



# ***Komponenten für Kälteaggregate components designed for compressor packages***



***AWP Kälte · Klima · Armaturen GmbH  
Germany 17291 Prenzlau, Gewerbegebiet Ost Strasse A 1  
Tel.: + 49(0) 3984 85590, Fax: + 49(0) 3984 8559 18  
e-mail: [info@AWPvalves.com](mailto:info@AWPvalves.com), Internet: [www.AWPvalves.com](http://www.AWPvalves.com)***

**An** : AWP Kälte Klima Armaturen GmbH  
Gewerbegebiet Ost - Straße A 1  
17291 Prenzlau  
- Germany -  
Telefon: +49 (0) 3984 / 8559-0  
Telefax: +49 (0) 3984 / 8559-18  
e-mail: [info@AWPvalves.com](mailto:info@AWPvalves.com)  
Internet: [www.AWPvalves.com](http://www.AWPvalves.com)

**Von / from** :

**Bearbeiter /**  
**contact** :

**Telefon** :**Telefax** :

Datum / date :

**Betreff / subject** : **Anfrage** ☐ **Nachricht** ☐ **Bestellung** ☐  
**inquiry** **message** **order**  
**sonstige** ☐  
**other**

[illegible]



Germany - 17291 Prenzlau, Gewerbegebiet Ost, Straße A1 Telefon +49 (0) 3984/ 8559 - 0  
 http://www.AWPvalves.com e-mail: info@AWPvalves.com

Telefax +49 (0) 3984/ 8559 -18 **Kälte · Klima · Armaturen GmbH**

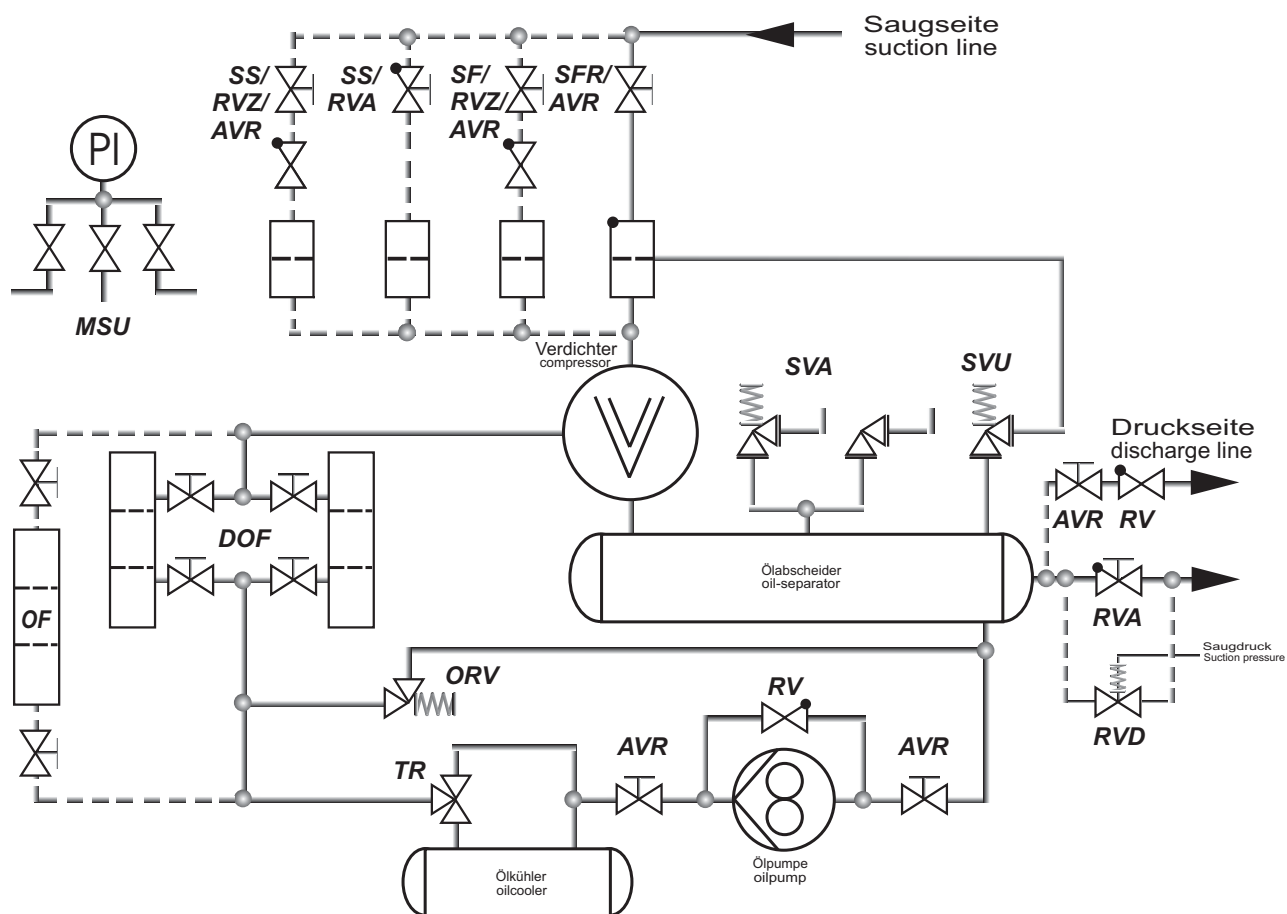
| Register<br>register | <b>AWP-Komponenten / AWP-components</b>                                                                                                 |                                                                                                                            | Typ<br>type               |
|----------------------|-----------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------|---------------------------|
| <b>0</b>             | <b>Übersicht</b>                                                                                                                        | <b>survey</b>                                                                                                              |                           |
| 0.1                  | Komponenten für Kälteaggregate                                                                                                          | Components for compressor packages                                                                                         |                           |
| 0.2                  | Vergleich Saugfilterkombinationen                                                                                                       | Comperation suction - filter - combinations                                                                                |                           |
| <b>1</b>             | <b>Technische Dokumentation</b>                                                                                                         | <b>technical documentation</b>                                                                                             |                           |
| <b>2</b>             | <b>Saugfilterkombination</b><br>Saugfilter mit integriertem Rückschlagventil<br>und angeflanschem Absperrventil<br>DN 80 - 400          | <b>suction filter combination</b><br>suction filter equippet with check valve<br>and flanged shut off valve<br>DN 80 - 400 | <b>SFR / AVR</b>          |
| <b>3</b>             | <b>Saugfilterkombination</b><br>Saugfilter mit angeflanschem Zwischen-<br>flanschrückschlagventil und Absperrventil<br>DN 80 - 400      | <b>suction filter combination</b><br>suction filter with flanged<br>check valve clamp and shut off valve<br>DN 80 - 400    | <b>SF / RVZ /<br/>AVR</b> |
| <b>4</b>             | <b>Saugfilterkombination</b><br>Schmutzsammler mit angeschweißtem<br>absperrbarem Rückschlagventil<br>DN 80 - 400                       | <b>suction filter combination</b><br>strainer with welded<br>stop - check valve<br>DN 80 - 400                             | <b>SS / RVA</b>           |
| <b>5</b>             | <b>Saugfilterkombination</b><br>Schmutzsammler mit angeflanschem<br>Zwischenflanschrückschlagventil<br>und Absperrventil<br>DN 80 - 400 | <b>suction filter combination</b><br>strainer with flanged<br>check valve clamp<br>and shut off valve<br>DN 80 - 400       | <b>SS / RVZ /<br/>AVR</b> |
| <b>6</b>             | <b>Doppelölfilter</b>                                                                                                                   | <b>double oil filter</b>                                                                                                   | <b>DOF</b>                |
| <b>7</b>             | <b>Ölfilter</b><br>mit Magnet                                                                                                           | <b>oil filter</b><br>with magnet                                                                                           | <b>OF</b>                 |
| <b>8</b>             | <b>Temperaturregler</b>                                                                                                                 | <b>thermostatic 3-way valve</b>                                                                                            | <b>TR</b>                 |
| <b>9</b>             | <b>Wechselventil-Sicherheits-<br/>ventil-Kombination</b><br>mit Flanschanschluß                                                         | <b>dual-safety-valve-<br/>combination</b><br>with flange connection                                                        | <b>SVA / WVB</b>          |
| <b>10</b>            | <b>Sicherheitsventil</b><br>gedrucktunabhängig                                                                                          | <b>safety valve</b><br>not depending on back pressure                                                                      | <b>SVU</b>                |
| <b>11</b>            | <b>Sicherheitsventil - Gruppe</b><br>gedrucktabhängig und -unabhängig / depending and not depending on back pressure                    | <b>safety valve group</b>                                                                                                  | <b>SG / WVB</b>           |
| <b>12</b>            | <b>Rückschlagventil</b><br>absperrbar                                                                                                   | <b>check valve</b><br>stop                                                                                                 | <b>RVA</b>                |
| <b>13</b>            | <b>Rückschlagventil</b>                                                                                                                 | <b>check valve</b>                                                                                                         | <b>RV</b>                 |
| <b>14</b>            | <b>Öldruckreguliertventil</b><br>für Schraubenverdichter                                                                                | <b>oil pressure control valve</b><br>for screw compressors                                                                 | <b>ORV</b>                |
| <b>15</b>            | <b>Meßstellenumschalter</b>                                                                                                             | <b>measuring point switch</b>                                                                                              | <b>MSU</b>                |
| <b>16</b>            | <b>Multifunktionsblock</b>                                                                                                              | <b>multi functional block</b>                                                                                              | <b>MFB</b>                |



## Notizen / notice

# AWP- Komponenten für Kälteaggregate

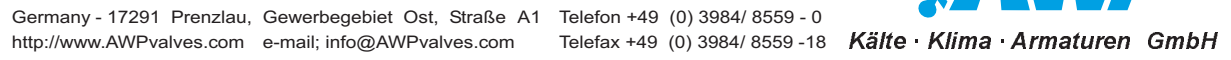
## AWP- Components for compressor packages



|                       |                                                                                                                                                                           |
|-----------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>MSU</b>            | Messstellenumschalter<br>measuring point switch                                                                                                                           |
| <b>DOF</b>            | Doppel-Ölfiler<br>double-oil-filter                                                                                                                                       |
| <b>OF</b>             | Ölfiler<br>oil-filter                                                                                                                                                     |
| <b>SS / RVZ / AVR</b> | Schmutzsammler mit angeflanschem<br>Zwischenflanschrückschlagventil<br>und Absperrventil<br>strainer with flanged check valve in clamp<br>construction and shut off valve |
| <b>SS / RVA</b>       | Schmutzsammler-absperbares<br>Rückschlagventil-Kombination<br>strainer-stop-check valves-combination                                                                      |

|                       |                                                                                                                                                                               |
|-----------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>SFR / AVR</b>      | Saugfilter mit integriertem<br>Rückschlagventil und<br>angeflanschem Absperrventil<br>equipped with check valve and<br>with flanged shut off valve                            |
| <b>SF / RVZ / AVR</b> | Saugfilter mit angeflanschem Zwischen-<br>flanschrückschlagventil und Absperrventil<br>suction filter with flanged check<br>in clamp construction valve and<br>shut off valve |
| <b>SVA</b>            | Sicherheitsventil,<br>gedrucktunabhängig<br>safety valve, depending<br>on back pressure                                                                                       |
| <b>AVR</b>            | Absperrventil<br>shut-off valve                                                                                                                                               |

|            |                                                                                             |
|------------|---------------------------------------------------------------------------------------------|
| <b>RVD</b> | Druckhalteventil<br>Constant pressure valve                                                 |
| <b>RVA</b> | Rückschlagventil, absperbar<br>stop-check valve                                             |
| <b>ORV</b> | Öldruckregulerventil<br>oil-pressure control valve                                          |
| <b>TR</b>  | Temperaturregler<br>thermostatic 3-way valve                                                |
| <b>RV</b>  | Rückschlagventil<br>check valve                                                             |
| <b>SVU</b> | Sicherheitsventil,<br>gedrucktunabhängig<br>safety valve, not depending<br>on back pressure |



## Saugfilterkombinationen

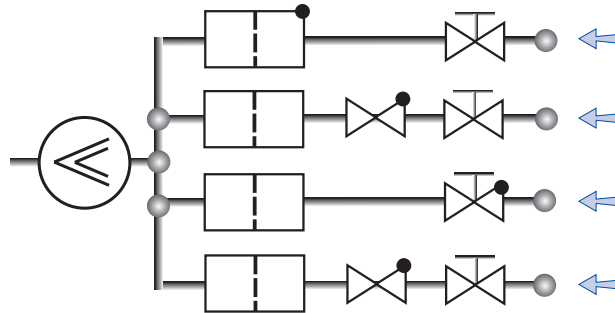
## suction-filter-combinations

### 1. SFR / AVR

### 2. SF / RVZ / AVR

### 3. SS / RVA

### 4. SS / RVZ / AVR



| Preis- und K <sub>v</sub> -Wert-Relation für Saugfilterkombinationen |               |                |                |                |               |                |                |                |
|----------------------------------------------------------------------|---------------|----------------|----------------|----------------|---------------|----------------|----------------|----------------|
| price- K <sub>v</sub> - relation for suction-filter-combinations     |               |                |                |                |               |                |                |                |
| DN                                                                   | SFR / AVR     |                | SF / RVZ / AVR |                | SS / RVA      |                | SS / RVZ / AVR |                |
|                                                                      | Preis / price | K <sub>v</sub> | Preis / price  | K <sub>v</sub> | Preis / price | K <sub>v</sub> | Preis / price  | K <sub>v</sub> |
| 80                                                                   | 100%          | 100%           | + 17%          | 90%            | - 54%         | 55%            | - 42%          | 50%            |
| 100                                                                  |               |                | + 17%          | 90%            | - 44%         | 65%            | - 32%          | 60%            |
| 125                                                                  |               |                | + 14%          | 95%            | - 47%         | 70%            | - 36%          | 67%            |
| 150                                                                  |               |                | + 13%          | 95%            | - 40%         | 70%            | - 32%          | 70%            |
| 200                                                                  |               |                | + 19%          | 95%            | - 20%         | 78%            | - 8%           | 73%            |
| 250                                                                  |               |                | + 15%          | 96%            | -             | -              | + 7%           | 83%            |
| 300                                                                  |               |                | + 20%          | 95%            | -             | -              | -              | -              |
| 350                                                                  |               |                | + 23%          | 95%            | -             | -              | -              | -              |

◆ Filterfläche bei SF / SFR ca. doppelt so groß wie bei SS

◆ the area of filtration with SF / SFR has approx twice the size of SS

◆ alle RVZ und RVA haben eine Dämpfung um ein Klappern der Ventile bei Teillast zu verhindern

◆ all RVZ and RVA have a damping function to prevent valves from rattling during partial load operation

◆ Kombinationen mit Saugfilter ( SF / SFR ) haben den geringeren Druckabfall als Kombinationen mit Schmutzsammler ( SS ) ( der K<sub>v</sub>-Wert einer Kombination ist immer kleiner als der schlechteste K<sub>v</sub>-Wert einer Komponente der Kombination )

◆ combinations with suction filter ( SF / SFR ) show a lower pressure as combinations with strainer ( SS ) ( the K<sub>v</sub> value of a combination is always lower than the worst K<sub>v</sub> value of one combination component )

K<sub>v</sub>-Wert: SS < AVR bzw. RVA < SFR < SF;  
 SS ≪ SF bzw. SFR;  $\Delta p \sim \frac{1}{K_v} \sim \frac{1}{p_c}$

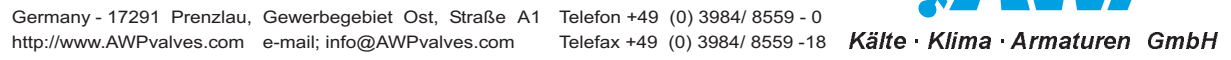
K<sub>v</sub>-value: SS < AVR or RVA < SFR < SF;  
 SS ≪ SF or SFR;  $\Delta p \sim \frac{1}{K_v} \sim \frac{1}{p_c}$

◆ SFR und SF mit Bypass ausgerüstet

◆ SFR and SF are equipped with a bypass

◆ SFR / AVR mit geringer Montagezeit

◆ SFR / AVR with short assembly time





Germany - 17291 Prenzlau, Gewerbegebiet Ost, Straße A1 Telefon +49 (0) 3984/ 8559 - 0  
<http://www.AWPvalves.com> e-mail; [info@AWPvalves.com](mailto:info@AWPvalves.com) Telefax +49 (0) 3984/ 8559 -18

**Kälte · Klima · Armaturen GmbH**

| Register | <b>AWP - Technische Dokumentation<br/>Technical documentation</b>                                       | Seite<br>page |
|----------|---------------------------------------------------------------------------------------------------------|---------------|
| 0        | <b>Allgemeines / Instructions</b>                                                                       | 1.0           |
| 1        | <b>Berechnung / Calculation</b>                                                                         | 1.0           |
| 2        | <b>Prüfung / Testing</b>                                                                                | 1.0           |
| 3        | <b>Betriebsmedien / Media of operation</b>                                                              | 1.0           |
| 4        | <b>Oberflächenschutz / Surface protection</b>                                                           | 1.1           |
| 5        | <b>Kennzeichnung / Marking of valve types</b>                                                           | 1.1 - 1.5     |
| 6        | <b>Einbaulage / Install position</b>                                                                    | 1.6 - 1.7     |
| 7        | <b>Anschlußarten / End connections</b>                                                                  | 1.8           |
| 8        | <b>Dichtheit, Wartung / Leakage, Maintenance</b>                                                        | 1.9 - 1.11    |
| 9        | <b>Dämpfungssysteme bei Rückschlagventilen /<br/>Damping system of check valves</b>                     | 1.12          |
| 10       | <b>Öffnungsdifferenzdrücke bei Rückschlagventilen /<br/>Opening difference pressure of check valves</b> | 1.12          |
| 11       | <b>Strömungstechnische Kennwerte /<br/>Flow fluidic parameters</b>                                      | 1.13 - 1.31   |
| 12       | <b>Schweißhinweise / Welding recommendation</b>                                                         | 1.32 - 1.33   |
| 13       | <b>Isolierdicken / Isolation thicknesses</b>                                                            | 1.34          |
| 14       | <b>Zulassungen und Zertifikate / Approval and certificates</b>                                          | 1.35          |

## 0. Allgemeines

Wichtige Hinweise zum  
 Einbau,  
 Bedienung,  
 Service (Ersatzteile)  
 von AWP - Produkten befinden in den  
 jeweiligen Betriebsvorschriften.

***Die detaillierten Betriebsvorschriften  
 können für jedes AWP - Produkt  
 angefordert werden.***

Eine Auswahl befindet sich im Anhang des  
 AWP - Produktkataloges.

## 1. Berechnung:

AWP - Ventile sind nach  
 AD - Regelwerk Reihe B berechnet.

## 2. Prüfung:

Die Prüfung erfolgt nach  
 EN 378 , EN 12284 , AD - Regelwerk.

