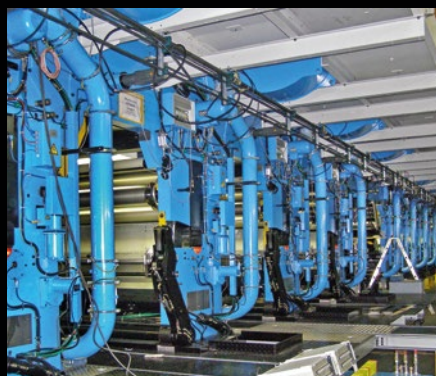




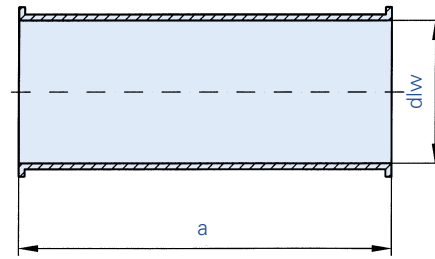


ROHRE  
ANSCHWEISSENDEN  
EINSCHIEBROHRE  
RINGDICHTUNGEN

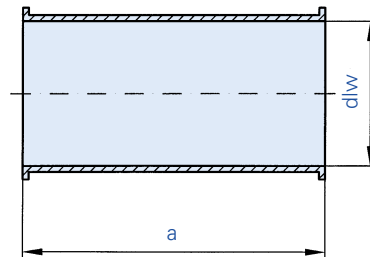
*PIPES  
WELDING ENDS  
INSERTIBLE PIPES  
RING SEALS*



**Geschweißte Rohre 2000 lg / Welded pipes 2000 lg**

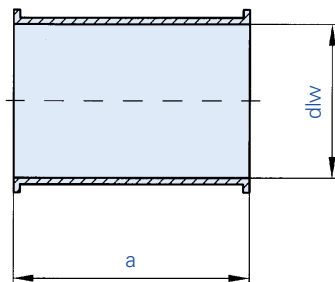


**Geschweißte Rohre 1000 lg / Welded pipes 1000 lg**

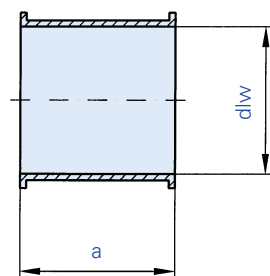




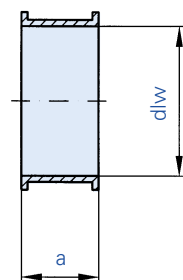
**Geschweißte Rohre 500 Ig / Welded pipes 500 Ig**



**Geschweißte Rohre 200 Ig / Welded pipes 200 Ig**

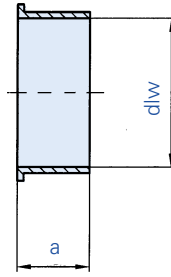


**Geschweißte Rohre 50 Ig / Welded pipes 50 Ig**

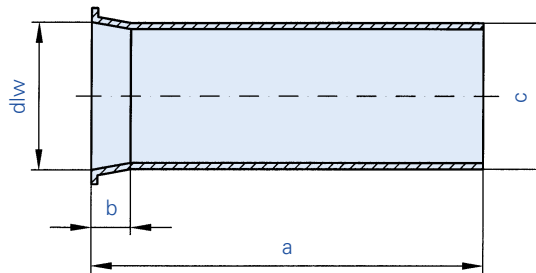




**Anschweißenden, einseitig gebördelt** / *Welding ends with one-sided flanging*



**Einschiebrohre 1000 lg** / *Insertible pipes 1000 lg*



| Nennweite<br>Nominal diameter                         |     |    |   |   |   |   |   |   |      |
|-------------------------------------------------------|-----|----|---|---|---|---|---|---|------|
| Maße für 2 mm Rohrbau<br>Measurements for 2 mm piping |     |    |   |   |   |   |   |   |      |
| DN                                                    | dlw | a  | b | c | e | f | g | i | kg   |
| 80                                                    | 77  | 55 |   |   |   |   |   |   | 0,15 |
| 100                                                   | 99  | 55 |   |   |   |   |   |   | 0,31 |
| 120                                                   | 119 | 55 |   |   |   |   |   |   | 0,35 |
| 150                                                   | 149 | 55 |   |   |   |   |   |   | 0,46 |
| 175                                                   | 174 | 55 |   |   |   |   |   |   | 0,52 |
| 200                                                   | 199 | 55 |   |   |   |   |   |   | 0,61 |
| 224                                                   | 219 | 55 |   |   |   |   |   |   | 0,67 |
| 250                                                   | 249 | 55 |   |   |   |   |   |   | 0,76 |
| 300                                                   | 299 | 55 |   |   |   |   |   |   | 0,91 |
| 315                                                   | 312 | 55 |   |   |   |   |   |   | 0,95 |
| 350                                                   | 349 | 55 |   |   |   |   |   |   | 1,01 |
| 400                                                   | 398 | 55 |   |   |   |   |   |   | 1,21 |
| 450                                                   | 448 | 55 |   |   |   |   |   |   | 1,30 |
| 500                                                   | 498 | 55 |   |   |   |   |   |   | 1,52 |
| 560                                                   | 558 | 55 |   |   |   |   |   |   | 1,69 |
| 600                                                   | 598 | 55 |   |   |   |   |   |   | 1,76 |
| 630                                                   | 628 | 55 |   |   |   |   |   |   | 1,90 |

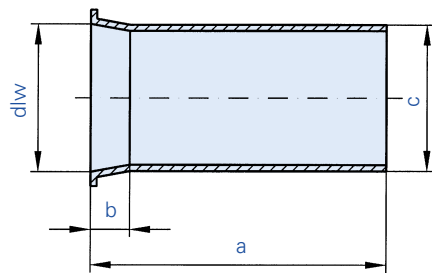
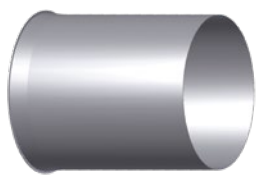
| DC 01 1,5 mm                       |      | DC 01 2 mm                         |       | DC 01 3 mm                         |       | VA 1.4301 1,5 mm             |      | VA 1.4301 2 mm               |       |
|------------------------------------|------|------------------------------------|-------|------------------------------------|-------|------------------------------|------|------------------------------|-------|
| pulverbeschichtet<br>powder coated |      | pulverbeschichtet<br>powder coated |       | pulverbeschichtet<br>powder coated |       | Edelstahl<br>stainless steel |      | Edelstahl<br>stainless steel |       |
| Art.-Nr.                           | €    | Art.-Nr.                           | €     | Art.-Nr.                           | €     | Art.-Nr.                     | €    | Art.-Nr.                     | €     |
| 0811012                            | 4,00 |                                    |       |                                    |       | 0813012                      | 6,50 |                              |       |
|                                    |      | 1021012                            | 4,10  |                                    |       |                              |      | 1023012                      | 8,20  |
|                                    |      | 1221012                            | 4,40  |                                    |       |                              |      | 1223012                      | 8,80  |
|                                    |      | 1521012                            | 4,80  | 1531012                            | 7,00  |                              |      | 1523012                      | 9,30  |
|                                    |      | 1721012                            | 5,10  | 1731012                            | 7,30  |                              |      | 1723012                      | 11,30 |
|                                    |      | 2021012                            | 5,40  | 2031012                            | 7,80  |                              |      | 2023012                      | 12,50 |
|                                    |      | 2221012                            | 6,20  | 2231012                            | 8,10  |                              |      | 2223012                      | 14,10 |
|                                    |      | 2521012                            | 6,30  | 2531012                            | 8,30  |                              |      | 2523012                      | 14,20 |
|                                    |      | 3021012                            | 7,10  | 3031012                            | 9,10  |                              |      | 3023012                      | 15,40 |
|                                    |      | 3121012                            | 7,50  | 3131012                            | 10,50 |                              |      | 3123012                      | 17,10 |
|                                    |      | 3521012                            | 7,60  | 3531012                            | 10,70 |                              |      | 3523012                      | 17,40 |
|                                    |      | 4021012                            | 8,70  | 4031012                            | 11,20 |                              |      | 4023012                      | 19,40 |
|                                    |      | 4521012                            | 10,20 | 4531012                            | 13,90 |                              |      | 4523012                      | 23,50 |
|                                    |      | 5021012                            | 11,40 | 5031012                            | 15,10 |                              |      | 5023012                      | 26,00 |
|                                    |      | 5621012                            | 13,50 | 5631012                            | 17,40 |                              |      | 5623012                      | 30,90 |
|                                    |      | 6021012                            | 14,50 | 6031012                            | 19,30 |                              |      | 6023012                      | 33,40 |
|                                    |      | 6321012                            | 14,90 | 6331012                            | 19,70 |                              |      | 6323012                      | 33,90 |

| Nennweite<br>Nominal diameter                             |     |     |    |     |   |   |   |   |       |
|-----------------------------------------------------------|-----|-----|----|-----|---|---|---|---|-------|
| Maße für 1,5 mm Rohrbau<br>Measurements for 1,5 mm piping |     |     |    |     |   |   |   |   |       |
| DN                                                        | dlw | a   | b  | c   | e | f | g | i | kg    |
| 80                                                        | 78  | 991 | 25 | 76  |   |   |   |   | 1,85  |
| 100                                                       | 99  | 991 | 25 | 96  |   |   |   |   | 3,52  |
| 120                                                       | 119 | 991 | 25 | 116 |   |   |   |   | 4,28  |
| 150                                                       | 149 | 991 | 25 | 146 |   |   |   |   | 5,40  |
| 175                                                       | 174 | 991 | 25 | 170 |   |   |   |   | 6,35  |
| 200                                                       | 199 | 991 | 25 | 195 |   |   |   |   | 7,29  |
| 224                                                       | 219 | 991 | 25 | 215 |   |   |   |   | 8,05  |
| 250                                                       | 249 | 991 | 25 | 245 |   |   |   |   | 9,18  |
| 300                                                       | 299 | 991 | 25 | 295 |   |   |   |   | 11,06 |
| 315                                                       | 312 | 991 | 25 | 308 |   |   |   |   | 11,55 |
| 350                                                       | 349 | 991 | 50 | 345 |   |   |   |   | 12,95 |
| 400                                                       | 398 | 991 | 50 | 394 |   |   |   |   | 14,80 |

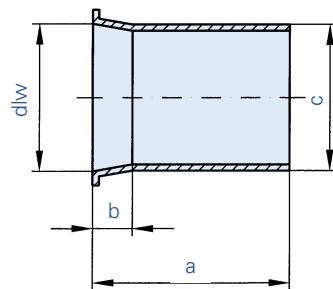
| DC 01 1,5 mm                       |       | DC 01 1,5 mm           |        | VA 1.4301 1,5 mm             |        |
|------------------------------------|-------|------------------------|--------|------------------------------|--------|
| pulverbeschichtet<br>powder coated |       | verzinkt<br>galvanized |        | Edelstahl<br>stainless steel |        |
| Art.-Nr.                           | €     | Art.-Nr.               | €      | Art.-Nr.                     | €      |
| 0811006                            | 19,60 | 0812006                | 24,60  | 0813006                      | 53,70  |
| 1011006                            | 21,30 | 1012006                | 28,30  | 1013006                      | 61,70  |
| 1211006                            | 24,50 | 1212006                | 32,30  | 1213006                      | 65,20  |
| 1511006                            | 30,30 | 1512006                | 36,80  | 1513006                      | 74,80  |
| 1711006                            | 33,90 | 1712006                | 42,90  | 1713006                      | 83,30  |
| 2011006                            | 36,60 | 2012006                | 46,60  | 2013006                      | 96,70  |
| 2211006                            | 44,20 | 2212006                | 54,20  | 2213006                      | 106,10 |
| 2511006                            | 45,30 | 2512006                | 55,60  | 2513006                      | 107,90 |
| 3011006                            | 51,20 | 3012006                | 66,00  | 3013006                      | 127,10 |
| 3111006                            | 58,50 | 3112006                | 87,60  | 3113006                      | 146,40 |
| 3511006                            | 60,60 | 3512006                | 89,70  | 3513006                      | 148,80 |
| 4011006                            | 70,10 | 4012006                | 105,50 | 4013006                      | 168,10 |


**Einschiebrohrverbindungen ab DN 450 mittels Sonderflansch und Dichtring möglich (auf Anfrage)**  
*Connection for insertible pipes over DN 450 with special flange and sealing ring possible (on request)*

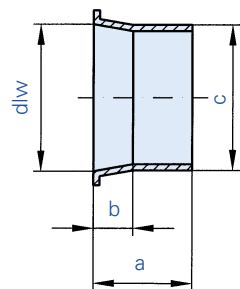
**Einschiebrohre 500 lg / Insertible pipes 500 lg**



**Einschiebrohre 200 lg / Insertible pipes 200 lg**



**Einschiebrohre 100 lg / Insertible pipes 100 lg**

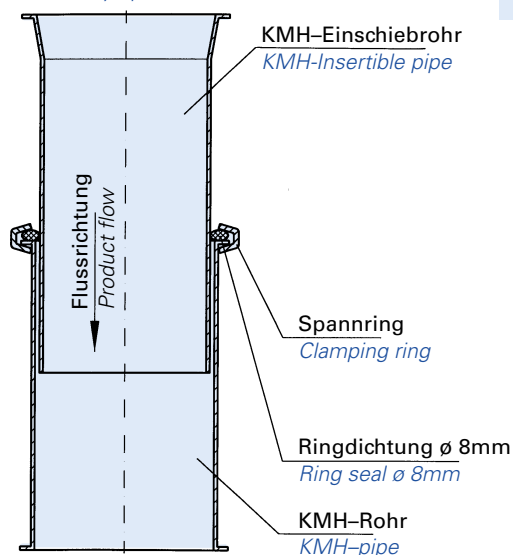


| Nennweite<br>Nominal diameter |     |     |    |     |   |   |   |   |      | Maße für 1,5 mm Rohrbau<br>Measurements for 1,5 mm piping |  |  |  |  |  |  |  |  |  |
|-------------------------------|-----|-----|----|-----|---|---|---|---|------|-----------------------------------------------------------|--|--|--|--|--|--|--|--|--|
| DN                            | d/w | a   | b  | c   | e | f | g | i | kg   |                                                           |  |  |  |  |  |  |  |  |  |
| 80                            | 78  | 493 | 25 | 76  |   |   |   |   | 0,93 |                                                           |  |  |  |  |  |  |  |  |  |
| 100                           | 99  | 493 | 25 | 96  |   |   |   |   | 1,76 |                                                           |  |  |  |  |  |  |  |  |  |
| 120                           | 119 | 493 | 25 | 116 |   |   |   |   | 2,14 |                                                           |  |  |  |  |  |  |  |  |  |
| 150                           | 149 | 493 | 25 | 146 |   |   |   |   | 2,70 |                                                           |  |  |  |  |  |  |  |  |  |
| 175                           | 174 | 493 | 25 | 170 |   |   |   |   | 3,18 |                                                           |  |  |  |  |  |  |  |  |  |
| 200                           | 199 | 493 | 25 | 195 |   |   |   |   | 3,65 |                                                           |  |  |  |  |  |  |  |  |  |
| 224                           | 219 | 493 | 25 | 215 |   |   |   |   | 4,02 |                                                           |  |  |  |  |  |  |  |  |  |
| 250                           | 249 | 493 | 25 | 245 |   |   |   |   | 4,59 |                                                           |  |  |  |  |  |  |  |  |  |
| 300                           | 299 | 493 | 25 | 295 |   |   |   |   | 5,53 |                                                           |  |  |  |  |  |  |  |  |  |
| 315                           | 312 | 493 | 25 | 308 |   |   |   |   | 5,78 |                                                           |  |  |  |  |  |  |  |  |  |
| 350                           | 349 | 493 | 50 | 345 |   |   |   |   | 6,47 |                                                           |  |  |  |  |  |  |  |  |  |
| 400                           | 398 | 493 | 50 | 394 |   |   |   |   | 7,40 |                                                           |  |  |  |  |  |  |  |  |  |
|                               |     |     |    |     |   |   |   |   |      |                                                           |  |  |  |  |  |  |  |  |  |
| 80                            | 78  | 200 | 25 | 76  |   |   |   |   | 0,38 |                                                           |  |  |  |  |  |  |  |  |  |
| 100                           | 99  | 200 | 25 | 96  |   |   |   |   | 0,72 |                                                           |  |  |  |  |  |  |  |  |  |
| 120                           | 119 | 200 | 25 | 116 |   |   |   |   | 0,88 |                                                           |  |  |  |  |  |  |  |  |  |
| 150                           | 149 | 200 | 25 | 146 |   |   |   |   | 1,11 |                                                           |  |  |  |  |  |  |  |  |  |
| 175                           | 174 | 200 | 25 | 170 |   |   |   |   | 1,30 |                                                           |  |  |  |  |  |  |  |  |  |
| 200                           | 199 | 200 | 25 | 195 |   |   |   |   | 1,50 |                                                           |  |  |  |  |  |  |  |  |  |
| 224                           | 219 | 200 | 25 | 215 |   |   |   |   | 1,65 |                                                           |  |  |  |  |  |  |  |  |  |
| 250                           | 249 | 200 | 25 | 245 |   |   |   |   | 1,88 |                                                           |  |  |  |  |  |  |  |  |  |
| 300                           | 299 | 200 | 25 | 295 |   |   |   |   | 2,27 |                                                           |  |  |  |  |  |  |  |  |  |
|                               |     |     |    |     |   |   |   |   |      |                                                           |  |  |  |  |  |  |  |  |  |
| 80                            | 78  | 100 | 25 | 76  |   |   |   |   | 0,19 |                                                           |  |  |  |  |  |  |  |  |  |
| 100                           | 99  | 100 | 25 | 96  |   |   |   |   | 0,37 |                                                           |  |  |  |  |  |  |  |  |  |
| 120                           | 119 | 100 | 25 | 116 |   |   |   |   | 0,45 |                                                           |  |  |  |  |  |  |  |  |  |
| 150                           | 149 | 100 | 25 | 146 |   |   |   |   | 0,57 |                                                           |  |  |  |  |  |  |  |  |  |

| DC 01 1,5 mm                       |  |          |       | DC 01 1,5 mm           |  |          |       | VA 1.4301 1,5 mm             |  |          |       |
|------------------------------------|--|----------|-------|------------------------|--|----------|-------|------------------------------|--|----------|-------|
| pulverbeschichtet<br>powder coated |  |          |       | verzinkt<br>galvanized |  |          |       | Edelstahl<br>stainless steel |  |          |       |
|                                    |  | Art.-Nr. | €     |                        |  | Art.-Nr. | €     |                              |  | Art.-Nr. | €     |
|                                    |  | 0811007  | 13,20 |                        |  | 0812007  | 16,70 |                              |  | 0813007  | 29,40 |
|                                    |  | 1011007  | 14,40 |                        |  | 1012007  | 19,00 |                              |  | 1013007  | 32,10 |
|                                    |  | 1211007  | 15,20 |                        |  | 1212007  | 19,80 |                              |  | 1213007  | 36,50 |
|                                    |  | 1511007  | 17,40 |                        |  | 1512007  | 21,90 |                              |  | 1513007  | 41,50 |
|                                    |  | 1711007  | 21,60 |                        |  | 1712007  | 25,40 |                              |  | 1713007  | 45,20 |
|                                    |  | 2011007  | 22,60 |                        |  | 2012007  | 27,80 |                              |  | 2013007  | 53,60 |
|                                    |  | 2211007  | 27,10 |                        |  | 2212007  | 34,50 |                              |  | 2213007  | 58,60 |
|                                    |  | 2511007  | 28,60 |                        |  | 2512007  | 35,70 |                              |  | 2513007  | 59,60 |
|                                    |  | 3011007  | 31,70 |                        |  | 3012007  | 39,70 |                              |  | 3013007  | 67,90 |
|                                    |  | 3111007  | 36,00 |                        |  | 3112007  | 47,70 |                              |  | 3113007  | 77,30 |
|                                    |  | 3511007  | 38,20 |                        |  | 3512007  | 49,20 |                              |  | 3513007  | 79,20 |
|                                    |  | 4011007  | 47,10 |                        |  | 4012007  | 60,90 |                              |  | 4013007  | 82,20 |
|                                    |  |          |       |                        |  |          |       |                              |  |          |       |
|                                    |  | 0811008  | 9,20  |                        |  | 0812008  | 11,80 |                              |  | 0813008  | 17,70 |
|                                    |  | 1011008  | 12,00 |                        |  | 1012008  | 14,40 |                              |  | 1013008  | 19,50 |
|                                    |  | 1211008  | 12,80 |                        |  | 1212008  | 15,20 |                              |  | 1213008  | 21,20 |
|                                    |  | 1511008  | 14,60 |                        |  | 1512008  | 16,80 |                              |  | 1513008  | 23,30 |
|                                    |  | 1711008  | 17,20 |                        |  | 1712008  | 19,30 |                              |  | 1713008  | 26,20 |
|                                    |  | 2011008  | 19,20 |                        |  | 2012008  | 23,40 |                              |  | 2013008  | 29,30 |
|                                    |  | 2211008  | 21,50 |                        |  | 2212008  | 26,00 |                              |  | 2213008  | 32,10 |
|                                    |  | 2511008  | 22,60 |                        |  | 2512008  | 29,10 |                              |  | 2513008  | 33,30 |
|                                    |  | 3011008  | 26,00 |                        |  | 3012008  | 30,80 |                              |  | 3013008  | 37,70 |
|                                    |  |          |       |                        |  |          |       |                              |  |          |       |
|                                    |  | 0811009  | 6,70  |                        |  | 0812009  | 7,70  |                              |  | 0813009  | 11,00 |
|                                    |  | 1011009  | 7,50  |                        |  | 1012009  | 8,30  |                              |  | 1013009  | 11,70 |
|                                    |  | 1211009  | 7,90  |                        |  | 1212009  | 8,70  |                              |  | 1213009  | 12,40 |
|                                    |  | 1511009  | 8,30  |                        |  | 1512009  | 9,30  |                              |  | 1513009  | 13,90 |

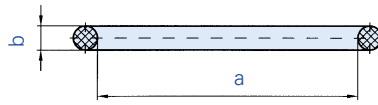
#### Montagehinweis bis DN 400

Assembly up to DN 400



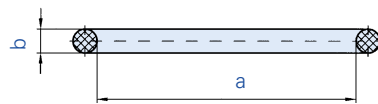
Einziebrohrverbindungen ab DN 450 mittels Sonderflansch und Dichtring möglich (auf Anfrage)  
Connection for insertible pipes over DN 450 with special flange and sealing ring possible (on request)

Ringdichtungen für Einschiebrohre / Ring-seals for insertible pipes



Ringdichtungen für Einschiebrohre / Ring-seals for insertible pipes

leitfähig / conductive



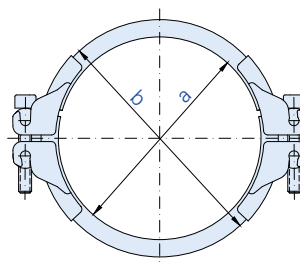
Vorteile:

- keine sichtbaren Erdungslaschen und Kabel erforderlich
- schnelle Montage
- zertifiziert durch DMT

Advantages

- no visible grounding lug and cable required
- quick assembly
- certified by DMT

Spannringe für Ringdichtungen / Clamping rings for ring-seals



| Nennweite<br>Nominal diameter |     |     |   |   |   |   |   |   |    |
|-------------------------------|-----|-----|---|---|---|---|---|---|----|
| Maße<br>Measurements          |     |     |   |   |   |   |   |   |    |
| DN                            | dlw | a   | b | c | e | f | g | i | kg |
| 80                            |     | 73  | 8 |   |   |   |   |   |    |
| 100                           |     | 93  | 8 |   |   |   |   |   |    |
| 120                           |     | 113 | 8 |   |   |   |   |   |    |
| 150                           |     | 143 | 8 |   |   |   |   |   |    |
| 175                           |     | 168 | 8 |   |   |   |   |   |    |
| 200                           |     | 192 | 8 |   |   |   |   |   |    |
| 224                           |     | 212 | 8 |   |   |   |   |   |    |
| 250                           |     | 241 | 8 |   |   |   |   |   |    |
| 300                           |     | 291 | 8 |   |   |   |   |   |    |
| 315                           |     | 304 | 8 |   |   |   |   |   |    |
| 350                           |     | 341 | 8 |   |   |   |   |   |    |
| 400                           |     | 392 | 8 |   |   |   |   |   |    |

Temperaturbeständig bis:  
Heat-resistant up to:

| EPDM - Keltan    |      | SI-Silikon                 |      | FKM (FPM) - Viton     |       | NBR - Perbunan |      |  |  |  |  |
|------------------|------|----------------------------|------|-----------------------|-------|----------------|------|--|--|--|--|
| schwarz<br>black |      | transparent<br>transparent |      | braunrot<br>brown-red |       | grau<br>grey   |      |  |  |  |  |
| Art.-Nr.         | €    | Art.-Nr.                   | €    | Art.-Nr.              | €     | Art.-Nr.       | €    |  |  |  |  |
| 0800405          | 3,10 | 0800411                    | 3,40 | 0800412               | 8,70  | 0800413        | 1,30 |  |  |  |  |
| 1000405          | 3,30 | 1000411                    | 3,60 | 1000412               | 10,40 | 1000413        | 1,40 |  |  |  |  |
| 1200405          | 3,40 | 1200411                    | 3,70 | 1200412               | 12,00 | 1200413        | 1,60 |  |  |  |  |
| 1500405          | 3,60 | 1500411                    | 4,00 | 1500412               | 14,90 | 1500413        | 1,80 |  |  |  |  |
| 1700405          | 3,90 | 1700411                    | 4,30 | 1700412               | 16,80 | 1700413        | 2,10 |  |  |  |  |
| 2000405          | 4,40 | 2000411                    | 4,50 | 2000412               | 19,10 | 2000413        | 2,30 |  |  |  |  |
| 2200405          | 4,60 | 2200411                    | 4,60 | 2200412               | 21,30 | 2200413        | 2,50 |  |  |  |  |
| 2500405          | 5,10 | 2500411                    | 5,00 | 2500412               | 23,40 | 2500413        | 2,70 |  |  |  |  |
| 3000405          | 6,40 | 3000411                    | 5,50 | 3000412               | 27,30 | 3000413        | 3,00 |  |  |  |  |
| 3100405          | 7,00 | 3100411                    | 6,20 | 3100412               | 29,40 | 3100413        | 3,30 |  |  |  |  |
| 3500405          | 7,50 | 3500411                    | 7,80 | 3500412               | 30,80 | 3500413        | 3,70 |  |  |  |  |
| 4000405          | 8,70 | 4000411                    | 8,00 | 4000412               | 35,40 | 4000413        | 4,30 |  |  |  |  |

-40°C / +120°C

-60°C / +200°C

-20°C / +200°C

-30°C / +100°C

| Nennweite<br>Nominal diameter |     |     |   |   |   |   |   |   |    |
|-------------------------------|-----|-----|---|---|---|---|---|---|----|
| Maße<br>Measurements          |     |     |   |   |   |   |   |   |    |
| DN                            | dlw | a   | b | c | e | f | g | i | kg |
| 80                            |     | 73  | 8 |   |   |   |   |   |    |
| 100                           |     | 93  | 8 |   |   |   |   |   |    |
| 120                           |     | 113 | 8 |   |   |   |   |   |    |
| 150                           |     | 143 | 8 |   |   |   |   |   |    |
| 175                           |     | 168 | 8 |   |   |   |   |   |    |
| 200                           |     | 192 | 8 |   |   |   |   |   |    |
| 224                           |     | 212 | 8 |   |   |   |   |   |    |
| 250                           |     | 241 | 8 |   |   |   |   |   |    |
| 300                           |     | 291 | 8 |   |   |   |   |   |    |
| 315                           |     | 304 | 8 |   |   |   |   |   |    |
| 350                           |     | 341 | 8 |   |   |   |   |   |    |
| 400                           |     | 392 | 8 |   |   |   |   |   |    |

Temperaturbeständig bis:  
Heat-resistant up to:

| EPDM - Keltan                |      | SI-Silikon                 |       | NBR - Perbunan           |  |          |      |
|------------------------------|------|----------------------------|-------|--------------------------|--|----------|------|
| schwarz/gelb<br>black/yellow |      | schwarz/blau<br>black/blue |       | schwarz/rot<br>black/red |  |          |      |
| Art.-Nr.                     | €    | Art.-Nr.                   | €     |                          |  | Art.-Nr. | €    |
| 0800405                      | 3,10 | 0800406                    | 3,50  |                          |  | 0800409  | 3,00 |
| 1000405                      | 3,30 | 1000406                    | 3,60  |                          |  | 1000409  | 3,10 |
| 1200405                      | 3,40 | 1200406                    | 3,80  |                          |  | 1200409  | 3,30 |
| 1500405                      | 3,60 | 1500406                    | 4,00  |                          |  | 1500409  | 3,50 |
| 1700405                      | 3,90 | 1700406                    | 4,50  |                          |  | 1700409  | 3,70 |
| 2000405                      | 4,40 | 2000406                    | 4,90  |                          |  | 2000409  | 4,10 |
| 2200405                      | 4,60 | 2200406                    | 5,20  |                          |  | 2200409  | 4,50 |
| 2500405                      | 5,10 | 2500406                    | 6,30  |                          |  | 2500409  | 4,90 |
| 3000405                      | 6,40 | 3000406                    | 7,10  |                          |  | 3000409  | 6,20 |
| 3100405                      | 7,00 | 3100406                    | 8,20  |                          |  | 3100409  | 6,80 |
| 3500405                      | 7,50 | 3500406                    | 8,90  |                          |  | 3500409  | 7,20 |
| 4000405                      | 8,70 | 4000406                    | 10,30 |                          |  | 4000409  | 8,10 |

-40°C / +120°C

-60°C / +200°C

-30°C / +100°C

Um einen sicheren Potenzialausgleich zu gewährleisten dürfen leitende Bördeldichtringe ausschließlich bei verzinkten oder aus Edelstahl gefertigten Rohrbauteilen verwendet werden.

To ensure equipotential bonding these conductive sealing-rings are to be used exclusively with piping materials made of galvanized or stainless steel.

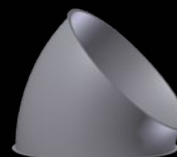
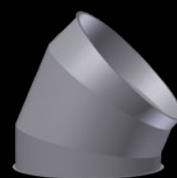
| Nennweite<br>Nominal diameter |     |     |     |   |   |   |   |   |    |
|-------------------------------|-----|-----|-----|---|---|---|---|---|----|
| Maße<br>Measurements          |     |     |     |   |   |   |   |   |    |
| DN                            | dlw | a   | b   | c | e | f | g | i | kg |
| 80                            |     | 80  | 101 |   |   |   |   |   |    |
| 100                           |     | 103 | 124 |   |   |   |   |   |    |
| 120                           |     | 123 | 144 |   |   |   |   |   |    |
| 150                           |     | 153 | 174 |   |   |   |   |   |    |
| 175                           |     | 178 | 199 |   |   |   |   |   |    |
| 200                           |     | 203 | 224 |   |   |   |   |   |    |
| 224                           |     | 224 | 245 |   |   |   |   |   |    |
| 250                           |     | 253 | 274 |   |   |   |   |   |    |
| 300                           |     | 303 | 324 |   |   |   |   |   |    |
| 315                           |     | 317 | 338 |   |   |   |   |   |    |
| 350                           |     | 353 | 374 |   |   |   |   |   |    |
| 400                           |     | 403 | 424 |   |   |   |   |   |    |

| DC 01                                |       | VA 1.4301                    |       |
|--------------------------------------|-------|------------------------------|-------|
| galv. verzinkt<br>electro galvanized |       | Edelstahl<br>stainless steel |       |
| Art.-Nr.                             | €     | Art.-Nr.                     | €     |
| 0812056                              | 6,40  | 0813056                      | 16,90 |
| 1012056                              | 6,50  | 1013056                      | 17,80 |
| 1212056                              | 6,60  | 1213056                      | 18,40 |
| 1512056                              | 7,20  | 1513056                      | 19,70 |
| 1712056                              | 8,60  | 1713056                      | 20,70 |
| 2012056                              | 9,30  | 2013056                      | 21,90 |
| 2212056                              | 9,80  | 2213056                      | 23,00 |
| 2512056                              | 10,10 | 2513056                      | 23,80 |
| 3012056                              | 12,60 | 3013056                      | 25,90 |
| 3112056                              | 14,40 | 3113056                      | 27,20 |
| 3512056                              | 14,90 | 3513056                      | 28,00 |
| 4012056                              | 17,20 | 4013056                      | 29,00 |

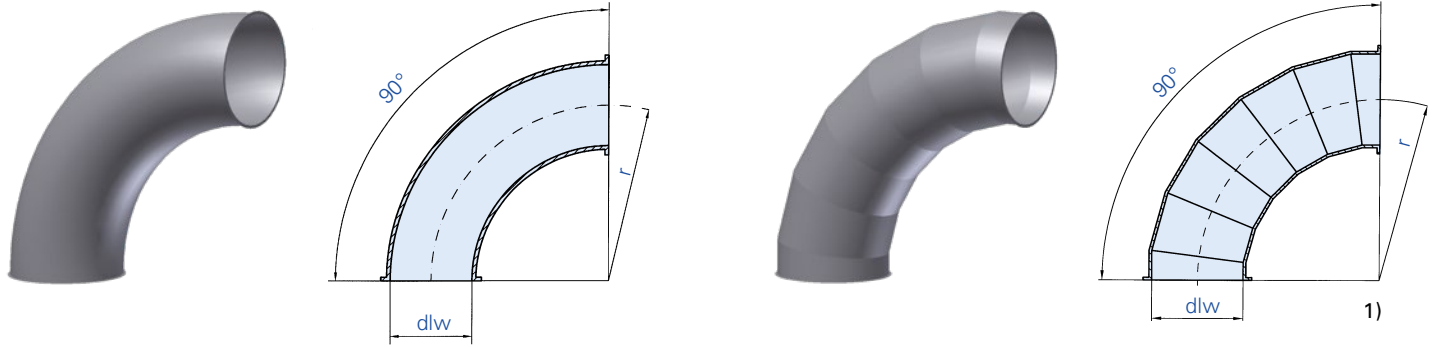


# ROHRBÖGEN SEGMENTE

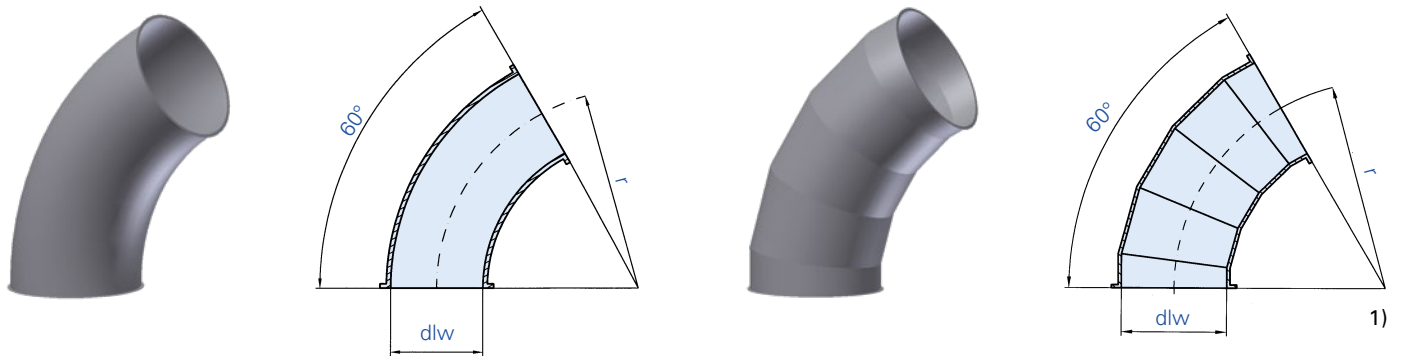
*PIPE BENDS  
SEGMENTS*



**Rohrbögen 90° R=2D / Pipe bends 90° R=2D**



**Rohrbögen 60° R=2D / Pipe bends 60° R=2D**

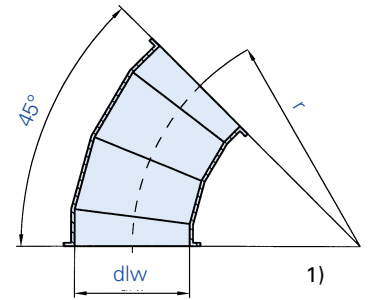
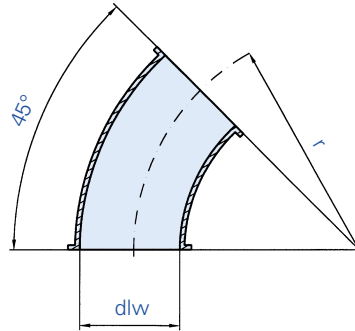


| Nennweite<br>Nominal diameter                         |                 |      |   |   |   |   |   |       |
|-------------------------------------------------------|-----------------|------|---|---|---|---|---|-------|
| Maße für 2 mm Rohrbau<br>Measurements for 2 mm piping |                 |      |   |   |   |   |   |       |
| DN                                                    | d <sub>lw</sub> | r    | b | c | e | f | g | kg    |
| 80                                                    | 78              | 160  |   |   |   |   |   | 0,50  |
| 100                                                   | 99              | 200  |   |   |   |   |   | 1,60  |
| 120                                                   | 119             | 240  |   |   |   |   |   | 2,30  |
| 150                                                   | 149             | 300  |   |   |   |   |   | 3,50  |
| 175                                                   | 174             | 350  |   |   |   |   |   | 4,80  |
| 200                                                   | 199             | 400  |   |   |   |   |   | 6,20  |
| 224 <sup>1)</sup>                                     | 219             | 448  |   |   |   |   |   | 7,90  |
| 250                                                   | 249             | 500  |   |   |   |   |   | 11,00 |
| 300                                                   | 299             | 600  |   |   |   |   |   | 13,60 |
| 315 <sup>1)</sup>                                     | 312             | 630  |   |   |   |   |   | 15,70 |
| 350 <sup>1)</sup>                                     | 349             | 700  |   |   |   |   |   | 19,90 |
| 400 <sup>1)</sup>                                     | 398             | 800  |   |   |   |   |   | 25,90 |
| 450 <sup>1)</sup>                                     | 448             | 900  |   |   |   |   |   | 32,80 |
| 500 <sup>1)</sup>                                     | 498             | 1000 |   |   |   |   |   | 40,30 |
| 560 <sup>1)</sup>                                     | 558             | 1120 |   |   |   |   |   | 49,80 |
| 600 <sup>1)</sup>                                     | 598             | 1200 |   |   |   |   |   | 58,00 |
| 630 <sup>1)</sup>                                     | 628             | 1260 |   |   |   |   |   | 61,00 |
| 80                                                    | 78              | 160  |   |   |   |   |   | 0,35  |
| 100                                                   | 99              | 200  |   |   |   |   |   | 1,10  |
| 120                                                   | 119             | 240  |   |   |   |   |   | 1,60  |
| 150                                                   | 149             | 300  |   |   |   |   |   | 2,30  |
| 175                                                   | 174             | 350  |   |   |   |   |   | 3,20  |
| 200                                                   | 199             | 400  |   |   |   |   |   | 4,40  |
| 224 <sup>1)</sup>                                     | 219             | 448  |   |   |   |   |   | 5,20  |
| 250                                                   | 249             | 500  |   |   |   |   |   | 7,00  |
| 300                                                   | 299             | 600  |   |   |   |   |   | 9,50  |
| 315 <sup>1)</sup>                                     | 312             | 630  |   |   |   |   |   | 10,50 |
| 350 <sup>1)</sup>                                     | 349             | 700  |   |   |   |   |   | 13,30 |
| 400 <sup>1)</sup>                                     | 398             | 800  |   |   |   |   |   | 17,30 |
| 450 <sup>1)</sup>                                     | 448             | 900  |   |   |   |   |   | 21,50 |
| 500 <sup>1)</sup>                                     | 498             | 1000 |   |   |   |   |   | 26,90 |
| 560 <sup>1)</sup>                                     | 558             | 1120 |   |   |   |   |   | 33,20 |
| 600 <sup>1)</sup>                                     | 598             | 1200 |   |   |   |   |   | 38,70 |
| 630 <sup>1)</sup>                                     | 628             | 1260 |   |   |   |   |   | 41,00 |

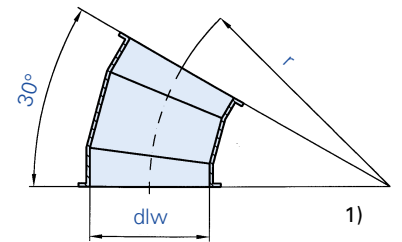
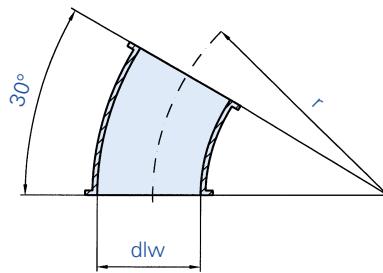
| DC 01 1,5 mm                       |        | DC 01 2 mm                         |        | DC 01 3 mm                         |        | DC 01 1,5 mm           |        | VA 1.4301 1,5 mm                                |        | VA 1.4301 2 mm               |         |
|------------------------------------|--------|------------------------------------|--------|------------------------------------|--------|------------------------|--------|-------------------------------------------------|--------|------------------------------|---------|
| pulverbeschichtet<br>powder coated |        | pulverbeschichtet<br>powder coated |        | pulverbeschichtet<br>powder coated |        | verzinkt<br>galvanized |        | Edelstahl<br>stainless steel                    |        | Edelstahl<br>stainless steel |         |
| Art.-Nr.                           | €      | Art.-Nr.                           | €      | Art.-Nr.                           | €      | Art.-Nr.               | €      | Art.-Nr.                                        | €      | Art.-Nr.                     | €       |
| 0811016                            | 28,10  |                                    |        |                                    |        | 0812016                | 32,50  | 0813016                                         | 68,30  |                              |         |
| 1011016                            | 28,60  | 1021016                            | 31,30  |                                    |        | 1012016                | 33,00  | 1013016                                         | 68,90  | 1023016                      | 101,30  |
| 1211016                            | 34,20  | 1221016                            | 39,10  |                                    |        | 1212016                | 38,80  | 1213016                                         | 87,40  | 1223016                      | 126,90  |
| 1511016                            | 42,80  | 1521016                            | 52,00  | 1531016                            | 84,20  | 1512016                | 47,80  | 1513016                                         | 121,10 | 1523016                      | 172,80  |
| 1711016                            | 46,20  | 1721016                            | 58,00  | 1731016                            | 87,90  | 1712016                | 54,70  | 1713016                                         | 135,60 | 1723016                      | 197,20  |
| 2011016                            | 53,30  | 2021016                            | 71,00  | 2031016                            | 121,60 | 2012016                | 66,00  | 2013016                                         | 151,70 | 2023016                      | 218,00  |
| 2211016                            | 100,20 | 2221016                            | 128,80 | 2231016                            | 206,20 | 2212016                | 113,30 | 2213016                                         | 280,20 | 2223016                      | 356,10  |
| 2511016                            | 111,00 | 2521016                            | 131,30 | 2531016                            | 211,10 | 2512016                | 129,80 | 2513016                                         | 287,80 | 2523016                      | 371,20  |
| 3011016                            | 168,10 | 3021016                            | 181,90 | 3031016                            | 247,80 | 3012016                | 196,50 | 3013016                                         | 385,20 | 3023016                      | 407,00  |
| 3111020                            | 181,90 | 3121020                            | 189,20 | 3131020                            | 253,20 | 3112020                | 204,80 | 3113020                                         | 394,70 | 3123020                      | 421,70  |
| 3511020                            | 191,50 | 3521020                            | 193,20 | 3531020                            | 255,50 | 3512020                | 207,20 | 3513020                                         | 413,00 | 3523020                      | 424,40  |
| 4011020                            | 227,40 | 4021020                            | 228,80 | 4031020                            | 285,20 | 4012020                | 244,60 | 4013020                                         | 490,50 | 4023020                      | 504,30  |
| 4511020                            | 298,60 | 4521020                            | 304,10 | 4531020                            | 349,90 | 4512020                | 317,00 | 4513020                                         | 576,80 | 4523020                      | 635,30  |
| 5011020                            | 320,90 | 5021020                            | 327,00 | 5031020                            | 410,80 | 5012020                | 349,80 | 5013020                                         | 655,70 | 5023020                      | 768,40  |
| 5611020                            | 347,70 | 5621020                            | 381,60 | 5631020                            | 435,70 | 5612020                | 400,80 | 5613020                                         | 746,90 | 5623020                      | 893,60  |
| 6011020                            | 392,30 | 6021020                            | 425,60 | 6031020                            | 540,50 | 6012020                | 437,80 | 6013020                                         | 766,60 | 6023020                      | 1021,20 |
| 6311020                            | 432,70 | 6321020                            | 448,10 | 6331020                            | 550,30 | 6312020                | 482,50 | 6313020                                         | 875,70 | 6323020                      | 1058,10 |
|                                    |        |                                    |        |                                    |        |                        |        | 1) Segmentbauweise<br>1) segmented construction |        |                              |         |
| 0811017                            | 22,90  |                                    |        |                                    |        | 0812017                | 25,50  | 0813017                                         | 54,70  |                              |         |
| 1011017                            | 23,40  | 1021017                            | 24,00  |                                    |        | 1012017                | 26,30  | 1013017                                         | 55,90  | 1023017                      | 79,60   |
| 1211017                            | 24,60  | 1221017                            | 33,30  |                                    |        | 1212017                | 27,70  | 1213017                                         | 78,60  | 1223017                      | 117,50  |
| 1511017                            | 30,30  | 1521017                            | 38,90  | 1531017                            | 58,00  | 1512017                | 33,90  | 1513017                                         | 90,50  | 1523017                      | 125,00  |
| 1711017                            | 33,40  | 1721017                            | 42,30  | 1731017                            | 63,20  | 1712017                | 44,70  | 1713017                                         | 97,50  | 1723017                      | 141,50  |
| 2011017                            | 39,10  | 2021017                            | 54,90  | 2031017                            | 93,10  | 2012017                | 50,20  | 2013017                                         | 118,70 | 2023017                      | 175,30  |
| 2211017                            | 82,00  | 2221017                            | 93,10  | 2231017                            | 129,20 | 2212017                | 91,80  | 2213017                                         | 178,10 | 2223017                      | 278,80  |
| 2511017                            | 87,50  | 2521017                            | 97,20  | 2531017                            | 134,60 | 2512017                | 96,40  | 2513017                                         | 183,80 | 2523017                      | 284,00  |
| 3011017                            | 113,40 | 3021017                            | 129,50 | 3031017                            | 158,00 | 3012017                | 127,90 | 3013017                                         | 228,40 | 3023017                      | 295,70  |
| 3111021                            | 124,90 | 3121021                            | 137,70 | 3131021                            | 163,30 | 3112021                | 148,10 | 3113021                                         | 296,50 | 3123021                      | 302,80  |
| 3511021                            | 127,30 | 3521021                            | 140,50 | 3531021                            | 167,00 | 3512021                | 153,10 | 3513021                                         | 301,20 | 3523021                      | 309,30  |
| 4011021                            | 157,10 | 4021021                            | 162,80 | 4031021                            | 204,20 | 4012021                | 173,80 | 4013021                                         | 322,20 | 4023021                      | 359,10  |
| 4511021                            | 181,90 | 4521021                            | 187,90 | 4531021                            | 229,10 | 4512021                | 204,90 | 4513021                                         | 415,40 | 4523021                      | 462,10  |
| 5011021                            | 201,60 | 5021021                            | 214,50 | 5031021                            | 262,20 | 5012021                | 219,00 | 5013021                                         | 431,70 | 5023021                      | 515,80  |
| 5611021                            | 218,00 | 5621021                            | 255,90 | 5631021                            | 327,00 | 5612021                | 256,20 | 5613021                                         | 483,60 | 5623021                      | 586,20  |
| 6011021                            | 255,50 | 6021021                            | 295,50 | 6031021                            | 358,10 | 6012021                | 276,30 | 6013021                                         | 534,50 | 6023021                      | 619,30  |
| 6311021                            | 292,00 | 6321021                            | 330,80 | 6331021                            | 372,90 | 6312021                | 304,60 | 6313021                                         | 617,50 | 6323021                      | 674,20  |

1) Segmentbauweise  
1) segmented construction

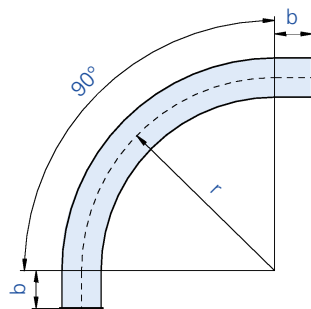
**Rohrbögen 45° R=2D / Pipe bends 45° R=2D**



**Rohrbögen 30° R=2D / Pipe bends 30° R=2D**

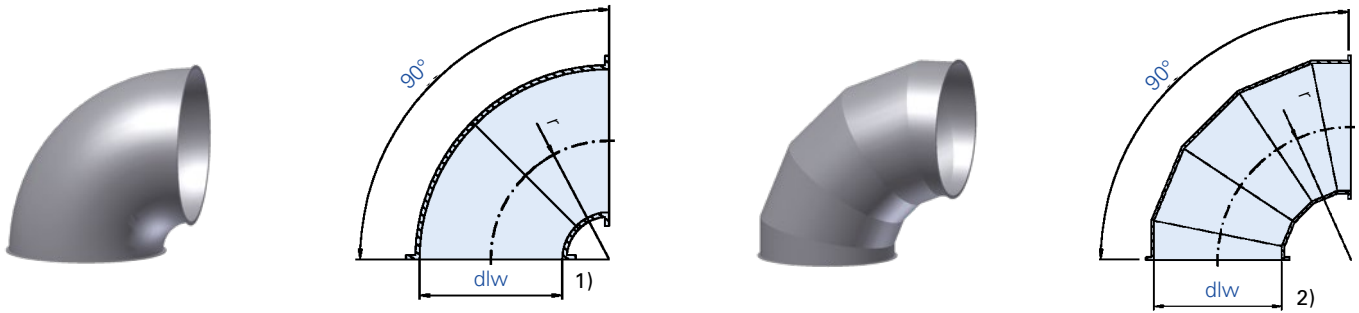


**Rohrbögen 90° R=5D / Pipe bends 90° R=5D**





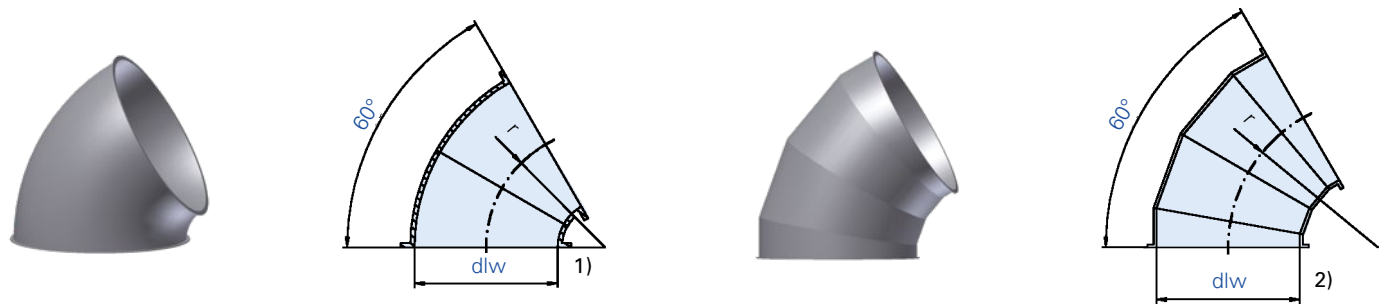
**Rohrbögen 90° kleiner Radius / Pipe bends 90° little radius**



bis DN 300 verschweißt aus 2 balligen Segmenten<sup>1)</sup>,  
DN 315–630 in Segmentbauweise<sup>2)</sup>

*up to DN 300 made of 2 spherical segments<sup>1)</sup>, DN 31–630 segmented<sup>2)</sup>*

**Rohrbögen 60° kleiner Radius / Pipe bends 60° little radius**



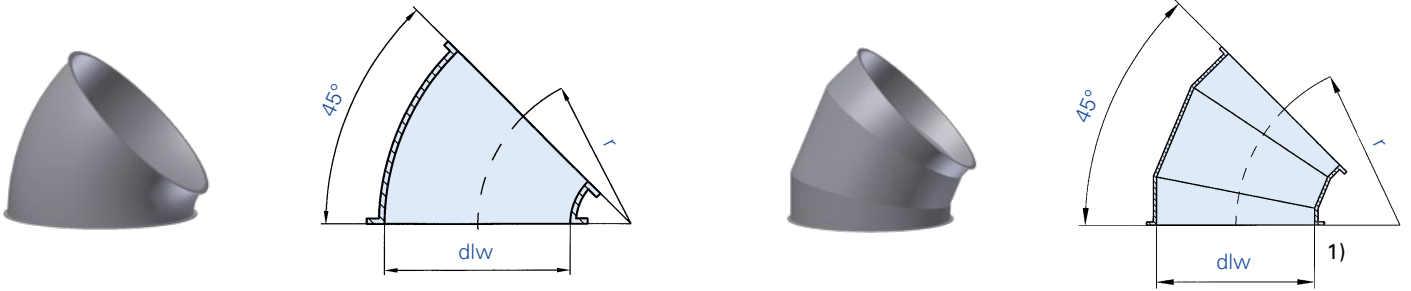
bis DN 300 verschweißt aus 2 balligen Segmenten<sup>1)</sup>,  
DN 315–630 in Segmentbauweise<sup>2)</sup>

*up to DN 300 made of 2 spherical segments<sup>1)</sup>, DN 315–630 segmented<sup>2)</sup>*

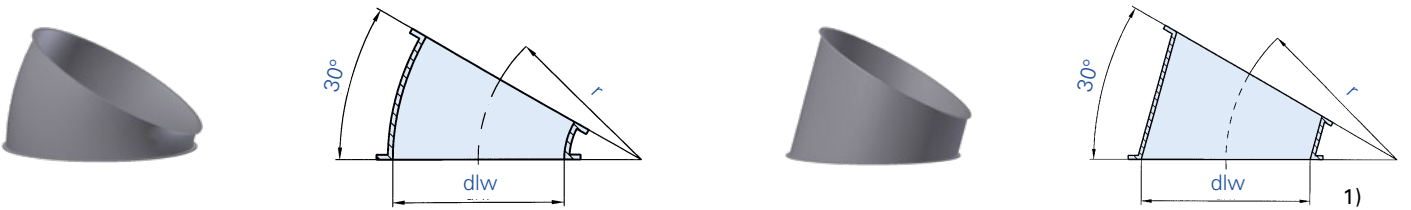
| Nennweite<br>Nominal diameter                         |     |     |   |   |   |   |   |       |
|-------------------------------------------------------|-----|-----|---|---|---|---|---|-------|
| Maße für 2 mm Rohrbau<br>Measurements for 2 mm piping |     |     |   |   |   |   |   |       |
| DN                                                    | d/w | r   | b | c | e | f | g | kg    |
| 80 <sup>1)</sup>                                      | 78  | 80  |   |   |   |   |   | 0,50  |
| 100 <sup>1)</sup>                                     | 99  | 88  |   |   |   |   |   | 0,78  |
| 120 <sup>1)</sup>                                     | 119 | 89  |   |   |   |   |   | 1,12  |
| 150 <sup>1)</sup>                                     | 149 | 160 |   |   |   |   |   | 1,74  |
| 175 <sup>1)</sup>                                     | 174 | 170 |   |   |   |   |   | 2,37  |
| 200 <sup>1)</sup>                                     | 199 | 200 |   |   |   |   |   | 3,10  |
| 224 <sup>2)</sup>                                     | 219 | 224 |   |   |   |   |   | 4,00  |
| 250 <sup>1)</sup>                                     | 249 | 205 |   |   |   |   |   | 4,85  |
| 300 <sup>1)</sup>                                     | 299 | 215 |   |   |   |   |   | 6,98  |
| 315 <sup>2)</sup>                                     | 312 | 315 |   |   |   |   |   | 7,80  |
| 350 <sup>2)</sup>                                     | 349 | 350 |   |   |   |   |   | 9,50  |
| 400 <sup>2)</sup>                                     | 399 | 400 |   |   |   |   |   | 12,41 |
| 450 <sup>2)</sup>                                     | 449 | 450 |   |   |   |   |   | 15,70 |
| 500 <sup>2)</sup>                                     | 499 | 500 |   |   |   |   |   | 19,38 |
| 560 <sup>2)</sup>                                     | 557 | 560 |   |   |   |   |   | 24,32 |
| 600 <sup>2)</sup>                                     | 599 | 600 |   |   |   |   |   | 27,91 |
| 630 <sup>2)</sup>                                     | 627 | 630 |   |   |   |   |   | 30,77 |
|                                                       |     |     |   |   |   |   |   |       |
| 80 <sup>1)</sup>                                      | 78  | 92  |   |   |   |   |   | 0,33  |
| 100 <sup>1)</sup>                                     | 99  | 101 |   |   |   |   |   | 0,52  |
| 120 <sup>1)</sup>                                     | 119 | 112 |   |   |   |   |   | 0,74  |
| 150 <sup>1)</sup>                                     | 149 | 190 |   |   |   |   |   | 1,16  |
| 175 <sup>1)</sup>                                     | 174 | 215 |   |   |   |   |   | 1,58  |
| 200 <sup>1)</sup>                                     | 199 | 193 |   |   |   |   |   | 2,07  |
| 224 <sup>2)</sup>                                     | 219 | 224 |   |   |   |   |   | 2,60  |
| 250 <sup>1)</sup>                                     | 249 | 240 |   |   |   |   |   | 3,23  |
| 300 <sup>1)</sup>                                     | 299 | 240 |   |   |   |   |   | 4,65  |
| 315 <sup>2)</sup>                                     | 312 | 315 |   |   |   |   |   | 5,20  |
| 350 <sup>2)</sup>                                     | 349 | 350 |   |   |   |   |   | 6,33  |
| 400 <sup>2)</sup>                                     | 399 | 400 |   |   |   |   |   | 8,27  |
| 450 <sup>2)</sup>                                     | 449 | 450 |   |   |   |   |   | 10,47 |
| 500 <sup>2)</sup>                                     | 499 | 500 |   |   |   |   |   | 12,92 |
| 560 <sup>2)</sup>                                     | 557 | 560 |   |   |   |   |   | 16,21 |
| 600 <sup>2)</sup>                                     | 599 | 600 |   |   |   |   |   | 18,61 |
| 630 <sup>2)</sup>                                     | 627 | 630 |   |   |   |   |   | 20,52 |

| DC 01 1,5 mm                       |        | DC 01 2 mm                         |        | DC 01 3 mm                         |        | DC 01 1,5 mm           |        | VA 1.4301 1,5 mm             |        | VA 1.4301 2 mm               |        |
|------------------------------------|--------|------------------------------------|--------|------------------------------------|--------|------------------------|--------|------------------------------|--------|------------------------------|--------|
| pulverbeschichtet<br>powder coated |        | pulverbeschichtet<br>powder coated |        | pulverbeschichtet<br>powder coated |        | verzinkt<br>galvanized |        | Edelstahl<br>stainless steel |        | Edelstahl<br>stainless steel |        |
| Art.-Nr.                           | €      | Art.-Nr.                           | €      | Art.-Nr.                           | €      | Art.-Nr.               | €      | Art.-Nr.                     | €      | Art.-Nr.                     | €      |
| 0811220                            | 27,90  |                                    |        |                                    |        | 0812220                | 29,50  | 0813220                      | 61,80  |                              |        |
| 1011220                            | 29,20  | 1021220                            | 30,70  |                                    |        | 1012220                | 30,70  | 1013220                      | 63,60  | 1023220                      | 72,50  |
| 1211220                            | 31,70  | 1221220                            | 33,80  |                                    |        | 1212220                | 33,40  | 1213220                      | 70,20  | 1223220                      | 83,40  |
| 1511220                            | 35,40  | 1521220                            | 39,50  | 1531220                            | 59,90  | 1512220                | 37,70  | 1513220                      | 81,00  | 1523220                      | 101,90 |
| 1711220                            | 42,80  | 1721220                            | 48,80  | 1731220                            | 68,10  | 1712220                | 48,40  | 1713220                      | 95,50  | 1723220                      | 132,60 |
| 2011220                            | 47,40  | 2021220                            | 56,90  | 2031220                            | 74,90  | 2012220                | 55,70  | 2013220                      | 113,20 | 2023220                      | 145,00 |
| 2211220                            | 60,10  | 2221220                            | 67,10  | 2231220                            | 96,40  | 2212220                | 68,20  | 2213220                      | 140,20 | 2223220                      | 186,20 |
| 2511220                            | 62,00  | 2521220                            | 69,80  | 2531220                            | 99,50  | 2512220                | 71,20  | 2513220                      | 143,00 | 2523220                      | 193,80 |
| 3011220                            | 80,90  | 3021220                            | 85,40  | 3031220                            | 116,10 | 3012220                | 92,10  | 3013220                      | 170,90 | 3023220                      | 247,90 |
| 3111220                            | 123,70 | 3121220                            | 139,50 | 3131220                            | 165,30 | 3112220                | 140,90 | 3113220                      | 241,30 | 3123220                      | 290,40 |
| 3511220                            | 127,30 | 3521220                            | 143,30 | 3531220                            | 169,10 | 3512220                | 144,10 | 3513220                      | 248,70 | 3523220                      | 301,10 |
| 4011220                            | 144,40 | 4021220                            | 176,50 | 4031220                            | 191,40 | 4012220                | 167,30 | 4013220                      | 284,70 | 4023220                      | 327,00 |
| 4511220                            | 154,00 | 4521220                            | 191,50 | 4531220                            | 224,90 | 4512220                | 182,10 | 4513220                      | 336,90 | 4523220                      | 391,20 |
| 5011220                            | 186,80 | 5021220                            | 225,90 | 5031220                            | 259,10 | 5012220                | 208,10 | 5013220                      | 396,40 | 5023220                      | 471,10 |
| 5611220                            | 216,00 | 5621220                            | 236,70 | 5631220                            | 295,30 | 5612220                | 242,10 | 5613220                      | 454,90 | 5623220                      | 507,90 |
| 6011220                            | 245,40 | 6021220                            | 265,70 | 6031220                            | 330,30 | 6012220                | 275,60 | 6013220                      | 478,30 | 6023220                      | 532,10 |
| 6311220                            | 255,40 | 6321220                            | 280,00 | 6331220                            | 364,00 | 6312220                | 288,60 | 6313220                      | 492,60 | 6323220                      | 546,30 |
|                                    |        |                                    |        |                                    |        |                        |        |                              |        |                              |        |
| 0811221                            | 25,90  |                                    |        |                                    |        | 0812221                | 27,30  | 0813221                      | 61,30  |                              |        |
| 1011221                            | 27,00  | 1021221                            | 29,40  |                                    |        | 1012221                | 28,80  | 1013221                      | 62,90  | 1023221                      | 70,60  |
| 1211221                            | 29,30  | 1221221                            | 32,20  |                                    |        | 1212221                | 30,80  | 1213221                      | 68,30  | 1223221                      | 79,30  |
| 1511221                            | 33,20  | 1521221                            | 37,10  | 1531221                            | 57,20  | 1512221                | 34,50  | 1513221                      | 73,80  | 1523221                      | 94,50  |
| 1711221                            | 38,00  | 1721221                            | 46,30  | 1731221                            | 63,70  | 1712221                | 44,50  | 1713221                      | 90,60  | 1723221                      | 120,80 |
| 2011221                            | 41,70  | 2021221                            | 48,60  | 2031221                            | 68,70  | 2012221                | 47,40  | 2013221                      | 95,00  | 2023221                      | 128,40 |
| 2211221                            | 55,60  | 2221221                            | 61,50  | 2231221                            | 87,00  | 2212221                | 62,10  | 2213221                      | 128,80 | 2223221                      | 167,80 |
| 2511221                            | 57,70  | 2521221                            | 65,10  | 2531221                            | 89,70  | 2512221                | 65,30  | 2513221                      | 133,30 | 2523221                      | 171,90 |
| 3011221                            | 72,40  | 3021221                            | 77,60  | 3031221                            | 95,70  | 3012221                | 76,80  | 3013221                      | 149,10 | 3023221                      | 186,40 |
| 3111221                            | 72,70  | 3121221                            | 79,70  | 3131221                            | 99,00  | 3112221                | 79,90  | 3113221                      | 166,70 | 3123221                      | 191,50 |
| 3511221                            | 76,40  | 3521221                            | 83,50  | 3531221                            | 102,30 | 3512221                | 84,50  | 3513221                      | 172,10 | 3523221                      | 196,00 |
| 4011221                            | 82,10  | 4021221                            | 104,40 | 4031221                            | 124,60 | 4012221                | 98,90  | 4013221                      | 197,20 | 4023221                      | 244,80 |
| 4511221                            | 96,00  | 4521221                            | 110,40 | 4531221                            | 132,80 | 4512221                | 109,60 | 4513221                      | 224,90 | 4523221                      | 254,90 |
| 5011221                            | 108,00 | 5021221                            | 121,00 | 5031221                            | 149,30 | 5012221                | 122,30 | 5013221                      | 241,80 | 5023221                      | 273,70 |
| 5611221                            | 123,40 | 5621221                            | 140,80 | 5631221                            | 183,50 | 5612221                | 145,00 | 5613221                      | 285,70 | 5623221                      | 317,80 |
| 6011221                            | 138,30 | 6021221                            | 159,30 | 6031221                            | 204,90 | 6012221                | 160,50 | 6013221                      | 327,10 | 6023221                      | 359,80 |
| 6311221                            | 151,30 | 6321221                            | 166,60 | 6331221                            | 210,60 | 6312221                | 174,60 | 6313221                      | 352,20 | 6323221                      | 378,50 |

**Segmente 45°, ballig und gerade** / *Segments 45°, spherical and straight*



**Segmente 30°, ballig und gerade** / *Segments 30°, spherical and straight*

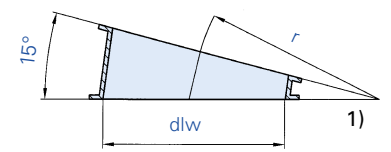
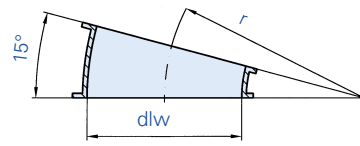


| Nennweite<br>Nominal diameter                         |                 |     |   |   |   |   |   |       |
|-------------------------------------------------------|-----------------|-----|---|---|---|---|---|-------|
| Maße für 2 mm Rohrbau<br>Measurements for 2 mm piping |                 |     |   |   |   |   |   |       |
| DN                                                    | d <sub>lw</sub> | r   | b | c | e | f | g | kg    |
| 80                                                    | 78              | 80  |   |   |   |   |   | 0,15  |
| 100                                                   | 99              | 83  |   |   |   |   |   | 0,40  |
| 120                                                   | 119             | 88  |   |   |   |   |   | 0,50  |
| 150                                                   | 149             | 150 |   |   |   |   |   | 1,00  |
| 175                                                   | 174             | 160 |   |   |   |   |   | 1,30  |
| 200                                                   | 199             | 195 |   |   |   |   |   | 1,70  |
| 224 <sup>1)</sup>                                     | 219             | 224 |   |   |   |   |   | 2,00  |
| 250                                                   | 249             | 195 |   |   |   |   |   | 2,20  |
| 300                                                   | 299             | 205 |   |   |   |   |   | 2,80  |
| 315 <sup>1)</sup>                                     | 312             | 315 |   |   |   |   |   | 3,80  |
| 350 <sup>1)</sup>                                     | 349             | 350 |   |   |   |   |   | 5,40  |
| 400 <sup>1)</sup>                                     | 398             | 400 |   |   |   |   |   | 7,00  |
| 450 <sup>1)</sup>                                     | 448             | 450 |   |   |   |   |   | 8,80  |
| 500 <sup>1)</sup>                                     | 498             | 500 |   |   |   |   |   | 10,80 |
| 560 <sup>1)</sup>                                     | 558             | 560 |   |   |   |   |   | 13,00 |
| 600 <sup>1)</sup>                                     | 598             | 600 |   |   |   |   |   | 15,40 |
| 630 <sup>1)</sup>                                     | 628             | 630 |   |   |   |   |   | 16,10 |
|                                                       |                 |     |   |   |   |   |   |       |
| 80                                                    | 78              | 100 |   |   |   |   |   | 0,10  |
| 100                                                   | 99              | 95  |   |   |   |   |   | 0,30  |
| 120                                                   | 119             | 110 |   |   |   |   |   | 0,44  |
| 150                                                   | 149             | 175 |   |   |   |   |   | 0,80  |
| 175                                                   | 174             | 208 |   |   |   |   |   | 1,10  |
| 200                                                   | 199             | 180 |   |   |   |   |   | 1,20  |
| 224 <sup>1)</sup>                                     | 219             | 224 |   |   |   |   |   | 1,50  |
| 250                                                   | 249             | 230 |   |   |   |   |   | 1,70  |
| 300                                                   | 299             | 230 |   |   |   |   |   | 2,10  |
| 315 <sup>1)</sup>                                     | 312             | 315 |   |   |   |   |   | 2,60  |
| 350 <sup>1)</sup>                                     | 349             | 350 |   |   |   |   |   | 3,60  |
| 400 <sup>1)</sup>                                     | 398             | 400 |   |   |   |   |   | 4,70  |
| 450 <sup>1)</sup>                                     | 448             | 450 |   |   |   |   |   | 5,90  |
| 500 <sup>1)</sup>                                     | 498             | 500 |   |   |   |   |   | 7,20  |
| 560 <sup>1)</sup>                                     | 558             | 560 |   |   |   |   |   | 9,00  |
| 600 <sup>1)</sup>                                     | 598             | 600 |   |   |   |   |   | 10,30 |
| 630 <sup>1)</sup>                                     | 628             | 630 |   |   |   |   |   | 12,00 |

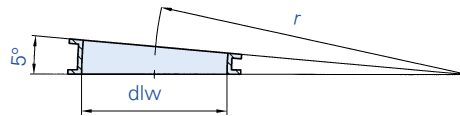
| DC 01 1,5 mm                       |        | DC 01 2 mm                         |        | DC 01 3 mm                         |        | DC 01 1,5 mm           |        | VA 1.4301 1,5 mm             |        | VA 1.4301 2 mm               |        |
|------------------------------------|--------|------------------------------------|--------|------------------------------------|--------|------------------------|--------|------------------------------|--------|------------------------------|--------|
| pulverbeschichtet<br>powder coated |        | pulverbeschichtet<br>powder coated |        | pulverbeschichtet<br>powder coated |        | verzinkt<br>galvanized |        | Edelstahl<br>stainless steel |        | Edelstahl<br>stainless steel |        |
| Art.-Nr.                           | €      | Art.-Nr.                           | €      | Art.-Nr.                           | €      | Art.-Nr.               | €      | Art.-Nr.                     | €      | Art.-Nr.                     | €      |
| 0811024                            | 5,40   |                                    |        |                                    |        | 0812024                | 6,40   | 0813024                      | 16,10  |                              |        |
| 1011024                            | 5,50   | 1021024                            | 6,50   |                                    |        | 1012024                | 6,50   | 1013024                      | 16,50  | 1023024                      | 21,20  |
| 1211024                            | 6,30   | 1221024                            | 7,20   |                                    |        | 1212024                | 7,00   | 1213024                      | 19,20  | 1223024                      | 25,80  |
| 1511024                            | 7,30   | 1521024                            | 9,30   | 1531024                            | 19,50  | 1512024                | 8,40   | 1513024                      | 23,90  | 1523024                      | 34,30  |
| 1711024                            | 10,40  | 1721024                            | 13,20  | 1731024                            | 22,80  | 1712024                | 13,00  | 1713024                      | 30,40  | 1723024                      | 48,90  |
| 2011024                            | 11,80  | 2021024                            | 16,50  | 2031024                            | 25,70  | 2012024                | 15,90  | 2013024                      | 38,50  | 2023024                      | 54,40  |
| 2211024                            | 14,50  | 2221024                            | 17,90  | 2231024                            | 32,70  | 2212024                | 18,40  | 2213024                      | 42,10  | 2223024                      | 65,10  |
| 2511024                            | 14,70  | 2521024                            | 18,50  | 2531024                            | 33,40  | 2512024                | 19,20  | 2513024                      | 42,70  | 2523024                      | 68,20  |
| 3011024                            | 22,60  | 3021024                            | 25,00  | 3031024                            | 40,30  | 3012024                | 28,20  | 3013024                      | 55,10  | 3023024                      | 93,90  |
| 3111024                            | 52,90  | 3121024                            | 60,90  | 3131024                            | 73,70  | 3112024                | 61,50  | 3113024                      | 111,60 | 3123024                      | 136,30 |
| 3511024                            | 53,60  | 3521024                            | 61,60  | 3531024                            | 74,50  | 3512024                | 61,90  | 3513024                      | 114,30 | 3523024                      | 140,50 |
| 4011024                            | 60,90  | 4021024                            | 76,90  | 4031024                            | 84,30  | 4012024                | 72,30  | 4013024                      | 131,00 | 4023024                      | 152,10 |
| 4511024                            | 64,30  | 4521024                            | 83,10  | 4531024                            | 99,60  | 4512024                | 78,20  | 4513024                      | 155,70 | 4523024                      | 182,80 |
| 5011024                            | 79,30  | 5021024                            | 98,80  | 5031024                            | 115,20 | 5012024                | 89,90  | 5013024                      | 184,00 | 5023024                      | 221,40 |
| 5611024                            | 98,30  | 5621024                            | 117,80 | 5631024                            | 143,70 | 5612024                | 105,20 | 5613024                      | 220,50 | 5623024                      | 243,50 |
| 6011024                            | 111,40 | 6021024                            | 141,60 | 6031024                            | 173,50 | 6012024                | 120,90 | 6013024                      | 259,60 | 6023024                      | 290,80 |
| 6311024                            | 116,80 | 6321024                            | 149,20 | 6331024                            | 182,10 | 6312024                | 126,30 | 6313024                      | 271,30 | 6323024                      | 311,10 |
| 1) gerade / straight               |        |                                    |        |                                    |        |                        |        |                              |        |                              |        |
| 0811025                            | 4,40   |                                    |        |                                    |        | 0812025                | 5,10   | 0813025                      | 15,50  |                              |        |
| 1011025                            | 4,50   | 1021025                            | 5,90   |                                    |        | 1012025                | 5,20   | 1013025                      | 15,60  | 1023025                      | 19,50  |
| 1211025                            | 4,80   | 1221025                            | 6,50   |                                    |        | 1212025                | 5,90   | 1213025                      | 17,60  | 1223025                      | 22,90  |
| 1511025                            | 6,30   | 1521025                            | 8,10   | 1531025                            | 18,20  | 1512025                | 6,90   | 1513025                      | 19,40  | 1523025                      | 29,80  |
| 1711025                            | 7,90   | 1721025                            | 11,90  | 1731025                            | 20,60  | 1712025                | 11,10  | 1713025                      | 26,90  | 1723025                      | 42,10  |
| 2011025                            | 8,90   | 2021025                            | 12,40  | 2031025                            | 22,50  | 2012025                | 11,80  | 2013025                      | 28,30  | 2023025                      | 45,00  |
| 2211025                            | 12,00  | 2221025                            | 15,10  | 2231025                            | 27,80  | 2212025                | 15,40  | 2213025                      | 35,10  | 2223025                      | 54,60  |
| 2511025                            | 12,40  | 2521025                            | 16,00  | 2531025                            | 28,40  | 2512025                | 16,10  | 2513025                      | 36,70  | 2523025                      | 55,90  |
| 3011025                            | 18,50  | 3021025                            | 21,20  | 3031025                            | 33,30  | 3012025                | 20,50  | 3013025                      | 42,70  | 3023025                      | 66,20  |
| 3111025                            | 27,10  | 3121025                            | 30,80  | 3131025                            | 38,90  | 3112025                | 30,90  | 3113025                      | 72,70  | 3123025                      | 82,70  |
| 3511025                            | 28,10  | 3521025                            | 31,60  | 3531025                            | 39,40  | 3512025                | 32,20  | 3513025                      | 74,00  | 3523025                      | 83,80  |
| 4011025                            | 29,80  | 4021025                            | 41,00  | 4031025                            | 50,80  | 4012025                | 38,00  | 4013025                      | 85,00  | 4023025                      | 109,00 |
| 4511025                            | 35,20  | 4521025                            | 42,40  | 4531025                            | 53,60  | 4512025                | 41,90  | 4513025                      | 97,30  | 4523025                      | 112,20 |
| 5011025                            | 39,80  | 5021025                            | 46,30  | 5031025                            | 60,60  | 5012025                | 46,90  | 5013025                      | 103,90 | 5023025                      | 119,80 |
| 5611025                            | 45,90  | 5621025                            | 54,50  | 5631025                            | 76,00  | 5612025                | 56,60  | 5613025                      | 123,90 | 5623025                      | 140,10 |
| 6011025                            | 52,20  | 6021025                            | 62,50  | 6031025                            | 85,30  | 6012025                | 63,30  | 6013025                      | 143,30 | 6023025                      | 159,80 |
| 6311025                            | 57,70  | 6321025                            | 65,40  | 6331025                            | 87,50  | 6312025                | 69,40  | 6313025                      | 154,80 | 6323025                      | 168,00 |

1) gerade / straight

**Segmente 15°, ballig und gerade** / *Segments 15°, spherical and straight*



**Segmente 5°, gerade** / *Segments 5°, straight*



| Nennweite<br>Nominal diameter                         |                 |     |   |   |   |   |   |      |
|-------------------------------------------------------|-----------------|-----|---|---|---|---|---|------|
| Maße für 2 mm Rohrbau<br>Measurements for 2 mm piping |                 |     |   |   |   |   |   |      |
| DN                                                    | d <sub>lw</sub> | r   | b | c | e | f | g | kg   |
| 80                                                    | 78              | 240 |   |   |   |   |   | 0,08 |
| 100                                                   | 99              | 390 |   |   |   |   |   | 0,23 |
| 120                                                   | 119             | 295 |   |   |   |   |   | 0,32 |
| 150                                                   | 149             | 600 |   |   |   |   |   | 0,60 |
| 175                                                   | 174             | 560 |   |   |   |   |   | 0,78 |
| 200                                                   | 199             | 690 |   |   |   |   |   | 0,86 |
| 224 <sup>1)</sup>                                     | 219             | 655 |   |   |   |   |   | 0,90 |
| 250                                                   | 249             | 635 |   |   |   |   |   | 1,21 |
| 300                                                   | 299             | 625 |   |   |   |   |   | 1,45 |
| 315 <sup>1)</sup>                                     | 312             | 315 |   |   |   |   |   | 1,60 |
| 350 <sup>1)</sup>                                     | 349             | 350 |   |   |   |   |   | 1,90 |
| 400 <sup>1)</sup>                                     | 398             | 400 |   |   |   |   |   | 2,43 |
| 450 <sup>1)</sup>                                     | 448             | 450 |   |   |   |   |   | 3,04 |
| 500 <sup>1)</sup>                                     | 498             | 500 |   |   |   |   |   | 3,74 |
| 560 <sup>1)</sup>                                     | 558             | 560 |   |   |   |   |   | 4,47 |
| 600 <sup>1)</sup>                                     | 598             | 600 |   |   |   |   |   | 5,32 |
| 630 <sup>1)</sup>                                     | 628             | 630 |   |   |   |   |   | 6,00 |
|                                                       |                 |     |   |   |   |   |   |      |
| 80                                                    | 78              | 380 |   |   |   |   |   | 0,05 |
| 100                                                   | 99              | 390 |   |   |   |   |   | 0,15 |
| 120                                                   | 119             | 400 |   |   |   |   |   | 0,24 |
| 150                                                   | 149             | 420 |   |   |   |   |   | 0,52 |
| 175                                                   | 174             | 430 |   |   |   |   |   | 0,57 |
| 200                                                   | 199             | 445 |   |   |   |   |   | 0,77 |
| 224                                                   | 219             | 655 |   |   |   |   |   | 0,80 |
| 250                                                   | 249             | 470 |   |   |   |   |   | 0,90 |
| 300                                                   | 299             | 490 |   |   |   |   |   | 0,85 |
| 315                                                   | 312             | 660 |   |   |   |   |   | 0,95 |
| 350                                                   | 349             | 670 |   |   |   |   |   | 1,00 |
| 400                                                   | 398             | 655 |   |   |   |   |   | 1,15 |
| 450                                                   | 448             | 670 |   |   |   |   |   | 1,23 |
| 500                                                   | 498             | 720 |   |   |   |   |   | 1,49 |
| 560                                                   | 558             | 725 |   |   |   |   |   | 1,70 |
| 600                                                   | 598             | 740 |   |   |   |   |   | 2,05 |
| 630                                                   | 628             | 740 |   |   |   |   |   | 2,20 |

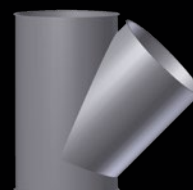
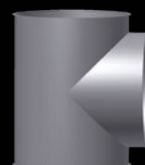
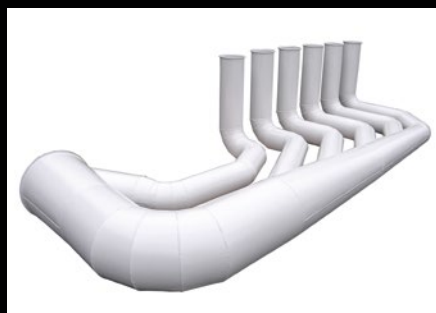
| DC 01 1,5 mm                       |       | DC 01 2 mm                         |       | DC 01 3 mm                         |       | DC 01 1,5 mm           |       | VA 1.4301 1,5 mm             |        | VA 1.4301 2 mm               |        |
|------------------------------------|-------|------------------------------------|-------|------------------------------------|-------|------------------------|-------|------------------------------|--------|------------------------------|--------|
| pulverbeschichtet<br>powder coated |       | pulverbeschichtet<br>powder coated |       | pulverbeschichtet<br>powder coated |       | verzinkt<br>galvanized |       | Edelstahl<br>stainless steel |        | Edelstahl<br>stainless steel |        |
| Art.-Nr.                           | €     | Art.-Nr.                           | €     | Art.-Nr.                           | €     | Art.-Nr.               | €     | Art.-Nr.                     | €      | Art.-Nr.                     | €      |
| 0811026                            | 4,30  |                                    |       |                                    |       | 0812026                | 4,80  | 0813026                      | 14,60  |                              |        |
| 1011026                            | 4,40  | 1021026                            | 5,10  |                                    |       | 1012026                | 4,90  | 1013026                      | 14,80  | 1023026                      | 16,00  |
| 1211026                            | 4,50  | 1221026                            | 6,30  |                                    |       | 1212026                | 5,10  | 1213026                      | 16,50  | 1223026                      | 18,50  |
| 1511026                            | 4,70  | 1521026                            | 7,30  | 1531026                            | 16,80 | 1512026                | 5,50  | 1513026                      | 17,50  | 1523026                      | 25,20  |
| 1711026                            | 7,00  | 1721026                            | 8,90  | 1731026                            | 20,30 | 1712026                | 8,20  | 1713026                      | 21,90  | 1723026                      | 32,90  |
| 2011026                            | 8,00  | 2021026                            | 10,10 | 2031026                            | 22,10 | 2012026                | 9,20  | 2013026                      | 25,00  | 2023026                      | 37,30  |
| 2211026                            | 9,40  | 2221026                            | 12,50 | 2231026                            | 24,60 | 2212026                | 12,20 | 2213026                      | 31,30  | 2223026                      | 46,60  |
| 2511026                            | 10,10 | 2521026                            | 13,00 | 2531026                            | 25,50 | 2512026                | 12,80 | 2513026                      | 31,90  | 2523026                      | 47,50  |
| 3011026                            | 16,20 | 3021026                            | 19,60 | 3031026                            | 29,50 | 3012026                | 18,20 | 3013026                      | 37,30  | 3023026                      | 60,20  |
| 3111026                            | 21,50 | 3121026                            | 26,00 | 3131026                            | 34,90 | 3112026                | 24,00 | 3113026                      | 62,20  | 3123026                      | 70,20  |
| 3511026                            | 22,20 | 3521026                            | 26,90 | 3531026                            | 35,60 | 3512026                | 26,40 | 3513026                      | 64,50  | 3523026                      | 71,30  |
| 4011026                            | 23,60 | 4021026                            | 33,90 | 4031026                            | 40,00 | 4012026                | 29,60 | 4013026                      | 72,40  | 4023026                      | 90,70  |
| 4511026                            | 29,40 | 4521026                            | 35,90 | 4531026                            | 48,00 | 4512026                | 36,70 | 4513026                      | 83,10  | 4523026                      | 96,40  |
| 5011026                            | 35,00 | 5021026                            | 40,30 | 5031026                            | 51,40 | 5012026                | 39,00 | 5013026                      | 92,80  | 5023026                      | 105,70 |
| 5611026                            | 39,00 | 5621026                            | 47,50 | 5631026                            | 64,80 | 5612026                | 47,50 | 5613026                      | 107,90 | 5623026                      | 121,00 |
| 6011026                            | 44,20 | 6021026                            | 54,90 | 6031026                            | 68,30 | 6012026                | 54,80 | 6013026                      | 125,90 | 6023026                      | 142,10 |
| 6311026                            | 49,20 | 6321026                            | 58,10 | 6331026                            | 75,70 | 6312026                | 62,10 | 6313026                      | 135,70 | 6323026                      | 149,20 |
|                                    |       |                                    |       |                                    |       |                        |       |                              |        | 1) gerade / straight         |        |
| 0811027                            | 4,20  |                                    |       |                                    |       | 0812027                | 4,70  | 0813027                      | 14,50  |                              |        |
| 1011027                            | 4,30  | 1021027                            | 5,00  |                                    |       | 1012027                | 4,80  | 1013027                      | 14,60  | 1023027                      | 15,90  |
| 1211027                            | 4,40  | 1221027                            | 5,90  |                                    |       | 1212027                | 4,90  | 1213027                      | 16,10  | 1223027                      | 18,30  |
| 1511027                            | 4,60  | 1521027                            | 7,00  | 1531027                            | 16,70 | 1512027                | 5,20  | 1513027                      | 17,00  | 1523027                      | 24,60  |
| 1711027                            | 6,60  | 1721027                            | 8,50  | 1731027                            | 19,90 | 1712027                | 7,80  | 1713027                      | 21,40  | 1723027                      | 31,70  |
| 2011027                            | 7,40  | 2021027                            | 9,20  | 2031027                            | 21,70 | 2012027                | 8,60  | 2013027                      | 24,30  | 2023027                      | 36,70  |
| 2211027                            | 8,70  | 2221027                            | 11,80 | 2231027                            | 24,20 | 2212027                | 11,50 | 2213027                      | 30,50  | 2223027                      | 43,50  |
| 2511027                            | 9,10  | 2521027                            | 12,30 | 2531027                            | 24,80 | 2512027                | 11,90 | 2513027                      | 30,90  | 2523027                      | 44,90  |
| 3011027                            | 15,30 | 3021027                            | 18,80 | 3031027                            | 28,90 | 3012027                | 17,50 | 3013027                      | 36,50  | 3023027                      | 57,30  |
| 3111027                            | 17,90 | 3121027                            | 24,40 | 3131027                            | 34,30 | 3112027                | 22,90 | 3113027                      | 61,40  | 3123027                      | 69,40  |
| 3511027                            | 21,40 | 3521027                            | 26,00 | 3531027                            | 35,10 | 3512027                | 25,40 | 3513027                      | 63,50  | 3523027                      | 70,20  |
| 4011027                            | 22,50 | 4021027                            | 31,60 | 4031027                            | 39,30 | 4012027                | 28,40 | 4013027                      | 71,30  | 4023027                      | 83,10  |
| 4511027                            | 28,20 | 4521027                            | 34,60 | 4531027                            | 47,10 | 4512027                | 35,20 | 4513027                      | 81,70  | 4523027                      | 95,10  |
| 5011027                            | 33,40 | 5021027                            | 38,80 | 5031027                            | 50,50 | 5012027                | 37,70 | 5013027                      | 91,50  | 5023027                      | 102,00 |
| 5611027                            | 37,40 | 5621027                            | 46,00 | 5631027                            | 63,70 | 5612027                | 46,00 | 5613027                      | 106,20 | 5623027                      | 119,30 |
| 6011027                            | 42,40 | 6021027                            | 53,30 | 6031027                            | 70,10 | 6012027                | 53,20 | 6013027                      | 124,50 | 6023027                      | 140,50 |
| 6311027                            | 47,40 | 6321027                            | 56,40 | 6331027                            | 74,10 | 6312027                | 60,10 | 6313027                      | 133,70 | 6323027                      | 144,10 |

1) gerade / straight

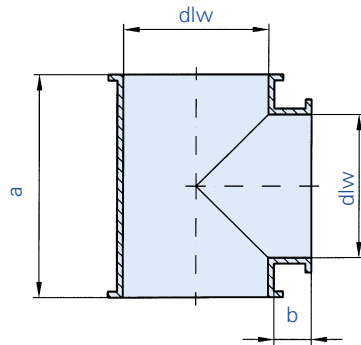


T-STÜCKE  
GABELSTÜCKE  
HOSENROHRE

*T-PIECES  
FORKS  
Y-PIECES*

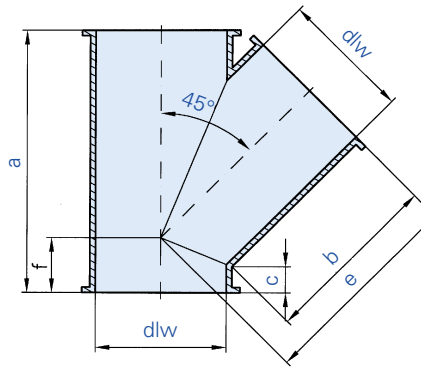


## T-Stücke / T-Pieces



Sonderabmessungen auf Anfrage  
Special diameters upon request

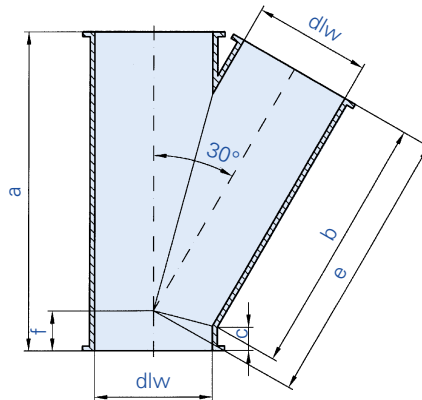
## Gabelstücke 45° / Forks 45°



Sonderabmessungen auf Anfrage  
Special diameters upon request

Bitte beachten: Abweichende Maße bei  
Los- bzw. Festflanschverbindungen.  
Please note: Deviating dimensions for  
loose- or fixed flanges connections.