Festigkeit: 1,43 x PS ( 100% )

Dichtheit : 1,0 x PS ( 100% )

Leckage : -Dichtheit nach außen  
           < 5g Kältemittel / a  
           -Dichtheit am Sitz  
           < 5g Kältemittel / a

## 3. Betriebsmedien:

-EN 378 Teil 1, DIN 8975 Teil 1  
 z. B. Ammoniak ( NH<sub>3</sub> ), R404, R507C,  
 R134a, Propan, Butan, CO<sub>2</sub>  
 -nicht korrodierend wirkende Gase  
 und Flüssigkeiten  
 -Kühlssole auf Glycol-Basis

## 0. instructions

Important instructions for  
 Installation,  
 Operating,  
 Service (spare parts)  
 for AWP - products are integrated in our  
 Operating instructions.

***These detailed Operating  
 instructions available for  
 every AWP - product.***

The appendix of the AWP - produkt catalog  
 contains a selection of Operating instructions.

## 1. calculation:

AWP - valves design acc. to  
 AD - instruction range B.

## 2. testing:

acc. to  
 EN 378 , EN 12284 , AD - instruction

strength : 1,43 x PS ( 100% )

tightness: 1,0 x PS ( 100% )

leakage : -outward < 5g refrigerant / a  
           -seat < 5g refrigerant / a

## 3. media of operation:

-EN 378 p.1, DIN 8975 p.1  
 e.g. ammonia ( NH<sub>3</sub> ), R404, R507C,  
 R134a, propane, butane, CO<sub>2</sub>  
 -non corrosive gases and liquids  
 -brine basing on glycol

#### **4. Oberflächenschutz:**

-Rostschutzgrundierung geeignet für alle Farbsysteme auf  
2 - Komponenten - Epoxydharz - Basis  
-andere Farbsysteme auf Anfrage  
-Für einen Langzeitkorrosionsschutz ist ein dauerhaftendes Anstrichsystem notwendig.

#### **4. surface protection:**

-anticorrosive paint suitable for all colour systems based on  
2 - components - epoxy resin  
-other colour systems upon request  
-For long-life protection further paint system necessary.

#### **5. Kennzeichnung der Ventiltypen:**

Die Kennzeichnung der Ventile erfolgt dauerhaft auf einem Typenschild.

#### **5. marking of valve types:**

The marking of the valves is durable fixed on a disc.

- **Absperrventile**

*AVR / AVB*

- **shut off valves**

*AVR / AVB*

- **Regelventile**

*HRAR / HRAB*

- **regulating valves**

*HRAR / HRAB*

- **Rückschlagventile**

*RV / RVA / RVAK / RVZ*

- **check valves**

*RV RVA / RVAK / RVZ*

- **Schmutzsammler**

*SS*

- **strainers**

*SS*

- **Schnellschlußventile**

*SSO*

- **quick - closing valves**

*SSO*

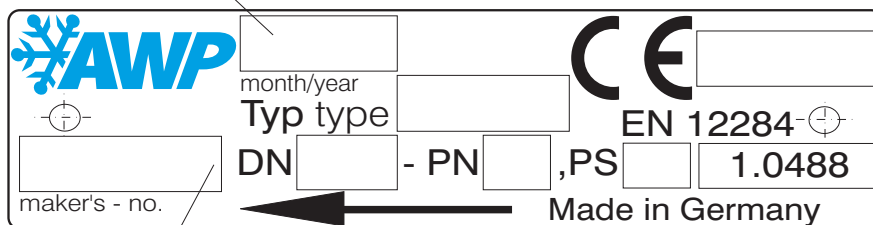
- **Überströmventile**

*UVA / UVU*

- **overflow valves**

*UVA / UVU*

Monat / Jahr der Herstellung



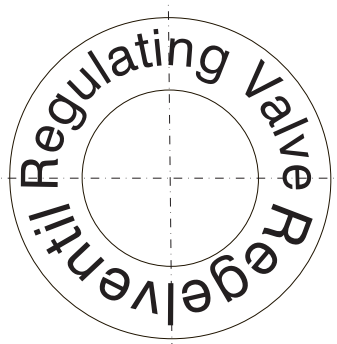
month/year  
Typ type  
DN - PN ,PS EN 12284  
1.0488  
maker's - no.  
Made in Germany

Herstellnummer

- PS [ bar ] - maximal zulässiger Betriebsüberdruck  
permissible working pressure
- PN [ -- ] - Nenndruckstufe als Kennzeichen gleicher Anschlußmaße bei gleicher DN  
level of nominal pressure as a characteristic for corresponding fitting dimensions and DN
- DN [ mm ] - Nennweite  
nominal diameter
- EN 12284 - Kältemittelarmaturen, Sicherheitstechnische Festlegungen, Prüfung, Kennzeichnung  
European Standard: refrigerant valves; requirements, testing, marking
- 1.0488 - Werkstoffkennzahl  
material characteristic number
- Typ / type - Ventil - Typ - Nummer  
valve - type - number
- CE - Kennzeichen der Konformität mit Richtlinie 97/23/EG ( Druckgeräte richtlinie )  
mark of conformity according code 97/23/EG ( code of pressure devices )

• **Zusatzschild für Regelventile**

• **additional lable for regulating valves**

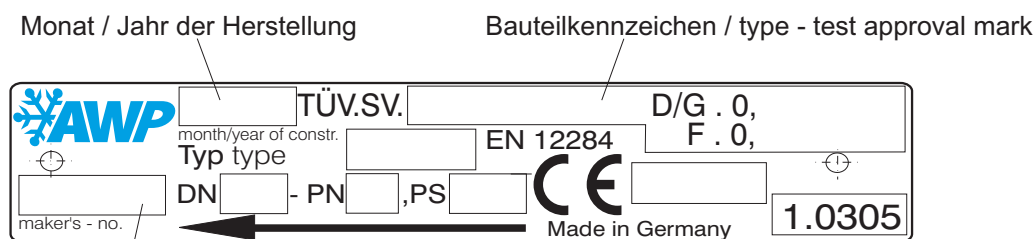


- **Sicherheitsventile SVU**  
gegendruckunabhängig

- **safety valves SVU**  
not depending on back pressure

- **Sicherheitsventile SVA**  
gegendruckabhängig

- **safety valves SVA**  
depending on back pressure



Herstellnummer

Bauteilkennzeichen

type - test approval mark

TÜV . SV . xx - xxx . xx . D/G/F . 0,xx . x

|  |                                                                                                                                                    |
|--|----------------------------------------------------------------------------------------------------------------------------------------------------|
|  | Sicherheitsventil / safety valve                                                                                                                   |
|  | Jahr der Bauteilprüfung / year of type - test approval                                                                                             |
|  | Bauteilprüfnummer / component test number                                                                                                          |
|  | engster Strömungsdurchmesser $d_o$<br>vor dem Ventilsitz in [mm] /<br>narrowest flow area diameter $d_o$ [mm]<br>in front of the valve seat        |
|  | D vorgesehen für Dampf / D represents steam<br>G vorgesehen für Gase / G represents gases<br>F vorgesehen für Flüssigkeiten / F represents liquids |
|  | zuerkannte Ausflußziffer $\alpha_d$ /<br>certified coefficient of discharge $\alpha_d$                                                             |
|  | Einstellüberdruck $p_e$ [bar] / excess test pressure $p_e$ [bar]                                                                                   |

PS [ bar ] - maximal zulässiger Betriebsüberdruck  
permissible working pressure

PN [ -- ] - Nenndruckstufe als Kennzeichen gleicher Anschlußmaße bei gleicher DN  
level of nominal pressure as a characteristic for corresponding fitting dimensions and DN

DN [ mm ] - Nennweite  
nominal diameter

EN 12284 - Kältemittelarmaturen, Sicherheitstechnische Festlegungen,  
Prüfung, Kennzeichnung  
European Standard: refrigerant valves; requirements, testing, marking

1.0305 - Werkstoffkennzahl  
material characteristic number

Typ / type - Ventil - Typ - Nummer  
valve - type - number

CE - Kennzeichen der Konformität mit Richtlinie 97/23/EG ( Druckgeräterichtlinie )  
mark of conformity according code 97/23/EG ( code of pressure devices )

• **Saugfilter**

SF

• **Filter - Trockner**

FT

• **Öl - Filter**

OF

• **suction filters**

SF

• **filter - driers**

FT

• **oil filters**

OF

|                                                                                   |  |                                       |  |                                |  |
|-----------------------------------------------------------------------------------|--|---------------------------------------|--|--------------------------------|--|
|  |  | <b>Kälte · Klima · Armaturen GmbH</b> |  | Prenzlau-Germany               |  |
| Typ<br>type                                                                       |  | <input type="text"/>                  |  | benannte<br>Stelle             |  |
| Herstellungs-Monat/Jahr<br>month/year of making                                   |  | <input type="text"/>                  |  | notified<br>body               |  |
| Gehäusewerkstoff<br>body material                                                 |  | <input type="text"/>                  |  | Rauminhalt [ Liter ]<br>volume |  |
| Betriebstemperatur<br>working temperature                                         |  | TB [ °C ]                             |  | -10 / +50                      |  |
| Betriebsüberdruck<br>working pressure                                             |  | PB [ bar ]                            |  | +                              |  |
| DN <input type="text"/> - PN <input type="text"/> , PS <input type="text"/>       |  | EN 12284                              |  | Herstell.-Nr.:<br>maker's.-no. |  |
| ←                                                                                 |  | Made in Germany                       |  |                                |  |

- PS [ bar ] - maximal zulässiger Betriebsüberdruck  
permissible working pressure
- TB ( MWT ) [ °C ] - dem Betriebsdruck zugeordnete Betriebstemperatur  
working temperature associated with PB ( MWT )
- PN [ -- ] - Nenndruckstufe als Kennzeichen gleicher Anschlußmaße  
bei gleicher DN  
level of nominal pressure as a characteristic for corresponding  
fitting dimensions and DN
- DN [ mm ] - Nennweite  
nominal diameter
- EN 12284 - Kältemittelarmaturen, Sicherheitstechnische Festlegungen,  
Prüfung, Kennzeichnung  
European Standard: refrigerant valves; requirements, testing, marking
- Rauminhalt [ Liter ] - Inhalt des Druckbehälters  
volume [ liter ] - volume of pressure vessel
- Typ / type - Ventil - Typ - Nummer  
valve - type - number
- CE - Kennzeichen der Konformität mit Richtlinie 97/23/EG ( Druckgeräte-richtlinie )  
mark of conformity according code 97/23/EG ( code of pressure devices )

## • Doppel Öl - Filter

DOF

AWP-Doppel-Öl-Filter werden auf Wunsch mit zusätzlichen Hinweisschildern ausgestattet, die z.B. Auskunft über die Handhabung der Absperrventile geben.

Erklärung

Spindeln der Absperrventile eines der beiden Filtergehäuse ragen weit aus dem Deckel heraus, d.h.

**Filter ist aktiv**

The stems of the shut off valves of one of the two filter casings protrude from the cover to a large extent, i.e.

**the filter is active.**

Spindeln der Absperrventile eines der beiden Filtergehäuse ragen nur mit dem Spindelvierkant aus dem Deckel heraus, d.h.

**Filter ist passiv**

The stems of the shut-off valves of one of the two filter casings protrude from the cover only with the square head, i.e.

**the filter is passive.**

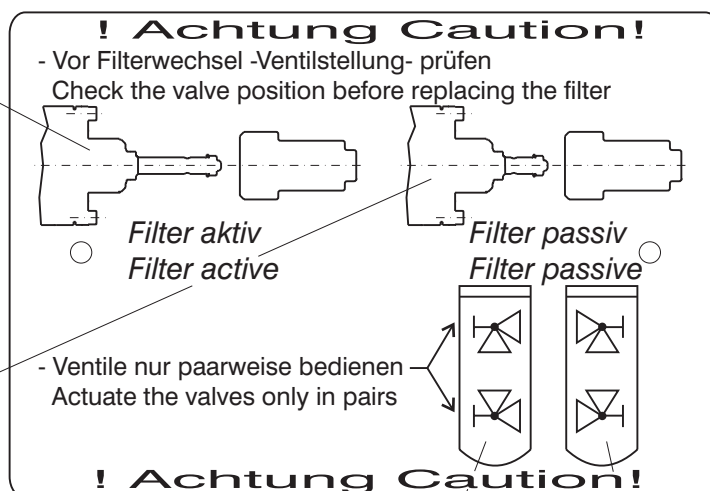
Der Doppel-Öl-Filter besteht aus 2 Filtergehäusen. Die Absperrventile auf einem der beiden Filtergehäuse sind ein Paar.

## • double oil filters

DOF

AWP-double-oil-filters can be equipped with additional indication labels with information about the handling of shut off valves.

explanation



Filtergehäuse 1  
filter casing 1

Filtergehäuse 2  
filter casing 2

The double-oil-filter consists of two filter casings. The shut-off valves on one of the two filter casings form a pair.

## 6. Einbaulage der Ventiltypen:

- **Absperrventile**  
AVR / AVB
- **Regelventile**  
HRAR / HRAB
- **Wechselventile**  
WVB
- **Schnellschlußventile**  
SSO
- **Filter - Trockner**  
FT
- beliebig
- **Rückschlagventile**  
RV, RVA, RVAK, RVZ
- beliebig  
-Bei Einbau in senkrechten Leitungen  
unbedingt Strömungsrichtung  
bei AWP bekannt geben!
- **Sicherheitsventile**  
SVA / SVU
- **Überströmventile**  
UVA / UVU
- **Wechsel - Sicherheits-  
ventil - Kombinationen**  
WVB / SVA, WVB / SVU
- senkrecht nach EN 378

## 6. install position valve types:

- **shut off valves**  
AVR / AVB
- **regulating valves**  
HRAR / HRAB
- **3 - way - valves**  
WVB
- **quick - closing valves**  
SSO
- **filter driers**  
FT
- in any position
- **check valves**  
RV, RVA, RVAK, RVZ
- in any position  
-At installation in vertical pipelines  
please contact AWP related  
to flow direction!
- **safety valves**  
SVA / SVU
- **overflow valves**  
UVA / UVU
- **dual safety - valve  
combinations**  
WVB / SVA, WVB / SVU
- vertical according to EN 378

- **Schmutzsammler**

SS

-waagrecht und senkrecht,  
Deckel nach unten zeigend

- **Saugfilter**

SF, SFR

-waagrecht

- **Öldruckreguliertventile**

ORV

- **Öl - Filter**

OF

- **Doppel Öl - Filter**

DOF

- **Temperaturregler**

TR

-waagrecht  
-senkrecht

- **strainers**

SS

-horizontal and vertical,  
cover downwards

- **suction filters**

SF, SFR

-horizontal

- **oil pressure control valves**

ORV

- **oil filters**

OF

- **double oil filters**

DOF

- **thermostatic 3 - way valves**

TR

-horizontal  
-vertical

## 7. Anschlußarten:

## 7. end connections:

|                                                                                                                                     |                                                                                   |
|-------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|
| Anschweißenden / welding ends<br>Flanschanschlüsse / flange connections<br>Schraubanschlüsse / screw ends<br>Lötenden / solder ends | nach DIN und ANSI / DIN and ANSI<br><br>andere auf Anfrage / further upon request |
|-------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|

→ Anschlußarten kombinierbar / connection combinations available

## 8. Dichtheit und Wartung:

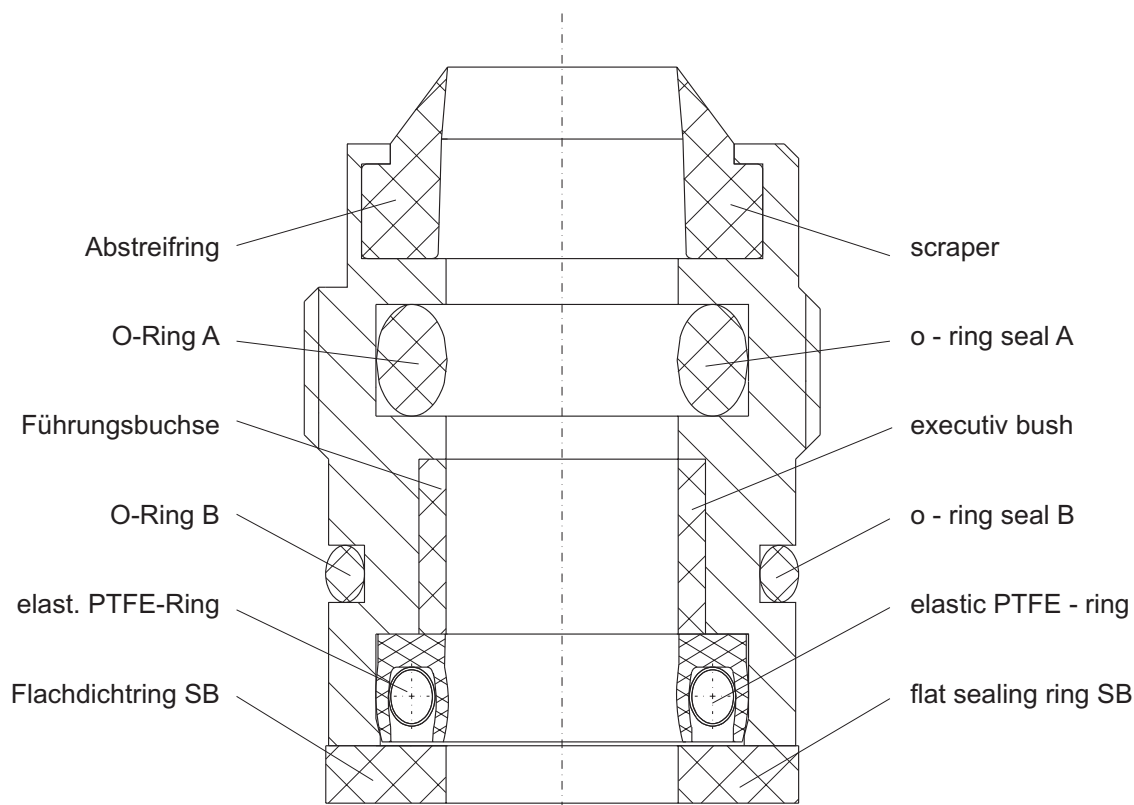
## 8. leakage and maintenance:

### 8.1 Dichtsystem Ventilspindel

### 8.1 seal system valve stem:

-Dichtsystem an der Spindel ist wartungsfrei  
-Primärdichtung ist ein federelastischer PTFE - Ring

-seal system on stem is maintenance - free  
-primary seal is a PTFE - ring spring - elastic



Schraubbuchse mit federelastischer Hochleistungsichtung aus hochbeanspruchbarem Kunststoff mit gewickelter Flachbandfeder aus chemiekalorien- und rostbeständigen Werkstoffen  
**- keine Stopfbuchse -**

screw bushing with spring-elastic high-performance sealing made of heavy-duty synthetic material with a flat spiral spring made of materials which are chemically resistant and rustproof  
**- glandless -**

Die Ventile haben eine PTFE - Rückdichtung. Dadurch ist ein Ausbau der Schraubbuchse und ein Wechseln der Dichtelemente beim Betrieb der Kälteanlage möglich.

The valves are equipped with a PTFE - back seal. Thereby a removing of the screw bush and a replacing of the sealing elements is possible at running plants.