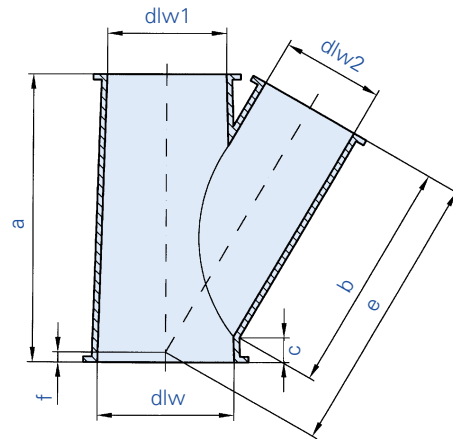
## Gabelstücke 30° / Forks 30°



Sonderabmessungen auf Anfrage  
Special diameters upon request

Bitte beachten: Abweichende Maße bei  
Los- bzw. Festflanschverbindungen.  
Please note: Deviating dimensions for  
loose- or fixed flanges connections.



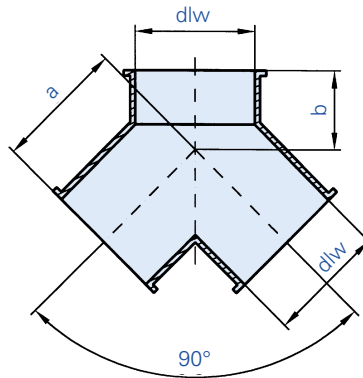
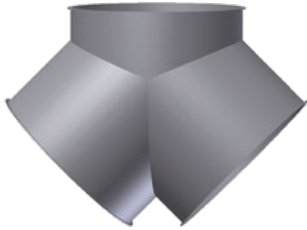


Sonderabmessungen auf Anfrage  
Special diameters upon request

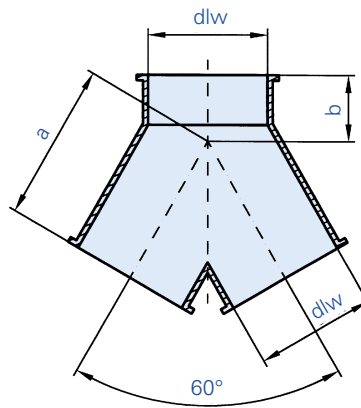
Bitte beachten: Abweichende Maße bei  
Los- bzw. Festflanschverbindungen.  
Please note: Deviating dimensions for  
loose- or fixed flanges connections.



### Hosenrohre 90° / Ypieces 90°



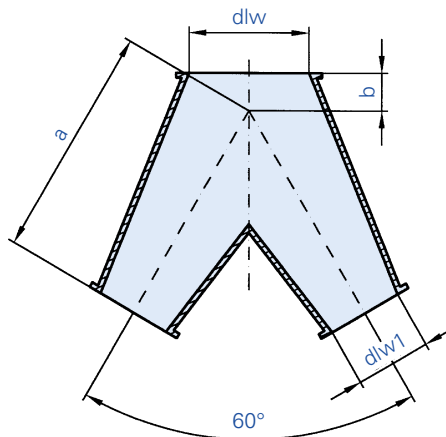
### Hosenrohre 60° / Ypieces 60°



Bitte beachten: Abweichende Maße bei Los- bzw. Festflanschverbindungen.

*Please note: Deviating dimensions for loose- or fixed flanges connections.*

### Konische Hosenrohre 60° / Conical Ypieces 60°



Bitte beachten: Abweichende Maße bei Los- bzw. Festflanschverbindungen.

*Please note: Deviating dimensions for loose- or fixed flanges connections.*



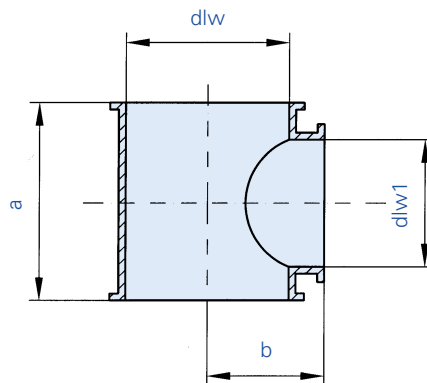


KONTROLLSTUTZEN  
DECKEL  
KONTROLLROHRE  
REINIGUNGSRÖHRE

*INSPECTION T-PIECES  
RUBBER COVERS  
INSPECTION PIPES  
CLEANING PIPES*

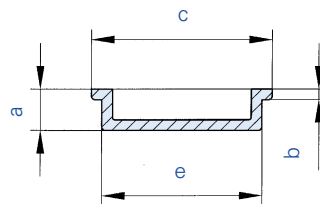


## Kontrollstutzen ohne Deckel / Inspection tees without cover



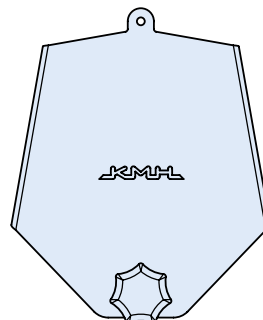
Größere Durchmesser auf Anfrage  
Bigger diameters upon request

## Gummideckel / Rubber covers



TPE weiß = Lebensmittelqualität  
TPE white = Suitable for food

## Deckelarretierungen / Locking covers



| Nennweite<br>Nominal diameter                         |     |      |     |     |   |   |   |   |      |
|-------------------------------------------------------|-----|------|-----|-----|---|---|---|---|------|
| Maße für 2 mm Rohrbau<br>Measurements for 2 mm piping |     |      |     |     |   |   |   |   |      |
| DN                                                    | dlw | dlw1 | a   | b   | e | f | g | i | kg   |
| 80                                                    | 78  | 78   | 150 | 70  |   |   |   |   | 0,60 |
| 100                                                   | 99  | 99   | 170 | 83  |   |   |   |   | 1,68 |
| 120                                                   | 119 | 99   | 170 | 95  |   |   |   |   | 1,89 |
| 150                                                   | 149 | 119  | 200 | 108 |   |   |   |   | 2,22 |
| 175                                                   | 174 | 149  | 230 | 123 |   |   |   |   | 2,48 |
| 200                                                   | 199 | 149  | 230 | 135 |   |   |   |   | 2,74 |
| 224                                                   | 219 | 149  | 230 | 147 |   |   |   |   | 3,00 |
| 250                                                   | 249 | 149  | 230 | 160 |   |   |   |   | 3,27 |
| 300                                                   | 299 | 149  | 230 | 185 |   |   |   |   | 3,80 |

| DC 01 1,5 mm                       |       | DC 01 2 mm                         |       | DC 01 3 mm                         |       | DC 01 1,5 mm           |       | VA 1.4301 1,5 mm             |       | VA 1.4301 2 mm               |        |
|------------------------------------|-------|------------------------------------|-------|------------------------------------|-------|------------------------|-------|------------------------------|-------|------------------------------|--------|
| pulverbeschichtet<br>powder coated |       | pulverbeschichtet<br>powder coated |       | pulverbeschichtet<br>powder coated |       | verzinkt<br>galvanized |       | Edelstahl<br>stainless steel |       | Edelstahl<br>stainless steel |        |
| Art.-Nr.                           | €     | Art.-Nr.                           | €     | Art.-Nr.                           | €     | Art.-Nr.               | €     | Art.-Nr.                     | €     | Art.-Nr.                     | €      |
| 0811039                            | 15,10 |                                    |       |                                    |       | 0812039                | 16,90 | 0813039                      | 38,80 |                              |        |
| 1011039                            | 15,20 | 1021039                            | 22,20 |                                    |       | 1012039                | 17,00 | 1013039                      | 39,00 | 1023039                      | 48,70  |
| 1211039                            | 15,90 | 1221039                            | 22,60 |                                    |       | 1212039                | 17,90 | 1213039                      | 41,30 | 1223039                      | 52,10  |
| 1511039                            | 19,50 | 1521039                            | 26,00 | 1531039                            | 32,50 | 1512039                | 23,00 | 1513039                      | 48,60 | 1523039                      | 68,10  |
| 1711039                            | 21,70 | 1721039                            | 30,20 | 1731039                            | 34,40 | 1712039                | 24,20 | 1713039                      | 68,30 | 1723039                      | 87,20  |
| 2011039                            | 23,60 | 2021039                            | 33,10 | 2031039                            | 47,20 | 2012039                | 28,40 | 2013039                      | 72,50 | 2023039                      | 96,70  |
| 2211039                            | 30,10 | 2221039                            | 42,60 | 2231039                            | 59,70 | 2212039                | 35,60 | 2213039                      | 77,10 | 2223039                      | 99,60  |
| 2511039                            | 30,90 | 2521039                            | 43,50 | 2531039                            | 60,90 | 2512039                | 37,10 | 2513039                      | 77,90 | 2523039                      | 100,70 |
| 3011039                            | 37,90 | 3021039                            | 46,20 | 3031039                            | 68,00 | 3012039                | 42,60 | 3013039                      | 83,00 | 3023039                      | 122,60 |

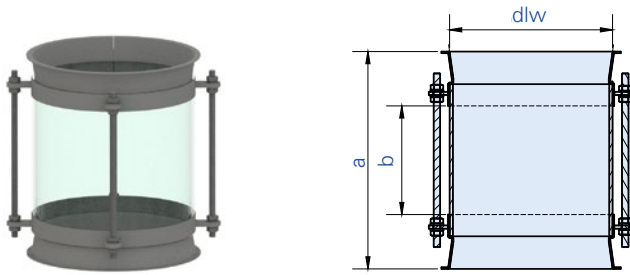
| Nennweite<br>Nominal diameter |    |    |     |     |   |   |  |  |      |
|-------------------------------|----|----|-----|-----|---|---|--|--|------|
| Maße<br>Measurements          |    |    |     |     |   |   |  |  |      |
| DN                            | a  | b  | c   | e   | g | i |  |  | kg   |
| 80                            | 22 | 5  | 110 | 79  |   |   |  |  | 0,10 |
| 100                           | 22 | 5  | 122 | 101 |   |   |  |  | 0,15 |
| 120                           | 24 | 6  | 140 | 121 |   |   |  |  | 0,20 |
| 150                           | 33 | 7  | 176 | 151 |   |   |  |  | 0,35 |
| 175                           | 25 | 7  | 207 | 176 |   |   |  |  | 0,45 |
| 200                           | 40 | 8  | 230 | 201 |   |   |  |  | 0,60 |
| 250                           | 42 | 10 | 282 | 251 |   |   |  |  | 0,90 |
| 300                           | 40 | 8  | 328 | 301 |   |   |  |  | 1,35 |

| TPE weiß<br>TPE white    |       |          |       |  |  |  |  |  |  |  |  |
|--------------------------|-------|----------|-------|--|--|--|--|--|--|--|--|
| TPE schwarz<br>TPE black |       |          |       |  |  |  |  |  |  |  |  |
| Art.-Nr.                 | €     | Art.-Nr. | €     |  |  |  |  |  |  |  |  |
| 0805040                  | 6,00  | 0806040  | 6,00  |  |  |  |  |  |  |  |  |
| 1005040                  | 6,30  | 1006040  | 6,30  |  |  |  |  |  |  |  |  |
| 1205040                  | 7,50  | 1206040  | 7,50  |  |  |  |  |  |  |  |  |
| 1505040                  | 7,90  | 1506040  | 7,90  |  |  |  |  |  |  |  |  |
| 1705040                  | 11,30 | 1706040  | 11,30 |  |  |  |  |  |  |  |  |
| 2005040                  | 12,80 | 2006040  | 12,80 |  |  |  |  |  |  |  |  |
| 2505040                  | 19,50 | 2506040  | 19,50 |  |  |  |  |  |  |  |  |
| 3005040                  | 24,50 | 3006040  | 24,50 |  |  |  |  |  |  |  |  |

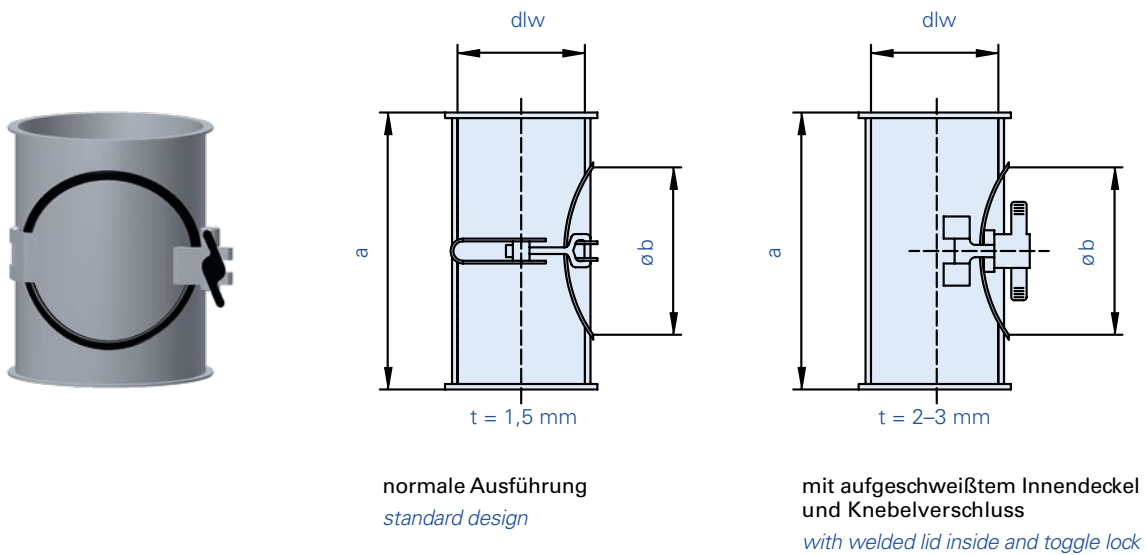
| Nennweite<br>Nominal diameter |     |   |   |   |   |   |   |   |      |
|-------------------------------|-----|---|---|---|---|---|---|---|------|
| Maße<br>Measurements          |     |   |   |   |   |   |   |   |      |
| DN                            | dlw | a | b | c | e | f | g | i | kg   |
| 100                           |     |   |   |   |   |   |   |   | 0,35 |
| 120                           |     |   |   |   |   |   |   |   | 0,40 |
| 150                           |     |   |   |   |   |   |   |   | 0,60 |

| VA 1.4301                                            |  |  |  |  |  |          |       |  |  |  |  |
|------------------------------------------------------|--|--|--|--|--|----------|-------|--|--|--|--|
| Edelstahl<br>stainless steel                         |  |  |  |  |  |          |       |  |  |  |  |
|                                                      |  |  |  |  |  | Art.-Nr. | €     |  |  |  |  |
| Für Kontrollstutzen / For inspection tees DN 100     |  |  |  |  |  | 1013041  | 41,60 |  |  |  |  |
| Für Kontrollstutzen / For inspection tees DN 150     |  |  |  |  |  | 1213041  | 42,70 |  |  |  |  |
| Für Kontrollstutzen / For inspection tees DN 175-300 |  |  |  |  |  | 1513041  | 44,10 |  |  |  |  |

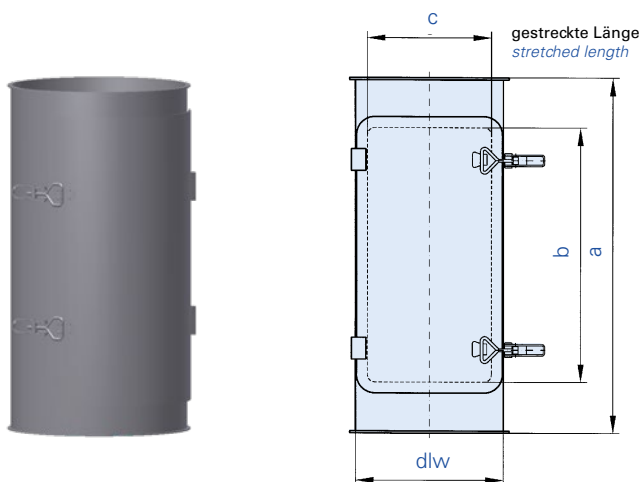
## Kontrollrohre – Plexiglas / Inspection pipes - plexiglass



## Kontrollrohre / Inspection pipes



## Reinigungsrohre / Cleaning pipes



DN 350, 400 auf Anfrage  
DN 350, 400 upon request

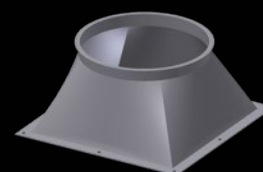
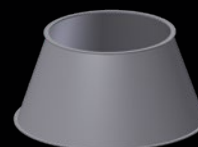
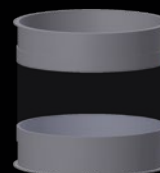
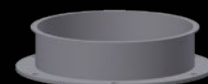
|     |     |     |     |     |  |  |  |  |       |
|-----|-----|-----|-----|-----|--|--|--|--|-------|
| 80  |     |     |     |     |  |  |  |  |       |
| 100 |     |     |     |     |  |  |  |  |       |
| 120 |     |     |     |     |  |  |  |  |       |
| 150 | 149 | 488 | 350 | 150 |  |  |  |  | 4,80  |
| 175 | 174 | 488 | 350 | 175 |  |  |  |  | 5,60  |
| 200 | 199 | 488 | 350 | 200 |  |  |  |  | 6,40  |
| 224 | 219 | 488 | 350 | 224 |  |  |  |  | 7,00  |
| 250 | 249 | 488 | 350 | 250 |  |  |  |  | 7,90  |
| 300 | 299 | 488 | 350 | 300 |  |  |  |  | 9,40  |
| 315 | 312 | 488 | 350 | 315 |  |  |  |  | 9,80  |
| 350 | 349 | 488 | 350 | 350 |  |  |  |  | 11,00 |
| 400 | 398 | 488 | 350 | 400 |  |  |  |  | 12,50 |
| 450 | 448 | 488 | 350 | 450 |  |  |  |  | 14,00 |
| 500 | 498 | 488 | 350 | 500 |  |  |  |  | 15,60 |
| 560 | 558 | 488 | 350 | 560 |  |  |  |  | 17,40 |
| 600 | 598 | 488 | 350 | 600 |  |  |  |  | 18,60 |
| 630 | 628 | 488 | 350 | 630 |  |  |  |  | 19,60 |

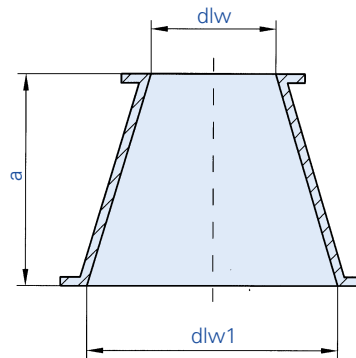
1) = 2 mm



KONUSSTÜCKE  
ÜBERGANGSSTÜCKE  
ANSCHLUSSSTUTZEN  
SCHLÄUCHE und  
KOMPENSATOREN  
HAUBEN

*CONE PIECES  
TRANSITION-PIECES  
CONNECTING FLANGES  
HOSES and  
COMPENSATORS  
CAPS*



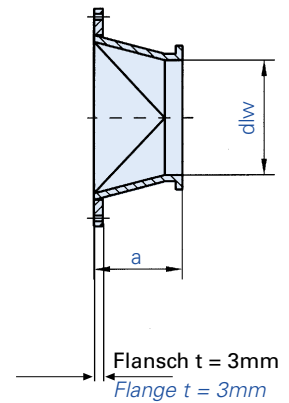
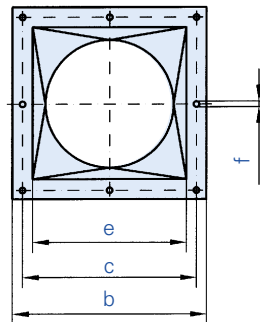


Sonderabmessungen auf Anfrage  
*Special diameters upon request*

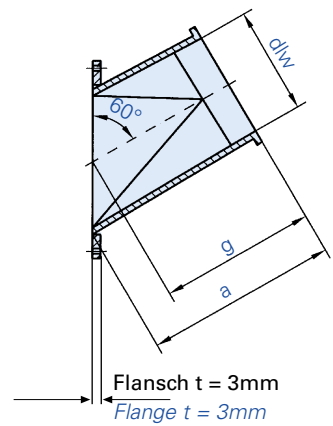
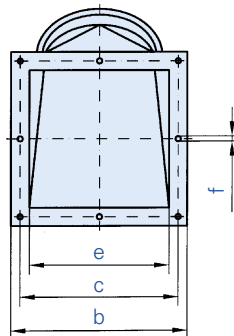
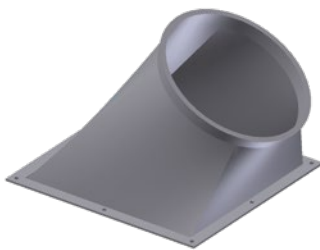
| Nennweite<br>Nominal diameter                         |     |      |     |   |   |   |   |      |
|-------------------------------------------------------|-----|------|-----|---|---|---|---|------|
| Maße für 2 mm Rohrbau<br>Measurements for 2 mm piping |     |      |     |   |   |   |   |      |
| DN                                                    | dlw | dlw1 | a   | c | e | f | g | kg   |
| 80/100                                                | 78  | 100  | 100 |   |   |   |   | 0,50 |
| 80/120                                                | 78  | 119  | 80  |   |   |   |   | 0,50 |
| 80/150                                                | 78  | 149  | 140 |   |   |   |   | 0,90 |
| 100/120                                               | 99  | 119  | 60  |   |   |   |   | 0,46 |
| 100/150                                               | 99  | 149  | 95  |   |   |   |   | 0,68 |
| 100/175                                               | 99  | 174  | 120 |   |   |   |   | 0,93 |
| 100/200                                               | 99  | 199  | 120 |   |   |   |   | 1,08 |
| 100/250                                               | 99  | 249  | 200 |   |   |   |   | 1,98 |
| 120/150                                               | 119 | 149  | 150 |   |   |   |   | 1,10 |
| 120/175                                               | 119 | 174  | 100 |   |   |   |   | 0,88 |
| 120/200                                               | 119 | 199  | 120 |   |   |   |   | 1,12 |
| 120/250                                               | 119 | 249  | 150 |   |   |   |   | 1,64 |
| 150/175                                               | 149 | 174  | 80  |   |   |   |   | 0,74 |
| 150/200                                               | 149 | 199  | 100 |   |   |   |   | 1,00 |
| 150/224                                               | 149 | 219  | 150 |   |   |   |   | 1,50 |
| 150/250                                               | 149 | 249  | 120 |   |   |   |   | 1,44 |
| 150/300                                               | 149 | 299  | 200 |   |   |   |   | 2,57 |
| 175/200                                               | 174 | 199  | 100 |   |   |   |   | 1,06 |
| 175/224                                               | 174 | 219  | 100 |   |   |   |   | 1,10 |
| 200/224                                               | 199 | 219  | 100 |   |   |   |   | 1,20 |
| 200/250                                               | 199 | 249  | 120 |   |   |   |   | 1,50 |
| 200/300                                               | 199 | 299  | 150 |   |   |   |   | 2,14 |
| 224/250                                               | 219 | 249  | 100 |   |   |   |   | 1,30 |
| 224/300                                               | 219 | 299  | 150 |   |   |   |   | 2,20 |
| 250/300                                               | 249 | 299  | 150 |   |   |   |   | 2,26 |
| 250/315                                               | 249 | 312  | 150 |   |   |   |   | 2,30 |
| 250/350                                               | 249 | 349  | 200 |   |   |   |   | 3,20 |
| 300/315                                               | 299 | 312  | 60  |   |   |   |   | 1,10 |
| 300/350                                               | 299 | 349  | 200 |   |   |   |   | 3,46 |
| 300/400                                               | 299 | 398  | 200 |   |   |   |   | 3,82 |
| 315/350                                               | 312 | 349  | 150 |   |   |   |   | 2,70 |
| 315/400                                               | 312 | 398  | 200 |   |   |   |   | 3,80 |
| 350/400                                               | 349 | 398  | 200 |   |   |   |   | 4,00 |
| 350/450                                               | 349 | 448  | 200 |   |   |   |   | 4,36 |
| 400/450                                               | 398 | 448  | 200 |   |   |   |   | 4,54 |
| 400/500                                               | 398 | 498  | 250 |   |   |   |   | 6,02 |
| 450/500                                               | 448 | 498  | 200 |   |   |   |   | 5,06 |
| 450/560                                               | 448 | 558  | 250 |   |   |   |   | 6,68 |
| 500/560                                               | 498 | 558  | 250 |   |   |   |   | 6,90 |
| 500/600                                               | 498 | 598  | 300 |   |   |   |   | 8,70 |
| 500/630                                               | 498 | 628  | 300 |   |   |   |   | 8,90 |
| 560/600                                               | 558 | 598  | 300 |   |   |   |   | 9,00 |
| 560/630                                               | 558 | 628  | 300 |   |   |   |   | 9,20 |

| DC 01 1,5 mm                       |       | DC 01 2 mm                         |       | DC 01 3 mm                         |        | DC 01 1,5 mm           |       | VA 1.4301 1,5 mm             |        | VA 1.4301 2 mm               |        |
|------------------------------------|-------|------------------------------------|-------|------------------------------------|--------|------------------------|-------|------------------------------|--------|------------------------------|--------|
| pulverbeschichtet<br>powder coated |       | pulverbeschichtet<br>powder coated |       | pulverbeschichtet<br>powder coated |        | verzinkt<br>galvanized |       | Edelstahl<br>stainless steel |        | Edelstahl<br>stainless steel |        |
| Art.-Nr.                           | €     | Art.-Nr.                           | €     | Art.-Nr.                           | €      | Art.-Nr.               | €     | Art.-Nr.                     | €      | Art.-Nr.                     | €      |
| 0811047                            | 11,20 |                                    |       |                                    |        | 0812047                | 12,30 | 0813047                      | 16,20  |                              |        |
| 0811048                            | 12,00 |                                    |       |                                    |        | 0812048                | 13,00 | 0813048                      | 16,70  |                              |        |
| 0811049                            | 12,80 |                                    |       |                                    |        | 0812049                | 13,90 | 0813049                      | 17,50  |                              |        |
| 1011047                            | 12,40 | 1021047                            | 14,40 |                                    |        | 1012047                | 13,10 | 1013047                      | 17,00  | 1023047                      | 21,30  |
| 1011048                            | 13,60 | 1021048                            | 15,80 |                                    |        | 1012048                | 14,90 | 1013048                      | 18,80  | 1023048                      | 26,50  |
| 1011049                            | 14,00 | 1021049                            | 16,50 |                                    |        | 1012049                | 15,60 | 1013049                      | 20,20  | 1023049                      | 31,10  |
| 1011050                            | 16,90 | 1021050                            | 19,60 |                                    |        | 1012050                | 18,50 | 1013050                      | 26,50  | 1023050                      | 33,30  |
| 1011051                            | 19,80 | 1021051                            | 23,40 |                                    |        | 1012051                | 22,70 | 1013051                      | 35,70  | 1023051                      | 36,70  |
| 1211047                            | 13,60 | 1221047                            | 15,80 |                                    |        | 1212047                | 15,20 | 1213047                      | 19,40  | 1223047                      | 26,50  |
| 1211048                            | 13,90 | 1221048                            | 16,60 |                                    |        | 1212048                | 15,60 | 1213048                      | 21,90  | 1223048                      | 31,90  |
| 1211049                            | 17,40 | 1221049                            | 20,40 |                                    |        | 1212049                | 19,00 | 1213049                      | 27,10  | 1223049                      | 39,50  |
| 1211050                            | 18,00 | 1221050                            | 22,40 |                                    |        | 1212050                | 20,50 | 1213050                      | 31,20  | 1223050                      | 49,80  |
| 1511047                            | 14,80 | 1521047                            | 17,70 | 1531047                            | 29,40  | 1512047                | 16,80 | 1513047                      | 22,20  | 1523047                      | 29,00  |
| 1511048                            | 15,20 | 1521048                            | 18,60 | 1531048                            | 35,60  | 1512048                | 17,40 | 1513048                      | 23,30  | 1523048                      | 36,00  |
| 1511051                            | 17,50 | 1521051                            | 21,80 | 1531051                            | 36,80  | 1512051                | 19,50 | 1513051                      | 27,60  | 1523051                      | 37,40  |
| 1511049                            | 18,00 | 1521049                            | 22,50 | 1531049                            | 38,30  | 1512049                | 20,10 | 1513049                      | 29,90  | 1523049                      | 48,00  |
| 1511050                            | 23,40 | 1521050                            | 29,30 | 1531050                            | 43,70  | 1512050                | 28,10 | 1513050                      | 35,70  | 1523050                      | 53,70  |
| 1711047                            | 15,90 | 1721047                            | 19,80 | 1731047                            | 38,20  | 1712047                | 18,60 | 1713047                      | 25,90  | 1723047                      | 36,70  |
| 1711048                            | 18,70 | 1721048                            | 23,40 | 1731048                            | 39,40  | 1712048                | 22,20 | 1713048                      | 29,80  | 1723048                      | 41,30  |
| 2011049                            | 19,20 | 2021049                            | 24,00 | 2031049                            | 40,00  | 2012049                | 22,80 | 2013049                      | 30,70  | 2023049                      | 40,30  |
| 2011047                            | 19,60 | 2021047                            | 24,60 | 2031047                            | 41,20  | 2012047                | 23,60 | 2013047                      | 33,70  | 2023047                      | 52,30  |
| 2011048                            | 24,60 | 2021048                            | 30,90 | 2031048                            | 43,10  | 2012048                | 29,40 | 2013048                      | 40,80  | 2023048                      | 67,80  |
| 2211047                            | 22,80 | 2221047                            | 28,40 | 2231047                            | 40,10  | 2212047                | 27,10 | 2213047                      | 37,20  | 2223047                      | 46,40  |
| 2211048                            | 24,10 | 2221048                            | 30,20 | 2231048                            | 41,40  | 2212048                | 28,40 | 2213048                      | 39,30  | 2223048                      | 57,10  |
| 2511049                            | 26,80 | 2521049                            | 33,50 | 2531049                            | 48,80  | 2512049                | 32,10 | 2513049                      | 40,50  | 2523049                      | 69,70  |
| 2511050                            | 30,40 | 2521050                            | 37,90 | 2531050                            | 51,80  | 2512050                | 36,50 | 2513050                      | 48,20  | 2523050                      | 79,80  |
| 2511051                            | 40,60 | 2521051                            | 46,60 | 2531051                            | 59,60  | 2512051                | 46,50 | 2513051                      | 56,50  | 2523051                      | 81,60  |
| 3011049                            | 36,30 | 3021049                            | 44,20 | 3031049                            | 56,40  | 3012049                | 44,40 | 3013049                      | 53,70  | 3023049                      | 80,30  |
| 3011047                            | 42,80 | 3021047                            | 49,20 | 3031047                            | 60,80  | 3012047                | 47,70 | 3013047                      | 57,70  | 3023047                      | 83,10  |
| 3011048                            | 45,60 | 3021048                            | 51,40 | 3031048                            | 65,50  | 3012048                | 50,00 | 3013048                      | 61,60  | 3023048                      | 85,50  |
| 3111047                            | 44,40 | 3121047                            | 50,30 | 3131047                            | 64,40  | 3112047                | 48,40 | 3113047                      | 61,90  | 3123047                      | 83,60  |
| 3111048                            | 47,00 | 3121048                            | 53,50 | 3131048                            | 68,80  | 3112048                | 52,40 | 3113048                      | 66,30  | 3123048                      | 86,40  |
| 3511047                            | 50,50 | 3521047                            | 57,90 | 3531047                            | 71,00  | 3512047                | 56,50 | 3513047                      | 64,40  | 3523047                      | 88,00  |
| 3511048                            | 52,10 | 3521048                            | 59,40 | 3531048                            | 76,10  | 3512048                | 57,60 | 3513048                      | 68,50  | 3523048                      | 99,00  |
| 4011047                            | 53,60 | 4021047                            | 61,50 | 4031047                            | 83,50  | 4012047                | 59,70 | 4013047                      | 75,40  | 4023047                      | 100,60 |
| 4011048                            | 55,80 | 4021048                            | 62,40 | 4031048                            | 87,90  | 4012048                | 60,60 | 4013048                      | 81,10  | 4023048                      | 122,40 |
| 4511047                            | 63,50 | 4521047                            | 67,20 | 4531047                            | 99,20  | 4512047                | 64,60 | 4513047                      | 91,80  | 4523047                      | 126,90 |
| 4511048                            | 65,60 | 4521048                            | 69,40 | 4531048                            | 112,00 | 4512048                | 68,00 | 4513048                      | 94,40  | 4523048                      | 151,70 |
| 5011047                            | 68,20 | 5021047                            | 73,30 | 5031047                            | 128,90 | 5012047                | 71,60 | 5013047                      | 115,90 | 5023047                      | 163,70 |
| 5011048                            | 70,10 | 5021048                            | 76,20 | 5031048                            | 132,50 | 5012048                | 75,40 | 5013048                      | 123,10 | 5023048                      | 168,00 |
| 5011049                            | 73,00 | 5021049                            | 79,10 | 5031049                            | 151,10 | 5012049                | 77,20 | 5013049                      | 125,20 | 5023049                      | 171,30 |
| 5611047                            | 78,60 | 5621047                            | 82,30 | 5631047                            | 162,90 | 5612047                | 80,40 | 5613047                      | 128,10 | 5623047                      | 175,10 |
| 5611048                            | 80,90 | 5621048                            | 87,80 | 5631048                            | 175,60 | 5612048                | 85,20 | 5613048                      | 129,50 | 5623048                      | 188,10 |

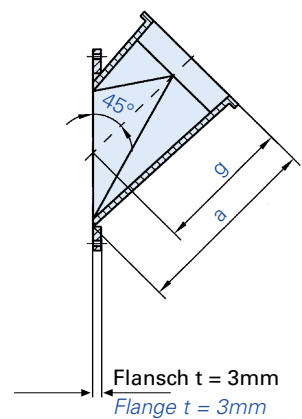
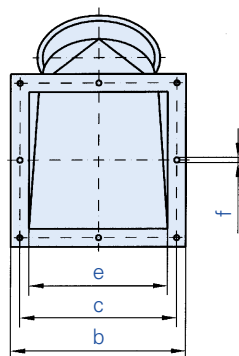
**Übergangsstücke ohne Neigung / Transition-pieces without inclination**



**Übergangsstücke mit Neigung 60° / Transition-pieces with inclination of 60°**



**Übergangsstücke mit Neigung 45° / Transition-pieces with inclination of 45°**



| Nennweite<br>Nominal diameter                         |                 |     |     |     |     |   |   |      |
|-------------------------------------------------------|-----------------|-----|-----|-----|-----|---|---|------|
| Maße für 2 mm Rohrbau<br>Measurements for 2 mm piping |                 |     |     |     |     |   |   |      |
| DN                                                    | d <sub>lw</sub> | a   | b   | c   | e   | f | g | kg   |
| 80                                                    | 78              | 55  | 140 | 120 | 100 | 6 |   | 0,70 |
| 100                                                   | 99              | 60  | 160 | 140 | 120 | 6 |   | 1,05 |
| 120                                                   | 119             | 70  | 180 | 164 | 140 | 6 |   | 1,37 |
| 150                                                   | 149             | 85  | 220 | 202 | 180 | 6 |   | 2,08 |
| 175                                                   | 174             | 145 | 245 | 225 | 200 | 6 |   | 3,07 |
| 200                                                   | 199             | 135 | 290 | 270 | 250 | 6 |   | 3,93 |
| 224                                                   | 219             | 150 | 345 | 325 | 300 | 6 |   | 4,50 |
| 250                                                   | 249             | 150 | 345 | 325 | 300 | 6 |   | 5,45 |
| 300                                                   | 299             | 210 | 395 | 375 | 350 | 6 |   | 7,88 |

|     |     |     |     |     |     |   |     |      |
|-----|-----|-----|-----|-----|-----|---|-----|------|
| 80  | 78  | 190 | 140 | 120 | 100 | 6 | 165 | 0,72 |
| 100 | 99  | 190 | 160 | 140 | 120 | 6 | 160 | 1,38 |
| 120 | 119 | 215 | 180 | 164 | 140 | 6 | 180 | 1,81 |
| 150 | 149 | 260 | 220 | 202 | 180 | 6 | 215 | 2,71 |
| 175 | 174 | 275 | 245 | 225 | 200 | 6 | 230 | 3,27 |
| 200 | 199 | 265 | 290 | 270 | 250 | 6 | 202 | 3,83 |
| 224 | 219 | 345 | 345 | 325 | 300 | 6 | 270 | 5,00 |
| 250 | 249 | 345 | 345 | 325 | 300 | 6 | 270 | 5,94 |
| 300 | 299 | 475 | 395 | 375 | 350 | 6 | 388 | 9,26 |

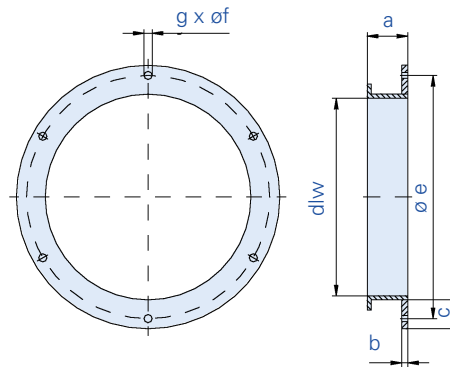
|     |     |     |     |     |     |   |     |      |
|-----|-----|-----|-----|-----|-----|---|-----|------|
| 80  | 78  | 160 | 140 | 120 | 100 | 6 | 125 | 0,61 |
| 100 | 99  | 180 | 160 | 140 | 120 | 6 | 137 | 1,21 |
| 120 | 119 | 190 | 180 | 164 | 140 | 6 | 140 | 1,48 |
| 150 | 149 | 295 | 220 | 202 | 180 | 6 | 231 | 2,72 |
| 175 | 174 | 300 | 245 | 225 | 200 | 6 | 229 | 3,18 |
| 200 | 199 | 325 | 290 | 270 | 250 | 6 | 236 | 4,05 |
| 224 | 219 | 395 | 345 | 325 | 300 | 6 | 289 | 5,00 |
| 250 | 249 | 395 | 345 | 325 | 300 | 6 | 289 | 5,88 |
| 300 | 299 | 450 | 395 | 375 | 350 | 6 | 326 | 7,81 |

| DC 01 1,5 mm                       |        | DC 01 2 mm                         |        | DC 01 3 mm                         |        | DC 01 1,5 mm           |        | VA 1.4301 1,5 mm             |        | VA 1.4301 2 mm               |        |
|------------------------------------|--------|------------------------------------|--------|------------------------------------|--------|------------------------|--------|------------------------------|--------|------------------------------|--------|
| pulverbeschichtet<br>powder coated |        | pulverbeschichtet<br>powder coated |        | pulverbeschichtet<br>powder coated |        | verzinkt<br>galvanized |        | Edelstahl<br>stainless steel |        | Edelstahl<br>stainless steel |        |
| Art.-Nr.                           | €      | Art.-Nr.                           | €      | Art.-Nr.                           | €      | Art.-Nr.               | €      | Art.-Nr.                     | €      | Art.-Nr.                     | €      |
| 0811052                            | 32,90  |                                    |        |                                    |        | 0812052                | 35,50  | 0813052                      | 58,00  |                              |        |
| 1011052                            | 34,90  | 1021052                            | 52,30  |                                    |        | 1012052                | 37,00  | 1013052                      | 59,70  | 1023052                      | 72,30  |
| 1211052                            | 36,80  | 1221052                            | 56,20  |                                    |        | 1212052                | 38,30  | 1213052                      | 63,70  | 1223052                      | 99,20  |
| 1511052                            | 38,80  | 1521052                            | 60,10  | 1531052                            | 95,60  | 1512052                | 45,60  | 1513052                      | 75,70  | 1523052                      | 109,40 |
| 1711052                            | 60,00  | 1721052                            | 75,80  | 1731052                            | 119,40 | 1712052                | 65,00  | 1713052                      | 106,00 | 1723052                      | 136,10 |
| 2011052                            | 77,10  | 2021052                            | 96,60  | 2031052                            | 135,50 | 2012052                | 84,00  | 2013052                      | 114,50 | 2023052                      | 157,50 |
| 2211052                            | 98,40  | 2221052                            | 113,50 | 2231052                            | 164,30 | 2212052                | 106,20 | 2213052                      | 125,60 | 2223052                      | 187,60 |
| 2511052                            | 101,30 | 2521052                            | 118,70 | 2531052                            | 170,90 | 2512052                | 111,30 | 2513052                      | 129,40 | 2523052                      | 190,10 |
| 3011052                            | 119,70 | 3021052                            | 150,90 | 3031052                            | 209,30 | 3012052                | 125,80 | 3013052                      | 143,00 | 3023052                      | 215,70 |

|         |        |         |        |         |        |         |        |         |        |         |        |
|---------|--------|---------|--------|---------|--------|---------|--------|---------|--------|---------|--------|
| 0811053 | 54,10  |         |        |         |        | 0812053 | 63,60  | 0813053 | 85,20  |         |        |
| 1011053 | 56,80  | 1021053 | 72,50  |         |        | 1012053 | 66,50  | 1013053 | 87,00  | 1023053 | 105,80 |
| 1211053 | 60,00  | 1221053 | 78,30  |         |        | 1212053 | 68,80  | 1213053 | 91,00  | 1223053 | 123,20 |
| 1511053 | 68,90  | 1521053 | 87,30  | 1531053 | 107,10 | 1512053 | 73,80  | 1513053 | 111,50 | 1523053 | 134,00 |
| 1711053 | 89,40  | 1721053 | 105,10 | 1731053 | 142,90 | 1712053 | 92,60  | 1713053 | 134,50 | 1723053 | 153,70 |
| 2011053 | 94,60  | 2021053 | 114,80 | 2031053 | 154,70 | 2012053 | 112,70 | 2013053 | 162,20 | 2023053 | 198,50 |
| 2211053 | 118,20 | 2221053 | 149,20 | 2231053 | 187,90 | 2212053 | 132,10 | 2213053 | 189,00 | 2223053 | 229,40 |
| 2511053 | 120,50 | 2521053 | 152,10 | 2531053 | 195,40 | 2512053 | 135,60 | 2513053 | 193,80 | 2523053 | 233,80 |
| 3011053 | 135,70 | 3021053 | 170,60 | 3031053 | 222,50 | 3012053 | 150,00 | 3013053 | 213,90 | 3023053 | 263,70 |

|         |        |         |        |         |        |         |        |         |        |         |        |
|---------|--------|---------|--------|---------|--------|---------|--------|---------|--------|---------|--------|
| 0811054 | 41,90  |         |        |         |        | 0812054 | 47,30  | 0813054 | 78,60  |         |        |
| 1011054 | 42,80  | 1021054 | 53,70  |         |        | 1012054 | 49,70  | 1013054 | 80,10  | 1023054 | 99,30  |
| 1211054 | 50,80  | 1221054 | 58,00  |         |        | 1212054 | 56,60  | 1213054 | 83,90  | 1223054 | 112,30 |
| 1511054 | 72,90  | 1521054 | 84,20  | 1531054 | 105,20 | 1512054 | 72,90  | 1513054 | 95,10  | 1523054 | 127,80 |
| 1711054 | 89,10  | 1721054 | 101,80 | 1731054 | 137,00 | 1712054 | 91,40  | 1713054 | 124,70 | 1723054 | 138,70 |
| 2011054 | 93,70  | 2021054 | 113,20 | 2031054 | 149,90 | 2012054 | 110,10 | 2013054 | 153,60 | 2023054 | 177,80 |
| 2211054 | 110,70 | 2221054 | 136,30 | 2231054 | 185,10 | 2212054 | 125,00 | 2213054 | 166,30 | 2223054 | 204,00 |
| 2511054 | 114,20 | 2521054 | 139,50 | 2531054 | 194,50 | 2512054 | 129,60 | 2513054 | 172,00 | 2523054 | 206,20 |
| 3011054 | 133,50 | 3021054 | 152,60 | 3031054 | 217,50 | 3012054 | 141,00 | 3013054 | 186,20 | 3023054 | 224,60 |

## Anschlussstutzen / Connecting pieces



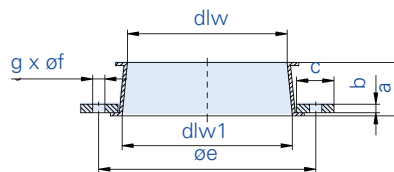
Anschlussstutzen mit Flansch nach DIN 24154  
Reihe 1 verschweißt

*Connecting pieces with welded flange according  
to DIN 24154 row 1*

■ Anschlussstutzen mit Flansch T2  
auf Anfrage

*Connecting pieces with flange T2  
upon request*

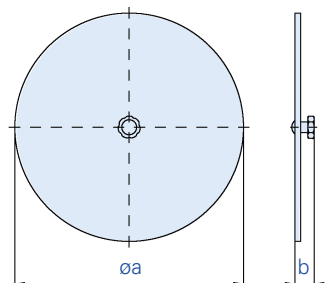
## Adapterstücke / Adapters



mit Flansch DIN 24154 T2 lose hinter  
der Bördelkante

*with loose flange acc. DIN 24154 T2  
behind flanged edge*

## Blinddeckel mit Knauf / Blanking covers with knob



| Nennweite<br>Nominal diameter                         |     |    |   |    |     |     |    |    |
|-------------------------------------------------------|-----|----|---|----|-----|-----|----|----|
| Maße für 2 mm Rohrbau<br>Measurements for 2 mm piping |     |    |   |    |     |     |    |    |
| DN                                                    | dlw | a  | b | c  | e   | f   | g  | kg |
| 80                                                    | 78  | 55 | 5 | 25 | 112 | 9,5 | 4  |    |
| 100                                                   | 99  | 55 | 5 | 25 | 132 | 9,5 | 4  |    |
| 120                                                   | 119 | 55 | 5 | 25 | 157 | 9,5 | 4  |    |
| 150                                                   | 149 | 55 | 5 | 25 | 185 | 9,5 | 6  |    |
| 175                                                   | 174 | 55 | 5 | 25 | 212 | 9,5 | 6  |    |
| 200                                                   | 199 | 55 | 5 | 25 | 233 | 9,5 | 6  |    |
| 224                                                   | 219 | 55 | 5 | 25 | 257 | 9,5 | 6  |    |
| 250                                                   | 249 | 55 | 5 | 25 | 283 | 9,5 | 6  |    |
| 300                                                   | 299 | 55 | 5 | 30 | 339 | 9,5 | 8  |    |
| 315                                                   | 312 | 55 | 5 | 30 | 352 | 9,5 | 8  |    |
| 350                                                   | 349 | 55 | 5 | 30 | 392 | 9,5 | 8  |    |
| 400                                                   | 398 | 55 | 5 | 30 | 438 | 9,5 | 8  |    |
| 450                                                   | 448 | 55 | 5 | 30 | 488 | 9,5 | 8  |    |
| 500                                                   | 498 | 55 | 5 | 30 | 538 | 9,5 | 8  |    |
| 560                                                   | 558 | 55 | 5 | 35 | 600 | 9,5 | 12 |    |
| 600                                                   | 598 | 55 | 5 | 35 | 641 | 9,5 | 12 |    |
| 630                                                   | 628 | 55 | 5 | 35 | 670 | 9,5 | 12 |    |

| DC 01 2 mm                         |       | DC 01 3 mm                         |       | DC 01 2 mm             |       | VA 1.4301 2 mm               |   |          |        |          |   |
|------------------------------------|-------|------------------------------------|-------|------------------------|-------|------------------------------|---|----------|--------|----------|---|
| pulverbeschichtet<br>powder coated |       | pulverbeschichtet<br>powder coated |       | verzinkt<br>galvanized |       | Edelstahl<br>stainless steel |   |          |        |          |   |
| Art.-Nr.                           | €     | Art.-Nr.                           | €     | Art.-Nr.               | €     | Art.-Nr.                     | € | Art.-Nr. | €      | Art.-Nr. | € |
| 0811013*                           | 13,00 |                                    |       | 0812013*               | 13,90 |                              |   | 0813013* | 27,50  |          |   |
| 1021013                            | 15,30 |                                    |       | 1022013                | 15,40 |                              |   | 1023013  | 32,10  |          |   |
| 1221013                            | 17,20 |                                    |       | 1222013                | 17,20 |                              |   | 1223013  | 37,00  |          |   |
| 1521013                            | 19,70 | 1531013                            | 22,10 | 1522013                | 19,90 |                              |   | 1523013  | 40,80  |          |   |
| 1721013                            | 22,40 | 1731013                            | 24,50 | 1722013                | 22,70 |                              |   | 1723013  | 45,10  |          |   |
| 2021013                            | 24,30 | 2031013                            | 26,80 | 2022013                | 24,60 |                              |   | 2023013  | 51,50  |          |   |
| 2221013                            | 26,50 | 2231013                            | 28,90 | 2222013                | 26,90 |                              |   | 2223013  | 57,10  |          |   |
| 2521013                            | 28,40 | 2531013                            | 30,90 | 2522013                | 28,80 |                              |   | 2523013  | 61,10  |          |   |
| 3021013                            | 35,00 | 3031013                            | 37,20 | 3022013                | 36,60 |                              |   | 3023013  | 75,50  |          |   |
| 3121013                            | 37,10 | 3131013                            | 40,10 | 3122013                | 39,00 |                              |   | 3123013  | 80,00  |          |   |
| 3521013                            | 40,00 | 3531013                            | 43,00 | 3522013                | 41,90 |                              |   | 3523013  | 84,20  |          |   |
| 4021013                            | 45,40 | 4031013                            | 48,10 | 4022013                | 47,20 |                              |   | 4023013  | 95,80  |          |   |
| 4521013                            | 50,70 | 4531013                            | 54,70 | 4522013                | 52,90 |                              |   | 4523013  | 107,70 |          |   |
| 5021013                            | 56,50 | 5031013                            | 60,30 | 5022013                | 58,70 |                              |   | 5023013  | 118,80 |          |   |
| 5621013                            | 64,00 | 5631013                            | 68,40 | 5622013                | 68,20 |                              |   | 5623013  | 134,60 |          |   |
| 6021013                            | 68,20 | 6031013                            | 73,40 | 6022013                | 73,40 |                              |   | 6023013  | 141,80 |          |   |
| 6321013                            | 72,00 | 6331013                            | 76,60 | 6322013                | 76,90 |                              |   | 6323013  | 146,40 |          |   |

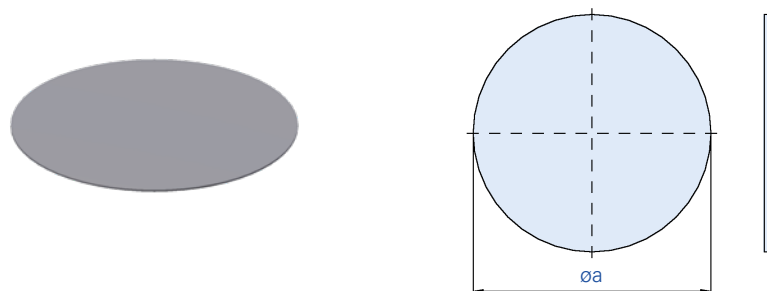
\* = 1,5 mm

| Nennweite<br>Nominal diameter                         |     |      |     |    |    |     |      |   |      |
|-------------------------------------------------------|-----|------|-----|----|----|-----|------|---|------|
| Maße für 2 mm Rohrbau<br>Measurements for 2 mm piping |     |      |     |    |    |     |      |   |      |
| DN                                                    | dlw | dlw1 | a   | b  | c  | e   | f    | g | kg   |
| 120/125                                               | 119 | 119  | 50  | 6  | 30 | 165 | 9,5  | 4 | 0,85 |
| 150/160                                               | 149 | 158  | 50  | 6  | 35 | 200 | 11,5 | 8 | 1,30 |
| 175/180                                               | 174 | 179  | 50  | 6  | 35 | 219 | 11,5 | 8 | 1,50 |
| 250/280                                               | 249 | 279  | 50  | 8  | 40 | 332 | 11,5 | 8 | 3,10 |
| 300/280*                                              | 299 | 279  | 50  | 8  | 40 | 332 | 11,5 | 8 | 3,20 |
| 300/315                                               | 299 | 312  | 50  | 8  | 40 | 366 | 11,5 | 8 | 3,50 |
| 80                                                    |     |      | 93  | 25 |    |     |      |   | 0,15 |
| 100                                                   |     |      | 115 | 25 |    |     |      |   | 0,20 |
| 120                                                   |     |      | 135 | 25 |    |     |      |   | 0,27 |
| 150                                                   |     |      | 165 | 25 |    |     |      |   | 0,38 |
| 175                                                   |     |      | 190 | 25 |    |     |      |   | 0,49 |
| 200                                                   |     |      | 215 | 25 |    |     |      |   | 0,62 |
| 224                                                   |     |      | 235 | 25 |    |     |      |   | 0,70 |
| 250                                                   |     |      | 265 | 25 |    |     |      |   | 0,92 |
| 300                                                   |     |      | 315 | 25 |    |     |      |   | 1,28 |
| 315                                                   |     |      | 330 | 25 |    |     |      |   | 1,30 |
| 350                                                   |     |      | 365 | 25 |    |     |      |   | 1,60 |
| 400                                                   |     |      | 415 | 25 |    |     |      |   | 2,10 |

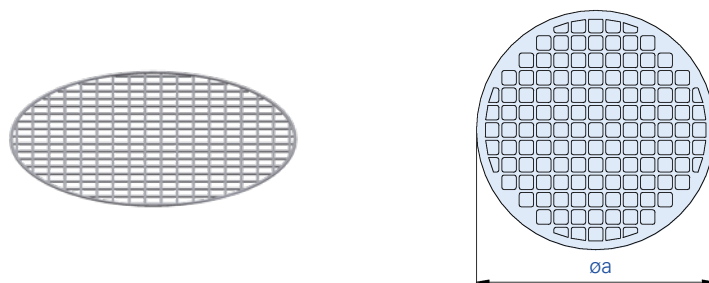
| DC 01 1,5 mm                       |       | DC 01 2 mm                         |        | DC 01 1,5 mm           |        | VA 1.4301 1,5 mm             |        | VA 1.4301 2 mm               |        |
|------------------------------------|-------|------------------------------------|--------|------------------------|--------|------------------------------|--------|------------------------------|--------|
| pulverbeschichtet<br>powder coated |       | pulverbeschichtet<br>powder coated |        | verzinkt<br>galvanized |        | Edelstahl<br>stainless steel |        | Edelstahl<br>stainless steel |        |
| Art.-Nr.                           | €     | Art.-Nr.                           | €      | Art.-Nr.               | €      | Art.-Nr.                     | €      | Art.-Nr.                     | €      |
| 1211147                            | 18,40 | 1221147                            | 22,50  | 1212147                | 23,10  | 1213147                      | 33,60  |                              |        |
| 1511147                            | 20,20 | 1521147                            | 25,30  | 1512147                | 26,50  | 1513147                      | 38,30  | 1523147                      | 45,10  |
| 1711147                            | 29,10 | 1721147                            | 36,30  | 1712147                | 35,10  | 1713147                      | 62,30  | 1723147                      | 69,60  |
| 2511147                            | 48,40 | 2521147                            | 57,00  | 2512147                | 57,90  | 2513147                      | 85,90  | 2523147                      | 95,90  |
| 3011147*                           | 52,60 | 3021147*                           | 61,10  | 3012147*               | 63,30  | 3013147*                     | 96,70  | 3023147*                     | 107,70 |
| 3011148                            | 88,50 | 3021148                            | 102,80 | 3012148                | 106,50 | 3013148                      | 164,50 | 3023148                      | 181,10 |
| 0811014                            | 6,60  |                                    |        |                        |        | 0813014                      | 12,50  |                              |        |
| 1011014                            | 6,80  |                                    |        |                        |        | 1013014                      | 13,50  |                              |        |
| 1211014                            | 7,30  |                                    |        |                        |        | 1213014                      | 15,00  |                              |        |
| 1511014                            | 8,70  |                                    |        |                        |        | 1513014                      | 17,50  |                              |        |
| 1711014                            | 10,10 |                                    |        |                        |        | 1713014                      | 20,10  |                              |        |
| 2011014                            | 11,40 |                                    |        |                        |        | 2013014                      | 22,80  |                              |        |
| 2211014                            | 12,10 |                                    |        |                        |        | 2213014                      | 23,90  |                              |        |
| 2511014                            | 12,80 |                                    |        |                        |        | 2513014                      | 24,20  |                              |        |
| 3011014                            | 14,90 |                                    |        |                        |        | 3013014                      | 27,60  |                              |        |
| 3111014                            | 16,90 |                                    |        |                        |        | 3113014                      | 30,00  |                              |        |
| 3511014                            | 17,60 |                                    |        |                        |        | 3513014                      | 30,80  |                              |        |
| 4011014                            | 19,90 |                                    |        |                        |        | 4013014                      | 33,80  |                              |        |

\* = Flansch verschweißt  
\* = welded flange

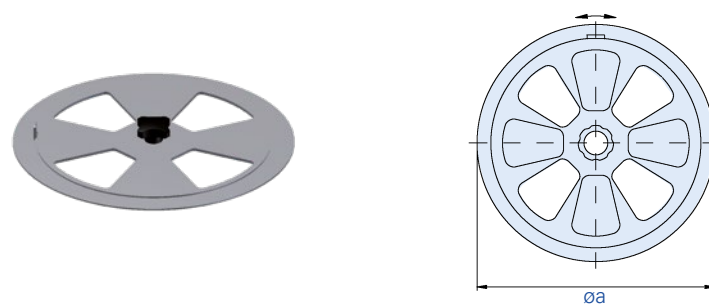
**Blindeckel ohne Knauf** / *Blanking covers without knob*



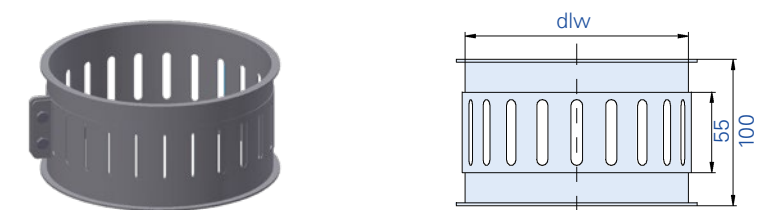
**Lochgitter, 70% freie Fläche** / *Sheet metal lattices, 70% free space*



**Zusatzluftdeckel** / *Adjustable blank-off covers*



**Zusatzluftdrosseln** / *Air bleeds*



| Nennweite<br>Nominal diameter                         |     |     |   |   |   |   |   |      |
|-------------------------------------------------------|-----|-----|---|---|---|---|---|------|
| Maße für 2 mm Rohrbau<br>Measurements for 2 mm piping |     |     |   |   |   |   |   |      |
| DN                                                    | d/w | a   | b | c | e | f | g | kg   |
| 80                                                    |     | 93  |   |   |   |   |   | 0,11 |
| 100                                                   |     | 115 |   |   |   |   |   | 0,16 |
| 120                                                   |     | 135 |   |   |   |   |   | 0,23 |
| 150                                                   |     | 165 |   |   |   |   |   | 0,34 |
| 175                                                   |     | 190 |   |   |   |   |   | 0,45 |
| 200                                                   |     | 215 |   |   |   |   |   | 0,58 |
| 224                                                   |     | 235 |   |   |   |   |   | 0,70 |
| 250                                                   |     | 265 |   |   |   |   |   | 0,88 |
| 300                                                   |     | 315 |   |   |   |   |   | 1,24 |
| 315                                                   |     | 330 |   |   |   |   |   | 1,30 |
| 350                                                   |     | 365 |   |   |   |   |   | 1,60 |
| 400                                                   |     | 415 |   |   |   |   |   | 2,10 |
|                                                       |     |     |   |   |   |   |   |      |
| 80                                                    |     | 93  |   |   |   |   |   | 0,10 |
| 100                                                   |     | 115 |   |   |   |   |   | 0,10 |
| 120                                                   |     | 135 |   |   |   |   |   | 0,10 |
| 150                                                   |     | 165 |   |   |   |   |   | 0,10 |
| 175                                                   |     | 190 |   |   |   |   |   | 0,20 |
| 200                                                   |     | 215 |   |   |   |   |   | 0,20 |
| 224                                                   |     | 235 |   |   |   |   |   | 0,30 |
| 250                                                   |     | 265 |   |   |   |   |   | 0,40 |
| 300                                                   |     | 315 |   |   |   |   |   | 0,50 |

| DC 01 1,5 mm                       |       |  |  |  |  |  |  |  |  |
|------------------------------------|-------|--|--|--|--|--|--|--|--|
| pulverbeschichtet<br>powder coated |       |  |  |  |  |  |  |  |  |
| Art.-Nr.                           | €     |  |  |  |  |  |  |  |  |
| 0811015                            | 4,20  |  |  |  |  |  |  |  |  |
| 1011015                            | 4,30  |  |  |  |  |  |  |  |  |
| 1211015                            | 4,90  |  |  |  |  |  |  |  |  |
| 1511015                            | 5,90  |  |  |  |  |  |  |  |  |
| 1711015                            | 6,70  |  |  |  |  |  |  |  |  |
| 2011015                            | 7,60  |  |  |  |  |  |  |  |  |
| 2211015                            | 8,30  |  |  |  |  |  |  |  |  |
| 2511015                            | 8,70  |  |  |  |  |  |  |  |  |
| 3011015                            | 9,90  |  |  |  |  |  |  |  |  |
| 3111015                            | 10,80 |  |  |  |  |  |  |  |  |
| 3511015                            | 11,20 |  |  |  |  |  |  |  |  |
| 4011015                            | 13,00 |  |  |  |  |  |  |  |  |
|                                    |       |  |  |  |  |  |  |  |  |
| 0811115                            | 5,00  |  |  |  |  |  |  |  |  |
| 1011115                            | 5,60  |  |  |  |  |  |  |  |  |
| 1211115                            | 7,20  |  |  |  |  |  |  |  |  |
| 1511115                            | 8,20  |  |  |  |  |  |  |  |  |
| 1711115                            | 8,80  |  |  |  |  |  |  |  |  |
| 2011115                            | 9,30  |  |  |  |  |  |  |  |  |
| 2211115                            | 10,30 |  |  |  |  |  |  |  |  |
| 2511115                            | 11,10 |  |  |  |  |  |  |  |  |
| 3011115                            | 12,80 |  |  |  |  |  |  |  |  |
|                                    |       |  |  |  |  |  |  |  |  |
| VA 1.4301 1,5 mm                   |       |  |  |  |  |  |  |  |  |
| Edelstahl<br>stainless steel       |       |  |  |  |  |  |  |  |  |
| Art.-Nr.                           | €     |  |  |  |  |  |  |  |  |
| 0813015                            | 6,50  |  |  |  |  |  |  |  |  |
| 1013015                            | 6,80  |  |  |  |  |  |  |  |  |
| 1213015                            | 7,30  |  |  |  |  |  |  |  |  |
| 1513015                            | 8,30  |  |  |  |  |  |  |  |  |
| 1713015                            | 9,40  |  |  |  |  |  |  |  |  |
| 2013015                            | 11,10 |  |  |  |  |  |  |  |  |
| 2213015                            | 12,10 |  |  |  |  |  |  |  |  |
| 2513015                            | 12,40 |  |  |  |  |  |  |  |  |
| 3013015                            | 14,60 |  |  |  |  |  |  |  |  |
| 3113015                            | 15,70 |  |  |  |  |  |  |  |  |
| 3513015                            | 16,10 |  |  |  |  |  |  |  |  |
| 4013015                            | 18,20 |  |  |  |  |  |  |  |  |
|                                    |       |  |  |  |  |  |  |  |  |
| 0813115                            | 14,50 |  |  |  |  |  |  |  |  |
| 1013115                            | 15,30 |  |  |  |  |  |  |  |  |
| 1213115                            | 16,10 |  |  |  |  |  |  |  |  |
| 1513115                            | 17,00 |  |  |  |  |  |  |  |  |
| 1713115                            | 17,90 |  |  |  |  |  |  |  |  |
| 2013115                            | 19,50 |  |  |  |  |  |  |  |  |
| 2213115                            | 20,70 |  |  |  |  |  |  |  |  |
| 2513115                            | 22,50 |  |  |  |  |  |  |  |  |
| 3013115                            | 23,50 |  |  |  |  |  |  |  |  |

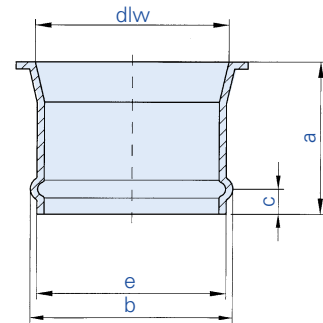
| Nennweite<br>Nominal diameter |     |  |  |  |  |  |  |  |
|-------------------------------|-----|--|--|--|--|--|--|--|
| DN                            | d/w |  |  |  |  |  |  |  |
| 80                            | 78  |  |  |  |  |  |  |  |
| 100                           | 99  |  |  |  |  |  |  |  |
| 120                           | 119 |  |  |  |  |  |  |  |
| 150                           | 149 |  |  |  |  |  |  |  |
| 175                           | 174 |  |  |  |  |  |  |  |
| 200                           | 199 |  |  |  |  |  |  |  |

| VA 1.4301                    |       |  |  |  |  |  |  |  |  |
|------------------------------|-------|--|--|--|--|--|--|--|--|
| Edelstahl<br>stainless steel |       |  |  |  |  |  |  |  |  |
| Art.-Nr.                     | €     |  |  |  |  |  |  |  |  |
| 0813116                      | 45,80 |  |  |  |  |  |  |  |  |
| 1013116                      | 46,80 |  |  |  |  |  |  |  |  |
| 1213116                      | 51,40 |  |  |  |  |  |  |  |  |
| 1513116                      | 53,70 |  |  |  |  |  |  |  |  |
| 1713116                      | 67,50 |  |  |  |  |  |  |  |  |
| 2013116                      | 74,30 |  |  |  |  |  |  |  |  |

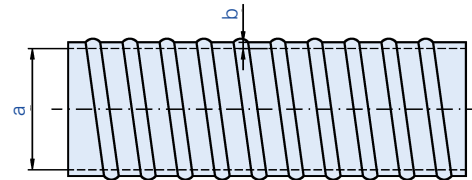
| Nennweite<br>Nominal diameter |     |  |  |  |  |  |  |  |
|-------------------------------|-----|--|--|--|--|--|--|--|
| DN                            | d/w |  |  |  |  |  |  |  |
| 80                            | 78  |  |  |  |  |  |  |  |
| 100                           | 99  |  |  |  |  |  |  |  |
| 120                           | 119 |  |  |  |  |  |  |  |
| 150                           | 149 |  |  |  |  |  |  |  |
| 175                           | 174 |  |  |  |  |  |  |  |
| 200                           | 199 |  |  |  |  |  |  |  |

| VA 1.4301                    |        |  |  |  |  |  |  |  |  |
|------------------------------|--------|--|--|--|--|--|--|--|--|
| Edelstahl<br>stainless steel |        |  |  |  |  |  |  |  |  |
| Art.-Nr.                     | €      |  |  |  |  |  |  |  |  |
| 0813117                      | 70,90  |  |  |  |  |  |  |  |  |
| 1013117                      | 74,30  |  |  |  |  |  |  |  |  |
| 1213117                      | 80,00  |  |  |  |  |  |  |  |  |
| 1513117                      | 90,40  |  |  |  |  |  |  |  |  |
| 1713117                      | 105,20 |  |  |  |  |  |  |  |  |
| 2013117                      | 112,00 |  |  |  |  |  |  |  |  |

## Schlauchanschlussstutzen / Hose coupling nozzles



## PUR-Schläuche / PUR-hoses

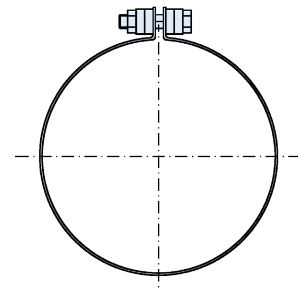


Werkstoff: Reines Polyester-Polyurethan mit Federstahldraht.  
Eigenschaften: hochabriebfest, öl- und benzinfest, innen weitgehend glatt.  
Temperaturbereich: -40°C bis +90°C.

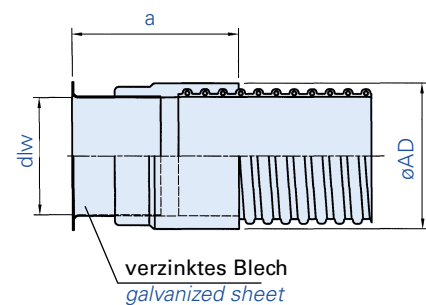
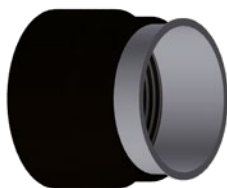
*Material: Pure polyurethane with spring steel wire.*

*Properties: highly abrasion resistant, resistant to oil and fuels, nearly smooth inside.*  
*Temperature range: -40°C up to +90°C.*

## Schlauchschellen / Hose clamps



## Adapter für Schlauch- und Spannringanschlüsse / Adapters for hoses and clamp-ring-connections



| Nennweite<br>Nominal diameter                         |     |     |     |    |     |   |   |      |
|-------------------------------------------------------|-----|-----|-----|----|-----|---|---|------|
| Maße für 2 mm Rohrbau<br>Measurements for 2 mm piping |     |     |     |    |     |   |   |      |
| DN                                                    | dlw | a   | b   | c  | e   | f | g | kg   |
| 80                                                    | 78  | 100 | 80  | 10 | 78  |   |   | 0,20 |
| 100                                                   | 99  | 100 | 100 | 10 | 98  |   |   | 0,26 |
| 120                                                   | 119 | 100 | 120 | 10 | 118 |   |   | 0,31 |
| 150                                                   | 149 | 100 | 150 | 10 | 148 |   |   | 0,39 |
| 175                                                   | 174 | 100 | 175 | 10 | 173 |   |   | 0,46 |
| 200                                                   | 199 | 100 | 200 | 10 | 198 |   |   | 0,53 |
| 224                                                   | 219 | 100 | 220 | 10 | 218 |   |   | 0,59 |
| 250                                                   | 249 | 100 | 250 | 10 | 248 |   |   | 0,66 |
| 300                                                   | 299 | 100 | 300 | 10 | 298 |   |   | 0,79 |

| Nennweite<br>Nominal diameter                         |     |     |     |   |   |   |   |    |
|-------------------------------------------------------|-----|-----|-----|---|---|---|---|----|
| Maße für 2 mm Rohrbau<br>Measurements for 2 mm piping |     |     |     |   |   |   |   |    |
| DN                                                    | dlw | a   | b   | c | e | f | g | kg |
| 80                                                    |     | 80  | 0,9 |   |   |   |   |    |
| 100                                                   |     | 100 | 0,9 |   |   |   |   |    |
| 120                                                   |     | 120 | 0,9 |   |   |   |   |    |
| 150                                                   |     | 150 | 0,9 |   |   |   |   |    |
| 175                                                   |     | 175 | 0,9 |   |   |   |   |    |
| 200                                                   |     | 200 | 0,9 |   |   |   |   |    |
| 224                                                   |     | 224 | 0,9 |   |   |   |   |    |
| 250                                                   |     | 250 | 0,9 |   |   |   |   |    |
| 300                                                   |     | 300 | 0,9 |   |   |   |   |    |

| Nennweite<br>Nominal diameter                         |     |   |   |   |   |   |   |    |
|-------------------------------------------------------|-----|---|---|---|---|---|---|----|
| Maße für 2 mm Rohrbau<br>Measurements for 2 mm piping |     |   |   |   |   |   |   |    |
| DN                                                    | dlw | a | b | c | e | f | g | kg |
| 80                                                    |     |   |   |   |   |   |   |    |
| 100                                                   |     |   |   |   |   |   |   |    |
| 120                                                   |     |   |   |   |   |   |   |    |
| 150                                                   |     |   |   |   |   |   |   |    |
| 175                                                   |     |   |   |   |   |   |   |    |
| 200                                                   |     |   |   |   |   |   |   |    |
| 224                                                   |     |   |   |   |   |   |   |    |
| 250                                                   |     |   |   |   |   |   |   |    |
| 300                                                   |     |   |   |   |   |   |   |    |

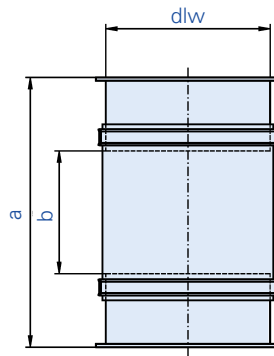
| Nennweite<br>Nominal diameter                         |     |     |     |  |  |  |  |  |
|-------------------------------------------------------|-----|-----|-----|--|--|--|--|--|
| Maße für 2 mm Rohrbau<br>Measurements for 2 mm piping |     |     |     |  |  |  |  |  |
| DN                                                    | dlw | a   | AD  |  |  |  |  |  |
| 80                                                    | 78  | 136 | 105 |  |  |  |  |  |
| 100                                                   | 99  | 141 | 130 |  |  |  |  |  |
| 120                                                   | 119 | 148 | 156 |  |  |  |  |  |
| 150                                                   | 149 | 158 | 184 |  |  |  |  |  |
| 200                                                   | 199 | 170 | 235 |  |  |  |  |  |
| 250                                                   | 249 | 180 | 290 |  |  |  |  |  |
| 300                                                   | 299 | 190 | 334 |  |  |  |  |  |

| DC 01 1,5 mm                       |       |  |  |  |  | DC 01 1,5 mm           |       | VA 1.4301 1,5 mm             |       |  |  |
|------------------------------------|-------|--|--|--|--|------------------------|-------|------------------------------|-------|--|--|
| pulverbeschichtet<br>powder coated |       |  |  |  |  | verzinkt<br>galvanized |       | Edelstahl<br>stainless steel |       |  |  |
| Art.-Nr.                           | €     |  |  |  |  | Art.-Nr.               | €     | Art.-Nr.                     | €     |  |  |
| 0811046                            | 10,40 |  |  |  |  | 0812046                | 12,50 | 0813046                      | 18,30 |  |  |
| 1011046                            | 10,90 |  |  |  |  | 1012046                | 13,10 | 1013046                      | 18,90 |  |  |
| 1211046                            | 11,40 |  |  |  |  | 1212046                | 13,80 | 1213046                      | 19,90 |  |  |
| 1511046                            | 11,90 |  |  |  |  | 1512046                | 14,40 | 1513046                      | 21,80 |  |  |
| 1711046                            | 12,50 |  |  |  |  | 1712046                | 14,90 | 1713046                      | 23,40 |  |  |
| 2011046                            | 13,80 |  |  |  |  | 2012046                | 15,90 | 2013046                      | 25,20 |  |  |
| 2211046                            | 14,40 |  |  |  |  | 2212046                | 16,60 | 2213046                      | 26,80 |  |  |
| 2511046                            | 14,90 |  |  |  |  | 2512046                | 17,20 | 2513046                      | 27,30 |  |  |
| 3011046                            | 16,50 |  |  |  |  | 3012046                | 18,90 | 3013046                      | 30,80 |  |  |

| PUR      |        |  |  |  |  |  |  |  |  |  |  |
|----------|--------|--|--|--|--|--|--|--|--|--|--|
| Art.-Nr. | €      |  |  |  |  |  |  |  |  |  |  |
| 0800120  | 29,80  |  |  |  |  |  |  |  |  |  |  |
| 1000120  | 38,90  |  |  |  |  |  |  |  |  |  |  |
| 1200120  | 46,80  |  |  |  |  |  |  |  |  |  |  |
| 1500120  | 53,70  |  |  |  |  |  |  |  |  |  |  |
| 1700120  | 59,50  |  |  |  |  |  |  |  |  |  |  |
| 2000120  | 67,50  |  |  |  |  |  |  |  |  |  |  |
| 2200120  | 75,50  |  |  |  |  |  |  |  |  |  |  |
| 2500120  | 93,90  |  |  |  |  |  |  |  |  |  |  |
| 3000120  | 103,90 |  |  |  |  |  |  |  |  |  |  |

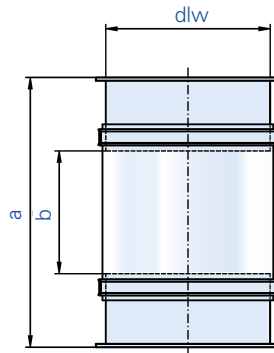
| VA 1.4301                    |  |  |  |  |  |  |  |          |       |  |  |
|------------------------------|--|--|--|--|--|--|--|----------|-------|--|--|
| Edelstahl<br>stainless steel |  |  |  |  |  |  |  |          |       |  |  |
|                              |  |  |  |  |  |  |  | Art.-Nr. | €     |  |  |
|                              |  |  |  |  |  |  |  | 0803123  | 7,40  |  |  |
|                              |  |  |  |  |  |  |  | 1003123  | 8,60  |  |  |
|                              |  |  |  |  |  |  |  | 1203123  | 9,00  |  |  |
|                              |  |  |  |  |  |  |  | 1503123  | 11,20 |  |  |
|                              |  |  |  |  |  |  |  | 1703123  | 13,20 |  |  |
|                              |  |  |  |  |  |  |  | 2003123  | 15,10 |  |  |
|                              |  |  |  |  |  |  |  | 2203123  | 18,70 |  |  |
|                              |  |  |  |  |  |  |  | 2503123  | 23,40 |  |  |
|                              |  |  |  |  |  |  |  | 3003123  | 26,60 |  |  |

| DC 01 2 mm             |  |  |  |  |  |  |  |          |        |  |  |
|------------------------|--|--|--|--|--|--|--|----------|--------|--|--|
| verzinkt<br>galvanized |  |  |  |  |  |  |  |          |        |  |  |
|                        |  |  |  |  |  |  |  | Art.-Nr. | €      |  |  |
|                        |  |  |  |  |  |  |  | 0812124  | 59,50  |  |  |
|                        |  |  |  |  |  |  |  | 1022124  | 66,20  |  |  |
|                        |  |  |  |  |  |  |  | 1222124  | 82,30  |  |  |
|                        |  |  |  |  |  |  |  | 1522124  | 102,90 |  |  |
|                        |  |  |  |  |  |  |  | 2022124  | 129,20 |  |  |
|                        |  |  |  |  |  |  |  | 2522124  | 144,10 |  |  |
|                        |  |  |  |  |  |  |  | 3022124  | 178,40 |  |  |



Werkstoff EPDM **schwarz**.  
Temperaturbereich -40°C bis +120°C,  
mit KTW Zulassung (für Trinkwasser),  
Kompensatorenanschlüsse,  
verzinkt oder VA leitfähig

*Material EPDM, black.  
Temperature range -40°C up to +120°C,  
with KTW approval (for drinking water),  
Compensator connections,  
galvanized or stainless steel conductive*



Werkstoff Polyurethan **transparent** 1mm stark,  
Temperaturbereich bis 90°C,  
zulässiger Betriebsdruck: -0,2bar bis +0,3bar.  
lebensmittelgeeignet,  
Kompensatorenanschlüsse aus VA

*Material Polyurethane transparent 1mm,  
Temperature range up to 90°C,  
Pressure range: -0,2bar up to +0,3bar,  
suitable for food,  
Compensator connections in stainless steel*

| Nennweite<br>Nominal diameter                         |     |     |    |   |   |   |   |    |
|-------------------------------------------------------|-----|-----|----|---|---|---|---|----|
| Maße für 2 mm Rohrbau<br>Measurements for 2 mm piping |     |     |    |   |   |   |   |    |
| DN                                                    | d/w | a   | b  | c | e | f | g | kg |
| 80                                                    | 78  | 200 | 90 |   |   |   |   |    |
| 100                                                   | 99  | 200 | 90 |   |   |   |   |    |
| 120                                                   | 119 | 200 | 90 |   |   |   |   |    |
| 150                                                   | 149 | 200 | 90 |   |   |   |   |    |
| 175                                                   | 174 | 200 | 90 |   |   |   |   |    |
| 200                                                   | 199 | 200 | 90 |   |   |   |   |    |
| 224                                                   | 219 | 200 | 90 |   |   |   |   |    |
| 250                                                   | 249 | 200 | 90 |   |   |   |   |    |
| 300                                                   | 299 | 200 | 90 |   |   |   |   |    |

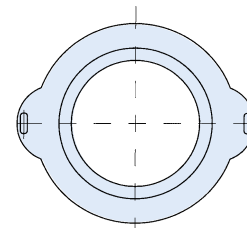
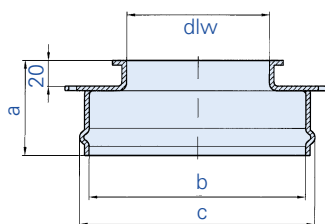
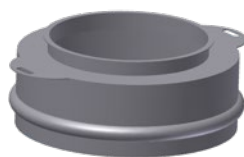
| DC 01 2 mm             |  |  |  |  |  | VA 1.4301 2 mm               |        |  |  |          |        |
|------------------------|--|--|--|--|--|------------------------------|--------|--|--|----------|--------|
| verzinkt<br>galvanized |  |  |  |  |  | Edelstahl<br>stainless steel |        |  |  |          |        |
|                        |  |  |  |  |  | Art.-Nr.                     | €      |  |  | Art.-Nr. | €      |
|                        |  |  |  |  |  | 0812125                      | 74,30  |  |  | 0813125  | 82,60  |
|                        |  |  |  |  |  | 1022125                      | 76,60  |  |  | 1023125  | 93,90  |
|                        |  |  |  |  |  | 1222125                      | 82,30  |  |  | 1223125  | 93,90  |
|                        |  |  |  |  |  | 1522125                      | 91,50  |  |  | 1523125  | 98,40  |
|                        |  |  |  |  |  | 1722125                      | 88,00  |  |  | 1723125  | 100,70 |
|                        |  |  |  |  |  | 2022125                      | 93,20  |  |  | 2023125  | 108,10 |
|                        |  |  |  |  |  | 2222125                      | 102,80 |  |  | 2223125  | 112,40 |
|                        |  |  |  |  |  | 2522125                      | 109,20 |  |  | 2523125  | 133,70 |
|                        |  |  |  |  |  | 3022125                      | 131,50 |  |  | 3023125  | 144,10 |

| Nennweite<br>Nominal diameter                         |     |     |    |   |   |   |   |    |
|-------------------------------------------------------|-----|-----|----|---|---|---|---|----|
| Maße für 2 mm Rohrbau<br>Measurements for 2 mm piping |     |     |    |   |   |   |   |    |
| DN                                                    | d/w | a   | b  | c | e | f | g | kg |
| 80*                                                   | 78  | 200 | 90 |   |   |   |   |    |
| 100                                                   | 99  | 200 | 90 |   |   |   |   |    |
| 120                                                   | 119 | 200 | 90 |   |   |   |   |    |
| 150                                                   | 149 | 200 | 90 |   |   |   |   |    |
| 175                                                   | 174 | 200 | 90 |   |   |   |   |    |
| 200                                                   | 199 | 200 | 90 |   |   |   |   |    |
| 224                                                   | 219 | 200 | 90 |   |   |   |   |    |
| 250                                                   | 249 | 200 | 90 |   |   |   |   |    |
| 300                                                   | 299 | 200 | 90 |   |   |   |   |    |

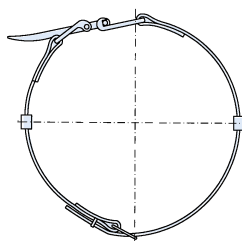
| DC 01 2 mm             |  |  |  |  |  | VA 1.4301 2 mm               |        |  |  |          |        |
|------------------------|--|--|--|--|--|------------------------------|--------|--|--|----------|--------|
| verzinkt<br>galvanized |  |  |  |  |  | Edelstahl<br>stainless steel |        |  |  |          |        |
|                        |  |  |  |  |  | Art.-Nr.                     | €      |  |  | Art.-Nr. | €      |
|                        |  |  |  |  |  | 0812126                      | 97,70  |  |  | 0813126  | 108,60 |
|                        |  |  |  |  |  | 1022126                      | 117,30 |  |  | 1023126  | 130,30 |
|                        |  |  |  |  |  | 1222126                      | 128,60 |  |  | 1223126  | 142,90 |
|                        |  |  |  |  |  | 1522126                      | 143,00 |  |  | 1523126  | 158,90 |
|                        |  |  |  |  |  | 1722126                      | 135,50 |  |  | 1723126  | 150,50 |
|                        |  |  |  |  |  | 2022126                      | 159,30 |  |  | 2023126  | 177,00 |
|                        |  |  |  |  |  | 2222126                      | 165,10 |  |  | 2223126  | 183,40 |
|                        |  |  |  |  |  | 2522126                      | 198,50 |  |  | 2523126  | 220,60 |
|                        |  |  |  |  |  | 3022126                      | 225,90 |  |  | 3023126  | 251,00 |

\* = 1,5 mm

## Sackstutzentöpfe / Bagging spouts

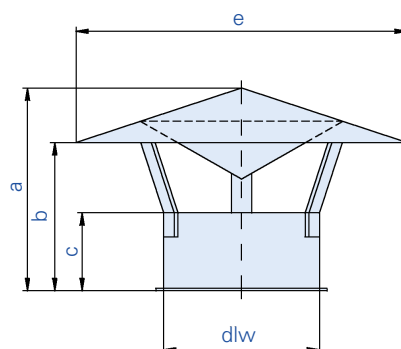


## Sackschnallen / Sack straps

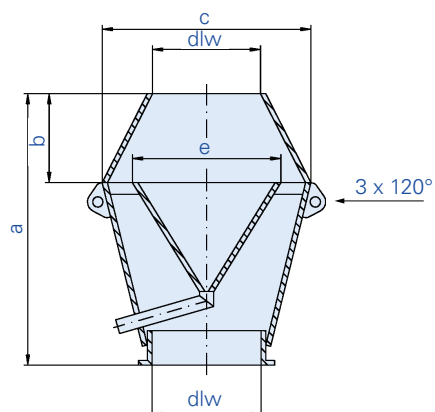


Sackschnallen für Sackstutzentopf, Leder  
Sack straps for bagging spouts, leather

## Regenhauben / Rain caps



## Deflektorhauben / Jet caps



| Nennweite<br>Nominal diameter                         |                 |     |     |     |   |   |   |    |
|-------------------------------------------------------|-----------------|-----|-----|-----|---|---|---|----|
| Maße für 2 mm Rohrbau<br>Measurements for 2 mm piping |                 |     |     |     |   |   |   |    |
| DN                                                    | d <sub>lw</sub> | a   | b   | c   | e | f | g | kg |
| 80                                                    | 78              | 115 | 275 | 295 |   |   |   |    |
| 100                                                   | 99              | 115 | 275 | 295 |   |   |   |    |
| 120                                                   | 119             | 115 | 275 | 295 |   |   |   |    |
| 150                                                   | 149             | 115 | 275 | 295 |   |   |   |    |
| 175                                                   | 174             | 115 | 275 | 295 |   |   |   |    |
| 200                                                   | 199             | 115 | 275 | 295 |   |   |   |    |
| 224                                                   | 219             | 115 | 275 | 295 |   |   |   |    |
| 250                                                   | 249             | 115 | 275 | 295 |   |   |   |    |
| 300                                                   | 299             | 115 | 299 | 319 |   |   |   |    |

|         |  |  |  |  |  |  |  |  |
|---------|--|--|--|--|--|--|--|--|
| 80-300  |  |  |  |  |  |  |  |  |
| 315-630 |  |  |  |  |  |  |  |  |

| DC 01 1,5 mm                       |        |          |   | DC 01 1,5 mm           |  |          |        | VA 1.4301 1,5 mm             |        |  |  |
|------------------------------------|--------|----------|---|------------------------|--|----------|--------|------------------------------|--------|--|--|
| pulverbeschichtet<br>powder coated |        |          |   | verzinkt<br>galvanized |  |          |        | Edelstahl<br>stainless steel |        |  |  |
| Art.-Nr.                           | €      | Art.-Nr. | € |                        |  | Art.-Nr. | €      | Art.-Nr.                     | €      |  |  |
| 0811082                            | 42,50  |          |   |                        |  | 0812082  | 53,70  | 0813082                      | 112,60 |  |  |
| 1011082                            | 42,50  |          |   |                        |  | 1012082  | 53,70  | 1013082                      | 112,60 |  |  |
| 1211082                            | 44,10  |          |   |                        |  | 1212082  | 55,50  | 1213082                      | 114,60 |  |  |
| 1511082                            | 49,00  |          |   |                        |  | 1512082  | 61,40  | 1513082                      | 119,30 |  |  |
| 1711082                            | 58,60  |          |   |                        |  | 1712082  | 74,40  | 1713082                      | 125,30 |  |  |
| 2011082                            | 69,70  |          |   |                        |  | 2012082  | 88,30  | 2013082                      | 136,20 |  |  |
| 2211082                            | 79,70  |          |   |                        |  | 2212082  | 100,20 | 2213082                      | 145,90 |  |  |
| 2511082                            | 89,20  |          |   |                        |  | 2512082  | 112,20 | 2513082                      | 156,30 |  |  |
| 3011082                            | 121,50 |          |   |                        |  | 3012082  | 154,30 | 3013082                      | 183,00 |  |  |

|  |  |         |       |  |  |  |  |  |  |  |  |
|--|--|---------|-------|--|--|--|--|--|--|--|--|
|  |  | 0800083 | 33,80 |  |  |  |  |  |  |  |  |
|  |  | 1000083 | 52,40 |  |  |  |  |  |  |  |  |

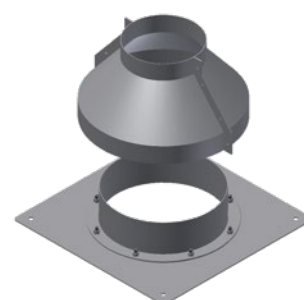
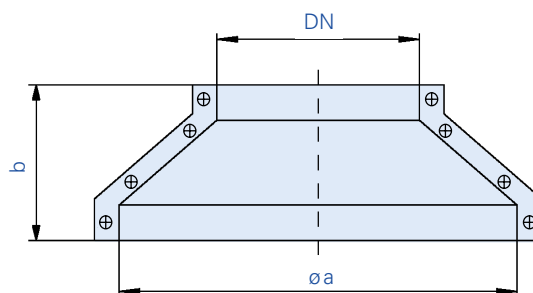
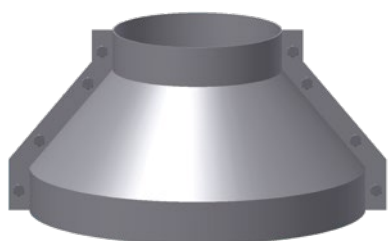
| Nennweite<br>Nominal diameter                         |                 |      |     |      |      |   |   |       |
|-------------------------------------------------------|-----------------|------|-----|------|------|---|---|-------|
| Maße für 2 mm Rohrbau<br>Measurements for 2 mm piping |                 |      |     |      |      |   |   |       |
| DN                                                    | d <sub>lw</sub> | a    | b   | c    | e    | f | g | kg    |
| 80                                                    | 78              | 110  | 95  | 50   | 175  |   |   | 0,80  |
| 100                                                   | 99              | 120  | 100 | 50   | 225  |   |   | 1,00  |
| 120                                                   | 119             | 140  | 110 | 50   | 275  |   |   | 1,50  |
| 150                                                   | 149             | 160  | 120 | 50   | 325  |   |   | 1,90  |
| 175                                                   | 174             | 185  | 135 | 50   | 375  |   |   | 2,40  |
| 200                                                   | 199             | 260  | 190 | 100  | 425  |   |   | 3,20  |
| 224                                                   | 219             | 275  | 205 | 100  | 525  |   |   | 4,00  |
| 250                                                   | 249             | 275  | 205 | 100  | 525  |   |   | 4,50  |
| 300                                                   | 299             | 315  | 230 | 100  | 625  |   |   | 6,50  |
| 315                                                   | 312             | 315  | 230 | 100  | 625  |   |   | 6,70  |
| 350                                                   | 349             | 395  | 300 | 150  | 750  |   |   | 12,80 |
| 400                                                   | 398             | 435  | 320 | 150  | 850  |   |   | 15,30 |
| 450                                                   | 448             | 470  | 340 | 150  | 950  |   |   | 18,20 |
| 500                                                   | 498             | 550  | 410 | 200  | 1050 |   |   | 23,50 |
| 560                                                   | 558             | 590  | 435 | 200  | 1150 |   |   | 26,50 |
| 600                                                   | 598             | 620  | 455 | 200  | 1250 |   |   | 28,50 |
| 630                                                   | 628             | 645  | 470 | 200  | 1300 |   |   | 30,00 |
| 100                                                   | 99              | 300  | 100 | 203  | 150  |   |   | 3,85  |
| 120                                                   | 119             | 450  | 150 | 303  | 250  |   |   | 8,25  |
| 150                                                   | 149             | 450  | 150 | 353  | 250  |   |   | 9,60  |
| 175                                                   | 174             | 600  | 200 | 403  | 300  |   |   | 12,30 |
| 200                                                   | 199             | 600  | 200 | 453  | 300  |   |   | 15,45 |
| 224                                                   | 219             | 600  | 200 | 480  | 330  |   |   | 16,70 |
| 250                                                   | 249             | 600  | 200 | 503  | 350  |   |   | 18,00 |
| 300                                                   | 299             | 700  | 250 | 553  | 400  |   |   | 22,90 |
| 315                                                   | 312             | 700  | 250 | 580  | 430  |   |   | 24,00 |
| 350*                                                  | 349             | 830  | 280 | 653  | 450  |   |   | 31,50 |
| 400*                                                  | 398             | 900  | 300 | 703  | 500  |   |   | 37,25 |
| 450*                                                  | 448             | 990  | 340 | 803  | 550  |   |   | 46,15 |
| 500*                                                  | 498             | 1060 | 360 | 853  | 600  |   |   | 53,00 |
| 560*                                                  | 558             | 1150 | 400 | 953  | 700  |   |   | 65,80 |
| 600*                                                  | 598             | 1250 | 450 | 1053 | 750  |   |   | 70,35 |
| 630*                                                  | 628             | 1320 | 470 | 1103 | 800  |   |   | 74,00 |

| DC 01 1,5 mm           |        |          |   | DC 01 2 mm             |   |          |        | VA 1.4301 1,5 mm             |   |          |        | VA 1.4301 2 mm               |         |          |   |
|------------------------|--------|----------|---|------------------------|---|----------|--------|------------------------------|---|----------|--------|------------------------------|---------|----------|---|
| verzinkt<br>galvanized |        |          |   | verzinkt<br>galvanized |   |          |        | Edelstahl<br>stainless steel |   |          |        | Edelstahl<br>stainless steel |         |          |   |
| Art.-Nr.               | €      | Art.-Nr. | € | Art.-Nr.               | € | Art.-Nr. | €      | Art.-Nr.                     | € | Art.-Nr. | €      | Art.-Nr.                     | €       | Art.-Nr. | € |
| 0812086                | 64,40  |          |   |                        |   | 0813086  | 87,40  |                              |   | 3123086  | 394,30 |                              |         |          |   |
| 1012086                | 67,10  |          |   |                        |   | 1013086  | 105,70 |                              |   | 3523086  | 396,80 |                              |         |          |   |
| 1212086                | 70,10  |          |   |                        |   | 1213086  | 123,00 |                              |   | 4023086  | 480,00 |                              |         |          |   |
| 1512086                | 76,60  |          |   |                        |   | 1513086  | 138,10 |                              |   | 4523086  | 608,90 |                              |         |          |   |
| 1712086                | 81,30  |          |   |                        |   | 1713086  | 160,70 |                              |   | 5023086  | 693,70 |                              |         |          |   |
| 2012086                | 87,70  |          |   |                        |   | 2013086  | 175,20 |                              |   | 5623086  | 736,30 |                              |         |          |   |
| 2212086                | 104,20 |          |   |                        |   | 2213086  | 217,80 |                              |   | 6023086  | 772,10 |                              |         |          |   |
| 2512086                | 105,50 |          |   |                        |   | 2513086  | 219,00 |                              |   | 6323086  | 797,70 |                              |         |          |   |
| 3012086                | 125,60 |          |   |                        |   | 3013086  | 256,40 |                              |   |          |        |                              |         |          |   |
|                        |        |          |   |                        |   | 3122086  | 199,80 |                              |   |          |        |                              |         |          |   |
|                        |        |          |   |                        |   | 3522086  | 200,70 |                              |   |          |        |                              |         |          |   |
|                        |        |          |   |                        |   | 4022086  | 222,60 |                              |   |          |        |                              |         |          |   |
|                        |        |          |   |                        |   | 4522086  | 242,60 |                              |   |          |        |                              |         |          |   |
|                        |        |          |   |                        |   | 5022086  | 271,20 |                              |   |          |        |                              |         |          |   |
|                        |        |          |   |                        |   | 5622086  | 290,60 |                              |   |          |        |                              |         |          |   |
|                        |        |          |   |                        |   | 6022086  | 303,00 |                              |   |          |        |                              |         |          |   |
|                        |        |          |   |                        |   | 6322086  | 318,90 |                              |   |          |        |                              |         |          |   |
|                        |        |          |   |                        |   | 1022087  | 181,30 |                              |   |          |        | 1023087                      | 321,20  |          |   |
|                        |        |          |   |                        |   | 1222087  | 201,60 |                              |   |          |        | 1223087                      | 350,70  |          |   |
|                        |        |          |   |                        |   | 1522087  | 220,30 |                              |   |          |        | 1523087                      | 390,00  |          |   |
|                        |        |          |   |                        |   | 1722087  | 275,90 |                              |   |          |        | 1723087                      | 502,00  |          |   |
|                        |        |          |   |                        |   | 2022087  | 333,10 |                              |   |          |        | 2023087                      | 592,00  |          |   |
|                        |        |          |   |                        |   | 2222087  | 391,30 |                              |   |          |        | 2223087                      | 677,30  |          |   |
|                        |        |          |   |                        |   | 2522087  | 393,90 |                              |   |          |        | 2523087                      | 682,10  |          |   |
|                        |        |          |   |                        |   | 3022087  | 443,00 |                              |   |          |        | 3023087                      | 771,60  |          |   |
|                        |        |          |   |                        |   | 3122087  | 488,10 |                              |   |          |        | 3123087                      | 838,60  |          |   |
|                        |        |          |   |                        |   | 3522087  | 492,00 |                              |   |          |        | 3523087                      | 844,60  |          |   |
|                        |        |          |   |                        |   | 4022087  | 555,00 |                              |   |          |        | 4023087                      | 1000,20 |          |   |
|                        |        |          |   |                        |   | 4522087  | 608,20 |                              |   |          |        | 4523087                      | 1160,70 |          |   |
|                        |        |          |   |                        |   | 5022087  | 719,50 |                              |   |          |        | 5023087                      | 1368,10 |          |   |
|                        |        |          |   |                        |   | 5622087  | 806,40 |                              |   |          |        | 5623087                      | 1509,80 |          |   |
|                        |        |          |   |                        |   | 6022087  | 893,90 |                              |   |          |        | 6023087                      | 1677,30 |          |   |
|                        |        |          |   |                        |   | 6322087  | 911,90 |                              |   |          |        | 6323087                      | 1755,60 |          |   |

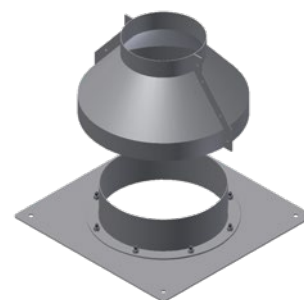
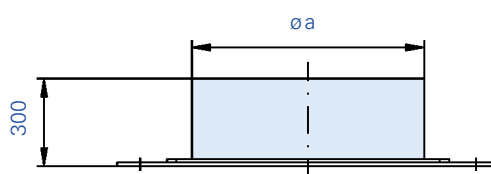
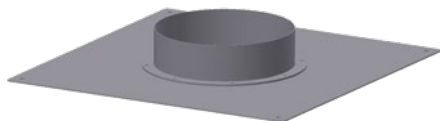
\* ab DN 350 inkl. angeschweißtem Flansch nach DIN 24154T2 (siehe Seite 99)

\* DN over 350 mm incl. welded flange acc. to DIN 24154 T2 (see page 99)

**Regenkragen zweiteilig inkl. Schrauben, Dichtung** / *Rain collars two parts, incl. screws and sealing*

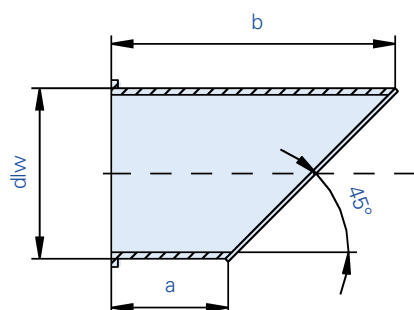
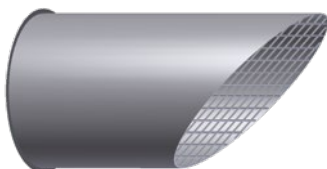


**Dachdurchführungen** / *Ceiling ducts*



Für Flachdächer mit Neigung auf Anfrage  
*For flat roofs with slope on request*

**Ausblasrohre 45° mit Vogelschutzgitter, geheftet Maschenweite 20 x 20 x 2** / *Exhaust pipes 45° with bird guard, mesh size 20 x 20 x 2*









SPANNRINGE  
BÖRDELDICHTRINGE  
FLANSCH  
SCHELLEN

*CLAMPING RINGS  
SEALING RINGS  
FLANGES  
CLAMPS*



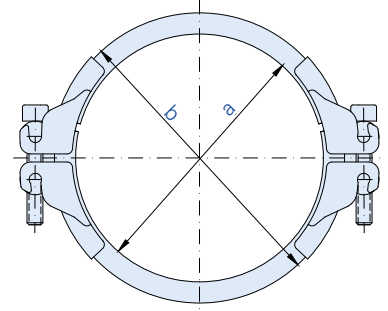
6



6

## Spannringe mit Dichtmasse / Clamping rings with sealing mass

2-teilig, für 1-1,5, 2 und 3 mm Rohrbau  
two parts, for 1-1,5, 2 and 3 mm piping



## Spannringe für Bördeldichtring\* / Clamping rings for sealing-ring\*

2-teilig, für 1-2 mm Rohrbau  
two parts, for pipe flanges, 1-2 mm piping

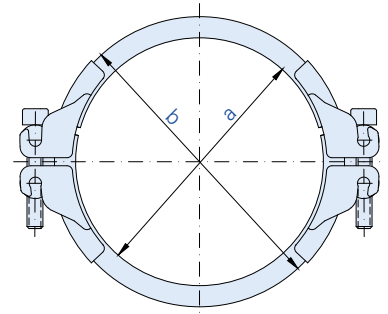


**Hinweis:**  
**KMH-Erdungsclip:**  
Die einfach zu instal-  
lierende und preis-  
werte Lösung für den  
Potenzialausgleich von  
Rohrleitungen

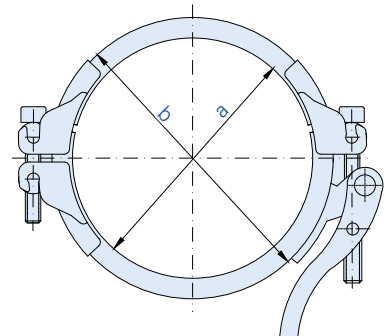
(Nicht Bestandteil des Spannrings. Artikel und Preise siehe Seite 172)

**Note: KMH grounding clip:** An easily installed  
and costeffective solution for the potential  
equalisation of piping

(Not part of the clamping ring. For article and prices see 172)



## Schnellverschlussspannringe für Bördeldichtring\* für 1-2 mm Rohrbau / Quick-lock clamping rings for sealing-ring\* 1-2 mm piping



| Nennweite<br>Nominal diameter |                                |     |                          |     |                          |     |      |
|-------------------------------|--------------------------------|-----|--------------------------|-----|--------------------------|-----|------|
| DN                            | 1 - 1,5 mm<br>Rohrbau / piping |     | 2 mm<br>Rohrbau / piping |     | 3 mm<br>Rohrbau / piping |     | kg   |
|                               | a                              | b   | a                        | b   | a                        | b   |      |
| 80                            | 80                             | 101 |                          |     |                          |     | 0,25 |
| 100                           | 102                            | 123 | 103                      | 124 |                          |     | 0,30 |
| 120                           | 122                            | 143 | 123                      | 144 |                          |     | 0,35 |
| 150                           | 152                            | 173 | 153                      | 174 | 154                      | 175 | 0,35 |
| 175                           | 177                            | 198 | 178                      | 199 | 179                      | 200 | 0,35 |
| 200                           | 202                            | 223 | 203                      | 224 | 204                      | 225 | 0,40 |
| 224                           | 222                            | 243 | 223                      | 244 | 224                      | 245 | 0,43 |
| 250                           | 252                            | 273 | 253                      | 274 | 254                      | 275 | 0,45 |
| 300                           | 302                            | 323 | 303                      | 324 | 304                      | 325 | 0,55 |
| 315                           | 317                            | 338 | 318                      | 339 | 319                      | 340 | 0,58 |
| 350                           | 352                            | 373 | 353                      | 374 | 354                      | 375 | 0,60 |
| 400                           | 402                            | 423 | 403                      | 424 | 404                      | 425 | 0,65 |
| 450                           | 452                            | 473 | 453                      | 474 | 454                      | 475 | 0,75 |
| 500                           | 502                            | 523 | 503                      | 524 | 504                      | 525 | 0,80 |
| 560                           | 562                            | 583 | 563                      | 584 | 564                      | 585 | 0,85 |
| 600                           | 602                            | 623 | 603                      | 624 | 604                      | 625 | 0,95 |
| 630                           | 632                            | 653 | 633                      | 654 | 634                      | 655 | 1,00 |

| Nennweite<br>Nominal diameter                         |     |     |   |   |   |   |      |
|-------------------------------------------------------|-----|-----|---|---|---|---|------|
| Maße für 2 mm Rohrbau<br>Measurements for 2 mm piping |     |     |   |   |   |   |      |
| DN                                                    | a   | b   | c | e | f | g | kg   |
| 80                                                    | 80  | 101 |   |   |   |   | 0,25 |
| 100                                                   | 103 | 124 |   |   |   |   | 0,30 |
| 120                                                   | 123 | 144 |   |   |   |   | 0,35 |
| 150                                                   | 153 | 174 |   |   |   |   | 0,35 |
| 175                                                   | 178 | 199 |   |   |   |   | 0,35 |
| 200                                                   | 203 | 224 |   |   |   |   | 0,40 |
| 224                                                   | 222 | 243 |   |   |   |   | 0,43 |
| 250                                                   | 253 | 274 |   |   |   |   | 0,45 |
| 300                                                   | 303 | 324 |   |   |   |   | 0,55 |
| 315                                                   | 317 | 338 |   |   |   |   | 0,58 |
| 350                                                   | 353 | 374 |   |   |   |   | 0,60 |
| 400                                                   | 403 | 424 |   |   |   |   | 0,65 |
| 450                                                   | 453 | 474 |   |   |   |   | 0,75 |
| 500                                                   | 503 | 524 |   |   |   |   | 0,80 |
| 560                                                   | 563 | 584 |   |   |   |   | 0,85 |
| 600                                                   | 603 | 624 |   |   |   |   | 0,95 |
| 630                                                   | 632 | 653 |   |   |   |   | 1,00 |
| 80                                                    | 81  | 102 |   |   |   |   | 0,20 |
| 100                                                   | 103 | 124 |   |   |   |   | 0,25 |
| 120                                                   | 123 | 144 |   |   |   |   | 0,28 |
| 150                                                   | 153 | 174 |   |   |   |   | 0,30 |
| 175                                                   | 178 | 199 |   |   |   |   | 0,35 |
| 200                                                   | 203 | 224 |   |   |   |   | 0,40 |
| 224                                                   | 222 | 246 |   |   |   |   | 0,43 |
| 250                                                   | 253 | 274 |   |   |   |   | 0,45 |
| 300                                                   | 303 | 324 |   |   |   |   | 0,55 |

\* Dazugehörige Bördeldichtringe bitte extra bestellen.

\* Extra ordering for corresponding sealing-rings required.

| DC 01                                |       | DC 01                                |       | DC 01                                |       | VA 1.4301                      |       | VA 1.4301                    |       |
|--------------------------------------|-------|--------------------------------------|-------|--------------------------------------|-------|--------------------------------|-------|------------------------------|-------|
| galv. verzinkt<br>electro galvanized |       | galv. verzinkt<br>electro galvanized |       | galv. verzinkt<br>electro galvanized |       | Edelstahl<br>stainless steel   |       | Edelstahl<br>stainless steel |       |
| 1 - 1,5 mm<br>Rohrbau / piping       |       | 2 mm<br>Rohrbau / piping             |       | 3 mm<br>Rohrbau / piping             |       | 1 - 1,5 mm<br>Rohrbau / piping |       | 2 mm<br>Rohrbau / piping     |       |
| Art.-Nr.                             | €     | Art.-Nr.                             | €     | Art.-Nr.                             | €     | Art.-Nr.                       | €     | Art.-Nr.                     | €     |
| 0812055                              | 5,50  |                                      |       |                                      |       | 0813055                        | 12,20 |                              |       |
| 1012055                              | 6,00  | 1022055                              | 6,10  |                                      |       | 1013055                        | 12,40 | 1023055                      | 17,50 |
| 1212055                              | 6,40  | 1222055                              | 6,70  |                                      |       | 1213055                        | 13,90 | 1223055                      | 18,50 |
| 1512055                              | 6,70  | 1522055                              | 7,20  | 1532055                              | 7,60  | 1513055                        | 14,50 | 1523055                      | 19,20 |
| 1712055                              | 7,50  | 1722055                              | 8,30  | 1732055                              | 8,50  | 1713055                        | 15,50 | 1723055                      | 20,50 |
| 2012055                              | 8,00  | 2022055                              | 8,90  | 2032055                              | 9,30  | 2013055                        | 15,80 | 2023055                      | 22,00 |
| 2212055                              | 8,20  | 2222055                              | 9,40  | 2232055                              | 10,10 | 2213055                        | 16,20 | 2223055                      | 22,90 |
| 2512055                              | 8,70  | 2522055                              | 10,10 | 2532055                              | 10,50 | 2513055                        | 16,70 | 2523055                      | 23,90 |
| 3012055                              | 10,60 | 3022055                              | 13,10 | 3032055                              | 13,80 | 3013055                        | 19,10 | 3023055                      | 25,60 |
| 3112055                              | 14,20 | 3122055                              | 15,60 | 3132055                              | 16,10 | 3113055                        | 25,00 | 3123055                      | 28,00 |
| 3512055                              | 15,50 | 3522055                              | 16,10 | 3532055                              | 16,70 | 3513055                        | 25,90 | 3523055                      | 28,60 |
| 4012055                              | 18,10 | 4022055                              | 18,20 | 4032055                              | 18,50 | 4013055                        | 28,00 | 4023055                      | 30,90 |
| 4512055                              | 20,50 | 4522055                              | 21,40 | 4532055                              | 21,90 | 4513055                        | 30,30 | 4523055                      | 32,10 |
| 5012055                              | 24,00 | 5022055                              | 24,40 | 5032055                              | 24,80 | 5013055                        | 32,30 | 5023055                      | 33,80 |
| 5612055                              | 25,60 | 5622055                              | 26,90 | 5632055                              | 27,30 | 5613055                        | 33,90 | 5623055                      | 35,80 |
| 6012055                              | 28,10 | 6022055                              | 29,80 | 6032055                              | 30,50 | 6013055                        | 36,60 | 6023055                      | 37,70 |
| 6312055                              | 30,00 | 6322055                              | 31,60 | 6332055                              | 32,30 | 6313055                        | 38,00 | 6323055                      | 39,00 |

| DC 01 galv. verzinkt / electro galvanized |       |  |  |                                     |       |  |  |
|-------------------------------------------|-------|--|--|-------------------------------------|-------|--|--|
| VA 1.4301 Edelstahl / stainless steel     |       |  |  |                                     |       |  |  |
| 1 - 2 mm Rohrbau<br>1 - 2 mm Piping       |       |  |  | 1 - 2 mm Rohrbau<br>1 - 2 mm Piping |       |  |  |
| Art.-Nr.                                  | €     |  |  | Art.-Nr.                            | €     |  |  |
| 0812056                                   | 6,40  |  |  | 0813056                             | 16,90 |  |  |
| 1012056                                   | 6,50  |  |  | 1013056                             | 17,80 |  |  |
| 1212056                                   | 6,60  |  |  | 1213056                             | 18,40 |  |  |
| 1512056                                   | 7,20  |  |  | 1513056                             | 19,70 |  |  |
| 1712056                                   | 8,60  |  |  | 1713056                             | 20,70 |  |  |
| 2012056                                   | 9,30  |  |  | 2013056                             | 21,90 |  |  |
| 2212056                                   | 9,80  |  |  | 2213056                             | 23,00 |  |  |
| 2512056                                   | 10,10 |  |  | 2513056                             | 23,80 |  |  |
| 3012056                                   | 12,60 |  |  | 3013056                             | 25,90 |  |  |
| 3112056                                   | 14,40 |  |  | 3113056                             | 27,20 |  |  |
| 3512056                                   | 14,90 |  |  | 3513056                             | 28,00 |  |  |
| 4012056                                   | 17,20 |  |  | 4013056                             | 29,00 |  |  |
| 4512056                                   | 20,40 |  |  | 4513056                             | 31,10 |  |  |
| 5012056                                   | 23,30 |  |  | 5013056                             | 33,40 |  |  |
| 5612056                                   | 25,10 |  |  | 5613056                             | 35,80 |  |  |
| 6012056                                   | 28,10 |  |  | 6013056                             | 38,20 |  |  |
| 6312056                                   | 30,10 |  |  | 6313056                             | 39,80 |  |  |
| 0812060                                   | 8,10  |  |  | 0813060                             | 18,50 |  |  |
| 1012060                                   | 8,10  |  |  | 1013060                             | 18,50 |  |  |
| 1212060                                   | 8,30  |  |  | 1213060                             | 19,10 |  |  |
| 1512060                                   | 8,50  |  |  | 1513060                             | 19,60 |  |  |
| 1712060                                   | 9,10  |  |  | 1713060                             | 20,30 |  |  |
| 2012060                                   | 9,80  |  |  | 2013060                             | 20,80 |  |  |
| 2212060                                   | 12,00 |  |  | 2213060                             | 23,80 |  |  |
| 2512060                                   | 12,00 |  |  | 2513060                             | 23,80 |  |  |
| 3012060                                   | 13,20 |  |  | 3013060                             | 25,00 |  |  |

# BÖRDELDICHTRINGE: ALLGEMEINE INFORMATIONEN

## SEALING RINGS: GENERAL INFORMATION

### Beständigkeiten Bördeldichtringe

#### Si (Silikon)

Farbe:

Temperaturbest.:

gut beständig gegen:

wenig beständig gegen:

#### Silikon

elfenbein

-60°C bis +250°C

Wasser / Dampf (bis 120°C), Aceton, Ammoniak (-gas und in Wasser), Ozon, viele organische Öle und Fette, Laugen, gute Alterungs- und Witterungsbeständigkeit

#### Lebensmittelqualität

(nicht für leitfähige Version)

mineral. Öle, Fette, Treibstoffe, Säuren, Heptan

#### NBR (Perbunan)

Farbe:

Temperaturbest.:

gut beständig gegen:

wenig beständig gegen:

#### Nitrilkautschuk

grau

-20°C bis +100°C  
(kurzzeitig 120°C)

Chlorkohlenwasserstoffe, Ammoniak, Heptan, Pentan, organische und mineral. Öle und Fette

#### Lebensmittelqualität

Aceton, Bewitterung, Methyläthylketon, Ozon, Säuren

#### FKM (Viton)

Farbe:

Temperaturbest.:

für Spannringverbindung:

für Losflanschverbindung:

gut beständig gegen:

wenig beständig gegen:

#### Fluorkautschuk

braunrot

-20°C bis +200°C

(kurzzeitig 300°C im montierten Zustand, sonst reißt die Klebestelle)

-20°C bis +120°C

Ammoniak (-gas und in Wasser), Aromate (Benzol, Toluol, ...), Chlorkohlenwasserstoffe, Laugen, Säuren, Heptan, Ozon, organische und mineral. Öle und Fette, Wasser / Dampf (bis 150°C) sehr gute Alterungs- und Witterungsbeständigkeit, allg. sehr hohe Chemikalienbeständigkeit

Aceton, Ammoniak (flüssig), Methyläthylketon

Andere Chemikalien auf Anfrage.

Die angegebenen Beständigkeiten sind Richtwerte und grundsätzlich zu überprüfen.

### Resistance of Sealing Rings

#### Si (Silicone)

Colour:

Temperature limit:

good resistance against:

low resistance against:

#### Silicone Rubber

ivory

-60°C to +250°C

Water / steam (up to 120°C), acetone, ammonia (gas and in water), ozone, several organic oils and fats, brine, good resistance against ageing and weathering

#### suitable for food

(not for conductive version)

Mineral oils, fats, hydrocarbon fuels, acids, heptane,

#### NBR (Perbunan)

Colour:

Temperature limit:

good resistance against:

low resistance against:

#### Nitrile Rubber

grey

-20°C to +100°C  
(for short time 120°C)

Chlorinated hydrocarbons, ammonia, heptane, pentane, organic and mineral oils and fats

#### suitable for food

Acetone, weathering, methyl ethyl ketone, ozone, acids

#### FKM (Viton)

Colour:

Temperature limit:

for clamping-ring connection:

for loose-flange connection:

good resistance against:

low resistance against:

#### Viton

brown-red

-20°C to +200°C

(for short time 300°C if mounted, or else tears at the bonding surface)

-20°C to +120°C

Ammonia (gas and in water), aromates (benzene, toluene, ...), chlorinated hydrocarbons, brine, acids, heptane, ozone, organic and mineral oils and fats, water / steam (up to 150°C), excellent resistance to ageing and weathering, general high resistance against chemicals

Acetone, ammonia (liquid), methyl ethyl ketone

Other chemicals on request.

The specified durabilities are only to be seen as reference values and generally need to be checked.

# BÖRDELDICHTRINGE **LEITFÄHIG**: ALLGEMEINE INFORMATIONEN

## SEALING RINGS **CONDUCTIVE**: GENERAL INFORMATION

### Beständigkeiten Bördeldichtringe

#### EPDM (Keltan)<sup>1)</sup>:

Farbe: **Ethylen-Propylen-Kautschuk schwarz**  
 Temperaturbest.: -40°C bis +120°C  
 gut beständig gegen: Wasser, Wasserdampf, Aceton, Ammoniak, Laugen, Methyläthylketon, Ozon, viele Säuren, gute Alterungs- und Witterungsbeständigkeit **Lebensmittelqualität**  
 wenig beständig gegen: mineral. Öle, Fette, Treibstoffe, Heptan, Pentan, Toluol, Chlorkohlenwasserstoffe

1) auch in leitfähiger Qualität

#### Si (Silikon)

Farbe: **Silikon schwarz**  
 Temperaturbest.: -60°C bis +200°C (kurzzeitig 250°C)  
 gut beständig gegen: Wasser /Dampf (bis 120°C), Aceton, Ammoniak (-gas und in Wasser), Ozon, viele organische Öle und Fette, Laugen, gute Alterungs- und Witterungsbeständigkeit  
 wenig beständig gegen: mineral. Öle, Fette, Treibstoffe, Säuren, Heptan

#### NBR (Perbunan)

Farbe: **Nitrilkautschuk schwarz-rot**  
 Temperaturbest.: -20°C bis +100°C (kurzzeitig 120°C)  
 gut beständig gegen: Chlorkohlenwasserstoffe, Ammoniak, Heptan, Pentan, organische und mineral. Öle und Fette  
 wenig beständig gegen: Aceton, Bewitterung, Methyläthylketon, Ozon, Säuren

Andere Chemikalien auf Anfrage.  
 Die angegebenen Beständigkeiten sind Richtwerte und grundsätzlich zu überprüfen.

### Resistance of Sealing Rings

#### EPDM (Keltan)<sup>1)</sup>:

Colour: **Ethylene-Propylene Rubber black**  
 Temperature limit: -40°C to +120°C  
 good resistance against: Water, water vapour, acetone, ammonia, brine, methyl ethyl ketone, ozone, several acids, good resistance against ageing and weathering **suitable for food**  
 low resistance against: Mineral oils, fats, hydrocarbon fuels, heptane, pentane, toluene, chlorinated hydrocarbons

1) also in conductive quality

#### Si (Silicone)

Colour: **Silicone Rubber black**  
 Temperature limit: -60°C to +200°C (for short time 250°C)  
 good resistance against: Water /steam (up to 120°C), acetone, ammonia (gas and in water), ozone, several organic oils and fats, brine, good resistance against ageing and weathering  
 low resistance against: Mineral oils, fats, hydrocarbon fuels, acids, heptane

#### NBR (Perbunan)

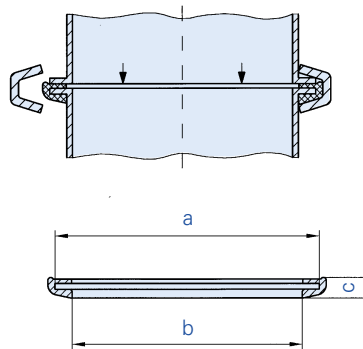
Colour: **Nitrile Rubber black-red**  
 Temperature limit: -20°C to +100°C (for short time 120°C)  
 good resistance against: Chlorinated hydrocarbons, ammonia, heptane, pentane, organic and mineral oils and fats,  
 low resistance against: Acetone, weathering, methyl ethyl ketone, ozone, acids

Other chemicals on request.  
 The specified durabilities are only to be seen as reference values and generally need to be checked.

**Weitere Informationen:**  
[www.kmh.net/downloads](http://www.kmh.net/downloads)  
 Dokumente / Technische Informationen

**Further information:**  
[www.kmh.net/downloads](http://www.kmh.net/downloads)  
 documents / technical information

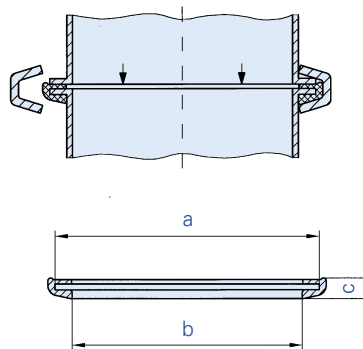
**Bördeldichtringe für 1 mm Rohrbau / Sealing-rings for pipe flanges, 1 mm piping**



Passend auch für Verbindungen bei  
1 + 1,5 mm, 1 + 2 mm und 1,5 + 1,5 mm  
Wandstärke.

*Fits also for connections of parts with  
1 + 1,5 mm, 1 + 2 mm and 1,5 + 1,5 mm  
wall-thickness.*

**Bördeldichtringe für 2 mm Rohrbau / Sealing-rings for pipe flanges, 2 mm piping**



Passend auch für Verbindungen bei  
1,5 + 2 mm Wandstärke.

*Fits also for connections of parts with  
1,5 + 2 mm wall-thickness.*

| Nennweite<br>Nominal diameter                                 |     |     |     |  |  |  |  |
|---------------------------------------------------------------|-----|-----|-----|--|--|--|--|
| Maße für 1 + 2 mm Rohrbau<br>Measurements for 1 + 2 mm piping |     |     |     |  |  |  |  |
| DN                                                            | a   | b   | c   |  |  |  |  |
| 80                                                            | 93  | 81  | 7,5 |  |  |  |  |
| 100                                                           | 115 | 103 | 7,5 |  |  |  |  |
| 120                                                           | 135 | 123 | 7,5 |  |  |  |  |
| 150                                                           | 165 | 153 | 7,5 |  |  |  |  |
| 175                                                           | 190 | 178 | 7,5 |  |  |  |  |
| 200                                                           | 215 | 203 | 7,5 |  |  |  |  |
| 224                                                           | 240 | 225 | 7,5 |  |  |  |  |
| 250                                                           | 265 | 253 | 7,5 |  |  |  |  |
| 300                                                           | 315 | 303 | 7,5 |  |  |  |  |
| 315                                                           | 330 | 317 | 7,5 |  |  |  |  |
| 350                                                           | 365 | 353 | 7,5 |  |  |  |  |
| 400                                                           | 415 | 403 | 7,5 |  |  |  |  |
| 450                                                           | 465 | 453 | 7,5 |  |  |  |  |
| 500                                                           | 515 | 503 | 7,5 |  |  |  |  |
| 560                                                           | 575 | 563 | 7,5 |  |  |  |  |
| 600                                                           | 615 | 603 | 7,5 |  |  |  |  |
| 630                                                           | 645 | 633 | 7,5 |  |  |  |  |

Temperaturbeständig bis:  
Heat-resistant up to:

| EPDM - Keltan    |      | Si - Silikon       |      | FKM (FPM) - Viton     |       | NBR - Perbunan |      |
|------------------|------|--------------------|------|-----------------------|-------|----------------|------|
| schwarz<br>black |      | elfenbein<br>ivory |      | braunrot<br>brown-red |       | grau<br>grey   |      |
| Art.-Nr.         | €    | Art.-Nr.           |      | Art.-Nr.              | €     | Art.-Nr.       | €    |
| 0800457          | 1,50 | 0800058            | 1,60 | 0800159               | 7,50  | 0800160        | 1,40 |
| 1000457          | 1,60 | 1000058            | 1,80 | 1000159               | 8,60  | 1000160        | 1,50 |
| 1200457          | 1,80 | 1200058            | 2,20 | 1200159               | 10,30 | 1200160        | 1,60 |
| 1500457          | 2,10 | 1500058            | 2,40 | 1500159               | 11,80 | 1500160        | 1,80 |
| 1700457          | 2,30 | 1700058            | 2,60 | 1700159               | 12,30 | 1700160        | 2,20 |
| 2000457          | 2,50 | 2000058            | 2,70 | 2000159               | 13,70 | 2000160        | 2,40 |
| 2200457          | 2,60 | 2200058            | 2,90 | 2200159               | 16,00 | 2200160        | 2,50 |
| 2500457          | 2,60 | 2500058            | 3,00 | 2500159               | 17,50 | 2500160        | 2,50 |
| 3000457          | 3,00 | 3000058            | 3,20 | 3000159               | 20,70 | 3000160        | 2,80 |
| 3100457          | 3,10 | 3100058            | 3,60 | 3100159               | 23,10 | 3100160        | 3,00 |
| 3500457          | 3,40 | 3500058            | 3,70 | 3500159               | 23,80 | 3500160        | 3,00 |
| 4000457          | 3,70 | 4000058            | 4,20 | 4000159               | 26,30 | 4000160        | 3,50 |
| 4500457          | 4,40 | 4500058            | 4,70 | 4500159               | 29,00 | 4500160        | 3,90 |
| 5000457          | 4,70 | 5000058            | 5,20 | 5000159               | 31,70 | 5000160        | 4,40 |
| 5600457          | 5,00 | 5600058            | 6,00 | 5600159               | 35,00 | 5600160        | 4,80 |
| 6000457          | 6,00 | 6000058            | 6,40 | 6000159               | 38,60 | 6000160        | 5,20 |
| 6300457          | 6,50 | 6300058            | 6,90 | 6300159               | 42,10 | 6300160        | 6,20 |

-40°C / +120°C

-60°C / +250°C

-20°C / +200°C

-20°C / +100°C

| Nennweite<br>Nominal diameter                                 |     |     |     |  |  |  |  |
|---------------------------------------------------------------|-----|-----|-----|--|--|--|--|
| Maße für 1 + 2 mm Rohrbau<br>Measurements for 1 + 2 mm piping |     |     |     |  |  |  |  |
| DN                                                            | a   | b   | c   |  |  |  |  |
| 80                                                            |     |     |     |  |  |  |  |
| 100                                                           | 115 | 103 | 7,5 |  |  |  |  |
| 120                                                           | 135 | 123 | 7,5 |  |  |  |  |
| 150                                                           | 165 | 153 | 7,5 |  |  |  |  |
| 175                                                           | 190 | 178 | 7,5 |  |  |  |  |
| 200                                                           | 215 | 203 | 7,5 |  |  |  |  |
| 224                                                           | 240 | 225 | 7,5 |  |  |  |  |
| 250                                                           | 265 | 253 | 7,5 |  |  |  |  |
| 300                                                           | 315 | 303 | 7,5 |  |  |  |  |
| 315                                                           | 330 | 317 | 7,5 |  |  |  |  |
| 350                                                           | 365 | 353 | 7,5 |  |  |  |  |
| 400                                                           | 415 | 403 | 7,5 |  |  |  |  |
| 450                                                           | 465 | 453 | 7,5 |  |  |  |  |
| 500                                                           | 515 | 503 | 7,5 |  |  |  |  |
| 560                                                           | 575 | 563 | 7,5 |  |  |  |  |
| 600                                                           | 615 | 603 | 7,5 |  |  |  |  |
| 630                                                           | 645 | 633 | 7,5 |  |  |  |  |

Temperaturbeständig bis:  
Heat-resistant up to:

| EPDM - Keltan    |      | Si - Silikon       |      | FKM (FPM) - Viton     |       | NBR - Perbunan |      |
|------------------|------|--------------------|------|-----------------------|-------|----------------|------|
| schwarz<br>black |      | elfenbein<br>ivory |      | braunrot<br>brown-red |       | grau<br>grey   |      |
| Art.-Nr.         |      | Art.-Nr.           |      | Art.-Nr.              | €     | Art.-Nr.       | €    |
| 1000557          | 1,60 | 1000258            | 1,80 | 1000259               | 8,60  | 1000260        | 1,50 |
| 1200557          | 1,80 | 1200258            | 2,20 | 1200259               | 10,30 | 1200260        | 1,60 |
| 1500557          | 2,10 | 1500258            | 2,40 | 1500259               | 11,80 | 1500260        | 1,80 |
| 1700557          | 2,30 | 1700258            | 2,60 | 1700259               | 12,30 | 1700260        | 2,20 |
| 2000557          | 2,50 | 2000258            | 2,70 | 2000259               | 13,70 | 2000260        | 2,40 |
| 2200557          | 2,60 | 2200258            | 2,90 | 2200259               | 16,00 | 2200260        | 2,50 |
| 2500557          | 2,60 | 2500258            | 3,00 | 2500259               | 17,50 | 2500260        | 2,60 |
| 3000557          | 3,00 | 3000258            | 3,20 | 3000259               | 20,70 | 3000260        | 2,80 |
| 3100557          | 3,10 | 3100258            | 3,60 | 3100259               | 23,10 | 3100260        | 3,00 |
| 3500557          | 3,40 | 3500258            | 3,70 | 3500259               | 23,80 | 3500260        | 3,00 |
| 4000557          | 3,70 | 4000258            | 4,20 | 4000259               | 26,30 | 4000260        | 3,50 |
| 4500557          | 4,40 | 4500258            | 4,70 | 4500259               | 29,00 | 4500260        | 3,90 |
| 5000557          | 4,70 | 5000258            | 5,20 | 5000259               | 31,70 | 5000260        | 4,40 |
| 5600557          | 5,00 | 5600258            | 6,00 | 5600259               | 35,00 | 5600260        | 4,80 |
| 6000557          | 6,00 | 6000258            | 6,40 | 6000259               | 38,60 | 6000260        | 5,20 |
| 6300557          | 6,50 | 6300258            | 6,90 | 6300259               | 42,10 | 6300260        | 6,20 |

-40°C / +120°C

-60°C / +250°C

-20°C / +200°C

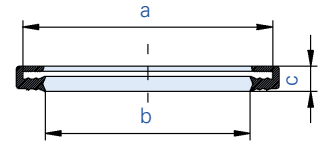
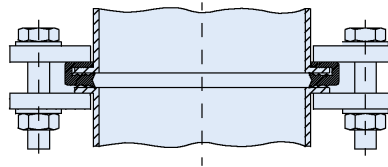
-20°C / +100°C

Technische Hinweise für  
Bördeldichtringe: siehe Seite 88/89

For technical details on  
sealing-rings: see page 88/89

Elektrisch leitende Bördeldichtringe (EPDM, NBR, Silikon): siehe Seiten 94–97  
(Prüfbericht vgl.: [www.kmh.net](http://www.kmh.net)) Im Einzelfall müssen Rohrleitungen abgeleitet werden.

Conductive sealing rings (EPDM, NBR, Silicone) upon pages 94–97  
(test-report see: [www.kmh.net](http://www.kmh.net)) In case of application pipe-line must have ground connection.



| Nennweite<br>Nominal diameter                                 |     |     |     |  |  |  |  |
|---------------------------------------------------------------|-----|-----|-----|--|--|--|--|
| Maße für 1 + 2 mm Rohrbau<br>Measurements for 1 + 2 mm piping |     |     |     |  |  |  |  |
| DN                                                            | a   | b   | c   |  |  |  |  |
| 80                                                            | 93  | 81  | 7,5 |  |  |  |  |
| 100                                                           | 115 | 103 | 7,5 |  |  |  |  |
| 120                                                           | 135 | 123 | 7,5 |  |  |  |  |
| 150                                                           | 165 | 153 | 7,5 |  |  |  |  |
| 175                                                           | 190 | 178 | 7,5 |  |  |  |  |
| 200                                                           | 215 | 203 | 9   |  |  |  |  |
| 224                                                           | 240 | 225 | 9   |  |  |  |  |
| 250                                                           | 265 | 253 | 9   |  |  |  |  |
| 300                                                           | 315 | 303 | 9   |  |  |  |  |
| 315                                                           | 330 | 317 | 9   |  |  |  |  |
| 350                                                           | 365 | 353 | 9   |  |  |  |  |
| 400                                                           | 415 | 403 | 9   |  |  |  |  |
| 450                                                           | 465 | 453 | 9   |  |  |  |  |
| 500                                                           | 515 | 503 | 9   |  |  |  |  |
| 560                                                           | 575 | 563 | 9   |  |  |  |  |
| 600                                                           | 615 | 603 | 9   |  |  |  |  |
| 630                                                           | 645 | 633 | 9   |  |  |  |  |
| 710                                                           | 725 | 713 | 9   |  |  |  |  |

Temperaturbeständig bis:  
Heat-resistant up to:

| EPDM - Keltan    |       | Si - Silikon               |       | FKM (FPM) - Viton     |       | NBR - Perbunan |       |  |  |  |  |
|------------------|-------|----------------------------|-------|-----------------------|-------|----------------|-------|--|--|--|--|
| schwarz<br>black |       | transparent<br>transparent |       | braunrot<br>brown-red |       | grau<br>grey   |       |  |  |  |  |
| Art.-Nr.         | €     | Art.-Nr.                   | €     | Art.-Nr.              | €     | Art.-Nr.       | €     |  |  |  |  |
| 0800457          | 1,50  | 0800058                    | 1,60  | 0800159               | 7,50  | 0800160        | 1,40  |  |  |  |  |
| 1000457          | 1,60  | 1000058                    | 1,80  | 1000159               | 8,60  | 1000160        | 1,50  |  |  |  |  |
| 1200457          | 1,80  | 1200058                    | 2,20  | 1200159               | 10,30 | 1200160        | 1,60  |  |  |  |  |
| 1500457          | 2,10  | 1500058                    | 2,40  | 1500159               | 11,80 | 1500160        | 1,80  |  |  |  |  |
| 1700457          | 2,30  | 1700058                    | 2,60  | 1700159               | 12,30 | 1700160        | 2,20  |  |  |  |  |
| 2000757          | 5,20  | 2000358                    | 4,50  | 2000359               | 27,90 | 2000360        | 4,30  |  |  |  |  |
| 2200757          | 5,60  | 2200358                    | 4,70  | 2200359               | 33,80 | 2200360        | 4,40  |  |  |  |  |
| 2500757          | 6,40  | 2500358                    | 5,10  | 2500359               | 34,80 | 2500360        | 4,60  |  |  |  |  |
| 3000757          | 7,80  | 3000358                    | 6,70  | 3000359               | 41,30 | 3000360        | 4,80  |  |  |  |  |
| 3100757          | 8,20  | 3100358                    | 7,00  | 3100359               | 46,80 | 3100360        | 5,00  |  |  |  |  |
| 3500757          | 8,40  | 3500358                    | 7,20  | 3500359               | 48,00 | 3500360        | 5,20  |  |  |  |  |
| 4000757          | 8,80  | 4000358                    | 7,50  | 4000359               | 54,60 | 4000360        | 6,30  |  |  |  |  |
| 4500757          | 9,20  | 4500358                    | 7,90  | 4500359               | 61,40 | 4500360        | 6,90  |  |  |  |  |
| 5000757          | 10,10 | 5000358                    | 8,30  | 5000359               | 63,80 | 5000360        | 7,50  |  |  |  |  |
| 5600757          | 10,30 | 5600358                    | 8,50  | 5600359               | 70,10 | 5600360        | 8,30  |  |  |  |  |
| 6000757          | 10,80 | 6000358                    | 8,90  | 6000359               | 76,50 | 6000360        | 8,60  |  |  |  |  |
| 6300757          | 11,50 | 6300358                    | 10,00 | 6300359               | 87,40 | 6300360        | 9,30  |  |  |  |  |
| 7100757          | 12,90 | 7100358                    | 11,70 | 7100359               | 95,10 | 7100360        | 10,60 |  |  |  |  |

-40°C / +120°C

-60°C / +200°C

-20°C / +120°C

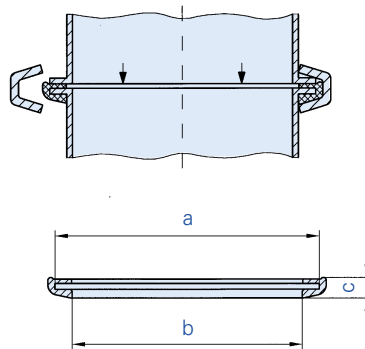
-20°C / +100°C

Technische Hinweise für  
Bördeldichtringe: siehe Seite 88/89

For technical details on  
sealing-rings: see page 88/89

Elektrisch leitende Bördeldichtringe (EPDM, NBR, Silikon): siehe Seiten 94–97  
(Prüfbericht vgl.: [www.kmh.net](http://www.kmh.net)) Im Einzelfall müssen Rohrleitungen abgeleitet werden.

Conductive sealing rings (EPDM, NBR, Silicone) upon pages 94–97  
(test-report see: [www.kmh.net](http://www.kmh.net)) In case of application pipe-line must have ground connection.



Passend auch für Verbindungen bei 1 + 1,5 mm, 1 + 2 mm und 1,5 + 1,5 mm Wandstärke.

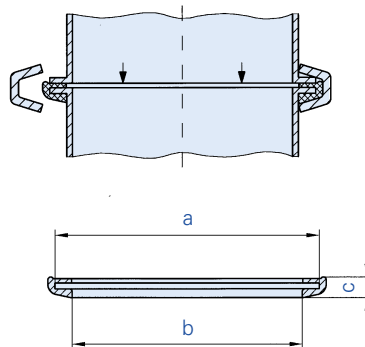
*Fits also for connections of parts with 1 + 1,5 mm, 1 + 2 mm and 1,5 + 1,5 mm wall-thickness.*

**Vorteile:**

- keine sichtbaren Erdungslaschen und Kabel erforderlich
- schnelle Montage
- zertifiziert durch DMT

**Advantages**

- no visible grounding lug and cable required
- quick assembly
- certified by DMT



Passend auch für Verbindungen bei 1,5 + 2 mm Wandstärke.

*Fits also for connections of parts with 1,5 + 2 mm wall-thickness.*

**Vorteile:**

- keine sichtbaren Erdungslaschen und Kabel erforderlich
- schnelle Montage
- zertifiziert durch DMT

**Advantages**

- no visible grounding lug and cable required
- quick assembly
- certified by DMT

| Nennweite<br>Nominal diameter                                 |     |     |     |  |  |  |  |
|---------------------------------------------------------------|-----|-----|-----|--|--|--|--|
| Maße für 1 + 2 mm Rohrbau<br>Measurements for 1 + 2 mm piping |     |     |     |  |  |  |  |
| DN                                                            | a   | b   | c   |  |  |  |  |
| 80                                                            | 93  | 81  | 7,5 |  |  |  |  |
| 100                                                           | 115 | 103 | 7,5 |  |  |  |  |
| 120                                                           | 135 | 123 | 7,5 |  |  |  |  |
| 150                                                           | 165 | 153 | 7,5 |  |  |  |  |
| 175                                                           | 190 | 178 | 7,5 |  |  |  |  |
| 200                                                           | 215 | 203 | 7,5 |  |  |  |  |
| 224                                                           | 240 | 225 | 7,5 |  |  |  |  |
| 250                                                           | 265 | 253 | 7,5 |  |  |  |  |
| 300                                                           | 315 | 303 | 7,5 |  |  |  |  |
| 315                                                           | 330 | 317 | 7,5 |  |  |  |  |
| 350                                                           | 365 | 353 | 7,5 |  |  |  |  |
| 400                                                           | 415 | 403 | 7,5 |  |  |  |  |
| 450                                                           | 465 | 453 | 7,5 |  |  |  |  |
| 500                                                           | 515 | 503 | 7,5 |  |  |  |  |
| 560                                                           | 575 | 563 | 7,5 |  |  |  |  |
| 600                                                           | 615 | 603 | 7,5 |  |  |  |  |
| 630                                                           | 645 | 633 | 7,5 |  |  |  |  |

Temperaturbeständig bis:  
Heat-resistant up to:

| EPDM - Keltan    |      | Si - Silikon                 |       | NBR - Perbunan             |  |          |       |  |  |  |  |
|------------------|------|------------------------------|-------|----------------------------|--|----------|-------|--|--|--|--|
| schwarz<br>black |      | schwarz/ blau<br>black/ blue |       | schwarz/ rot<br>black/ red |  |          |       |  |  |  |  |
| Art.-Nr.         | €    | Art.-Nr.                     | €     |                            |  | Art.-Nr. | €     |  |  |  |  |
| 0800457          | 1,50 | 0800458                      | 3,50  |                            |  | 0800460* | 2,80  |  |  |  |  |
| 1000457          | 1,60 | 1000458                      | 3,90  |                            |  | 1000460* | 3,10  |  |  |  |  |
| 1200457          | 1,80 | 1200458                      | 4,30  |                            |  | 1200460* | 3,40  |  |  |  |  |
| 1500457          | 2,10 | 1500458                      | 5,00  |                            |  | 1500460* | 3,90  |  |  |  |  |
| 1700457          | 2,30 | 1700458                      | 6,10  |                            |  | 1700460* | 4,30  |  |  |  |  |
| 2000457          | 2,50 | 2000458                      | 6,10  |                            |  | 2000460* | 4,50  |  |  |  |  |
| 2200457          | 2,60 | 2200458                      | 7,50  |                            |  | 2200460* | 5,10  |  |  |  |  |
| 2500457          | 2,60 | 2500458                      | 8,20  |                            |  | 2500460* | 5,60  |  |  |  |  |
| 3000457          | 3,00 | 3000458                      | 8,20  |                            |  | 3000460* | 6,50  |  |  |  |  |
| 3100457          | 3,10 | 3100458                      | 9,10  |                            |  | 3100460* | 6,70  |  |  |  |  |
| 3500457          | 3,40 | 3500458                      | 10,20 |                            |  | 3500460* | 7,40  |  |  |  |  |
| 4000457          | 3,70 | 4000458                      | 11,00 |                            |  | 4000460* | 8,20  |  |  |  |  |
| 4500457          | 4,40 | 4500458                      | 11,80 |                            |  | 4500460* | 8,90  |  |  |  |  |
| 5000457          | 4,70 | 5000458                      | 12,60 |                            |  | 5000460* | 10,10 |  |  |  |  |
| 5600457          | 5,00 | 5600458                      | 13,70 |                            |  | 5600460* | 11,10 |  |  |  |  |
| 6000457          | 6,00 | 6000458                      | 14,60 |                            |  | 6000460* | 11,70 |  |  |  |  |
| 6300457          | 6,50 | 6300458                      | 15,80 |                            |  | 6300460* | 13,10 |  |  |  |  |

-40°C / +120°C

-60°C / +200°C

-20°C / +100°C

\*kein Lagerbestand  
\*non stock

| Nennweite<br>Nominal diameter                                 |     |     |     |  |  |  |  |
|---------------------------------------------------------------|-----|-----|-----|--|--|--|--|
| Maße für 1 + 2 mm Rohrbau<br>Measurements for 1 + 2 mm piping |     |     |     |  |  |  |  |
| DN                                                            | a   | b   | c   |  |  |  |  |
| 100                                                           | 115 | 103 | 7,5 |  |  |  |  |
| 120                                                           | 135 | 123 | 7,5 |  |  |  |  |
| 150                                                           | 165 | 153 | 7,5 |  |  |  |  |
| 175                                                           | 190 | 178 | 7,5 |  |  |  |  |
| 200                                                           | 215 | 203 | 7,5 |  |  |  |  |
| 224                                                           | 240 | 225 | 7,5 |  |  |  |  |
| 250                                                           | 265 | 253 | 7,5 |  |  |  |  |
| 300                                                           | 315 | 303 | 7,5 |  |  |  |  |
| 315                                                           | 330 | 317 | 7,5 |  |  |  |  |
| 350                                                           | 365 | 353 | 7,5 |  |  |  |  |
| 400                                                           | 415 | 403 | 7,5 |  |  |  |  |
| 450                                                           | 465 | 453 | 7,5 |  |  |  |  |
| 500                                                           | 515 | 503 | 7,5 |  |  |  |  |
| 560                                                           | 575 | 563 | 7,5 |  |  |  |  |
| 600                                                           | 615 | 603 | 7,5 |  |  |  |  |
| 630                                                           | 645 | 633 | 7,5 |  |  |  |  |

Temperaturbeständig bis:  
Heat-resistant up to:

| EPDM - Keltan      |      | Si - Silikon                 |       | NBR - Perbunan             |  |          |       |  |  |  |  |
|--------------------|------|------------------------------|-------|----------------------------|--|----------|-------|--|--|--|--|
| schwarz<br>black w |      | schwarz/ blau<br>black/ blue |       | schwarz/ rot<br>black/ red |  |          |       |  |  |  |  |
| Art.-Nr.           | €    | Art.-Nr.                     | €     |                            |  | Art.-Nr. | €     |  |  |  |  |
| 1000557            | 1,60 | 1000558                      | 3,90  |                            |  | 1000560* | 3,10  |  |  |  |  |
| 1200557            | 1,80 | 1200558                      | 4,30  |                            |  | 1200560* | 3,40  |  |  |  |  |
| 1500557            | 2,10 | 1500558                      | 5,00  |                            |  | 1500560* | 3,90  |  |  |  |  |
| 1700557            | 2,30 | 1700558                      | 6,10  |                            |  | 1700560* | 4,30  |  |  |  |  |
| 2000557            | 2,50 | 2000558                      | 6,70  |                            |  | 2000560* | 4,50  |  |  |  |  |
| 2200557            | 2,60 | 2200558                      | 7,50  |                            |  | 2200560* | 5,10  |  |  |  |  |
| 2500557            | 2,60 | 2500558                      | 8,20  |                            |  | 2500560* | 5,60  |  |  |  |  |
| 3000557            | 3,00 | 3000558                      | 8,20  |                            |  | 3000560* | 6,50  |  |  |  |  |
| 3100557            | 3,10 | 3100558                      | 9,10  |                            |  | 3100560* | 6,70  |  |  |  |  |
| 3500557            | 3,40 | 3500558                      | 10,20 |                            |  | 3500560* | 7,40  |  |  |  |  |
| 4000557            | 3,70 | 4000558                      | 11,00 |                            |  | 4000560* | 8,20  |  |  |  |  |
| 4500557            | 4,40 | 4500558                      | 11,80 |                            |  | 4500560* | 8,90  |  |  |  |  |
| 5000557            | 4,70 | 5000558                      | 12,60 |                            |  | 5000560* | 10,10 |  |  |  |  |
| 5600557            | 5,00 | 5600558                      | 13,70 |                            |  | 5600560* | 11,10 |  |  |  |  |
| 6000557            | 6,00 | 6000558                      | 14,60 |                            |  | 6000560* | 11,70 |  |  |  |  |
| 6300557            | 6,50 | 6300558                      | 15,80 |                            |  | 6300560* | 13,10 |  |  |  |  |

-40°C / +120°C

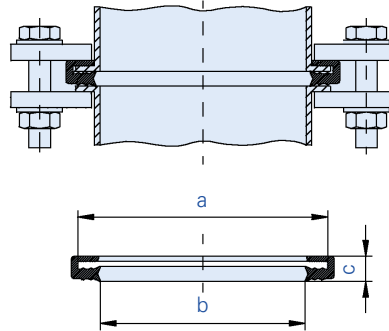
-60°C / +200°C

-20°C / +100°C

\*kein Lagerbestand  
\*non stock

Um einen sicheren Potenzialausgleich zu gewährleisten dürfen leitende Bördeldichtringe ausschließlich bei verzinkten oder aus Edelstahl gefertigten Rohrbauteilen verwendet werden.

To ensure equipotential bonding these conductive sealing-rings are to be used exclusively with piping materials made of galvanized or stainless steel.



**Vorteile:**

- keine sichtbaren Erdungslaschen und Kabel erforderlich
- schnelle Montage
- zertifiziert durch DMT

*Advantages*

- no visible grounding lug and cable required
- quick assembly
- certified by DMT

| Nennweite<br>Nominal diameter |     |     |     |  |  |  |  |
|-------------------------------|-----|-----|-----|--|--|--|--|
| DN                            | a   | b   | c   |  |  |  |  |
| 80                            | 93  | 81  | 7,5 |  |  |  |  |
| 100                           | 115 | 103 | 7,5 |  |  |  |  |
| 120                           | 135 | 123 | 7,5 |  |  |  |  |
| 150                           | 165 | 153 | 7,5 |  |  |  |  |
| 175                           | 190 | 178 | 7,5 |  |  |  |  |
| 200                           | 215 | 203 | 9   |  |  |  |  |
| 224                           | 240 | 225 | 9   |  |  |  |  |
| 250                           | 265 | 253 | 9   |  |  |  |  |
| 300                           | 315 | 303 | 9   |  |  |  |  |
| 315                           | 330 | 317 | 9   |  |  |  |  |
| 350                           | 365 | 353 | 9   |  |  |  |  |
| 400                           | 415 | 403 | 9   |  |  |  |  |
| 450                           | 465 | 453 | 9   |  |  |  |  |
| 500                           | 515 | 503 | 9   |  |  |  |  |
| 560                           | 575 | 563 | 9   |  |  |  |  |
| 600                           | 615 | 603 | 9   |  |  |  |  |
| 630                           | 645 | 633 | 9   |  |  |  |  |
| 710                           | 725 | 713 | 9   |  |  |  |  |

Temperaturbeständig bis:  
Heat-resistant up to:

| EPDM - Keltan    |       | Si - Silikon               |       | NBR - Perbunan           |  |          |       |
|------------------|-------|----------------------------|-------|--------------------------|--|----------|-------|
| schwarz<br>black |       | schwarz/blau<br>black/blue |       | schwarz/rot<br>black/red |  |          |       |
| Art.-Nr.         | €     | Art.-Nr.                   | €     |                          |  | Art.-Nr. | €     |
| 0800457          | 1,50  | 0800458                    | 3,50  |                          |  | 0800460* | 2,80  |
| 1000457          | 1,60  | 1000458                    | 3,90  |                          |  | 1000460* | 3,10  |
| 1200457          | 1,80  | 1200458                    | 4,30  |                          |  | 1200460* | 3,40  |
| 1500457          | 2,10  | 1500458                    | 5,00  |                          |  | 1500460* | 3,90  |
| 1700457          | 2,30  | 1700458                    | 6,10  |                          |  | 1700460* | 4,30  |
| 2000757          | 5,20  | 2000758                    | 8,60  |                          |  | 2000760* | 5,60  |
| 2200757          | 5,60  | 2200758                    | 10,20 |                          |  | 2200760* | 6,40  |
| 2500757          | 6,40  | 2500758                    | 10,50 |                          |  | 2500760* | 6,70  |
| 3000757          | 7,80  | 3000758                    | 11,70 |                          |  | 3000760* | 7,40  |
| 3100757          | 8,20  | 3100758                    | 12,60 |                          |  | 3100760* | 8,00  |
| 3500757          | 8,40  | 3500758                    | 13,10 |                          |  | 3500760* | 8,60  |
| 4000757          | 8,80  | 4000758                    | 14,40 |                          |  | 4000760* | 9,30  |
| 4500757          | 9,20  | 4500758                    | 15,70 |                          |  | 4500760* | 10,60 |
| 5000757          | 10,10 | 5000758                    | 16,90 |                          |  | 5000760* | 11,40 |
| 5600757          | 10,30 | 5600758                    | 19,30 |                          |  | 5600760* | 12,80 |
| 6000757          | 10,80 | 6000758                    | 20,30 |                          |  | 6000760* | 13,80 |
| 6300757          | 11,50 | 6300758                    | 22,40 |                          |  | 6300760* | 14,90 |
| 7100757          | 12,90 | 7100758                    | 23,50 |                          |  | 7100760* | 15,40 |

-40°C / +120°C

-60°C / +200°C

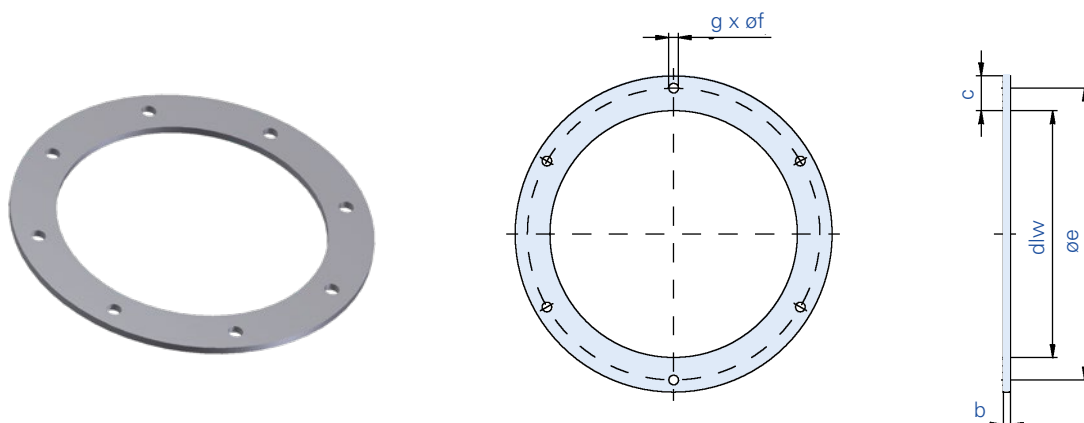
-20°C / +100°C

\*kein Lagerbestand  
\*non stock

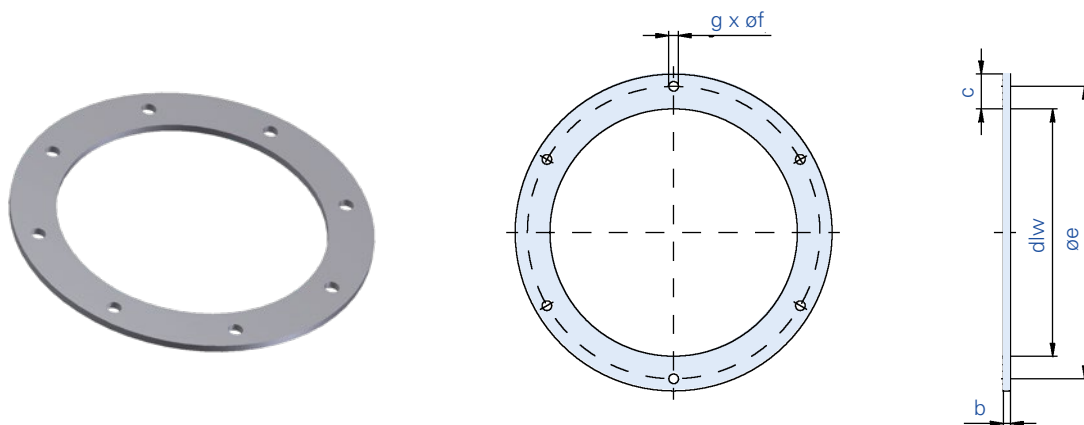
Um einen sicheren Potenzialausgleich zu gewährleisten dürfen leitende Bördeldichtringe ausschließlich bei verzinkten oder aus Edelstahl gefertigten Rohrbauteilen verwendet werden.

To ensure equipotential bonding these conductive sealing-rings are to be used exclusively with piping materials made of galvanized or stainless steel.