## 8.2 Dichtsystem am Sitz

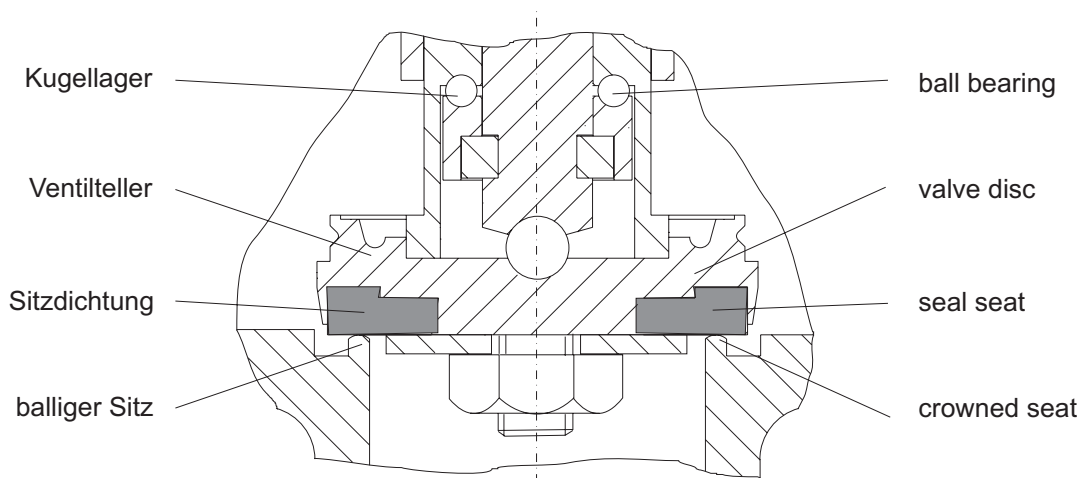
- Sitzdichtungen und Rückdichtungen sind aus PTFE
- Sicherheits - und Überströmventile können auch mit Elastomerdichtungen ausgerüstet werden.
- Kugellagerung zwischen Spindel und Ventilteller garantiert ein verschleißfreies, einwandfreies Abdichten
- geführter Ventilteller im Deckel garantiert in jeder Einbaulage dichtes Schließen der Ventile, auch bei vollem Differenzdruck und minimiert den Spindel verschleiß
- balliger Sitz reduziert Verschmutzungsgefahr

## 8.2 seal system seat

- seat seal and back seal based on PTFE
- safety valves and overflow valves could be equipped with seal of elastomere
- wear resistant seal by roller bearing at stem
- guided valve disc inside the cover guarantees dense sealing of the valves in every installation position even under full difference pressure and minimises wear of the stem
- crowned seat reduces risk of contamination

### Ausführung bis DN 250

### design to DN 250



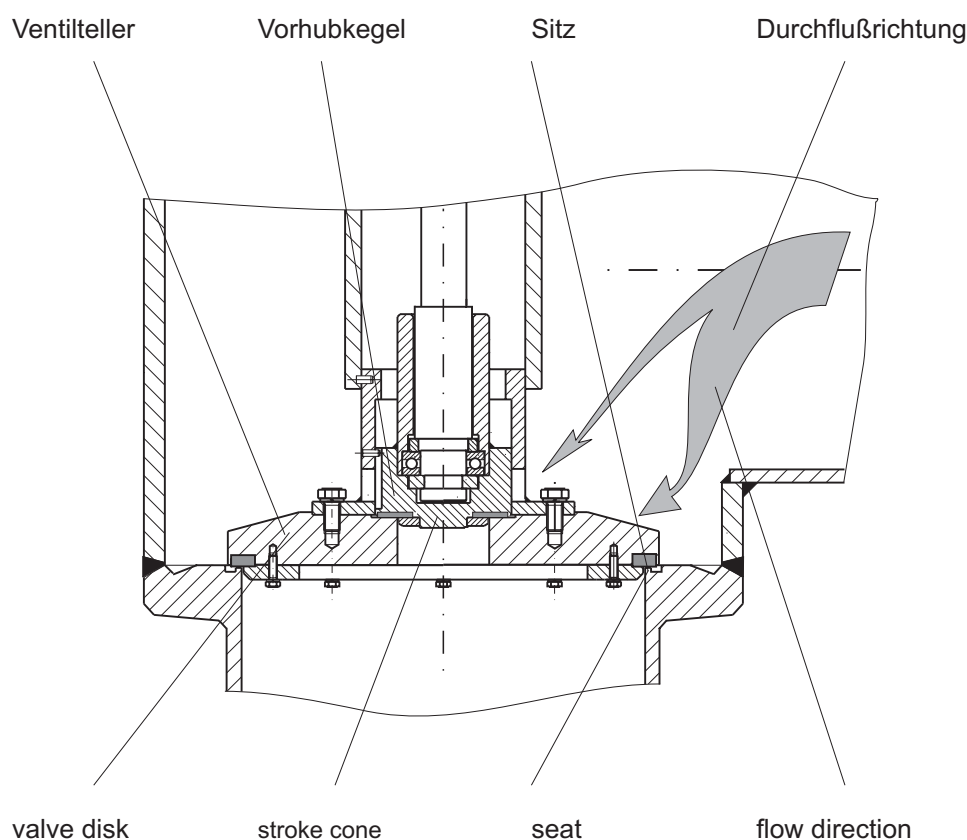
## Ausführung ab DN 300

AWP - Ventile sind ab DN 300 mit Vorhubkegel ausgerüstet. ( siehe **Bild 1** )  
Bei Einhaltung der Durchflußrichtung kann die Armatur auch bei höheren Differenzdrücken betätigt werden.

## design from DN 300

From DN 300 AWP - valves are equipped with stroke cone.  
( see **picture 1** )  
At constant flow direction the fitting can also be activated at higher difference pressures.

**Bild 1 / picture 1**



Bei DN 125 bis DN 400 legt die EN 12284 die zulässigen Schließdruckdifferenzen gemäß **Tabelle 1** fest.

-At DN 125 up to DN 400 permissible closing pressure differencees are fixed by EN 12284 acc. to **schedule 1**

**Tabelle 1 / table 1**

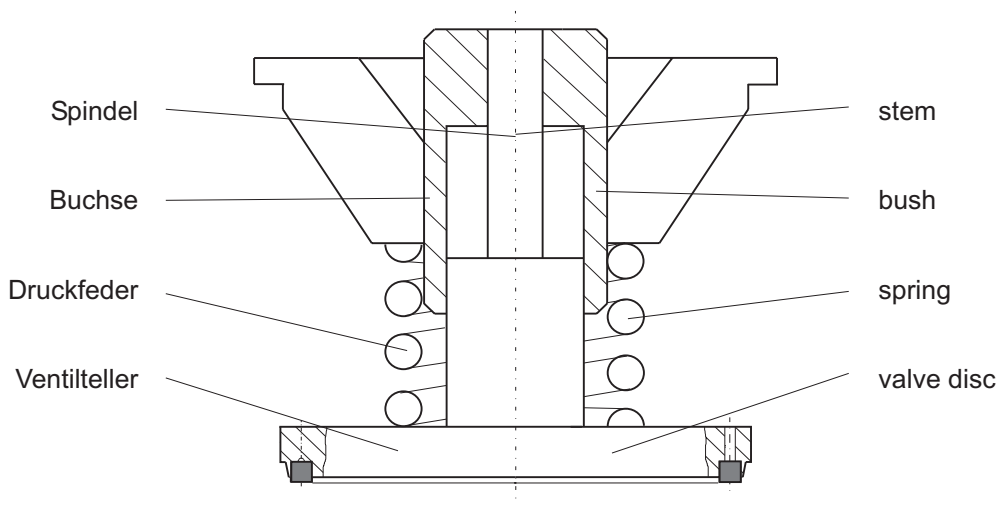
| DN                     | 125 | 150 | 200 | 250 | 300 | 350 | 400 |
|------------------------|-----|-----|-----|-----|-----|-----|-----|
| PN 25 $\Delta p$ [bar] | -   | 21  | 14  | 9   | 6   | 4,5 | 3,5 |
| PN 40 $\Delta p$ [bar] | 33  | 21  | 14  | 9   | 6   | 4,5 | 3,5 |

## 9. Dämpfungssysteme bei Rückschlagventilen :

Durch das Vorhandensein einer Dämpfungseinrichtung ist dieser Typ besonders für stark schwankenden Leistungsbedarf geeignet. Selbst bei geringsten Strömungsgeschwindigkeiten wird die Schwingungsneigung stark unterdrückt.

## 9. damping systems of check valves :

By virtue of a damping device, this type is especially suitable if the power requirement varies greatly. Even the lowest flow speed does not cause vibration of the valve disc.



## 10. Öffnungsdifferenz- drücke bei Rückschlagventilen:

Öffnungsbeginn 0,01.....0,05 [ bar ]

voll geöffnet 0,1.....0,2 [ bar ]

## 10. opening difference pressure of check valves:

opening pressure 0,01.....0,05 [ bar ]

completely open 0,1.....0,2 [ bar ]

## 11. Strömungstechnische Kennwerte:

### 11.1 Kvs - Werte [ m<sup>3</sup>/h ]

#### 11.1.1 Absperrventile AVR -elastischer PTFE - Ring-

Kvs - Werte auf Anfrage

#### 11.1.2 Absperrventile AVB -Metallbalg-

Kvs - Werte auf Anfrage

#### 11.1.3 Regelventile HRAR -elastischer PTFE-Ring-

Kvs - Werte auf Anfrage

## 11. flow fluidiced parameters:

### 11.1 Kvs - factor [ m<sup>3</sup>/h ]

#### 11.1.1 shut off valves AVR -elastic PTFE - ring-

Kvs - factor upon request

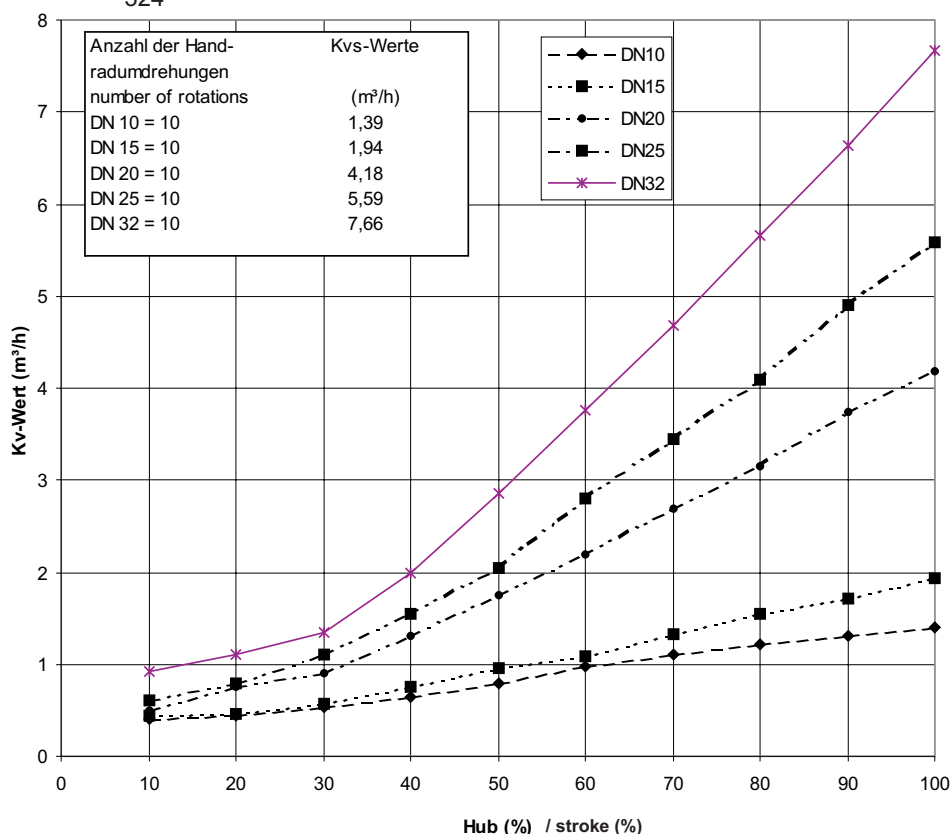
#### 11.1.2 shut off valves AVB -metal bellow-

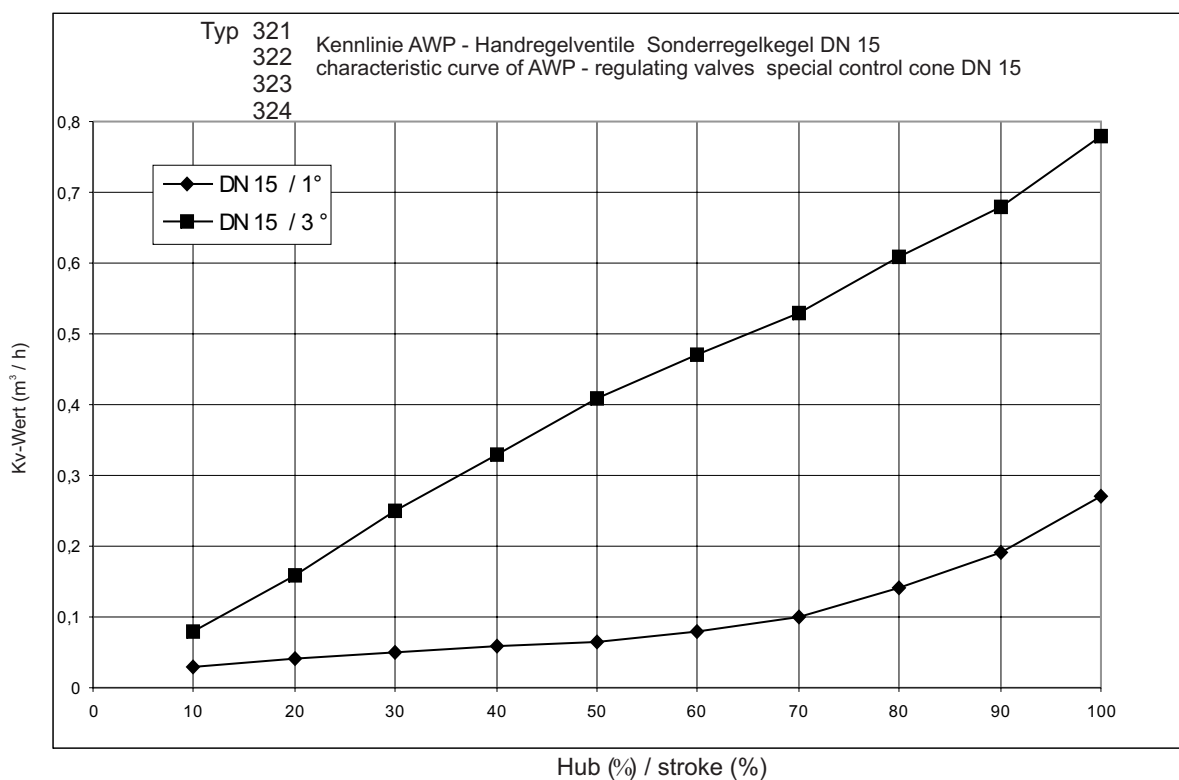
Kvs - factor upon request

#### 11.1.3 regulating valves HRAR -elastic PTFE-ring-

Kvs - factor upon request

Typ 321 Kennlinie AWP - Handregelventile (Standard-Regelkegel)  
 322 characteristic curve of AWP - regulating valves (standard-control cone)  
 323 DN 10 - 15 8°  
 324 DN 20 - 32 18°

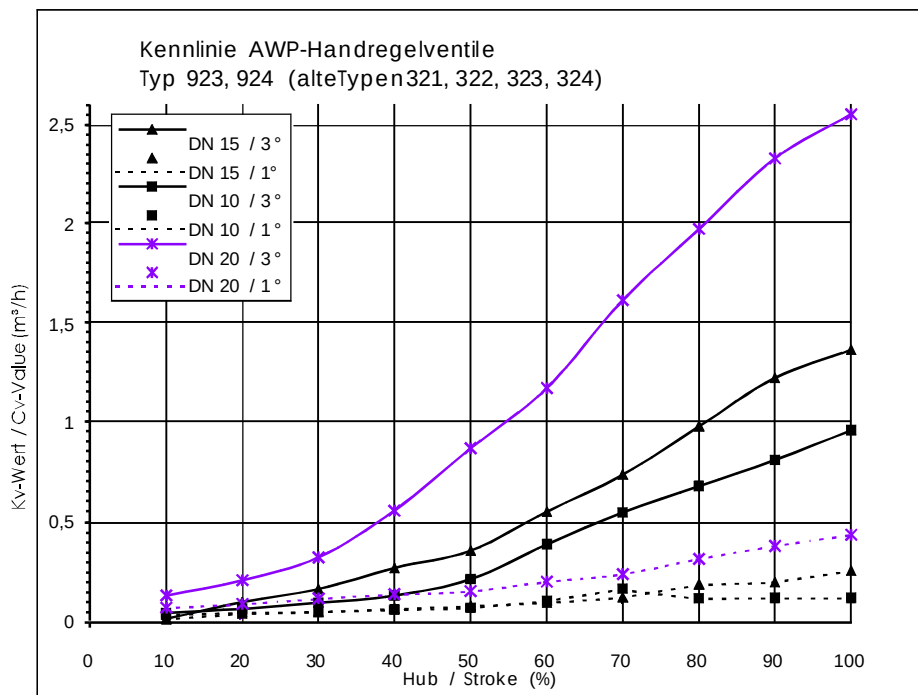
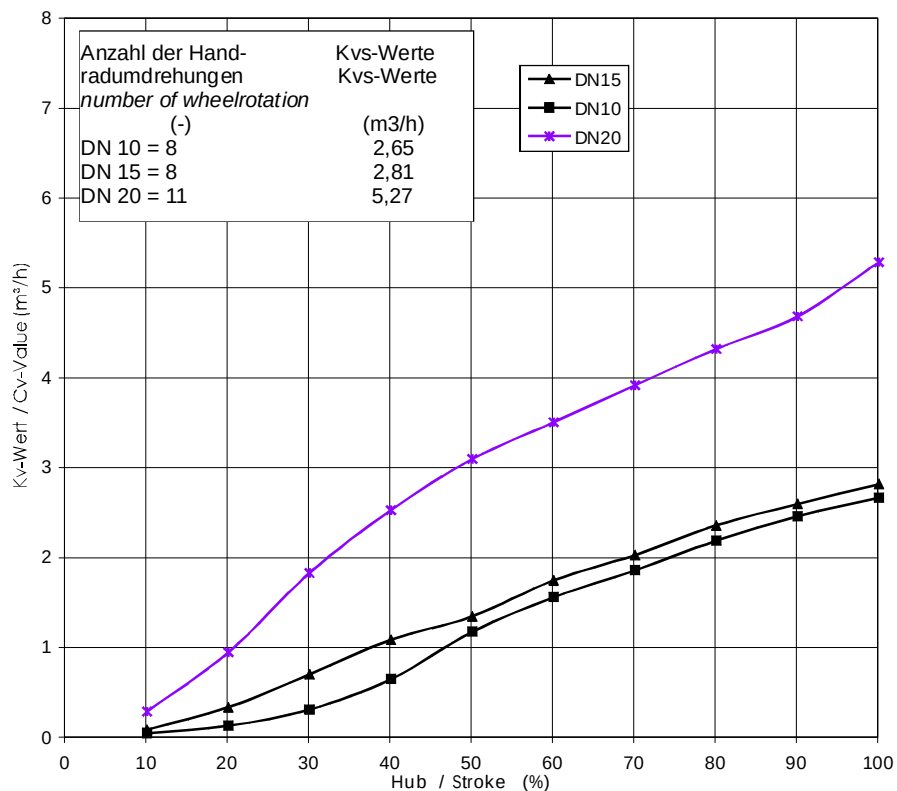