Flansche ähnlich DIN 24154 T2 / Flanges similar DIN 24154 T2

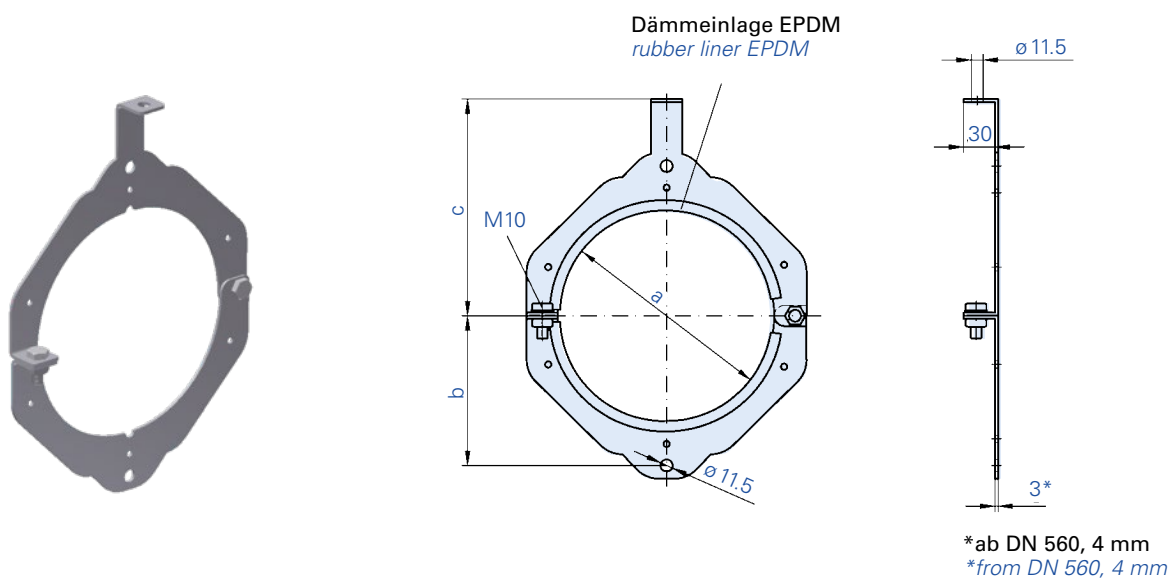
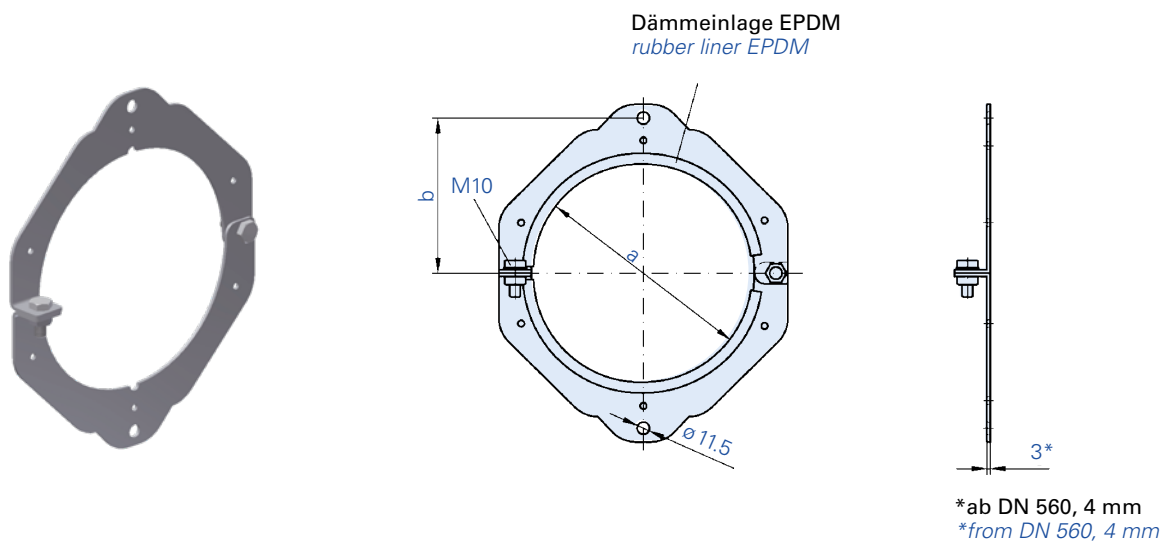


Flansche ähnlich DIN 24154 R1-K / Flanges similar DIN 24154 R1-K



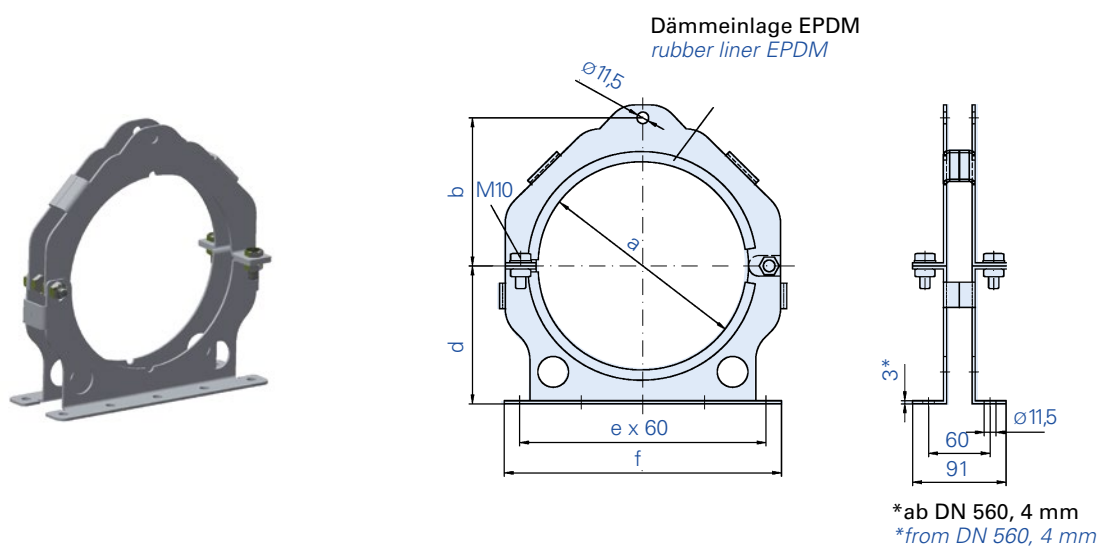
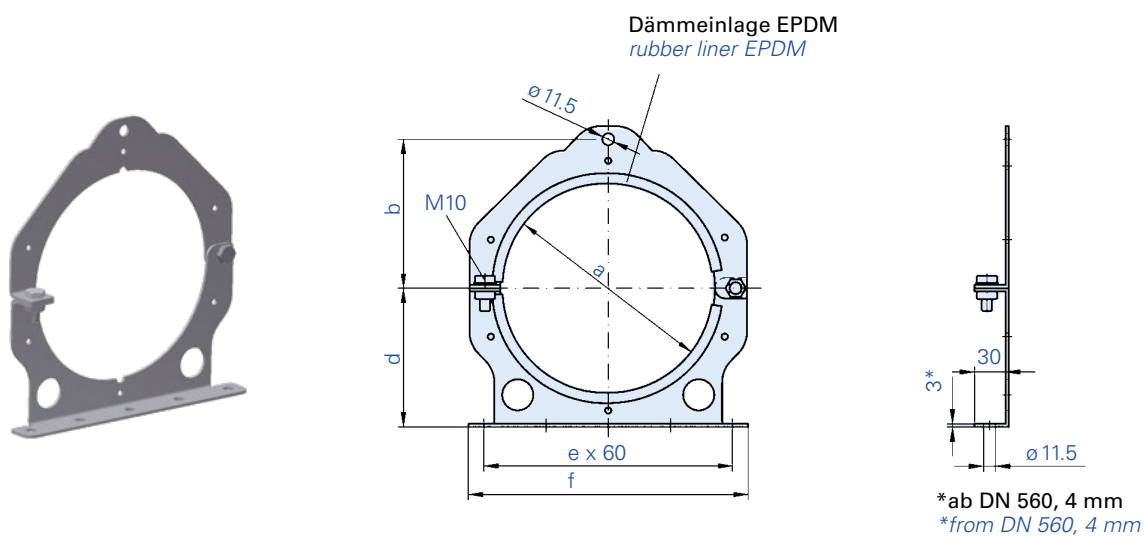
| Nennweite<br>Nominal diameter |     |   |   |    |     |      |    |      |
|-------------------------------|-----|---|---|----|-----|------|----|------|
| DN                            | d/w | a | b | c  | e   | f    | g  | kg   |
| 80                            | 82  |   | 6 | 30 | 118 | 9,5  | 4  | 0,50 |
| 100                           | 106 |   | 6 | 30 | 139 | 9,5  | 4  | 0,60 |
| 120                           | 125 |   | 6 | 30 | 165 | 9,5  | 4  | 0,69 |
| 150                           | 155 |   | 6 | 35 | 191 | 11,5 | 8  | 0,99 |
| 175                           | 182 |   | 6 | 35 | 219 | 11,5 | 8  | 1,12 |
| 200                           | 205 |   | 6 | 35 | 241 | 11,5 | 8  | 1,25 |
| 224                           | 225 |   | 6 | 35 | 265 | 11,5 | 8  | 1,35 |
| 250                           | 254 |   | 6 | 35 | 292 | 11,5 | 8  | 1,51 |
| 300                           | 305 |   | 8 | 40 | 349 | 11,5 | 8  | 2,73 |
| 315                           | 318 |   | 8 | 40 | 366 | 11,5 | 8  | 2,83 |
| 350                           | 355 |   | 8 | 40 | 405 | 11,5 | 8  | 3,13 |
| 400                           | 404 |   | 8 | 40 | 448 | 11,5 | 12 | 3,52 |
| 450                           | 454 |   | 8 | 40 | 497 | 11,5 | 12 | 3,91 |
| 500                           | 504 |   | 8 | 40 | 551 | 11,5 | 12 | 4,31 |
| 560                           | 564 |   | 8 | 50 | 629 | 14   | 16 | 6,08 |
| 600                           | 605 |   | 8 | 50 | 665 | 14   | 16 | 6,47 |
| 630                           | 634 |   | 8 | 50 | 698 | 14   | 16 | 6,77 |
| 710                           | 714 |   | 8 | 50 | 775 | 14   | 16 | 7,56 |
|                               |     |   |   |    |     |      |    |      |
| 80                            | 83  |   | 5 | 25 | 112 | 9,5  | 4  | 0,18 |
| 100                           | 105 |   | 5 | 25 | 132 | 9,5  | 4  | 0,21 |
| 120                           | 125 |   | 5 | 25 | 157 | 9,5  | 4  | 0,26 |
| 150                           | 155 |   | 5 | 25 | 185 | 9,5  | 6  | 0,43 |
| 175                           | 180 |   | 5 | 25 | 212 | 9,5  | 6  | 0,51 |
| 200                           | 205 |   | 5 | 25 | 233 | 9,5  | 6  | 0,56 |
| 224                           | 225 |   | 5 | 25 | 257 | 9,5  | 6  | 0,62 |
| 250                           | 255 |   | 5 | 25 | 283 | 9,5  | 6  | 0,69 |
| 300                           | 305 |   | 5 | 30 | 339 | 9,5  | 8  | 0,98 |
| 315                           | 318 |   | 5 | 30 | 352 | 9,5  | 8  | 1,03 |
| 350                           | 355 |   | 5 | 30 | 392 | 9,5  | 8  | 1,15 |
| 400                           | 406 |   | 5 | 30 | 438 | 9,5  | 8  | 1,28 |
| 450                           | 456 |   | 5 | 30 | 488 | 9,5  | 8  | 1,43 |
| 500                           | 506 |   | 5 | 30 | 538 | 9,5  | 8  | 1,58 |
| 560                           | 564 |   | 5 | 35 | 600 | 9,5  | 12 | 2,07 |
| 600                           | 606 |   | 5 | 35 | 641 | 9,5  | 12 | 2,21 |
| 630                           | 634 |   | 5 | 35 | 670 | 9,5  | 12 | 2,31 |
| 710                           | 714 |   | 5 | 35 | 750 | 9,5  | 12 | 2,58 |

| ST 37 - 2                          |       |  |  | ST 37 - 2              |       |  |  | VA 1.4301                    |        |  |  |
|------------------------------------|-------|--|--|------------------------|-------|--|--|------------------------------|--------|--|--|
| pulverbeschichtet<br>powder coated |       |  |  | verzinkt<br>galvanized |       |  |  | Edelstahl<br>stainless steel |        |  |  |
| Art.-Nr.                           | €     |  |  | Art.-Nr.               | €     |  |  | Art.-Nr.                     | €      |  |  |
| 00861301                           | 4,80  |  |  | 00862301               | 5,60  |  |  | 00863301                     | 19,70  |  |  |
| 01061301                           | 5,20  |  |  | 01062301               | 6,40  |  |  | 01063301                     | 20,60  |  |  |
| 01261301                           | 6,10  |  |  | 01262301               | 6,90  |  |  | 01263301                     | 21,90  |  |  |
| 01561301                           | 6,30  |  |  | 01562301               | 7,40  |  |  | 01563301                     | 24,30  |  |  |
| 01761301                           | 6,80  |  |  | 01762301               | 8,20  |  |  | 01763301                     | 27,50  |  |  |
| 02061301                           | 7,00  |  |  | 02062301               | 8,50  |  |  | 02063301                     | 31,60  |  |  |
| 02261301                           | 7,60  |  |  | 02262301               | 9,30  |  |  | 02263301                     | 37,20  |  |  |
| 02561301                           | 7,90  |  |  | 02562301               | 10,10 |  |  | 02563301                     | 37,40  |  |  |
| 03081301                           | 10,30 |  |  | 03082301               | 14,30 |  |  | 03083301                     | 50,20  |  |  |
| 03181301                           | 10,60 |  |  | 03182301               | 14,90 |  |  | 03183301                     | 54,20  |  |  |
| 03581301                           | 11,10 |  |  | 03582301               | 15,20 |  |  | 03583301                     | 56,50  |  |  |
| 04081301                           | 12,50 |  |  | 04082301               | 17,40 |  |  | 04083301                     | 61,80  |  |  |
| 04581301                           | 13,70 |  |  | 04582301               | 18,80 |  |  | 04583301                     | 67,00  |  |  |
| 05081301                           | 14,80 |  |  | 05082301               | 20,30 |  |  | 05083301                     | 69,20  |  |  |
| 05681301                           | 17,90 |  |  | 05682301               | 26,10 |  |  | 05683301                     | 106,50 |  |  |
| 06081301                           | 18,30 |  |  | 06082301               | 28,10 |  |  | 06083301                     | 109,90 |  |  |
| 06381301                           | 19,20 |  |  | 06382301               | 28,90 |  |  | 06383301                     | 113,20 |  |  |
| 07181301                           | 25,50 |  |  | 07182301               | 35,40 |  |  | 07183301                     | 128,50 |  |  |
|                                    |       |  |  |                        |       |  |  |                              |        |  |  |
| 00811201                           | 4,60  |  |  | 00812201               | 5,20  |  |  | 00813201                     | 15,00  |  |  |
| 01011201                           | 4,80  |  |  | 01012201               | 6,00  |  |  | 01013201                     | 16,00  |  |  |
| 01211201                           | 5,00  |  |  | 01212201               | 6,30  |  |  | 01213201                     | 18,80  |  |  |
| 01511201                           | 5,50  |  |  | 01512201               | 6,90  |  |  | 01513201                     | 19,90  |  |  |
| 01711201                           | 6,50  |  |  | 01712201               | 7,70  |  |  | 01713201                     | 20,40  |  |  |
| 02011201                           | 6,70  |  |  | 02012201               | 8,10  |  |  | 02013201                     | 23,60  |  |  |
| 02211201                           | 6,80  |  |  | 02212201               | 8,50  |  |  | 02213201                     | 26,10  |  |  |
| 02511201                           | 7,10  |  |  | 02512201               | 8,70  |  |  | 02513201                     | 27,90  |  |  |
| 03011201                           | 9,30  |  |  | 03012201               | 12,80 |  |  | 03013201                     | 37,30  |  |  |
| 03111201                           | 10,30 |  |  | 03112201               | 14,00 |  |  | 03113201                     | 38,90  |  |  |
| 03511201                           | 10,80 |  |  | 03512201               | 14,90 |  |  | 03513201                     | 40,10  |  |  |
| 04011201                           | 11,90 |  |  | 04012201               | 16,20 |  |  | 04013201                     | 46,00  |  |  |
| 04511201                           | 12,90 |  |  | 04512201               | 18,10 |  |  | 04513201                     | 49,90  |  |  |
| 05011201                           | 14,40 |  |  | 05012201               | 19,60 |  |  | 05013201                     | 54,80  |  |  |
| 05611201                           | 16,00 |  |  | 05612201               | 23,50 |  |  | 05613201                     | 60,90  |  |  |
| 06011201                           | 16,80 |  |  | 06012201               | 25,90 |  |  | 06013201                     | 62,60  |  |  |
| 06311201                           | 17,80 |  |  | 06312201               | 26,40 |  |  | 06313201                     | 63,70  |  |  |
| 07111201                           | 19,70 |  |  | 07112201               | 27,80 |  |  | 07113201                     | 75,60  |  |  |



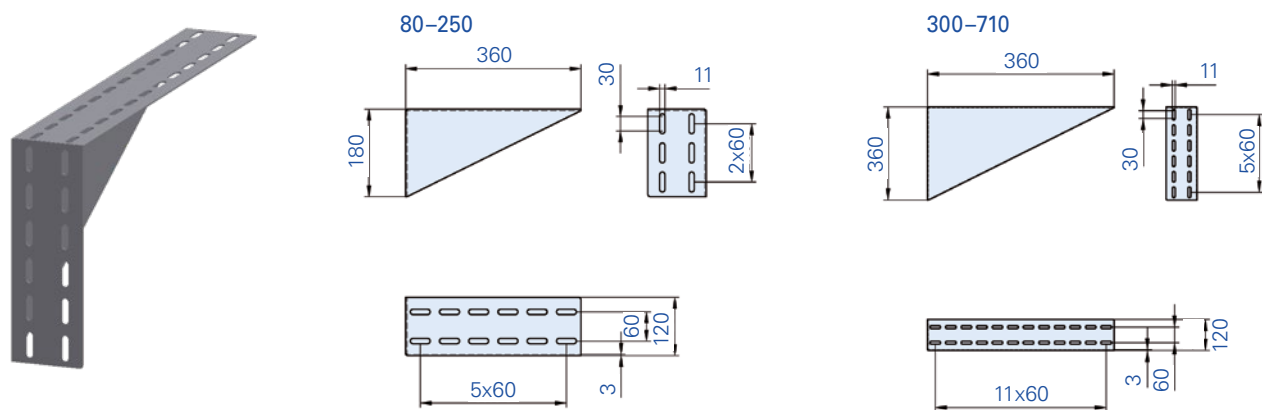
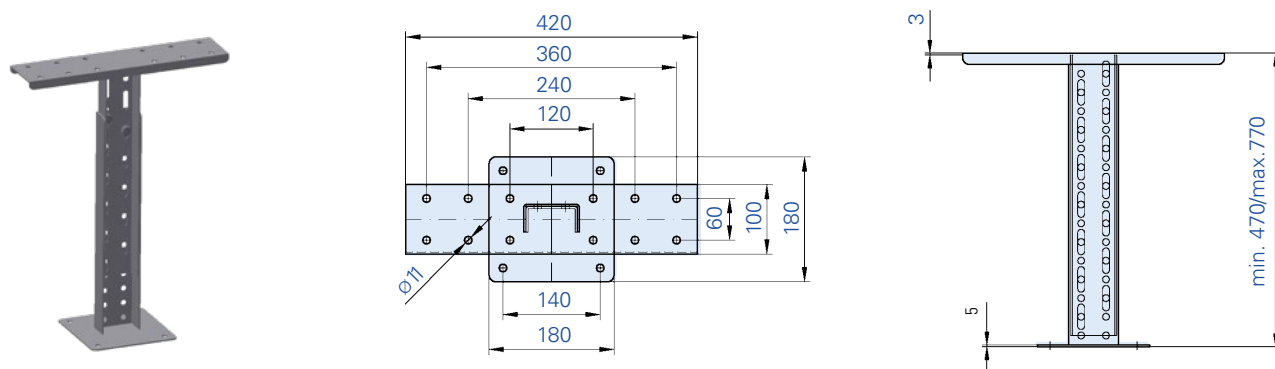
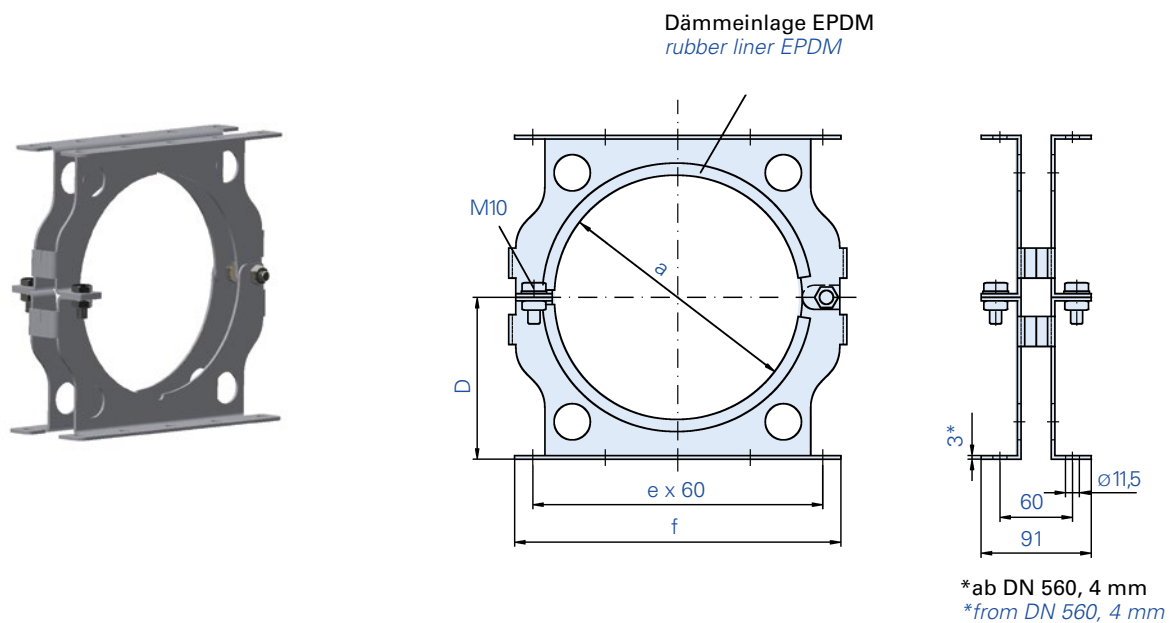
| Nennweite<br>Nominal diameter |     |     |     |     |   |   |   |    |
|-------------------------------|-----|-----|-----|-----|---|---|---|----|
| DN                            | d/w | a   | b   | c   | d | e | f | kg |
| 80                            |     | 80  | 75  |     |   |   |   |    |
| 100                           |     | 103 | 88  |     |   |   |   |    |
| 120                           |     | 123 | 102 |     |   |   |   |    |
| 150                           |     | 153 | 114 |     |   |   |   |    |
| 175                           |     | 179 | 134 |     |   |   |   |    |
| 200                           |     | 203 | 144 |     |   |   |   |    |
| 224                           |     | 223 | 156 |     |   |   |   |    |
| 250                           |     | 253 | 170 |     |   |   |   |    |
| 300                           |     | 303 | 203 |     |   |   |   |    |
| 315                           |     | 316 | 209 |     |   |   |   |    |
| 350                           |     | 353 | 228 |     |   |   |   |    |
| 400                           |     | 402 | 251 |     |   |   |   |    |
| 450                           |     | 452 | 281 |     |   |   |   |    |
| 500                           |     | 502 | 306 |     |   |   |   |    |
| 560                           |     | 562 | 340 |     |   |   |   |    |
| 600                           |     | 602 | 356 |     |   |   |   |    |
| 630                           |     | 632 | 372 |     |   |   |   |    |
| 710                           |     | 712 | 399 |     |   |   |   |    |
|                               |     |     |     |     |   |   |   |    |
| 80                            |     | 80  | 75  | 136 |   |   |   |    |
| 100                           |     | 103 | 88  | 149 |   |   |   |    |
| 120                           |     | 123 | 102 | 164 |   |   |   |    |
| 150                           |     | 153 | 114 | 176 |   |   |   |    |
| 175                           |     | 179 | 134 | 197 |   |   |   |    |
| 200                           |     | 203 | 144 | 208 |   |   |   |    |
| 224                           |     | 223 | 156 | 221 |   |   |   |    |
| 250                           |     | 253 | 170 | 233 |   |   |   |    |
| 300                           |     | 303 | 203 | 264 |   |   |   |    |
| 315                           |     | 316 | 209 | 273 |   |   |   |    |
| 350                           |     | 353 | 228 | 292 |   |   |   |    |
| 400                           |     | 402 | 251 | 315 |   |   |   |    |
| 450                           |     | 452 | 281 | 345 |   |   |   |    |
| 500                           |     | 502 | 306 | 376 |   |   |   |    |
| 560                           |     | 562 | 340 | 402 |   |   |   |    |
| 600                           |     | 602 | 356 | 419 |   |   |   |    |
| 630                           |     | 632 | 372 | 437 |   |   |   |    |
| 710                           |     | 712 | 399 | 470 |   |   |   |    |

| ST                                 |       |  |  | ST                     |       |  |  | VA 1.4301                    |        |  |  |
|------------------------------------|-------|--|--|------------------------|-------|--|--|------------------------------|--------|--|--|
| pulverbeschichtet<br>powder coated |       |  |  | verzinkt<br>galvanized |       |  |  | Edelstahl<br>stainless steel |        |  |  |
| Art.-Nr.                           | €     |  |  | Art.-Nr.               | €     |  |  | Art.-Nr.                     | €      |  |  |
| 0831161                            | 6,10  |  |  | 0832161                | 7,10  |  |  | 0833161                      | 13,00  |  |  |
| 1031161                            | 6,40  |  |  | 1032161                | 7,90  |  |  | 1033161                      | 14,10  |  |  |
| 1231161                            | 7,10  |  |  | 1232161                | 8,50  |  |  | 1233161                      | 17,80  |  |  |
| 1531161                            | 7,90  |  |  | 1532161                | 10,00 |  |  | 1533161                      | 24,80  |  |  |
| 1731161                            | 8,80  |  |  | 1732161                | 11,20 |  |  | 1733161                      | 26,40  |  |  |
| 2031161                            | 9,60  |  |  | 2032161                | 12,20 |  |  | 2033161                      | 27,60  |  |  |
| 2231161                            | 10,30 |  |  | 2232161                | 12,80 |  |  | 2233161                      | 28,80  |  |  |
| 2531161                            | 10,80 |  |  | 2532161                | 13,90 |  |  | 2533161                      | 29,90  |  |  |
| 3031161                            | 11,80 |  |  | 3032161                | 15,70 |  |  | 3033161                      | 33,20  |  |  |
| 3131161                            | 15,80 |  |  | 3132161                | 19,70 |  |  | 3133161                      | 43,60  |  |  |
| 3531161                            | 18,80 |  |  | 3532161                | 23,40 |  |  | 3533161                      | 59,20  |  |  |
| 4031161                            | 21,80 |  |  | 4032161                | 26,60 |  |  | 4033161                      | 63,80  |  |  |
| 4531161                            | 24,50 |  |  | 4532161                | 30,30 |  |  | 4533161                      | 73,10  |  |  |
| 5031161                            | 27,00 |  |  | 5032161                | 33,30 |  |  | 5033161                      | 81,60  |  |  |
| 5631161                            | 29,70 |  |  | 5632161                | 36,60 |  |  | 5633161                      | 91,70  |  |  |
| 6031161                            | 31,30 |  |  | 6032161                | 39,10 |  |  | 6033161                      | 95,30  |  |  |
| 6331161                            | 33,20 |  |  | 6332161                | 40,90 |  |  | 6333161                      | 98,60  |  |  |
| 7131161                            | 36,60 |  |  | 7132161                | 45,30 |  |  | 7133161                      | 106,30 |  |  |
|                                    |       |  |  |                        |       |  |  |                              |        |  |  |
| 0831162                            | 6,60  |  |  | 0832162                | 8,00  |  |  | 0833162                      | 14,80  |  |  |
| 1031162                            | 7,00  |  |  | 1032162                | 8,50  |  |  | 1033162                      | 16,10  |  |  |
| 1231162                            | 7,50  |  |  | 1232162                | 9,40  |  |  | 1233162                      | 20,10  |  |  |
| 1531162                            | 8,50  |  |  | 1532162                | 10,90 |  |  | 1533162                      | 25,80  |  |  |
| 1731162                            | 9,70  |  |  | 1732162                | 11,80 |  |  | 1733162                      | 28,20  |  |  |
| 2031162                            | 10,20 |  |  | 2032162                | 12,80 |  |  | 2033162                      | 29,00  |  |  |
| 2231162                            | 10,90 |  |  | 2232162                | 14,00 |  |  | 2233162                      | 30,60  |  |  |
| 2531162                            | 11,50 |  |  | 2532162                | 15,00 |  |  | 2533162                      | 31,90  |  |  |
| 3031162                            | 12,80 |  |  | 3032162                | 17,20 |  |  | 3033162                      | 35,20  |  |  |
| 3131162                            | 16,50 |  |  | 3132162                | 21,00 |  |  | 3133162                      | 46,20  |  |  |
| 3531162                            | 19,80 |  |  | 3532162                | 24,40 |  |  | 3533162                      | 61,30  |  |  |
| 4031162                            | 22,70 |  |  | 4032162                | 28,10 |  |  | 4033162                      | 66,80  |  |  |
| 4531162                            | 25,40 |  |  | 4532162                | 30,90 |  |  | 4533162                      | 75,30  |  |  |
| 5031162                            | 27,80 |  |  | 5032162                | 34,40 |  |  | 5033162                      | 83,80  |  |  |
| 5631162                            | 30,40 |  |  | 5632162                | 37,70 |  |  | 5633162                      | 92,60  |  |  |
| 6031162                            | 31,30 |  |  | 6032162                | 39,10 |  |  | 6033162                      | 96,00  |  |  |
| 6331162                            | 33,90 |  |  | 6332162                | 41,90 |  |  | 6333162                      | 100,50 |  |  |
| 7131162                            | 36,60 |  |  | 7132162                | 45,80 |  |  | 7133162                      | 106,30 |  |  |



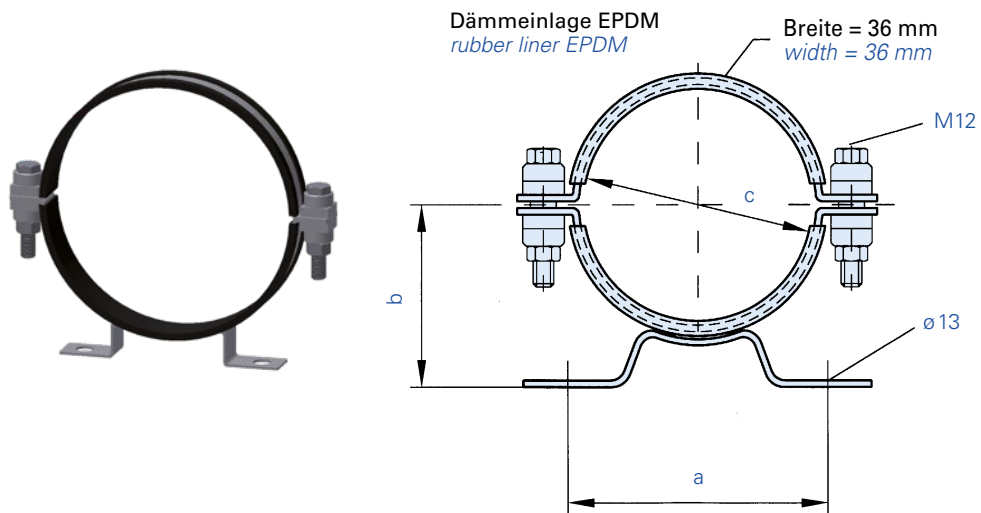
| Nennweite<br>Nominal diameter |                 |     |     |   |       |   |     |    |
|-------------------------------|-----------------|-----|-----|---|-------|---|-----|----|
| DN                            | d <sub>lw</sub> | a   | b   | c | d     | e | f   | kg |
| 80                            |                 | 80  | 75  |   | 68    | 2 | 150 |    |
| 100                           |                 | 103 | 88  |   | 79,5  | 2 | 150 |    |
| 120                           |                 | 123 | 102 |   | 93    | 2 | 150 |    |
| 150                           |                 | 153 | 114 |   | 104,5 | 4 | 270 |    |
| 175                           |                 | 179 | 134 |   | 124   | 4 | 270 |    |
| 200                           |                 | 203 | 144 |   | 134   | 4 | 270 |    |
| 224                           |                 | 223 | 156 |   | 147   | 4 | 270 |    |
| 250                           |                 | 253 | 170 |   | 159,5 | 4 | 270 |    |
| 300                           |                 | 303 | 203 |   | 189,5 | 6 | 390 |    |
| 315                           |                 | 316 | 209 |   | 198,5 | 6 | 390 |    |
| 350                           |                 | 353 | 228 |   | 217,5 | 6 | 390 |    |
| 400                           |                 | 402 | 251 |   | 239,5 | 6 | 390 |    |
| 450                           |                 | 452 | 281 |   | 269,5 | 8 | 510 |    |
| 500                           |                 | 502 | 306 |   | 294,5 | 8 | 510 |    |
| 560                           |                 | 562 | 340 |   | 326,5 | 8 | 510 |    |
| 600                           |                 | 602 | 356 |   | 342   | 8 | 510 |    |
| 630                           |                 | 632 | 372 |   | 361   | 8 | 510 |    |
| 710                           |                 | 712 | 399 |   | 399   | 8 | 510 |    |
|                               |                 |     |     |   |       |   |     |    |
| 80                            |                 | 80  | 75  |   | 68    | 2 | 150 |    |
| 100                           |                 | 103 | 88  |   | 79,5  | 2 | 150 |    |
| 120                           |                 | 123 | 102 |   | 93    | 2 | 150 |    |
| 150                           |                 | 153 | 114 |   | 104,5 | 4 | 270 |    |
| 175                           |                 | 179 | 134 |   | 124   | 4 | 270 |    |
| 200                           |                 | 203 | 144 |   | 134   | 4 | 270 |    |
| 224                           |                 | 223 | 156 |   | 147   | 4 | 270 |    |
| 250                           |                 | 253 | 170 |   | 159,5 | 4 | 270 |    |
| 300                           |                 | 303 | 203 |   | 189,5 | 6 | 390 |    |
| 315                           |                 | 316 | 209 |   | 198,5 | 6 | 390 |    |
| 350                           |                 | 353 | 228 |   | 217,5 | 6 | 390 |    |
| 400                           |                 | 402 | 251 |   | 239,5 | 6 | 390 |    |
| 450                           |                 | 452 | 281 |   | 269,5 | 8 | 510 |    |
| 500                           |                 | 502 | 306 |   | 294,5 | 8 | 510 |    |
| 560                           |                 | 562 | 340 |   | 326,5 | 8 | 510 |    |
| 600                           |                 | 602 | 356 |   | 342   | 8 | 510 |    |
| 630                           |                 | 632 | 372 |   | 361   | 8 | 510 |    |
| 710                           |                 | 712 | 399 |   | 399   | 8 | 510 |    |

| ST                         |       |  |  | ST                     |        |  |  | VA 1.4301                    |        |  |  |
|----------------------------|-------|--|--|------------------------|--------|--|--|------------------------------|--------|--|--|
| grundiert<br>powder coated |       |  |  | verzinkt<br>galvanized |        |  |  | Edelstahl<br>stainless steel |        |  |  |
| Art.-Nr.                   | €     |  |  | Art.-Nr.               | €      |  |  | Art.-Nr.                     | €      |  |  |
| 0831361                    | 10,90 |  |  | 0832361                | 13,10  |  |  | 0833361                      | 21,90  |  |  |
| 1031361                    | 11,40 |  |  | 1032361                | 14,30  |  |  | 1033361                      | 23,50  |  |  |
| 1231361                    | 11,80 |  |  | 1232361                | 15,00  |  |  | 1233361                      | 25,50  |  |  |
| 1531361                    | 13,20 |  |  | 1532361                | 17,20  |  |  | 1533361                      | 27,10  |  |  |
| 1731361                    | 14,50 |  |  | 1732361                | 18,60  |  |  | 1733361                      | 30,30  |  |  |
| 2031361                    | 15,50 |  |  | 2032361                | 20,50  |  |  | 2033361                      | 31,60  |  |  |
| 2231361                    | 15,90 |  |  | 2232361                | 21,80  |  |  | 2233361                      | 34,20  |  |  |
| 2531361                    | 16,60 |  |  | 2532361                | 22,70  |  |  | 2533361                      | 35,80  |  |  |
| 3031361                    | 17,80 |  |  | 3032361                | 25,50  |  |  | 3033361                      | 38,30  |  |  |
| 3131361                    | 20,20 |  |  | 3132361                | 27,90  |  |  | 3133361                      | 43,60  |  |  |
| 3531361                    | 22,40 |  |  | 3532361                | 31,20  |  |  | 3533361                      | 48,50  |  |  |
| 4031361                    | 24,50 |  |  | 4032361                | 34,50  |  |  | 4033361                      | 52,90  |  |  |
| 4531361                    | 28,10 |  |  | 4532361                | 39,30  |  |  | 4533361                      | 61,90  |  |  |
| 5031361                    | 31,10 |  |  | 5032361                | 43,30  |  |  | 5033361                      | 68,40  |  |  |
| 5631361                    | 38,20 |  |  | 5632361                | 52,20  |  |  | 5633361                      | 83,20  |  |  |
| 6031361                    | 39,10 |  |  | 6032361                | 54,10  |  |  | 6033361                      | 87,20  |  |  |
| 6331361                    | 41,80 |  |  | 6332361                | 57,60  |  |  | 6333361                      | 92,20  |  |  |
| 7131361                    | 45,90 |  |  | 7132361                | 63,60  |  |  | 7133361                      | 99,80  |  |  |
|                            |       |  |  |                        |        |  |  |                              |        |  |  |
| 0831362                    | 24,20 |  |  | 0832362                | 26,80  |  |  | 0833362                      | 48,00  |  |  |
| 1031362                    | 25,00 |  |  | 1032362                | 28,00  |  |  | 1033362                      | 54,80  |  |  |
| 1231362                    | 26,10 |  |  | 1232362                | 29,90  |  |  | 1233362                      | 56,30  |  |  |
| 1531362                    | 29,00 |  |  | 1532362                | 33,50  |  |  | 1533362                      | 59,20  |  |  |
| 1731362                    | 30,50 |  |  | 1732362                | 35,80  |  |  | 1733362                      | 67,30  |  |  |
| 2031362                    | 31,40 |  |  | 2032362                | 37,60  |  |  | 2033362                      | 70,80  |  |  |
| 2231362                    | 33,20 |  |  | 2232362                | 40,00  |  |  | 2233362                      | 76,00  |  |  |
| 2531362                    | 34,60 |  |  | 2532362                | 42,30  |  |  | 2533362                      | 79,50  |  |  |
| 3031362                    | 37,60 |  |  | 3032362                | 46,70  |  |  | 3033362                      | 83,20  |  |  |
| 3131362                    | 39,70 |  |  | 3132362                | 49,30  |  |  | 3133362                      | 94,00  |  |  |
| 3531362                    | 46,50 |  |  | 3532362                | 57,30  |  |  | 3533362                      | 103,90 |  |  |
| 4031362                    | 52,40 |  |  | 4032362                | 64,70  |  |  | 4033362                      | 115,60 |  |  |
| 4531362                    | 58,50 |  |  | 4532362                | 72,30  |  |  | 4533362                      | 134,30 |  |  |
| 5031362                    | 65,10 |  |  | 5032362                | 80,40  |  |  | 5033362                      | 148,90 |  |  |
| 5631362                    | 78,90 |  |  | 5632362                | 96,00  |  |  | 5633362                      | 179,10 |  |  |
| 6031362                    | 81,20 |  |  | 6032362                | 99,60  |  |  | 6033362                      | 189,60 |  |  |
| 6331362                    | 85,10 |  |  | 6332362                | 104,90 |  |  | 6333362                      | 196,30 |  |  |
| 7131362                    | 90,90 |  |  | 7132362                | 112,80 |  |  | 7133362                      | 203,50 |  |  |

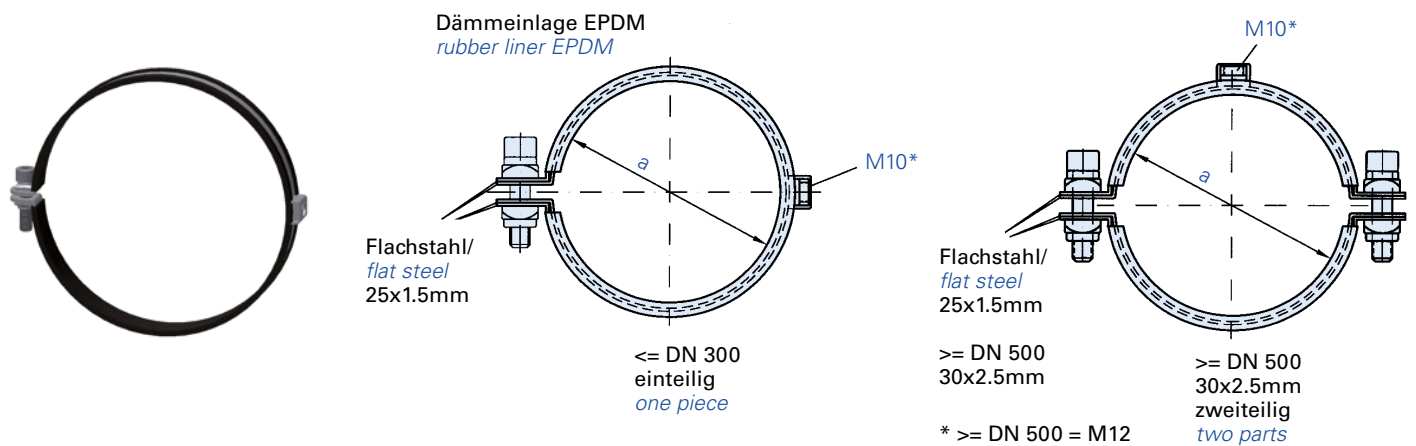




**Rohrschellen mit Dämmeinlage für Wandbefestigung** / Pipe clamps with rubber liner for wall fixture



**Rohrschellen mit Dämmeinlage für Deckenbefestigung** / Pipe clamps with rubber liner for ceiling fixture



| Nennweite<br>Nominal diameter |     |     |     |     |   |   |   |      |
|-------------------------------|-----|-----|-----|-----|---|---|---|------|
| DN                            | d/w | a   | b   | c   | d | e | f | kg   |
| 80                            |     | 138 | 64  | 80  |   |   |   | 0,70 |
| 100                           |     | 138 | 75  | 102 |   |   |   | 0,75 |
| 120                           |     | 138 | 86  | 122 |   |   |   | 0,80 |
| 150                           |     | 148 | 101 | 152 |   |   |   | 0,90 |
| 175                           |     | 148 | 113 | 177 |   |   |   | 0,95 |
| 200                           |     | 148 | 126 | 203 |   |   |   | 1,00 |
| 224                           |     | 148 | 138 | 224 |   |   |   | 1,10 |
| 250                           |     | 230 | 151 | 253 |   |   |   | 1,10 |
| 300                           |     | 230 | 176 | 303 |   |   |   | 1,25 |
| 315                           |     | 230 | 184 | 315 |   |   |   | 1,30 |
| 350                           |     | 260 | 204 | 353 |   |   |   | 1,35 |
| 400                           |     | 260 | 225 | 403 |   |   |   | 1,50 |
| 450                           |     | 300 | 250 | 453 |   |   |   | 1,65 |
| 500                           |     | 300 | 275 | 503 |   |   |   | 1,70 |
| 560                           |     | 350 | 300 | 563 |   |   |   | 1,90 |
| 600                           |     | 350 | 319 | 603 |   |   |   | 2,00 |
| 630                           |     | 350 | 335 | 633 |   |   |   | 2,30 |

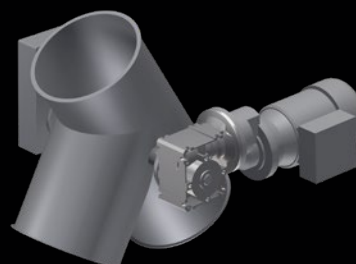
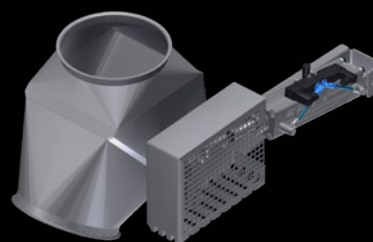
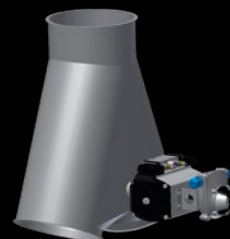
|     |        |     |  |  |  |  |  |      |
|-----|--------|-----|--|--|--|--|--|------|
| 80  | 1 tlg. | 80  |  |  |  |  |  | 0,20 |
| 100 | 1 tlg. | 102 |  |  |  |  |  | 0,25 |
| 120 | 1 tlg. | 122 |  |  |  |  |  | 0,25 |
| 150 | 1 tlg. | 152 |  |  |  |  |  | 0,30 |
| 175 | 1 tlg. | 177 |  |  |  |  |  | 0,35 |
| 200 | 1 tlg. | 202 |  |  |  |  |  | 0,40 |
| 224 | 1 tlg. | 224 |  |  |  |  |  | 0,42 |
| 250 | 1 tlg. | 252 |  |  |  |  |  | 0,45 |
| 300 | 1 tlg. | 302 |  |  |  |  |  | 0,50 |
| 315 | 2 tlg. | 315 |  |  |  |  |  | 0,55 |
| 350 | 2 tlg. | 352 |  |  |  |  |  | 0,60 |
| 400 | 2 tlg. | 402 |  |  |  |  |  | 0,85 |
| 450 | 2 tlg. | 452 |  |  |  |  |  | 0,90 |
| 500 | 2 tlg. | 502 |  |  |  |  |  | 0,95 |
| 560 | 2 tlg. | 562 |  |  |  |  |  | 1,05 |
| 600 | 2 tlg. | 602 |  |  |  |  |  | 1,15 |
| 630 | 2 tlg. | 632 |  |  |  |  |  | 1,30 |

| ST 37 - 2              |        | VA 1.4301                    |  |          |        |  |  |  |  |  |  |
|------------------------|--------|------------------------------|--|----------|--------|--|--|--|--|--|--|
| verzinkt<br>galvanized |        | Edelstahl<br>stainless steel |  |          |        |  |  |  |  |  |  |
| Art.-Nr.               | €      |                              |  | Art.-Nr. | €      |  |  |  |  |  |  |
| 0832061                | 19,10  |                              |  | 0833061  | 47,70  |  |  |  |  |  |  |
| 1032061                | 19,80  |                              |  | 1033061  | 48,50  |  |  |  |  |  |  |
| 1232061                | 21,30  |                              |  | 1233061  | 52,00  |  |  |  |  |  |  |
| 1532061                | 22,10  |                              |  | 1533061  | 58,70  |  |  |  |  |  |  |
| 1732061                | 23,90  |                              |  | 1733061  | 62,50  |  |  |  |  |  |  |
| 2032061                | 24,60  |                              |  | 2033061  | 66,20  |  |  |  |  |  |  |
| 2232061                | 26,30  |                              |  | 2233061  | 70,90  |  |  |  |  |  |  |
| 2532061                | 28,00  |                              |  | 2533061  | 72,10  |  |  |  |  |  |  |
| 3032061                | 30,60  |                              |  | 3033061  | 80,40  |  |  |  |  |  |  |
| 3132061                | 48,50  |                              |  | 3133061  | 98,60  |  |  |  |  |  |  |
| 3532061                | 49,20  |                              |  | 3533061  | 99,20  |  |  |  |  |  |  |
| 4032061                | 56,50  |                              |  | 4033061  | 113,30 |  |  |  |  |  |  |
| 4532061                | 61,00  |                              |  | 4533061  | 135,80 |  |  |  |  |  |  |
| 5032061                | 71,00  |                              |  | 5033061  | 147,60 |  |  |  |  |  |  |
| 5632061                | 80,70  |                              |  | 5633061  | 169,20 |  |  |  |  |  |  |
| 6032061                | 87,70  |                              |  | 6033061  | 191,20 |  |  |  |  |  |  |
| 6332061                | 102,30 |                              |  | 6333061  | 213,50 |  |  |  |  |  |  |
|                        |        |                              |  |          |        |  |  |  |  |  |  |
| 0832062                | 6,90   |                              |  | 0833062  | 20,30  |  |  |  |  |  |  |
| 1032062                | 7,50   |                              |  | 1033062  | 22,20  |  |  |  |  |  |  |
| 1232062                | 8,70   |                              |  | 1233062  | 22,90  |  |  |  |  |  |  |
| 1532062                | 9,40   |                              |  | 1533062  | 25,60  |  |  |  |  |  |  |
| 1732062                | 10,70  |                              |  | 1733062  | 26,50  |  |  |  |  |  |  |
| 2032062                | 11,10  |                              |  | 2033062  | 27,30  |  |  |  |  |  |  |
| 2232062                | 11,20  |                              |  | 2233062  | 28,80  |  |  |  |  |  |  |
| 2532062                | 11,60  |                              |  | 2533062  | 30,80  |  |  |  |  |  |  |
| 3032062                | 12,80  |                              |  | 3033062  | 32,50  |  |  |  |  |  |  |
| 3132062                | 18,20  |                              |  | 3133062  | 59,40  |  |  |  |  |  |  |
| 3532062                | 19,40  |                              |  | 3533062  | 64,50  |  |  |  |  |  |  |
| 4032062                | 21,60  |                              |  | 4033062  | 70,60  |  |  |  |  |  |  |
| 4532062                | 23,30  |                              |  | 4533062  | 78,20  |  |  |  |  |  |  |
| 5032062                | 47,80  |                              |  | 5033062  | 112,80 |  |  |  |  |  |  |
| 5632062                | 49,70  |                              |  | 5633062  | 124,20 |  |  |  |  |  |  |
| 6032062                | 50,80  |                              |  | 6033062  | 132,30 |  |  |  |  |  |  |
| 6332062                | 52,00  |                              |  | 6333062  | 140,10 |  |  |  |  |  |  |



# DECKENKLAPPKÄSTEN ROHRKLAPPKÄSTEN

*TWO-WAY VALVES –  
SYMMETRICAL AND  
ASYMMETRICAL*



# ANTRIEBE: ES IST IHRE WAHL

## DRIVES: IT IS UP TO YOU

### Drehantrieb Fabrikat Rotork

- 1 Spule 24V DC / 230V AC
- 2 Magnetventil Fabrikat Airtec
- 3 Druckluftanschluss  
ø 8mm, 6–8 bar
- 4 Drehantrieb
- 5 Endschalterbox mit  
2 mechanischen  
Wechselschaltern  
und Stellungsanzeige

### Rotary actuator Manufacturer Rotork

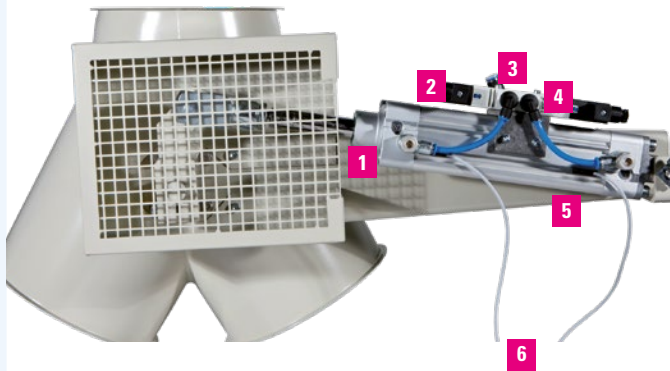
- Coil 24V DC / 230V AC
- Valve Manufacturer Airtec
- Compressed air connection /  
outlet ø 8mm, 6–8 bar
- Rotary actuator
- Limit switchbox with 2 mechanical  
toggle switches and position  
indicator



**Zylindereinheit**  
**Fabrikat Festo**

**Cylinder unit**  
**Manufacturer Festo**

- 1** Zylinder  
*Cylinder*
- 2** Spule 24V DC  
oder 230V AC  
*Coil 24V DC  
or 230V AC*
- 3** Druckluftanschluss  
ø 8 mm, 6–8 bar  
*Compressed air connec-  
tion ø 8 mm, 6–8 bar*
- 4** Ventil  
*Valve*
- 5** Endschalter  
*Limit switches*
- 6** Endschalterkabel  
(Länge 2,50 m)  
*Limit switch cable  
(length 2,50 m)*



**Belimo**  
**Elektrischer**  
**Steckmotor**

**Belimo**  
**Electrical**  
**servo motor**

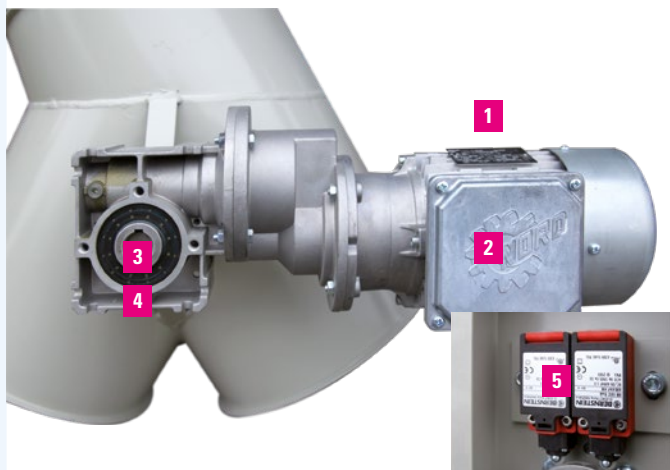
- 1** 24V / 230V AC/DC  
*24V / 230V AC/DC*



**Getriebemotor**  
**Fabrikat**  
**Getriebebau Nord**

**Drive/gear motor**  
**Manufacturer**  
**Getriebebau Nord**

- 1** 0,12 KW  
*0.12 KW*
- 2** 400V AC  
*400V AC*
- 3** 6,7 U/min  
*6.7 U/min*
- 4** 91 Nm  
*91 Nm*
- 5** Mechanische  
Endschalter  
*Mechanical  
limit switches*



**Stellantrieb**  
**Fabrikat Deufra**

**Actuator**  
**Manufacturer Deufra**

- 1** 24V DC  
230V AC  
Mechanische  
Endschalter  
(4 Wechselschalter)  
*24V DC  
230V AC  
Mechanical  
limit switches  
(4 Toggle switches)*



**Decken- / Rohrklappkästen  
mit Innenkragen ohne  
Dichtung 45°+ 60°:**

**Ausführung:**

Klappkasten mit umlaufendem Innenkragen  
Abdichtung durch metallische Überdeckung des Innenkragens durch die U-förmige Klappe  
Abdichtung nach außen durch Radialwellendichtring Viton

► **Optional auf Anfrage:**

- mit Flanschverbindung
- diverse Antriebe
- abweichende Winkel oder Abmessungen
- verschleißhemmende Auskleidungen

**Anwendung:**

Frei fließende, nicht haftende, körnige Schüttgüter in drucklosen Förderleitungen  
Einbaulage: Einlauf oben, maximale Neigung 30°

**ACHTUNG:**

- Nicht im Produktstrom schalten!
- Bei pulverförmigen Produkten kann es bei unterschiedlichen Drücken in den Ausläufen zu Undichtigkeiten kommen!

**Decken- / Rohrklappkästen  
runde Bauform 45°  
mit Dichtung:**

**Ausführung:**

Abdichtung der Umstellklappe durch NBR-Dichtung hell, Temperaturbereich von -30° C bis +100°C in Lebensmittelqualität (andere Materialien auf Anfrage)  
Abdichtung nach außen durch Radialwellendichtring Viton  
Optimiertes Design ohne Hinterschnitten  
Gefrästes Flacheisen als metallische Dichtung unterhalb der Welle

► **Optional auf Anfrage:**

- zusätzliche Dichtung unterhalb der Welle
- mit Flanschverbindung
- diverse Antriebe
- abweichende Winkel (auch 30°) oder Abmessungen
- verschleißhemmende Auskleidungen
- stärkere Antriebe

**Anwendung:**

Wenig haftende, nicht schließende Schüttgüter für gravitative Förderanlagen  
Für Produkte in lufttechnischen Anlagen bis 10.000 Pa in beliebiger Einbaulage  
Produktschonende Förderung durch spezielles Design ohne Hinterschnitten

**ACHTUNG:**

- Nicht im Produktstrom schalten!
- Antriebe sind ab DN224 nicht für 10.000 Pa ausgelegt!

**Klappkästen  
eckig auf rund  
mit Dichtung 60°:**

**Ausführung:**

Abdichtung der Umstellklappe durch Silikon-Dichtung, Material transparent, Temperaturbereich von -60° bis +200° in Lebensmittelqualität (andere Materialien auf Anfrage)  
Abdichtung nach außen durch Radialwellendichtring Viton.  
Produktschonende Förderung durch spezielles Design ohne Hinterschnitten.  
Gefrästes Flacheisen als metallische Dichtung unterhalb der Welle

► **Optional auf Anfrage:**

- zusätzliche Dichtung unterhalb der Welle
- mit Flanschverbindung
- diverse Antriebe
- abweichende Winkel oder Abmessungen
- verschleißhemmende Auskleidungen
- stärkere Antriebe

**Anwendung:**

Wenig haftende, wenig schließende Schüttgüter für gravitative Förderanlagen  
Für Produkte in lufttechnischen Anlagen bis 10.000 Pa in beliebiger Einbaulage

**ACHTUNG:**

- Nicht im Produktstrom schalten!
- Antriebe sind ab DN250 nicht für 10.000 Pa ausgelegt!

**Antriebe:**

**Erläuterung der Kürzel**

► **F1:**

Pneumatische doppeltwirkende Zylindereinheit best. aus:  
**Zylinder:** Fabr. Festo  
Typ DSBC mit PPS-Dämpfer nach ISO6431/VDMA 24562

**Ventil:** Typ VUVS-L20-B52-D-G18-F7, bistabil mit 2 Spulen,  
**Spannung:** 230 VAC  
**Leistungsaufnahme:** 2,3/3,0 VA;  
Handhilfsbetätigung

**Anschluss:** 8mm Schlauch  
**Endschalter:** Typ SME-8-K-LED-230

**Spannung:** 3-230 VAC/DC  
**Schaltleistung:** max.10W AC/DC;  
Schließer  
**Schutzart:** IP65

► **F3:**

Pneumatische doppeltwirkende Zylindereinheit bestehend aus:  
**Zylinder:** Fabr. Festo  
Typ DSBC mit PPS-Dämpfer nach ISO6431/VDMA 24562

**Ventil:** Typ VUVS-L20-B52-D-G18-F7-1C1, bistabil mit 2 Spulen,  
**Spannung:** 24 DC  
**Leistungsaufnahme:** 2,5 W  
Handhilfsbetätigung

**Anschluss:** 8mm Schlauch  
**Endschalter:** Typ SME-8M-ZS-24V-K-2,5-OE

**Spannung:** 5-30 VAC/DC;  
**Schaltleistung:** max.2,4W AC/DC;  
Schließer  
**Schutzart:** IP65

► **A1:**

Pneumatischer doppeltwirkender Schwenkantrieb bestehend aus:  
**Schwenkantrieb:**  
Fabr. Rotork

**Ventil:** Fabr. Airtec Typ KN05520-HN bistabil mit 2 Spulen

**Spannung:** 230 VAC;

**Leistungsaufnahme:** 7VA

Handhilfsbetätigung

**Anschluss:** 8mm Schlauch

**Endschalterbox:** Fabr. Automax/

Flowserve mit 2 mech. Mikroschalter

**Ex-Schutzklasse:**

II 2 G Ex IA IIC T6 Gb

II 2 D Ex ia IIIC T80°C Db

Stellungsanzeige durch gelbe

Doppelpfeil-Anzeige

**Ventil:** auf Klemmenleiste in

Endschalterbox verdrahtet, ausser

bei Produkten mit ATEX-Zulassung

**Schutzart:** IP65

► **A3:**

Pneumatischer doppeltwirkender Schwenkantrieb bestehend aus:

**Schwenkantrieb:**

Fabr. Rotork

**Ventil:** Fabr. Airtec Typ KN05520-

HN bistabil mit 2 Spulen

**Spannung:** 24 VDC

**Leistungsaufnahme:** 4,2W

Handhilfsbetätigung

**Anschluss:** 8mm Schlauch

**Endschalterbox:** Fabr. Automax/

Flowserve mit 2 mech. Mikro-

schalter

**Ex-Schutzklasse:**

II 2 G Ex IA IIC T6 Gb

II 2 D Ex ia IIIC T80°C Db

Stellungsanzeige durch gelbe

Doppelpfeil-Anzeige

**Ventil:** auf Klemmenleiste in

Endschalterbox verdrahtet, ausser

bei Produkten mit ATEX-Zulassung

**Schutzart:** IP65

► **G5:**

Schneckengetriebemotor:

Fabr. Getriebebau Nord

Typ SK1 SI 40/H10 IEC63 S/4

**Spannung:** 400VAC

**Motorleistung:** 0,12KW

Nennstrom 0,46A

Stellzeit ca.3 s.

**Schutzart:** IP55

2 mech. Endschrter Fabr. Bernstein

Typ IN65-SU1ZRK

AC 240V / 3A

DC 24V / 4A

1 Öffner / 1 Schließer

In Konsole gegenüber des Antrie-

bes montiert

► **D1:**

Elektrischer Schwenkantrieb

Fabr. Deufra

**Typ: AQ7L**

**Spannung:** 230 VAC,

**Leistungsaufnahme:** 20W

**Nennstrom:** 0,4/1,0A

Handnotbetätigung

**Stellzeit:** ca. 15 s.

**Schutzart:** IP68

**Typ: AQ10**

**Spannung:** 230 VAC,

**Leistungsaufnahme:** 15W

**Nennstrom:** 0,6/0,7A

Handnotbetätigung

**Stellzeit:** 25 s.

**Schutzart:** IP68

**Typ: AQ15**

**Spannung:** 230 VAC,

**Leistungsaufnahme:** 30W

**Nennstrom:** 0,8/1,1A

Handnotbetätigung

**Stellzeit:** 30 s.

**Schutzart:** IP68

Endschalter alle Typen  
mech. Endschrter als Wechsler  
max. 250VAC; 5A Schaltleistung

Verwendeter Typ siehe Dokumen-  
tation.

► **D3:**

Elektrischer Schwenkantrieb  
Fabr. Deufra

**Typ: AQ7L**

**Spannung:** 24 V DC

**Leistungsaufnahme:** 20W

**Nennstrom:** 0,5/6A

Handnotbetätigung

**Stellzeit:** ca. 15 s.

**Schutzart:** IP68

**Typ: AQ10**

**Spannung:** 24 V DC

**Leistungsaufnahme:** 30W

**Nennstrom:** 2,5/8A

Handnotbetätigung

**Stellzeit:** ca. 21 s.

**Schutzart:** IP68

**Typ: AQ15**

**Spannung:** 24 V DC

**Leistungsaufnahme:** 30W

**Nennstrom:** 2,5/8A

Handnotbetätigung

**Stellzeit:** ca. 25 s.

**Schutzart:** IP68

Endschalter alle Typen:  
mech. Endschrter als Wechsler  
max. 250VAC; 5A Schaltleistung

Verwendeter Typ siehe Dokumen-  
tation.

**Symmetrical / Asymmetrical two-way valves with inner collar without seal 45° + 60°:**

**Design:**

Two-way valves with circumferential inner collar  
Sealing by metallic covering of the inner collar by the U-shaped flap  
Sealing outwards by radial shaft seal ring Viton

► **Optional on request:**

- with flange connection
- several drives
- different angle or dimensions
- wear-resistant liners

**Application:**

Free-flowing, non-sticking, granular bulk material in depressurised conveyor pipes  
Mounting position: inlet up, maximum inclination 30°

**CAUTION:**

- Do not switch during the product flow!
- In case of different pressures in the outlets, leakages can occur with powdery products!

**Symmetrical / Asymmetrical two-way valves round design 45° with seal:**

**Design:**

Sealing of the change-over valve by NBR seal, light, temperature range from -30° C to +100°C in food quality (other materials on request)  
Sealing outwards by radial shaft seal ring Viton  
Optimised design without undercuts  
Machined flat steel as metallic seal below the shaft

► **Optional on request:**

- additional sealing below the shaft
- with flange connection
- several drives
- different angles (30° as well) or dimensions
- wear-resistant liners
- stronger drives

**Application:**

Low sticking, non-splitting bulk material for gravitational conveyor systems  
For products in ventilation systems up to 10.000 Pa in any installation position  
Product-friendly conveyor through special design without undercuts

**CAUTION:**

- Do not switch during the product flow!
- From DN224 drives are not intended for 10.000 Pa

**Two-way valves square on round with seal 60°:**

**Design:**

Sealing of the change-over valve by silicone seal, transparent material, temperature range from -60° to +200° in food quality (other materials on request)  
Sealing outwards by radial shaft seal ring Viton  
Product-friendly conveyor system through special design without undercuts  
Machined flat steel as metallic seal below the shaft

► **Optional on request:**

- additional sealing below the shaft
- with flange connection
- several drives
- different angle or dimensions
- wear-resistant liners
- stronger drives

**Application:**

Low sticking, less-splitting bulk material for gravitational conveyor systems  
For products in ventilation systems up to 10.000 Pa in any installation position

**CAUTION:**

- Do not switch in the product flow!
- From DN 250 drives are not intended for 10.000 Pa

**Drives:**

**Explanation of the abbreviations**

► **F1:**

Pneumatic double-action cylinder unit consists of:  
**Cylinder:** Manufacturer: Festo  
Type DSBC with PPS-damper according to ISO6431/VDMA 24562  
**Valve:** Type VUVS-L20-B52-D-G18-F7  
Bistable with 2 coils  
**Voltage:** 230 VAC  
Power consumption: 2.3/3.0 VA;  
Manual override  
**Connection:** 8 mm flexible tube  
**2x end switch:**  
Type SME-8-K-LED-230  
**Voltage:** 3-230 VAC/DC  
**Switching capacity:** max. 10W AC/DC; Shutter  
**Protection:** class IP65

► **F3:**

Pneumatic double-action cylinder unit consists of:  
**Cylinder:** Manufacturer: Festo  
Type DSBC with PPS-damper according to ISO6431/VDMA 24562  
**Valve:** Type VUVS-L20-B52-D-G18-F7-1C1 Bistable with 2 coils  
**Voltage:** 24 DC  
**Power consumption:** 2.5 W  
Manual override  
**Connection:** 8 mm flexible tube  
**2x end switch:**  
Type SME-8M-ZS-24V-K-2,5-OE  
**Voltage:** 5-30 VAC/DC;  
**Switching capacity:** max. 2,4W AC/DC; Shutter  
**Protection:** class IP65

► **A1:**

Pneumatic double-action pivot drive consists of:  
**Pivot drive:**  
Manufacturer: Rotork  
**Valve:** Manufacturer: Airtec Type KN05520-HN bistable with 2 coils  
**Voltage:** 230 VAC;  
**Power consumption:** 7VA Manual override  
**Connection:** 8 mm flexible tube

**End switch box:**

Manufacturer: Automax/Flowserve, with 2 mech. microswitches

**Ex-Class :**

II 2 G Ex IA IIC T6 Gb  
II 2 D Ex ia IIC T80°C Db  
Position indication by yellow double-arrow display  
**Valve:** wired on the terminal strip in the end switch box, but not for products with ATEX approval  
**Protection class:** IP65

► **A3:**

Pneumatic double-action pivot drive consists of:  
**Pivot drive:**  
Manufacturer: Rotork  
**Valve:** Manufacturer: Airtec Type KN05520-HN, bistable with 2 coils  
**Voltage:** 24 VDC  
**Power consumption:** 4.2W  
Manual override  
**Connection:** 8 mm flexible tube  
End switch box:  
Manufacturer: Automax/Flowserve, with 2 mech. microswitches  
**Ex-Class :**  
II 2 G Ex IA IIC T6 Gb  
II 2 D Ex ia IIC T80°C Db  
Position indication by yellow double-arrow display  
**Valve:** wired on the terminal strip in the end switch box, but not for products with ATEX approval  
**Protection class:** IP65

► **G5:**

Worm gear motor:  
Manufacturer: Getriebebau Nord  
Type SK1 SI 40/H10 IEC63 S/4  
**Voltage:** 400VAC  
**Motor power:** 0.12KW  
Nominal current 0.46A;  
**Operating time:** approx. 3 s.  
**Protection class:** IP55  
2 mech. end switches Manufacturer: Bernstein Type IN65-SU1ZRK  
AC 240V / 3A  
DC 24V / 4A  
1 opener / 1 closer  
  
Mounted in console across from the drive;

► **D1:**

Electric pivot drive  
Manufacturer: Deufra

**Type:** AQ7L

**Voltage:** 230 VAC,  
**Power consumption:** 20W  
**Nominal current:** 0.4/1,0A  
Manual emergency operation  
**Operating time:** approx. 15 s.  
**Protection class:** IP68

**Type:** AQ10

**Voltage:** 230 VAC,  
**Power consumption:** 15W  
**Nominal current:** 0,6/0,7A  
Manual emergency operation  
**Operating time:** approx. 25 s.  
**Protection class:** IP68

**Type:** AQ15

**Voltage:** 230 VAC,  
**Power consumption:** 30W  
**Nominal current:** 0,8/1,1A  
Manual emergency operation  
**Operating time:** approx. 30 s.  
**Protection class:** IP68

End switches of all types  
Mech. end switches as changer max. 250 VAC, 5A switching capacity

Used type look at the documentation.

► **D3:**

Electric pivot drive  
Manufacturer: Deufra

**Type:** AQ7L

**Voltage:** 24 V DC  
**Power consumption:** 20W  
**Nominal current:** 0,5/6A  
Manual emergency operation  
**Operating time:** approx. 15 s.  
**Protection class:** IP68

**Type:** AQ10

**Voltage:** 24 DC  
**Power consumption:** 30W  
**Nominal current:** 2.5/8A  
Manual emergency operation  
**Operating time:** approx. 21 s.  
**Protection class:** IP68

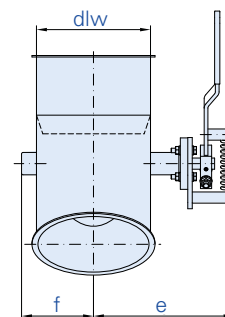
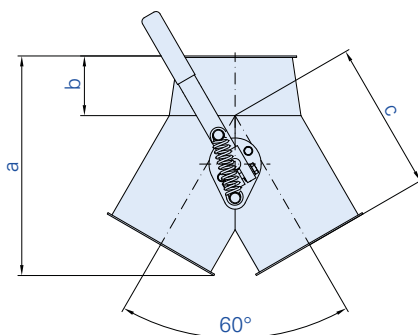
**Type:** AQ15

**Voltage:** 24 DC  
**Power consumption:** 30W  
**Nominal current:** 2.5/8A  
Manual emergency operation  
**Operating time:** approx. 25 s.  
**Protection class:** IP68

End switches of all types:  
Mech. end switches as changer max. 250VAC, 5A switching capacity

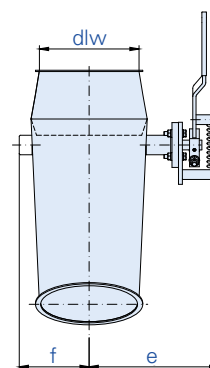
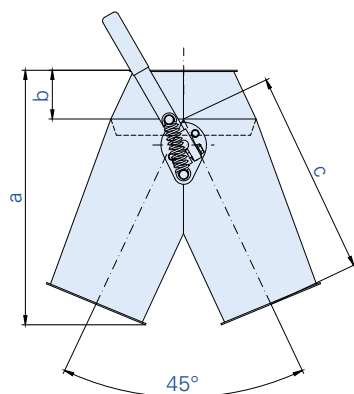
Used type look at the documentation.

**Deckenklappkästen 60°, symmetrisch, mit Innenkragen** / *Two-way symmetrical valves 60°, with inner collar*



ohne Klappendichtung, mit Radialwellendichtring  
Viton als Wellenabdichtung  
*without valve-sealing, with radial-shaft-sealing-rings Viton*

**Deckenklappkästen 45°, symmetrisch, mit Innenkragen** / *Two-way symmetrical valves 45°, with inner collar*



ohne Klappendichtung, mit Radialwellendichtring  
Viton als Wellenabdichtung  
*without valve-sealing, with radial-shaft-sealing-rings Viton*

| Nennweite<br>Nominal diameter                         |     |     |     |     |     |     |   |   |    |
|-------------------------------------------------------|-----|-----|-----|-----|-----|-----|---|---|----|
| Maße für 2 mm Rohrbau<br>Measurements for 2 mm piping |     |     |     |     |     |     |   |   |    |
| DN                                                    | d/w | a   | b   | c   | e   | f   | g | i | kg |
| 100                                                   | 99  | 182 | 46  | 124 | 166 | 71  |   |   |    |
| 120                                                   | 119 | 209 | 41  | 155 | 176 | 81  |   |   |    |
| 150                                                   | 149 | 294 | 80  | 200 | 191 | 96  |   |   |    |
| 175                                                   | 174 | 303 | 68  | 217 | 203 | 109 |   |   |    |
| 200                                                   | 199 | 393 | 110 | 265 | 216 | 131 |   |   |    |
| 224                                                   | 219 | 411 | 110 | 280 | 226 | 141 |   |   |    |
| 250                                                   | 249 | 445 | 115 | 305 | 241 | 156 |   |   |    |
| 300                                                   | 299 | 445 | 85  | 325 | 266 | 181 |   |   |    |
| 315                                                   | 312 | 475 | 90  | 350 | 272 | 188 |   |   |    |
| 350                                                   | 349 | 567 | 95  | 440 | 291 | 206 |   |   |    |
| 400                                                   | 398 | 658 | 105 | 520 | 315 | 231 |   |   |    |

Deckenklappkästen DN 450–630 auf Anfrage.  
Two-way symmetrical valves DN 450–630 upon request.

Ausführung in anderen Gradzahlen auf Anfrage.  
Types with different degrees upon request.

Allgemeine technische Hinweise Seite 112/113  
For technical details see page 112/113

| DC 01 2 mm                         |        | DC 01 3 mm                         |        | DC 01 2 mm                   |        | VA 1.4301 2 mm               |         |
|------------------------------------|--------|------------------------------------|--------|------------------------------|--------|------------------------------|---------|
| pulverbeschichtet<br>powder coated |        | pulverbeschichtet<br>powder coated |        | galv. verzinkt<br>galvanized |        | Edelstahl<br>stainless steel |         |
| Art.-Nr.                           | €      | Art.-Nr.                           | €      | Art.-Nr.                     | €      | Art.-Nr.                     | €       |
| 1021068                            | 109,30 |                                    |        | 1022068                      | 133,20 | 1023068                      | 288,50  |
| 1221068                            | 122,50 |                                    |        | 1222068                      | 147,60 | 1223068                      | 319,00  |
| 1521068                            | 136,80 | 1531068                            | 191,90 | 1522068                      | 163,30 | 1523068                      | 401,30  |
| 1721068                            | 176,40 | 1731068                            | 245,80 | 1722068                      | 218,50 | 1723068                      | 507,40  |
| 2021068                            | 220,20 | 2031068                            | 289,20 | 2022068                      | 274,40 | 2023068                      | 591,00  |
| 2221068                            | 261,40 | 2231068                            | 331,50 | 2222068                      | 320,30 | 2223068                      | 665,20  |
| 2521068                            | 305,00 | 2531068                            | 398,90 | 2522068                      | 377,90 | 2523068                      | 791,30  |
| 3021068                            | 403,90 | 3031068                            | 488,10 | 3022068                      | 487,30 | 3023068                      | 950,00  |
| 3121068                            | 485,00 | 3131068                            | 579,40 | 3122068                      | 576,80 | 3123068                      | 1103,00 |
| 3521068                            | 628,60 | 3531068                            | 766,80 | 3522068                      | 735,70 | 3523068                      | 1408,10 |
| 4021068                            | 718,10 | 4031068                            | 947,60 | 4022068                      | 840,60 | 4023068                      | 1639,90 |

Auch als Atex-Ausführung lieferbar, Preise auf Anfrage, bitte geben Sie die gewünschte Zone an  
Also available as Atex version, price on request, please specify the desired zone

| Nennweite<br>Nominal diameter                         |     |     |     |     |     |     |   |   |    |
|-------------------------------------------------------|-----|-----|-----|-----|-----|-----|---|---|----|
| Maße für 2 mm Rohrbau<br>Measurements for 2 mm piping |     |     |     |     |     |     |   |   |    |
| DN                                                    | d/w | a   | b   | c   | e   | f   | g | i | kg |
| 100                                                   | 99  | 326 | 65  | 260 | 166 | 71  |   |   |    |
| 120                                                   | 119 | 353 | 70  | 280 | 176 | 81  |   |   |    |
| 150                                                   | 149 | 397 | 75  | 315 | 191 | 96  |   |   |    |
| 175                                                   | 174 | 448 | 90  | 350 | 203 | 109 |   |   |    |
| 200                                                   | 199 | 515 | 105 | 400 | 216 | 131 |   |   |    |
| 224                                                   | 219 | 590 | 120 | 460 | 226 | 141 |   |   |    |
| 250                                                   | 249 | 625 | 130 | 480 | 241 | 156 |   |   |    |
| 300                                                   | 299 | 748 | 160 | 570 | 266 | 181 |   |   |    |
| 315                                                   | 312 | 780 | 170 | 590 | 272 | 188 |   |   |    |
| 350                                                   | 349 | 828 | 185 | 620 | 291 | 206 |   |   |    |
| 400                                                   | 398 | 930 | 205 | 700 | 315 | 231 |   |   |    |

Deckenklappkästen DN 450–630 auf Anfrage.  
Two-way symmetrical valves DN 450–630 upon request.

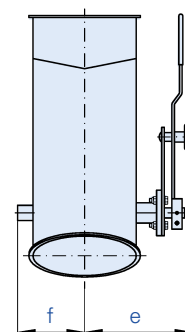
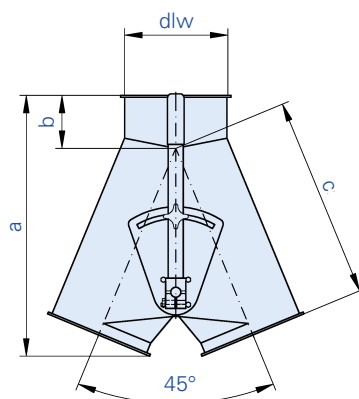
Ausführung in anderen Gradzahlen auf Anfrage.  
Types with different degrees upon request.

Allgemeine technische Hinweise Seite 112/113  
For technical details see page 112/113

| DC 01 2 mm                         |        | DC 01 3 mm                         |         | DC 01 2 mm                   |         | VA 1.4301 2 mm               |         |
|------------------------------------|--------|------------------------------------|---------|------------------------------|---------|------------------------------|---------|
| pulverbeschichtet<br>powder coated |        | pulverbeschichtet<br>powder coated |         | galv. verzinkt<br>galvanized |         | Edelstahl<br>stainless steel |         |
| Art.-Nr.                           | €      | Art.-Nr.                           | €       | Art.-Nr.                     | €       | Art.-Nr.                     | €       |
| 1021368                            | 163,80 |                                    |         | 1022368                      | 199,70  | 1023368                      | 375,00  |
| 1221368                            | 183,80 |                                    |         | 1222368                      | 221,40  | 1223368                      | 414,80  |
| 1521368                            | 205,30 | 1531368                            | 287,90  | 1522368                      | 244,90  | 1523368                      | 521,70  |
| 1721368                            | 264,60 | 1731368                            | 368,70  | 1722368                      | 327,80  | 1723368                      | 659,60  |
| 2021368                            | 330,20 | 2031368                            | 433,70  | 2022368                      | 411,50  | 2023368                      | 768,30  |
| 2221368                            | 392,10 | 2231368                            | 497,20  | 2222368                      | 480,40  | 2223368                      | 864,90  |
| 2521368                            | 457,50 | 2531368                            | 598,40  | 2522368                      | 566,80  | 2523368                      | 1028,50 |
| 3021368                            | 525,00 | 3031368                            | 634,40  | 3022368                      | 633,70  | 3023368                      | 1187,40 |
| 3121368                            | 630,60 | 3131368                            | 753,30  | 3122368                      | 749,80  | 3123368                      | 1378,90 |
| 3521368                            | 785,70 | 3531368                            | 958,70  | 3522368                      | 919,80  | 3523368                      | 1689,70 |
| 4021368                            | 897,70 | 4031368                            | 1184,50 | 4022368                      | 1050,80 | 4023368                      | 1967,80 |

Auch als Atex-Ausführung lieferbar, Preise auf Anfrage, bitte geben Sie die gewünschte Zone an  
Also available as Atex version, price on request, please specify the desired zone

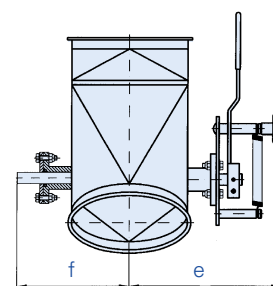
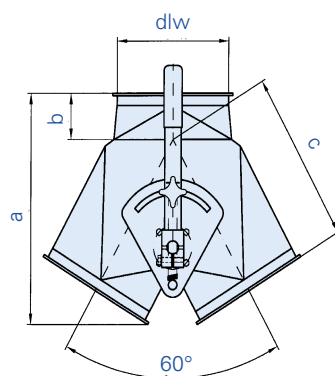
**Deckenklappkästen 45°, symmetrisch, runde Bauform / Two-way symmetrical valves 45°, round design**



mit Klappendichtung NBR, und Radialwellendichtring Viton als Wellenabdichtung

*with valve-sealing NBR and with radial-shaft-sealing-rings Viton*

**Deckenklappkästen 60°, symmetrisch, eckig auf rund / Two-way symmetrical valves 60°, square to round**



mit Klappendichtung Si, und Radialwellendichtring Viton als Wellenabdichtung

*with valve-sealing Si and with radial-shaft-sealing-rings Viton*

| Nennweite<br>Nominal diameter                         |     |     |     |     |     |     |   |   |    |
|-------------------------------------------------------|-----|-----|-----|-----|-----|-----|---|---|----|
| Maße für 2 mm Rohrbau<br>Measurements for 2 mm piping |     |     |     |     |     |     |   |   |    |
| DN                                                    | d/w | a   | b   | c   | e   | f   | g | i | kg |
| 100                                                   | 99  | 326 | 65  | 260 | 166 | 71  |   |   |    |
| 120                                                   | 119 | 353 | 70  | 280 | 176 | 81  |   |   |    |
| 150                                                   | 149 | 397 | 75  | 315 | 191 | 96  |   |   |    |
| 175                                                   | 174 | 448 | 90  | 350 | 203 | 109 |   |   |    |
| 200                                                   | 199 | 515 | 105 | 400 | 216 | 131 |   |   |    |
| 224                                                   | 219 | 590 | 120 | 460 | 226 | 141 |   |   |    |
| 250                                                   | 249 | 625 | 130 | 480 | 241 | 156 |   |   |    |
| 300                                                   | 299 | 748 | 160 | 570 | 266 | 181 |   |   |    |
| 315                                                   | 312 | 780 | 170 | 590 | 272 | 188 |   |   |    |
| 350                                                   | 349 | 828 | 185 | 620 | 291 | 206 |   |   |    |
| 400                                                   | 398 | 930 | 205 | 700 | 315 | 231 |   |   |    |

Deckenklappkästen DN 450–630 auf Anfrage.  
Two-way symmetrical valves DN 450–630 upon request.