### Kennlinie AWP-Handregelventile (Standard-Regelkegel)

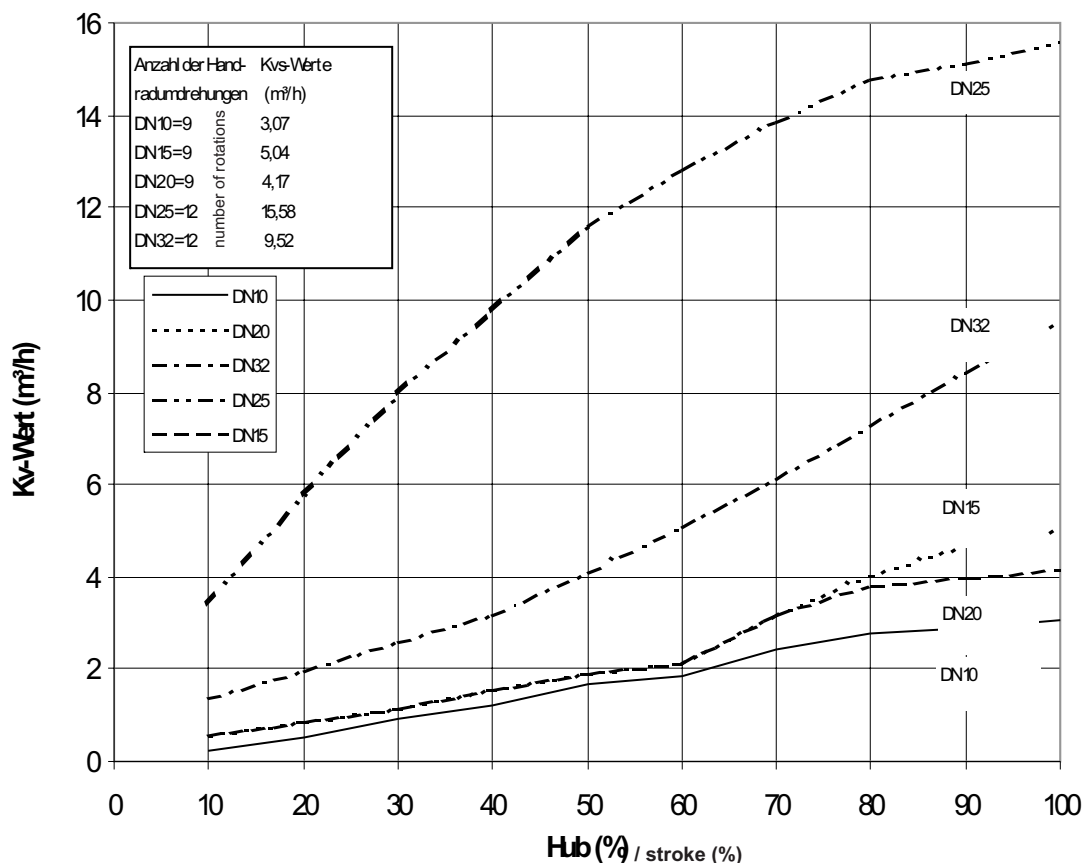
Typ 923, 924 (alte Typen 321, 322, 323, 324)

DN 10 - 15 - 20 8°



Typ 223  
224

Kennlinie AWP - Handregelventile (Standard-Regelkegel)  
characteristic curve of AWP - regulating valves (standard-control cone)



#### 11.1.4 Regelventile *HRAB* -Metallbalg-

Kvs - Werte auf Anfrage

#### 11.1.4 regulating valves *HRAB* -metal bellow-

Kvs - factor upon request

#### 11.1.5 Rückschlagventile *RV*

Kvs - Werte auf Anfrage

#### 11.1.5 check valves *RV*

Kvs - factor upon request

#### 11.1.6 Rückschlagventile *RVA* absperrrbar

Kvs - Werte auf Anfrage

#### 11.1.6 check valves *RVA* stop

Kvs - factor upon request

### 11.1.7 Rückschlagventile RVAK absperrrbar, mit Regelkegel

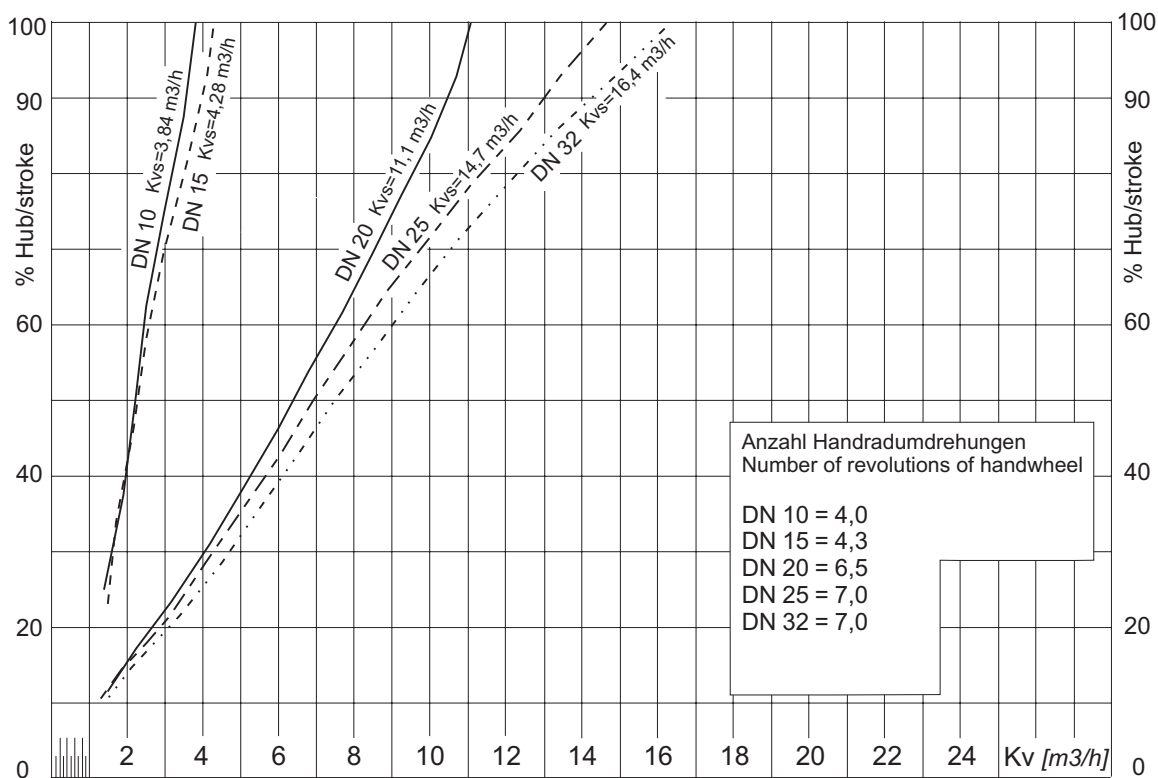
Kvs - Werte auf Anfrage

### 11.1.7 check valves RVAK stop, with control cone

Kvs - factor upon request

#### Kennlinien: (gemessen)

#### characteristics: (measured)



### **11.1.8 Rückschlagventile** in Klemmausführung *RVZ*

Kvs - Werte auf Anfrage

### **11.1.8 check valves** with clamp construction *RVZ*

Kvs - factor upon request

### **11.1.9 Wechselventile** *WVB*

Kvs - Werte auf Anfrage

### **11.1.9 3 - way - valves** *WVB*

Kvs - factor upon request

### **11.1.10 Schmutzsammler** *SS*

Kvs - Werte auf Anfrage

### **11.1.10 strainer** *SS*

Kvs - factor upon request

### **11.1.11 Saugfilterkombination**

Schmutzsammler  
 mit angeschweißtem,  
 absperbarem  
 Rückschlagventil  
*SS / RVA*

Kvs - Werte auf Anfrage

### **11.1.11 suction filter combination**

strainer  
 with welded  
 check valve stop  
*SS / RVA*

Kvs - factor upon request

### **11.1.12 Saugfilterkombination**

Schmutzsammler  
 mit angeflanschem  
 Zwischenflansch-  
 rückschlagventil  
 und Absperrventil  
*SS / RVZ / AVR*

Kvs - Werte auf Anfrage

### **11.1.12 suction filter combination**

strainer  
 with flanged  
 check valve clamp  
 and  
 shut off valve  
*SS / RVZ / AVR*

Kvs - factor upon request

### **11.1.13 Saugfilter** *SF*

Kvs - Werte auf Anfrage

### **11.1.13 suction filters** *SF*

Kvs - factor upon request

#### **11.1.14 Saugfilter**

mit integriertem  
 Rückschlagventil  
*SFR*

Kvs - Werte auf Anfrage

#### **11.1.14 suction filters**

equipped with  
 check valve  
*SFR*

Kvs - factor upon request

#### **11.1.15 Saugfilterkombination**

Saugfilter  
 mit integriertem  
 Rückschlagventil und  
 angeflanschem  
 Absperrventil  
*SFR / AVR*

Kvs - Werte auf Anfrage

#### **11.1.15 suction filter combination**

suction filter  
 with integrated  
 check valve and  
 flanged  
 shut off valve  
*SFR / AVR*

Kvs - factor upon request

#### **11.1.16 Saugfilterkombination**

Saugfilter  
 mit angeflanschem  
 Zwischenflansch-  
 rückschlagventil  
 und Absperrventil  
*SF / RVZ / AVR*

Kvs - Werte auf Anfrage

#### **11.1.16 suction filter combination**

suction filter  
 with flanged  
 check valve clamp  
 and  
 shut off valve  
*SF / RVZ / AVR*

Kvs - factor upon request

## 11.2 Ausflußziffer $\alpha_w$ ( $K_{dr}$ ):

## 11.2 outflow numeral $\alpha_w$ ( $K_{dr}$ ):

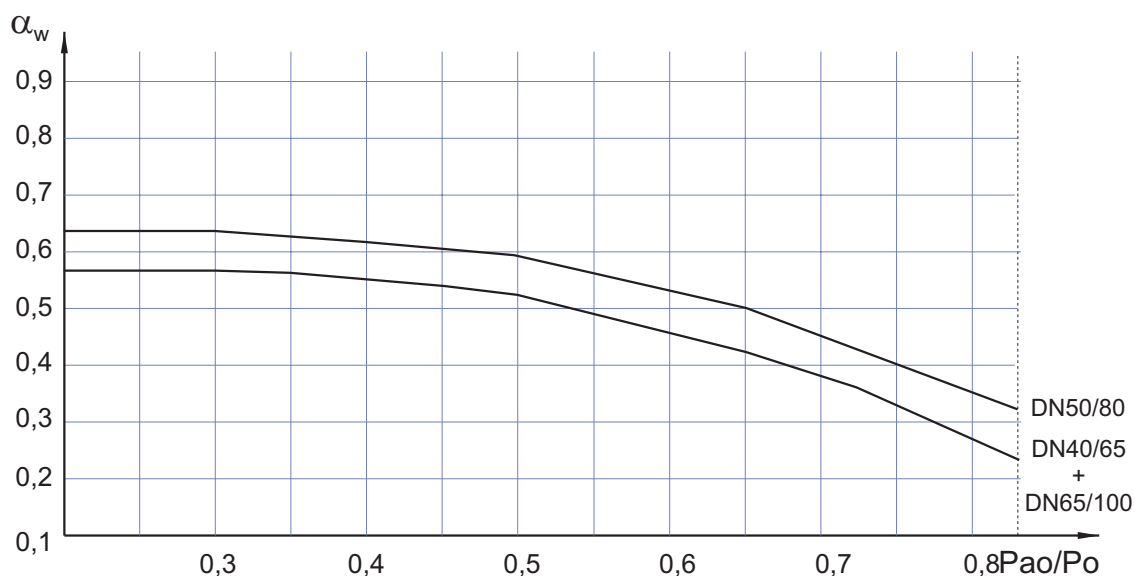
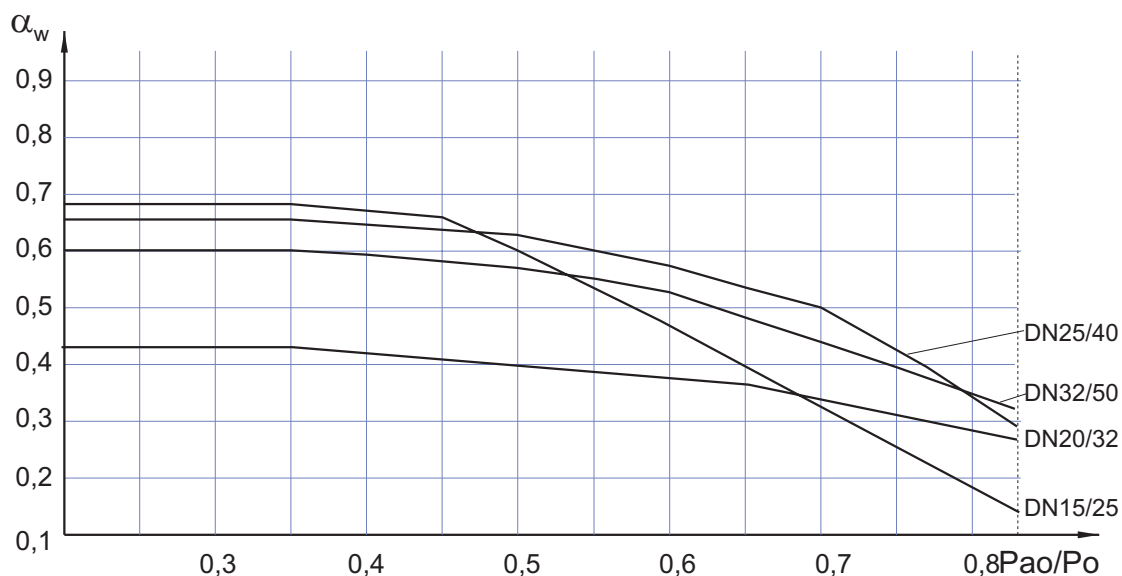
**11.2.1 Sicherheitsventile** *SVU*  
( Vollhubcharakteristik )  
gedrucktunabhängig  
- bauteilgeprüft -

**11.2.1 safety valves** *SVU*  
( full - lifting )  
not depending on back pressure  
- type tested -

| <b>DN 1 / 2</b>                                                                                                                    | <b>15/25</b> | <b>20/32</b> | <b>25/40</b> | <b>32/50</b> | <b>40/65</b> | <b>50/80</b> | <b>65/100</b> |
|------------------------------------------------------------------------------------------------------------------------------------|--------------|--------------|--------------|--------------|--------------|--------------|---------------|
| zuerkannte Ausflußziffer<br>certified coefficient of discharge<br>für Dampf / Gas $\alpha_w$ ( $K_{dr}$ ) [ - ]<br>for steam / gas | 0,68         | 0,42         | 0,66         | 0,60         | 0,67         | 0,71         | 0,68          |
| für Flüssigkeit / $\alpha_w$ ( $K_{dr}$ ) [ - ]<br>for liquid                                                                      | 0,51         |              |              |              |              |              |               |
| engster Strömungsquerschnitt<br>narrowest flow area diameter [mm <sup>2</sup> ]                                                    | 117          | 206          | 320          | 460          | 716          | 1385         | 2942          |
| Einstelldruck<br>test pressure $p_e$ [bar]<br>Abweichung/difference +3%, -1%                                                       | 9 - 25       | 9 - 25       | 9 - 25       | 7 - 25       | 7 - 25       | 8 - 25       | 9 - 25        |

**Abhängigkeit der zuerkannten  
Ausflußziffer [ $\alpha_w$  (  $K_{dr}$  )]  
vom absoluten  
Gegendruckverhältnis [ $P_{ao}/P_o$ ]  
für Dämpfe und Gase**

**dependence of certified  
coefficient  
of discharge [ $\alpha_w$  (  $K_{dr}$  )]  
from absolute back pressure  
ratio [ $P_{ao}/P_o$ ]  
for steam and gas**



$P_{ao}$  - Gegendruck [bar abs.]  
 $P_o$  - Ansprechdruck [bar abs.]

$P_{ao}$  - back pressure [bar abs.]  
 $P_o$  - set pressure [bar abs.]

! Bei Verhältnissen  $P_{ao}/P_o > 0,833$  ist  
Rücksprache mit **AWP** zu nehmen !

! Ratio  $P_{ao}/P_o > 0,833$   
contact **AWP**, please !

## 11.2.2 Sicherheitsventile

SVU

( Normalcharakteristik )  
gegendruckunabhängig  
- bauteilgeprüft -

## 11.2.2 safety valves

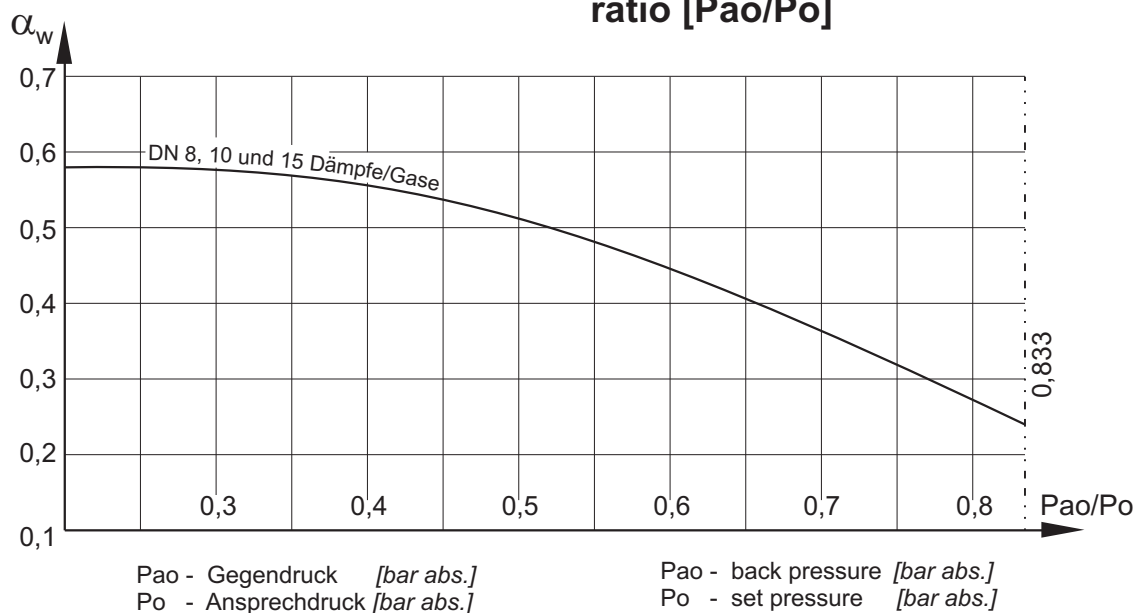
SVU

( normal - lifting )  
not depending on  
back pressure  
- type tested -

| DN 1 / 2                                                                                  | 8/10   | 10/10  | 15/15  |
|-------------------------------------------------------------------------------------------|--------|--------|--------|
| zuerkannte Ausflußziffer<br>certified coefficient of discharge<br>$\alpha_w (K_{dr}) [-]$ | 0,57   | 0,57   | 0,57   |
| engster Strömungsquerschnitt<br>narrowest flow area diameter $[mm^2]$                     | 78     | 78     | 78     |
| Einstelldruck<br>test pressure $p_e [bar]$<br>Abweichung/difference +3%, -1%              | 5 - 40 | 5 - 40 | 5 - 40 |

**Abhängigkeit der zuerkannten  
Ausflußziffer  $[\alpha_w (K_{dr})]$   
vom absoluten  
Gegendruckverhältnis  $[P_{ao}/P_o]$**

**dependence of certified  
coefficient  
of discharge  $[\alpha_w (K_{dr})]$   
from absolute back pressure  
ratio  $[P_{ao}/P_o]$**



! Bei Verhältnissen  $P_{ao}/P_o > 0,833$  ist  
Rücksprache mit **AWP** zu nehmen !

! Ratio  $P_{ao}/P_o > 0,833$   
contact **AWP**, please !

### 11.2.3 Sicherheitsventile

( Normalcharakteristik )  
gegendruckabhängig  
- bauteilgeprüft -

SVA

### 11.2.3 safety valves

SVA

( normal - lifting )  
depending on back pressure  
- type tested -

| DN 1 / 2                                                                                      | 10/20 | 15/20 | 15/25 | 20/25 | 25/40 | 32/40 | 40/65 | 50/65 |
|-----------------------------------------------------------------------------------------------|-------|-------|-------|-------|-------|-------|-------|-------|
| zuerkannte Ausflußziffer<br>certified coefficient of discharge<br>$\alpha_w ( K_{dr} ) [ - ]$ | 0,42  | 0,20  | 0,33  | 0,23  | 0,24  | 0,17  | 0,35  | 0,36  |
| engster Strömungsquerschnitt<br>narrowest flow area diameter $[ mm^2 ]$                       | 78    | 177   | 177   | 314   | 491   | 707   | 716   | 919   |
| Einstelldruck<br>test pressure $p_e [ bar ]$<br>Abweichung/difference +3%, -1%                | 5-28  | 5-28  | 5-28  | 5-28  | 5-28  | 5-28  | 4-25  | 4-25  |

### 11.2.4 Überströmventile

gegendruckunabhängig

UVU

### 11.2.4 overflow valves

UVU

not depending  
on back pressure

| DN 1 / 2                                                                                                                             | 10/20        | 15/20        | 15/25        |
|--------------------------------------------------------------------------------------------------------------------------------------|--------------|--------------|--------------|
| zuerkannte Ausflußziffer<br>certified coefficient of discharge<br>$\alpha_w ( K_{dr} ) [ - ]$<br>Gas<br>gas<br>Flüssigkeit<br>liquid | 0,57<br>0,32 | 0,57<br>0,32 | 0,57<br>0,32 |
| engster Strömungsquerschnitt<br>narrowest flow area diameter $[ mm^2 ]$                                                              | 78           | 78           | 78           |
| Einstelldruck<br>test pressure $p_e [ bar ]$<br>Abweichung/difference +3%, -1%                                                       | 5 - 40       | 5 - 40       | 5 - 40       |

! Innerhalb des Druckbereiches der eingebauten Feder sind Nachstellungen des Einstelldruckes möglich !  
! The test pressure can be adjusted within the pressure range of the installed spring.

## 11.2.5 Überströmventile

UVA

gedruckabhängig

## 11.2.5 overflow valves

UVA

depending on back pressure

### Typen 411, 412, 413, 414

### types 411, 412, 413, 414

|                                                                                     |                     |                |    |     |     |     |     |      |     |     |     |     |     |
|-------------------------------------------------------------------------------------|---------------------|----------------|----|-----|-----|-----|-----|------|-----|-----|-----|-----|-----|
| mit Anschweißenden und Flansche<br>with welding ends and flanges                    | DN                  | 10             |    | 15  | 20  | 25  | 32  |      |     |     |     |     |     |
|                                                                                     | [ mm <sup>2</sup> ] | Reihe /range 1 |    | 145 | 235 | 390 | 638 | 1087 |     |     |     |     |     |
|                                                                                     |                     | Reihe /range 2 |    | 79  | 177 | 314 | 491 | 707  |     |     |     |     |     |
| mit Schraubenden<br>with screw ends                                                 | DN                  | 6              |    | 8   | 10  |     | 15  | 20   |     |     |     |     |     |
|                                                                                     | [ mm <sup>2</sup> ] | 40             |    | 77  | 145 |     | 235 | 390  |     |     |     |     |     |
|                                                                                     |                     |                |    |     |     |     |     |      |     |     |     |     |     |
| mit Schneidringverschraubung<br>with screw connection<br>by means of a cutting ring | RAØ                 | 6              | 8  | 10  | 12  | 14  | 15  | 16   | 18  | 20  | 22  | 25  | 28  |
|                                                                                     | [ mm <sup>2</sup> ] | 7              | 20 | 38  | 50  | 64  | 95  | 95   | 154 | 154 | 227 | 227 | 380 |
|                                                                                     |                     |                |    |     |     |     |     |      |     |     |     |     |     |
| mit Lötenden<br>with solder ends                                                    | RAØ                 | 12             |    | 15  | 18  | 21  |     | 22   | 28  |     | 35  |     |     |
|                                                                                     | [ mm <sup>2</sup> ] | 79             |    | 133 | 201 | 284 |     | 314  | 491 |     | 804 |     |     |
|                                                                                     |                     |                |    |     |     |     |     |      |     |     |     |     |     |

! Innerhalb des Druckbereiches der eingebauten Feder sind Nachstellungen des Einstelldruckes möglich.  
! The test pressure can be adjusted within the pressure range of the installed spring.

## 11.2.6 Öldruckreguliertventile

ORV

## 11.2.6 oil pressure control valves

ORV

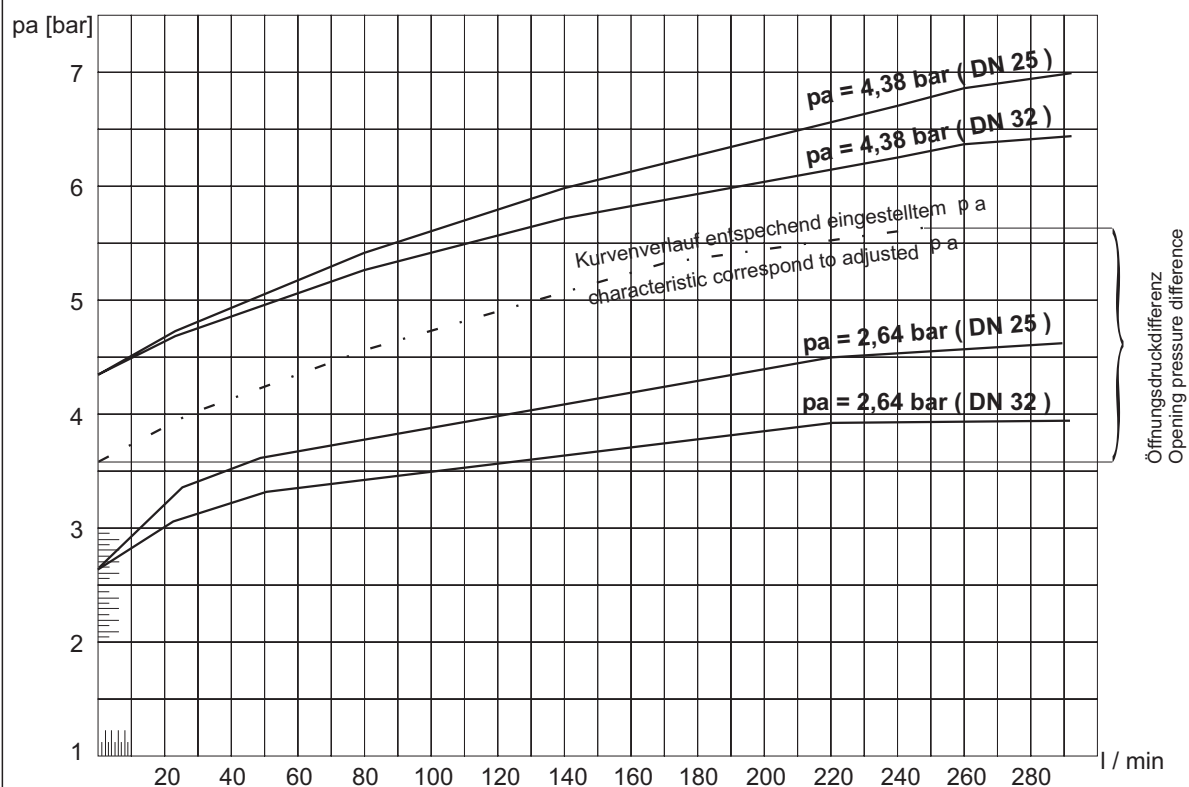
|                                                                                 |         |        |
|---------------------------------------------------------------------------------|---------|--------|
| DN                                                                              | 25      | 32     |
| engster Strömungsquerschnitt<br>narrowest flow area diameter [mm <sup>2</sup> ] | 491     | 707    |
| einstellbarer Ansprechdruck<br>adjustment set pressure pa [bar]                 | 2 bis 6 | 2 to 6 |

## gemessen:

Ölpumpe: 200 l/min  
 Öltemperatur: +20°C ±7K  
 Ölsorte: XK 57 mit R22

## measured:

oil pump: 200 l/min  
 oil temperature: +20°C ±7K  
 oil type: XK 57 with R22



### 11.3 Federdruckintervalle:

### 11.3 spring pressure intervals:

#### 11.3.1 Sicherheitsventile SVU ( Vollhubcharakteristik ) gedrucktunabhängig

#### 11.3.1 safety valves SVU ( full - lifting ) not depending on back pressure

| DN | Federdruckintervalle [ bar ] / spring pressure intervals [ bar ] |       |       |       |       |       |       |       |       |       |       |       |       |       |    |
|----|------------------------------------------------------------------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|----|
| 15 | 9-10                                                             | 10-12 | 12-13 | 13-14 | 14-15 | 15-17 | 17-18 | 18-21 | 21-24 | 24-26 | 26-28 |       |       |       |    |
| 20 | 9                                                                | 10    | 12    | 13    | 14    | 15    | 16    | 18    | 19    | 20    | 21    | 22    | 23    | 25    | 26 |
| 25 | 9-11                                                             | 11-13 | 13-14 | 14-16 | 16-19 | 19-20 | 20-22 | 22-25 | 25-28 |       |       |       |       |       |    |
| 32 | 7-8                                                              | 8-9   | 9-10  | 10-11 | 11-13 | 13-14 | 14-16 | 16-18 | 18-19 | 19-22 | 22-26 |       |       |       |    |
| 40 | 7-8                                                              | 8-9   | 9-10  | 10-11 | 11-12 | 12-13 | 13-15 | 15-16 | 16-18 | 18-19 | 19-21 | 21-23 | 23-25 | 25-28 |    |
| 50 | 8-9                                                              | 8-9   | 9-10  | 11-12 | 13-15 | 16-18 | 18-22 | 22-25 |       |       |       |       |       |       |    |
| 65 | 9-10                                                             | 10-12 | 12-14 | 14-16 | 16-17 | 17-20 | 20-21 | 21-25 |       |       |       |       |       |       |    |

#### 11.3.2 Sicherheitsventile SVU ( Normalcharakteristik ) gedrucktunabhängig

#### 11.3.2 safety valves SVU ( normal - lifting ) not depending on back pressure

| DN                           | Federdruckintervalle [ bar ] / spring pressure intervals [ bar ] |        |         |         |
|------------------------------|------------------------------------------------------------------|--------|---------|---------|
| 8 / 10<br>10 / 10<br>15 / 15 | 5 - 8                                                            | 8 - 12 | 12 - 20 | 20 - 28 |

#### 11.3.3 Sicherheitsventile SVA ( Normalcharakteristik ) gedrucktunabhängig

#### 11.3.3 safety valves SVA ( normal - lifting ) depending on back pressure

| DN | Federdruckintervalle [ bar ] / spring pressure intervals [ bar ] |      |       |       |       |       |       |       |
|----|------------------------------------------------------------------|------|-------|-------|-------|-------|-------|-------|
| 10 | 5-8                                                              | 8-12 | 12-16 | 16-23 | 23-25 |       |       |       |
| 15 | 5-8                                                              | 8-12 | 12-16 | 16-23 |       |       |       |       |
| 20 | 5-8                                                              | 8-12 | 12-16 | 16-23 |       |       |       |       |
| 25 | 4-8                                                              | 8-12 | 12-18 | 18-25 |       |       |       |       |
| 32 | 4-8                                                              | 8-12 | 12-18 | 18-25 |       |       |       |       |
| 40 | 4-5                                                              | 5-6  | 6-7   | 7-9   | 9-12  | 12-16 | 16-21 | 22-25 |
| 50 | 4-5                                                              | 5-6  | 6-7   | 7-9   | 9-12  | 12-16 | 16-21 | 22-25 |

### 11.3.4 Überströmventile *UVU* gegendruckunabhängig

### 11.3.4 overflow valves *UVU* not depending on back pressure

| DN                           | Federdruckintervalle [ bar ] / spring pressure intervals [ bar ] |        |         |         |
|------------------------------|------------------------------------------------------------------|--------|---------|---------|
| 8 / 10<br>10 / 10<br>15 / 15 | 5 - 8                                                            | 8 - 12 | 12 - 20 | 20 - 28 |

### 11.3.5 Überströmventile *UVA* gegendruckabhängig

### 11.3.5 overflow valves *UVA* depending on back pressure

| DN      | Federdruckintervalle [ bar ] / spring pressure intervals [ bar ] |     |      |       |       |       |
|---------|------------------------------------------------------------------|-----|------|-------|-------|-------|
| 10 - 15 | 1-2                                                              | 2-5 | 5-8  | 8-14  | 14-20 | 20-25 |
| 20 - 32 | 1-2                                                              | 2-5 | 5-10 | 10-16 | 16-20 | 20-25 |

## 11.4 Kennwerte für Filter:

## 11.4 characteristics of filters:

### 11.4.1 Filter - Trockner FT

### 11.4.1 filter driers FT

- Freone -

- frigene -

| DN                                                                                                                     | 25                                                                                                                          | 32                | 40                | 50                | 50                | 65                |
|------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------|-------------------|-------------------|-------------------|-------------------|-------------------|
| Typ type                                                                                                               | 567 01                                                                                                                      | 567 02            | 567 03            | 567 03            | 567 04            | 567 04            |
| Anzahl und Typ Filterblöcke<br>quantity and type filter blocks                                                         | 1<br>760 (H48)                                                                                                              | 2<br>760 (H48)    | 3<br>760 (H48)    | 3<br>1480 (H100)  | 4<br>760 (H48)    | 4<br>1480 (H100)  |
| Durchflußleistung<br>bei $\Delta p=0,14\text{bar}$ [ l / min ]<br>flow rate at $\Delta p=0,14\text{bar}$               | 50                                                                                                                          | 80                | 115               | 180               | 210               | 330               |
| Wasseraufnahmefähigkeit<br>bei + 25°C für [ g ]<br>water absorption capacity<br>at + 25°C for                          | R 12 60<br>R 22 50<br>R 502 53                                                                                              | 120<br>100<br>106 | 180<br>150<br>159 | 240<br>200<br>212 | 300<br>252<br>267 | 400<br>336<br>356 |
| Kältemittel Trocknungsmenge<br>bei + 25°C für [ kg ]<br>drying volume of cooling agent<br>at + 25°C for                |                                                                                                                             |                   |                   |                   |                   |                   |
| vor Trocknung nach<br>before drying after<br>[ ppm ] [ ppm ]                                                           |                                                                                                                             |                   |                   |                   |                   |                   |
| 565 R 12 15                                                                                                            | 105                                                                                                                         | 215               | 325               | 435               | 545               | 727               |
| 1050 R 22 60                                                                                                           | 50                                                                                                                          | 100               | 150               | 200               | 255               | 340               |
| 1020 R 502 30                                                                                                          | 55                                                                                                                          | 105               | 160               | 215               | 270               | 360               |
| Leistungsempfehlung für<br>Tieftemperatur-<br>Normaltemperatur-und<br>Klima-Kälte-Anlagen mit<br>separaten Verdichtern | power recommendation for<br>low temperature<br>standard temperature<br>air-conditioning plants with<br>separate compressors |                   |                   |                   |                   |                   |
| [ kW ] R 12                                                                                                            | 64                                                                                                                          | 97                | 143               | 215               | 244               | 371               |
| R 22                                                                                                                   | 88                                                                                                                          | 133               | 197               | 290               | 348               | 545               |
| R 502                                                                                                                  | 58                                                                                                                          | 85                | 124               | 180               | 220               | 348               |
| Klima-Kälte-Anlagen mit<br>werkseitig eingebautem<br>Verdichter                                                        | air-conditioning plants with<br>compressors installed<br>the manufacturer                                                   |                   |                   |                   |                   |                   |
| [ kW ] R 12                                                                                                            | 85                                                                                                                          | 128               | 191               | 290               | 336               | 510               |
| R 22                                                                                                                   | 113                                                                                                                         | 174               | 255               | 383               | 452               | 696               |
| R 502                                                                                                                  | 75                                                                                                                          | 116               | 168               | 244               | 302               | 464               |

### 11.4.2 Ölfilter *OF* mit Magneten

### 11.4.2 oil filter *OF* with magnets

|                                            | DN 25 - 50                                                                 | DN 65 - 80           |
|--------------------------------------------|----------------------------------------------------------------------------|----------------------|
| Typ / type                                 | EPE - A90 x 42,1 / 128                                                     | EPE - 160 x 94 / 250 |
| Feinheit / fineness<br>[µm]                | G 25                                                                       | G 25                 |
| Oberfläche / surface<br>[cm <sup>2</sup> ] | ca. 4000                                                                   | ca. 9000             |
| Ölviskosität / oil viscosity<br>[Cst]      | Volumenstrom / volume flow [ l / min ]<br>bei / at $\Delta p \leq 0,1$ bar |                      |
| 30                                         | 260                                                                        | 650                  |
| 80                                         | 220                                                                        | 530                  |
| 150                                        | 190                                                                        | 420                  |
| 200                                        | 160                                                                        | 370                  |
| 300                                        | 130                                                                        | 300                  |
| 500                                        | 90                                                                         | 220                  |