Ausführung in anderen Gradzahlen auf Anfrage.  
Types with different degrees upon request.

Allgemeine technische Hinweise Seite 112/113  
For technical details see page 112/113

| DC 01 2 mm                         |        | DC 01 3 mm                         |        | DC 01 2 mm                   |        | VA 1.4301 2 mm               |         |
|------------------------------------|--------|------------------------------------|--------|------------------------------|--------|------------------------------|---------|
| pulverbeschichtet<br>powder coated |        | pulverbeschichtet<br>powder coated |        | galv. verzinkt<br>galvanized |        | Edelstahl<br>stainless steel |         |
| Art.-Nr.                           | €      | Art.-Nr.                           | €      | Art.-Nr.                     | €      | Art.-Nr.                     | €       |
| 1021420                            | 252,60 |                                    |        | 1022420                      | 287,60 | 1023420                      | 385,70  |
| 1221420                            | 255,60 |                                    |        | 1222420                      | 293,40 | 1223420                      | 410,90  |
| 1521420                            | 267,20 | 1531420                            | 276,00 | 1522420                      | 307,90 | 1523420                      | 469,30  |
| 1721420                            | 299,20 | 1731420                            | 318,40 | 1722420                      | 351,80 | 1723420                      | 595,60  |
| 2021420                            | 301,20 | 2031420                            | 342,30 | 2022420                      | 368,10 | 2023420                      | 631,50  |
| 2221420                            | 307,10 | 2231420                            | 365,80 | 2222420                      | 394,40 | 2223420                      | 660,60  |
| 2521420                            | 310,90 | 2531420                            | 411,90 | 2522420                      | 403,20 | 2523420                      | 714,20  |
| 3021420                            | 394,40 | 3031420                            | 502,00 | 3022420                      | 497,50 | 3023420                      | 856,60  |
| 3121420                            | 535,30 | 3131420                            | 628,00 | 3122420                      | 615,00 | 3123420                      | 1010,30 |
| 3521420                            | 707,20 | 3531420                            | 822,90 | 3522420                      | 798,70 | 3523420                      | 1257,10 |
| 4021420                            | 769,50 | 4031420                            | 949,90 | 4022420                      | 873,40 | 4023420                      | 1405,70 |

Auch als Atex-Ausführung lieferbar, Preise auf Anfrage, bitte geben Sie die gewünschte Zone an  
Also available as Atex version, price on request, please specify the desired zone

| Nennweite<br>Nominal diameter                         |     |     |     |     |     |     |   |   |    |
|-------------------------------------------------------|-----|-----|-----|-----|-----|-----|---|---|----|
| Maße für 2 mm Rohrbau<br>Measurements for 2 mm piping |     |     |     |     |     |     |   |   |    |
| DN                                                    | d/w | a   | b   | c   | e   | f   | g | i | kg |
| 100                                                   | 99  | 223 | 50  | 170 | 211 | 143 |   |   |    |
| 120                                                   | 119 | 259 | 55  | 200 | 222 | 157 |   |   |    |
| 150                                                   | 149 | 315 | 60  | 250 | 237 | 171 |   |   |    |
| 175                                                   | 174 | 335 | 65  | 260 | 250 | 185 |   |   |    |
| 200                                                   | 199 | 370 | 75  | 280 | 264 | 197 |   |   |    |
| 224                                                   | 219 | 398 | 80  | 300 | 275 | 208 |   |   |    |
| 250                                                   | 249 | 440 | 90  | 330 | 289 | 223 |   |   |    |
| 300                                                   | 299 | 505 | 100 | 380 | 314 | 248 |   |   |    |
| 315                                                   | 312 | 520 | 100 | 390 | 321 | 255 |   |   |    |
| 350                                                   | 349 | 550 | 110 | 406 | 357 | 291 |   |   |    |
| 400                                                   | 398 | 630 | 130 | 460 | 382 | 316 |   |   |    |

Deckenklappkästen DN 450–630 auf Anfrage.  
Two-way symmetrical valves DN 450–630 upon request.

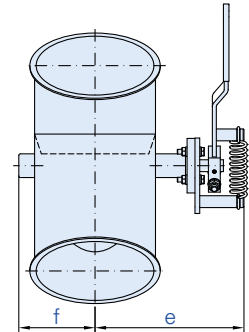
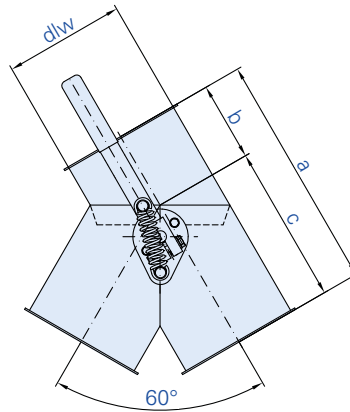
Ausführung in anderen Gradzahlen auf Anfrage.  
Types with different degrees upon request.

Allgemeine technische Hinweise Seite 112/113  
For technical details see page 112/113

| DC 01 2 mm                         |        | DC 01 3 mm                         |        | DC 01 2 mm                   |         | VA 1.4301 2 mm               |         |
|------------------------------------|--------|------------------------------------|--------|------------------------------|---------|------------------------------|---------|
| pulverbeschichtet<br>powder coated |        | pulverbeschichtet<br>powder coated |        | galv. verzinkt<br>galvanized |         | Edelstahl<br>stainless steel |         |
| Art.-Nr.                           | €      | Art.-Nr.                           | €      | Art.-Nr.                     | €       | Art.-Nr.                     | €       |
| 1021200                            | 297,20 |                                    |        | 1022200                      | 338,30  | 1023200                      | 453,80  |
| 1221200                            | 300,70 |                                    |        | 1222200                      | 345,20  | 1223200                      | 483,50  |
| 1521200                            | 314,40 | 1531200                            | 360,10 | 1522200                      | 362,40  | 1523200                      | 552,00  |
| 1721200                            | 352,00 | 1731200                            | 391,00 | 1722200                      | 413,80  | 1723200                      | 700,60  |
| 2021200                            | 354,40 | 2031200                            | 395,50 | 2022200                      | 433,20  | 2023200                      | 742,90  |
| 2221200                            | 361,10 | 2231200                            | 400,10 | 2222200                      | 464,00  | 2223200                      | 777,20  |
| 2521200                            | 365,80 | 2531200                            | 424,80 | 2522200                      | 474,40  | 2523200                      | 840,20  |
| 3021200                            | 464,00 | 3031200                            | 516,00 | 3022200                      | 585,20  | 3023200                      | 1007,80 |
| 3121200                            | 629,80 | 3131200                            | 676,70 | 3122200                      | 723,50  | 3123200                      | 1188,70 |
| 3521200                            | 832,00 | 3531200                            | 878,90 | 3522200                      | 939,60  | 3523200                      | 1479,00 |
| 4021200                            | 905,30 | 4031200                            | 952,10 | 4022200                      | 1027,60 | 4023200                      | 1653,90 |

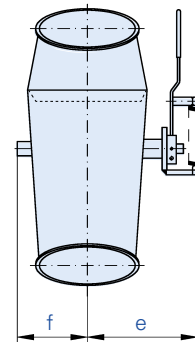
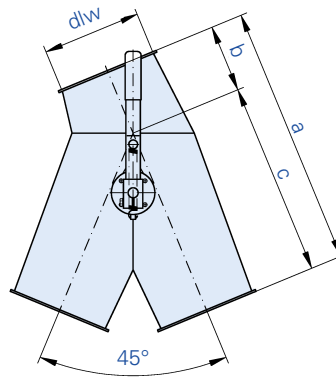
Auch als Atex-Ausführung lieferbar, Preise auf Anfrage, bitte geben Sie die gewünschte Zone an  
Also available as Atex version, price on request, please specify the desired zone

**Rohrklappkästen 60°, asymmetrisch, mit Innenkragen** / *Two-way asymmetrical valves 60°, with inner collar*



ohne Klappendichtung, mit Radialwellendichtring  
Viton als Wellenabdichtung  
*without valve-sealing, with radial-shaft-sealing-rings Viton*

**Rohrklappkästen 45°, asymmetrisch, mit Innenkragen** / *Two-way asymmetrical valves 45°, with inner collar*



ohne Klappendichtung, mit Radialwellendichtring  
Viton als Wellenabdichtung  
*without valve-sealing, with radial-shaft-sealing-rings Viton*

| Nennweite<br>Nominal diameter                         |     |     |     |     |     |     |   |   |    |
|-------------------------------------------------------|-----|-----|-----|-----|-----|-----|---|---|----|
| Maße für 2 mm Rohrbau<br>Measurements for 2 mm piping |     |     |     |     |     |     |   |   |    |
| DN                                                    | d/w | a   | b   | c   | e   | f   | g | i | kg |
| 100                                                   | 99  | 184 | 60  | 124 | 166 | 71  |   |   |    |
| 120                                                   | 119 | 217 | 62  | 155 | 176 | 81  |   |   |    |
| 150                                                   | 149 | 300 | 100 | 200 | 191 | 96  |   |   |    |
| 175                                                   | 174 | 314 | 97  | 217 | 203 | 109 |   |   |    |
| 200                                                   | 199 | 413 | 148 | 265 | 216 | 131 |   |   |    |
| 224                                                   | 219 | 430 | 150 | 280 | 226 | 141 |   |   |    |
| 250                                                   | 249 | 460 | 155 | 305 | 241 | 156 |   |   |    |
| 300                                                   | 299 | 505 | 180 | 325 | 266 | 181 |   |   |    |
| 315                                                   | 312 | 510 | 160 | 350 | 272 | 188 |   |   |    |
| 350                                                   | 349 | 590 | 150 | 440 | 291 | 206 |   |   |    |
| 400                                                   | 398 | 690 | 170 | 520 | 315 | 231 |   |   |    |

Rohrklappkästen DN 450–630 auf Anfrage.  
Two-way asymmetrical valves DN 450–630 upon request.

Ausführung in anderen Gradzahlen auf Anfrage.  
Types with different degrees upon request.

Allgemeine technische Hinweise Seite 112/113  
For technical details see page 112/113

| DC 01 2 mm                         |        | DC 01 3 mm                         |        | DC 01 2 mm                   |        | VA 1.4301 2 mm               |         |
|------------------------------------|--------|------------------------------------|--------|------------------------------|--------|------------------------------|---------|
| pulverbeschichtet<br>powder coated |        | pulverbeschichtet<br>powder coated |        | galv. verzinkt<br>galvanized |        | Edelstahl<br>stainless steel |         |
| Art.-Nr.                           | €      | Art.-Nr.                           | €      | Art.-Nr.                     | €      | Art.-Nr.                     | €       |
| 1021070                            | 109,30 |                                    |        | 1022070                      | 133,20 | 1023070                      | 288,50  |
| 1221070                            | 122,50 |                                    |        | 1222070                      | 147,60 | 1223070                      | 319,00  |
| 1521070                            | 136,80 | 1531070                            | 191,90 | 1522070                      | 163,30 | 1523070                      | 401,30  |
| 1721070                            | 176,40 | 1731070                            | 245,80 | 1722070                      | 218,50 | 1723070                      | 507,40  |
| 2021070                            | 220,20 | 2031070                            | 289,20 | 2022070                      | 274,40 | 2023070                      | 591,00  |
| 2221070                            | 261,40 | 2231070                            | 331,50 | 2222070                      | 320,30 | 2223070                      | 665,20  |
| 2521070                            | 305,00 | 2531070                            | 398,90 | 2522070                      | 377,90 | 2523070                      | 791,30  |
| 3021070                            | 403,90 | 3031070                            | 488,10 | 3022070                      | 487,30 | 3023070                      | 950,00  |
| 3121070                            | 485,00 | 3131070                            | 579,40 | 3122070                      | 576,80 | 3123070                      | 1103,00 |
| 3521070                            | 628,60 | 3531070                            | 766,80 | 3522070                      | 735,70 | 3523070                      | 1408,10 |
| 4021070                            | 718,10 | 4031070                            | 947,60 | 4022070                      | 840,60 | 4023070                      | 1639,90 |

Auch als Atex-Ausführung lieferbar, Preise auf Anfrage, bitte geben Sie die gewünschte Zone an  
Also available as Atex version, price on request, please specify the desired zone

| Nennweite<br>Nominal diameter                         |     |     |     |     |     |     |   |   |    |
|-------------------------------------------------------|-----|-----|-----|-----|-----|-----|---|---|----|
| Maße für 2 mm Rohrbau<br>Measurements for 2 mm piping |     |     |     |     |     |     |   |   |    |
| DN                                                    | d/w | a   | b   | c   | e   | f   | g | i | kg |
| 100                                                   | 99  | 360 | 100 | 260 | 166 | 71  |   |   |    |
| 120                                                   | 119 | 390 | 110 | 280 | 176 | 81  |   |   |    |
| 150                                                   | 149 | 430 | 115 | 315 | 191 | 96  |   |   |    |
| 175                                                   | 174 | 475 | 125 | 350 | 203 | 109 |   |   |    |
| 200                                                   | 199 | 540 | 140 | 400 | 216 | 131 |   |   |    |
| 224                                                   | 219 | 620 | 160 | 460 | 226 | 141 |   |   |    |
| 250                                                   | 249 | 650 | 170 | 480 | 241 | 156 |   |   |    |
| 300                                                   | 299 | 780 | 210 | 570 | 266 | 181 |   |   |    |
| 315                                                   | 312 | 810 | 220 | 590 | 272 | 188 |   |   |    |
| 350                                                   | 349 | 850 | 230 | 620 | 291 | 206 |   |   |    |
| 400                                                   | 398 | 950 | 250 | 700 | 315 | 231 |   |   |    |

Rohrklappkästen DN 450–630 auf Anfrage.  
Two-way asymmetrical valves DN 450–630 upon request.

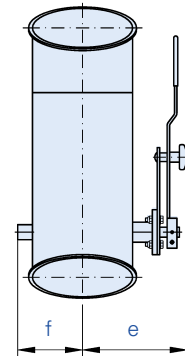
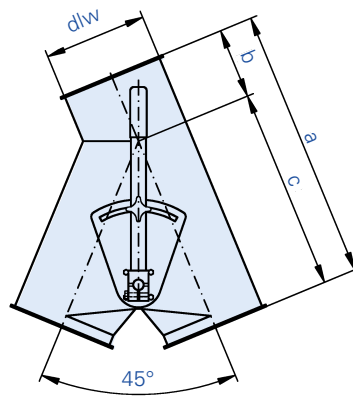
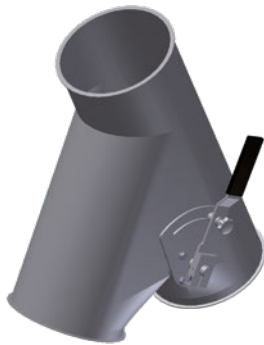
Ausführung in anderen Gradzahlen auf Anfrage.  
Types with different degrees upon request.

Allgemeine technische Hinweise Seite 112/113  
For technical details see page 112/113

| DC 01 2 mm                         |        | DC 01 3 mm                         |         | DC 01 2 mm                   |         | VA 1.4301 2 mm               |         |
|------------------------------------|--------|------------------------------------|---------|------------------------------|---------|------------------------------|---------|
| pulverbeschichtet<br>powder coated |        | pulverbeschichtet<br>powder coated |         | galv. verzinkt<br>galvanized |         | Edelstahl<br>stainless steel |         |
| Art.-Nr.                           | €      | Art.-Nr.                           | €       | Art.-Nr.                     | €       | Art.-Nr.                     | €       |
| 1021370                            | 163,80 |                                    |         | 1022370                      | 199,70  | 1023370                      | 375,00  |
| 1221370                            | 183,80 |                                    |         | 1222370                      | 221,40  | 1223370                      | 414,80  |
| 1521370                            | 205,30 | 1531370                            | 287,90  | 1522370                      | 244,90  | 1523370                      | 521,70  |
| 1721370                            | 264,60 | 1731370                            | 368,70  | 1722370                      | 327,80  | 1723370                      | 659,60  |
| 2021370                            | 330,20 | 2031370                            | 433,70  | 2022370                      | 411,50  | 2023370                      | 768,30  |
| 2221370                            | 392,10 | 2231370                            | 497,20  | 2222370                      | 480,40  | 2223370                      | 864,90  |
| 2521370                            | 457,50 | 2531370                            | 598,40  | 2522370                      | 566,80  | 2523370                      | 1028,50 |
| 3021370                            | 525,00 | 3031370                            | 634,40  | 3022370                      | 633,70  | 3023370                      | 1187,40 |
| 3121370                            | 630,60 | 3131370                            | 753,30  | 3122370                      | 749,80  | 3123370                      | 1378,90 |
| 3521370                            | 785,70 | 3531370                            | 958,70  | 3522370                      | 919,80  | 3523370                      | 1689,70 |
| 4021370                            | 897,70 | 4031370                            | 1184,50 | 4022370                      | 1050,80 | 4023370                      | 1967,80 |

Auch als Atex-Ausführung lieferbar, Preise auf Anfrage, bitte geben Sie die gewünschte Zone an  
Also available as Atex version, price on request, please specify the desired zone

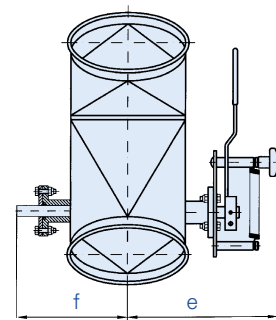
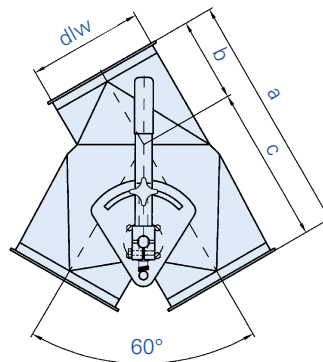
**Rohrklappkästen 45°, asymmetrisch, runde Bauform / Two-way asymmetrical valves 45°, round design**



mit Klappendichtung NBR, und Radialwellendichtring Viton als Wellenabdichtung

*with valve-sealing NBR and radial-shaft-sealing-rings Viton*

**Rohrklappkästen 60°, asymmetrisch, eckig auf rund / Two-way asymmetrical valves 60°, square to round**



mit Klappendichtung Si, mit Radialwellendichtring Viton als Wellenabdichtung

*with valve-sealing Si and radial-shaft-sealing-rings Viton*

| Nennweite<br>Nominal diameter                         |     |     |     |     |     |     |   |   |    |
|-------------------------------------------------------|-----|-----|-----|-----|-----|-----|---|---|----|
| Maße für 2 mm Rohrbau<br>Measurements for 2 mm piping |     |     |     |     |     |     |   |   |    |
| DN                                                    | d/w | a   | b   | c   | e   | f   | g | i | kg |
| 100                                                   | 99  | 360 | 100 | 260 | 166 | 71  |   |   |    |
| 120                                                   | 119 | 390 | 110 | 280 | 176 | 81  |   |   |    |
| 150                                                   | 149 | 430 | 115 | 315 | 191 | 96  |   |   |    |
| 175                                                   | 174 | 475 | 125 | 350 | 203 | 109 |   |   |    |
| 200                                                   | 199 | 540 | 140 | 400 | 216 | 131 |   |   |    |
| 224                                                   | 219 | 620 | 160 | 460 | 226 | 141 |   |   |    |
| 250                                                   | 249 | 650 | 170 | 480 | 241 | 156 |   |   |    |
| 300                                                   | 299 | 780 | 210 | 570 | 266 | 181 |   |   |    |
| 315                                                   | 312 | 810 | 220 | 590 | 272 | 188 |   |   |    |
| 350                                                   | 349 | 850 | 230 | 620 | 291 | 206 |   |   |    |
| 400                                                   | 398 | 950 | 250 | 700 | 315 | 231 |   |   |    |

Rohrklappkästen DN 450–630 auf Anfrage.  
Two-way asymmetrical valves DN 450–630 upon request.

Ausführung in anderen Gradzahlen auf Anfrage.  
Types with different degrees upon request.

Allgemeine technische Hinweise Seite 112/113  
For technical details see page 112/113

| DC 01 2 mm                         |        | DC 01 3 mm                         |        | DC 01 2 mm                   |        | VA 1.4301 2 mm               |         |
|------------------------------------|--------|------------------------------------|--------|------------------------------|--------|------------------------------|---------|
| pulverbeschichtet<br>powder coated |        | pulverbeschichtet<br>powder coated |        | galv. verzinkt<br>galvanized |        | Edelstahl<br>stainless steel |         |
| Art.-Nr.                           | €      | Art.-Nr.                           | €      | Art.-Nr.                     | €      | Art.-Nr.                     | €       |
| 1021421                            | 252,60 |                                    |        | 1022421                      | 287,60 | 1023421                      | 385,70  |
| 1221421                            | 255,60 |                                    |        | 1222421                      | 293,40 | 1223421                      | 410,90  |
| 1521421                            | 267,20 | 1531421                            | 276,00 | 1522421                      | 307,90 | 1523421                      | 469,30  |
| 1721421                            | 299,20 | 1731421                            | 318,40 | 1722421                      | 351,80 | 1723421                      | 595,60  |
| 2021421                            | 301,20 | 2031421                            | 342,30 | 2022421                      | 368,10 | 2023421                      | 631,50  |
| 2221421                            | 307,10 | 2231421                            | 365,80 | 2222421                      | 394,40 | 2223421                      | 660,60  |
| 2521421                            | 310,90 | 2531421                            | 411,90 | 2522421                      | 403,20 | 2523421                      | 714,20  |
| 3021421                            | 394,40 | 3031421                            | 502,00 | 3022421                      | 497,50 | 3023421                      | 856,60  |
| 3121421                            | 535,30 | 3131421                            | 628,00 | 3122421                      | 615,00 | 3123421                      | 1010,30 |
| 3521421                            | 707,20 | 3531421                            | 822,90 | 3522421                      | 798,70 | 3523421                      | 1257,10 |
| 4021421                            | 769,50 | 4031421                            | 949,90 | 4022421                      | 873,40 | 4023421                      | 1405,70 |

Auch als Atex-Ausführung lieferbar, Preise auf Anfrage, bitte geben Sie die gewünschte Zone an  
Also available as Atex version, price on request, please specify the desired zone

| Nennweite<br>Nominal diameter                         |     |     |     |     |     |     |   |   |    |
|-------------------------------------------------------|-----|-----|-----|-----|-----|-----|---|---|----|
| Maße für 2 mm Rohrbau<br>Measurements for 2 mm piping |     |     |     |     |     |     |   |   |    |
| DN                                                    | d/w | a   | b   | c   | e   | f   | g | i | kg |
| 100                                                   | 99  | 260 | 90  | 170 | 211 | 143 |   |   |    |
| 120                                                   | 119 | 300 | 100 | 200 | 222 | 157 |   |   |    |
| 150                                                   | 149 | 370 | 120 | 250 | 237 | 171 |   |   |    |
| 175                                                   | 174 | 395 | 135 | 260 | 250 | 185 |   |   |    |
| 200                                                   | 199 | 430 | 150 | 280 | 264 | 197 |   |   |    |
| 224                                                   | 219 | 450 | 150 | 300 | 275 | 208 |   |   |    |
| 250                                                   | 249 | 496 | 166 | 330 | 289 | 223 |   |   |    |
| 300                                                   | 299 | 565 | 185 | 380 | 314 | 248 |   |   |    |
| 315                                                   | 312 | 580 | 190 | 390 | 321 | 255 |   |   |    |
| 350                                                   | 349 | 601 | 195 | 406 | 357 | 291 |   |   |    |
| 400                                                   | 398 | 680 | 220 | 460 | 382 | 316 |   |   |    |

Rohrklappkästen DN 450–630 auf Anfrage.  
Two-way asymmetrical valves DN 450–630 upon request.

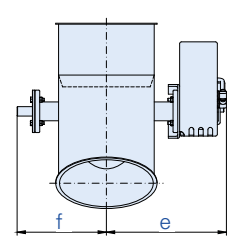
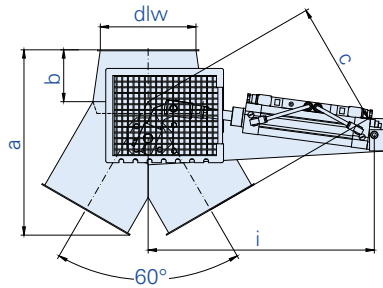
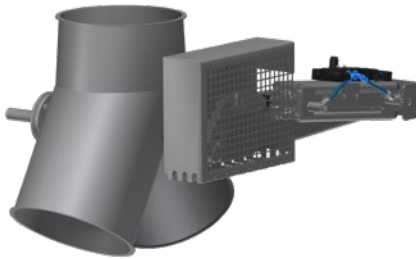
Ausführung in anderen Gradzahlen auf Anfrage.  
Types with different degrees upon request.

Allgemeine technische Hinweise Seite 112/113  
For technical details see page 112/113

| DC 01 2 mm                         |        | DC 01 3 mm                         |        | DC 01 2 mm                   |         | VA 1.4301 2 mm               |         |
|------------------------------------|--------|------------------------------------|--------|------------------------------|---------|------------------------------|---------|
| pulverbeschichtet<br>powder coated |        | pulverbeschichtet<br>powder coated |        | galv. verzinkt<br>galvanized |         | Edelstahl<br>stainless steel |         |
| Art.-Nr.                           | €      | Art.-Nr.                           | €      | Art.-Nr.                     | €       | Art.-Nr.                     | €       |
| 1021201                            | 297,20 |                                    |        | 1022201                      | 338,30  | 1023201                      | 453,80  |
| 1221201                            | 300,70 |                                    |        | 1222201                      | 345,20  | 1223201                      | 483,50  |
| 1521201                            | 314,40 | 1531201                            | 360,10 | 1522201                      | 362,40  | 1523201                      | 552,00  |
| 1721201                            | 352,00 | 1731201                            | 391,00 | 1722201                      | 413,80  | 1723201                      | 700,60  |
| 2021201                            | 354,40 | 2031201                            | 395,50 | 2022201                      | 433,20  | 2023201                      | 742,90  |
| 2221201                            | 361,10 | 2231201                            | 400,10 | 2222201                      | 464,00  | 2223201                      | 777,20  |
| 2521201                            | 365,80 | 2531201                            | 424,80 | 2522201                      | 474,40  | 2523201                      | 840,20  |
| 3021201                            | 464,00 | 3031201                            | 516,10 | 3022201                      | 585,20  | 3023201                      | 1007,80 |
| 3121201                            | 629,80 | 3131201                            | 676,70 | 3122201                      | 723,50  | 3123201                      | 1188,70 |
| 3521201                            | 832,00 | 3531201                            | 878,90 | 3522201                      | 939,60  | 3523201                      | 1479,00 |
| 4021201                            | 905,30 | 4031201                            | 952,10 | 4022201                      | 1027,60 | 4023201                      | 1653,90 |

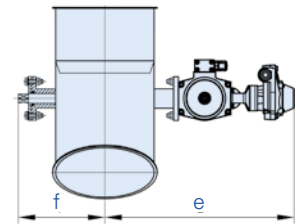
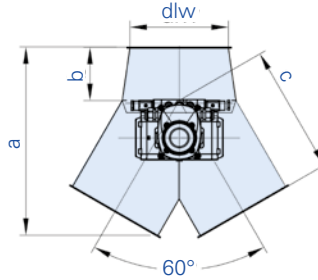
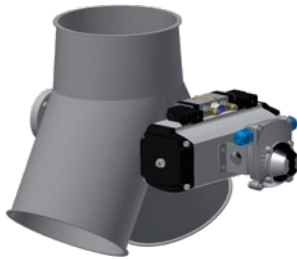
Auch als Atex-Ausführung lieferbar, Preise auf Anfrage, bitte geben Sie die gewünschte Zone an  
Also available as Atex version, price on request, please specify the desired zone

**Deckenklappkästen 60°, symmetrisch, mit Innenkragen** / *Two-way symmetrical valves 60°, with inner collar*



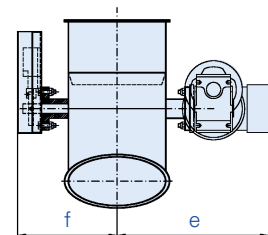
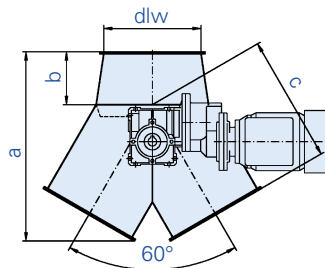
ohne Klappendichtung, mit Radialwellendichtringen Viton als Wellenabdichtung, pneumatisch betätigt, einschließlich Zylindereinheit bestehend aus Zylinder, Magnetventil (bistabil) und 2 Magnetfeldschaltern  
*without valve-sealing, with radial-shaft-sealing-rings Viton, pneumatically operated, incl. cylinder-unit consisting of cylinder, solenoid valve (bistable) and 2 proximity reed switches*

**Deckenklappkästen 60°, symmetrisch, mit Innenkragen** / *Two-way symmetrical valves 60°, with inner collar*



ohne Klappendichtung, mit Radialwellendichtringen Viton pneumatisch betätigt mit Drehantrieb, Magnetventil (bistabil) Endschalterbox mit Stellungsanzeige und 2 mechanischen Endschaltern. Magnetventil und Endschalter komplett in Endschalterbox verdrahtet  
*without valve-sealing, with radial-shaft-sealing-rings Viton, pneumatic rotary actuator, solenoid valve (bistable), limitswitch-box with position-indicator and 2 mechanical limitswitches. Solenoid valve and limit switches completely wired to switch box*

**Deckenklappkästen 60°, symmetrisch, mit Innenkragen** / *Two-way symmetrical valves 60°, with inner collar*



ohne Klappendichtung, mit Radialwellendichtringen Viton als Wellenabdichtung, elektrisch betätigt mit Schneckengetriebemotor und 2 mechanischen Endschaltern  
*without valve-sealing, with radial-shaft-sealing-rings Viton, electrically operated with worm gear motor and 2 mechanical limit switches*

| Nennweite<br>Nominal diameter                         |     |     |     |     |     |     |   |     |    |
|-------------------------------------------------------|-----|-----|-----|-----|-----|-----|---|-----|----|
| Maße für 2 mm Rohrbau<br>Measurements for 2 mm piping |     |     |     |     |     |     |   |     |    |
| DN                                                    | d/w | a   | b   | c   | e   | f   | g | i   | kg |
| 100                                                   | 99  | 182 | 46  | 124 | 214 | 168 |   | 450 |    |
| 120                                                   | 119 | 209 | 41  | 155 | 224 | 178 |   | 450 |    |
| 150                                                   | 149 | 294 | 80  | 200 | 239 | 193 |   | 450 |    |
| 175                                                   | 174 | 303 | 68  | 217 | 253 | 206 |   | 450 |    |
| 200                                                   | 199 | 393 | 110 | 265 | 266 | 218 |   | 480 |    |
| 224                                                   | 219 | 411 | 110 | 280 | 278 | 230 |   | 480 |    |
| 250                                                   | 249 | 445 | 115 | 305 | 291 | 243 |   | 480 |    |
| 300                                                   | 299 | 445 | 85  | 325 | 316 | 268 |   | 480 |    |
| 315                                                   | 312 | 475 | 90  | 350 | 324 | 276 |   | 480 |    |
| 350                                                   | 349 | 567 | 95  | 440 | 340 | 293 |   | 480 |    |
| 400                                                   | 398 | 658 | 105 | 520 | 366 | 318 |   | 480 |    |

Endnummer für Fabrikat und Steuerspannung:  
Bitte der 7stelligen Art.-Nr. zufügen. Für ATEX  
bitte Gerätekategorie (2D/3D) angeben

Please add code for make and signal-current to  
our 7-digit-order-no. For ATEX quote equipment  
category (2D/3D)

|     |     |     |     |     |     |     |  |  |  |
|-----|-----|-----|-----|-----|-----|-----|--|--|--|
| 100 | 99  | 182 | 46  | 124 | 304 | 118 |  |  |  |
| 120 | 119 | 209 | 41  | 155 | 314 | 128 |  |  |  |
| 150 | 149 | 294 | 80  | 200 | 349 | 143 |  |  |  |
| 175 | 174 | 303 | 68  | 217 | 361 | 157 |  |  |  |
| 200 | 199 | 393 | 110 | 265 | 391 | 172 |  |  |  |
| 224 | 219 | 411 | 110 | 280 | 401 | 184 |  |  |  |
| 250 | 249 | 445 | 115 | 305 | 416 | 197 |  |  |  |
| 300 | 299 | 445 | 85  | 325 | 441 | 223 |  |  |  |
| 315 | 312 | 475 | 90  | 350 | 447 | 230 |  |  |  |
| 350 | 349 | 567 | 95  | 440 | 466 | 248 |  |  |  |
| 400 | 398 | 658 | 105 | 520 | 490 | 272 |  |  |  |

Endnummer für Fabrikat und Steuerspannung:  
Bitte der 7stelligen Art.-Nr. zufügen. Für ATEX  
bitte Gerätekategorie (2D/3D) angeben

Please add code for make and signal-current to  
our 7-digit-order-no. For ATEX quote equipment  
category (2D/3D)

|     |     |     |     |     |     |     |  |  |  |
|-----|-----|-----|-----|-----|-----|-----|--|--|--|
| 100 | 99  | 182 | 46  | 124 | 270 | 160 |  |  |  |
| 120 | 119 | 209 | 41  | 155 | 280 | 170 |  |  |  |
| 150 | 149 | 294 | 80  | 200 | 295 | 185 |  |  |  |
| 175 | 174 | 303 | 68  | 217 | 308 | 198 |  |  |  |
| 200 | 199 | 393 | 110 | 265 | 320 | 210 |  |  |  |
| 224 | 219 | 411 | 110 | 280 | 333 | 220 |  |  |  |
| 250 | 249 | 445 | 115 | 305 | 345 | 235 |  |  |  |
| 300 | 299 | 445 | 85  | 325 | 370 | 260 |  |  |  |
| 315 | 312 | 475 | 90  | 350 | 378 | 267 |  |  |  |
| 350 | 349 | 567 | 95  | 440 | 395 | 285 |  |  |  |
| 400 | 398 | 658 | 105 | 520 | 420 | 310 |  |  |  |

Endnummer für Fabrikat und Steuerspannung:  
Bitte der 7stelligen Art.-Nr. zufügen. Für ATEX  
bitte Gerätekategorie (2D/3D) angeben

Please add code for make and signal-current to  
our 7-digit-order-no. For ATEX quote equipment  
category (2D/3D)

Deckenklappkästen DN 450–630 auf Anfrage.  
Two-way symmetrical valves DN 4–630 upon request.

Siehe technische Hinweise Seite 112/113  
For technical details see page 112/113

| DC 01 2 mm                         | DC 01 3 mm                         | DC 01 2 mm                   | VA 1.4301 2 mm               |
|------------------------------------|------------------------------------|------------------------------|------------------------------|
| pulverbeschichtet<br>powder coated | pulverbeschichtet<br>powder coated | galv. verzinkt<br>galvanized | Edelstahl<br>stainless steel |
| €                                  | €                                  | €                            | €                            |
| 1021088                            | 621,70                             | 1022088                      | 666,10                       |
| 1221088                            | 630,10                             | 1222088                      | 680,40                       |
| 1521088                            | 638,80                             | 1522088                      | 699,40                       |
| 1721088                            | 684,10                             | 1722088                      | 746,40                       |
| 2021088                            | 734,60                             | 2022088                      | 824,60                       |
| 2221088                            | 793,40                             | 2222088                      | 877,20                       |
| 2521088                            | 831,10                             | 2522088                      | 926,50                       |
| 3021088                            | 931,60                             | 3022088                      | 1030,10                      |
| 3121088                            | 1073,80                            | 3122088                      | 1184,40                      |
| 3521088                            | 1172,50                            | 3522088                      | 1296,10                      |
| 4021088                            | 1260,80                            | 4022088                      | 1409,10                      |

Fabrikat  
Make  
F1 ..... Festo ..... 230 V, AC  
F3 ..... Festo ..... 24 V, DC

Steuerspannung  
Signal-current

ATEX Zone 21/22, innen Zone 20  
(Gerätekategorie 2D/3D) lieferbar, Preise auf Anfrage  
ATEX Zone 21/22, inner Zone 20  
(equipment category 2D/3D) available, prices on request

Andere Fabrikate auf Anfrage / other products on request

|         |         |         |         |         |         |         |
|---------|---------|---------|---------|---------|---------|---------|
| 1021072 | 646,50  |         | 1022072 | 692,80  | 1023072 | 822,60  |
| 1221072 | 655,30  |         | 1222072 | 707,70  | 1223072 | 852,60  |
| 1521072 | 664,40  | 1531072 | 1522072 | 727,30  | 1523072 | 953,00  |
| 1721072 | 711,50  | 1731072 | 1722072 | 776,40  | 1723072 | 1074,80 |
| 2021072 | 764,00  | 2031072 | 2022072 | 857,50  | 2023072 | 1145,90 |
| 2221072 | 825,20  | 2231072 | 2222072 | 912,30  | 2223072 | 1342,30 |
| 2521072 | 864,50  | 2531072 | 2522072 | 963,70  | 2523072 | 1369,50 |
| 3021072 | 968,80  | 3031072 | 3022072 | 1071,30 | 3023072 | 1509,60 |
| 3121072 | 1116,60 | 3131072 | 3122072 | 1231,80 | 3123072 | 1807,10 |
| 3521072 | 1219,50 | 3531072 | 3522072 | 1347,90 | 3523072 | 2120,70 |
| 4021072 | 1311,20 | 4031072 | 4022072 | 1465,50 | 4023072 | 2382,40 |

Fabrikat  
Make  
A1 ..... Rotork ..... 230 V, AC  
A3 ..... Rotork ..... 24 V, DC

Steuerspannung  
Signal-current

ATEX Zone 21/22, innen Zone 20  
(Gerätekategorie 2D/3D) lieferbar, Preise auf Anfrage  
ATEX Zone 21/22, inner Zone 20  
(equipment category 2D/3D) available, prices on request

|         |         |         |         |         |         |         |
|---------|---------|---------|---------|---------|---------|---------|
| 1021089 | 954,60  |         | 1022089 | 999,00  | 1023089 | 1131,50 |
| 1221089 | 963,00  |         | 1222089 | 1013,40 | 1223089 | 1160,60 |
| 1521089 | 971,80  | 1531089 | 1522089 | 1032,20 | 1523089 | 1258,20 |
| 1721089 | 1017,00 | 1731089 | 1722089 | 1079,30 | 1723089 | 1376,40 |
| 2021089 | 1067,50 | 2031089 | 2022089 | 1157,40 | 2023089 | 1445,50 |
| 2221089 | 1126,30 | 2231089 | 2222089 | 1210,10 | 2223089 | 1636,10 |
| 2521089 | 1164,00 | 2531089 | 2522089 | 1259,40 | 2523089 | 1662,70 |
| 3021089 | 1264,50 | 3031089 | 3022089 | 1362,90 | 3023089 | 1798,50 |
| 3121089 | 1406,60 | 3131089 | 3122089 | 1517,20 | 3123089 | 2087,60 |
| 3521089 | 1505,40 | 3531089 | 3522089 | 1629,00 | 3523089 | 2391,70 |
| 4021089 | 1593,70 | 4031089 | 4022089 | 1742,10 | 4023089 | 2645,90 |

Fabrikat  
Make  
G5 ..... Getriebepack Nord ..... 400 V, 50Hz  
(Schnecken-Getriebemotor / worm gear)

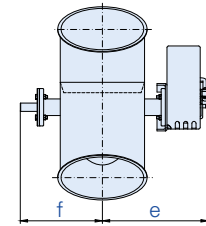
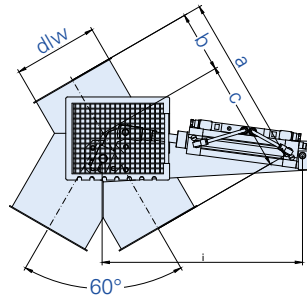
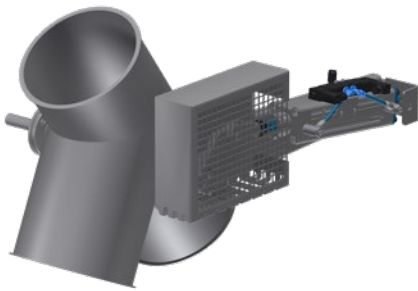
Steuerspannung  
Signal-current

ATEX Zone 21/22, innen Zone 20  
(Gerätekategorie 2D/3D) lieferbar, Preise auf Anfrage  
ATEX Zone 21/22, inner Zone 20  
(equipment category 2D/3D) available, prices on request

Weitere Ausstattungen wie z.B. Stellungsregler,  
Heizung auf Anfrage.

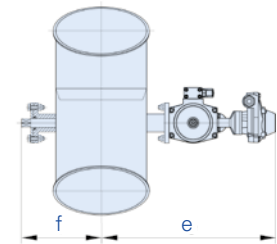
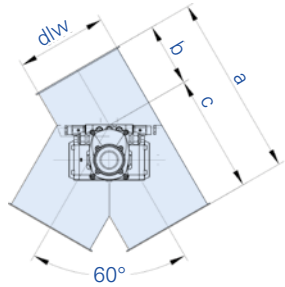
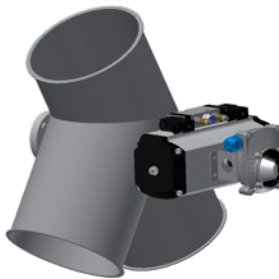
Additional fittings e.g. position regulator, heating  
upon request.

**Rohrklappkästen 60°, asymmetrisch, mit Innenkragen** / *Two-way asymmetrical valves 60°, with inner collar*



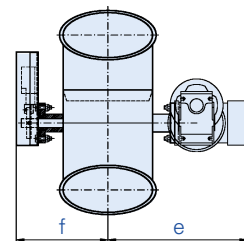
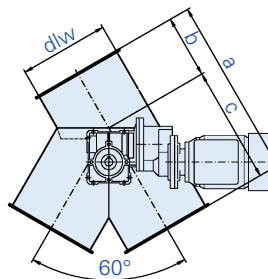
ohne Klappendichtung, mit Radialwellendichtringen Viton als Wellenabdichtung, pneumatisch betätigt, einschließlich Zylindereinheit bestehend aus Zylinder, Magnetventil (bistabil) und 2 Magnetfeldschaltern  
*without valve-sealing, with radial-shaft-sealing-rings Viton, pneumatically operated, incl. cylinder-unit consisting of cylinder, solenoid valve (bistable) and 2 proximity reed switches*

**Rohrklappkästen 60°, asymmetrisch, mit Innenkragen** / *Two-way asymmetrical valves 60°, with inner collar*



ohne Klappendichtung, mit Radialwellendichtringen Viton pneumatisch betätigt mit Drehantrieb, Magnetventil (bistabil) Endschalterbox mit Stellungsanzeige und 2 mechanischen Endschaltern. Magnetventil und Endschalter komplett in Endschalterbox verdrahtet  
*without valve-sealing, with radial-shaft-sealing-rings Viton, pneumatic rotary actuator, solenoid valve (bistable), limitswitch-box with position-indicator and 2 mechanical limit switches. Solenoid valve and limit switches completely wired to switch box*

**Rohrklappkästen 60°, asymmetrisch, mit Innenkragen** / *Two-way asymmetrical valves 60°, with inner collar*



ohne Klappendichtung, mit Radialwellendichtringen Viton als Wellenabdichtung, elektrisch betätigt mit Schneckengetriebemotor und 2 mechanischen Endschaltern  
*without valve-sealing, with radial-shaft-sealing-rings Viton, electrically operated with worm gear motor and 2 mechanical limit switches*

| Nennweite<br>Nominal diameter                         |     |     |     |     |     |     |   |   |    |
|-------------------------------------------------------|-----|-----|-----|-----|-----|-----|---|---|----|
| Maße für 2 mm Rohrbau<br>Measurements for 2 mm piping |     |     |     |     |     |     |   |   |    |
| DN                                                    | d/w | a   | b   | c   | e   | f   | g | i | kg |
| 100                                                   | 99  | 184 | 60  | 124 | 214 | 168 |   |   |    |
| 120                                                   | 119 | 217 | 62  | 155 | 224 | 178 |   |   |    |
| 150                                                   | 149 | 300 | 100 | 200 | 239 | 193 |   |   |    |
| 175                                                   | 174 | 314 | 97  | 217 | 253 | 206 |   |   |    |
| 200                                                   | 199 | 413 | 148 | 265 | 266 | 218 |   |   |    |
| 224                                                   | 219 | 430 | 150 | 280 | 278 | 230 |   |   |    |
| 250                                                   | 249 | 460 | 155 | 305 | 291 | 243 |   |   |    |
| 300                                                   | 299 | 505 | 180 | 325 | 316 | 268 |   |   |    |
| 315                                                   | 312 | 510 | 160 | 350 | 324 | 276 |   |   |    |
| 350                                                   | 349 | 590 | 150 | 440 | 340 | 293 |   |   |    |
| 400                                                   | 398 | 690 | 170 | 520 | 366 | 318 |   |   |    |

Endnummer für Fabrikat und Steuerspannung:  
Bitte der 7stelligen Art.-Nr. zufügen. Für ATEX  
bitte Gerätekategorie (2D/3D) angeben

Please add code for make and signal-current to  
our 7-digit-order-no. For ATEX quote equipment  
category (2D/3D)

|     |     |     |     |     |     |     |  |  |  |
|-----|-----|-----|-----|-----|-----|-----|--|--|--|
| 100 | 99  | 184 | 60  | 124 | 304 | 118 |  |  |  |
| 120 | 119 | 217 | 62  | 155 | 314 | 128 |  |  |  |
| 150 | 149 | 300 | 100 | 200 | 349 | 143 |  |  |  |
| 175 | 174 | 314 | 97  | 217 | 361 | 157 |  |  |  |
| 200 | 199 | 413 | 148 | 265 | 391 | 172 |  |  |  |
| 224 | 219 | 430 | 150 | 280 | 401 | 184 |  |  |  |
| 250 | 249 | 460 | 155 | 305 | 416 | 197 |  |  |  |
| 300 | 299 | 505 | 180 | 325 | 441 | 223 |  |  |  |
| 315 | 312 | 510 | 160 | 350 | 447 | 230 |  |  |  |
| 350 | 349 | 590 | 150 | 440 | 466 | 248 |  |  |  |
| 400 | 398 | 690 | 170 | 520 | 490 | 272 |  |  |  |

Endnummer für Fabrikat und Steuerspannung:  
Bitte der 7stelligen Art.-Nr. zufügen. Für ATEX  
bitte Gerätekategorie (2D/3D) angeben

Please add code for make and signal-current to  
our 7-digit-order-no. For ATEX quote equipment  
category (2D/3D)

|     |     |     |     |     |     |     |  |  |  |
|-----|-----|-----|-----|-----|-----|-----|--|--|--|
| 100 | 99  | 184 | 60  | 124 | 270 | 160 |  |  |  |
| 120 | 119 | 217 | 62  | 155 | 280 | 170 |  |  |  |
| 150 | 149 | 300 | 100 | 200 | 295 | 185 |  |  |  |
| 175 | 174 | 314 | 97  | 217 | 308 | 198 |  |  |  |
| 200 | 199 | 413 | 148 | 265 | 320 | 210 |  |  |  |
| 224 | 219 | 430 | 150 | 280 | 333 | 220 |  |  |  |
| 250 | 249 | 460 | 155 | 305 | 315 | 235 |  |  |  |
| 300 | 299 | 505 | 180 | 325 | 370 | 260 |  |  |  |
| 315 | 312 | 510 | 160 | 350 | 378 | 267 |  |  |  |
| 350 | 349 | 590 | 150 | 440 | 395 | 285 |  |  |  |
| 400 | 398 | 690 | 170 | 520 | 420 | 310 |  |  |  |

Endnummer für Fabrikat und Steuerspannung:  
Bitte der 7stelligen Art.-Nr. zufügen. Für ATEX  
bitte Gerätekategorie (2D/3D) angeben

Please add code for make and signal-current to  
our 7-digit-order-no. For ATEX quote equipment  
category (2D/3D)

Rohrklappkästen DN 450–630 auf Anfrage.  
Two-way asymmetrical valves DN 450–630 upon request.

| DC 01 2 mm                         |         | DC 01 3 mm                         |         | DC 01 2 mm                   |         | VA 1.4301 2 mm               |         |
|------------------------------------|---------|------------------------------------|---------|------------------------------|---------|------------------------------|---------|
| pulverbeschichtet<br>powder coated |         | pulverbeschichtet<br>powder coated |         | galv. verzinkt<br>galvanized |         | Edelstahl<br>stainless steel |         |
| Art.-Nr.                           | €       | Art.-Nr.                           | €       | Art.-Nr.                     | €       | Art.-Nr.                     | €       |
| 1021090                            | 621,70  |                                    |         | 1022090                      | 666,10  | 1023090                      | 798,70  |
| 1221090                            | 630,10  |                                    |         | 1222090                      | 680,40  | 1223090                      | 827,80  |
| 1521090                            | 638,80  | 1531090                            | 693,50  | 1522090                      | 699,40  | 1523090                      | 925,20  |
| 1721090                            | 684,10  | 1731090                            | 747,50  | 1722090                      | 746,40  | 1723090                      | 1043,50 |
| 2021090                            | 734,60  | 2031090                            | 796,60  | 2022090                      | 824,60  | 2023090                      | 1112,60 |
| 2221090                            | 793,40  | 2231090                            | 898,40  | 2222090                      | 877,20  | 2223090                      | 1303,20 |
| 2521090                            | 831,10  | 2531090                            | 930,30  | 2522090                      | 926,50  | 2523090                      | 1329,70 |
| 3021090                            | 931,60  | 3031090                            | 1021,70 | 3022090                      | 1030,10 | 3023090                      | 1465,60 |
| 3121090                            | 1073,80 | 3131090                            | 1176,00 | 3122090                      | 1184,40 | 3123090                      | 1754,60 |
| 3521090                            | 1172,50 | 3531090                            | 1278,90 | 3522090                      | 1296,10 | 3523090                      | 2058,90 |
| 4021090                            | 1260,80 | 4031090                            | 1467,60 | 4022090                      | 1409,10 | 4023090                      | 2313,00 |

Fabrikat  
Make  
F1 ..... Festo ..... 230 V, AC  
F3 ..... Festo ..... 24 V, DC

Steuerspannung  
Signal-current

ATEX Zone 21/22, innen Zone 20  
(Gerätekategorie 2D/3D) lieferbar, Preise auf Anfrage  
ATEX Zone 21/22, inner Zone 20  
(equipment category 2D/3D) available, prices on request

Andere Fabrikate auf Anfrage / other products on request

|         |         |         |         |         |         |         |         |
|---------|---------|---------|---------|---------|---------|---------|---------|
| 1021074 | 646,50  |         |         | 1022074 | 692,80  | 1023074 | 822,60  |
| 1221074 | 655,30  |         |         | 1222074 | 707,70  | 1223074 | 852,60  |
| 1521074 | 664,40  | 1531074 | 721,40  | 1522074 | 727,30  | 1523074 | 953,00  |
| 1721074 | 711,50  | 1731074 | 777,30  | 1722074 | 776,40  | 1723074 | 1074,80 |
| 2021074 | 764,00  | 2031074 | 828,60  | 2022074 | 857,50  | 2023074 | 1146,00 |
| 2221074 | 825,20  | 2231074 | 934,40  | 2222074 | 912,30  | 2223074 | 1342,30 |
| 2521074 | 864,50  | 2531074 | 967,60  | 2522074 | 963,70  | 2523074 | 1369,50 |
| 3021074 | 968,80  | 3031074 | 1062,60 | 3022074 | 1071,30 | 3023074 | 1509,60 |
| 3121074 | 1116,60 | 3131074 | 1223,20 | 3122074 | 1231,80 | 3123074 | 1807,10 |
| 3521074 | 1219,50 | 3531074 | 1330,10 | 3522074 | 1347,90 | 3523074 | 2120,70 |
| 4021074 | 1311,20 | 4031074 | 1526,30 | 4022074 | 1465,50 | 4023074 | 2382,40 |

Fabrikat  
Make  
A1 ..... Rotork ..... 230 V, AC  
A3 ..... Rotork ..... 24 V, DC

Steuerspannung  
Signal-current

ATEX Zone 21/22, innen Zone 20  
(Gerätekategorie 2D/3D) lieferbar, Preise auf Anfrage  
ATEX Zone 21/22, inner Zone 20  
(equipment category 2D/3D) available, prices on request

|         |         |         |         |         |         |         |         |
|---------|---------|---------|---------|---------|---------|---------|---------|
| 1021091 | 954,60  |         |         | 1022091 | 999,00  | 1023091 | 1131,50 |
| 1221091 | 963,00  |         |         | 1222091 | 1013,40 | 1223091 | 1160,60 |
| 1521091 | 971,80  | 1531091 | 1026,40 | 1522091 | 1032,20 | 1523091 | 1258,20 |
| 1721091 | 1017,00 | 1731091 | 1080,30 | 1722091 | 1079,30 | 1723091 | 1376,40 |
| 2021091 | 1067,50 | 2031091 | 1129,50 | 2022091 | 1157,40 | 2023091 | 1445,50 |
| 2221091 | 1126,30 | 2231091 | 1231,30 | 2222091 | 1210,10 | 2223091 | 1636,10 |
| 2521091 | 1164,00 | 2531091 | 1263,20 | 2522091 | 1259,40 | 2523091 | 1662,70 |
| 3021091 | 1264,50 | 3031091 | 1354,70 | 3022091 | 1362,90 | 3023091 | 1798,50 |
| 3121091 | 1406,60 | 3131091 | 1509,00 | 3122091 | 1517,20 | 3123091 | 2087,60 |
| 3521091 | 1505,40 | 3531091 | 1611,80 | 3522091 | 1629,00 | 3523091 | 2391,70 |
| 4021091 | 1593,70 | 4031091 | 1800,40 | 4022091 | 1742,10 | 4023091 | 2645,90 |

Fabrikat  
Make  
G5 ..... Getriebebau Nord ..... 400 V, 50Hz  
(Schnecken-Getriebemotor / worm gear)

Steuerspannung  
Signal-current

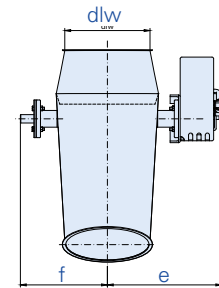
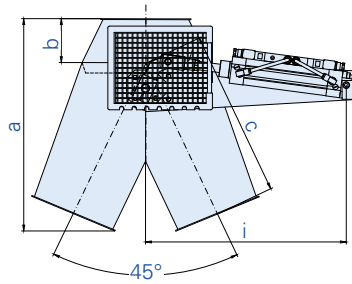
ATEX Zone 21/22, innen Zone 20  
(Gerätekategorie 2D/3D) lieferbar, Preise auf Anfrage  
ATEX Zone 21/22, inner Zone 20  
(equipment category 2D/3D) available, prices on request

Weitere Ausstattungen wie z.B. Stellungsregler,  
Heizung auf Anfrage.

Additional fittings e.g. position regulator, heating  
upon request.

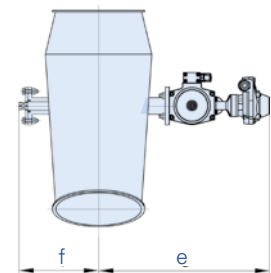
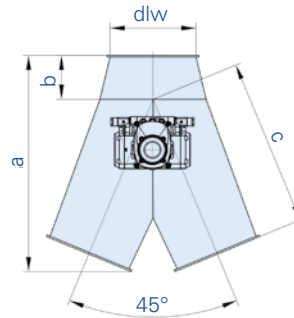
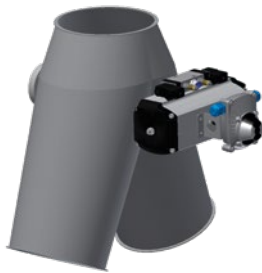
Siehe technische Hinweise Seite 112/113  
For technical details see page 112/113

**Deckenklappkästen 45°, symmetrisch, mit Innenkragen** / *Two-way symmetrical valves 45°, with inner collar*



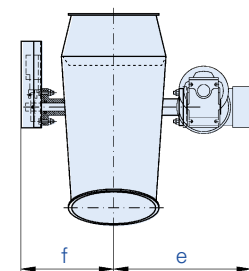
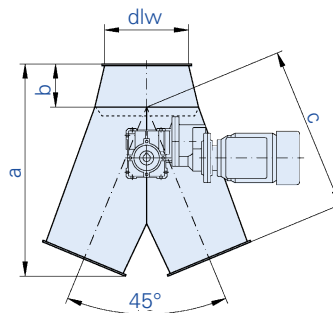
ohne Klappendichtung, mit Radialwellendichtringen Viton als Wellenabdichtung, pneumatisch betätigt, einschließlich Zylindereinheit bestehend aus Zylinder, Magnetventil (bistabil) und 2 Magnetfeldschaltern  
*without valve-sealing, with radial-shaft-sealing-rings Viton, pneumatically operated, incl. cylinder-unit consisting of cylinder, solenoid valve (bistable) and 2 proximity reed switches*

**Deckenklappkästen 45°, symmetrisch, mit Innenkragen** / *Two-way symmetrical valves 45°, with inner collar*



ohne Klappendichtung, mit Radialwellendichtringen Viton, pneumatisch betätigt mit Drehantrieb, Magnetventil (bistabil) Endschalterbox mit Stellungsanzeige und 2 mechanischen Endschaltern. Magnetventil und Endschalter komplett in Endschalterbox verdrahtet  
*without valve-sealing, with radial-shaft-sealing-rings Viton, pneumatic rotary actuator, solenoid valve (bistable), limitswitch-box with position-indicator and 2 mechanical limitswitches. Solenoid valve and limit switches completely wired to switch box*

**Deckenklappkästen 45°, symmetrisch, mit Innenkragen** / *Two-way symmetrical valves 45°, with inner collar*



ohne Klappendichtung, mit Radialwellendichtringen Viton als Wellenabdichtung, elektrisch betätigt mit Schneckengetriebemotor und 2 mechanischen Endschaltern  
*without valve-sealing, with radial-shaft-sealing-rings Viton, electrically operated with worm gear motor and 2 mechanical limit switches*

| Nennweite<br>Nominal diameter                         |     |     |     |     |     |     |   |     |    |
|-------------------------------------------------------|-----|-----|-----|-----|-----|-----|---|-----|----|
| Maße für 2 mm Rohrbau<br>Measurements for 2 mm piping |     |     |     |     |     |     |   |     |    |
| DN                                                    | d/w | a   | b   | c   | e   | f   | g | i   | kg |
| 100                                                   | 99  | 326 | 65  | 260 | 214 | 168 |   | 450 |    |
| 120                                                   | 119 | 353 | 70  | 280 | 224 | 178 |   | 450 |    |
| 150                                                   | 149 | 397 | 75  | 315 | 239 | 193 |   | 450 |    |
| 175                                                   | 174 | 448 | 90  | 350 | 253 | 206 |   | 450 |    |
| 200                                                   | 199 | 515 | 105 | 400 | 266 | 218 |   | 480 |    |
| 224                                                   | 219 | 590 | 120 | 460 | 278 | 230 |   | 480 |    |
| 250                                                   | 249 | 625 | 130 | 480 | 291 | 243 |   | 480 |    |
| 300                                                   | 299 | 748 | 160 | 570 | 316 | 268 |   | 480 |    |
| 315                                                   | 312 | 780 | 170 | 590 | 324 | 276 |   | 480 |    |
| 350                                                   | 349 | 828 | 185 | 620 | 340 | 293 |   | 480 |    |
| 400                                                   | 398 | 930 | 205 | 700 | 366 | 318 |   | 480 |    |

Endnummer für Fabrikat und Steuerspannung:  
Bitte der 7stelligen Art.-Nr. zufügen. Für ATEX  
bitte Gerätekategorie (2D/3D) angeben

Please add code for make and signal-current to  
our 7-digit-order-no. For ATEX quote equipment  
category (2D/3D)

|     |     |     |     |     |     |     |  |  |  |
|-----|-----|-----|-----|-----|-----|-----|--|--|--|
| 100 | 99  | 326 | 65  | 260 | 337 | 118 |  |  |  |
| 120 | 119 | 353 | 70  | 280 | 345 | 128 |  |  |  |
| 150 | 149 | 397 | 75  | 315 | 360 | 143 |  |  |  |
| 175 | 174 | 448 | 90  | 350 | 372 | 157 |  |  |  |
| 200 | 199 | 515 | 105 | 400 | 406 | 172 |  |  |  |
| 224 | 219 | 590 | 120 | 460 | 416 | 184 |  |  |  |
| 250 | 249 | 625 | 130 | 480 | 439 | 197 |  |  |  |
| 300 | 299 | 748 | 160 | 570 | 464 | 223 |  |  |  |
| 315 | 312 | 780 | 170 | 590 | 479 | 230 |  |  |  |
| 350 | 349 | 828 | 185 | 620 | 499 | 248 |  |  |  |
| 400 | 398 | 930 | 205 | 700 | 531 | 272 |  |  |  |

Endnummer für Fabrikat und Steuerspannung:  
Bitte der 7stelligen Art.-Nr. zufügen. Für ATEX  
bitte Gerätekategorie (2D/3D) angeben

Please add code for make and signal-current to  
our 7-digit-order-no. For ATEX quote equipment  
category (2D/3D)

|     |     |     |     |     |     |     |  |  |  |
|-----|-----|-----|-----|-----|-----|-----|--|--|--|
| 100 | 99  | 326 | 65  | 260 | 270 | 160 |  |  |  |
| 120 | 119 | 353 | 70  | 280 | 280 | 170 |  |  |  |
| 150 | 149 | 397 | 75  | 315 | 295 | 185 |  |  |  |
| 175 | 174 | 448 | 90  | 350 | 308 | 198 |  |  |  |
| 200 | 199 | 515 | 105 | 400 | 320 | 210 |  |  |  |
| 224 | 219 | 590 | 120 | 460 | 333 | 220 |  |  |  |
| 250 | 249 | 625 | 130 | 480 | 345 | 235 |  |  |  |
| 300 | 299 | 748 | 160 | 570 | 370 | 260 |  |  |  |
| 315 | 312 | 780 | 170 | 590 | 378 | 267 |  |  |  |
| 350 | 349 | 828 | 185 | 620 | 395 | 285 |  |  |  |
| 400 | 398 | 930 | 205 | 700 | 420 | 310 |  |  |  |

Endnummer für Fabrikat und Steuerspannung:  
Bitte der 7stelligen Art.-Nr. zufügen. Für ATEX  
bitte Gerätekategorie (2D/3D) angeben

Please add code for make and signal-current to  
our 7-digit-order-no. For ATEX quote equipment  
category (2D/3D)

Deckenklappkästen DN 450–630 auf Anfrage.  
Two-way asymmetrical valves DN 450–630 upon request.

Siehe technische Hinweise Seite 112/113  
For technical details see page 112/113

| DC 01 2 mm                         |         | DC 01 3 mm                         |         | DC 01 2 mm                   |         | VA 1.4301 2 mm               |         |
|------------------------------------|---------|------------------------------------|---------|------------------------------|---------|------------------------------|---------|
| pulverbeschichtet<br>powder coated |         | pulverbeschichtet<br>powder coated |         | galv. verzinkt<br>galvanized |         | Edelstahl<br>stainless steel |         |
| Art.-Nr.                           | €       | Art.-Nr.                           | €       | Art.-Nr.                     | €       | Art.-Nr.                     | €       |
| 1021388                            | 714,90  |                                    |         | 1022388                      | 766,00  | 1023388                      | 918,40  |
| 1221388                            | 724,50  |                                    |         | 1222388                      | 782,60  | 1223388                      | 952,00  |
| 1521388                            | 734,70  | 1531388                            | 797,50  | 1522388                      | 804,10  | 1523388                      | 1064,10 |
| 1721388                            | 786,80  | 1731388                            | 859,60  | 1722388                      | 858,40  | 1723388                      | 1200,10 |
| 2021388                            | 844,80  | 2031388                            | 916,10  | 2022388                      | 948,20  | 2023388                      | 1279,40 |
| 2221388                            | 912,60  | 2231388                            | 1033,00 | 2222388                      | 1008,80 | 2223388                      | 1498,70 |
| 2521388                            | 955,80  | 2531388                            | 1069,90 | 2522388                      | 1065,60 | 2523388                      | 1529,20 |
| 3021388                            | 1071,30 | 3031388                            | 1175,00 | 3022388                      | 1184,60 | 3023388                      | 1685,50 |
| 3121388                            | 1234,70 | 3131388                            | 1352,60 | 3122388                      | 1362,00 | 3123388                      | 2017,80 |
| 3521388                            | 1348,40 | 3531388                            | 1470,80 | 3522388                      | 1490,50 | 3523388                      | 2367,70 |
| 4021388                            | 1449,90 | 4031388                            | 1687,70 | 4022388                      | 1620,50 | 4023388                      | 2660,00 |

Fabrikat  
Make  
Steuerspannung  
Signal-current  
F1 ..... Festo ..... 230 V, AC  
F3 ..... Festo ..... 24 V, DC

Andere Fabrikate auf Anfrage / other products on request

ATEX Zone 21/22, innen Zone 20  
(Gerätekategorie 2D/3D) lieferbar, Preise auf Anfrage  
ATEX Zone 21/22, inner Zone 20  
(equipment category 2D/3D) available, prices on request

|         |         |         |         |         |         |         |         |
|---------|---------|---------|---------|---------|---------|---------|---------|
| 1021372 | 743,50  |         |         | 1022372 | 796,60  | 1023372 | 946,00  |
| 1221372 | 753,50  |         |         | 1222372 | 813,90  | 1223372 | 980,50  |
| 1521372 | 764,10  | 1531372 | 829,60  | 1522372 | 836,40  | 1523372 | 1096,00 |
| 1721372 | 818,30  | 1731372 | 894,00  | 1722372 | 892,70  | 1723372 | 1236,10 |
| 2021372 | 878,60  | 2031372 | 952,80  | 2022372 | 986,20  | 2023372 | 1317,80 |
| 2221372 | 949,00  | 2231372 | 1074,40 | 2222372 | 1049,20 | 2223372 | 1543,50 |
| 2521372 | 994,20  | 2531372 | 1112,80 | 2522372 | 1108,30 | 2523372 | 1575,00 |
| 3021372 | 1114,00 | 3031372 | 1222,00 | 3022372 | 1232,00 | 3023372 | 1736,10 |
| 3121372 | 1284,20 | 3131372 | 1406,70 | 3122372 | 1416,50 | 3123372 | 2078,30 |
| 3521372 | 1402,40 | 3531372 | 1529,70 | 3522372 | 1550,00 | 3523372 | 2438,60 |
| 4021372 | 1507,90 | 4031372 | 1755,20 | 4022372 | 1685,40 | 4023372 | 2739,70 |

Fabrikat  
Make  
Steuerspannung  
Signal-current  
A1 ..... Rotork ..... 230 V, AC  
A3 ..... Rotork ..... 24 V, DC

ATEX Zone 21/22, innen Zone 20  
(Gerätekategorie 2D/3D) lieferbar, Preise auf Anfrage  
ATEX Zone 21/22, inner Zone 20  
(equipment category 2D/3D) available, prices on request

|         |         |         |         |         |         |         |         |
|---------|---------|---------|---------|---------|---------|---------|---------|
| 1021389 | 1047,70 |         |         | 1022389 | 1098,80 | 1023389 | 1251,40 |
| 1221389 | 1057,50 |         |         | 1222389 | 1115,50 | 1223389 | 1284,90 |
| 1521389 | 1067,60 | 1531389 | 1130,60 | 1522389 | 1137,10 | 1523389 | 1397,00 |
| 1721389 | 1119,70 | 1731389 | 1192,50 | 1722389 | 1191,30 | 1723389 | 1533,10 |
| 2021389 | 1177,70 | 2031389 | 1249,00 | 2022389 | 1281,10 | 2023389 | 1612,30 |
| 2221389 | 1245,40 | 2231389 | 1366,00 | 2222389 | 1341,80 | 2223389 | 1831,60 |
| 2521389 | 1288,80 | 2531389 | 1402,80 | 2522389 | 1398,60 | 2523389 | 1862,00 |
| 3021389 | 1404,20 | 3031389 | 1507,90 | 3022389 | 1517,50 | 3023389 | 2018,40 |
| 3121389 | 1567,60 | 3131389 | 1685,50 | 3122389 | 1694,90 | 3123389 | 2350,60 |
| 3521389 | 1681,30 | 3531389 | 1803,70 | 3522389 | 1823,50 | 3523389 | 2700,60 |
| 4021389 | 1782,80 | 4031389 | 2020,50 | 4022389 | 1953,50 | 4023389 | 2992,80 |

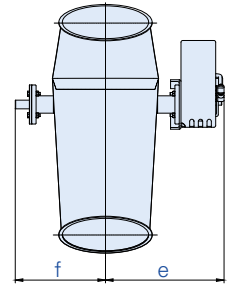
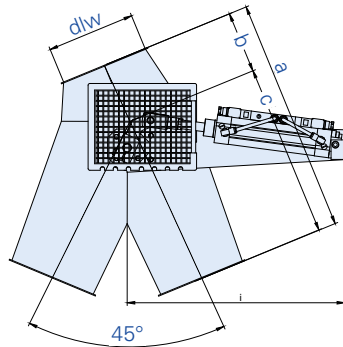
Fabrikat  
Make  
Steuerspannung  
Signal-current  
G5 ..... Getriebebau Nord ..... 400 V, 50Hz  
(Schnecken-Getriebemotor / worm gear)

Weitere Ausstattungen wie z.B. Stellungsregler,  
Heizung auf Anfrage.

Additional fittings e.g. position regulator, heating  
upon request.

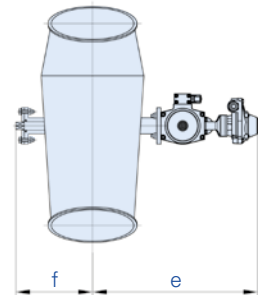
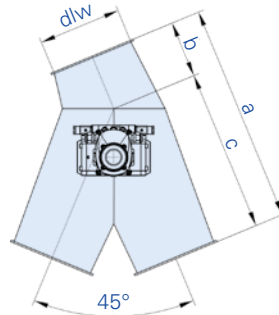
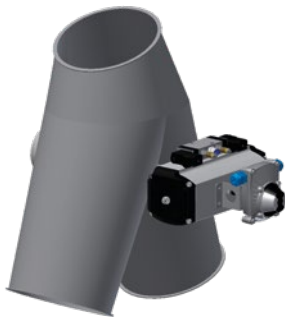
ATEX Zone 21/22, innen Zone 20  
(Gerätekategorie 2D/3D) lieferbar, Preise auf Anfrage  
ATEX Zone 21/22, inner Zone 20  
(equipment category 2D/3D) available, prices on request

**Rohrklappkästen 45°, asymmetrisch, mit Innenkragen** / *Two-way asymmetrical valves 45°, with inner collar*



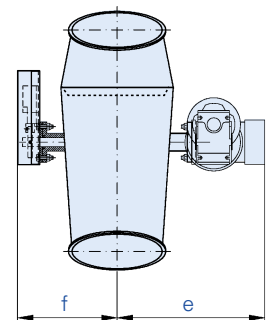
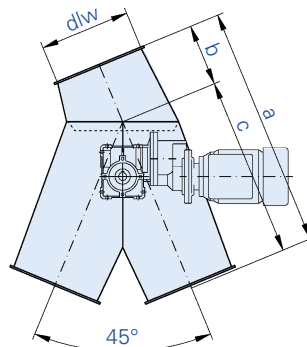
ohne Klappendichtung, mit Radialwellendichtringen Viton als Wellenabdichtung, pneumatisch betätigt, einschließlich Zylindereinheit bestehend aus Zylinder, Magnetventil (bistabil) und 2 Magnetfeldschaltern  
*without valve-sealing, with radial-shaft-sealing-rings Viton, pneumatically operated, incl. cylinder-unit consisting of cylinder, solenoid valve (bistable) and 2 proximity reed switches*

**Rohrklappkästen 45°, asymmetrisch, mit Innenkragen** / *Two-way asymmetrical valves 45°, with inner collar*



ohne Klappendichtung, mit Radialwellendichtringen Viton pneumatisch betätigt mit Drehantrieb, Magnetventil (bistabil) Endschalterbox mit Stellungsanzeige und 2 mechanischen Endschaltern. Magnetventil und Endschalter komplett in Endschalterbox verdrahtet  
*without valve-sealing, with radial-shaft-sealing-rings Viton, pneumatic rotary actuator, solenoid valve (bistable), limitswitch-box with position-indicator and 2 mechanical limit switches. Solenoid valve and limit switches completely wired to switch box*

**Rohrklappkästen 45°, asymmetrisch, mit Innenkragen** / *Two-way asymmetrical valves 45°, with inner collar*



ohne Klappendichtung, mit Radialwellendichtringen Viton als Wellenabdichtung, elektrisch betätigt mit Schneckengetriebemotor und 2 mechanischen Endschaltern  
*without valve-sealing, with radial-shaft-sealing-rings Viton, electrically operated with worm gear motor and 2 mechanical limit switches*

| Nennweite<br>Nominal diameter                         |                 |     |     |     |     |     |   |     |    |
|-------------------------------------------------------|-----------------|-----|-----|-----|-----|-----|---|-----|----|
| Maße für 2 mm Rohrbau<br>Measurements for 2 mm piping |                 |     |     |     |     |     |   |     |    |
| DN                                                    | d <sub>lw</sub> | a   | b   | c   | e   | f   | g | i   | kg |
| 100                                                   | 99              | 360 | 100 | 260 | 214 | 168 |   | 450 |    |
| 120                                                   | 119             | 390 | 110 | 280 | 224 | 178 |   | 450 |    |
| 150                                                   | 149             | 430 | 115 | 315 | 239 | 193 |   | 450 |    |
| 175                                                   | 174             | 475 | 125 | 350 | 253 | 206 |   | 450 |    |
| 200                                                   | 199             | 540 | 140 | 400 | 266 | 218 |   | 480 |    |
| 224                                                   | 219             | 620 | 160 | 460 | 278 | 230 |   | 480 |    |
| 250                                                   | 249             | 650 | 170 | 480 | 291 | 243 |   | 480 |    |
| 300                                                   | 299             | 780 | 210 | 570 | 316 | 268 |   | 480 |    |
| 315                                                   | 312             | 810 | 220 | 590 | 324 | 276 |   | 480 |    |
| 350                                                   | 349             | 850 | 230 | 620 | 340 | 293 |   | 480 |    |
| 400                                                   | 398             | 950 | 250 | 700 | 366 | 318 |   | 480 |    |

Endnummer für Fabrikat und Steuerspannung:  
Bitte der 7stelligen Art.-Nr. zufügen. Für ATEX  
bitte Gerätekategorie (2D/3D) angeben

Please add code for make and signal-current to  
our 7-digit-order-no. For ATEX quote equipment  
category (2D/3D)

|     |     |     |     |     |     |     |  |  |  |
|-----|-----|-----|-----|-----|-----|-----|--|--|--|
| 100 | 99  | 360 | 100 | 260 | 337 | 118 |  |  |  |
| 120 | 119 | 390 | 110 | 280 | 345 | 128 |  |  |  |
| 150 | 149 | 430 | 115 | 315 | 360 | 143 |  |  |  |
| 175 | 174 | 475 | 125 | 350 | 372 | 157 |  |  |  |
| 200 | 199 | 540 | 140 | 400 | 406 | 172 |  |  |  |
| 224 | 219 | 620 | 160 | 460 | 416 | 184 |  |  |  |
| 250 | 249 | 650 | 170 | 480 | 439 | 197 |  |  |  |
| 300 | 299 | 780 | 210 | 570 | 464 | 223 |  |  |  |
| 315 | 312 | 810 | 220 | 590 | 479 | 230 |  |  |  |
| 350 | 349 | 850 | 230 | 620 | 499 | 248 |  |  |  |
| 400 | 398 | 950 | 250 | 700 | 531 | 272 |  |  |  |

Endnummer für Fabrikat und Steuerspannung:  
Bitte der 7stelligen Art.-Nr. zufügen. Für ATEX  
bitte Gerätekategorie (2D/3D) angeben

Please add code for make and signal-current to  
our 7-digit-order-no. For ATEX quote equipment  
category (2D/3D)

|     |     |     |     |     |     |     |  |  |  |
|-----|-----|-----|-----|-----|-----|-----|--|--|--|
| 100 | 99  | 360 | 100 | 260 | 270 | 160 |  |  |  |
| 120 | 119 | 390 | 110 | 280 | 280 | 170 |  |  |  |
| 150 | 149 | 430 | 115 | 315 | 295 | 185 |  |  |  |
| 175 | 174 | 475 | 125 | 350 | 308 | 198 |  |  |  |
| 200 | 199 | 540 | 140 | 400 | 320 | 210 |  |  |  |
| 224 | 219 | 620 | 160 | 460 | 333 | 220 |  |  |  |
| 250 | 249 | 650 | 170 | 480 | 345 | 235 |  |  |  |
| 300 | 299 | 780 | 210 | 570 | 370 | 260 |  |  |  |
| 315 | 312 | 810 | 220 | 590 | 378 | 267 |  |  |  |
| 350 | 349 | 850 | 230 | 620 | 395 | 285 |  |  |  |
| 400 | 398 | 950 | 250 | 700 | 420 | 310 |  |  |  |

Endnummer für Fabrikat und Steuerspannung:  
Bitte der 7stelligen Art.-Nr. zufügen. Für ATEX  
bitte Gerätekategorie (2D/3D) angeben

Please add code for make and signal-current to  
our 7-digit-order-no. For ATEX quote equipment  
category (2D/3D)

Rohrklappkästen DN 450–630 auf Anfrage.  
Two-way asymmetrical valves DN 450–630 upon request.

Siehe technische Hinweise Seite 112/113  
For technical details see page 112/113

| DC 01 2 mm                         |         | DC 01 3 mm                         |         | DC 01 2 mm                   |         | VA 1.4301 2 mm               |         |
|------------------------------------|---------|------------------------------------|---------|------------------------------|---------|------------------------------|---------|
| pulverbeschichtet<br>powder coated |         | pulverbeschichtet<br>powder coated |         | galv. verzinkt<br>galvanized |         | Edelstahl<br>stainless steel |         |
| Art.-Nr.                           | €       | Art.-Nr.                           | €       | Art.-Nr.                     | €       | Art.-Nr.                     | €       |
| 1021390                            | 714,90  |                                    |         | 1022390                      | 766,00  | 1023390                      | 918,40  |
| 1221390                            | 724,50  |                                    |         | 1222390                      | 782,60  | 1223390                      | 952,00  |
| 1521390                            | 734,70  | 1531390                            | 797,50  | 1522390                      | 804,10  | 1523390                      | 1064,10 |
| 1721390                            | 786,80  | 1731390                            | 859,60  | 1722390                      | 858,40  | 1723390                      | 1200,10 |
| 2021390                            | 844,80  | 2031390                            | 916,10  | 2022390                      | 948,20  | 2023390                      | 1279,40 |
| 2221390                            | 912,60  | 2231390                            | 1033,00 | 2222390                      | 1008,80 | 2223390                      | 1498,70 |
| 2521390                            | 955,80  | 2531390                            | 1069,90 | 2522390                      | 1065,60 | 2523390                      | 1529,20 |
| 3021390                            | 1071,30 | 3031390                            | 1175,00 | 3022390                      | 1184,60 | 3023390                      | 1685,50 |
| 3121390                            | 1234,70 | 3131390                            | 1352,60 | 3122390                      | 1362,00 | 3123390                      | 2017,80 |
| 3521390                            | 1348,40 | 3531390                            | 1470,80 | 3522390                      | 1490,50 | 3523390                      | 2367,70 |
| 4021390                            | 1449,90 | 4031390                            | 1687,70 | 4022390                      | 1620,50 | 4023390                      | 2660,00 |

Fabrikat  
Make  
F1 ..... Festo ..... 230 V, AC  
F3 ..... Festo ..... 24 V, DC

Steuerspannung  
Signal-current

ATEX Zone 21/22, innen Zone 20  
(Gerätekategorie 2D/3D) lieferbar, Preise auf Anfrage  
ATEX Zone 21/22, inner Zone 20  
(equipment category 2D/3D) available, prices on request

Andere Fabrikate auf Anfrage / other products on request

|         |         |         |         |         |         |         |         |
|---------|---------|---------|---------|---------|---------|---------|---------|
| 1021374 | 743,50  |         |         | 1022374 | 796,60  | 1023374 | 946,00  |
| 1221374 | 753,50  |         |         | 1222374 | 813,90  | 1223374 | 980,50  |
| 1521374 | 764,10  | 1531374 | 829,60  | 1522374 | 836,40  | 1523374 | 1096,00 |
| 1721374 | 818,30  | 1731374 | 894,00  | 1722374 | 892,70  | 1723374 | 1236,10 |
| 2021374 | 878,60  | 2031374 | 952,80  | 2022374 | 986,20  | 2023374 | 1317,80 |
| 2221374 | 949,00  | 2231374 | 1074,40 | 2222374 | 1049,20 | 2223374 | 1543,50 |
| 2521374 | 994,20  | 2531374 | 1112,80 | 2522374 | 1108,30 | 2523374 | 1575,00 |
| 3021374 | 1114,00 | 3031374 | 1222,00 | 3022374 | 1232,00 | 3023374 | 1736,10 |
| 3121374 | 1284,20 | 3131374 | 1406,70 | 3122374 | 1416,50 | 3123374 | 2078,30 |
| 3521374 | 1402,40 | 3531374 | 1529,70 | 3522374 | 1550,00 | 3523374 | 2438,60 |
| 4021374 | 1507,90 | 4031374 | 1755,20 | 4022374 | 1685,40 | 4023374 | 2739,70 |

Fabrikat  
Make  
A1 ..... Rotork ..... 230 V, AC  
A3 ..... Rotork ..... 24 V, DC

Steuerspannung  
Signal-current

ATEX Zone 21/22, innen Zone 20  
(Gerätekategorie 2D/3D) lieferbar, Preise auf Anfrage  
ATEX Zone 21/22, inner Zone 20  
(equipment category 2D/3D) available, prices on request

|         |         |         |         |         |         |         |         |
|---------|---------|---------|---------|---------|---------|---------|---------|
| 1021391 | 1047,70 |         |         | 1022391 | 1098,80 | 1023391 | 1251,40 |
| 1221391 | 1057,50 |         |         | 1222391 | 1115,50 | 1223391 | 1284,90 |
| 1521391 | 1067,60 | 1531391 | 1130,60 | 1522391 | 1137,10 | 1523391 | 1397,00 |
| 1721391 | 1119,70 | 1731391 | 1192,50 | 1722391 | 1191,30 | 1723391 | 1533,10 |
| 2021391 | 1177,70 | 2031391 | 1249,00 | 2022391 | 1281,10 | 2023391 | 1612,30 |
| 2221391 | 1245,40 | 2231391 | 1366,00 | 2222391 | 1341,80 | 2223391 | 1831,60 |
| 2521391 | 1288,80 | 2531391 | 1402,80 | 2522391 | 1398,60 | 2523391 | 1862,00 |
| 3021391 | 1404,20 | 3031391 | 1507,90 | 3022391 | 1517,50 | 3023391 | 2018,40 |
| 3121391 | 1567,60 | 3131391 | 1685,50 | 3122391 | 1694,90 | 3123391 | 2350,60 |
| 3521391 | 1681,30 | 3531391 | 1803,70 | 3522391 | 1823,50 | 3523391 | 2700,60 |
| 4021391 | 1782,80 | 4031391 | 2020,50 | 4022391 | 1953,50 | 4023391 | 2992,80 |

Fabrikat  
Make  
G5 ..... Getriebepack Nord ..... 400 V, 50Hz  
(Schnecken-Getriebemotor / worm gear)

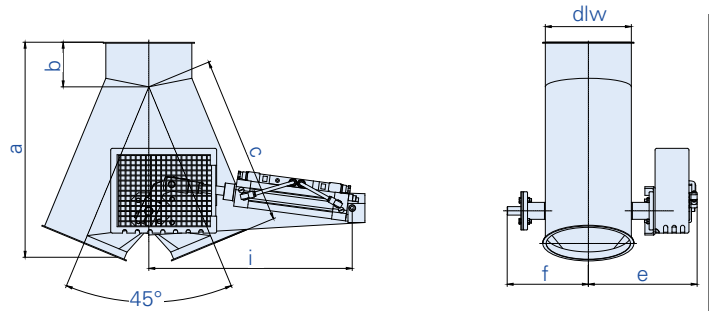
Steuerspannung  
Signal-current

ATEX Zone 21/22, innen Zone 20  
(Gerätekategorie 2D/3D) lieferbar, Preise auf Anfrage  
ATEX Zone 21/22, inner Zone 20  
(equipment category 2D/3D) available, prices on request

Weitere Ausstattungen wie z.B. Stellungsregler,  
Heizung auf Anfrage.