### 11.4.3 Doppelölfilter *DOF*

### 11.4.3 double oil filter *DOF*

|                                            | DN 25<br>DN 32                                                                                 | DN 40<br>DN 50 | DN 50<br>DN 65 | DN 65<br>DN 80 | DN 80     |
|--------------------------------------------|------------------------------------------------------------------------------------------------|----------------|----------------|----------------|-----------|
| Filter-Typ / filter type                   | EPE 361                                                                                        | EPE 561        | EPE 901        | EPE 1401       | EPE 1801  |
| Feinheit / fineness<br>[µm]                | P 15                                                                                           | P 15           | P 15           | P 15           | P 15      |
| Oberfläche / surface<br>[cm <sup>2</sup> ] | ca. 3600                                                                                       | ca. 7280       | ca. 11700      | ca. 11700      | ca. 15780 |
| Ölviskosität / oil viscosity<br>[Cst]      | Volumenstrom / volume flow [ l / min ]<br>bei / at $\Delta p \leq 0,1$ bar<br>Medium ISO VG 46 |                |                |                |           |
| 30                                         | 138                                                                                            | 280            | 470            | 470            | 640       |
| 80                                         | 52                                                                                             | 105            | 176            | 176            | 240       |
| 150                                        | 27                                                                                             | 55             | 92             | 92             | 130       |
| 200                                        | 21                                                                                             | 42             | 70             | 70             | 93        |
| 300                                        | 14                                                                                             | 27             | 46             | 46             | 62        |
| 500                                        | 8                                                                                              | 17             | 27             | 27             | 36        |

## 11.5 Kennwerte für Temperaturregler *TR*

## 11.5 characteristics of thermostatic 3 - way valves *TR*

| Temperaturintervalle<br>temperature range | Nenntemperatur<br>nominal temperature | Temperaturintervalle<br>temperature range | Nenntemperatur<br>nominal temperature |
|-------------------------------------------|---------------------------------------|-------------------------------------------|---------------------------------------|
| DN 20 - DN 40<br>in °C                    | DN 20 - DN 40<br>in °C                | DN 50<br>in °C                            | DN 50<br>in °C                        |
| 26 - 34                                   | 30                                    | 8 - 20                                    | 13                                    |
| 30 - 40                                   | 35                                    | 10 - 18                                   | 14                                    |
| 33 - 42                                   | 38                                    | 21 - 29                                   | 24                                    |
| 38 - 47                                   | 43                                    | 27 - 35                                   | 32                                    |
| 44 - 55                                   | 49                                    | 30 - 41                                   | 35                                    |
| 49 - 60                                   | 55                                    | 35 - 43                                   | 38                                    |
| 55 - 66                                   | 60                                    | 35 - 45                                   | 41                                    |
| 60 - 71                                   | 66                                    | 38 - 47                                   | 43                                    |
| 66 - 77                                   | 71                                    | 40 - 50                                   | 46                                    |
| 73 - 82                                   | 77                                    | 44 - 54                                   | 49                                    |
| 77 - 85                                   | 79                                    | 52 - 60                                   | 55                                    |
| 79 - 88                                   | 82                                    | 54 - 63                                   | 57                                    |
| 85 - 93                                   | 88                                    | 57 - 66                                   | 60                                    |
| 93 - 103                                  | 96                                    | 60 - 69                                   | 63                                    |
| 107 - 123                                 | 114                                   | 63 - 71                                   | 66                                    |
|                                           |                                       | 66 - 74                                   | 68                                    |
|                                           |                                       | 68 - 77                                   | 71                                    |
|                                           |                                       | 71 - 79                                   | 74                                    |
|                                           |                                       | 74 - 82                                   | 77                                    |
|                                           |                                       | 77 - 85                                   | 79                                    |
|                                           |                                       | 79 - 88                                   | 82                                    |
|                                           |                                       | 82 - 91                                   | 85                                    |
|                                           |                                       | 87 - 98                                   | 91                                    |
|                                           |                                       | 93 - 102                                  | 96                                    |
|                                           |                                       | 99 - 107                                  | 102                                   |
|                                           |                                       | 102 - 113                                 | 108                                   |
|                                           |                                       | 104 - 115                                 | 110                                   |
|                                           |                                       | 107 - 122                                 | 116                                   |

## **12. Schweißhinweise:**

### **1. Allgemeines**

Zur Gewährleistung des sicheren Durchschweißens werden AWP - Ventile an den Anschlußstutzen für das einseitige Schweißen von Stumpfstößen mit einer Schweißnahtvorbereitung entsprechend DIN 2559 Kennzahl 21 / 27 versehen.

Die zu schweißenden Werkstoffe sind grundsätzlich von Öl, Fett, Rost, Zunder und korrosionsschützenden Beschichtungen im Schweißnahtbereich zu säubern.

Eine Demontage der AWP - Ventile vor dem Schweißen wird nicht empfohlen.

Bei Autogenschweißung oder Hartlötung darf die Flamme das Ventil nicht berühren, sonst demontieren.

Beim Einschweißen ist darauf zu achten, daß die Ventile frei von Achskräften, Biege- und Torsionsmomenten sind und nicht als Fixpunkte von Rohrleitungen dienen.

Das Ventil muß beim Einschweißen geöffnet sein.

### **2. Schweißverfahren**

Die Auswahl der Schweißverfahren ist abhängig von den örtlichen Begebenheiten, Möglichkeiten und vorhandenen Zulassungen nach EN 288.

Grundsätzlich sind anwendbar:

1. Lichtbogenhandschweißen ( E )
2. Gasschweißen ( G )
3. Schutzgasschweißen  
MAG / MAGM / WIG

## **12. welding recommendations:**

### **1. instructions**

For high quality single sided butt welding the ends of AWP - valves have to be prepared with welding seam according DIN 2559 code 21 / 27.

In principle welded material has to be free of oil, grease, cinder and corrosive protected coating at the range of welding seam.

Disassembly of AWP - valve is not to be recommended.

In case of gas welding or brazing, the flame may not reach the valve, otherwise please Dismantling.

Valves:

No axial forces, bending or torsional moments should act upon the valves.

Must not be used as fixing points for pipes.

The valve has to be open during welding.

### **2. welding processes**

The selection of welding process is depended on local conditions and existing approvals according EN 288.

In principle can be use:

1. Manual arc welding
2. Gas welding
3. inert gas-shielded welding  
MAG / MAGM / WIG

### **3. Zusatzwerkstoffe**

Für die richtige Auswahl der Zusatzwerkstoffe ist die Schweißaufsicht vor Ort verantwortlich. Die Schweißaufsicht ( nach EN 719 ) entscheidet entsprechend der vorliegenden Werkstoffpaarung und nötigen Zulassungen über die zu verwendenden Zusatzwerkstoffe.

Die Werkstoffbezeichnungen befinden sich an AWP - Ventilen auf dem Typenschild bzw. in Form von Hartsignierung im Gehäusekörper, in der Herstellerbescheinigung ( Werkstoffliste ) oder in der Auftragsbestätigung.

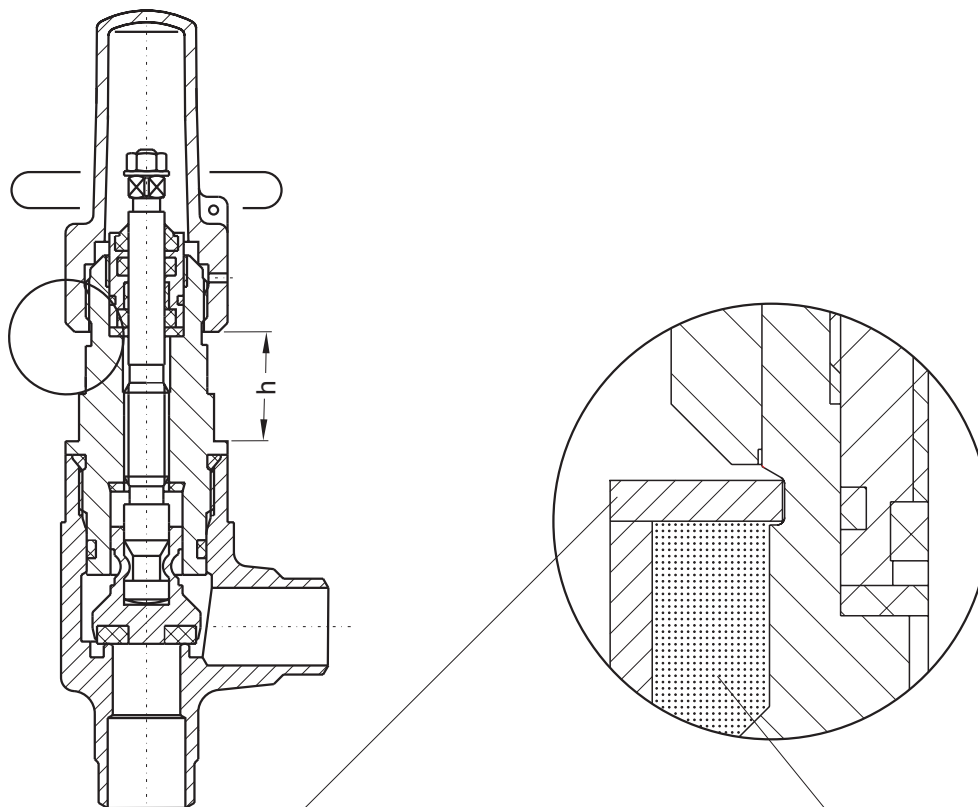
### **3. additional materials**

The local welding surveyance is responsible for the correct choice of additional material. The welding surveyance ( acc. to EN 719 ) decides about additional materials according to existing material combinations and necessary permittances.

The material code can be found on the AWP-nameplate, as a kind of stamp on valve body in type - test approval or on the order confirmation.

### 13. Isolierdicken:

### 13. isolating thicknesses:



Die **geteilte Blechscheibe** verhindert das Heraustreten von **geschäumten Isoliermaterial**.  
 The **divided sheet metal** avoids going out of **foamed insulating material**.

| DN       | 10 | 15 | 20 | 25 | 32 | 40 | 50 | 65 | 80 | 100 | 125 | 150 | 200 | 250 | 300 | 350 |
|----------|----|----|----|----|----|----|----|----|----|-----|-----|-----|-----|-----|-----|-----|
| h [ mm ] | 40 | 40 | 40 | 50 | 50 | 50 | 50 | 60 | 60 | 60  | 80  | 80  | 80  | 100 | 100 | 100 |

## **14. Zulassungen, Zertifikate**

### **CE**

(Kennzeichen der Konformität  
mit Richtlinie 97/23/EG,  
Druckgeräterichtlinie)

### **TÜV**

Germanischer Lloyd  
Lloyd's Register  
Det Norske Veritas  
Bureau Veritas  
Class NK

SAQ

RS

UDT

Gostgortekhnadzor Russia

Weitere auf Anfrage!

## **14. approvals, certificates**

### **CE**

(mark of conformity according  
code 97/23/EG,  
pressure devices)

### **TÜV**

Germanischer Lloyd  
Lloyd's Register  
Det Norske Veritas  
Bureau Veritas  
Class NK

SAQ

RS

UDT

Gostgortekhnadzor Russia

Further upon request!

## Saugfilterkombination

## suction filter combination

*Saugfilter mit integriertem Rückschlagventil  
 und angeflanschem Absperrventil*

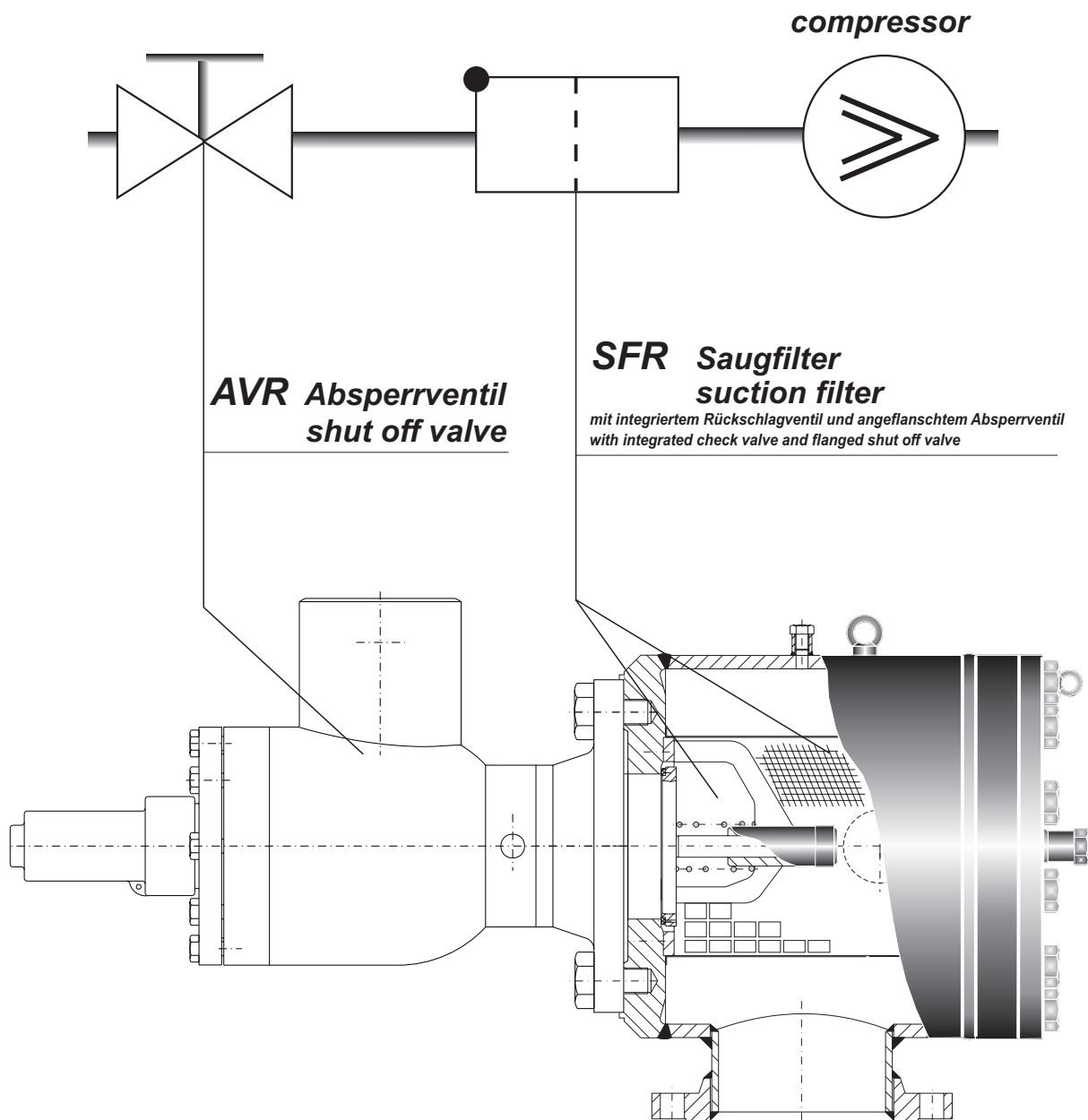
*suction filter with integrated check valve  
 and flanged shut off valve*

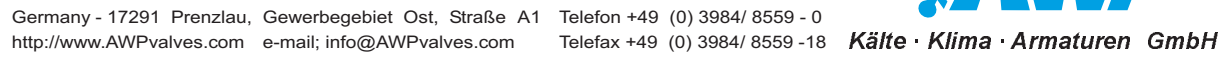
**DN 80 - DN 400**

**SFR / AVR**

**PN 25**

( PN 40 auf Anfrage / upon request )





## This image shows a full page of blank graph paper. The grid consists of small, uniform squares formed by thin, light gray lines. The paper is otherwise white and contains no other markings or text.

## Saugfilterkombination

## suction filter combination

**Saugfilter mit integriertem Rückschlagventil  
 und angeflanschem Absperrventil**

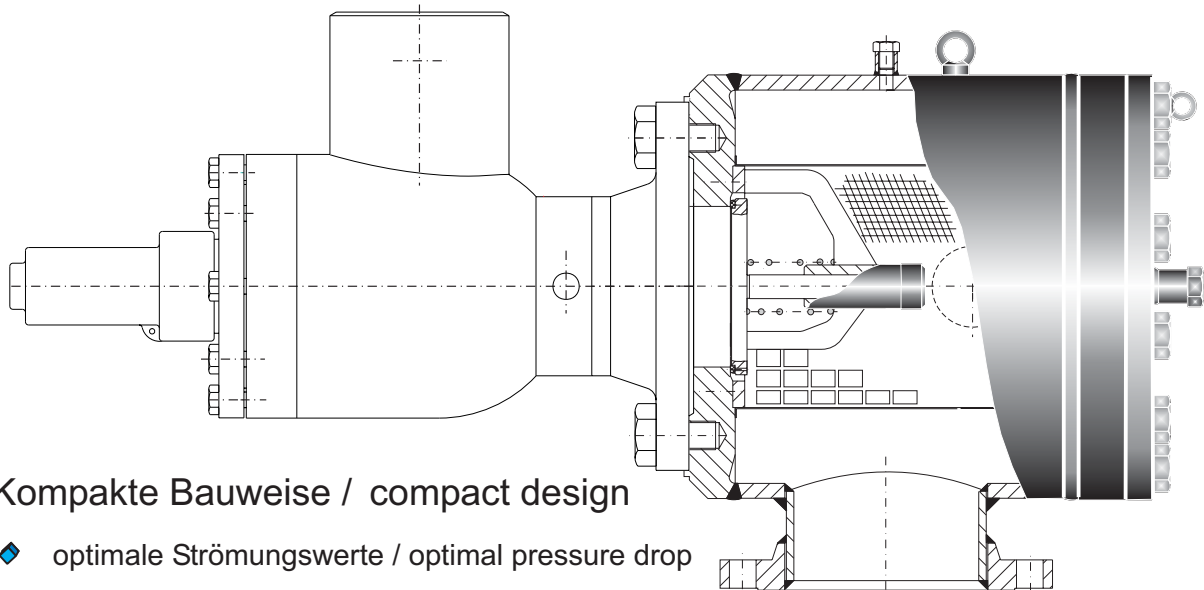
**suction filter with integrated check valve  
 and flanged shut off valve**

**DN 80 - DN 400**

**SFR / AVR**

**PN 25**

( PN 40 auf Anfrage / upon request )