Additional fittings e.g. position regulator, heating  
upon request.

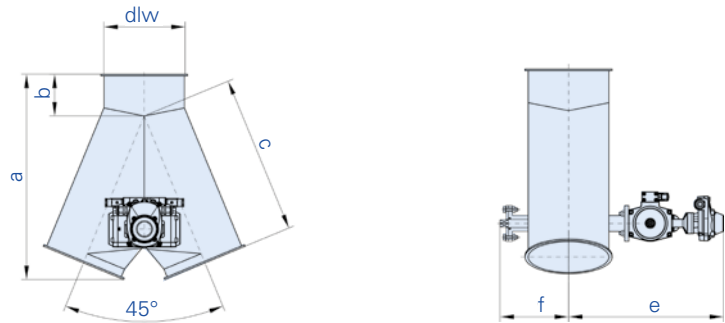
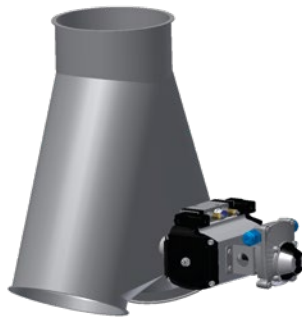
**Deckenklappkästen 45° , symmetrisch, runde Bauform / Two-way symmetrical valves 45°, round design**



mit Klappendichtung NBR und Radialwellendichtringen Viton, pneumatisch betätigt mit Zylindereinheit bestehend aus Zylinder, Magnetventil (bistabil) und 2 Magnetfeldschaltern

*with valve-sealing NBR and radial-shaft-sealing-rings Viton, pneumatically operated, incl. cylinder-unit consisting of cylinder, solenoid valve (bistable) and 2 proximity reed switches. valve (bistable) and 2 proximity reed switches*

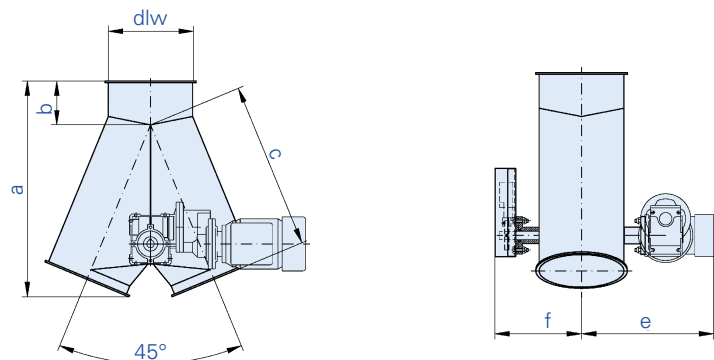
**Deckenklappkästen 45° , symmetrisch, runde Bauform / Two-way symmetrical valves 45°, round design**



mit Klappendichtung NBR und Radialwellendichtringen Viton, pneumatisch betätigt mit Drehantrieb, Magnetventil (bistabil), Endschalterbox mit Stellungsanzeige und 2 mechanischen Endschaltern. Magnetventil und Endschalter komplett in Endschalterbox verdrahtet

*with valve-sealing NBR and radial-shaft-sealing-rings Viton, pneumatic rotary actuator, solenoid valve (bistable), limitswitch-box with position-indicator and 2 mechanical limit switches. Solenoid valve and limit switches completely wired to switch box*

**Deckenklappkästen 45° , symmetrisch, runde Bauform / Two-way symmetrical valves 45°, round design**



mit Klappendichtung NBR und Radialwellendichtringen Viton, elektrisch betätigt mit Motor und 2 mechanischen Endschaltern

*with valve-sealing NBR and radial-shaft-sealing-rings Viton, electrically operated with worm gear motor and 2 mechanical limit switches*

| Nennweite<br>Nominal diameter |     |     |     |     |     |     |   |     |    | Maße für 2 mm Rohrbau<br>Measurements for 2 mm piping |  |  |  |  |  |  |  |  |  |
|-------------------------------|-----|-----|-----|-----|-----|-----|---|-----|----|-------------------------------------------------------|--|--|--|--|--|--|--|--|--|
| DN                            | d/w | a   | b   | c   | e   | f   | g | i   | kg |                                                       |  |  |  |  |  |  |  |  |  |
| 100                           | 99  | 326 | 65  | 260 | 214 | 168 |   | 450 |    |                                                       |  |  |  |  |  |  |  |  |  |
| 120                           | 119 | 353 | 70  | 280 | 224 | 178 |   | 450 |    |                                                       |  |  |  |  |  |  |  |  |  |
| 150                           | 149 | 397 | 75  | 315 | 239 | 193 |   | 450 |    |                                                       |  |  |  |  |  |  |  |  |  |
| 175                           | 174 | 448 | 90  | 350 | 253 | 206 |   | 450 |    |                                                       |  |  |  |  |  |  |  |  |  |
| 200                           | 199 | 515 | 105 | 400 | 266 | 218 |   | 480 |    |                                                       |  |  |  |  |  |  |  |  |  |
| 224                           | 219 | 590 | 120 | 460 | 278 | 230 |   | 480 |    |                                                       |  |  |  |  |  |  |  |  |  |
| 250                           | 249 | 625 | 130 | 480 | 291 | 243 |   | 480 |    |                                                       |  |  |  |  |  |  |  |  |  |
| 300                           | 299 | 748 | 160 | 570 | 316 | 268 |   | 480 |    |                                                       |  |  |  |  |  |  |  |  |  |
| 315                           | 312 | 780 | 170 | 590 | 324 | 276 |   | 480 |    |                                                       |  |  |  |  |  |  |  |  |  |
| 350                           | 349 | 828 | 185 | 620 | 340 | 293 |   | 480 |    |                                                       |  |  |  |  |  |  |  |  |  |
| 400                           | 398 | 930 | 205 | 700 | 366 | 318 |   | 480 |    |                                                       |  |  |  |  |  |  |  |  |  |

Endnummer für Fabrikat und Steuerspannung:  
Bitte der 7stelligen Art.-Nr. zufügen. Für ATEX  
bitte Gerätekategorie (2D/3D) angeben  
*Please add code for make and signal-current to  
our 7-digit-order-no. For ATEX quote equipment  
category (2D/3D)*

|     |     |     |     |     |     |     |  |  |  |
|-----|-----|-----|-----|-----|-----|-----|--|--|--|
| 100 | 99  | 326 | 65  | 260 | 326 | 118 |  |  |  |
| 120 | 119 | 353 | 70  | 280 | 336 | 128 |  |  |  |
| 150 | 149 | 307 | 75  | 315 | 351 | 143 |  |  |  |
| 175 | 174 | 448 | 90  | 350 | 363 | 157 |  |  |  |
| 200 | 199 | 515 | 105 | 400 | 393 | 172 |  |  |  |
| 224 | 219 | 590 | 120 | 460 | 403 | 184 |  |  |  |
| 250 | 249 | 625 | 130 | 480 | 418 | 197 |  |  |  |
| 300 | 299 | 748 | 160 | 570 | 478 | 223 |  |  |  |
| 315 | 312 | 780 | 170 | 590 | 484 | 230 |  |  |  |
| 350 | 349 | 828 | 185 | 620 | 503 | 248 |  |  |  |
| 400 | 398 | 930 | 205 | 700 | 527 | 272 |  |  |  |

Endnummer für Fabrikat und Steuerspannung:  
Bitte der 7stelligen Art.-Nr. zufügen. Für ATEX  
bitte Gerätekategorie (2D/3D) angeben  
*Please add code for make and signal-current to  
our 7-digit-order-no. For ATEX quote equipment  
category (2D/3D)*

|     |     |     |     |     |     |     |  |  |  |
|-----|-----|-----|-----|-----|-----|-----|--|--|--|
| 100 | 99  | 326 | 65  | 260 | 270 | 160 |  |  |  |
| 120 | 119 | 353 | 70  | 280 | 280 | 170 |  |  |  |
| 150 | 149 | 307 | 75  | 315 | 295 | 185 |  |  |  |
| 175 | 174 | 448 | 90  | 350 | 308 | 198 |  |  |  |
| 200 | 199 | 515 | 105 | 400 | 320 | 210 |  |  |  |
| 224 | 219 | 590 | 120 | 460 | 333 | 220 |  |  |  |
| 250 | 249 | 625 | 130 | 480 | 345 | 235 |  |  |  |
| 300 | 299 | 748 | 160 | 570 | 370 | 260 |  |  |  |
| 315 | 312 | 780 | 170 | 590 | 378 | 267 |  |  |  |
| 350 | 349 | 828 | 185 | 620 | 395 | 285 |  |  |  |
| 400 | 398 | 930 | 205 | 700 | 420 | 310 |  |  |  |

Endnummer für Fabrikat und Steuerspannung:  
Bitte der 7stelligen Art.-Nr. zufügen. Für ATEX  
bitte Gerätekategorie (2D/3D) angeben  
*Please add code for make and signal-current to  
our 7-digit-order-no. For ATEX quote equipment  
category (2D/3D)*

Deckenklappkästen DN 450–630 auf Anfrage.  
*Two-way asymmetrical valves DN 450–630 upon request.*

✓ Siehe technische Hinweise Seite 112/113  
*For technical details see page 112/113*

| DC 01 2 mm                         |         | DC 01 3 mm                         |         | DC 01 2 mm                   |         | VA 1.4301 2 mm               |         |
|------------------------------------|---------|------------------------------------|---------|------------------------------|---------|------------------------------|---------|
| pulverbeschichtet<br>powder coated |         | pulverbeschichtet<br>powder coated |         | galv. verzinkt<br>galvanized |         | Edelstahl<br>stainless steel |         |
| Art.-Nr.                           | €       | Art.-Nr.                           | €       | Art.-Nr.                     | €       | Art.-Nr.                     | €       |
| 1021422                            | 676,20  |                                    |         | 1022422                      | 708,30  | 1023422                      | 840,50  |
| 1221422                            | 683,90  |                                    |         | 1222422                      | 718,00  | 1223422                      | 870,60  |
| 1521422                            | 694,70  | 1531422                            | 739,20  | 1522422                      | 730,60  | 1523422                      | 920,00  |
| 1721422                            | 736,40  | 1731422                            | 781,10  | 1722422                      | 778,20  | 1723422                      | 1093,90 |
| 2021422                            | 756,80  | 2031422                            | 795,80  | 2022422                      | 813,30  | 2023422                      | 1116,30 |
| 2221422                            | 778,20  | 2231422                            | 817,10  | 2222422                      | 838,40  | 2223422                      | 1140,50 |
| 2521422                            | 787,00  | 2531422                            | 827,80  | 2522422                      | 850,10  | 2523422                      | 1203,90 |
| 3021422                            | 819,90  | 3031422                            | 857,90  | 3022422                      | 896,60  | 3023422                      | 1335,90 |
| 3121422                            | 1106,50 | 3131422                            | 1148,40 | 3122422                      | 1201,70 | 3123422                      | 1614,00 |
| 3521422                            | 1507,80 | 3531422                            | 1549,60 | 3522422                      | 1617,70 | 3523422                      | 2141,20 |
| 4021422                            | 1796,30 | 4031422                            | 1838,10 | 4022422                      | 1917,60 | 4023422                      | 2496,80 |

Fabrikat  
*Make*  
F1 ..... Festo ..... 230 V, AC  
F3 ..... Festo ..... 24 V, DC  
Steuerspannung  
*Signal-current*  
Andere Fabrikate auf Anfrage / *other products on request*

ATEX Zone 21/22, innen Zone 20  
(Gerätekategorie 2D/3D) lieferbar, Preise auf Anfrage  
*ATEX Zone 21/22, inner Zone 20  
(equipment category 2D/3D) available, prices on request*

|         |         |         |         |         |         |         |         |
|---------|---------|---------|---------|---------|---------|---------|---------|
| 1021424 | 676,20  |         |         | 1022424 | 708,30  | 1023424 | 840,50  |
| 1221424 | 683,90  |         |         | 1222424 | 718,00  | 1223424 | 870,60  |
| 1521424 | 694,70  | 1531424 | 739,20  | 1522424 | 730,60  | 1523424 | 920,00  |
| 1721424 | 736,40  | 1731424 | 781,10  | 1722424 | 778,20  | 1723424 | 1093,90 |
| 2021424 | 756,80  | 2031424 | 795,80  | 2022424 | 813,30  | 2023424 | 1116,30 |
| 2221424 | 778,20  | 2231424 | 817,10  | 2222424 | 838,40  | 2223424 | 1140,50 |
| 2521424 | 787,00  | 2531424 | 827,80  | 2522424 | 850,10  | 2523424 | 1203,90 |
| 3021424 | 819,90  | 3031424 | 857,90  | 3022424 | 896,60  | 3023424 | 1335,90 |
| 3121424 | 1106,50 | 3131424 | 1148,40 | 3122424 | 1201,70 | 3123424 | 1614,00 |
| 3521424 | 1507,80 | 3531424 | 1549,60 | 3522424 | 1617,70 | 3523424 | 2141,20 |
| 4021424 | 1796,30 | 4031424 | 1838,10 | 4022424 | 1917,60 | 4023424 | 2496,80 |

Fabrikat  
*Make*  
A1 ..... Rotork ..... 230 V, AC  
A3 ..... Rotork ..... 24 V, DC  
Steuerspannung  
*Signal-current*

ATEX Zone 21/22, innen Zone 20  
(Gerätekategorie 2D/3D) lieferbar, Preise auf Anfrage  
*ATEX Zone 21/22, inner Zone 20  
(equipment category 2D/3D) available, prices on request*

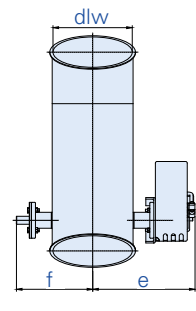
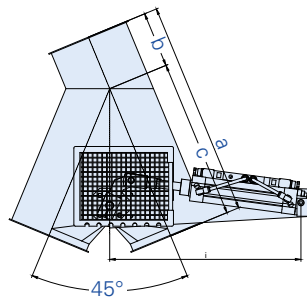
|         |         |         |         |         |         |         |         |
|---------|---------|---------|---------|---------|---------|---------|---------|
| 1021426 | 1009,20 |         |         | 1022426 | 1041,20 | 1023426 | 1173,40 |
| 1221426 | 1016,80 |         |         | 1222426 | 1050,90 | 1223426 | 1203,50 |
| 1521426 | 1027,60 | 1531426 | 1072,10 | 1522426 | 1063,50 | 1523426 | 1252,80 |
| 1721426 | 1069,20 | 1731426 | 1113,90 | 1722426 | 1111,10 | 1723426 | 1426,80 |
| 2021426 | 1089,70 | 2031426 | 1128,60 | 2022426 | 1146,10 | 2023426 | 1449,30 |
| 2221426 | 1111,10 | 2231426 | 1150,00 | 2222426 | 1171,30 | 2223426 | 1473,40 |
| 2521426 | 1119,90 | 2531426 | 1160,60 | 2522426 | 1183,00 | 2523426 | 1536,80 |
| 3021426 | 1152,80 | 3031426 | 1190,70 | 3022426 | 1229,60 | 3023426 | 1668,80 |
| 3121426 | 1439,40 | 3131426 | 1481,30 | 3122426 | 1534,60 | 3123426 | 1946,90 |
| 3521426 | 1840,60 | 3531426 | 1882,50 | 3522426 | 1950,50 | 3523426 | 2474,10 |
| 4021426 | 2129,30 | 4031426 | 2171,00 | 4022426 | 2250,60 | 4023426 | 2829,70 |

Fabrikat  
*Make*  
G5 ..... Getriebebau Nord ..... 400 V, 50Hz  
(Schnecken-Getriebemotor / *worm gear*)  
D1 ..... Deufra (Stellenantrieb / *Actuator*) .... 230 V, 50Hz  
Preise auf Anfrage / *prices on request*  
D3 ..... Deufra (Stellenantrieb / *Actuator*) .... 24 V, DC  
D5 ..... Deufra (Stellenantrieb / *Actuator*) .... 400 V, 50Hz  
Steuerspannung  
*Signal-current*

ATEX Zone 21/22, innen Zone 20  
(Gerätekategorie 2D/3D) lieferbar, Preise auf Anfrage  
*ATEX Zone 21/22, inner Zone 20  
(equipment category 2D/3D) available, prices on request*

Weitere Ausstattungen wie z.B.  
Stellungsregler, Heizung auf Anfrage.  
*Additional fittings e.g. position regulator,  
heating upon request.*

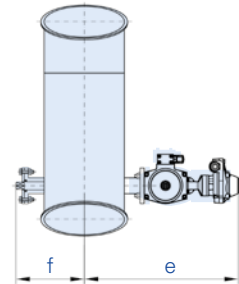
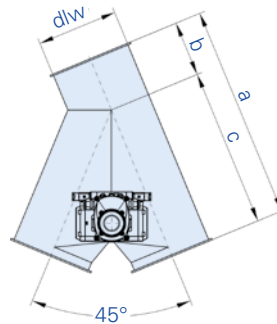
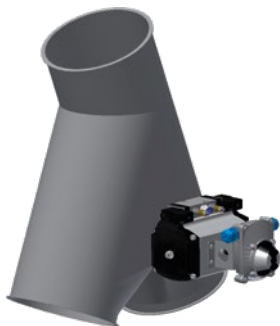
**Rohrklappkästen 45°, asymmetrisch, runde Bauform / Two-way asymmetrical valves 45°, round design**



mit Klappendichtung NBR und Radialwellendichtringen Viton pneumatisch betätigt mit Zylindereinheit bestehend aus Zylinder, Magnetventil (bistabil) und 2 Magnetfeldschaltern

*with valve-sealing NBR and radial-shaft-sealing-rings Viton, pneumatically operated, incl. cylinder-unit consisting of cylinder, solenoid valve (bistable) and 2 proximity reed switches*

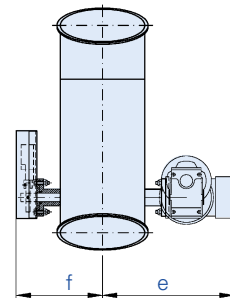
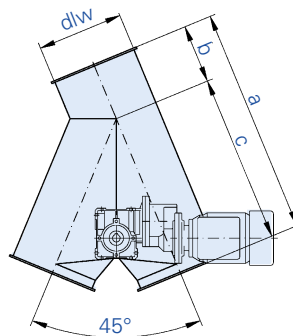
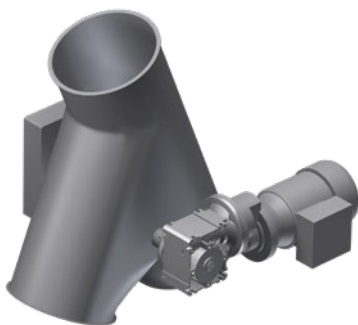
**Rohrklappkästen 45°, asymmetrisch, runde Bauform / Two-way asymmetrical valves 45°, round design**



mit Klappendichtung NBR und Radialwellendichtringen Viton pneumatisch betätigt mit Drehantrieb, Magnetventil (bistabil) Endschalterbox mit Stellungsanzeige und 2 mechanischen Endschaltern. Magnetventil und Endschalter komplett in Endschalterbox verdrahtet

*with valve-sealing NBR and radial-shaft-sealing-rings Viton, pneumatic rotary actuator, solenoid valve (bistable), limit switch-box with position-indicator and 2 mechanical limit switches. Solenoid valve and limit switches completely wired to switch box*

**Rohrklappkästen 45°, asymmetrisch, runde Bauform / Two-way asymmetrical valves 45°, round design**



mit Klappendichtung NBR, mit Radialwellendichtringen Viton, elektrisch betätigt mit Motor und 2 mechanischen Endschaltern

*with valve-sealing SI, with radial-shaft-sealing-rings Viton, electrically operated with worm gear motor and 2 mechanical limit switches*

| Nennweite<br>Nominal diameter                         |     |     |     |     |     |     |   |     |    |
|-------------------------------------------------------|-----|-----|-----|-----|-----|-----|---|-----|----|
| Maße für 2 mm Rohrbau<br>Measurements for 2 mm piping |     |     |     |     |     |     |   |     |    |
| DN                                                    | d/w | a   | b   | c   | e   | f   | g | i   | kg |
| 100                                                   | 99  | 360 | 100 | 260 | 214 | 168 |   | 450 |    |
| 120                                                   | 119 | 390 | 110 | 280 | 224 | 178 |   | 450 |    |
| 150                                                   | 149 | 430 | 115 | 315 | 239 | 193 |   | 450 |    |
| 175                                                   | 174 | 515 | 125 | 350 | 253 | 206 |   | 450 |    |
| 200                                                   | 199 | 540 | 140 | 400 | 266 | 218 |   | 480 |    |
| 224                                                   | 219 | 620 | 160 | 460 | 278 | 230 |   | 480 |    |
| 250                                                   | 249 | 650 | 170 | 480 | 291 | 243 |   | 480 |    |
| 300                                                   | 299 | 780 | 210 | 570 | 316 | 268 |   | 480 |    |
| 315                                                   | 312 | 810 | 220 | 590 | 324 | 276 |   | 480 |    |
| 350                                                   | 349 | 850 | 230 | 620 | 340 | 293 |   | 480 |    |
| 400                                                   | 398 | 950 | 250 | 700 | 366 | 318 |   | 480 |    |

Endnummer für Fabrikat und Steuerspannung:  
Bitte der 7stelligen Art.-Nr. zufügen. Für ATEX  
bitte Gerätekategorie (2D/3D) angeben  
*Please add code for make and signal-current to  
our 7-digit-order-no. For ATEX quote equipment  
category (2D/3D)*

|     |     |     |     |     |     |     |  |  |  |
|-----|-----|-----|-----|-----|-----|-----|--|--|--|
| 100 | 99  | 360 | 100 | 260 | 326 | 118 |  |  |  |
| 120 | 119 | 390 | 110 | 280 | 336 | 128 |  |  |  |
| 150 | 149 | 430 | 115 | 315 | 351 | 143 |  |  |  |
| 175 | 174 | 515 | 125 | 350 | 363 | 157 |  |  |  |
| 200 | 199 | 540 | 140 | 400 | 393 | 172 |  |  |  |
| 224 | 219 | 620 | 160 | 460 | 403 | 184 |  |  |  |
| 250 | 249 | 650 | 170 | 480 | 418 | 197 |  |  |  |
| 300 | 299 | 780 | 210 | 570 | 478 | 223 |  |  |  |
| 315 | 312 | 810 | 220 | 590 | 484 | 230 |  |  |  |
| 350 | 349 | 850 | 230 | 620 | 503 | 248 |  |  |  |
| 400 | 398 | 950 | 250 | 700 | 527 | 272 |  |  |  |

Endnummer für Fabrikat und Steuerspannung:  
Bitte der 7stelligen Art.-Nr. zufügen. Für ATEX  
bitte Gerätekategorie (2D/3D) angeben  
*Please add code for make and signal-current to  
our 7-digit-order-no. For ATEX quote equipment  
category (2D/3D)*

|     |     |     |     |     |     |     |  |  |  |
|-----|-----|-----|-----|-----|-----|-----|--|--|--|
| 100 | 99  | 360 | 100 | 260 | 270 | 160 |  |  |  |
| 120 | 119 | 390 | 110 | 280 | 280 | 170 |  |  |  |
| 150 | 149 | 430 | 115 | 315 | 295 | 185 |  |  |  |
| 175 | 174 | 515 | 125 | 350 | 308 | 198 |  |  |  |
| 200 | 199 | 540 | 140 | 400 | 320 | 210 |  |  |  |
| 224 | 219 | 620 | 160 | 460 | 333 | 220 |  |  |  |
| 250 | 249 | 650 | 170 | 480 | 345 | 235 |  |  |  |
| 300 | 299 | 780 | 210 | 570 | 370 | 260 |  |  |  |
| 315 | 312 | 810 | 220 | 590 | 378 | 267 |  |  |  |
| 350 | 349 | 850 | 230 | 620 | 395 | 285 |  |  |  |
| 400 | 398 | 950 | 250 | 700 | 420 | 310 |  |  |  |

Endnummer für Fabrikat und Steuerspannung:  
Bitte der 7stelligen Art.-Nr. zufügen. Für ATEX  
bitte Gerätekategorie (2D/3D) angeben  
*Please add code for make and signal-current to  
our 7-digit-order-no. For ATEX quote equipment  
category (2D/3D)*

Rohrklappkästen DN 450–630 auf Anfrage.  
*Two-way asymmetrical valves DN 450–630 upon request.*

➤ Siehe technische Hinweise Seite 112/113  
*For technical details see page 112/113*

| DC 01 2 mm                         |         | DC 01 3 mm                         |         | DC 01 2 mm                   |         | VA 1.4301 2 mm               |         |
|------------------------------------|---------|------------------------------------|---------|------------------------------|---------|------------------------------|---------|
| pulverbeschichtet<br>powder coated |         | pulverbeschichtet<br>powder coated |         | galv. verzinkt<br>galvanized |         | Edelstahl<br>stainless steel |         |
| Art.-Nr.                           | €       | Art.-Nr.                           | €       | Art.-Nr.                     | €       | Art.-Nr.                     | €       |
| 1021423                            | 676,20  |                                    |         | 1022423                      | 708,30  | 1023423                      | 840,50  |
| 1221423                            | 683,90  |                                    |         | 1222423                      | 718,00  | 1223423                      | 870,60  |
| 1521423                            | 694,70  | 1531423                            | 739,20  | 1522423                      | 730,60  | 1523423                      | 920,00  |
| 1721423                            | 736,40  | 1731423                            | 781,10  | 1722423                      | 778,20  | 1723423                      | 1093,90 |
| 2021423                            | 756,80  | 2031423                            | 795,80  | 2022423                      | 813,30  | 2023423                      | 1116,30 |
| 2221423                            | 778,20  | 2231423                            | 817,10  | 2222423                      | 838,40  | 2223423                      | 1140,50 |
| 2521423                            | 787,00  | 2531423                            | 827,80  | 2522423                      | 850,10  | 2523423                      | 1203,90 |
| 3021423                            | 819,90  | 3031423                            | 857,90  | 3022423                      | 896,60  | 3023423                      | 1335,90 |
| 3121423                            | 1106,50 | 3131423                            | 1148,40 | 3122423                      | 1201,70 | 3123423                      | 1614,00 |
| 3521423                            | 1507,80 | 3531423                            | 1554,50 | 3522423                      | 1617,70 | 3523423                      | 2141,20 |
| 4021423                            | 1796,30 | 4031423                            | 1838,10 | 4022423                      | 1917,60 | 4023423                      | 2496,80 |

Fabrikat  
*Make*  
F1 ..... Festo ..... 230 V, AC  
F3 ..... Festo ..... 24 V, DC  
Andere Fabrikate auf Anfrage / *other products on request*

ATEX Zone 21/22, innen Zone 20  
(Gerätekategorie 2D/3D) lieferbar, Preise auf Anfrage  
*ATEX Zone 21/22, inner Zone 20  
(equipment category 2D/3D) available, prices on request*

|         |         |         |         |         |         |         |         |
|---------|---------|---------|---------|---------|---------|---------|---------|
| 1021425 | 676,20  |         |         | 1022425 | 708,30  | 1023425 | 840,50  |
| 1221425 | 683,90  |         |         | 1222425 | 718,00  | 1223425 | 870,60  |
| 1521425 | 694,70  | 1531425 | 739,20  | 1522425 | 730,60  | 1523425 | 920,00  |
| 1721425 | 736,40  | 1731425 | 781,10  | 1722425 | 778,20  | 1723425 | 1093,90 |
| 2021425 | 756,80  | 2031425 | 795,80  | 2022425 | 813,30  | 2023425 | 1116,30 |
| 2221425 | 778,20  | 2231425 | 817,10  | 2222425 | 838,40  | 2223425 | 1140,50 |
| 2521425 | 787,00  | 2531425 | 827,80  | 2522425 | 850,10  | 2523425 | 1203,90 |
| 3021425 | 819,90  | 3031425 | 857,90  | 3022425 | 896,60  | 3023425 | 1335,90 |
| 3121425 | 1106,50 | 3131425 | 1148,40 | 3122425 | 1201,70 | 3123425 | 1614,00 |
| 3521425 | 1507,80 | 3531425 | 1549,60 | 3522425 | 1617,70 | 3523425 | 2141,20 |
| 4021425 | 1796,30 | 4031425 | 1838,10 | 4022425 | 1917,60 | 4023425 | 2496,80 |

Fabrikat  
*Make*  
A1 ..... Rotork ..... 230 V, AC  
A3 ..... Rotork ..... 24 V, DC

ATEX Zone 21/22, innen Zone 20  
(Gerätekategorie 2D/3D) lieferbar, Preise auf Anfrage  
*ATEX Zone 21/22, inner Zone 20  
(equipment category 2D/3D) available, prices on request*

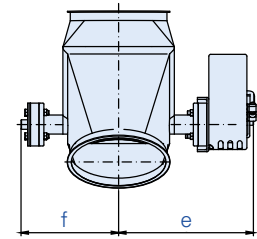
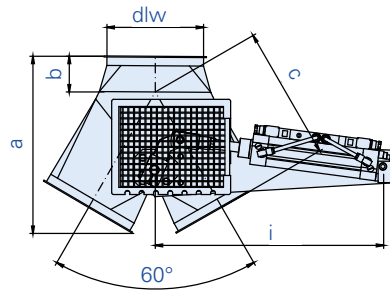
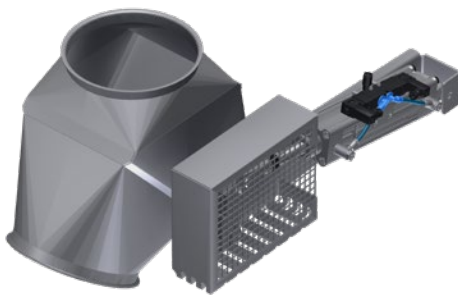
|         |         |         |         |         |         |         |         |
|---------|---------|---------|---------|---------|---------|---------|---------|
| 1021427 | 1009,20 |         |         | 1022427 | 1041,20 | 1023427 | 1173,40 |
| 1221427 | 1016,80 |         |         | 1222427 | 1050,90 | 1223427 | 1203,50 |
| 1521427 | 1027,60 | 1531427 | 1072,10 | 1522427 | 1063,50 | 1523427 | 1252,80 |
| 1721427 | 1069,20 | 1731427 | 1113,90 | 1722427 | 1111,10 | 1723427 | 1426,80 |
| 2021427 | 1089,70 | 2031427 | 1128,60 | 2022427 | 1146,10 | 2023427 | 1449,30 |
| 2221427 | 1111,10 | 2231427 | 1150,00 | 2222427 | 1171,30 | 2223427 | 1473,40 |
| 2521427 | 1119,90 | 2531427 | 1160,60 | 2522427 | 1183,00 | 2523427 | 1536,80 |
| 3021427 | 1152,80 | 3031427 | 1190,70 | 3022427 | 1229,60 | 3023427 | 1668,80 |
| 3121427 | 1439,40 | 3131427 | 1481,30 | 3122427 | 1534,60 | 3123427 | 1946,90 |
| 3521427 | 1840,60 | 3531427 | 1882,50 | 3522427 | 1950,50 | 3523427 | 2474,10 |
| 4021427 | 2129,30 | 4031427 | 2171,00 | 4022427 | 2250,60 | 4023427 | 2829,70 |

Fabrikat  
*Make*  
G5 ..... Getriebepack Nord ..... 400 V, 50Hz  
(Schnecken-Getriebemotor / *worm gear*)  
D1 ..... Deufra (Stellenantrieb / *Actuator*) .... 230 V, 50Hz  
Preise auf Anfrage / *prices on request*  
D3 ..... Deufra (Stellenantrieb / *Actuator*) .... 24 V, DC  
D5 ..... Deufra (Stellenantrieb / *Actuator*) .... 400 V, 50Hz

ATEX Zone 21/22, innen Zone 20  
(Gerätekategorie 2D/3D) lieferbar, Preise auf Anfrage  
*ATEX Zone 21/22, inner Zone 20  
(equipment category 2D/3D) available, prices on request*

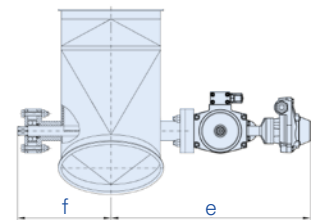
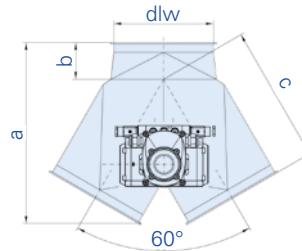
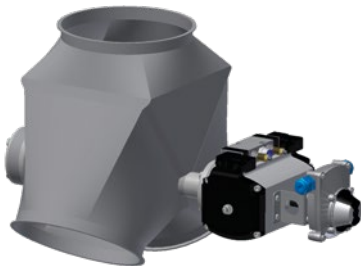
Weitere Ausstattungen wie z.B.  
Stellungsregler, Heizung auf Anfrage.  
*Additional fittings e.g. position regulator,  
heating upon request.*

**Deckenklappkästen 60°, symmetrisch, eckig auf rund / Two-way symmetrical valves 60°, square to round**



mit Klappendichtung Si und Radialwellendichtringen Viton, kugellagert, pneumatisch betätigt, einschließlich Zylindereinheit bestehend aus Zylinder, Magnetventil (bistabil) und 2 Magnetfeldschaltern  
*with valve-sealing Si and radial-shaft-sealing-rings Viton, ball-bearing, pneumatically operated, incl. cylinder-unit consisting of cylinder, solenoid valve (bistable) and 2 proximity reed switches*

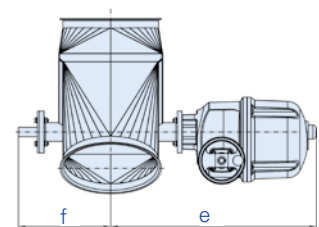
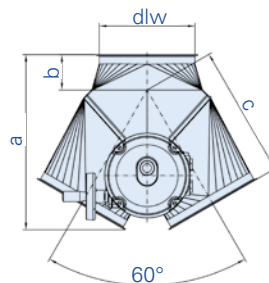
**Deckenklappkästen 60°, symmetrisch, eckig auf rund / Two-way symmetrical valves 60°, square to round**



mit Klappendichtung Si und Radialwellendichtringen Viton, kugellagert, pneumatisch betätigt mit Drehantrieb, Magnetventil (bistabil) Endschalterbox mit Stellungsanzeige und 2 mechanischen Endschaltern. Magnetventil und Endschalter komplett in Endschalterbox verdrahtet

*with valve-sealing Si and radial-shaft-sealing-rings Viton, ball-bearing, pneumatic rotary actuator, solenoid valve (bistable), limitswitch-box with position-indicator and 2 mechanical limitswitches. Solenoid valve and limit switches completely wired to switch box*

**Deckenklappkästen 60°, symmetrisch, eckig auf rund / Two-way symmetrical valves 60°, square to round**



mit Klappendichtung Si und Radialwellendichtringen Viton, kugellagert, elektrisch betätigt mit Motor und 2 mechanischen Endschaltern

*with valve-sealing Si and radial-shaft-sealing-rings Viton, ball-bearing electrically operated with worm gear motor and 2 mechanical limit switches*

| Nennweite<br>Nominal diameter                         |     |     |     |     |     |     |   |     |    |
|-------------------------------------------------------|-----|-----|-----|-----|-----|-----|---|-----|----|
| Maße für 2 mm Rohrbau<br>Measurements for 2 mm piping |     |     |     |     |     |     |   |     |    |
| DN                                                    | d/w | a   | b   | c   | e   | f   | g | i   | kg |
| 100                                                   | 99  | 223 | 50  | 170 | 228 | 181 |   | 450 |    |
| 120                                                   | 119 | 259 | 55  | 200 | 238 | 191 |   | 450 |    |
| 150                                                   | 149 | 315 | 60  | 250 | 253 | 206 |   | 450 |    |
| 175                                                   | 174 | 335 | 65  | 260 | 267 | 220 |   | 450 |    |
| 200                                                   | 199 | 370 | 75  | 280 | 284 | 235 |   | 480 |    |
| 224                                                   | 219 | 395 | 80  | 300 | 296 | 247 |   | 480 |    |
| 250                                                   | 249 | 440 | 90  | 330 | 309 | 260 |   | 480 |    |
| 300                                                   | 299 | 505 | 100 | 380 | 334 | 286 |   | 480 |    |
| 315                                                   | 312 | 520 | 100 | 390 | 342 | 293 |   | 480 |    |
| 350                                                   | 349 | 550 | 110 | 406 | 358 | 310 |   | 480 |    |
| 400                                                   | 398 | 630 | 130 | 460 | 384 | 336 |   | 480 |    |

Endnummer für Fabrikat und Steuerspannung:  
Bitte der 7stelligen Art.-Nr. zufügen. Für ATEX  
bitte Gerätekategorie (2D/3D) angeben

Please add code for make and signal-current to  
our 7-digit-order-no. For ATEX quote equipment  
category (2D/3D)

|     |     |     |     |     |     |     |  |  |  |
|-----|-----|-----|-----|-----|-----|-----|--|--|--|
| 100 | 99  | 223 | 50  | 170 | 347 | 132 |  |  |  |
| 120 | 119 | 259 | 55  | 200 | 357 | 142 |  |  |  |
| 150 | 149 | 315 | 60  | 250 | 372 | 157 |  |  |  |
| 175 | 174 | 335 | 65  | 260 | 384 | 171 |  |  |  |
| 200 | 199 | 370 | 75  | 280 | 425 | 190 |  |  |  |
| 224 | 219 | 395 | 80  | 300 | 433 | 202 |  |  |  |
| 250 | 249 | 440 | 90  | 330 | 454 | 215 |  |  |  |
| 300 | 299 | 505 | 100 | 380 | 483 | 241 |  |  |  |
| 315 | 312 | 520 | 100 | 390 | 493 | 248 |  |  |  |
| 350 | 349 | 550 | 110 | 406 | 548 | 266 |  |  |  |
| 400 | 398 | 630 | 130 | 460 | 578 | 290 |  |  |  |

Endnummer für Fabrikat und Steuerspannung:  
Bitte der 7stelligen Art.-Nr. zufügen. Für ATEX  
bitte Gerätekategorie (2D/3D) angeben

Please add code for make and signal-current to  
our 7-digit-order-no. For ATEX quote equipment  
category (2D/3D)

|     |     |     |     |     |     |     |  |  |  |
|-----|-----|-----|-----|-----|-----|-----|--|--|--|
| 100 | 99  | 223 | 50  | 170 | 316 | 132 |  |  |  |
| 120 | 119 | 259 | 55  | 200 | 326 | 142 |  |  |  |
| 150 | 149 | 315 | 60  | 250 | 341 | 157 |  |  |  |
| 175 | 174 | 335 | 65  | 260 | 353 | 171 |  |  |  |
| 200 | 199 | 370 | 75  | 280 | 472 | 190 |  |  |  |
| 224 | 219 | 395 | 80  | 300 | 480 | 202 |  |  |  |
| 250 | 249 | 440 | 90  | 330 | 501 | 215 |  |  |  |
| 300 | 299 | 505 | 100 | 380 | 530 | 241 |  |  |  |
| 315 | 312 | 520 | 100 | 390 | 540 | 248 |  |  |  |
| 350 | 349 | 550 | 110 | 406 | 592 | 266 |  |  |  |
| 400 | 398 | 630 | 130 | 460 | 622 | 290 |  |  |  |

Endnummer für Fabrikat und Steuerspannung:  
Bitte der 7stelligen Art.-Nr. zufügen. Für ATEX  
bitte Gerätekategorie (2D/3D) angeben

Please add code for make and signal-current to  
our 7-digit-order-no. For ATEX quote equipment  
category (2D/3D)

Deckenklappkästen DN 450–630 auf Anfrage.  
Two-way symmetrical valves DN 450–630 upon request.

Siehe technische Hinweise Seite 112/113  
For technical details see page 112/113

| DC 01 2 mm                         |         | DC 01 3 mm                         |         | DC 01 2 mm                   |         | VA 1.4301 2 mm               |         |
|------------------------------------|---------|------------------------------------|---------|------------------------------|---------|------------------------------|---------|
| pulverbeschichtet<br>powder coated |         | pulverbeschichtet<br>powder coated |         | galv. verzinkt<br>galvanized |         | Edelstahl<br>stainless steel |         |
| Art.-Nr.                           | €       | Art.-Nr.                           | €       | Art.-Nr.                     | €       | Art.-Nr.                     | €       |
| 1021202                            | 795,60  |                                    |         | 1022202                      | 833,30  | 1023202                      | 988,60  |
| 1221202                            | 804,60  |                                    |         | 1222202                      | 844,70  | 1223202                      | 1024,10 |
| 1521202                            | 817,30  | 1531202                            | 869,70  | 1522202                      | 859,60  | 1523202                      | 1082,40 |
| 1721202                            | 866,30  | 1731202                            | 918,90  | 1722202                      | 915,40  | 1723202                      | 1287,00 |
| 2021202                            | 890,50  | 2031202                            | 936,10  | 2022202                      | 956,70  | 2023202                      | 1313,30 |
| 2221202                            | 915,40  | 2231202                            | 961,20  | 2222202                      | 986,40  | 2223202                      | 1341,90 |
| 2521202                            | 925,80  | 2531202                            | 973,90  | 2522202                      | 1000,00 | 2523202                      | 1416,30 |
| 3021202                            | 964,60  | 3031202                            | 1009,30 | 3022202                      | 1054,90 | 3023202                      | 1571,70 |
| 3121202                            | 1301,90 | 3131202                            | 1351,00 | 3122202                      | 1413,80 | 3123202                      | 1898,80 |
| 3521202                            | 1773,90 | 3531202                            | 1823,00 | 3522202                      | 1903,00 | 3523202                      | 2519,00 |
| 4021202                            | 2113,30 | 4031202                            | 2162,50 | 4022202                      | 2256,20 | 4023202                      | 2937,40 |

Fabrikat  
Make  
F1 ..... Festo ..... 230 V, AC  
F3 ..... Festo ..... 24 V, DC

Steuerspannung  
Signal-current

ATEX Zone 21/22, innen Zone 20  
(Gerätekategorie 2D/3D) lieferbar, Preise auf Anfrage  
ATEX Zone 21/22, inner Zone 20  
(equipment category 2D/3D) available, prices on request

Andere Fabrikate auf Anfrage / other products on request

|         |         |         |         |         |         |         |         |
|---------|---------|---------|---------|---------|---------|---------|---------|
| 1021204 | 795,60  |         |         | 1022204 | 833,30  | 1023204 | 988,60  |
| 1221204 | 804,60  |         |         | 1222204 | 844,70  | 1223204 | 1024,10 |
| 1521204 | 817,30  | 1531204 | 869,70  | 1522204 | 859,60  | 1523204 | 1082,40 |
| 1721204 | 866,30  | 1731204 | 918,90  | 1722204 | 915,40  | 1723204 | 1287,00 |
| 2021204 | 890,50  | 2031204 | 936,10  | 2022204 | 956,70  | 2023204 | 1313,30 |
| 2221204 | 915,40  | 2231204 | 961,20  | 2222204 | 986,40  | 2223204 | 1341,90 |
| 2521204 | 925,80  | 2531204 | 973,90  | 2522204 | 1000,00 | 2523204 | 1416,30 |
| 3021204 | 964,60  | 3031204 | 1009,30 | 3022204 | 1054,90 | 3023204 | 1571,70 |
| 3121204 | 1301,90 | 3131204 | 1351,00 | 3122204 | 1413,80 | 3123204 | 1898,80 |
| 3521204 | 1773,90 | 3531204 | 1823,00 | 3522204 | 1903,00 | 3523204 | 2519,00 |
| 4021204 | 2113,30 | 4031204 | 2162,50 | 4022204 | 2256,20 | 4023204 | 2937,40 |

Fabrikat  
Make  
A1 ..... Rotork ..... 230 V, AC  
A3 ..... Rotork ..... 24 V, DC

Steuerspannung  
Signal-current

ATEX Zone 21/22, innen Zone 20  
(Gerätekategorie 2D/3D) lieferbar, Preise auf Anfrage  
ATEX Zone 21/22, inner Zone 20  
(equipment category 2D/3D) available, prices on request

|         |         |         |         |         |         |         |         |
|---------|---------|---------|---------|---------|---------|---------|---------|
| 1021206 | 1183,80 |         |         | 1022206 | 1221,60 | 1023206 | 1377,10 |
| 1221206 | 1193,00 |         |         | 1222206 | 1233,00 | 1223206 | 1412,50 |
| 1521206 | 1205,60 | 1531206 | 1258,20 | 1522206 | 1247,90 | 1523206 | 1470,70 |
| 1721206 | 1254,70 | 1731206 | 1307,30 | 1722206 | 1303,90 | 1723206 | 1675,30 |
| 2021206 | 1278,70 | 2031206 | 1324,50 | 2022206 | 1345,00 | 2023206 | 1701,70 |
| 2221206 | 1303,90 | 2231206 | 1349,60 | 2222206 | 1374,70 | 2223206 | 1730,10 |
| 2521206 | 1314,10 | 2531206 | 1362,20 | 2522206 | 1388,50 | 2523206 | 1804,70 |
| 3021206 | 1353,10 | 3031206 | 1397,60 | 3022206 | 1443,30 | 3023206 | 1960,10 |
| 3121206 | 1690,20 | 3131206 | 1739,40 | 3122206 | 1802,20 | 3123206 | 2287,20 |
| 3521206 | 2162,30 | 3531206 | 2211,40 | 3522206 | 2291,40 | 3523206 | 2907,40 |
| 4021206 | 2501,70 | 4031206 | 2550,90 | 4022206 | 2644,50 | 4023206 | 3325,70 |

Fabrikat  
Make  
G5 ..... Getriebebau Nord ..... 400 V, 50Hz  
(Schnecken-Getriebemotor / worm gear)  
D1 ..... Deufra (Stellenantrieb / Actuator) .... 230 V, 50Hz

Preise auf Anfrage / prices on request

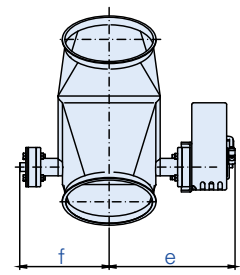
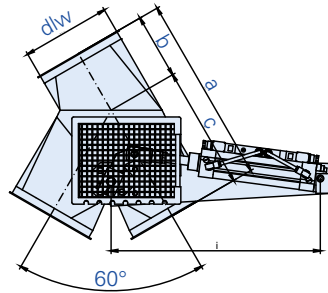
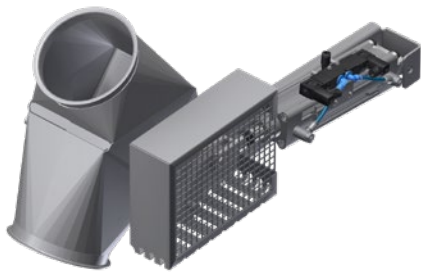
D3 ..... Deufra (Stellenantrieb / Actuator) .... 24 V, DC  
D5 ..... Deufra (Stellenantrieb / Actuator) .... 400 V, 50Hz

ATEX Zone 21/22, innen Zone 20  
(Gerätekategorie 2D/3D) lieferbar, Preise auf Anfrage  
ATEX Zone 21/22, inner Zone 20  
(equipment category 2D/3D) available, prices on request

Weitere Ausstattungen wie z.B.  
Stellungsregler, Heizung auf Anfrage.

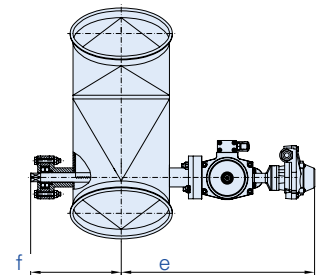
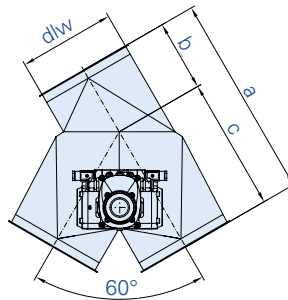
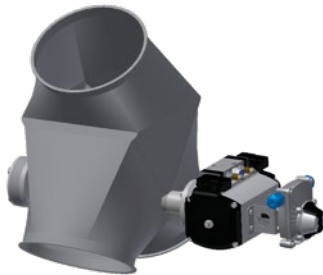
Additional fittings e.g. position regulator,  
heating upon request.

**Rohrklappkästen 60°, asymmetrisch, eckig auf rund / Two-way asymmetrical valves 60°, square to round**



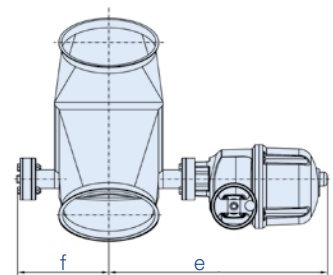
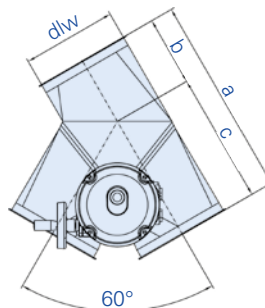
mit Klappendichtung Si und Radialwellendichtringen Viton, kugellagert, pneumatisch betätigt, einschließlich Zylindereinheit bestehend aus Zylinder, Magnetventil (bistabil) und 2 Magnetfeldschaltern  
with valve-sealing Si and radial-shaft-sealing-rings Viton, ball-bearing, pneumatically operated, incl. cylinder-unit consisting of cylinder, solenoid valve (bistable) and 2 proximity reed switches

**Rohrklappkästen 60°, asymmetrisch, eckig auf rund / Two-way asymmetrical valves 60°, square to round**



mit Klappendichtung Si und Radialwellendichtringen Viton, kugellagert, pneumatisch betätigt mit Drehantrieb, Magnetventil (bistabil) Endschalterbox mit Stellungsanzeige und 2 mechanischen Endschaltern. Magnetventil und Endschalter komplett in Endschalterbox verdrahtet  
with valve-sealing Si and radial-shaft-sealing-rings Viton, ball-bearing, pneumatic rotary actuator, solenoid valve (bistable), limit-switch-box with position-indicator and 2 mechanical limit switches. Solenoid valve and limit switches completely wired to switch box

**Rohrklappkästen 60°, asymmetrisch, eckig auf rund / Two-way asymmetrical valves 60°, square to round**



mit Klappendichtung Si und Radialwellendichtringen Viton, kugellagert, elektrisch betätigt mit Motor und 2 mechanischen Endschaltern  
with valve-sealing Si and radial-shaft-sealing-rings Viton, ball-bearing electrically operated with worm gear motor and 2 mechanical limit switches

| Nennweite<br>Nominal diameter                         |     |     |     |     |     |     |   |   |    |
|-------------------------------------------------------|-----|-----|-----|-----|-----|-----|---|---|----|
| Maße für 2 mm Rohrbau<br>Measurements for 2 mm piping |     |     |     |     |     |     |   |   |    |
| DN                                                    | d/w | a   | b   | c   | e   | f   | g | i | kg |
| 100                                                   | 99  | 260 | 90  | 170 | 228 | 181 |   |   |    |
| 120                                                   | 119 | 300 | 100 | 200 | 238 | 191 |   |   |    |
| 150                                                   | 149 | 370 | 120 | 250 | 253 | 206 |   |   |    |
| 175                                                   | 174 | 395 | 135 | 260 | 267 | 220 |   |   |    |
| 200                                                   | 199 | 430 | 150 | 280 | 284 | 235 |   |   |    |
| 224                                                   | 219 | 450 | 150 | 300 | 296 | 247 |   |   |    |
| 250                                                   | 249 | 496 | 166 | 330 | 309 | 260 |   |   |    |
| 300                                                   | 299 | 565 | 185 | 380 | 334 | 286 |   |   |    |
| 315                                                   | 312 | 580 | 190 | 390 | 342 | 293 |   |   |    |
| 350                                                   | 349 | 601 | 195 | 406 | 358 | 310 |   |   |    |
| 400                                                   | 398 | 680 | 220 | 460 | 384 | 336 |   |   |    |

Endnummer für Fabrikat und Steuerspannung:  
Bitte der 7stelligen Art.-Nr. zufügen. Für ATEX  
bitte Gerätekategorie (2D/3D) angeben

*Please add code for make and signal-current to  
our 7-digit-order-no. For ATEX quote equipment  
category (2D/3D)*

|     |     |     |     |     |     |     |  |  |  |
|-----|-----|-----|-----|-----|-----|-----|--|--|--|
| 100 | 99  | 260 | 90  | 170 | 347 | 132 |  |  |  |
| 120 | 119 | 300 | 100 | 200 | 357 | 142 |  |  |  |
| 150 | 149 | 370 | 120 | 250 | 372 | 157 |  |  |  |
| 175 | 174 | 395 | 135 | 260 | 384 | 171 |  |  |  |
| 200 | 199 | 430 | 150 | 280 | 425 | 190 |  |  |  |
| 224 | 219 | 450 | 150 | 300 | 433 | 202 |  |  |  |
| 250 | 249 | 496 | 166 | 330 | 454 | 215 |  |  |  |
| 300 | 299 | 565 | 185 | 380 | 483 | 241 |  |  |  |
| 315 | 312 | 580 | 190 | 390 | 493 | 248 |  |  |  |
| 350 | 349 | 601 | 195 | 406 | 548 | 266 |  |  |  |
| 400 | 398 | 680 | 220 | 460 | 578 | 290 |  |  |  |

Endnummer für Fabrikat und Steuerspannung:  
Bitte der 7stelligen Art.-Nr. zufügen. Für ATEX  
bitte Gerätekategorie (2D/3D) angeben

*Please add code for make and signal-current to  
our 7-digit-order-no. For ATEX quote equipment  
category (2D/3D)*

|     |     |     |     |     |     |     |  |  |  |
|-----|-----|-----|-----|-----|-----|-----|--|--|--|
| 100 | 99  | 260 | 90  | 170 | 316 | 132 |  |  |  |
| 120 | 119 | 300 | 100 | 200 | 326 | 142 |  |  |  |
| 150 | 149 | 370 | 120 | 250 | 341 | 157 |  |  |  |
| 175 | 174 | 395 | 135 | 260 | 353 | 171 |  |  |  |
| 200 | 199 | 430 | 150 | 280 | 472 | 190 |  |  |  |
| 224 | 219 | 450 | 150 | 300 | 480 | 202 |  |  |  |
| 250 | 249 | 496 | 166 | 330 | 501 | 215 |  |  |  |
| 300 | 299 | 565 | 185 | 380 | 530 | 241 |  |  |  |
| 315 | 312 | 580 | 190 | 390 | 540 | 248 |  |  |  |
| 350 | 349 | 601 | 195 | 406 | 592 | 266 |  |  |  |
| 400 | 398 | 680 | 220 | 460 | 622 | 290 |  |  |  |

Endnummer für Fabrikat und Steuerspannung:  
Bitte der 7stelligen Art.-Nr. zufügen. Für ATEX  
bitte Gerätekategorie (2D/3D) angeben

*Please add code for make and signal-current to  
our 7-digit-order-no. For ATEX quote equipment  
category (2D/3D)*

Rohrklappkästen DN 450–630 auf Anfrage.  
*Two-way asymmetrical valves DN 45–630 upon request.*

✓ Siehe technische Hinweise Seite 112/113  
*For technical details see page 112/113*

| DC 01 2 mm                         |         | DC 01 3 mm                         |         | DC 01 2 mm                   |         | VA 1.4301 2 mm               |         |
|------------------------------------|---------|------------------------------------|---------|------------------------------|---------|------------------------------|---------|
| pulverbeschichtet<br>powder coated |         | pulverbeschichtet<br>powder coated |         | galv. verzinkt<br>galvanized |         | Edelstahl<br>stainless steel |         |
| Art.-Nr.                           | €       | Art.-Nr.                           | €       | Art.-Nr.                     | €       | Art.-Nr.                     | €       |
| 1021203                            | 795,60  |                                    |         | 1022203                      | 833,30  | 1023203                      | 988,60  |
| 1221203                            | 804,60  |                                    |         | 1222203                      | 844,70  | 1223203                      | 1024,10 |
| 1521203                            | 817,30  | 1531203                            | 869,70  | 1522203                      | 859,60  | 1523203                      | 1082,40 |
| 1721203                            | 866,30  | 1731203                            | 918,90  | 1722203                      | 915,40  | 1723203                      | 1287,00 |
| 2021203                            | 890,50  | 2031203                            | 936,10  | 2022203                      | 956,70  | 2023203                      | 1313,30 |
| 2221203                            | 915,40  | 2231203                            | 961,20  | 2222203                      | 986,40  | 2223203                      | 1341,90 |
| 2521203                            | 925,80  | 2531203                            | 973,90  | 2522203                      | 1000,00 | 2523203                      | 1416,30 |
| 3021203                            | 964,60  | 3031203                            | 1009,30 | 3022203                      | 1054,90 | 3023203                      | 1571,70 |
| 3121203                            | 1301,90 | 3131203                            | 1351,00 | 3122203                      | 1413,80 | 3123203                      | 1898,80 |
| 3521203                            | 1773,90 | 3531203                            | 1823,00 | 3522203                      | 1903,00 | 3523203                      | 2519,00 |
| 4021203                            | 2113,30 | 4031203                            | 2162,50 | 4022203                      | 2256,20 | 4023203                      | 2937,40 |

Fabrikat  
*Make*

Steuerspannung  
*Signal-current*

F1 ..... Festo ..... 230 V, AC  
F3 ..... Festo ..... 24 V, DC

Andere Fabrikate auf Anfrage / *other products on request*

Auch als Atex-Ausführung lieferbar  
Preise auf Anfrage, bitte geben Sie die gewünschte Zone an  
*Also available as Atex version  
price on request, please specify the desired zone*

|         |         |         |         |         |         |         |         |
|---------|---------|---------|---------|---------|---------|---------|---------|
| 1021205 | 795,60  |         |         | 1022205 | 833,30  | 1023205 | 988,60  |
| 1221205 | 804,60  |         |         | 1222205 | 844,70  | 1223205 | 1024,10 |
| 1521205 | 817,30  | 1531205 | 869,70  | 1522205 | 859,60  | 1523205 | 1082,40 |
| 1721205 | 866,30  | 1731205 | 918,90  | 1722205 | 915,40  | 1723205 | 1287,00 |
| 2021205 | 890,50  | 2031205 | 936,10  | 2022205 | 956,70  | 2023205 | 1313,30 |
| 2221205 | 915,40  | 2231205 | 961,20  | 2222205 | 986,40  | 2223205 | 1341,90 |
| 2521205 | 925,80  | 2531205 | 973,90  | 2522205 | 1000,00 | 2523205 | 1416,30 |
| 3021205 | 964,60  | 3031205 | 1009,30 | 3022205 | 1054,90 | 3023205 | 1571,70 |
| 3121205 | 1301,90 | 3131205 | 1351,00 | 3122205 | 1413,80 | 3123205 | 1898,80 |
| 3521205 | 1773,90 | 3531205 | 1823,00 | 3522205 | 1903,00 | 3523205 | 2519,00 |
| 4021205 | 2113,30 | 4031205 | 2162,50 | 4022205 | 2256,20 | 4023205 | 2937,40 |

Fabrikat  
*Make*

Steuerspannung  
*Signal-current*

A1 ..... Rotork ..... 230 V, AC  
A3 ..... Rotork ..... 24 V, DC

Auch als Atex-Ausführung lieferbar  
Preise auf Anfrage, bitte geben Sie die gewünschte Zone an  
*Also available as Atex version  
price on request, please specify the desired zone*

|         |         |         |         |         |         |         |         |
|---------|---------|---------|---------|---------|---------|---------|---------|
| 1021207 | 1183,80 |         |         | 1022207 | 1221,60 | 1023207 | 1377,10 |
| 1221207 | 1193,00 |         |         | 1222207 | 1233,00 | 1223207 | 1412,50 |
| 1521207 | 1205,60 | 1531207 | 1258,20 | 1522207 | 1247,90 | 1523207 | 1470,70 |
| 1721207 | 1254,70 | 1731207 | 1307,30 | 1722207 | 1303,90 | 1723207 | 1675,30 |
| 2021207 | 1278,70 | 2031207 | 1324,50 | 2022207 | 1345,00 | 2023207 | 1701,70 |
| 2221207 | 1303,90 | 2231207 | 1349,60 | 2222207 | 1374,70 | 2223207 | 1730,10 |
| 2521207 | 1314,10 | 2531207 | 1362,20 | 2522207 | 1388,50 | 2523207 | 1804,70 |
| 3021207 | 1353,10 | 3031207 | 1397,60 | 3022207 | 1443,30 | 3023207 | 1960,10 |
| 3121207 | 1690,20 | 3131207 | 1739,40 | 3122207 | 1802,20 | 3123207 | 2287,20 |
| 3521207 | 2162,30 | 3531207 | 2211,40 | 3522207 | 2291,40 | 3523207 | 2907,40 |
| 4021207 | 2501,70 | 4031207 | 2550,90 | 4022207 | 2644,50 | 4023207 | 3325,70 |

Fabrikat  
*Make*

Steuerspannung  
*Signal-current*

G5 ..... Getriebepack Nord ..... 400 V, 50Hz  
(Schnecken-Getriebemotor / *worm gear*)  
D1 ..... Deufra (Stellenantrieb / *Actuator*) .... 230 V, 50Hz

Preise auf Anfrage / *prices on request*  
D3 ..... Deufra (Stellenantrieb / *Actuator*) .... 24 V, DC  
D5 ..... Deufra (Stellenantrieb / *Actuator*) .... 400 V, 50Hz

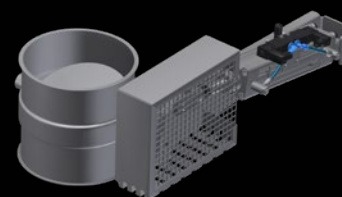
Auch als Atex-Ausführung lieferbar  
Preise auf Anfrage, bitte geben Sie die gewünschte Zone an  
*Also available as Atex version  
price on request, please specify the desired zone*

Weitere Ausstattungen wie z.B.  
Stellungsregler, Heizung auf Anfrage.  
*Additional fittings e.g. position regulator,  
heating upon request.*



ROHRDROSSELKLAPPEN  
RÜCKSCHLAGKLAPPEN  
ABSPERRKLAPPEN  
FREIFLUSSKLAPPEN

*THROTTLE VALVES  
NON-RETURN VALVES  
SHUT-OFF VALVES  
FREE FLOW VALVES*



### Rohrdrosselklappe ohne/mit Dichtung:

#### Ausführung:

Abdichtung nach außen durch O-Ring Viton  
Klappenstellung durch Sterngriff arretierbar  
Bei Ausführung mit Dichtung: Umlaufende Klappendichtung aus Silikon transparent, Temperaturbereich von -60° bis +200°, in Lebensmittelqualität

#### Optional auf Anfrage:

- mit Flanschverbindung
- abweichende Abmessungen
- verschleißhemmende Ausführungen

#### Optional:

- Dichtung in NBR
- FKM (Viton)
- EPDM
- Silikon-blau detektierbar

#### Anwendung:

Zur Absperrung / staubdichten Absperrung und zur stufenlosen Regulierung von Luft und Produktstrom

### Absperrklappe ohne/mit Dichtung:

#### Ausführung:

Abdichtung nach außen durch Radialwellendichtring Viton  
Bei Ausführung mit Dichtung: Umlaufende Klappendichtung aus Silikon transparent, Temperaturbereich von -60° bis +200°, in Lebensmittelqualität (andere Materialien auf Anfrage)

#### Optional auf Anfrage:

- mit Flanschverbindung
- diverse Antriebe
- stetig regelbare Antriebe
- abweichende Abmessungen
- verschleißhemmende Ausführungen

#### Anwendung:

Zur Absperrung / staubdichten Absperrung von Luft und Produktstrom

### Freiflussklappe:

#### Ausführung:

vollständig freier Durchgang im geöffneten Zustand  
Abdichtung nach außen durch Radialwellendichtring Viton  
Klappendichtung aus Silikon transparent, Temperaturbereich von -60° bis +200°, in Lebensmittelqualität (andere Materialien auf Anfrage)  
Wellendurchführung kugelgelagert  
Muffe als Spülluftanschluss  
Vorhanden

#### Optional auf Anfrage:

- mit Flanschverbindung
- abweichende Abmessungen
- verschleißhemmende Ausführungen

#### Anwendung:

Zur druckdichten Absperrung von Luft und Produktstrom bis 25000 Pa  
Geeignet für Schüttgüter, wenn ein vollständig freier Durchgang gefordert wird

### Antriebe: Erläuterung der Kürzel

#### F1:

Pneumatische doppeltwirkende Zylindereinheit best. aus:  
**Zylinder:** Fabr. Festo, Typ DSBC mit PPS-Dämpfer nach ISO6431/VDMA 24562  
**Ventil:** Typ VUVS-L20-M52-MD-G18-F7  
monostabil mit 1 Spule  
**Spannung:** 230V AC  
**Leistungsaufnahme:** 2,3/3,0 VA  
Handhilfsbetätigung  
**Anschluss:** 8mm Schlauch  
2x Endschalter Typ SME-8-KLED-230  
**Spannung:** 3-230V AC/DC  
**Schaltleistung:** max. 10W AC/DC;  
**Schließer:** Schutzart IP65

#### F3:

Pneumatische doppeltwirkende Zylindereinheit bestehend aus:  
**Zylinder:** Fabr. Festo, Typ DSBC mit PPS-Dämpfer nach ISO6431/VDMA 24562  
**Ventil:** Typ VUVS-L20-M52-MD-G18-F7-1C1 monostabil mit 1 Spule  
**Spannung:** 24V DC  
**Leistungsaufnahme:** 2,6 W  
Handhilfsbetätigung  
**Anschluss:** 8mm Schlauch  
2x Endschalter Typ SME-8M-ZS-24VK-2,5-OE  
**Spannung:** 5-30V AC/DC  
**Schaltleistung:** max. 2,4W AC/DC  
**Schließer:** Schutzart IP65

#### A1:

Pneumatischer doppeltwirkender Schwenkantrieb bestehend aus:  
**Schwenkantrieb:** Fabr. Rotork  
**Ventil:** Fabr. Airtec Typ KN05511-HN monostabil mit 1 Spule  
**Spannung:** 230V AC;  
**Leistungsaufnahme:** 7VA  
Handhilfsbetätigung  
**Anschluss:** 8mm Schlauch  
**Endschalterbox:** Fabr. Autamax/Flowserve mit 2 mech. Mikroschalter  
**Ex-Schutzklasse:**  
II 2 G Ex IA IIC T6 Gb  
II 2 D Ex ia IIIC T80°C Db  
Stellungsanzeige durch gelb/roter Strich  
**Ventil:** auf Klemmenleiste in Endschalterbox verdrahtet, ausser bei Produkten mit ATEX-Zulassung  
**Schutzart:** IP65

#### A3:

Pneumatischer doppeltwirkender Schwenkantrieb bestehend aus:  
**Schwenkantrieb:** Fabr. Rotork  
**Ventil:** Fabr. Airtec Typ KN05511-HN monostabil mit 1 Spule  
**Spannung:** 24V DC  
**Leistungsaufnahme:** 4,2W  
Handhilfsbetätigung  
**Anschluss:** 8mm Schlauch  
**Endschalterbox:** Fabr. Autamax/Flowserve mit 2 mech. Mikroschalter  
**Ex-Schutzklasse:**  
II 2 G Ex IA IIC T6 Gb  
II 2 D Ex ia IIIC T80°C Db  
Stellungsanzeige durch gelb/roter Strich  
**Ventil:** auf Klemmenleiste in Endschalterbox verdrahtet, ausser bei Produkten mit ATEX-Zulassung  
**Schutzart:** IP65

#### G5:

Schneckengetriebemotor:  
Fabr. Getriebebau Nord  
Typ SK1 SI 40/H10 IEC63 S/4

**Spannung:** 400V AC  
**Motorleistung:** 0,12KW  
**Nennstrom:** 0,46A  
**Stellzeit:** ca. 3 s.  
**Schutzart:** IP55  
2 mech. Endschalter Fabr. Bernstein  
Typ IN65-SU1ZRK  
AC 240V / 3A  
DC 24V / 4A  
1 Öffner / 1 Schließer  
In Konsole gegenüber des Antriebes montiert

#### D1:

Elektrischer Schwenkantrieb:  
Fabr. Deufra

#### Typ AQ3L

**Spannung:** 230V AC,  
**Leistungsaufnahme:** 20W  
**Nennstrom:** 0,3/0,8A  
Handnotbetätigung  
**Stellzeit:** ca. 15s.  
**Schutzart:** IP68

#### Typ AQ7L

**Spannung:** 230V AC,  
**Leistungsaufnahme:** 20W  
**Nennstrom:** 0,4/1,0A  
Handnotbetätigung  
**Stellzeit:** ca. 15s.  
**Schutzart:** IP68

#### Typ: AQ10

**Spannung:** 230 V AC  
**Leistungsaufnahme:** 15W  
**Nennstrom:** 0,6/0,7A  
Handnotbetätigung  
**Stellzeit:** ca. 25 s.  
**Schutzart:** IP68

#### Typ: AQ15

**Spannung:** 230 V AC  
**Leistungsaufnahme:** 30W  
**Nennstrom:** 0,8/1,1A  
Handnotbetätigung  
**Stellzeit:** ca. 30 s.  
**Schutzart:** IP68

#### D3:

Elektrischer Schwenkantrieb:  
Fabr. Deufra

#### Typ: AQ3L

**Spannung:** 24 V DC  
**Leistungsaufnahme:** 20W  
**Nennstrom:** 0,4/2,5A  
Handnotbetätigung  
**Stellzeit:** ca. 15 s.  
**Schutzart:** IP68

#### Typ: AQ7L

**Spannung:** 24 V DC  
**Leistungsaufnahme:** 20W  
**Nennstrom:** 0,5/6A  
Handnotbetätigung  
**Stellzeit:** ca. 15 s.  
**Schutzart:** IP68

#### Typ: AQ10

**Spannung:** 24 V DC  
**Leistungsaufnahme:** 30W  
**Nennstrom:** 2,5/8A  
Handnotbetätigung  
**Stellzeit:** ca. 21 s.  
**Schutzart:** IP68

#### Typ: AQ15

**Spannung:** 24 V DC  
**Leistungsaufnahme:** 30W  
**Nennstrom:** 2,5/8A  
Handnotbetätigung  
**Stellzeit:** ca. 25 s.  
**Schutzart:** IP68

Endschalter alle Typen Deufra:  
mech. Endschalter als Wechsler  
max. 250VAC; 5A Schaltleistung

Verwendeter Typ siehe  
Dokumentation.

#### B1:

Elektrischer Klappenantrieb:  
Fabr. Belimo

#### Typ SM230A

**Spannung:** 100-240V AC  
Leistungsaufnahme: 2,5W  
(Ruhe 0,6W)  
**Antrieb:** auskuppelbar  
für Notbetätigung  
**Stellzeit:** ca. 150s.  
**Schutzart:** IP54

#### Typ GM230A

**Spannung:** 100-240V AC  
Leistungsaufnahme: 5W  
(Ruhe 2W)  
**Antrieb:** auskuppelbar  
für Notbetätigung  
**Stellzeit:** ca. 150s.  
**Schutzart:** IP54  
**Endschalter:** optional

#### B2:

Elektrischer Klappenantrieb:  
Fabr. Belimo

#### Typ SM24A

**Spannung:** 24V AC/DC  
**Leistungsaufnahme:** 2W  
(Ruhe 0,2W)  
**Antrieb:** auskuppelbar  
für Notbetätigung  
**Stellzeit:** ca. 150s.  
**Schutzart:** IP54

#### Typ GM24A

**Spannung:** 24V AC/DC  
**Leistungsaufnahme:** 4W  
(Ruhe 2W)  
**Antrieb:** auskuppelbar  
für Notbetätigung  
**Stellzeit:** ca. 150s.  
**Schutzart:** IP54  
**Endschalter:** optional

### Throttle valve with/without seal:

#### Design:

Sealing done outwards by O-ring Viton  
Flap position is lockable by star handle  
In model with seal: circumferential  
silicone flap seal, transparent,  
temperature range of -60° to +200°, in  
food quality

#### Optional on request:

- with flange connection
- different dimensions
- wear-resistant models

#### Optional:

- Seal in NBR
- FKM (Viton)
- EPDM
- silicone-blue can easily be detected

#### Application:

For shut-off / dust-proof sealing  
and for smooth regulation of air and  
product flow

### Shut-off valve with/without seal:

#### Design:

Sealing done outwards by radial shaft  
seal ring Viton  
In model with seal: Circumferential  
silicone flap seal, transparent,  
temperature range of -60° to +200°,  
in food quality (other materials on  
request)

#### Optional on request:

- with flange connection
- several drives
- continuously adjustable drives
- different dimensions
- wear-resistant models

#### Application:

For shut-off / dust-proof sealing of air  
and product flow

### Free-flow valve:

#### Design:

Absolutely free passage in open  
condition  
Sealing done outwards by radial shaft  
seal ring Viton  
Silicone flap seal, transparent,  
temperature range of -60° to +200°,  
in food quality (other materials on  
request)  
Shaft feedthrough mounted on ball  
bearings  
Bushing available as purge air  
connection

#### Optional on request:

- with flange connection
- different dimensions
- wear-resistant models

#### Application:

For pressure-proof sealing of air and  
product flow up to 25000Pa  
Suitable for several bulk material  
where an absolutely free passage is  
required

### Drives: Explanation of the abbreviations

#### F1:

Pneumatic double-action cylinder unit  
consists of:  
**Cylinder:** Manufacturer: Festo  
**Type:** Typ DSBC mit PPS-Dämpfer  
according to ISO6431/VDMA 24562  
**Valve:** Type VUVS-L20-M52-MD-G18-F7  
monostable with 1 coil,  
**Voltage:** 230V AC  
**Power consumption:** 2.3/3.0 VA  
Manual override  
**Connection:** 8 mm flexible tube  
**2x end switch:** Type SME-8-K-LED-230  
**Voltage:** 3-230V AC/DC  
**Switching capacity:** max. 10W  
AC/DC Shutter  
**Protection class:** IP65

#### F3:

Pneumatic double-action cylinder unit  
consists of:  
**Cylinder:** Manufacturer: Festo  
**Type:** DSBC mit PPS-Dämpfer  
according to ISO6431/VDMA 24562  
**Valve:** Type VUVS-L20-M52-MD-G18-  
F7-1C1  
monostable with 1 coil,  
**Voltage:** 24V DC  
**Power consumption:** 2,6 W  
Manual override  
**Connection:** 8 mm flexible tube  
**2x end switch:**  
Type SME-8M-ZS-24V-K-2,5-OE  
**Voltage:** 5-30V AC/DC;  
**Switching capacity:**  
max. 2,4W AC/DC;  
**Shutter Protection class:** IP65

#### A1:

Pneumatic double-action pivot drive  
consists of:  
**Pivot drive:** Manufacturer: Rotork  
**Valve:** Manufacturer: Airtec Type  
KN05511-HN bistable with 1 coil  
**Voltage:** 230V AC  
Power consumption:  
7VA Manual override  
**Connection:** 8 mm flexible tube  
**End switch box:**  
Manufacturer: Automax/Flowserve,  
with 2 mech. microswitches  
**Ex-Class :**  
II 2 G Ex IA IIC T6 Gb  
II 2 D Ex ia IIIC T80°C Db  
Position indication  
by yellow/red line  
**Valve:** wired on the terminal strip in  
the end switch box, but not for pro-  
ducts with ATEX approval  
**Protection class:** IP65

#### A3:

Pneumatic double-action pivot drive  
consists of:  
**Pivot drive:** Manufacturer: Rotork  
**Valve:** Manufacturer: Airtec Type  
KN05511-HN monostable with 1 coil  
**Voltage:** 24V DC  
**Power consumption:**  
4.2W Manual override  
**Connection:** 8 mm flexible tube  
**End switch box:**  
Manufacturer: Automax/Flowserve,  
with 2 mech. microswitches  
**Ex-Class :**  
II 2 G Ex IA IIC T6 Gb  
II 2 D Ex ia IIIC T80°C Db  
Position indication  
by yellow/red line  
**Valve:** wired on the terminal strip in  
the end switch box, but not for pro-  
ducts with ATEX approval  
**Protection class:** IP65

#### G5:

Worm gear motor:  
Manufacturer: Getriebebau Nord  
Type SK1 SI 40/H10 IEC63 S/4

**Voltage:** 400V AC  
**Motor power:** 0.12K W  
**Nominal current:** 0.46A  
**Operating time:** approx. 3 s.  
**Protection class:** IP55  
2 mech. end switches; manufacturer:  
Bernstein Type IN65-SU1ZRK  
AC 240V / 3A  
DC 24V / 4A  
1 opener / 1 closer  
Mounted in console across from the  
drive

#### D1:

Electric pivot drive  
Manufacturer: Deufra

#### Type: AQ3L

**Voltage:** 230V AC,  
**Power consumption:** 20W  
**Nominal current:** 0.3/0.8A  
Manual emergency operation  
**Operating time:** approx. 15 s.  
**Protection class:** IP68

#### Type AQ7L

**Voltage:** 230V AC,  
**Power consumption:** 20W  
**Nominal current:** 0,4/1,0A  
Manual emergency operation  
**Operating time:** approx. 15 s.  
**Protection class:** IP68

#### Type: AQ10

**Voltage:** 230V AC,  
**Power consumption:** 15W  
**Nominal current:** 0.6/0.7A  
Manual emergency operation  
**Operating time:** approx. 25 s.  
**Protection class:** IP68

#### Type AQ15

**Voltage:** 230V AC,  
**Power consumption:** 30W  
**Nominal current:** 0,8/1,1A  
Manual emergency operation  
**Operating time:** approx. 30 s.  
**Protection class:** IP68

#### D3:

Electric pivot drive  
Manufacturer: Deufra

#### Type: AQ3L

**Voltage:** 24 V DC  
**Power consumption:** 20W  
**Nominal current:** 0,4/2,5A  
Manual emergency operation  
**Operating time:** approx. 15 s.  
**Protection class:** IP68

#### Type: AQ7L

**Voltage:** 24 V DC  
**Power consumption:** 20W  
Nominal current: 0,5/6A  
Manual emergency operation  
**Operating time:** approx. 15 s.  
**Protection class:** IP68

#### Type: AQ10

**Voltage:** 24 DC  
**Power consumption:** 30W  
**Nominal current:** 2.5/8A  
Manual emergency operation  
**Operating time:** approx. 21 s.  
**Protection class:** IP68

#### Type: AQ15

**Voltage:** 24 DC  
**Power consumption:** 30W  
**Nominal current:** 2.5/8A  
Manual emergency operation  
**Operating time:** approx. 25 s.  
**Protection class:** IP68

End switches of all types Deufra:  
Mech. end switches as changer max.  
250VAC, 5A switching capacity

Used type look at the documentation

#### B1:

Electric valve drive  
Manufacturer: Belimo

#### Type SM230A

**Voltage:** 100-240V AC  
**Power consumption:** 2.5W  
(Neutral 0.6W)  
**Drive:** can be disengaged for  
emergency operation  
**Operating time:** approx. 150s.  
**Protection class:** IP54

#### Type GM230A

**Voltage:** 100-240V AC  
**Power consumption:** 5W  
(Neutral 2W)  
**Drive:** can be disengaged for  
emergency operation  
**Operating time:** approx. 150s.  
**Protection class:** IP54  
**End switches:** optional

#### B2:

Electric valve drive  
Manufacturer: Belimo

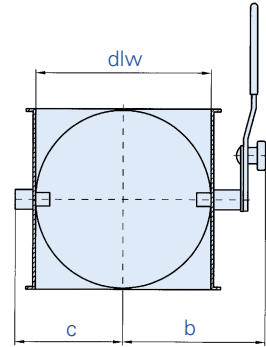
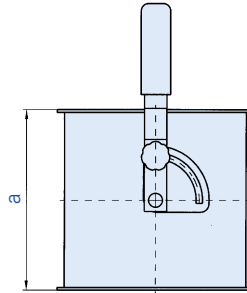
#### Type SM24A

**Voltage:** 24V AC/DC  
**Power consumption:**  
2 W (Neutral 0.2W)  
**Drive:** can be disengaged for  
emergency operation  
**Operating time:** approx. 150s.  
**Protection class:** IP54

#### Type GM24A

**Voltage:** 24V AC/DC  
**Power consumption:** 4W  
(Neutral 2W)  
**Drive:** can be disengaged for  
emergency operation  
**Operating time:** approx. 150s.  
**Protection class:** IP54  
**End switches:** optional

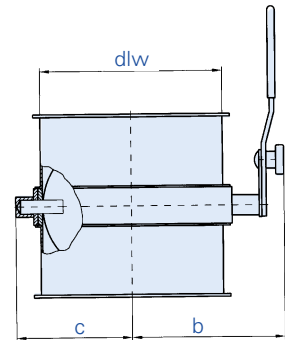
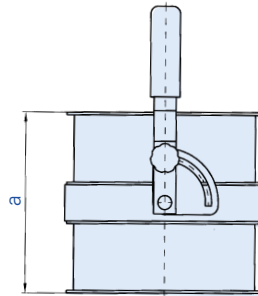
**Rohrdrosselklappen ohne Dichtung** / *Pipe throttle valves without sealing*



mit O-Ring Viton als Wellenabdichtung, feststellbar

*with O-Ring Viton as shaft-sealing, adjustable*

**Rohrdrosselklappen mit Klappendichtung Si** / *Pipe throttle valves with valve sealing Si*



mit O-Ring Viton als Wellenabdichtung, feststellbar

*with O-Ring Viton as shaft-sealing, adjustable*

| Nennweite<br>Nominal diameter                         |     |     |     |     |   |   |   |   |       |
|-------------------------------------------------------|-----|-----|-----|-----|---|---|---|---|-------|
| Maße für 2 mm Rohrbau<br>Measurements for 2 mm piping |     |     |     |     |   |   |   |   |       |
| DN                                                    | d/w | a   | b   | c   | e | f | g | i | kg    |
| 80                                                    | 78  | 100 | 97  | 61  |   |   |   |   | 0,90  |
| 100                                                   | 99  | 100 | 108 | 71  |   |   |   |   | 1,30  |
| 120                                                   | 119 | 120 | 118 | 81  |   |   |   |   | 1,60  |
| 150                                                   | 149 | 150 | 133 | 96  |   |   |   |   | 2,20  |
| 175                                                   | 174 | 175 | 146 | 109 |   |   |   |   | 2,60  |
| 200                                                   | 199 | 200 | 158 | 121 |   |   |   |   | 3,40  |
| 224                                                   | 219 | 224 | 170 | 132 |   |   |   |   | 4,10  |
| 250                                                   | 249 | 250 | 193 | 156 |   |   |   |   | 5,50  |
| 300                                                   | 299 | 300 | 218 | 181 |   |   |   |   | 7,50  |
| 315                                                   | 312 | 315 | 225 | 188 |   |   |   |   | 8,40  |
| 350                                                   | 349 | 350 | 243 | 206 |   |   |   |   | 10,00 |
| 400                                                   | 398 | 400 | 268 | 231 |   |   |   |   | 12,30 |
| 450                                                   | 448 | 400 | 293 | 256 |   |   |   |   | 16,65 |
| 500                                                   | 498 | 400 | 318 | 281 |   |   |   |   | 19,00 |
| 560                                                   | 558 | 400 | 348 | 311 |   |   |   |   | 22,70 |
| 600                                                   | 598 | 400 | 368 | 331 |   |   |   |   | 26,80 |
| 630                                                   | 628 | 400 | 383 | 346 |   |   |   |   | 30,00 |

| DC 01 1,5 mm                       |        | DC 01 2 mm                         |        | DC 01 1,5 mm                         |        | DC 01 2 mm                           |        | VA 1.4301 1,5 mm             |        | VA 1.4301 2 mm               |        |
|------------------------------------|--------|------------------------------------|--------|--------------------------------------|--------|--------------------------------------|--------|------------------------------|--------|------------------------------|--------|
| pulverbeschichtet<br>powder coated |        | pulverbeschichtet<br>powder coated |        | galv. verzinkt<br>electro galvanized |        | galv. verzinkt<br>electro galvanized |        | Edelstahl<br>stainless steel |        | Edelstahl<br>stainless steel |        |
| Art.-Nr.                           | €      | Art.-Nr.                           | €      | Art.-Nr.                             | €      | Art.-Nr.                             | €      | Art.-Nr.                     | €      | Art.-Nr.                     | €      |
| 0811075                            | 47,00  |                                    |        | 0812075                              | 57,30  |                                      |        | 0813075                      | 110,10 |                              |        |
| 1011075                            | 48,40  | 1021075                            | 58,20  | 1012075                              | 58,50  | 1022075                              | 65,70  | 1013075                      | 112,00 | 1023075                      | 118,10 |
| 1211075                            | 54,10  | 1221075                            | 61,60  | 1212075                              | 62,10  | 1222075                              | 68,10  | 1213075                      | 120,80 | 1223075                      | 129,10 |
| 1511075                            | 59,50  | 1521075                            | 64,50  | 1512075                              | 68,50  | 1522075                              | 71,60  | 1513075                      | 138,10 | 1523075                      | 144,40 |
| 1711075                            | 75,40  | 1721075                            | 79,80  | 1712075                              | 83,90  | 1722075                              | 86,20  | 1713075                      | 158,20 | 1723075                      | 167,40 |
| 2011075                            | 81,90  | 2021075                            | 87,40  | 2012075                              | 92,70  | 2022075                              | 95,50  | 2013075                      | 194,10 | 2023075                      | 199,20 |
| 2211075                            | 94,40  | 2221075                            | 102,90 | 2212075                              | 107,40 | 2222075                              | 112,80 | 2213075                      | 208,50 | 2223075                      | 226,10 |
| 2511075                            | 98,80  | 2521075                            | 112,50 | 2512075                              | 115,80 | 2522075                              | 126,40 | 2513075                      | 229,20 | 2523075                      | 243,90 |
| 3011075                            | 112,50 | 3021075                            | 123,30 | 3012075                              | 129,00 | 3022075                              | 134,10 | 3013075                      | 263,70 | 3023075                      | 277,90 |
|                                    |        | 3121075                            | 134,10 |                                      |        | 3122075                              | 171,30 |                              |        | 3123075                      | 285,40 |
|                                    |        | 3521075                            | 140,10 |                                      |        | 3522075                              | 183,80 |                              |        | 3523075                      | 292,80 |
|                                    |        | 4021075                            | 153,60 |                                      |        | 4022075                              | 206,80 |                              |        | 4023075                      | 340,20 |
|                                    |        | 4521075                            | 165,50 |                                      |        | 4522075                              | 242,80 |                              |        | 4523075                      | 402,50 |
|                                    |        | 5021075                            | 188,30 |                                      |        | 5022075                              | 276,00 |                              |        | 5023075                      | 443,80 |
|                                    |        | 5621075                            | 205,80 |                                      |        | 5622075                              | 310,20 |                              |        | 5623075                      | 501,40 |
|                                    |        | 6021075                            | 223,20 |                                      |        | 6022075                              | 346,00 |                              |        | 6023075                      | 547,20 |
|                                    |        | 6321075                            | 251,10 |                                      |        | 6322075                              | 388,10 |                              |        | 6323075                      | 590,00 |

ATEX Zone 21/22, innen Zone 20 (Geräteklasse 2D/3D) lieferbar, Preise auf Anfrage  
ATEX Zone 21/22, inner Zone 20 (equipment category 2D/3D) available, prices on request

| Nennweite<br>Nominal diameter                         |     |     |     |     |   |   |   |   |       |
|-------------------------------------------------------|-----|-----|-----|-----|---|---|---|---|-------|
| Maße für 2 mm Rohrbau<br>Measurements for 2 mm piping |     |     |     |     |   |   |   |   |       |
| DN                                                    | d/w | a   | b   | c   | e | f | g | i | kg    |
| *80                                                   | 78  | 100 | 106 | 69  |   |   |   |   | 1,20  |
| *100                                                  | 99  | 100 | 116 | 79  |   |   |   |   | 1,70  |
| *120                                                  | 119 | 120 | 126 | 89  |   |   |   |   | 2,10  |
| *150                                                  | 149 | 150 | 141 | 104 |   |   |   |   | 2,80  |
| *175                                                  | 174 | 175 | 154 | 117 |   |   |   |   | 3,70  |
| *200                                                  | 199 | 200 | 166 | 129 |   |   |   |   | 4,90  |
| *224                                                  | 219 | 224 | 178 | 141 |   |   |   |   | 5,60  |
| *250                                                  | 249 | 250 | 201 | 164 |   |   |   |   | 6,80  |
| *300                                                  | 299 | 300 | 226 | 189 |   |   |   |   | 8,90  |
| *315                                                  | 312 | 315 | 239 | 201 |   |   |   |   | 9,30  |
| 350                                                   | 349 | 350 | 255 | 218 |   |   |   |   | 10,50 |
| 400                                                   | 398 | 400 | 280 | 243 |   |   |   |   | 12,80 |

| DC 01 1,5 mm                       |        | DC 01 2 mm                         |        | DC 01 1,5 mm                         |        | DC 01 2 mm                           |        | VA 1.4301 1,5 mm             |        | VA 1.4301 2 mm               |        |
|------------------------------------|--------|------------------------------------|--------|--------------------------------------|--------|--------------------------------------|--------|------------------------------|--------|------------------------------|--------|
| pulverbeschichtet<br>powder coated |        | pulverbeschichtet<br>powder coated |        | galv. verzinkt<br>electro galvanized |        | galv. verzinkt<br>electro galvanized |        | Edelstahl<br>stainless steel |        | Edelstahl<br>stainless steel |        |
| Art.-Nr.                           | €      | Art.-Nr.                           | €      | Art.-Nr.                             | €      | Art.-Nr.                             | €      | Art.-Nr.                     | €      | Art.-Nr.                     | €      |
| 0811076                            | 104,10 |                                    |        | 0812076                              | 127,50 |                                      |        | 0813076                      | 183,30 |                              |        |
|                                    |        | 1021076                            | 105,50 |                                      |        | 1022076                              | 129,30 |                              |        | 1023076                      | 186,60 |
|                                    |        | 1221076                            | 108,70 |                                      |        | 1222076                              | 132,90 |                              |        | 1223076                      | 195,60 |
|                                    |        | 1521076                            | 117,90 |                                      |        | 1522076                              | 139,50 |                              |        | 1523076                      | 221,30 |
|                                    |        | 1721076                            | 137,10 |                                      |        | 1722076                              | 167,30 |                              |        | 1723076                      | 250,20 |
|                                    |        | 2021076                            | 149,90 |                                      |        | 2022076                              | 179,50 |                              |        | 2023076                      | 267,70 |
|                                    |        | 2221076                            | 173,20 |                                      |        | 2222076                              | 204,60 |                              |        | 2223076                      | 310,30 |
|                                    |        | 2521076                            | 187,50 |                                      |        | 2522076                              | 223,70 |                              |        | 2523076                      | 339,10 |
|                                    |        | 3021076                            | 204,60 |                                      |        | 3022076                              | 243,80 |                              |        | 3023076                      | 375,60 |
|                                    |        | 3121076                            | 251,40 |                                      |        | 3122076                              | 296,00 |                              |        | 3123076                      | 431,70 |
|                                    |        | 3521076                            | 321,70 |                                      |        | 3522076                              | 366,80 |                              |        | 3523076                      | 472,70 |
|                                    |        | 4021076                            | 359,60 |                                      |        | 4022076                              | 418,00 |                              |        | 4023076                      | 566,50 |

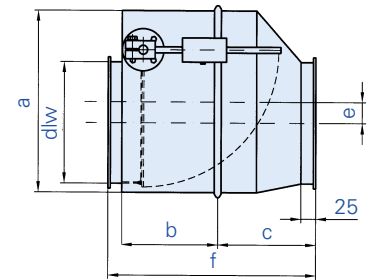
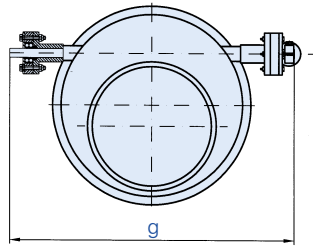
DN 450–630 auf Anfrage  
DN 450–630 upon request

\*EPDM (leitfähig, FDA/BFR konform), .....Art.-Nr.: xxxx676 DN 80-DN 175 +15,00 € DN 200-DN 315 +25,00 €  
H- NBR .....Art.-Nr.: xxxx776 DN 80-DN 175 +25,00 € DN 200-DN 315 +35,00 €  
FKM (Viton) .....Art.-Nr.: xxxx876 DN 80-DN 175 +35,00 € DN 200-DN 315 +45,00 €  
Silikon-blau detektierbar

ATEX Zone 21/22, innen Zone 20 (Geräteklasse 2D/3D) lieferbar, Preise auf Anfrage  
ATEX Zone 21/22, inner Zone 20 (equipment category 2D/3D) available, prices on request

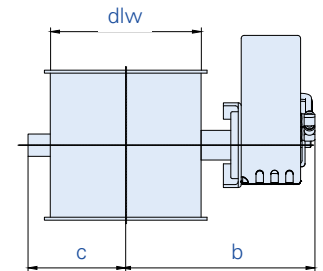
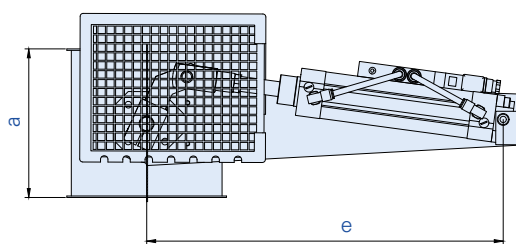
Technische Hinweise: siehe Seite 140/141  
Technical details: see page 140/141

**Rückschlagklappen, kugelgelagert / Non-return valves**



mit Radialwellendichtringen Viton als Wellenabdichtung  
 Voreinstellung: 1000 Pa Öffnungsdruck  
*with ball-bearing and shaft-sealing Viton*  
*Pre-adjustment: 1000Pa opening pressure*

**Absperrklappen ohne / mit Klappendichtung Si / Shut-off valves without / with valve-sealing Si**



mit Radialwellendichtring Viton als Wellenabdichtung, pneumatisch betätigt einschließlich Zylindereinheit bestehend aus: Zylinder, Magnetventil (monostabil) und 2 Magnetfeldschaltern (Klappe schließt bei Stromausfall)

*with shaft-sealing Viton, pneumatically operated, incl. cylinder-unit consisting of cylinder, solenoid valve (monostable) and 2 proximity reed switches (Valve closes in case of power failure)*

| Nennweite<br>Nominal diameter                         |     |     |     |     |      |     |     |   |    |
|-------------------------------------------------------|-----|-----|-----|-----|------|-----|-----|---|----|
| Maße für 2 mm Rohrbau<br>Measurements for 2 mm piping |     |     |     |     |      |     |     |   |    |
| DN                                                    | dlw | a   | b   | c   | e    | f   | g   | i | kg |
| 80                                                    | 78  | 150 | 95  | 90  | 20   | 210 | 345 |   |    |
| 100                                                   | 99  | 175 | 115 | 90  | 22.5 | 230 | 375 |   |    |
| 120                                                   | 119 | 200 | 130 | 100 | 25   | 255 | 395 |   |    |
| 150                                                   | 149 | 250 | 135 | 120 | 35   | 280 | 425 |   |    |
| 175                                                   | 174 | 300 | 150 | 140 | 48   | 315 | 450 |   |    |
| 200                                                   | 199 | 300 | 185 | 140 | 35   | 350 | 475 |   |    |
| 224                                                   | 219 | 350 | 200 | 175 | 35   | 400 | 525 |   |    |
| 250                                                   | 249 | 350 | 225 | 165 | 35   | 415 | 525 |   |    |
| 300                                                   | 299 | 450 | 260 | 195 | 55   | 480 | 575 |   |    |

DN 315–630 auf Anfrage  
DN 315–630 upon request

| DC 01 1,5 mm                       |        | DC 01 2 mm                         |        | DC 01 1,5 mm                         |        | DC 01 2 mm                           |        | VA 1.4301 1,5 mm             |        | VA 1.4301 2 mm               |         |
|------------------------------------|--------|------------------------------------|--------|--------------------------------------|--------|--------------------------------------|--------|------------------------------|--------|------------------------------|---------|
| pulverbeschichtet<br>powder coated |        | pulverbeschichtet<br>powder coated |        | galv. verzinkt<br>electro galvanized |        | galv. verzinkt<br>electro galvanized |        | Edelstahl<br>stainless steel |        | Edelstahl<br>stainless steel |         |
| Art.-Nr.                           | €      | Art.-Nr.                           | €      | Art.-Nr.                             | €      | Art.-Nr.                             | €      | Art.-Nr.                     | €      | Art.-Nr.                     | €       |
| 0811175                            | 430,60 |                                    |        | 0812175                              | 502,60 |                                      |        | 0813175                      | 665,20 |                              |         |
|                                    |        | 1021175                            | 438,40 |                                      |        | 1022175                              | 510,90 |                              |        | 1023175                      | 689,90  |
|                                    |        | 1221175                            | 455,70 |                                      |        | 1222175                              | 530,90 |                              |        | 1223175                      | 716,90  |
|                                    |        | 1521175                            | 477,30 |                                      |        | 1522175                              | 554,50 |                              |        | 1523175                      | 765,20  |
|                                    |        | 1721175                            | 508,10 |                                      |        | 1722175                              | 589,80 |                              |        | 1723175                      | 832,30  |
|                                    |        | 2021175                            | 529,80 |                                      |        | 2022175                              | 622,80 |                              |        | 2023175                      | 866,40  |
|                                    |        | 2221175                            | 558,50 |                                      |        | 2222175                              | 660,40 |                              |        | 2223175                      | 904,00  |
|                                    |        | 2521175                            | 568,60 |                                      |        | 2522175                              | 675,70 |                              |        | 2523175                      | 924,30  |
|                                    |        | 3021175                            | 629,10 |                                      |        | 3022175                              | 748,80 |                              |        | 3023175                      | 1023,10 |

Standardausführungen mit Bördeldichtring Silikon (andere Materialien auf Anfrage)  
Standard design with profiled sealing-ring silicone (different materials upon request)

ATEX Zone 21/22, innen Zone 20 (Geräteklasse 2D/3D) lieferbar, Preise auf Anfrage  
ATEX Zone 21/22, inner Zone 20 (equipment category 2D/3D) available, prices on request

| Nennweite<br>Nominal diameter                         |     |     |     |     |     |   |   |   |    |
|-------------------------------------------------------|-----|-----|-----|-----|-----|---|---|---|----|
| Maße für 2 mm Rohrbau<br>Measurements for 2 mm piping |     |     |     |     |     |   |   |   |    |
| DN                                                    | dlw | a   | b   | c   | e   | f | g | i | kg |
| 80*                                                   | 78  | 100 | 204 | 69  | 450 |   |   |   |    |
| 100*                                                  | 99  | 100 | 214 | 79  | 450 |   |   |   |    |
| 120*                                                  | 119 | 120 | 224 | 89  | 450 |   |   |   |    |
| 150*                                                  | 149 | 150 | 239 | 104 | 450 |   |   |   |    |
| 175*                                                  | 174 | 175 | 253 | 117 | 450 |   |   |   |    |
| 200*                                                  | 199 | 200 | 266 | 139 | 480 |   |   |   |    |
| 224*                                                  | 219 | 224 | 278 | 151 | 480 |   |   |   |    |
| 250*                                                  | 249 | 250 | 291 | 164 | 480 |   |   |   |    |
| 300*                                                  | 299 | 300 | 316 | 189 | 480 |   |   |   |    |

Endnummer für Fabrikat und Steuerspannung:  
Bitte der 7stelligen Art.-Nr. zufügen. Für ATEX  
bitte Geräteklasse (2D/3D) angeben  
Please add code for make and signal-current to  
our 7-digit-order-no. For ATEX quote equipment  
category (2D/3D)

DN 315–630 auf Anfrage  
DN 315–630 upon request

Technische Hinweise: siehe Seite 140/141  
Technical details: see page 140/141

| DC 01 2 mm                                 |        | DC 01 2 mm                           |        | VA 1.4301 2 mm                                 |        | DC 01 2 mm                         |        | DC 01 2 mm                           |        | VA 1.4301 2 mm               |        |
|--------------------------------------------|--------|--------------------------------------|--------|------------------------------------------------|--------|------------------------------------|--------|--------------------------------------|--------|------------------------------|--------|
| pulverbeschichtet<br>powder coated         |        | galv. verzinkt<br>electro galvanized |        | Edelstahl<br>stainless steel                   |        | pulverbeschichtet<br>powder coated |        | galv. verzinkt<br>electro galvanized |        | Edelstahl<br>stainless steel |        |
| Art.-Nr.                                   | €      | Art.-Nr.                             | €      | Art.-Nr.                                       | €      | Art.-Nr.                           | €      | Art.-Nr.                             | €      | Art.-Nr.                     | €      |
| Absperklappe mit Dichtung Si / with gasket |        |                                      |        | Absperklappe ohne Dichtung Si / without gasket |        |                                    |        |                                      |        |                              |        |
| 0821210**                                  | 577,50 | 0822210**                            | 642,70 | 0823210**                                      | 701,70 | 0821211**                          | 537,60 | 0822211**                            | 608,80 | 0823211**                    | 646,50 |
| 1021210                                    | 577,50 | 1022210                              | 642,70 | 1023210                                        | 701,70 | 1021211                            | 537,60 | 1022211                              | 608,80 | 1023211                      | 646,50 |
| 1221210                                    | 582,80 | 1222210                              | 652,60 | 1223210                                        | 709,10 | 1221211                            | 539,70 | 1222211                              | 612,10 | 1223211                      | 653,70 |
| 1521210                                    | 591,10 | 1522210                              | 664,50 | 1523210                                        | 719,90 | 1521211                            | 548,00 | 1522211                              | 623,10 | 1523211                      | 662,00 |
| 1721210                                    | 611,40 | 1722210                              | 684,30 | 1723210                                        | 758,50 | 1721211                            | 567,70 | 1722211                              | 642,70 | 1723211                      | 701,30 |
| 2021210                                    | 619,90 | 2022210                              | 694,00 | 2023210                                        | 777,70 | 2021211                            | 579,10 | 2022211                              | 656,90 | 2023211                      | 722,20 |
| 2221210                                    | 641,10 | 2222210                              | 728,10 | 2223210                                        | 811,00 | 2221211                            | 594,60 | 2222211                              | 672,10 | 2223211                      | 755,20 |
| 2521210                                    | 653,80 | 2522210                              | 745,60 | 2523210                                        | 842,00 | 2521211                            | 612,20 | 2522211                              | 689,70 | 2523211                      | 782,10 |
| 3021210                                    | 668,50 | 3022210                              | 772,00 | 3023210                                        | 871,00 | 3021211                            | 622,60 | 3022211                              | 711,60 | 3023211                      | 810,20 |

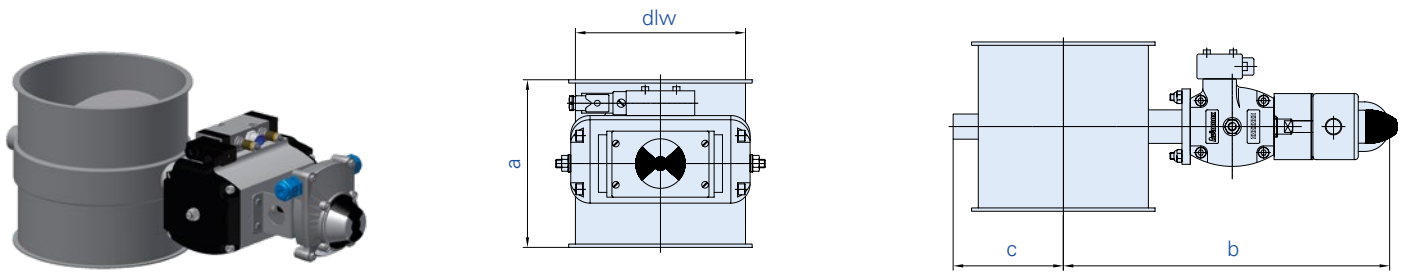
\*\* =1.5mm

\*EPDM (leitfähig, FDA/BFR konform), .....Art.-Nr.: xxxx610 DN 80-DN 175 +15,00 € DN 200-DN 315 +25,00 €  
H- NBR .....Art.-Nr.: xxxx710 DN 80-DN 175 +25,00 € DN 200-DN 315 +35,00 €  
FKM (Viton) .....Art.-Nr.: xxxx810 DN 80-DN 175 +35,00 € DN 200-DN 315 +45,00 €  
Silikon-blau detektierbar

Fabrikat Make Steuerspannung Signal-current andere Fabrikate auf Anfrage other products on request  
F1 ..... Festo ..... 230 V, AC  
F3 ..... Festo ..... 24 V, DC

ATEX Zone 21/22, innen Zone 20 (Geräteklasse 2D/3D) lieferbar, Preise auf Anfrage  
ATEX Zone 21/22, inner Zone 20 (equipment category 2D/3D) available, prices on request

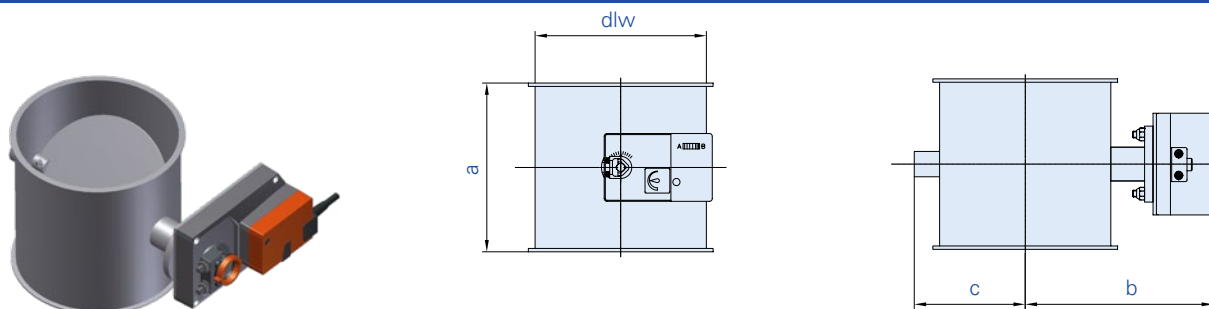
**Absperrklappen ohne / mit Klappendichtung Si / Shut-off valves without /with valve-sealing Si**



mit Radialwellendichtring Viton als Wellenabdichtung, pneumatisch betätigt mit Drehantrieb, Magnetventil (monostabil), Endschalterbox mit Stellungsanzeige und 2 mechanischen Endschaltern. Magnetventil und Endschalter komplett in Endschalterbox verdrahtet (Klappe schließt bei Stromausfall)

*with shaft-sealing Viton, pneumatic rotary actuator, solenoid valve (monostable), limitswitch-box with position-indicator and 2 mechanical limitswitches. Solenoid valve and limit switches completely wired to switch box (Valve closes in case of power failure)*

**Absperrklappen ohne / mit Klappendichtung Si / Shut-off valves without / with valve sealing Si**



mit Radialwellendichtring Viton als Wellenabdichtung, elektrisch betätigt mit Steckmotor  
*with shaft-sealing Viton, electrically operated with direct-coupled damper motor*

| Nennweite<br>Nominal diameter                         |     |     |     |     |   |   |   |   |    |
|-------------------------------------------------------|-----|-----|-----|-----|---|---|---|---|----|
| Maße für 2 mm Rohrbau<br>Measurements for 2 mm piping |     |     |     |     |   |   |   |   |    |
| DN                                                    | d/w | a   | b   | c   | e | f | g | i | kg |
| 80*                                                   | 78  | 100 | 322 | 69  |   |   |   |   |    |
| 100*                                                  | 99  | 100 | 332 | 79  |   |   |   |   |    |
| 120*                                                  | 119 | 120 | 339 | 89  |   |   |   |   |    |
| 150*                                                  | 149 | 150 | 354 | 104 |   |   |   |   |    |
| 175*                                                  | 174 | 175 | 369 | 117 |   |   |   |   |    |
| 200*                                                  | 199 | 200 | 396 | 139 |   |   |   |   |    |
| 224*                                                  | 219 | 224 | 406 | 151 |   |   |   |   |    |
| 250*                                                  | 249 | 250 | 421 | 164 |   |   |   |   |    |
| 300*                                                  | 299 | 300 | 446 | 189 |   |   |   |   |    |

Endnummer für Fabrikat und Steuerspannung:  
Bitte der 7stelligen Art.-Nr. zufügen. Für ATEX  
bitte Gerätekategorie (2D/3D) angeben

Please add code for make and signal-current to  
our 7-digit-order-no. For ATEX quote equipment  
category (2D/3D)

DN 315–630 auf Anfrage  
DN 31–630 upon request

| DC 01 2 mm                                   |        | DC 01 2 mm                           |        | VA 1.4301 2 mm               |        | DC 01 2 mm                                       |        | DC 01 2 mm                           |        | VA 1.4301 2 mm               |        |
|----------------------------------------------|--------|--------------------------------------|--------|------------------------------|--------|--------------------------------------------------|--------|--------------------------------------|--------|------------------------------|--------|
| pulverbeschichtet<br>powder coated           |        | galv. verzinkt<br>electro galvanized |        | Edelstahl<br>stainless steel |        | pulverbeschichtet<br>powder coated               |        | galv. verzinkt<br>electro galvanized |        | Edelstahl<br>stainless steel |        |
| Art.-Nr.                                     | €      | Art.-Nr.                             | €      | Art.-Nr.                     | €      | Art.-Nr.                                         | €      | Art.-Nr.                             | €      | Art.-Nr.                     | €      |
| Absperrrklappe mit Dichtung Si / with gasket |        |                                      |        |                              |        | Absperrrklappe ohne Dichtung Si / without gasket |        |                                      |        |                              |        |
| 0821212**                                    | 577,50 | 0822212**                            | 642,70 | 0823212**                    | 701,70 | 0821213**                                        | 537,60 | 0822213**                            | 608,80 | 0823213**                    | 646,50 |
| 1021212                                      | 577,50 | 1022212                              | 642,70 | 1023212                      | 701,70 | 1021213                                          | 537,60 | 1022213                              | 608,80 | 1023213                      | 646,50 |
| 1221212                                      | 582,80 | 1222212                              | 652,60 | 1223212                      | 709,10 | 1221213                                          | 539,70 | 1222213                              | 612,10 | 1223213                      | 653,70 |
| 1521212                                      | 591,10 | 1522212                              | 664,50 | 1523212                      | 719,90 | 1521213                                          | 548,00 | 1522213                              | 623,10 | 1523213                      | 662,00 |
| 1721212                                      | 611,40 | 1722212                              | 684,30 | 1723212                      | 758,50 | 1721213                                          | 567,70 | 1722213                              | 642,70 | 1723213                      | 701,30 |
| 2021212                                      | 619,90 | 2022212                              | 694,00 | 2023212                      | 777,70 | 2021213                                          | 579,10 | 2022213                              | 656,90 | 2023213                      | 722,20 |
| 2221212                                      | 641,10 | 2222212                              | 728,10 | 2223212                      | 811,00 | 2221213                                          | 594,60 | 2222213                              | 672,10 | 2223213                      | 755,20 |
| 2521212                                      | 653,80 | 2522212                              | 745,60 | 2523212                      | 842,00 | 2521213                                          | 607,10 | 2522213                              | 689,70 | 2523213                      | 782,10 |
| 3021212                                      | 668,50 | 3022212                              | 772,00 | 3023212                      | 871,00 | 3021213                                          | 622,60 | 3022213                              | 711,60 | 3023213                      | 810,20 |

\*\* =1,5mm

\*EPDM (leitfähig, FDA/BFR konform), .....Art.-Nr.: xxxx612 DN 80-DN 175 +15,00 € DN 200-DN 315 +25,00 €  
H- NBR .....Art.-Nr.: xxxx712 DN 80-DN 175 +25,00 € DN 200-DN 315 +35,00 €  
FKM (Viton) .....Art.-Nr.: xxxx812 DN 80-DN 175 +35,00 € DN 200-DN 315 +45,00 €  
Silikon-blau detektierbar

Fabrikat Make Steuerspannung Signal-current Weitere Ausführungen wie z.B. Stellungsregler auf Anfrage  
A1 .....Rotork ..... 230 V, AC Additional fittings e.g. position  
A3 .....Rotork ..... 24 V, DC regulator upon request

ATEX Zone 21/22, innen Zone 20 (Gerätekategorie 2D/3D) lieferbar, Preise auf Anfrage  
ATEX Zone 21/22, inner Zone 20 (equipment category 2D/3D) available, prices on request

| Nennweite<br>Nominal diameter                         |     |     |     |     |   |   |   |   |    |
|-------------------------------------------------------|-----|-----|-----|-----|---|---|---|---|----|
| Maße für 2 mm Rohrbau<br>Measurements for 2 mm piping |     |     |     |     |   |   |   |   |    |
| DN                                                    | d/w | a   | b   | c   | e | f | g | i | kg |
| 80*                                                   | 78  | 100 | 174 | 69  |   |   |   |   |    |
| 100*                                                  | 99  | 100 | 184 | 79  |   |   |   |   |    |
| 120*                                                  | 119 | 120 | 194 | 89  |   |   |   |   |    |
| 150*                                                  | 149 | 150 | 209 | 104 |   |   |   |   |    |
| 175*                                                  | 174 | 175 | 222 | 117 |   |   |   |   |    |
| 200*                                                  | 199 | 200 | 242 | 139 |   |   |   |   |    |
| 224*                                                  | 219 | 224 | 254 | 151 |   |   |   |   |    |
| 250*                                                  | 249 | 250 | 267 | 164 |   |   |   |   |    |
| 300*                                                  | 299 | 300 | 292 | 189 |   |   |   |   |    |

Endnummer für Fabrikat und Steuerspannung:  
Bitte der 7stelligen Art.-Nr. zufügen.

Please add code for make and signal-current to  
our 7-digit-order-no.

Technische Hinweise: siehe Seite 140/141  
Technical details: see page 140/141

| DC 01 2 mm                                   |        | DC 01 2 mm                           |        | VA 1.4301 2 mm               |        | DC 01 2 mm                                       |        | DC 01 2 mm                           |        | VA 1.4301 2 mm               |        |
|----------------------------------------------|--------|--------------------------------------|--------|------------------------------|--------|--------------------------------------------------|--------|--------------------------------------|--------|------------------------------|--------|
| pulverbeschichtet<br>powder coated           |        | galv. verzinkt<br>electro galvanized |        | Edelstahl<br>stainless steel |        | pulverbeschichtet<br>powder coated               |        | galv. verzinkt<br>electro galvanized |        | Edelstahl<br>stainless steel |        |
| Art.-Nr.                                     | €      | Art.-Nr.                             | €      | Art.-Nr.                     | €      | Art.-Nr.                                         | €      | Art.-Nr.                             | €      | Art.-Nr.                     | €      |
| Absperrrklappe mit Dichtung Si / with gasket |        |                                      |        |                              |        | Absperrrklappe ohne Dichtung Si / without gasket |        |                                      |        |                              |        |
| 0821214**                                    | 350,80 | 0822214**                            | 388,60 | 0823214**                    | 462,60 | 0821215**                                        | 313,10 | 0822215**                            | 354,40 | 0823215**                    | 432,00 |
| 1021214                                      | 350,80 | 1022214                              | 388,60 | 1023214                      | 462,60 | 1021215                                          | 313,10 | 1022215                              | 354,40 | 1023215                      | 432,00 |
| 1221214                                      | 354,40 | 1222214                              | 392,10 | 1223214                      | 468,50 | 1221215                                          | 315,40 | 1222215                              | 358,00 | 1223215                      | 439,20 |
| 1521214                                      | 360,30 | 1522214                              | 403,90 | 1523214                      | 477,90 | 1521215                                          | 322,60 | 1522215                              | 366,10 | 1523215                      | 448,50 |
| 1721214                                      | 382,60 | 1722214                              | 425,00 | 1723214                      | 539,20 | 1721215                                          | 360,30 | 1722215                              | 404,90 | 1723215                      | 490,90 |
| 2021214                                      | 470,00 | 2022214                              | 501,90 | 2023214                      | 626,50 | 2021215                                          | 407,40 | 2022215                              | 418,00 | 2023215                      | 558,00 |
| 2221214                                      | 497,70 | 2222214                              | 527,40 | 2223214                      | 663,40 | 2221215                                          | 427,30 | 2222215                              | 435,60 | 2223215                      | 579,20 |
| 2521214                                      | 523,60 | 2522214                              | 549,40 | 2523214                      | 695,70 | 2521215                                          | 448,50 | 2522215                              | 452,00 | 2523215                      | 600,50 |
| 3021214                                      | 548,60 | 3022214                              | 590,00 | 3023214                      | 740,70 | 3021215                                          | 467,30 | 3022215                              | 480,30 | 3023215                      | 642,80 |

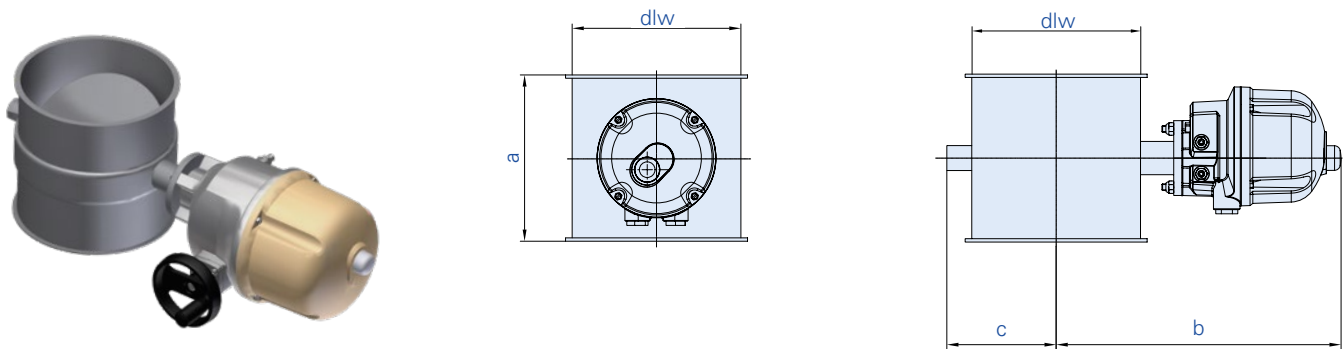
\*\* =1,5mm

\*EPDM (leitfähig, FDA/BFR konform), .....Art.-Nr.: xxxx614 DN 80-DN 175 +15,00 € DN 200-DN 315 +25,00 €  
H- NBR .....Art.-Nr.: xxxx714 DN 80-DN 175 +25,00 € DN 200-DN 315 +35,00 €  
FKM (Viton) .....Art.-Nr.: xxxx814 DN 80-DN 175 +35,00 € DN 200-DN 315 +45,00 €  
Silikon-blau detektierbar

Fabrikat Make Steuerspannung Signal-current  
B1 .....Belimo ..... 230 V, 50Hz  
B2 .....Belimo ..... 24 V, DC

ATEX -Ausführung auf Anfrage / ATEX-Design upon request

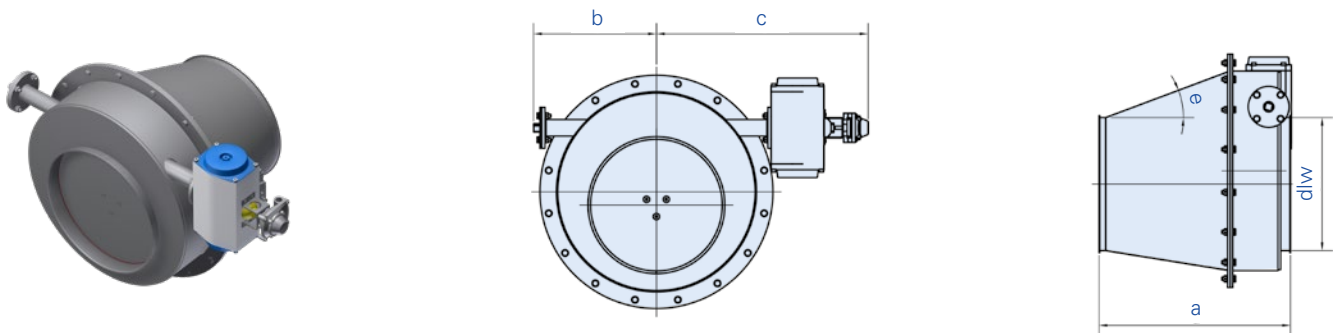
**Absperrklappen ohne / mit Klappendichtung Si / Shut-off valves without / with valve-sealing Si**



mit Radialwellendichtring Viton als Wellenabdichtung, elektrisch betätigt mit Motor und 2 mechanischen Endschaltern

*with shaft-sealing Viton, with motor and 2 mechanical limit switches*

**Freiflussklappen mit Klappendichtung Si / Free flow valve with valve-sealing Si**



und Radialwellendichtringen Viton als Wellenabdichtung, kugellagert, pneumatisch betätigt mit Drehantrieb, 5/2 Wege-Magnetventil Endschalterbox mit Stellungsanzeige und 2 mechanischen Endschaltern (Klappe schließt bei Stromausfall)

*and shaft-sealing Viton, ball-bearing pneumatic rotary actuator, 5/2-way-solenoid valve, limitswitch-box with position-indicator and 2 mechanical limitswitches. Solenoid valve and limit switches completely wired to switch box (Valve closes in case of power failure)*

| Nennweite<br>Nominal diameter                         |     |     |     |     |   |   |   |   |    |
|-------------------------------------------------------|-----|-----|-----|-----|---|---|---|---|----|
| Maße für 2 mm Rohrbau<br>Measurements for 2 mm piping |     |     |     |     |   |   |   |   |    |
| DN                                                    | dlw | a   | b   | c   | e | f | g | i | kg |
| 80*                                                   | 78  | 100 | 269 | 69  |   |   |   |   |    |
| 100*                                                  | 99  | 100 | 281 | 79  |   |   |   |   |    |
| 120*                                                  | 119 | 120 | 291 | 89  |   |   |   |   |    |
| 150*                                                  | 149 | 150 | 306 | 104 |   |   |   |   |    |
| 175*                                                  | 174 | 175 | 318 | 117 |   |   |   |   |    |
| 200*                                                  | 199 | 200 | 349 | 139 |   |   |   |   |    |
| 224*                                                  | 219 | 224 | 359 | 151 |   |   |   |   |    |
| 250*                                                  | 249 | 250 | 374 | 164 |   |   |   |   |    |
| 300*                                                  | 299 | 300 | 399 | 189 |   |   |   |   |    |
| 315*                                                  | 312 | 315 | 404 | 196 |   |   |   |   |    |
| 350*                                                  | 349 | 350 | 524 | 277 |   |   |   |   |    |
| 400*                                                  | 398 | 400 | 549 | 302 |   |   |   |   |    |

Endnummer für Fabrikat und Steuerspannung:  
Bitte der 7stelligen Art.-Nr. zufügen. Für ATEX  
bitte Gerätekategorie (2D/3D) angeben

Please add code for make and signal-current to  
our 7-digit-order-no. For ATEX quote equipment  
category (2D/3D)

DN 315–630 auf Anfrage  
DN 315–630 upon request

| DC 01 2 mm                                   |        | DC 01 2 mm                           |        | VA 1.4301 2 mm               |        | DC 01 2 mm                                       |        | DC 01 2 mm                           |        | VA 1.4301 2 mm               |        |
|----------------------------------------------|--------|--------------------------------------|--------|------------------------------|--------|--------------------------------------------------|--------|--------------------------------------|--------|------------------------------|--------|
| pulverbeschichtet<br>powder coated           |        | galv. verzinkt<br>electro galvanized |        | Edelstahl<br>stainless steel |        | pulverbeschichtet<br>powder coated               |        | galv. verzinkt<br>electro galvanized |        | Edelstahl<br>stainless steel |        |
| Art.-Nr.                                     | €      | Art.-Nr.                             | €      | Art.-Nr.                     | €      | Art.-Nr.                                         | €      | Art.-Nr.                             | €      | Art.-Nr.                     | €      |
| Absperrrklappe mit Dichtung Si / with gasket |        |                                      |        |                              |        | Absperrrklappe ohne Dichtung Si / without gasket |        |                                      |        |                              |        |
| 0821216**                                    | 620,50 | 0822216**                            | 669,60 | 0823216**                    | 739,00 | 0821217**                                        | 568,60 | 0822217**                            | 613,00 | 0823217**                    | 678,70 |
| 1021216                                      | 620,50 | 1022216                              | 669,60 | 1023216                      | 739,00 | 1021217                                          | 568,60 | 1022217                              | 613,00 | 1023217                      | 678,70 |
| 1221216                                      | 624,90 | 1222216                              | 675,10 | 1223216                      | 744,50 | 1221217                                          | 570,60 | 1222217                              | 617,50 | 1223217                      | 683,30 |
| 1521216                                      | 631,00 | 1522216                              | 683,80 | 1523216                      | 752,40 | 1521217                                          | 575,80 | 1522217                              | 626,50 | 1523217                      | 689,30 |
| 1721216                                      | 644,40 | 1722216                              | 703,70 | 1723216                      | 780,20 | 1721217                                          | 588,30 | 1722217                              | 644,40 | 1723217                      | 716,90 |
| 2021216                                      | 677,30 | 2022216                              | 756,60 | 2023216                      | 828,80 | 2021217                                          | 606,80 | 2022217                              | 665,30 | 2023217                      | 760,70 |
| 2221216                                      | 691,70 | 2222216                              | 774,50 | 2223216                      | 876,60 | 2221217                                          | 617,30 | 2222217                              | 678,00 | 2223217                      | 808,40 |
| 2521216                                      | 701,00 | 2522216                              | 791,30 | 2523216                      | 890,00 | 2521217                                          | 625,90 | 2522217                              | 693,00 | 2523217                      | 828,10 |
| 3021216                                      | 711,60 | 3022216                              | 804,20 | 3023216                      | 911,30 | 3021217                                          | 636,30 | 3022217                              | 705,60 | 3023217                      | 848,80 |
|                                              |        |                                      |        |                              |        | 3121217                                          | 691,50 | 3122217                              | 767,50 | 3123217                      | 877,10 |
|                                              |        |                                      |        |                              |        | 3521217                                          | 758,80 | 3522217                              | 844,80 | 3523217                      | 957,50 |
|                                              |        |                                      |        |                              |        | 4021217                                          | 781,80 | 4022217                              | 879,60 | 4023217                      | 991,40 |

\*\* =1,5mm

|                                                            |                       |                        |
|------------------------------------------------------------|-----------------------|------------------------|
| *EPDM (leitfähig, FDA/BFR konform), .....Art.-Nr.: xxxx616 | DN 80-DN 175 +15,00 € | DN 200-DN 315 +25,00 € |
| H- NBR .....Art.-Nr.: xxxx716                              | DN 80-DN 175 +25,00 € | DN 200-DN 315 +35,00 € |
| FKM (Viton) .....Art.-Nr.: xxxx816                         | DN 80-DN 175 +35,00 € | DN 200-DN 315 +45,00 € |
| Silikon-blau detektierbar                                  |                       |                        |

| Fabrikat<br>Make                                                      | Steuerspannung<br>Signal-current |
|-----------------------------------------------------------------------|----------------------------------|
| D1 ..... Deufra (Stellenantrieb / <i>Actuator</i> ) ..... 230 V, 50Hz |                                  |
| Preise auf Anfrage / <i>prices on request</i>                         |                                  |
| D3 ..... Deufra (Stellenantrieb / <i>Actuator</i> ) ..... 24 V, DC    |                                  |
| D5 ..... Deufra (Stellenantrieb / <i>Actuator</i> ) ..... 400 V, 50Hz |                                  |
| G5 ..... Getriebebau Nord ..... 400 V, 50Hz                           |                                  |
| (Schnecken-Getriebemotor / <i>worm gear</i> )                         |                                  |

Weitere Ausführungen  
wie z.B. Stellungsregler  
auf Anfrage

Additional fittings e.g.  
position regulator  
upon request

ATEX Zone 21/22, innen Zone 20 (Gerätekategorie 2D/3D) lieferbar, Preise auf Anfrage  
ATEX Zone 21/22, inner Zone 20 (equipment category 2D/3D) available, prices on request

| Nennweite<br>Nominal diameter                         |     |     |     |     |    |   |   |   |    |
|-------------------------------------------------------|-----|-----|-----|-----|----|---|---|---|----|
| Maße für 2 mm Rohrbau<br>Measurements for 2 mm piping |     |     |     |     |    |   |   |   |    |
| DN                                                    | dlw | a   | b   | c   | e  | f | g | i | kg |
| 150                                                   | 149 | 275 | 214 | 435 | 43 |   |   |   |    |
| 175                                                   | 174 | 330 | 214 | 435 | 28 |   |   |   |    |
| 200                                                   | 199 | 330 | 214 | 467 | 31 |   |   |   |    |
| 224                                                   | 219 | 400 | 239 | 492 | 26 |   |   |   |    |
| 250                                                   | 249 | 380 | 239 | 492 | 25 |   |   |   |    |
| 300                                                   | 299 | 520 | 347 | 596 | 23 |   |   |   |    |
| 315                                                   | 312 | 520 | 347 | 596 | 23 |   |   |   |    |
| 350                                                   | 349 | 520 | 375 | 640 | 25 |   |   |   |    |
| 400                                                   | 398 | 580 | 372 | 640 | 20 |   |   |   |    |

| DC 01 2 mm                         |         | VA 1.4301 2 mm               |         |
|------------------------------------|---------|------------------------------|---------|
| pulverbeschichtet<br>powder coated |         | Edelstahl<br>stainless steel |         |
| Art.-Nr.                           | €       | Art.-Nr.                     | €       |
| 1521218                            | 1012,50 | 1523218                      | 1350,00 |
| 1721218                            | 1121,60 | 1723218                      | 1461,60 |
| 2021218                            | 1183,70 | 2023218                      | 1583,20 |
| 2221218                            | 1275,50 | 2223218                      | 1675,00 |
| 2521218                            | 1305,30 | 2523218                      | 1727,10 |
| 3021218                            | 1409,40 | 3023218                      | 1920,60 |
| 3121218                            | 1513,70 | 3123218                      | 2024,80 |
| 3521218                            | 1672,40 | 3523218                      | 2193,60 |
| 4021218                            | 1826,30 | 4023218                      | 2347,50 |

Endnummer für Fabrikat und Steuerspannung:  
Bitte der 7stelligen Art.-Nr. zufügen. Für ATEX  
bitte Gerätekategorie (2D/3D) angeben

Please add code for make and signal-current to  
our 7-digit-order-no. For ATEX quote equipment  
category (2D/3D)

Technische Hinweise: siehe Seite 140/141  
Technical details: see page 140/141

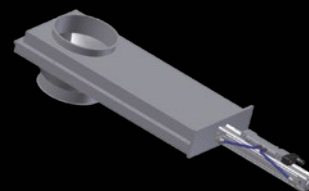
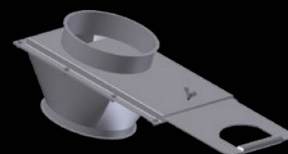
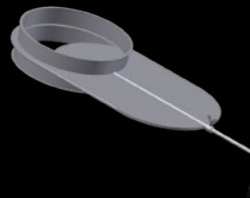
| Fabrikat<br>Make      | Steuerspannung<br>Signal-current |
|-----------------------|----------------------------------|
| A1 ..... Rotork ..... | 230 V, AC                        |
| A3 ..... Rotork ..... | 24 V, DC                         |

ATEX Zone 21/22, innen Zone 20 (Gerätekategorie 2D/3D) lieferbar, Preise auf Anfrage  
ATEX Zone 21/22, inner Zone 20 (equipment category 2D/3D) available, prices on request



LUFT- und  
ROHRREGULIERSCHIEBER  
ROHR- und  
AUSLAUSCHIEBER  
REDLER- und  
SILO-AUSLAUSCHIEBER

*AIRFLOW and PIPE  
REGULATOR GATES  
PIPE and OUTLET GATES  
REDLER and  
SILO OUTLET GATES*



### ➤ Luftregulierschieber

**Anwendung:**

Regulierung bzw. Absperrung von Be- und Entlüftungsleitungen

**ACHTUNG:**

- Nicht für Schüttgüter geeignet!
- Keine staubdichte Absperrung!

### ➤ Schieber mit Ringdichtung

**Anwendung:**

Absperrung von Luftleitungen

**Ausführung:**

- Umlaufende Ringdichtung
- Staubdicht nach außen und in Förderrichtung

**ACHTUNG:**

- Nicht für Absperrung von Schüttgütern oder staubhaltiger Luft geeignet!

### ➤ Auslaufschieber mit Filzdichtung

**Anwendung:**

Drucklose Förderung von körnigen Schüttgütern

**Ausführung:**

- Beidseitige Abdichtung nach außen mittels Filzdichtung

### ➤ Rohrregulierschieber

**Anwendung:**

Regulierung von Luft oder feinkörnigen, nicht abrasiven Produkten

**Ausführung:**

- Zweiteilig ausgeführte Schieberplatte mit Feinregulierung
- Feinregulierung (30mm) getrennt verstellbar
- Arretierung durch Flügelschraube

**ACHTUNG:**

- Keine Abdichtung nach außen!

### ➤ Rohrschieber pneumatisch

**Anwendung:**

Für frei fließende körnige und pulverige Schüttgüter, Absperrung von Rohrsystemen ohne Überdruck

**Ausführung:**

- Abdichtung nach außen durch Filzabstreifer
- Schieberplatte 5mm stark
- Rohrschieber schließt bei Stromausfall

**ACHTUNG:**

- Austausch der Dichtungen ohne Demontage des Rohrschiebers aus der Rohrleitung!

### ➤ Schieber mit Ringdichtung pneumatisch

**Anwendung:**

Absperrung von Luftleitungen

**Ausführung:**

- Staubdicht nach außen und in Förderrichtung durch Schaumgummi-Ringdichtung
- Schieberplatte 3 mm stark
- Schieber mit Ringdichtung schließt bei Stromausfall

**ACHTUNG:**

Nicht für Absperrung von Schüttgütern oder staubhaltiger Luft geeignet!

### ▼ Airflow regulator gates

**Application:**

Regulation or shutoff of ventilation and exhaustion lines

**CAUTION:**

- Not suitable for bulk goods!
- No dust proof shutoff!

### ▼ Regulator gates with ringseal

**Application:**

Shutoff of air-flow-systems

**Design:**

- Surrounding ring seal
- Dust proof towards outside environment and in direction of pipeline

**CAUTION:**

- Not applicable for shut-off of bulk goods or dusty air!

### ▼ Outlet gates with felt seal

**Application:**

Pressureless transport of granular bulk goods

**Design:**

- Sealed with felt seal on both sides

### ▼ Pipe regulator gates

**Application:**

Regulation of air flow or fine grained, non abrasive product flow

**Design:**

- Two-part cross-slide blade with fine adjustment
- with separate fine adjustment, 300mm wide
- Locking with wing bolt

**CAUTION:**

- No sealing towards outside!

### ▼ Pipe regulator gates, pneumatically operated

**Application:**

Granular, powder-like bulk goods free flowing, Shutoff of pipe lines without overpressure

**Design:**

- Sealing towards outside environment by means of felted wiper sealingside
- plate 5mm thick
- Pipe regulator gate closes in case of power failure

**CAUTION:**

- Replacement of sealings without dismantling pipeline!

### ▼ Regulator gates with ringseal, pneumatically operated

**Application:**

Shutoff of airflow systems

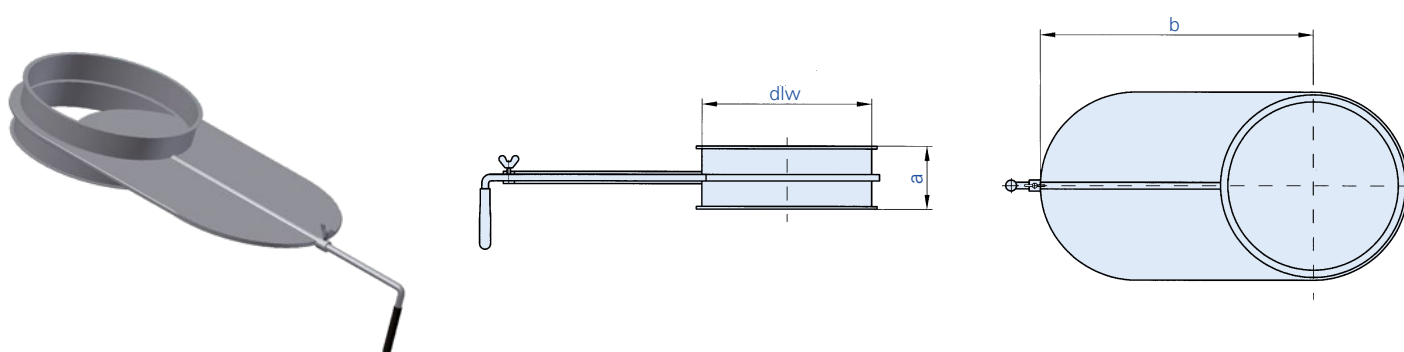
**Design:**

- Dust proof towards outside environment and in direction of conveyance by means of foam rubber ring seal
- side plate 3mm thick
- Regulator gate with ringseal closes in case of power failure

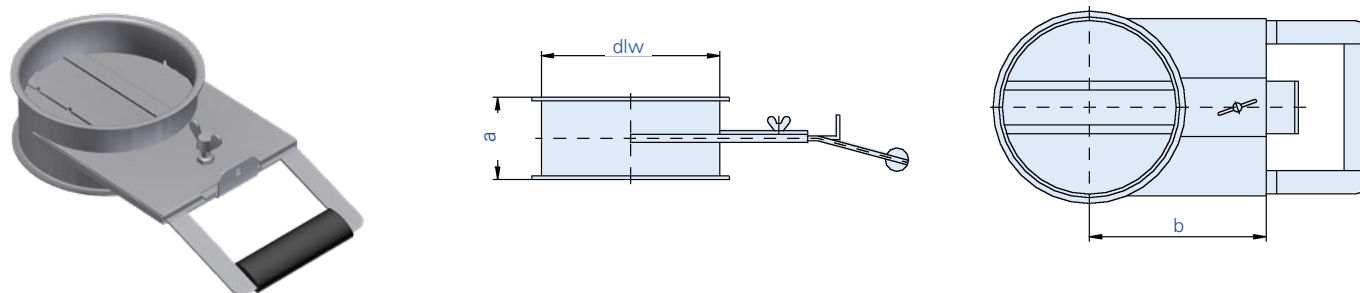
**CAUTION:**

- Not applicable for shut-off of bulk goods or dusty air!

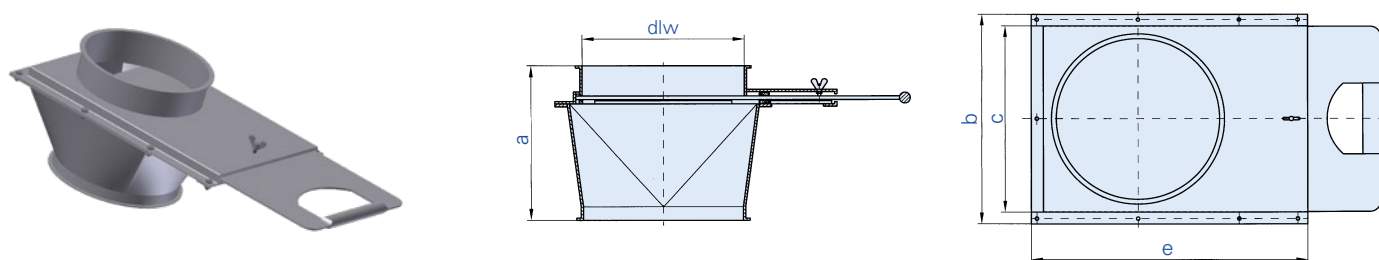
**Luftregulierschieber / Airflow regulator gates**



**Rohrregulierschieber / Pipe regulator gates**



**Auslaufschieber mit Filzdichtung / Outlet gates with felt seal**



| Nennweite<br>Nominal diameter                         |     |     |      |   |   |   |   |   |       |
|-------------------------------------------------------|-----|-----|------|---|---|---|---|---|-------|
| Maße für 2 mm Rohrbau<br>Measurements for 2 mm piping |     |     |      |   |   |   |   |   |       |
| DN                                                    | d/w | a   | b    | c | e | f | g | h | kg    |
| 80                                                    | 78  | 50  | 148  |   |   |   |   |   | 0,75  |
| 100                                                   | 99  | 58  | 175  |   |   |   |   |   | 1,10  |
| 120                                                   | 119 | 58  | 205  |   |   |   |   |   | 1,30  |
| 150                                                   | 149 | 75  | 250  |   |   |   |   |   | 1,75  |
| 175                                                   | 174 | 70  | 290  |   |   |   |   |   | 2,60  |
| 200                                                   | 199 | 70  | 335  |   |   |   |   |   | 3,40  |
| 224                                                   | 219 | 70  | 375  |   |   |   |   |   | 3,90  |
| 250                                                   | 249 | 75  | 410  |   |   |   |   |   | 4,65  |
| 300                                                   | 299 | 100 | 485  |   |   |   |   |   | 7,90  |
| 315                                                   | 312 | 100 | 510  |   |   |   |   |   | 8,30  |
| 350                                                   | 349 | 100 | 560  |   |   |   |   |   | 10,05 |
| 400                                                   | 398 | 100 | 635  |   |   |   |   |   | 12,20 |
| 450                                                   | 448 | 100 | 715  |   |   |   |   |   | 15,60 |
| 500                                                   | 498 | 100 | 790  |   |   |   |   |   | 20,00 |
| 560                                                   | 548 | 100 | 815  |   |   |   |   |   | 24,50 |
| 600                                                   | 598 | 100 | 940  |   |   |   |   |   | 27,70 |
| 630                                                   | 628 | 100 | 1030 |   |   |   |   |   | 30,00 |

| DC 01 1,5 mm                       |       | DC 01 2 mm                         |        | DC 01 1,5 mm                         |        | DC 01 2 mm                           |        | VA 1.4301 1,5 mm             |        | VA 1.4301 2 mm               |        |
|------------------------------------|-------|------------------------------------|--------|--------------------------------------|--------|--------------------------------------|--------|------------------------------|--------|------------------------------|--------|
| pulverbeschichtet<br>powder coated |       | pulverbeschichtet<br>powder coated |        | galv. verzinkt<br>electro galvanized |        | galv. verzinkt<br>electro galvanized |        | Edelstahl<br>stainless steel |        | Edelstahl<br>stainless steel |        |
| Art.-Nr.                           | €     | Art.-Nr.                           | €      | Art.-Nr.                             | €      | Art.-Nr.                             | €      | Art.-Nr.                     | €      | Art.-Nr.                     | €      |
| 0811077                            | 29,00 |                                    |        | 0812077                              | 37,90  |                                      |        | 0813077                      | 84,60  |                              |        |
| 1011077                            | 29,00 |                                    |        | 1012077                              | 37,90  |                                      |        | 1013077                      | 84,60  |                              |        |
| 1211077                            | 30,70 |                                    |        | 1212077                              | 41,50  |                                      |        | 1213077                      | 88,00  |                              |        |
| 1511077                            | 41,50 |                                    |        | 1512077                              | 52,90  |                                      |        | 1513077                      | 122,50 |                              |        |
| 1711077                            | 73,30 |                                    |        | 1712077                              | 74,30  |                                      |        | 1713077                      | 157,10 |                              |        |
| 2011077                            | 82,80 |                                    |        | 2012077                              | 88,40  |                                      |        | 2013077                      | 172,30 |                              |        |
| 2211077                            | 90,10 |                                    |        | 2212077                              | 97,00  |                                      |        | 2213077                      | 197,30 |                              |        |
| 2511077                            | 95,40 |                                    |        | 2512077                              | 105,50 |                                      |        | 2513077                      | 213,90 |                              |        |
|                                    |       | 3021077                            | 110,10 |                                      |        | 3022077                              | 137,70 |                              |        | 3023077                      | 250,70 |
|                                    |       | 3121077                            | 119,60 |                                      |        | 3122077                              | 140,10 |                              |        | 3123077                      | 275,10 |
|                                    |       | 3521077                            | 121,30 |                                      |        | 3522077                              | 140,80 |                              |        | 3523077                      | 293,80 |
|                                    |       | 4021077                            | 155,20 |                                      |        | 4022077                              | 160,30 |                              |        | 4023077                      | 345,30 |
|                                    |       | 4521077                            | 185,00 |                                      |        | 4522077                              | 201,70 |                              |        | 4523077                      | 420,80 |
|                                    |       | 5021077                            | 216,40 |                                      |        | 5022077                              | 241,60 |                              |        | 5023077                      | 460,70 |
|                                    |       | 5621077                            | 248,30 |                                      |        | 5622077                              | 276,40 |                              |        | 5623077                      | 525,00 |
|                                    |       | 6021077                            | 294,70 |                                      |        | 6022077                              | 308,30 |                              |        | 6023077                      | 607,70 |
|                                    |       | 6321077                            | 335,70 |                                      |        | 6322077                              | 344,00 |                              |        | 6323077                      | 727,90 |

| Nennweite<br>Nominal diameter                         |     |    |     |   |   |   |   |   |      |
|-------------------------------------------------------|-----|----|-----|---|---|---|---|---|------|
| Maße für 2 mm Rohrbau<br>Measurements for 2 mm piping |     |    |     |   |   |   |   |   |      |
| DN                                                    | d/w | a  | b   | c | e | f | g | h | kg   |
| 80                                                    | 78  | 70 | 90  |   |   |   |   |   | 0,60 |
| 100                                                   | 99  | 70 | 100 |   |   |   |   |   | 1,25 |
| 120                                                   | 119 | 70 | 120 |   |   |   |   |   | 1,55 |
| 150                                                   | 149 | 70 | 150 |   |   |   |   |   | 2,25 |
| 175                                                   | 174 | 70 | 175 |   |   |   |   |   | 2,90 |
| 200                                                   | 199 | 70 | 200 |   |   |   |   |   | 3,50 |
| 224                                                   | 219 | 70 | 224 |   |   |   |   |   | 4,20 |
| 250                                                   | 249 | 70 | 250 |   |   |   |   |   | 5,10 |
| 300                                                   | 299 | 70 | 300 |   |   |   |   |   | 7,40 |

| DC 01 1,5 mm                       |       | DC 01 2 mm                         |        | DC 01 3 mm                         |   | DC 01 2 mm                           |   | VA 1.4301 1,5 mm             |       | VA 1.4301 2 mm               |        |
|------------------------------------|-------|------------------------------------|--------|------------------------------------|---|--------------------------------------|---|------------------------------|-------|------------------------------|--------|
| pulverbeschichtet<br>powder coated |       | pulverbeschichtet<br>powder coated |        | pulverbeschichtet<br>powder coated |   | galv. verzinkt<br>electro galvanized |   | Edelstahl<br>stainless steel |       | Edelstahl<br>stainless steel |        |
| Art.-Nr.                           | €     | Art.-Nr.                           | €      | Art.-Nr.                           | € | Art.-Nr.                             | € | Art.-Nr.                     | €     | Art.-Nr.                     | €      |
| 0811079                            | 30,90 |                                    |        |                                    |   |                                      |   | 0813079                      | 81,10 |                              |        |
|                                    |       | 1021079                            | 47,10  |                                    |   |                                      |   |                              |       | 1023079                      | 90,90  |
|                                    |       | 1221079                            | 48,80  |                                    |   |                                      |   |                              |       | 1223079                      | 96,50  |
|                                    |       | 1521079                            | 59,40  |                                    |   |                                      |   |                              |       | 1523079                      | 121,10 |
|                                    |       | 1721079                            | 72,20  |                                    |   |                                      |   |                              |       | 1723079                      | 151,50 |
|                                    |       | 2021079                            | 75,30  |                                    |   |                                      |   |                              |       | 2023079                      | 175,60 |
|                                    |       | 2221079                            | 88,40  |                                    |   |                                      |   |                              |       | 2223079                      | 186,40 |
|                                    |       | 2521079                            | 101,60 |                                    |   |                                      |   |                              |       | 2523079                      | 197,30 |
|                                    |       | 3021079                            | 114,60 |                                    |   |                                      |   |                              |       | 3023079                      | 243,90 |

1) DN 300 ohne Feinregulierung  
1) DN 300 without fine adjustment

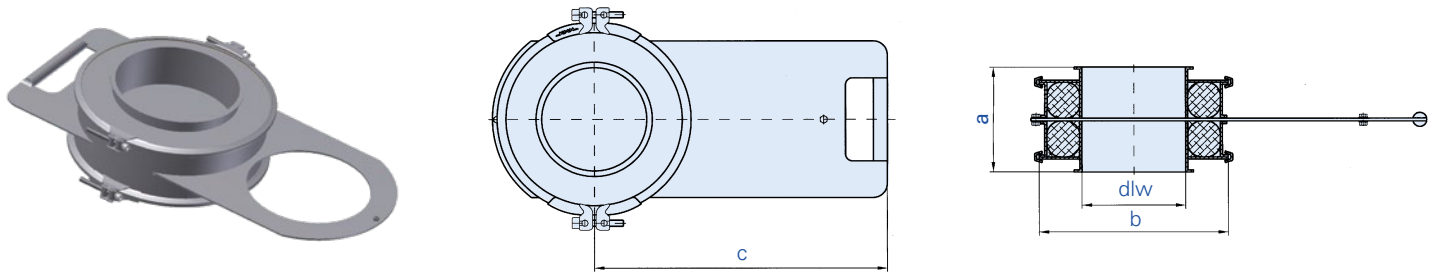
|     |     |     |     |     |     |  |  |  |       |
|-----|-----|-----|-----|-----|-----|--|--|--|-------|
| 80  | 78  | 150 | 160 | 120 | 225 |  |  |  | 2,05  |
| 100 | 99  | 103 | 160 | 120 | 225 |  |  |  | 2,20  |
| 120 | 119 | 137 | 180 | 140 | 251 |  |  |  | 3,30  |
| 150 | 149 | 150 | 220 | 180 | 295 |  |  |  | 4,50  |
| 175 | 174 | 212 | 245 | 200 | 320 |  |  |  | 6,10  |
| 200 | 199 | 202 | 290 | 250 | 410 |  |  |  | 7,95  |
| 224 | 219 | 210 | 320 | 280 | 420 |  |  |  | 8,90  |
| 250 | 249 | 217 | 345 | 300 | 432 |  |  |  | 10,20 |
| 300 | 299 | 277 | 395 | 350 | 512 |  |  |  | 14,80 |

|         |        |         |        |         |        |          |        |         |        |         |        |
|---------|--------|---------|--------|---------|--------|----------|--------|---------|--------|---------|--------|
| 0811080 | 107,00 |         |        |         |        | 0812080* | 141,10 | 0813080 | 245,10 |         |        |
|         |        | 1021080 | 111,30 |         |        | 1022080  | 148,00 | 1013080 | 250,90 | 1023080 | 262,60 |
|         |        | 1221080 | 115,60 | 1231080 | 175,10 | 1222080  | 158,40 | 1213080 | 257,30 | 1223080 | 269,30 |
|         |        | 1521080 | 125,10 | 1531080 | 191,50 | 1522080  | 173,40 | 1513080 | 270,50 | 1523080 | 293,00 |
|         |        | 1721080 | 149,40 | 1731080 | 228,70 | 1722080  | 209,00 | 1713080 | 311,20 | 1723080 | 344,60 |
|         |        | 2021080 | 163,80 | 2031080 | 246,70 | 2022080  | 236,80 | 2013080 | 346,70 | 2023080 | 381,40 |
|         |        | 2221080 | 182,00 | 2231080 | 263,90 | 2222080  | 256,50 | 2213080 | 366,60 | 2223080 | 401,20 |
|         |        | 2521080 | 199,50 | 2531080 | 280,60 | 2522080  | 271,40 | 2513080 | 386,70 | 2523080 | 421,40 |
|         |        | 3021080 | 229,50 | 3031080 | 308,80 | 3022080  | 315,20 | 3013080 | 428,20 | 3023080 | 470,30 |

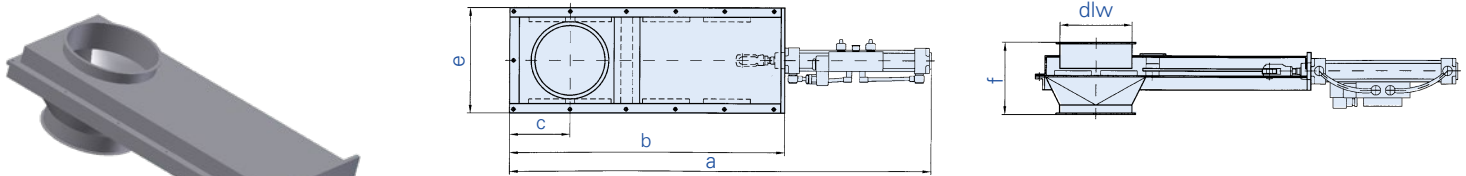
Technische Hinweise: siehe Seite 152/153  
Technical details: see page 152/153

\* 1,5mm

## Schieber mit Ringdichtung / Regulator gate with ring seal



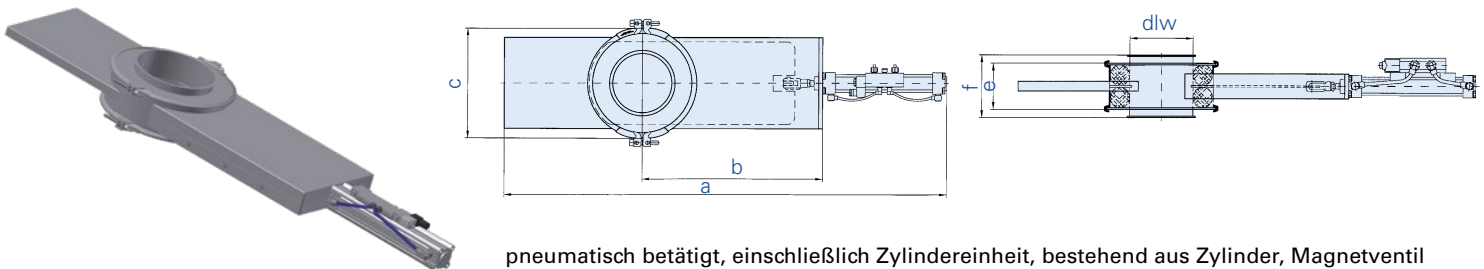
## Rohrschieber / Pipe regulator gate



pneumatisch betätigt, einschließlich Zylindereinheit, bestehend aus Zylinder, Magnetventil (monostabil) und 2 Magnetfeldschaltern (Schieber schließt bei Stromausfall)

*pneumatically operated, including cylinder-unit consisting of cylinder, solenoid-valve (monostable) and 2 proximity-reed switches (Gate closes in case of power failure)*

## Schieber mit Ringdichtung / Regulator gate with ring seal



pneumatisch betätigt, einschließlich Zylindereinheit, bestehend aus Zylinder, Magnetventil (monostabil) und 2 Magnetfeldschaltern (Schieber schließt bei Stromausfall)

*pneumatically operated, including cylinder-unit consisting of cylinder, solenoid-valve (monostable) and 2 proximity-reed switches (Gate closes in case of power failure)*

| Nennweite<br>Nominal diameter                         |     |     |     |     |   |   |   |   |       |
|-------------------------------------------------------|-----|-----|-----|-----|---|---|---|---|-------|
| Maße für 2 mm Rohrbau<br>Measurements for 2 mm piping |     |     |     |     |   |   |   |   |       |
| DN                                                    | dlw | a   | b   | c   | e | f | g | h | kg    |
| 80                                                    | 78  | 150 | 200 | 330 |   |   |   |   | 4,75  |
| 100                                                   | 99  | 150 | 200 | 350 |   |   |   |   | 5,80  |
| 120                                                   | 119 | 150 | 250 | 410 |   |   |   |   | 7,20  |
| 150                                                   | 149 | 150 | 250 | 425 |   |   |   |   | 7,45  |
| 175                                                   | 174 | 150 | 300 | 490 |   |   |   |   | 8,85  |
| 200                                                   | 199 | 150 | 300 | 500 |   |   |   |   | 9,80  |
| 224                                                   | 219 | 150 | 350 | 575 |   |   |   |   | 10,00 |
| 250                                                   | 249 | 150 | 350 | 575 |   |   |   |   | 11,20 |
| 300                                                   | 299 | 150 | 400 | 650 |   |   |   |   | 13,95 |

| DC 01 1,5 mm                       |        | DC 01 2 mm                         |        | VA 1.4301 1,5 mm             |  |  |  | VA 1.4301 2 mm               |        |
|------------------------------------|--------|------------------------------------|--------|------------------------------|--|--|--|------------------------------|--------|
| pulverbeschichtet<br>powder coated |        | pulverbeschichtet<br>powder coated |        | Edelstahl<br>stainless steel |  |  |  | Edelstahl<br>stainless steel |        |
| Art.-Nr.                           | €      | Art.-Nr.                           | €      |                              |  |  |  | Art.-Nr.                     | €      |
| 0811081                            | 173,00 |                                    |        |                              |  |  |  | 0813081                      | 339,60 |
|                                    |        | 1021081                            | 175,80 |                              |  |  |  | 1023081                      | 341,40 |
|                                    |        | 1221081                            | 180,60 |                              |  |  |  | 1223081                      | 356,80 |
|                                    |        | 1521081                            | 187,80 |                              |  |  |  | 1523081                      | 378,50 |
|                                    |        | 1721081                            | 197,30 |                              |  |  |  | 1723081                      | 399,80 |
|                                    |        | 2021081                            | 205,50 |                              |  |  |  | 2023081                      | 416,20 |
|                                    |        | 2221081                            | 210,30 |                              |  |  |  | 2223081                      | 436,40 |
|                                    |        | 2521081                            | 215,40 |                              |  |  |  | 2523081                      | 456,70 |
|                                    |        | 3021081                            | 230,90 |                              |  |  |  | 3023081                      | 490,10 |

| Nennweite<br>Nominal diameter                         |     |      |     |       |     |     |   |   |    |
|-------------------------------------------------------|-----|------|-----|-------|-----|-----|---|---|----|
| Maße für 2 mm Rohrbau<br>Measurements for 2 mm piping |     |      |     |       |     |     |   |   |    |
| DN                                                    | dlw | a    | b   | c     | e   | f   | g | h | kg |
| 100                                                   | 99  | 744  | 485 | 102,5 | 165 | 104 |   |   |    |
| 120                                                   | 119 | 744  | 485 | 102,5 | 185 | 117 |   |   |    |
| 150                                                   | 149 | 894  | 585 | 127,5 | 225 | 152 |   |   |    |
| 175                                                   | 174 | 894  | 585 | 127,5 | 250 | 212 |   |   |    |
| 200                                                   | 199 | 1077 | 717 | 152,5 | 300 | 202 |   |   |    |
| 224                                                   | 219 | 1077 | 717 | 152,5 | 300 | 202 |   |   |    |
| 250                                                   | 249 | 1227 | 817 | 177,5 | 350 | 217 |   |   |    |
| 300                                                   | 299 | 1377 | 917 | 202,5 | 400 | 277 |   |   |    |

| DC 01 2 mm                         |        | VA 1.4301 2 mm               |         |
|------------------------------------|--------|------------------------------|---------|
| pulverbeschichtet<br>powder coated |        | Edelstahl<br>stainless steel |         |
| Art.-Nr.                           | €      | Art.-Nr.                     | €       |
| 1021092                            | 679,30 | 1023092                      | 979,50  |
| 1221092                            | 698,00 | 1223092                      | 1032,10 |
| 1521092                            | 740,60 | 1523092                      | 1096,20 |
| 1721092                            | 787,70 | 1723092                      | 1154,40 |
| 2021092                            | 845,20 | 2023092                      | 1235,50 |
| 2221092                            | 871,20 | 2223092                      | 1311,00 |
| 2521092                            | 894,80 | 2523092                      | 1361,30 |
| 3021092                            | 978,40 | 3023092                      | 1436,70 |

Endnummer für Fabrikat und Steuerspannung:  
Bitte der 7stelligen Art.-Nr. zufügen.

Please add code for make and signal-current to  
our 7-digit-order-no.

Fabrikat  
Make

Steuerspannung  
Signal-current

F1 ..... Festo ..... 230 V, AC  
F3 ..... Festo ..... 24 V, DC

Andere Fabrikate auf Anfrage / other products on request

| Nennweite<br>Nominal diameter                         |     |      |     |     |     |     |   |   |    |
|-------------------------------------------------------|-----|------|-----|-----|-----|-----|---|---|----|
| Maße für 2 mm Rohrbau<br>Measurements for 2 mm piping |     |      |     |     |     |     |   |   |    |
| DN                                                    | dlw | a    | b   | c   | e   | f   | g | h | kg |
| 100                                                   | 99  | 905  | 380 | 224 | 105 | 150 |   |   |    |
| 120                                                   | 119 | 955  | 405 | 274 | 105 | 150 |   |   |    |
| 150                                                   | 149 | 1105 | 455 | 274 | 105 | 150 |   |   |    |
| 175                                                   | 174 | 1184 | 480 | 324 | 105 | 150 |   |   |    |
| 200                                                   | 199 | 1333 | 558 | 324 | 105 | 150 |   |   |    |
| 224                                                   | 219 | 1533 | 633 | 374 | 105 | 150 |   |   |    |
| 250                                                   | 249 | 1533 | 633 | 374 | 105 | 150 |   |   |    |
| 300                                                   | 299 | 1746 | 710 | 424 | 105 | 150 |   |   |    |

| DC 01 2 mm                         |         | VA 1.4301 2 mm               |         |
|------------------------------------|---------|------------------------------|---------|
| pulverbeschichtet<br>powder coated |         | Edelstahl<br>stainless steel |         |
| Art.-Nr.                           | €       | Art.-Nr.                     | €       |
| 1021093                            | 784,10  | 1023093                      | 1243,20 |
| 1221093                            | 792,30  | 1223093                      | 1258,50 |
| 1521093                            | 823,90  | 1523093                      | 1306,80 |
| 1721093                            | 846,50  | 1723093                      | 1342,10 |
| 2021093                            | 888,80  | 2023093                      | 1409,10 |
| 2221093                            | 928,90  | 2223093                      | 1472,70 |
| 2521093                            | 972,40  | 2523093                      | 1510,30 |
| 3021093                            | 1014,70 | 3023093                      | 1577,50 |

Endnummer für Fabrikat und Steuerspannung:  
Bitte der 7stelligen Art.-Nr. zufügen.