### Kompakte Bauweise / compact design

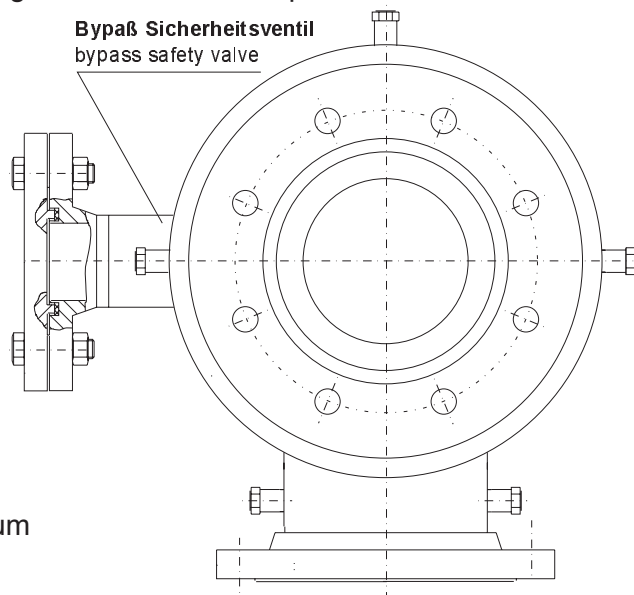
- ◆ optimale Strömungswerte / optimal pressure drop
- ◆ geringe Montagezeiten / short assembly time
- ◆ geringe Druckverluste / low pressure drop
- ◆ große Filterfläche / large filter surface
- ◆ Anschlüsse für Meß- und Prüfstutzen sowie Bypaßanschluß  
connections for measure and test nozzles as well as bypass connections
- ◆ Integriertes Rückschlagventil mit Dämpfung gegen Klappern bei Teillast  
equipped check valve with damping against flutter noise at part load
- ◆ Heißgasanschluß auf Wunsch  
hot gas connection upon request

### flange connection

- ◆ DIN / ANSI
- ◆ andere Normen auf Wunsch  
other standards upon request

### Filterelement filter element

- ◆ Edelstahl  
stainless steel
- ◆ Maschenweite von 63 µm bis 1000 µm  
mesh width from 63 µm to 1000 µm



## Saugfilterkombination

## SFR

## suction filter combination

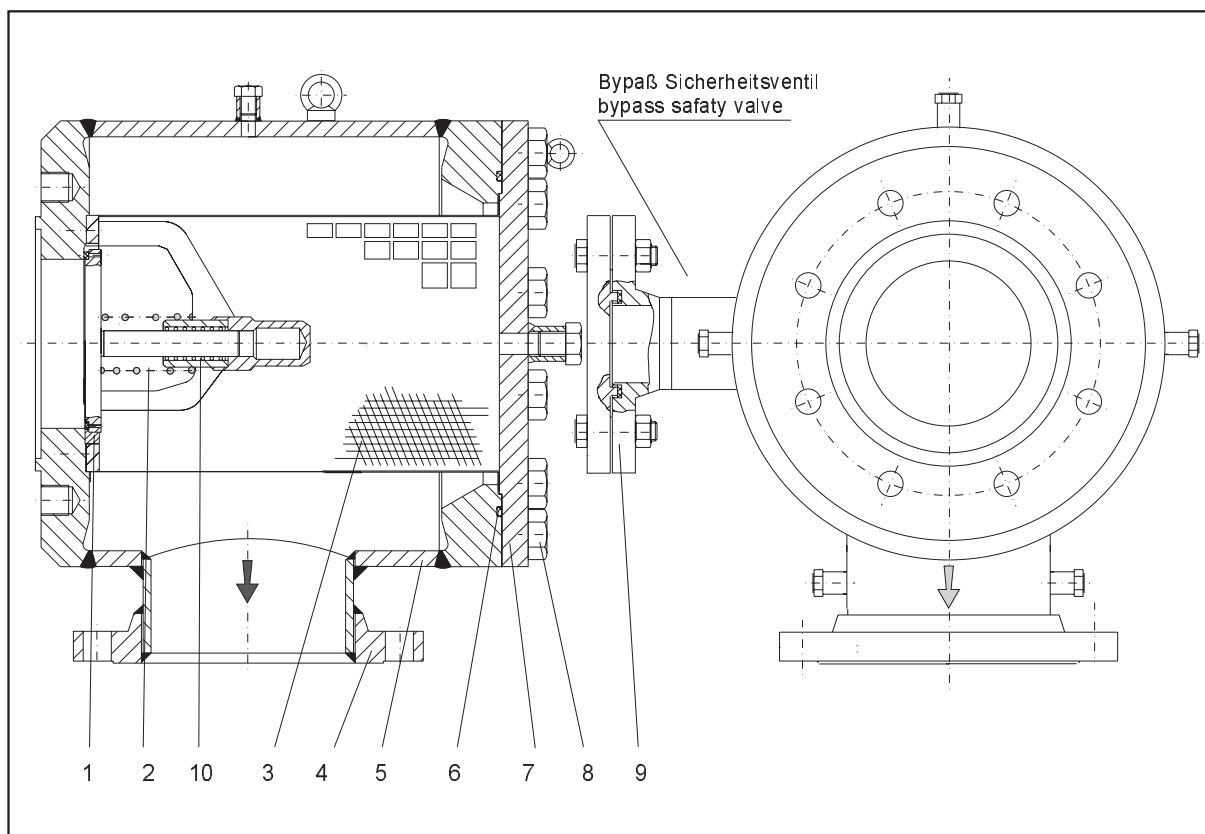
### Saugfilter

### mit integriertem Rückschlagventil

### suction filter

### equipped with check valve

| PN | DN        | TB(MWT) [°C]  | - 60 | - 10 | + 50 | + 150 |
|----|-----------|---------------|------|------|------|-------|
| 40 | 80 - 125  | PB(MWP) [bar] | 24,7 | 33   | 33   | 29    |
| 25 | 150       |               | 22,5 | 25   | 25   | 25    |
|    | 200 - 400 |               | 18,7 | 25   | 25   | 23    |



| Pos. | Teil / part      |                       | Material      |
|------|------------------|-----------------------|---------------|
| 1    | Flachdichtung S  | flat sealing ring S   | PTFE (Teflon) |
| 2    | Druckfeder       | spring                | 1.4310        |
| 3    | Siebeinsatz      | strainer              | 1.4541        |
| 4    | Flansch          | flange                | 1.0432        |
| 5    | Gehäuse          | body                  | 1.0305        |
| 6    | O - Ring D       | o - ring D            | CR - 70       |
| 7    | Deckel           | cover                 | 1.0038        |
| 8    | Schrauben        | screws                | 8.8/ 5.6      |
| 9    | Flansch          | flange                | 1.0460        |
| 10   | Linearkugellager | linear ball - bearing | Stahl / steel |

## Absperrventil -elast. PTFE -Ring-

## AVR

## shut off valve -elastic PTFE -ring-

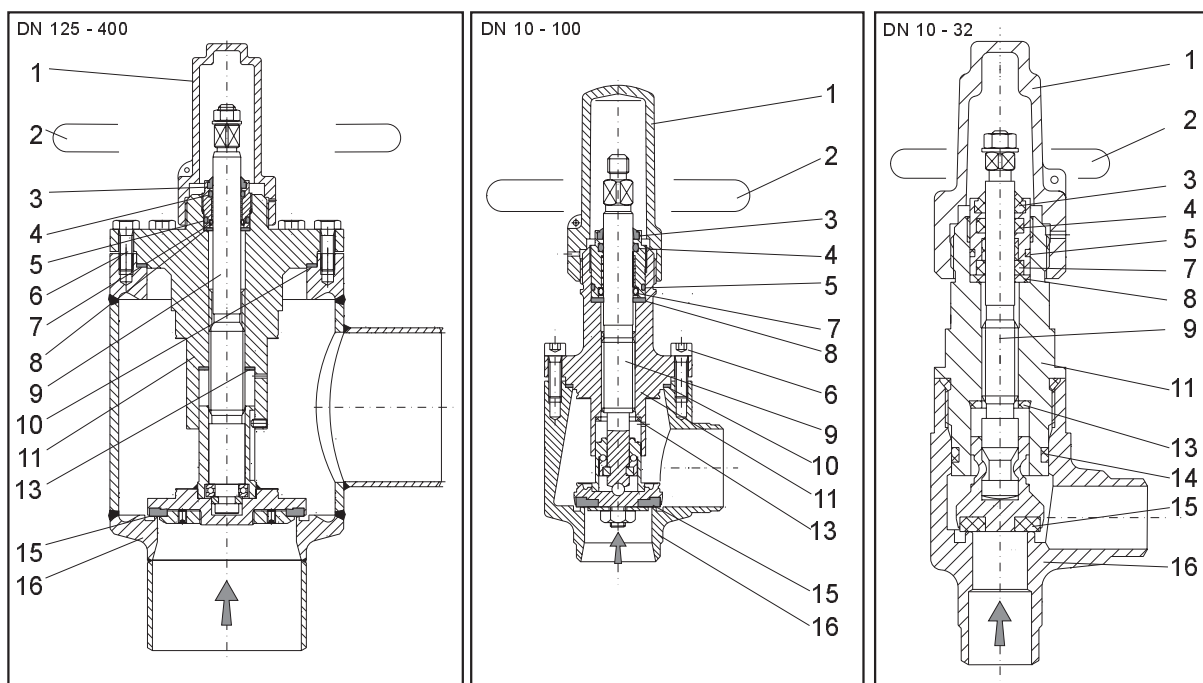
| PN | DN        | TB(MWT) [°C] | - 60 | - 10 | + 50 | + 150 |
|----|-----------|--------------|------|------|------|-------|
| 40 | 10 - 100  |              | 30   | 40   | 40   | 40    |
| 25 | 125 - 400 | PB(MWP)[bar] | 18,7 | 25   | 25   | 25    |

### Durchgangsform / Eckform

### globe type / angle type

mit und ohne Deckelverlängerung

with and without cover extension



| Pos. | Teil / part       |                      | Material                           |
|------|-------------------|----------------------|------------------------------------|
| 1    | Kappe             | cap                  | 3.2341                             |
| 2    | Handrad           | handwheel            | steel                              |
| 3    | Abstreifring      | scraper              | NBR-85                             |
| 4    | O-Ring A          | O - ring seal A      | CR-70                              |
| 5    | O-Ring B          | O - ring seal B      | CR-70                              |
| 6    | Schrauben         | screws               | 8.8 / A2 - 70                      |
| 7    | elast.PTFE-Ring   | elastic PTFE - ring  | 1.4571 / PTFE                      |
| 8    | Flachdichtring SB | flat sealing ring SB | AFM - asbestfrei                   |
| 9    | Spindel kpl.      | stem cmpl.           | 1.4305                             |
| 10   | Flachdichtring K  | flat sealing ring K  | 3.0255 / PTFE                      |
| 11   | Deckel            | cover                | 1.0038 / 1.0488<br>1.4305          |
| 13   | Flachdichtring R  | flat sealing ring R  | PTFE                               |
| 14   | O-Ring D          | O - ring seal D      | HNBR-70                            |
| 15   | Flachdichtring S  | flat sealing ring S  | PTFE                               |
| 16   | Gehäuse           | body                 | 1.0305 / 1.0488<br>1.4541 / 1.4301 |

## Saugfilterkombination

## SFR / AVR suction filter combination

### Saugfilter

mit integriertem Rückschlagventil  
und angeflanschem Absperrventil

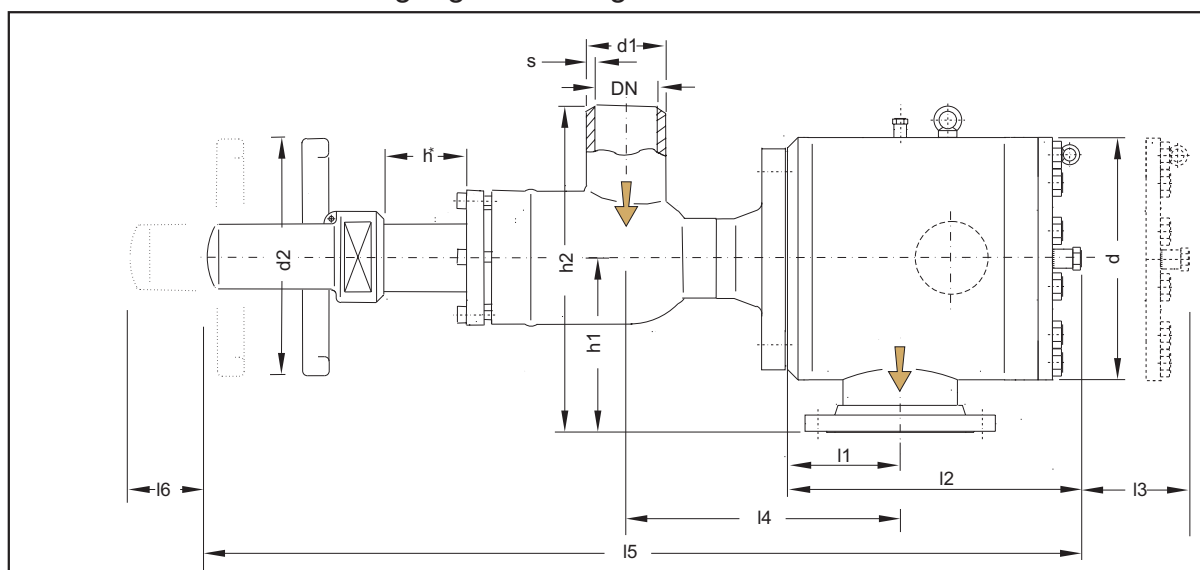
### suction filter

with integrated check valve  
and flanged shut off valve

Absperrventil in Eckform  
Shut off valve in angle type

**569 02** Anschweißende am Eingang / welding end on inlet

**569 22** Flansch am Eingang / with flange on inlet



### Einbaulängen / lengths in mm :

| Anschweißende am Eingang/<br>welding end on inlet |               |     |       |      |     |     |     |     |     |     |     |      |     |     |     |
|---------------------------------------------------|---------------|-----|-------|------|-----|-----|-----|-----|-----|-----|-----|------|-----|-----|-----|
| Reihe 1/ range 1                                  | ANSI Sched 40 |     |       |      |     |     |     |     |     |     |     |      |     |     |     |
| DN                                                | d1            | s   | d1    | s    | h   | h1  | h2  | l1  | l2  | l3  | l4  | l5   | l6  | d   | d2  |
| 80                                                | 88,9          | 3,2 | 88,9  | 5,5  | 60  | 200 | 355 | 130 | 290 | 235 | 285 | 760  | 170 | 220 | 200 |
| 100                                               | 114,3         | 3,6 | 114,3 | 6,0  | 60  | 215 | 390 | 130 | 330 | 275 | 305 | 800  | 170 | 245 | 250 |
| 125                                               | 139,7         | 4,0 | 139,7 | 6,6  | 80  | 260 | 460 | 160 | 390 | 322 | 360 | 970  | 240 | 324 | 300 |
| 150                                               | 168,3         | 4,5 | 168,3 | 7,1  | 80  | 280 | 505 | 165 | 390 | 322 | 390 | 1050 | 270 | 356 | 400 |
| 200                                               | 219,1         | 6,3 | 219,1 | 8,2  | 80  | 310 | 585 | 205 | 450 | 374 | 480 | 1200 | 425 | 407 | 630 |
| 250                                               | 273,0         | 7,1 | 273,0 | 9,3  | 90  | 377 | 702 | 245 | 565 | 483 | 570 | 1550 | 600 | 508 | 630 |
| 300                                               | 323,9         | 8,0 | 323,8 | 10,3 | 100 | 485 | 860 | 280 | 660 | 565 | 655 | 1710 | 700 | 610 | 630 |
| 350                                               | 355,6         | 8,0 | 355,6 | 11,1 | 100 | 485 | 910 | 285 | 660 | 565 | 710 | 1750 | 700 | 610 | 630 |

\* h<sub>1</sub> ( ) für Deckverlängerung / for cover extension ; DN 400 auf Anfrage / upon request

### Varianten / variants :

| DN  | Werkstoff material | Ausführung / design |       | Maschenweite Siebeinsatz mesh width Strainer | Anschweißende welding end         | Flansch / flange | Bypass mit Flansch bypass with flange |  |
|-----|--------------------|---------------------|-------|----------------------------------------------|-----------------------------------|------------------|---------------------------------------|--|
| 80  | 1.0305             | Handrad             | Kappe | 63µm - 1000µm                                | Reihe 1/ range 1<br>ANSI Sched 40 | DIN<br>ANSI      | DIN / ANSI                            |  |
| 100 | 1.4541             | handwheel           | cap   |                                              |                                   |                  |                                       |  |
| 125 |                    | -                   | -     |                                              |                                   |                  |                                       |  |
| 150 |                    | x                   | -     |                                              |                                   |                  |                                       |  |
| 200 |                    | -                   | x     |                                              |                                   |                  |                                       |  |
| 250 |                    | x                   | x     |                                              |                                   |                  |                                       |  |
| 300 |                    |                     |       |                                              |                                   |                  |                                       |  |
| 350 |                    |                     |       |                                              |                                   |                  |                                       |  |

## Saugfilterkombination

Saugfilter mit angeflanschem  
Zwischenflanschrückschlagventil  
und Absperrventil

DN 80 - DN 400

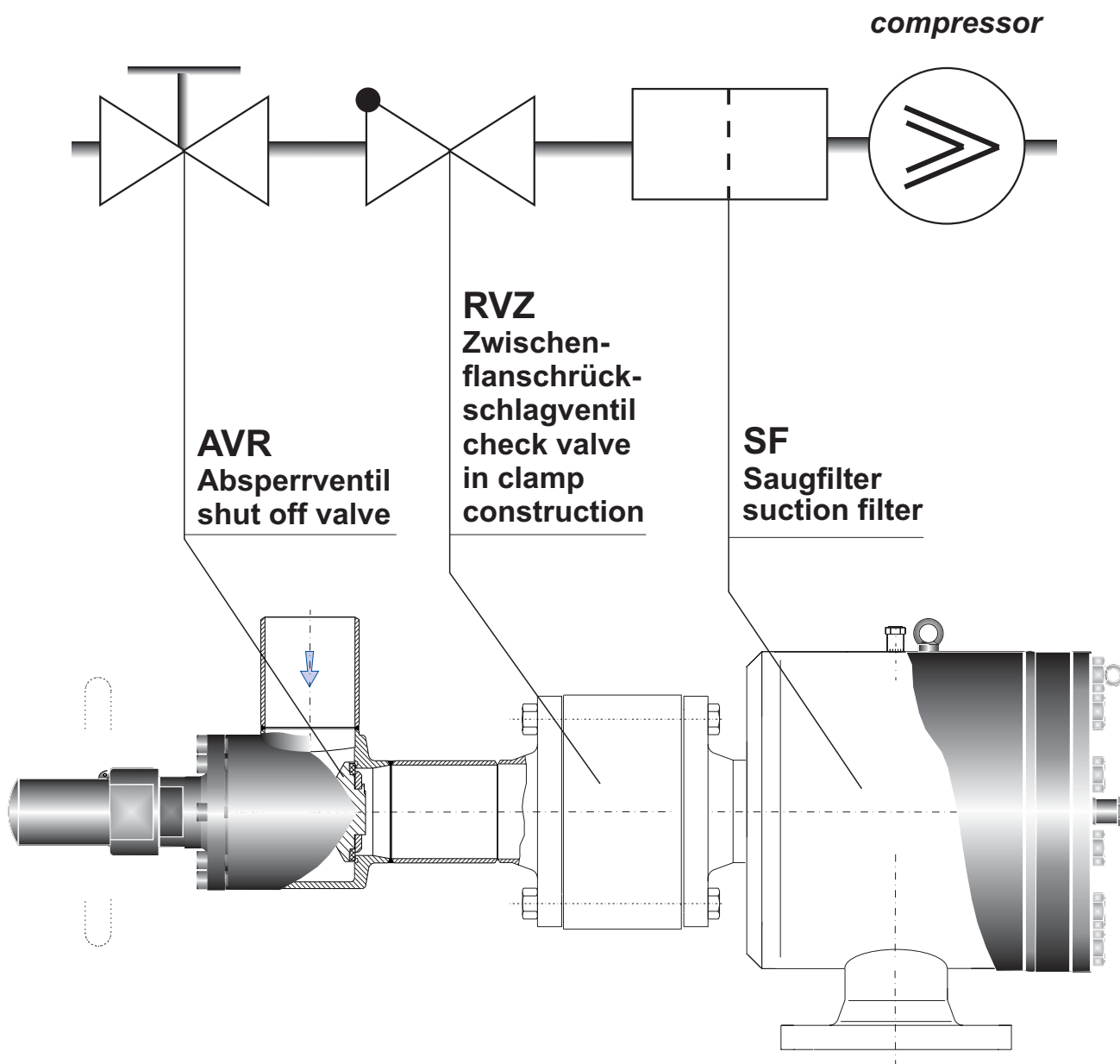
## suction filter combination

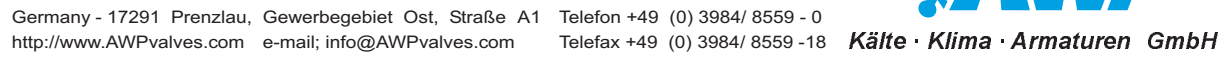
suction filter with flanged check valve  
clamp and shut off valve

**SF / RVZ / AVR**

**PN 25**

( PN 40 auf Anfrage / upon request )





## This image shows a full page of blank graph paper. The grid consists of small, uniform squares formed by thin, light gray lines. The paper is otherwise white and contains no other markings or text.