Please add code for make and signal-current to  
our 7-digit-order-no.

Fabrikat  
Make

Steuerspannung  
Signal-current

F1 ..... Festo ..... 230 V, AC  
F3 ..... Festo ..... 24 V, DC

Andere Fabrikate auf Anfrage / other products on request

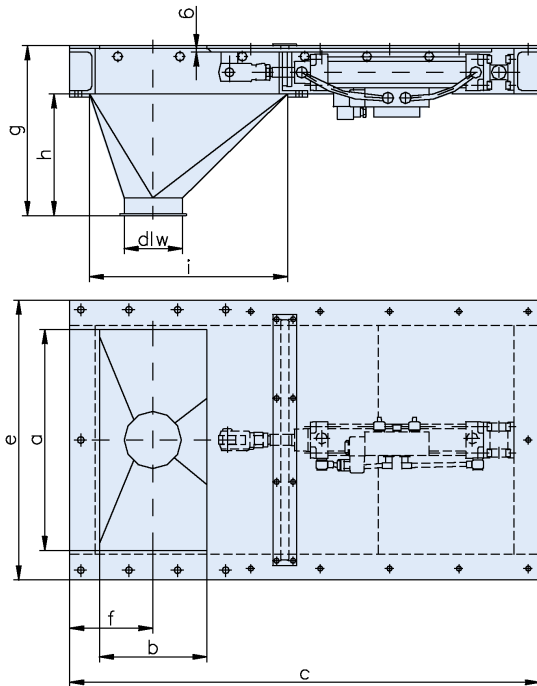
Technische Hinweise: siehe Seite 152/153  
Technical details: see page 152/153

## Redler-Auslaufschieber / Querschieber

Redler outlet gates / Cross-slides

Schieberplatte kugelgelagert, pneumatisch betätigt, einschließlich Zylindereinheit bestehend aus Zylinder, 5/2 Wege-Magnetventil und 2 Magnetfeldschaltern (Schieber schließt bei Stromausfall)

*valve plate runs on ball bearings, pneumatically operated, including cylinder unit consisting of cylinder, 5/2 way-solenoid-valve and 2 proximity-reed switches (Gate closes in case of power failure)*

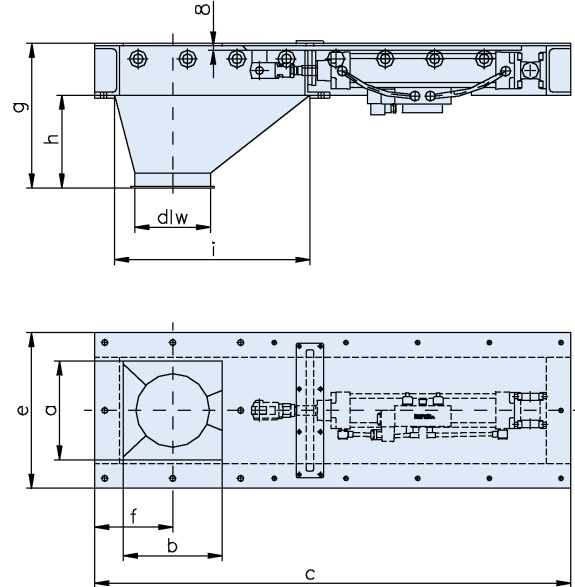


## Silo-Auslaufschieber

Silo outlet gates

Schieberplatte kugelgelagert, pneumatisch betätigt, einschließlich Zylindereinheit bestehend aus Zylinder, 5/2 Wege-Magnetventil und 2 Magnetfeldschaltern (Schieber schließt bei Stromausfall)

*valve plate runs on ball bearings, pneumatically operated, including cylinder unit consisting of cylinder, 5/2 way-solenoid-valve and 2 proximity-reed switches (Gate closes in case of power failure)*

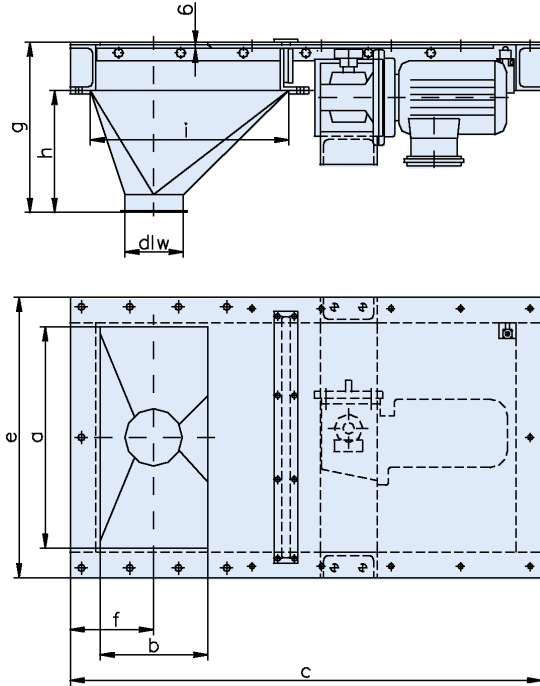


Preise und technische  
Spezifikationen auf Anfrage!

## Redler- Auslaufschieber / Querschieber

*Redler outlet gates / Cross-slides*

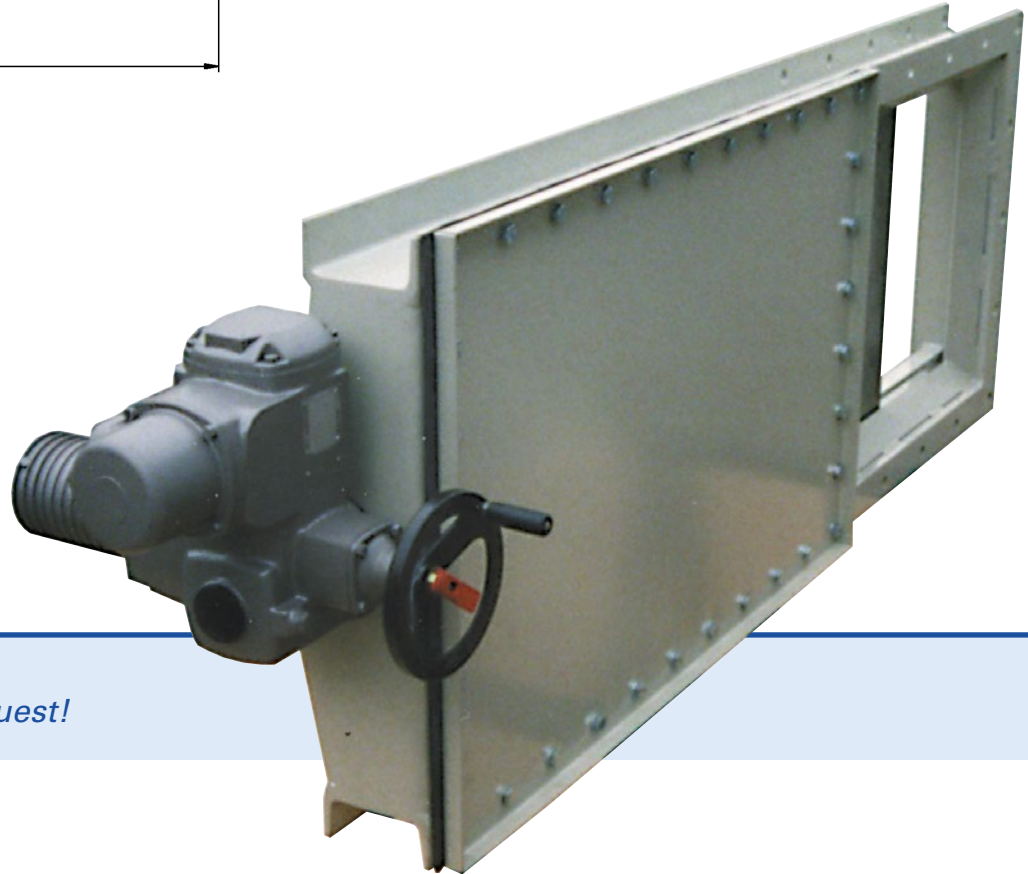
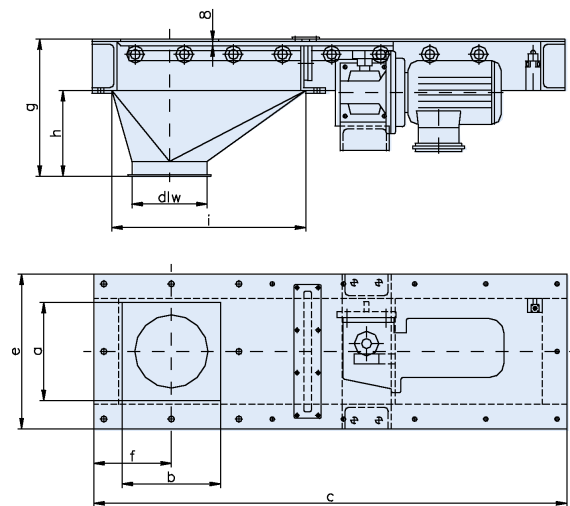
Schieberplatte kugellagert, elektrisch betätigt, mit Schnecken-Getriebemotor und 2 Endschaltern  
*valve plate runs on ball bearings, electrically operated with worm-gear motor and 2 limit switches*



## Silo-Auslaufschieber

*Silo outlet gates*

Schieberplatte kugellagert, elektrisch betätigt, mit Schnecken-Getriebemotor und 2 Endschaltern  
*valve plate runs on ball bearings, electrically operated, with worm-gear motor and 2 limit switches*

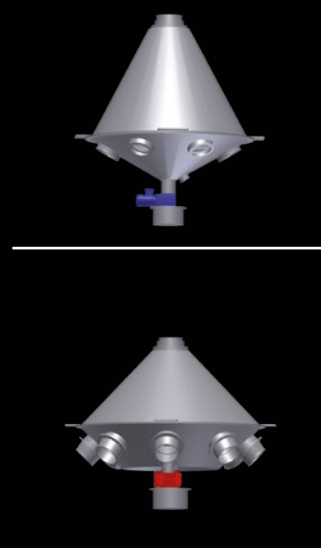


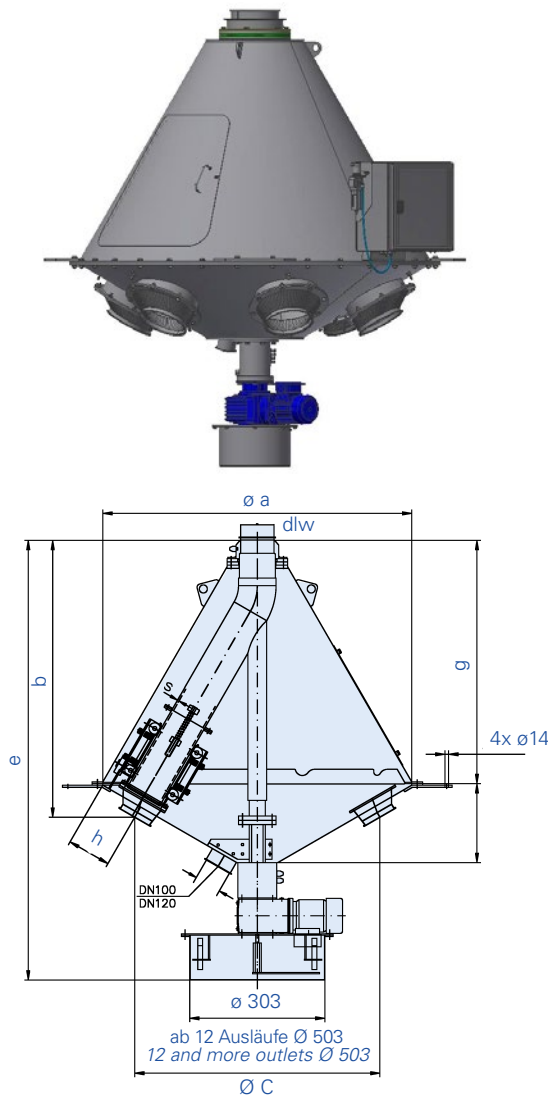
*Prices and technical specifications on request!*



## DREHROHRVERTEILER

*SWING SPOUT  
DISTRIBUTORS*





### Technische Daten

Das Drehrohrverteilergehäuse besteht aus zwei miteinander verschraubten Trichtern. Im oberen Trichter sind eine/zwei Inspektionsluken. Das Drehrohr mit Schieberohr ist im Gehäuse untergebracht. Die Schieberohrdrückung wird durch Federkraft auf den angewählten Auslauf gedrückt (nicht staubdicht). Abstützung durch 4 Konsolen am Untertrichter. Der Drehrohrverteiler ist für die drucklose Verteilung von frei fließenden, nicht haftenden, körnigen Schüttgütern im freien Fall geeignet.

### Der Drehrohrverteiler darf nicht im Produktstrom geschaltet werden!

Produktförderung von oben auf einen der Ausläufe. Die Anschlussrohre müssen verspannungsfrei montiert werden. Drehstrom-Getriebemotor, Fabrikat Getriebekonstruktion Nord, Motorspannung 400 V, 50 Hz, Leistungsaufnahme 0,12 KW, Drehzahl 1,6 U/min. Induktive Endschräger, PNP, jeweils 1 Öffner und 1 Schließer pro Auslauf. Alle Anschlüsse sind im Anschlusskasten auf Klemmen geführt.

### Technical details

The rotary-head distributor's casing consists of two funnels screwed together. The upper funnel has one/two inspection doors. The turn-pipe and sliding-pipe are mounted in the casing. The sliding pipe is pressed by spring tension onto the selected outlet sleeve (not pressure tight). Support by 4 support plates on lower funnel. The rotary-head distributor is suitable for the pressureless transport of flour or granular products only in free fall.

### Do not operate rotary-head distributor during production flow!

Production flow from above to the outlet sleeves. The connection pipes to the outlet sleeves have to be mounted in tension-free performance. Rotary current gear motor, voltage 400 V, 50 Hz. Power input 0.12 KW. Number of revolutions 1.6/min. Inductive proximity switches. One opening contact, one closing contact. All connections are led in the connection box on clips.

| Nennweite<br>Nominal diameter |     |   |   |   |   |   |   |   |   | Maße<br>Measurements |  |  |  |  |  |  |  |  |  |
|-------------------------------|-----|---|---|---|---|---|---|---|---|----------------------|--|--|--|--|--|--|--|--|--|
| DN                            | d/w | a | b | c | e | f | g | h | s |                      |  |  |  |  |  |  |  |  |  |
| 100                           |     |   |   |   |   |   |   |   |   |                      |  |  |  |  |  |  |  |  |  |
| 100                           |     |   |   |   |   |   |   |   |   |                      |  |  |  |  |  |  |  |  |  |
| 100                           |     |   |   |   |   |   |   |   |   |                      |  |  |  |  |  |  |  |  |  |
| 120                           |     |   |   |   |   |   |   |   |   |                      |  |  |  |  |  |  |  |  |  |
| 120                           |     |   |   |   |   |   |   |   |   |                      |  |  |  |  |  |  |  |  |  |
| 120                           |     |   |   |   |   |   |   |   |   |                      |  |  |  |  |  |  |  |  |  |
| 150                           |     |   |   |   |   |   |   |   |   |                      |  |  |  |  |  |  |  |  |  |
| 150                           |     |   |   |   |   |   |   |   |   |                      |  |  |  |  |  |  |  |  |  |
| 150                           |     |   |   |   |   |   |   |   |   |                      |  |  |  |  |  |  |  |  |  |
| 150                           |     |   |   |   |   |   |   |   |   |                      |  |  |  |  |  |  |  |  |  |
| 175                           |     |   |   |   |   |   |   |   |   |                      |  |  |  |  |  |  |  |  |  |
| 175                           |     |   |   |   |   |   |   |   |   |                      |  |  |  |  |  |  |  |  |  |
| 175                           |     |   |   |   |   |   |   |   |   |                      |  |  |  |  |  |  |  |  |  |
| 200                           |     |   |   |   |   |   |   |   |   |                      |  |  |  |  |  |  |  |  |  |
| 200                           |     |   |   |   |   |   |   |   |   |                      |  |  |  |  |  |  |  |  |  |
| 200                           |     |   |   |   |   |   |   |   |   |                      |  |  |  |  |  |  |  |  |  |
| 250                           |     |   |   |   |   |   |   |   |   |                      |  |  |  |  |  |  |  |  |  |
| 250                           |     |   |   |   |   |   |   |   |   |                      |  |  |  |  |  |  |  |  |  |
| 250                           |     |   |   |   |   |   |   |   |   |                      |  |  |  |  |  |  |  |  |  |
| 300                           |     |   |   |   |   |   |   |   |   |                      |  |  |  |  |  |  |  |  |  |
| 300                           |     |   |   |   |   |   |   |   |   |                      |  |  |  |  |  |  |  |  |  |
| 300                           |     |   |   |   |   |   |   |   |   |                      |  |  |  |  |  |  |  |  |  |

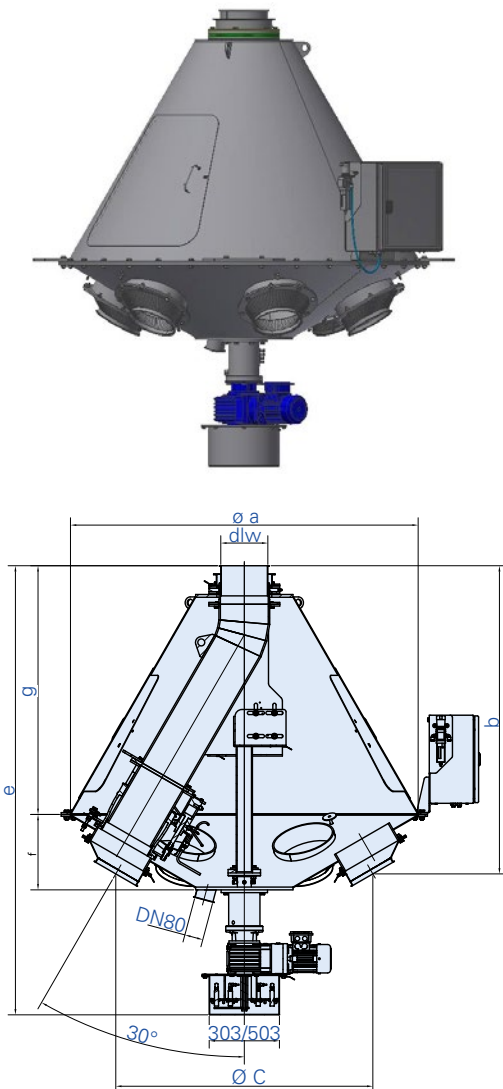
Maße auf Anfrage  
Dimensions on request

| Ausläufe<br>outlets |          |          |          |          |          |          |          |          |          |
|---------------------|----------|----------|----------|----------|----------|----------|----------|----------|----------|
|                     | 4        | 6        | 8        | 10       | 12       | 14       | 16       | 18       | 20       |
| Art.-Nr.            | 1004100* | 1006100* | 1008100* |          |          |          |          |          |          |
| €                   |          |          |          |          |          |          |          |          |          |
| Art.-Nr.            |          |          |          | 1010100* | 1012100* | 1014100* | 1016100* |          |          |
| €                   |          |          |          |          |          |          |          |          |          |
| Art.-Nr.            |          |          |          |          |          |          |          | 1018100* | 1020100* |
| €                   |          |          |          |          |          |          |          |          |          |
| Art.-Nr.            | 1204100* | 1206100* |          |          |          |          |          |          |          |
| €                   |          |          |          |          |          |          |          |          |          |
| Art.-Nr.            |          |          | 1208100* | 1210100* | 1212100* |          |          |          |          |
| €                   |          |          |          |          |          |          |          |          |          |
| Art.-Nr.            |          |          |          |          |          | 1214100* | 1216100* | 1218100* | 1220100* |
| €                   |          |          |          |          |          |          |          |          |          |
| Art.-Nr.            | 1504100* | 1506100* |          |          |          |          |          |          |          |
| €                   |          |          |          |          |          |          |          |          |          |
| Art.-Nr.            |          |          | 1508100* | 1510100* |          |          |          |          |          |
| €                   |          |          |          |          |          |          |          |          |          |
| Art.-Nr.            |          |          |          |          | 1512100* | 1514100* | 1516100* |          |          |
| €                   |          |          |          |          |          |          |          |          |          |
| Art.-Nr.            |          |          |          |          |          |          |          | 1518100* | 1520100* |
| €                   |          |          |          |          |          |          |          |          |          |
| Art.-Nr.            | 1704100* | 1706100* | 1708100* |          |          |          |          |          |          |
| €                   |          |          |          |          |          |          |          |          |          |
| Art.-Nr.            |          |          |          | 1710100* | 1712100* | 1714100* |          |          |          |
| €                   |          |          |          |          |          |          |          |          |          |
| Art.-Nr.            |          |          |          |          |          |          | 1716100* | 1718100* | 1720100* |
| €                   |          |          |          |          |          |          |          |          |          |
| Art.-Nr.            | 2004100* | 2006100* | 2008100* |          |          |          |          |          |          |
| €                   |          |          |          |          |          |          |          |          |          |
| Art.-Nr.            |          |          |          | 2010100* | 2012100* |          |          |          |          |
| €                   |          |          |          |          |          |          |          |          |          |
| Art.-Nr.            |          |          |          |          |          | 2014100* | 2016100* | 2018100* | 2020100* |
| €                   |          |          |          |          |          |          |          |          |          |
| Art.-Nr.            | 2504100* | 2506100* |          |          |          |          |          |          |          |
| €                   |          |          |          |          |          |          |          |          |          |
| Art.-Nr.            |          |          | 2508100* | 2510100* |          |          |          |          |          |
| €                   |          |          |          |          |          |          |          |          |          |
| Art.-Nr.            |          |          |          |          | 2512100* | 2514100* | 2516100* |          |          |
| €                   |          |          |          |          |          |          |          |          |          |
| Art.-Nr.            | 3004100* |          |          |          |          |          |          |          |          |
| €                   |          |          |          |          |          |          |          |          |          |
| Art.-Nr.            |          | 3006100* | 3008100* |          |          |          |          |          |          |
| €                   |          |          |          |          |          |          |          |          |          |
| Art.-Nr.            |          |          |          | 3010100* | 3012100* | 3014100* |          |          |          |
| €                   |          |          |          |          |          |          |          |          |          |

\*Preise auf Nachfrage  
\*Prices on request

Maße auf Anfrage  
Dimensions on request

Mehrpriis für produktberührende Teile aus Edelstahl (1.4301) auf Anfrage  
Additional price for stainless steel (1.4301) parts contracting upon request



#### Technische Daten

Das Drehrohrverteilergehäuse besteht aus zwei miteinander verschraubten Trichtern. Im oberen Trichter befinden sich zwei Inspektionsluken. Das Drehrohr mit Schieberohr ist im Gehäuse untergebracht. Das Schieberohr wird pneumatisch auf den angewählten Auslauf gepresst. Abstützung durch 4 Konsolen am Untertrichter. Der Drehrohrverteiler ist für die Verteilung von nicht haftenden, frei fließenden Schüttgütern bis zu einem Überdruck von 1,0 bar (bei gefährlichen Fördermedien 0,5 bar) im Rohrsystem geeignet.

#### Der Drehrohrverteiler darf nicht im Produktstrom geschaltet werden!

Produktförderung von oben auf einen der Ausläufe. Die Anschlussrohre müssen verspannungsfrei montiert werden. Erforderliche Druckluftversorgung min. 6 bar. Drehstrom Getriebemotor, Fabrikat Getriebebau Nord, Motorspannung 400V, 50 Hz, Leistungsaufnahme 0,12 KW, Drehzahl 1,6 U/min.

Monostabiles Magnetventil Spannung 230V AC. Induktive Endschalter, PNP, jeweils 1 Öffner und 1 Schließer pro Auslauf. Alle Anschlüsse inkl. Druckwächter sind im Anschlusskasten auf Klemmen geführt.

#### Technical details

The rotary-head distributor's casing consists of two funnels screwed together. The upper funnel has an inspection door. The turn-pipe and sliding-pipe are mounted in the casing. The sliding pipe is pressed by cylinder onto the selected outlet sleeve. Support by 4 support plates on lower funnel. The rotary-head distributor is suitable for the transport of flour or granular products up to an overpressure of 1 bar (for dangerous materials 0,5 bar) within the pipeline system.

#### Do not operate rotary-head distributor during production flow!

Production flow from above to the outlet sleeves. The connection pipes to the outlet sleeves have to be mounted in tension-free performance. Required compressed-air connection min. 6 bar. Rotary current gear motor, voltage 400V, 50Hz. Power input 0.12 KW. Number of revolutions 1.6/min.

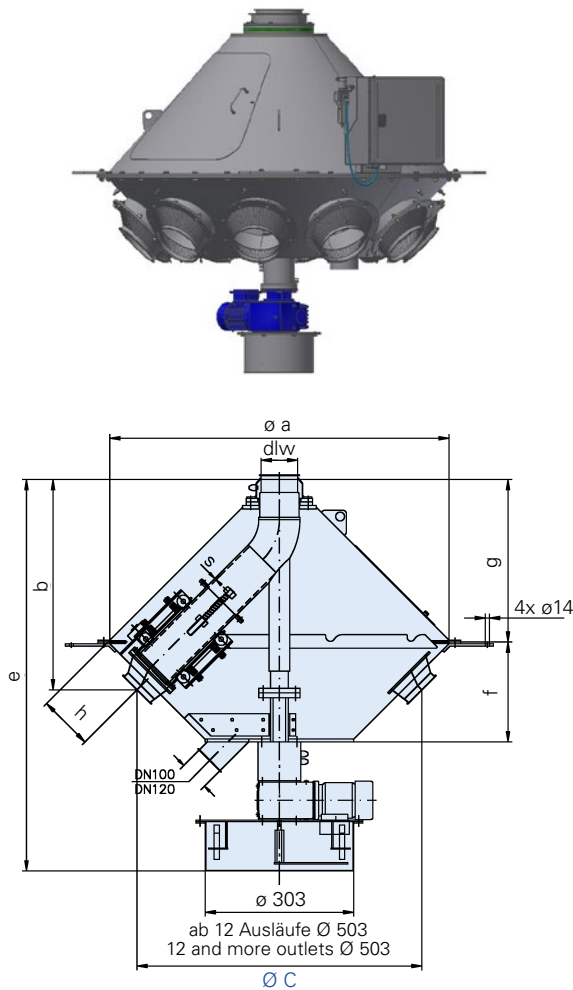
Solenoid valve voltage 230V AC. Inductive proximity switches. One opening contact, one closing contact. All connections incl. pressure guards are led in the connection box on clips.

| Nennweite<br>Nominal diameter |     |   |   |   |   |   |   |   |   | Maße<br>Measurements                      |  |  |  |  |  |  |  |  |  |
|-------------------------------|-----|---|---|---|---|---|---|---|---|-------------------------------------------|--|--|--|--|--|--|--|--|--|
| DN                            | dlw | a | b | c | e | f | g | h | s |                                           |  |  |  |  |  |  |  |  |  |
| 100                           |     |   |   |   |   |   |   |   |   | Maße auf Anfrage<br>Dimensions on request |  |  |  |  |  |  |  |  |  |
| 100                           |     |   |   |   |   |   |   |   |   |                                           |  |  |  |  |  |  |  |  |  |
| 120                           |     |   |   |   |   |   |   |   |   |                                           |  |  |  |  |  |  |  |  |  |
| 120                           |     |   |   |   |   |   |   |   |   |                                           |  |  |  |  |  |  |  |  |  |
| 150                           |     |   |   |   |   |   |   |   |   |                                           |  |  |  |  |  |  |  |  |  |
| 150                           |     |   |   |   |   |   |   |   |   |                                           |  |  |  |  |  |  |  |  |  |
| 150                           |     |   |   |   |   |   |   |   |   |                                           |  |  |  |  |  |  |  |  |  |
| 175                           |     |   |   |   |   |   |   |   |   |                                           |  |  |  |  |  |  |  |  |  |
| 175                           |     |   |   |   |   |   |   |   |   |                                           |  |  |  |  |  |  |  |  |  |
| 175                           |     |   |   |   |   |   |   |   |   |                                           |  |  |  |  |  |  |  |  |  |
| 200                           |     |   |   |   |   |   |   |   |   |                                           |  |  |  |  |  |  |  |  |  |
| 200                           |     |   |   |   |   |   |   |   |   |                                           |  |  |  |  |  |  |  |  |  |
| 200                           |     |   |   |   |   |   |   |   |   |                                           |  |  |  |  |  |  |  |  |  |
| 250                           |     |   |   |   |   |   |   |   |   |                                           |  |  |  |  |  |  |  |  |  |
| 250                           |     |   |   |   |   |   |   |   |   |                                           |  |  |  |  |  |  |  |  |  |
| 300                           |     |   |   |   |   |   |   |   |   |                                           |  |  |  |  |  |  |  |  |  |
| 300                           |     |   |   |   |   |   |   |   |   |                                           |  |  |  |  |  |  |  |  |  |

Maße auf Anfrage  
Dimensions on request

| Ausläufe<br>outlets |          |          |          |          |          |          |          |          |          |          |  |  |  |  |  |  |  |  |  |
|---------------------|----------|----------|----------|----------|----------|----------|----------|----------|----------|----------|--|--|--|--|--|--|--|--|--|
|                     |          | 4        | 6        | 8        | 10       | 12       | 14       | 16       | 18       | 20       |  |  |  |  |  |  |  |  |  |
| Art.-Nr.            | 1004103  | 1006103  | 1008103  | 1010103  | 1012103  | 1014103  |          |          |          |          |  |  |  |  |  |  |  |  |  |
| €                   | 9515,30  | 9666,80  | 10115,50 | 10597,10 | 10936,20 | 11329,20 |          |          |          |          |  |  |  |  |  |  |  |  |  |
| Art.-Nr.            |          |          |          |          |          |          |          | 1016103  | 1018103  | 1020103  |  |  |  |  |  |  |  |  |  |
| €                   |          |          |          |          |          |          |          | 11743,10 | 12828,40 | 13081,40 |  |  |  |  |  |  |  |  |  |
| Art.-Nr.            | 1204103  | 1206103  | 1208103  | 1210103  | 1212103  |          |          |          |          |          |  |  |  |  |  |  |  |  |  |
| €                   | 9884,80  | 10057,20 | 10471,20 | 10784,90 | 11165,90 |          |          |          |          |          |  |  |  |  |  |  |  |  |  |
| Art.-Nr.            |          |          |          |          |          |          | 1214103  | 1216103  | 1218103  |          |  |  |  |  |  |  |  |  |  |
| €                   |          |          |          |          |          |          | 11626,50 | 12799,30 | 13145,60 |          |  |  |  |  |  |  |  |  |  |
| Art.-Nr.            | 1504103  | 1506103  | 1508103  | 1510103  |          |          |          |          |          |          |  |  |  |  |  |  |  |  |  |
| €                   | 9948,90  | 10147,10 | 10584,20 | 10940,90 |          |          |          |          |          |          |  |  |  |  |  |  |  |  |  |
| Art.-Nr.            |          |          |          |          |          | 1512103  | 1514103  | 1516103  |          |          |  |  |  |  |  |  |  |  |  |
| €                   |          |          |          |          |          | 12086,90 | 12569,70 | 13047,70 |          |          |  |  |  |  |  |  |  |  |  |
| Art.-Nr.            |          |          |          |          |          |          |          |          | 1518103  | 1520103  |  |  |  |  |  |  |  |  |  |
| €                   |          |          |          |          |          |          |          |          | 15950,60 | 16234,90 |  |  |  |  |  |  |  |  |  |
| Art.-Nr.            | 1704103  | 1706103  | 1708103  |          |          |          |          |          |          |          |  |  |  |  |  |  |  |  |  |
| €                   | 10207,70 | 10433,90 | 10746,20 |          |          |          |          |          |          |          |  |  |  |  |  |  |  |  |  |
| Art.-Nr.            |          |          |          | 1710103  | 1712103  | 1714103  |          |          |          |          |  |  |  |  |  |  |  |  |  |
| €                   |          |          |          | 11239,30 | 13117,60 | 13287,70 |          |          |          |          |  |  |  |  |  |  |  |  |  |
| Art.-Nr.            |          |          |          |          |          |          |          | 1716103  | 1718103  | 1720103  |  |  |  |  |  |  |  |  |  |
| €                   |          |          |          |          |          |          |          | 16032,10 | 16274,50 | 16953,10 |  |  |  |  |  |  |  |  |  |
| Art.-Nr.            | 2004103  | 2006103  | 2008103  |          |          |          |          |          |          |          |  |  |  |  |  |  |  |  |  |
| €                   | 10333,70 | 10618,00 | 11062,30 |          |          |          |          |          |          |          |  |  |  |  |  |  |  |  |  |
| Art.-Nr.            |          |          |          | 2010103  | 2012103  |          |          |          |          |          |  |  |  |  |  |  |  |  |  |
| €                   |          |          |          | 12691,00 | 13114,00 |          |          |          |          |          |  |  |  |  |  |  |  |  |  |
| Art.-Nr.            |          |          |          |          |          |          | 2014103  | 2016103  | 2018103  |          |  |  |  |  |  |  |  |  |  |
| €                   |          |          |          |          |          |          | 16009,90 | 16274,50 | 16501,90 |          |  |  |  |  |  |  |  |  |  |
| Art.-Nr.            | 2504103  | 2506103  | 2508103  | 2510103  |          |          |          |          |          |          |  |  |  |  |  |  |  |  |  |
| €                   | 10386,00 | 10738,00 | 11973,80 | 12807,40 |          |          |          |          |          |          |  |  |  |  |  |  |  |  |  |
| Art.-Nr.            |          |          |          |          |          | 2512103  | 2514103  | 2516103  |          |          |  |  |  |  |  |  |  |  |  |
| €                   |          |          |          |          |          | 15506,20 | 16156,70 | 16695,20 |          |          |  |  |  |  |  |  |  |  |  |
| Art.-Nr.            | 3004103  | 3006103  | 3008103  |          |          |          |          |          |          |          |  |  |  |  |  |  |  |  |  |
| €                   | 12425,00 | 12721,20 | 13480,10 |          |          |          |          |          |          |          |  |  |  |  |  |  |  |  |  |
| Art.-Nr.            |          |          |          | 3010103  | 3012103  | 3014103  |          |          |          |          |  |  |  |  |  |  |  |  |  |
| €                   |          |          |          | 15210,10 | 16494,90 | 17834,30 |          |          |          |          |  |  |  |  |  |  |  |  |  |

Mehrpreis für produktberührende Teile aus Edelstahl (1.4301) auf Anfrage  
Additional price for stainless steel (1.4301) parts contracting upon request



#### Technische Daten

Das Drehrohrverteilergehäuse besteht aus zwei miteinander verschraubten Trichtern. Im oberen Trichter sind eine/zwei Inspektionsluken. Das Drehrohr mit Schieberohr ist im Gehäuse untergebracht. Das Schieberohr wird mit Federkraft auf den angewählten Auslauf gepresst. Abstützung durch 4 Konsolen am Untertrichter. Der Drehrohrverteiler ist für die drucklose Verteilung von frei fließenden, nicht haftenden, körnigen Schüttgütern im freien Fall geeignet.

#### Der Drehrohrverteiler darf nicht im Produktstrom geschaltet werden!

Produktförderung von oben auf einen der Ausläufe. Die Anschlussrohre müssen verspannungsfrei montiert werden. Drehstrom-Getriebemotor, Fabrikat Getriebebau Nord, Motorspannung 400V, 50 Hz, Leistungsaufnahme 0,12 KW, Drehzahl 1,6 U/min. Induktive Endschafter, PNP, jeweils 1 Öffner und 1 Schließer pro Auslauf. Alle Anschlüsse sind im Anschlusskasten auf Klemmen geführt.

#### Technical details

The rotary-head distributor's casing consists of two funnels screwed together. The upper funnel has one/two inspection doors. The turn-pipe and sliding-pipe are mounted in the casing. The sliding pipe is pressed by spring tension onto the selected outlet sleeve (not pressure tight). Support by 4 support plates on lower funnel. The rotary-head distributor is suitable for the pressureless transport of flour or granular products only in free fall.

#### Do not operate rotary-head distributor during production flow!

Production flow from above to the outlet sleeves. The connection pipes to the outlet sleeves have to be mounted in tension-free performance. Rotary current gear motor, voltage 400V, 50 Hz. Power input 0.12 KW. Number of revolutions 1.6/min. Inductive proximity switches. One opening contact, one closing contact. All connections are led in the connection box on clips.

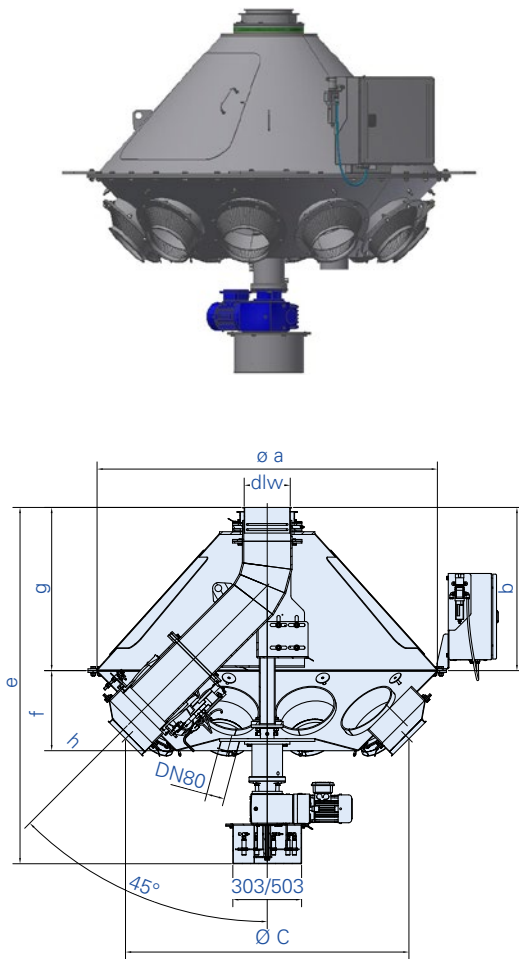
| Nennweite<br>Nominal diameter |     |   |   |   |   |   |   |   |   | Maße<br>Measurements                      |  |  |  |  |  |  |  |  |  |
|-------------------------------|-----|---|---|---|---|---|---|---|---|-------------------------------------------|--|--|--|--|--|--|--|--|--|
| DN                            | d/w | a | b | c | e | f | g | h | s |                                           |  |  |  |  |  |  |  |  |  |
| 100                           |     |   |   |   |   |   |   |   |   | Maße auf Anfrage<br>Dimensions on request |  |  |  |  |  |  |  |  |  |
|                               |     |   |   |   |   |   |   |   |   |                                           |  |  |  |  |  |  |  |  |  |
| 100                           |     |   |   |   |   |   |   |   |   |                                           |  |  |  |  |  |  |  |  |  |
|                               |     |   |   |   |   |   |   |   |   |                                           |  |  |  |  |  |  |  |  |  |
| 100                           |     |   |   |   |   |   |   |   |   |                                           |  |  |  |  |  |  |  |  |  |
|                               |     |   |   |   |   |   |   |   |   |                                           |  |  |  |  |  |  |  |  |  |
| 120                           |     |   |   |   |   |   |   |   |   |                                           |  |  |  |  |  |  |  |  |  |
|                               |     |   |   |   |   |   |   |   |   |                                           |  |  |  |  |  |  |  |  |  |
| 120                           |     |   |   |   |   |   |   |   |   |                                           |  |  |  |  |  |  |  |  |  |
|                               |     |   |   |   |   |   |   |   |   |                                           |  |  |  |  |  |  |  |  |  |
| 120                           |     |   |   |   |   |   |   |   |   |                                           |  |  |  |  |  |  |  |  |  |
|                               |     |   |   |   |   |   |   |   |   |                                           |  |  |  |  |  |  |  |  |  |
| 150                           |     |   |   |   |   |   |   |   |   |                                           |  |  |  |  |  |  |  |  |  |
|                               |     |   |   |   |   |   |   |   |   |                                           |  |  |  |  |  |  |  |  |  |
| 150                           |     |   |   |   |   |   |   |   |   |                                           |  |  |  |  |  |  |  |  |  |
|                               |     |   |   |   |   |   |   |   |   |                                           |  |  |  |  |  |  |  |  |  |
| 150                           |     |   |   |   |   |   |   |   |   |                                           |  |  |  |  |  |  |  |  |  |
|                               |     |   |   |   |   |   |   |   |   |                                           |  |  |  |  |  |  |  |  |  |
| 150                           |     |   |   |   |   |   |   |   |   |                                           |  |  |  |  |  |  |  |  |  |
|                               |     |   |   |   |   |   |   |   |   |                                           |  |  |  |  |  |  |  |  |  |
| 175                           |     |   |   |   |   |   |   |   |   |                                           |  |  |  |  |  |  |  |  |  |
|                               |     |   |   |   |   |   |   |   |   |                                           |  |  |  |  |  |  |  |  |  |
| 175                           |     |   |   |   |   |   |   |   |   |                                           |  |  |  |  |  |  |  |  |  |
|                               |     |   |   |   |   |   |   |   |   |                                           |  |  |  |  |  |  |  |  |  |
| 175                           |     |   |   |   |   |   |   |   |   |                                           |  |  |  |  |  |  |  |  |  |
|                               |     |   |   |   |   |   |   |   |   |                                           |  |  |  |  |  |  |  |  |  |
| 200                           |     |   |   |   |   |   |   |   |   |                                           |  |  |  |  |  |  |  |  |  |
|                               |     |   |   |   |   |   |   |   |   |                                           |  |  |  |  |  |  |  |  |  |
| 200                           |     |   |   |   |   |   |   |   |   |                                           |  |  |  |  |  |  |  |  |  |
|                               |     |   |   |   |   |   |   |   |   |                                           |  |  |  |  |  |  |  |  |  |
| 200                           |     |   |   |   |   |   |   |   |   |                                           |  |  |  |  |  |  |  |  |  |
|                               |     |   |   |   |   |   |   |   |   |                                           |  |  |  |  |  |  |  |  |  |
| 250                           |     |   |   |   |   |   |   |   |   |                                           |  |  |  |  |  |  |  |  |  |
|                               |     |   |   |   |   |   |   |   |   |                                           |  |  |  |  |  |  |  |  |  |
| 250                           |     |   |   |   |   |   |   |   |   |                                           |  |  |  |  |  |  |  |  |  |
|                               |     |   |   |   |   |   |   |   |   |                                           |  |  |  |  |  |  |  |  |  |
| 250                           |     |   |   |   |   |   |   |   |   |                                           |  |  |  |  |  |  |  |  |  |
|                               |     |   |   |   |   |   |   |   |   |                                           |  |  |  |  |  |  |  |  |  |
| 300                           |     |   |   |   |   |   |   |   |   |                                           |  |  |  |  |  |  |  |  |  |
|                               |     |   |   |   |   |   |   |   |   |                                           |  |  |  |  |  |  |  |  |  |
| 300                           |     |   |   |   |   |   |   |   |   |                                           |  |  |  |  |  |  |  |  |  |
|                               |     |   |   |   |   |   |   |   |   |                                           |  |  |  |  |  |  |  |  |  |
| 300                           |     |   |   |   |   |   |   |   |   |                                           |  |  |  |  |  |  |  |  |  |
|                               |     |   |   |   |   |   |   |   |   |                                           |  |  |  |  |  |  |  |  |  |

| Ausläufe<br>outlets |          |          |          |          |          |          |          |          |          |
|---------------------|----------|----------|----------|----------|----------|----------|----------|----------|----------|
|                     | 4        | 6        | 8        | 10       | 12       | 14       | 16       | 18       | 20       |
| Art.-Nr.            | 1004102* | 1006102* | 1008102* | 1010102* |          |          |          |          |          |
| €                   |          |          |          |          |          |          |          |          |          |
| Art.-Nr.            |          |          |          |          | 1012102* | 1014102* | 1016102* | 1018102* |          |
| €                   |          |          |          |          |          |          |          |          |          |
| Art.-Nr.            |          |          |          |          |          |          |          |          | 1020102* |
| €                   |          |          |          |          |          |          |          |          |          |
| Art.-Nr.            | 1204102* | 1206102* |          |          |          |          |          |          |          |
| €                   |          |          |          |          |          |          |          |          |          |
| Art.-Nr.            |          |          | 1208102* | 1210102* | 1212102* | 1214102* |          |          |          |
| €                   |          |          |          |          |          |          |          |          |          |
| Art.-Nr.            |          |          |          |          |          |          | 1216102* | 1218102* | 1220102* |
| €                   |          |          |          |          |          |          |          |          |          |
| Art.-Nr.            | 1504102* | 1506102* |          |          |          |          |          |          |          |
| €                   |          |          |          |          |          |          |          |          |          |
| Art.-Nr.            |          |          | 1508102* | 1510102* | 1512102* |          |          |          |          |
| €                   |          |          |          |          |          |          |          |          |          |
| Art.-Nr.            |          |          |          |          |          | 1514102* | 1516102* |          |          |
| €                   |          |          |          |          |          |          |          |          |          |
| Art.-Nr.            |          |          |          |          |          |          |          | 1518102* | 1520102* |
| €                   |          |          |          |          |          |          |          |          |          |
| Art.-Nr.            | 1704102* | 1706102* | 1708102* | 1710102* |          |          |          |          |          |
| €                   |          |          |          |          |          |          |          |          |          |
| Art.-Nr.            |          |          |          |          | 1712102* | 1714102* |          |          |          |
| €                   |          |          |          |          |          |          |          |          |          |
| Art.-Nr.            |          |          |          |          |          |          | 1716102* | 1718102* | 1720102* |
| €                   |          |          |          |          |          |          |          |          |          |
| Art.-Nr.            | 2004102* | 2006102* | 2008102* |          |          |          |          |          |          |
| €                   |          |          |          |          |          |          |          |          |          |
| Art.-Nr.            |          |          |          | 2010102* | 2012102* |          |          |          |          |
| €                   |          |          |          |          |          |          |          |          |          |
| Art.-Nr.            |          |          |          |          |          | 2014102* | 2016102* | 2018102* | 2020102* |
| €                   |          |          |          |          |          |          |          |          |          |
| Art.-Nr.            | 2504102* | 2506102* |          |          |          |          |          |          |          |
| €                   |          |          |          |          |          |          |          |          |          |
| Art.-Nr.            |          |          | 2508102* | 2510102* |          |          |          |          |          |
| €                   |          |          |          |          |          |          |          |          |          |
| Art.-Nr.            |          |          |          |          | 2512102* | 2514102* | 2516102* |          |          |
| €                   |          |          |          |          |          |          |          |          |          |
| Art.-Nr.            | 3004102* |          |          |          |          |          |          |          |          |
| €                   |          |          |          |          |          |          |          |          |          |
| Art.-Nr.            |          | 3006102* | 3008102* |          |          |          |          |          |          |
| €                   |          |          |          |          |          |          |          |          |          |
| Art.-Nr.            |          |          |          | 3010102* | 3012102* | 3014102* |          |          |          |
| €                   |          |          |          |          |          |          |          |          |          |

\*Preise auf Nachfrage  
\*Prices on request

Maße auf Anfrage  
Dimensions on request

Mehrpreis für produktberührende Teile aus Edelstahl (1.4301) auf Anfrage  
Additional price for stainless steel (1.4301) parts contracting upon request



#### Technische Daten

Das Drehrohrverteilergehäuse besteht aus zwei miteinander verschraubten Trichtern. Im oberen Trichter befinden sich zwei Inspektionsluken. Das Drehrohr mit Schieberrohr ist im Gehäuse untergebracht. Das Schieberrohr wird pneumatisch auf den angewählten Auslauf gepresst. Abstützung durch 4 Konsolen am Untertrichter. Der Drehrohrverteiler ist für die Verteilung von nicht haftenden, frei fließenden Schüttgütern bis zu einem Überdruck von 1,0 bar (bei gefährlichen Fördermedien 0,5 bar) im Rohrsystem geeignet.

#### Der Drehrohrverteiler darf nicht im Produktstrom geschaltet werden!

Produktförderung von oben auf einen der Ausläufe. Die Anschlussrohre müssen verspannungsfrei montiert werden. Erforderliche Druckluftversorgung min. 6 bar. Drehstrom-Getriebemotor, Fabrikat Getriebebau Nord, Motorspannung 400 V, 50 Hz, Leistungsaufnahme 0,12 KW, Drehzahl 1,6 U/min.

Monostabiles Magnetventil Spannung 230 V AC. Induktive Endschalter, PNP, jeweils 1 Öffner und 1 Schließer pro Auslauf. Alle Anschlüsse inkl. Druckwächter sind im Anschlusskasten auf Klemmen geführt.

#### Technical details

The rotary-head distributor's casing consists of two funnels screwed together. The upper funnel has two inspection doors. The turn-pipe and sliding-pipe are mounted in the casing. The sliding pipe is pressed by cylinder onto the selected outlet sleeve. Support by 4 support plates on lower funnel. The rotary-head distributor is suitable for the transport of flour or granular products up to an overpressure of 1.0 bar (for dangerous materials 0,5 bar) within the pipeline system.

#### Do not operate rotary-head distributor during production flow!

Production flow from above to the outlet sleeves. The connection pipes to the outlet sleeves have to be mounted in tension-free performance. Required compressed-air connection min. 6 bar. Rotary current gear motor, voltage 400 V, 50Hz. Power input 0.12 KW. Number of revolutions 1.6/min.

Solenoid valve voltage 230 V AC. Inductive proximity switches. One opening contact, one closing contact. All connections incl. pressure guards are led in the connection box on clips.

| Nennweite<br>Nominal diameter |     |   |   |   |   |   |   |   |   |
|-------------------------------|-----|---|---|---|---|---|---|---|---|
| Maße<br>Measurements          |     |   |   |   |   |   |   |   |   |
| DN                            | dlw | a | b | c | e | f | g | h | s |
| 100                           |     |   |   |   |   |   |   |   |   |
| 100                           |     |   |   |   |   |   |   |   |   |
| 120                           |     |   |   |   |   |   |   |   |   |
| 120                           |     |   |   |   |   |   |   |   |   |
| 150                           |     |   |   |   |   |   |   |   |   |
| 150                           |     |   |   |   |   |   |   |   |   |
| 175                           |     |   |   |   |   |   |   |   |   |
| 175                           |     |   |   |   |   |   |   |   |   |
| 200                           |     |   |   |   |   |   |   |   |   |
| 200                           |     |   |   |   |   |   |   |   |   |
| 250                           |     |   |   |   |   |   |   |   |   |
| 300                           |     |   |   |   |   |   |   |   |   |

Dimensions on request

Maße auf Anfrage

Maße auf Anfrage  
Dimensions on request

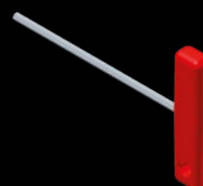
| Ausläufe<br>outlets |          |          |          |          |          |          |          |          |          |
|---------------------|----------|----------|----------|----------|----------|----------|----------|----------|----------|
|                     | 4        | 6        | 8        | 10       | 12       | 14       | 16       | 18       | 20       |
| Art.-Nr.            | 1004104  | 1006104  | 1008104  | 1010104  | 1012104  | 1014104  |          |          |          |
| €                   | 9183,00  | 9447,50  | 9737,90  | 9988,50  | 10198,30 | 10396,50 |          |          |          |
| Art.-Nr.            |          |          |          |          |          |          | 1016104  | 1018104  | 1020104  |
| €                   |          |          |          |          |          |          | 10643,70 | 12125,50 | 12340,00 |
| Art.-Nr.            | 1204104  | 1206104  | 1208104  | 1210104  | 1212104  |          |          |          |          |
| €                   | 9300,60  | 9635,30  | 9910,30  | 10125,00 | 10347,50 |          |          |          |          |
| Art.-Nr.            |          |          |          |          |          | 1214104  | 1216104  | 1218104  |          |
| €                   |          |          |          |          |          | 10527,00 | 12216,40 | 12456,50 |          |
| Art.-Nr.            | 1504104  | 1506104  | 1508104  | 1510104  | 1512104  |          |          |          |          |
| €                   | 9406,70  | 9726,30  | 9979,10  | 10189,00 | 10422,30 |          |          |          |          |
| Art.-Nr.            |          |          |          |          |          | 1514104  | 1516104  |          |          |
| €                   |          |          |          |          |          | 12113,80 | 12440,10 |          |          |
| Art.-Nr.            | 1704104  | 1706104  | 1708104  |          |          |          |          |          |          |
| €                   | 9561,90  | 9911,60  | 10067,80 |          |          |          |          |          |          |
| Art.-Nr.            |          |          |          | 1710104  | 1712104  | 1714104  |          |          |          |
| €                   |          |          |          | 10444,50 | 11990,30 | 12275,80 |          |          |          |
| Art.-Nr.            | 2004104  | 2006104  | 2008104  |          |          |          |          |          |          |
| €                   | 9735,50  | 10113,30 | 10163,30 |          |          |          |          |          |          |
| Art.-Nr.            |          |          |          | 2010104  | 2012104  |          |          |          |          |
| €                   |          |          |          | 11926,00 | 12432,00 |          |          |          |          |
| Art.-Nr.            | 2504104  | 2506104  | 2508104  | 2510104  |          |          |          |          |          |
| €                   | 10395,40 | 10638,00 | 11909,90 | 12211,70 |          |          |          |          |          |
| Art.-Nr.            | 3004104  | 3006104  | 3008104  |          |          |          |          |          |          |
| €                   | 11266,20 | 11864,30 | 12407,60 |          |          |          |          |          |          |

Mehrpreis für produktberührende Teile aus Edelstahl (1.4301) auf Anfrage  
Additional price for stainless steel (1.4301) parts contracting upon request

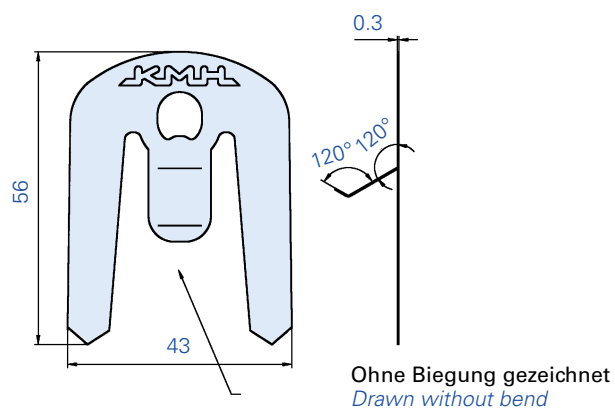


## ZUBEHÖR

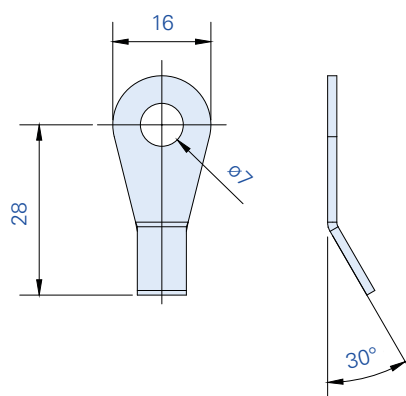
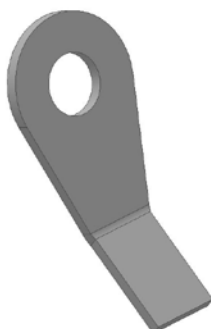
### ACCESSORIES



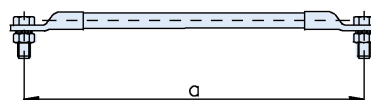
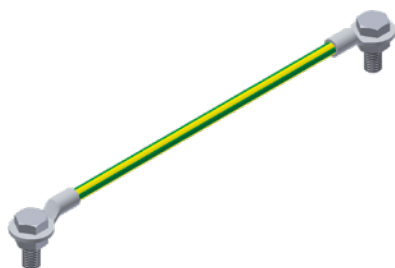
**Erdungsclips für Edelstahl und verzinkte Rorteile / Earthing clips for stainless steel and galvanized products**



**Erdungslaschen / Earthing lugs**



**Erdungskabel / Earthing wires**



■ Erdungskabel 16mm<sup>2</sup> inkl. Schrauben M 6x16, Muttern und Zahnscheiben, 1.4301  
Earthing wires 16 mm<sup>2</sup> incl. screws M 6x16, nuts and lockwasher, 1.4301

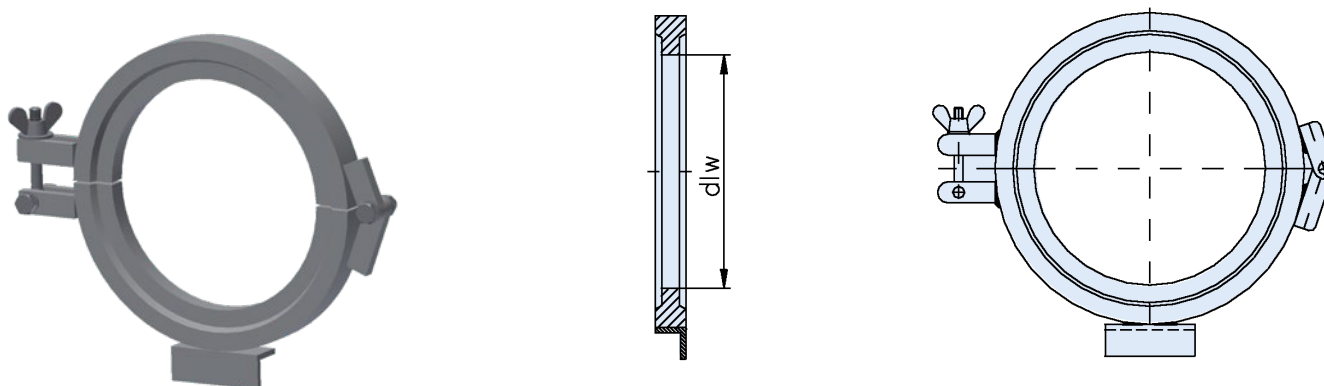
| Art.-Nr. | €     |  |  |  |  |  |  |
|----------|-------|--|--|--|--|--|--|
| 1000167* | 16,90 |  |  |  |  |  |  |

\*Preis per Satz, 1 Satz = 10 Stck.  
 \*Price per Set, 1 set = 10 pieces

| lose / loose |      |          |      | geheftet / tacked |  |  |  |
|--------------|------|----------|------|-------------------|--|--|--|
| Art.-Nr.     | €    | Art.-Nr. | €    |                   |  |  |  |
| 1000067      | 0,70 | 1010067  | 2,50 |                   |  |  |  |

| 120 mm lang |      | 230 mm lang |      | 330 mm lang |      | 430 mm lang |      |
|-------------|------|-------------|------|-------------|------|-------------|------|
| Art.-Nr.    | €    | Art.-Nr.    | €    | Art.-Nr.    | €    | Art.-Nr.    | €    |
| 1200067     | 2,70 | 2300067     | 2,80 | 3300067     | 3,00 | 4300067     | 3,60 |

**Abschneid- und Bördelvorrichtungen / Cutting and flange fixtures**



**Gewindestangen M 10, 1000 ls, DIN 975 / Threaded rods M 10, 1000 kg, DIN 975**

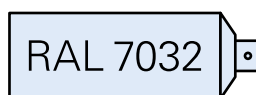
**Befestigungsbügel / Fastening clips**

**Stockschrauben M 10 / Hanger bolts M 10**

**Sechskantmuttern M 10, DIN 934 / Hexagonal nuts M 10, DIN 934**

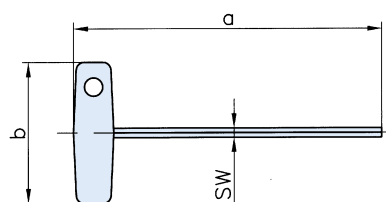
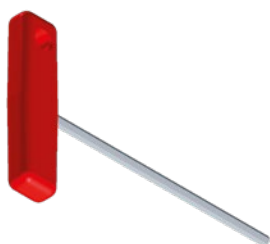
**Langmuttern M 10, DIN 6334 / Double nuts M 10, DIN 6334**

**Sprühlack RAL 7032, 400ml / Laquer spray RAL 7032, 400ml**



Andere Farben auf Anfrage  
Other colours on request

**Sechskant-Schraubendreher / Hexagonal screwdrivers**



| <div> <div>Nennweite</div> <div>Nominal diameter</div> </div> <div> <div>Maße für 2 mm Rohrbau</div> <div>Measurements for 2 mm piping</div> </div> |     |   |   |   |   |   |   |      |
|-----------------------------------------------------------------------------------------------------------------------------------------------------|-----|---|---|---|---|---|---|------|
| DN                                                                                                                                                  | dlw | a | b | c | e | f | g | kg   |
| 80                                                                                                                                                  | 80  |   |   |   |   |   |   | 3,50 |
| 100                                                                                                                                                 | 102 |   |   |   |   |   |   | 4,50 |
| 120                                                                                                                                                 | 122 |   |   |   |   |   |   | 5,80 |
| 150                                                                                                                                                 | 152 |   |   |   |   |   |   | 6,20 |
| 175                                                                                                                                                 | 176 |   |   |   |   |   |   | 5,70 |
| 200                                                                                                                                                 | 202 |   |   |   |   |   |   | 6,80 |
| 224                                                                                                                                                 | 222 |   |   |   |   |   |   | 7,00 |
| 250                                                                                                                                                 | 252 |   |   |   |   |   |   | 7,20 |
| 300                                                                                                                                                 | 302 |   |   |   |   |   |   | 7,90 |

| Art.-Nr. | €      |  |  |  |  |
|----------|--------|--|--|--|--|
| 0800085  | 144,50 |  |  |  |  |
| 1000085  | 158,10 |  |  |  |  |
| 1200085  | 177,00 |  |  |  |  |
| 1500085  | 197,00 |  |  |  |  |
| 1700085  | 223,60 |  |  |  |  |
| 2000085  | 248,70 |  |  |  |  |
| 2200085  | 318,10 |  |  |  |  |
| 2500085  | 296,90 |  |  |  |  |
| 3000085  | 343,20 |  |  |  |  |

| <div> <div>Nennweite</div> <div>Nominal diameter</div> </div> |     |      |   |   |   |   |   |      |
|---------------------------------------------------------------|-----|------|---|---|---|---|---|------|
| DN                                                            | dlw | a    | b | c | e | f | g | kg   |
|                                                               |     | 1000 |   |   |   |   |   | 0,50 |
|                                                               |     | 45   |   |   |   |   |   | 0,10 |
|                                                               |     | 100  |   |   |   |   |   | 0,05 |
|                                                               |     |      |   |   |   |   |   |      |
|                                                               |     |      |   |   |   |   |   |      |

| ST                     |      |  |  |  |  |
|------------------------|------|--|--|--|--|
| verzinkt<br>galvanized |      |  |  |  |  |
| Art.-Nr.               | €    |  |  |  |  |
| 1000063                | 2,40 |  |  |  |  |
| 1000064                | 2,10 |  |  |  |  |
| 1000065                | 0,70 |  |  |  |  |
| 1000066                | 0,20 |  |  |  |  |
| 1100066                | 1,20 |  |  |  |  |

| Art.-Nr. | €     |  |  |  |  |  |
|----------|-------|--|--|--|--|--|
| 1000185  | 18,80 |  |  |  |  |  |

| SW = 5mm |      | SW = 6mm |      |  |  |  |  |
|----------|------|----------|------|--|--|--|--|
| Art.-Nr. | €    | Art.-Nr. | €    |  |  |  |  |
| 0800059  | 2,80 | 1000059  | 3,10 |  |  |  |  |



## General delivery and payment terms

### §1 General, area of validity

- Our general delivery and payment terms apply to companies as defined under § 310, paragraph 1 in conjunction with § 14 of the Bürgerliches Gesetzbuch (Civil Code, hereafter termed „BGB“). Entrepreneur(s) in this sense is any natural person or legal identities or incorporated business partnerships with who we enter into a business relationship and who act in a corporate capacity or as self-employed professional.
- The following terms apply to all our offers and deliveries. They apply to all current and future business relations, even if they are not explicitly agreed upon.
- The customer's purchase terms are not part of the contract. They are not accepted, even if we have knowledge of them and if we do not explicitly object to them after the receipt. Latest with binding effect that he/she wants to place the order and purchase the goods. We are entitled to accept the acceptance. Varying agreements are only binding if we acknowledge them in writing.
- We are neither prepared nor obliged to participate in an arbitrary board before a Consumer Conciliation Committee.
- The rights of this contract cannot be transferred to another party.

### §2 Offers, contract conclusion, bidding documents

- All our offers, were they made verbally or in writing, are subject to change and are non-binding. They do not obligate to delivery. With order of the goods, the customer declares with binding effect that he/she wants to place the order and purchase the goods. We are entitled to accept the purchase order, its included contract offer within two weeks after receipt. The acceptance can be declared either in writing or through delivery to the customer. Our purchase order acknowledgement determines exclusively the scope of the contractual owed payment.
- Conclusions of transactions through representatives are binding for the customer but for us first through a written acknowledgment notification;
- We reserve sole ownership and copyright to any documents, which belong to the offer. Without our prior agreement these documents may not be distributed to third parties. If the order is not realized, the documents have to be returned to us upon our request. Prices of individual sales positions are only valid as part of the total offer and cannot be ordered as individual positions. Drawings, copies/photographs, dimensions, weights and other service data have only a binding effect if this is explicitly agreed in writing.
- When the customer orders the goods electronically, we will immediately acknowledge the receipt of the order. The notification of order receipt is not yet an acceptance with binding effect of the order. The notification of order receipt can be combined with the notification of acceptance. If the customer orders the goods by electronic means, we save the contract text, and upon request, it will be send by e-mail to the customer in addition to the present general delivery and payment terms.
- We reserve the right to changes of structure, material selection, specification and design even after sending a notification of order acceptance if those modifications do not contradict the notification of order acceptance or the specifications of the customer. The customer will agree to the proposed modifications if he/she finds them reasonable.

### §3 Pricing

- Our prices result from the notification of order acceptance. Our prices are calculated ex works, excluding packing, shipping and other transportation costs, and duty is unpaid (foreign countries).
- If between closing of contract and delivery or service the prices of our contractor's supplier or our costs (e.g. freight increases, wages and raw material increases, etc.) or our taxes should increase, we are entitled to increase our price accordingly, except when the price is explicitly confirmed as fixed price.
- If we consider a request of a modification by a customer, we are entitled to charge the customer for the resulting extra costs.
- The customer will be charged with value-added tax, pursuant to statutory regulations. Should an increase of the value-added tax occur between the time of the order and delivery then this is borne by the customer.

### §4 Payment terms

- Our deliveries are due for payment (without any deduction) within 30 days after receipt of the service. After this stated payment period, the customer is in default.
- A grant of discount needs besides a formal individual contract the further requirement, that by then all outstanding accounts are settled. For the discount calculation, the net invoice amount (after deduction of abatements, freight charges and other passed-on third party costs) is decisive.
- We are not obliged to accept bills of exchange and cheques. We accept bills of exchange only as subject of a discount option. Cheques and bills of exchange will only be credited after cheque encashment, and releases of covenants will only be credited after payment. Until then, the amount receivable and their payment due dates remain unchanged. No liability is accepted for prompt encashment or protest. Protest and collection charges will be borne by the customer.
- When applicable, we are entitled to impose payments first for earlier debts of a customer despite contrary terms of this customer.
- The retention of payments or the offset of possible customer counterclaims – as contested by us – will not be permitted.
- In case of the customer's (debtor's) failure to comply with the terms of payment, all outstanding debts will become immediately due. The customer's payment default is subject of detention of the goods, pursuant to the stipulations as in following §5.

### §5 Delinquency and credit unworthiness

- After expiry of the agreed payment deadlines (delinquency) or receipt of cheque- and/or bill of exchange protest, we are entitled to  
– withdraw from all contracts and demand compensation due to the failure to fulfill obligations  
– exercise our reservation of proprietary rights and take possession of the delivered goods (cf. § 10 below)  
– demand collaterals and use demanded collaterals  
– declare all unpaid accounts due and deliver only against payment in advance  
– charge default interests, starting from the due date in an amount of nine percentage points above the basic interest rate of the European Central Bank, plus entitlement to charge the accruing default interest of the current value-added tax  
– charge any further possible default damage after submitting appropriate evidence to the customer.
- In case of judicial enforcement or in case of filing a bankruptcy proceeding in regards of the assets of the customer, all granted rebates, bonuses and discounts on unpaid bills are moot.

### §6 Delivery deadlines

- Received orders are only considered as accepted after issuance of our written notification of acknowledgement. The delivery dates and delivery due dates are just approximate times. Delivery dates and delivery due dates – which can be stipulated with and without binding effect – have to be made in writing.
- Delivery due dates that are not part of a fixed delivery date start with the date of our notification of order acknowledgement. Delivery due dates and delivery dates are considered as fulfilled when the goods have been shipped or when readiness for shipment is communicated within the deadline.
- Delivery due dates and delivery dates are extended for the length of the time in which the customer is in default towards us with this or other orders, regardless of our other rights concerning the customer delinquency.
- If we are the cause of the delivery delay, the customer may withdraw from the contract after passage of an appropriate respite, set by the customer, or the customer may ask for compensation in case of acts of gross negligent or intentional damage on our part. However, the customer's compensation is restricted to the extra costs for a substitute purchase. Further claims do not apply. Liability for slight negligence and negligence pursuant to § 287 BGB is particularly precluded. Liability limitation for slight negligence does not apply for us in case of accountable injury to body or health or loss of the customer's life.
- It is agreed that partial deliveries may be exercised except when it is explicitly and in writing excluded. For the payment of partial deliveries, § 4 of these general delivery and payment terms applies.
- We are not liable for deliveries that are not possible or for delivery delays, insofar as these have been caused by force majeure. We are also not liable for deliveries that are not possible or delays in delivery, insofar as these are caused by other events which were unforeseeable at the time of the contract and for which we are not responsible (e.g. transport, freight delays, shortage of manpower, energy or raw materials, breakdowns of any kind, difficulties in the procurement of materials or energy, strikes, legitimate lockouts, difficulties in obtaining necessary regulatory approvals, regulatory action or the lack of, incorrect or untimely delivery by suppliers). If such events make the delivery substantially more difficult or impossible for us and the hindrance is not just temporary, we are entitled to withdraw from the contract in whole or in part at our discretion, without being liable for damages. In the event of temporary hindrances, the delivery periods shall be extended and the delivery dates shall be postponed by the duration of the hindrance plus a reasonable start-up period. If the customer cannot reasonably be expected to accept delivery as a result of the delay, he/she may withdraw from unfulfilled parts of the contract after setting a reasonable grace period.

### §7 Shipping, transfer of risk

- In case of shipping, the danger of accidental loss or accidental deterioration of the goods passes from us with delivery to the carrier or the forwarder or any other responsible and determined shipping person or institution to the buyer. The shipping takes place ex works – if not otherwise agreed.
- If free delivery is agreed, the danger of accidental loss or accidental deterioration of the goods/sold item passes on with arrival of the vehicle in front of the delivery address, at ground level or at a spot, which is reasonably accessible for the vehicle. Our customer is obligated to provide necessary equipment or coworkers for unloading, if this is technically possible.
- The handover is the same if the customer is in default of acceptance.
- If the goods are ready for shipment but the delivery is delayed, and we are not the cause, the danger passes with receipt of the shipping readiness notification to the customer. Deliveries ready for shipping have to be immediately accepted, latest within five weekdays after the notification date of shipment readiness. Otherwise, we are otherwise to ship the goods per our own choice. If the shipment or transportation of the goods should be delayed for reasons not caused by us, we are entitled but not obliged to store the goods according to our discretion at the expense and risk of the customer and under exclusion of our liability and to pass the resulting costs to the customer. We are also entitled to take appropriate measures for the preservation of the goods and to charge the goods as delivered.
- Without specific shipping instructions, we select to best of our ability but without liability the most affordable shipping method. We are entitled to take out, at the expense of the customer, a transport- and breakage insurance. Notifications of damage must be reported immediately – at the latest directly upon acceptance of the damaged goods by the customer – and their type and scope must be proven in writing. With handover of the goods to the carrier or forwarder, this responsibility is passed on to the customer latest with goods departure from the factory or the storage facility. This will be applied, even if the delivery is carried out by our own vehicles.
- Our delivered goods can only be returned free of transportation charges when they are in perfect condition or after our prior agreement. Voluntarily accepted returned goods will be credited, each according to its condition minus a share of costs of at least 20 % of the credited value of the returned goods. The credit takes place after the goods are received and after the goods inspection in our facility. A return of custom-made goods or goods, acquired upon wish of the customer, is excluded.

### §8 Responsibility for defects

We provide a warranty for defective products including the lack of promised features, pursuant to the following requirements:

- Our warranty refers to proper factory execution and usage of faultless materials. Warranty is excluded for natural wear and tear, excessive use and improper assembly.
- After execution of for instance agreed goods acceptance through the customer, the allegation of defects, which are found during the agreed method of acceptance, is excluded.
- We provide, as our first option, warranty for defective goods through repair or replacement.
- If the subsequent performance fails, the customer can always ask for a price reduction or rescission of the contract. In case of a minor contract violation, especially if it is just a minor defect, the customer is not entitled to cancel the contract.
- Customer's claims of deficiencies require that he/she complied properly with its obligations, due responsibilities to inspections and claims, pursuant to § 377 of the Handelsgesetzbuch (HGB – Code of Commercial Law). The customer has to take the full burden of proof for all claim requirements, particularly for the defect as such, for the point in time of the defect detection and for the timely notification of the defect. Same applies also for the complaints regarding the quantities, dimensions and measures.
- If the customer chooses – after supplemental performance – by reason of a legal or material deficiency a rescission of the contract, he/she is not entitled to a claim for damages due to deficiency. If the customer chooses the damages after a failed supplementary performance, the goods stay with the customer, if reasonable. The damage is limited to the difference between purchase price and value of defective goods. This does not apply, if we caused the contract violation maliciously.
- The warranty period is one year after delivery of the goods. That does not apply when the customer did not notify us timely about the deficiency (cf. paragraph 6. of this provision).
- With regards of the nature of the goods, as a principle, only the product description of the manufacturer is agreed upon and takes effect. Public statements, promotions or advertisement of the manufacturer are no contractual statements of the goods.
- If the customer receives a deficient assembly instruction or a deficient technical documentation, we are only obligated to the delivery of an assembly instruction or technical instruction, which is free of any deficiency, and only then, when the deficiency causes problems for the contractual usage of the assembly part.
- The customer does not receive legal guaranties from us. Manufacturer warranties remain unaffected.

### §9 Liability limitations

- Unless otherwise stated in these Terms and Conditions, including the following provisions of this § 9, we are liable in the event of a breach of contractual and non-contractual obligations in accordance with the statutory provisions.
- We are liable for damages – for whatever legal reason – within the scope of fault-based liability in the event of wilful intent and gross negligence. In the event of simple negligence, we are liable, subject to statutory liability restrictions (e.g. due diligence in our own affairs, insignificant breach of duty), only  
a) for damage resulting from injury to life, limb or health,  
b) for damages resulting from the breach of an essential contractual obligation (obligation, the fulfilling of which enables the execution of the contract in the first place and on the compliance of which the contractual partner regularly relies and may reasonably rely). In this case, however, our liability is limited to compensation for the foreseeable, typically occurring damage.
- The limitations of liability resulting from § 9 No. 2 also apply to third parties, as well as to breaches of duty by persons (also in their favour) whose fault we are responsible for in accordance with statutory provisions. In deviation from § 9 No. 2, however, in the case of gross negligence by non-executive employees, we are only liable in the event of breach of an essential contractual obligation. In this case, our liability is limited to the reimbursement of the foreseeable typically occurring damage. Furthermore, in the case of gross negligence by non-executive employees, we are liable for damage resulting from injury to life, limb or health.
- The limitations of liability resulting from § 9 No. 2 and No. 3 do not apply in the event that a defect has been fraudulently concealed or a guarantee has been given for the quality of the goods and for claims of the customer under the Product Liability Act.
- Claims by the customer due to a defect expire one year after delivery of the goods. This does not apply if we can be blamed for gross negligence, or in the case of attributable physical injury or damage to health or the loss of the customer's life.
- The devices and components supplied by us may not be used in systems that are subject to Directive 2014/68/EU on pressure equipment (Pressure Equipment Directive) and the Pressure Equipment Ordinance, as well as Directive 2010/35/EU on transportable pressure equipment and the regulation regarding transportable pressure equipment. In this context, pressure equipment includes, in particular, containers (unfilled pressure vessels), steam boilers, pipelines, pressure-maintaining equipment parts and equipment parts, having a safety function with an internal overpressure of more than 0.5 bar. We do not accept any liability for such use of the devices and components supplied by us.

### §10 Reservation of proprietary rights

- Pending the fulfillment of the requirements (including the balance of the current account) to which we are against the customer legally under any reasons or in future entitled, will be granted in the following paragraphs 2 through 5 about regulated securities. They will be released per our own discretion as long as their values do not exceed our demand of more than ten percent.
- The goods will remain our property, and the workmanship and processing or assembly is always conducted for us as manufacturer but without our obligation. Should our joint property expire by association or a merger, it is agreed that the joint property of the customer merges with us in the standard matter and in the effective invoice amount.
- The customer safeguards our joint property free of charge. Property of which we are entitled joint owner is described in the following as retained goods.
- Our customer is entitled to process or sell retained goods in the course of appropriate business. The customer assigns the receivable at closure of the contract to us in full amount. They result from the re-sale, processing or any other legal reason, (insurance, tort) of the retained goods (including all balances of the current account). We accept the assignment. None of our property rights (simple, expanded, extended open account title) expires, even if the goods, which were originated with us, were purchased by another buyer and as long as he/she did not pay us for the goods. This applies particularly for sales in scope of affiliated companies.
- We revokeable authorize the customer to collect the accounts receivable in his/her own name but assigned to us per our invoice. We reserve the right to collect the accounts receivable ourselves if the customer does not properly keep up with his/her payment obligations, if he/she incurs delinquency or files a request for opening of a bankruptcy proceeding or if he/she ceases payments. If this should be the case, we may demand that the customer announces the assigned accounts receivable and all necessary information for collection purposes to us and that he/she hands the corresponding documents to us and informs the debtor (third party) about the transfer.
- In case of access by third parties to the retained goods, our property rights will be pointed out to the customer.
- The customer will also assign to us, for the security of our claims, his/her claims, which arise from the connection of the goods with property against a third party.
- The customer is obligated to provide us immediately with third party access to the goods in case of a seizure as well in case of possible damages or destruction of the goods. If the third party is unable to meet our demands, the customer will be liable to pay us the incurred loss and the judicial and extra judicial costs of legal proceedings, pursuant to § 771 ZPO (Civil Process Order). The customer has to notify us immediately in case of transfer of the good to another owner as well as change of its own address.
- In case of contrary contract conduct of the part of the customer – particularly delinquency – we are entitled to take the retained goods back and to possibly demand the assignment of claims of our customer against third parties. The redemption as well as the seizure of the retained goods through us is no rescission from the contract.
- At our request, the customer is obligated to name his/her customers to us, to inform the relevant customers about the assignment, to inform us about the necessary data for entitlement of our rights against the buyers and to hand over documents. We are also entitled to notify the buyers of our customers about the assignment.
- If we agree with the customer payments of the purchase price debt by means of a cheque/bill of exchange procedure, the clause will also extend to the encashment of the by us accepted bill of exchange through the company and does not expire through credit of the cheque received by us.
- The customer is obliged to handle the goods with care. As far as maintenance and inspection work is necessary, the customer has to exercise these regularly and at own expense. At our request, an inventory and sufficient identification of the retained goods should be made possible to us in the respective storage location at all times.

### §11 Export Control

- The customer is obliged to inquire with the local authorities of the country in which it is established under what conditions the product that has been ordered may be imported; the product must be declared to the competent authorities and any applicable fees must be paid. The customer must check with the local authorities about the import and use of the products or services ordered. The customer is further obliged to make sure that the technical characteristics indicated by the manufacturer comply with the legal requirements of the country to which the product is imported.
- Before exporting goods in which KMH products are installed, the customer must obtain all necessary export licenses and not sell the products, directly or indirectly, to companies, persons or countries if this conflicts with export control laws or regulations. The customer is not entitled to return goods.
- The customer is not entitled to return goods or to demand compensation if he/she is refused an export license. We are not liable for any legal infringement by the customer. The customer indemnifies us from any claims or other sanctions that may be imposed on us for infringements of export control laws in connection with the delivery items.

### §12 Limitation

Our rights to compensation for delivery of material to be manufactured and production of moveable property expire after five years.

### §13 Final provisions

- The transfer of rights and obligations of the customer from this contract to a third party needs our prior written consent.
- Place of fulfillment for delivery and payment is 27211 Bassum.
- The place of jurisdiction is the legal court responsible for our headquarters location, if the customer is a merchant, a legal identity under public law or a public service fund asset. Same applies if the customer has no general place of jurisdiction or if its location or habitual residency at the time of commencement of legal proceedings is not known. We are also entitled to file commencement for legal proceedings to a court with location or branch, which has jurisdiction over the location or branch of plaintiff.
- For these terms and conditions and all legal relationships between us and our customer, the laws of the Federal Republic of Germany applies. The provisions of the UN International Sales of Goods do not apply.
- The customer acknowledges to us that no protected rights of third parties are violated through its order.
- If we provided a warranty guarantee, the buyer or purchaser is not entitled to use it upon first acclamation. A claim of benefit follows only after and under submission of an appropriate award.
- Should individual provisions of this contract with the customer, including these general terms of payment and delivery, be or become invalid, it will not affect the validity of the remaining provisions. The provision which is invalid, whether in part or in its entirety, will be replaced by a regulation whose economic effect will be as close as possible to the effect intended by the invalid provision.

Status: April 2021

KMH-KAMMANN METALLBAU GMBH

# STICHWORTVERZEICHNIS

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