## Saugfilterkombination

*Saugfilter mit angeflanschem  
Zwischenflanschrückschlagventil  
und Absperrventil*

**DN 80 - DN 400**

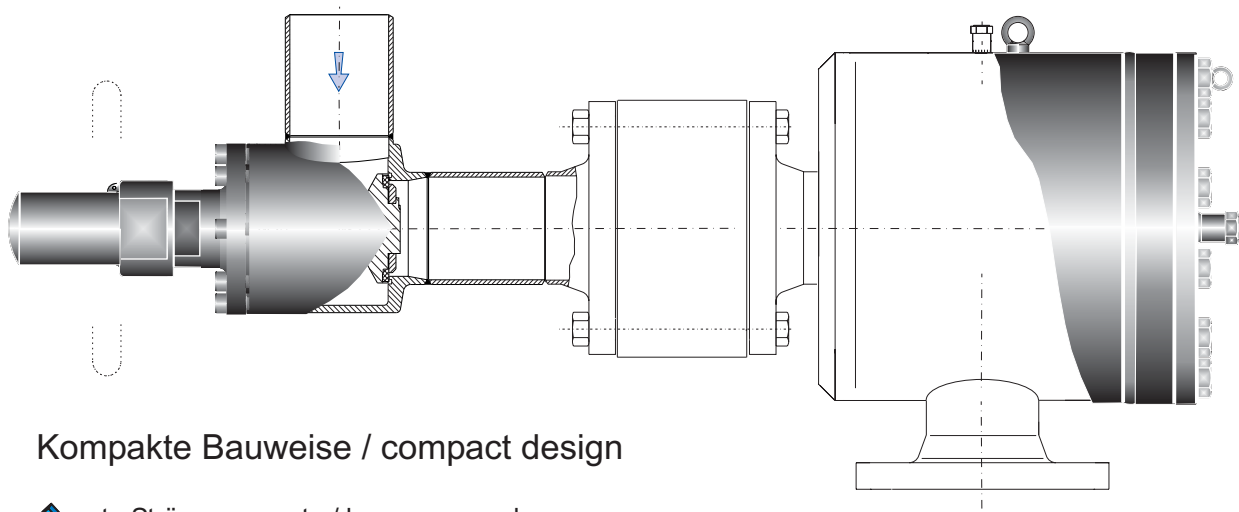
**SF / RVZ / AVR**

## suction filter combination

*suction filter with flanged check valve  
clamp and shut off valve*

**PN 25**

( PN 40 auf Anfrage / upon request )



### Kompakte Bauweise / compact design

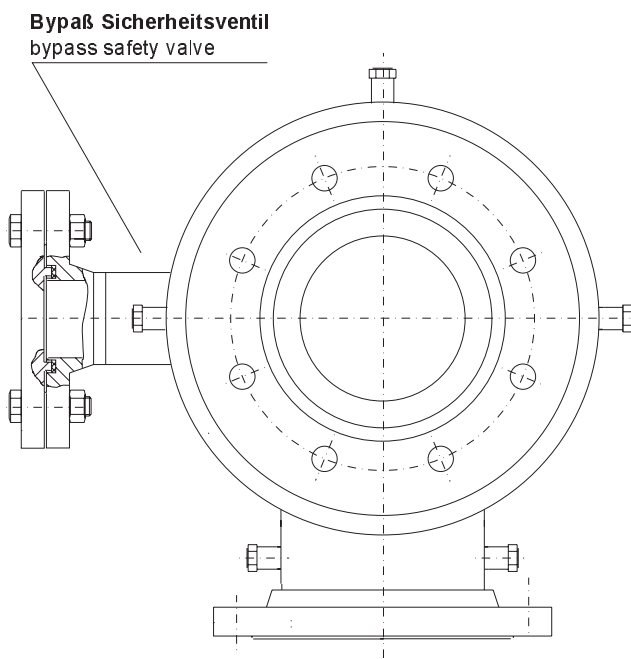
- ◆ gute Strömungswerte / low pressure drop
- ◆ geringe Montagezeiten / short assembly time
- ◆ Anschlüsse für Meß- und Prüfstutzen sowie Bypaßanschluß  
connections for measure and test nozzles as well as bypass connections
- ◆ Integriertes Rückschlagventil mit Dämpfung gegen Klappern bei Teillast  
equipped check valve with damping against flutter noise at part load
- ◆ Heißgasanschluß auf Wunsch  
hot gas connection upon request

### Flanschanschlüsse flange connection

- ◆ DIN / ANSI
- ◆ andere Normen auf Wunsch  
other standards upon request

### Filterelement filter element

- ◆ Edelstahl  
stainless steel
- ◆ Maschenweite von 63 µm bis 1000 µm  
mesh width from 63 µm to 1000 µm

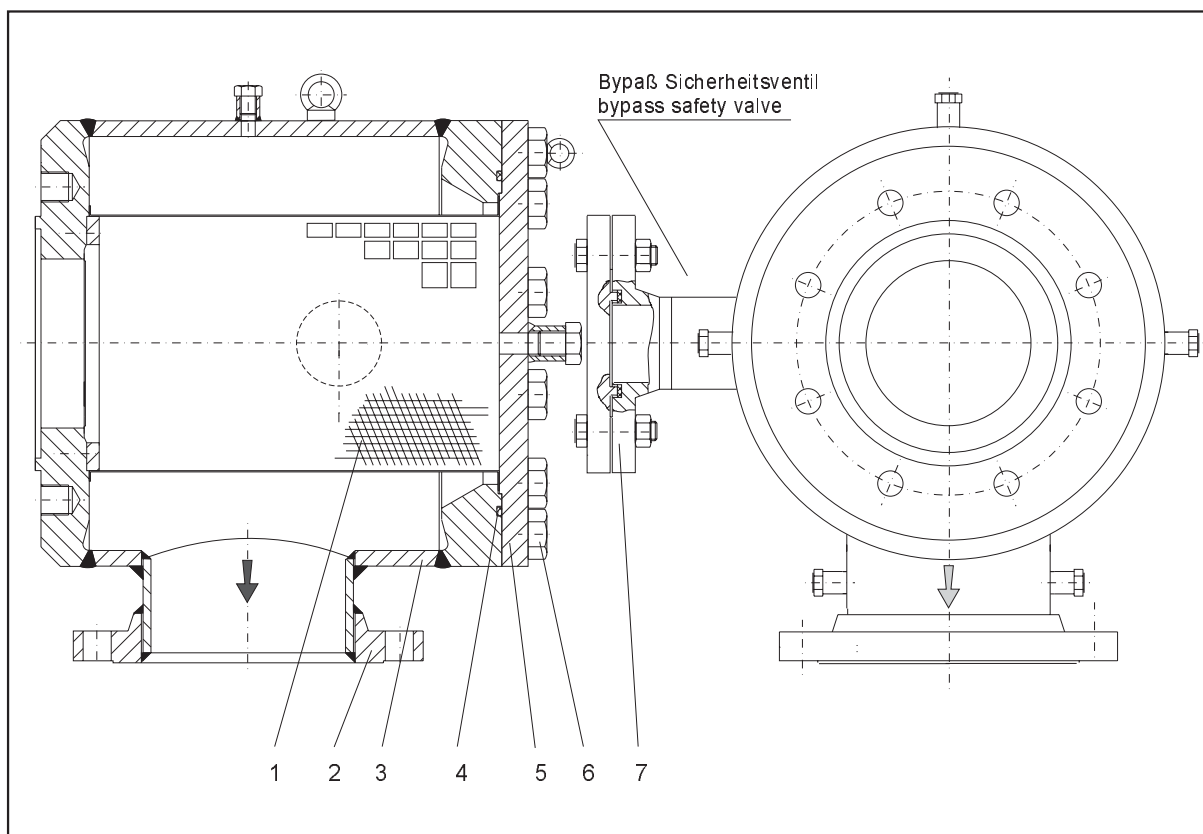


## Saugfilter

## SF

## suction filter

| PN | DN        | TB(MWT) [°C]  | - 60 | - 10 | + 50 | + 150 |
|----|-----------|---------------|------|------|------|-------|
| 40 | 80 - 125  | PB(MWP) [bar] | 24,7 | 33   | 33   | 29    |
| 25 | 150       |               | 22,5 | 25   | 25   | 25    |
|    | 200 - 400 |               | 18,7 | 25   | 25   | 23    |



| Pos. | Teil / part |            | Material |
|------|-------------|------------|----------|
| 1    | Siebeinsatz | strainer   | 1.4541   |
| 2    | Flansch     | flange     | 1.0432   |
| 3    | Gehäuse     | body       | 1.0305   |
| 4    | O - Ring D  | o - ring D | CR - 70  |
| 5    | Deckel      | cover      | 1.0038   |
| 6    | Schrauben   | screws     | 8.8/ 5.6 |
| 7    | Flansch     | flange     | 1.0460   |

## Rückschlagventil

## RVZ

## check valve

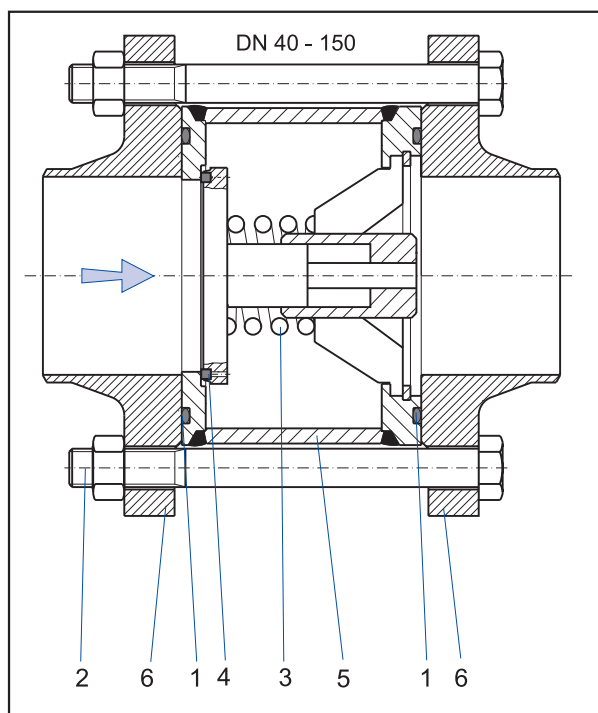
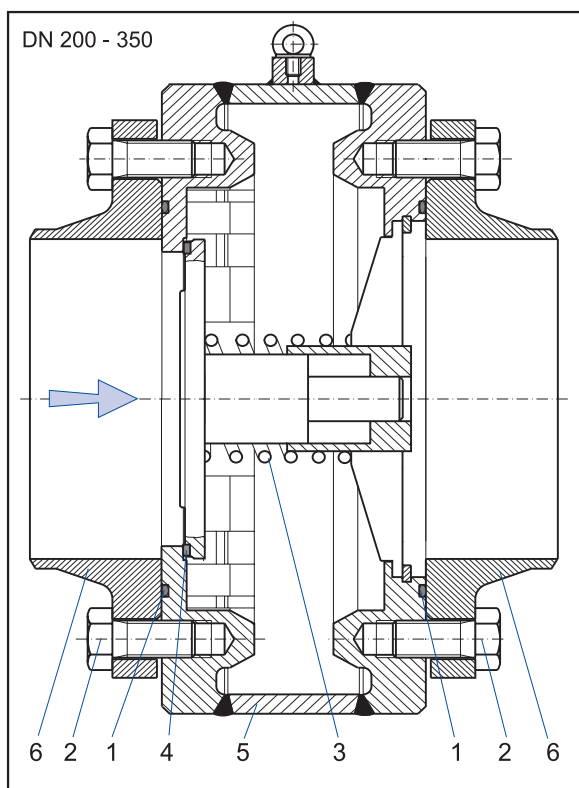
| PN | DN        | TB(MWT) [°C]  | - 60 | - 10 | + 50 | + 150 |
|----|-----------|---------------|------|------|------|-------|
| 40 | 40 - 150  | PB(MWP) [bar] | 30   | 40   | 40   | 40    |
| 25 | 200 - 350 |               | 18,7 | 25   | 25   | 21    |

### Klemmausführung

- ohne Dämpfung **Typ 307 91**
- mit Dämpfung **Typ 307 92**

### clamp construction

- without damping **type 307 91**
- with damping **type 307 92**



| Pos. | Teil / part      |                     | Material            |
|------|------------------|---------------------|---------------------|
| 1    | O-Ringe          | O - ring seals      | CR-70               |
| 2    | Schrauben        | screws              | 8.8 / 5.6 / A2 - 70 |
| 3    | Druckfeder       | spring              | 1.4310              |
| 4    | Flachdichtring S | flat sealing ring S | PTFE                |
| 5    | Gehäuse          | body                | 1.0305 / 1.0038     |
| 6    | Klemmfiansche    | clamp flanges       | 1.0460              |

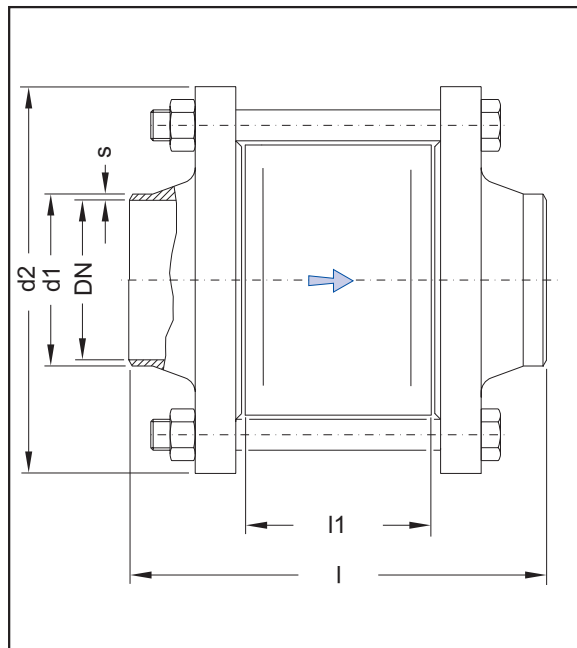
## Rückschlagventil Klemmausführung

## RVZ

## check valve clamp construction

**307 91**

**307 92** mit Dämpfung / with damping



Anschlußkombinationen möglich - auf Anfrage  
 connection combinations available - upon request

### Einbaulängen / lengths in mm :

|     |       | Anschweißenden / welding ends |     |               |      | Flansche / flanges |      |     |     |
|-----|-------|-------------------------------|-----|---------------|------|--------------------|------|-----|-----|
|     |       | Reihe 1 / range 1             |     | ANSI Sched 40 |      | DIN                | ANSI |     |     |
| DN  | INCH  | d1                            | s   | d1            | s    | l                  | l    | l1  | d2  |
| 40  | 1 1/2 | 48,3                          | 2,6 | 48,3          | 3,7  | 160                | 194  | 70  | 150 |
| 50  | 2     | 60,3                          | 2,9 | 60,3          | 3,9  | 176                | 207  | 80  | 165 |
| 65  | 2 1/2 | 76,1                          | 2,9 | 76,1          | 5,2  | 184                | 220  | 80  | 185 |
| 80  | 3     | 88,9                          | 3,2 | 88,9          | 5,5  | 216                | 240  | 100 | 200 |
| 100 | 4     | 114,3                         | 3,6 | 114,3         | 6,0  | 245                | 267  | 115 | 235 |
| 125 | 5     | 139,7                         | 4,0 | 139,7         | 6,6  | 251                | 293  | 115 | 270 |
| 150 | 6     | 168,3                         | 4,5 | 168,3         | 7,1  | 265                | 293  | 115 | 300 |
| 200 | 8     | 219,1                         | 6,3 | 219,1         | 8,2  | 320                | 363  | 160 | 407 |
| 250 | 10    | 273,0                         | 7,1 | 273,0         | 9,3  | 376                | 403  | 200 | 457 |
| 300 | 12    | 323,9                         | 8,0 | 323,9         | 10,3 | 434                | 478  | 250 | 506 |
| 350 | 14    | 355,6                         | 8,0 | 355,6         | 11,1 | 520                | 574  | 320 | 610 |

### Varianten / variants :

| DN / INCH | Werkstoff / material | Zubehör/ fittings                                                                                                                                                                                                                                                             |
|-----------|----------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 40 1 1/2  | 1.0305               | - Klemmflansche mit Schrauben und Muttern /<br>clamp flanges with screws and nuts<br>DIN<br>ANSI<br>- Anschweißenden / welding ends<br>Reihe1/ range 1<br>ANSI Schedule 40<br>! O - Ringe gehören zum Lieferumfang ! /<br>! O-ring seals are included in the delivery range ! |
| 50 2      | 1.4541               |                                                                                                                                                                                                                                                                               |
| 65 2 1/2  |                      |                                                                                                                                                                                                                                                                               |
| 80 3      |                      |                                                                                                                                                                                                                                                                               |
| 100 4     |                      |                                                                                                                                                                                                                                                                               |
| 125 5     |                      |                                                                                                                                                                                                                                                                               |
| 150 6     |                      |                                                                                                                                                                                                                                                                               |
| 200 8     |                      |                                                                                                                                                                                                                                                                               |
| 250 10    |                      |                                                                                                                                                                                                                                                                               |
| 300 12    |                      |                                                                                                                                                                                                                                                                               |
| 350 14    |                      |                                                                                                                                                                                                                                                                               |

## Absperrventil -elast. PTFE -Ring-

## AVR

## shut off valve -elastic PTFE -ring-

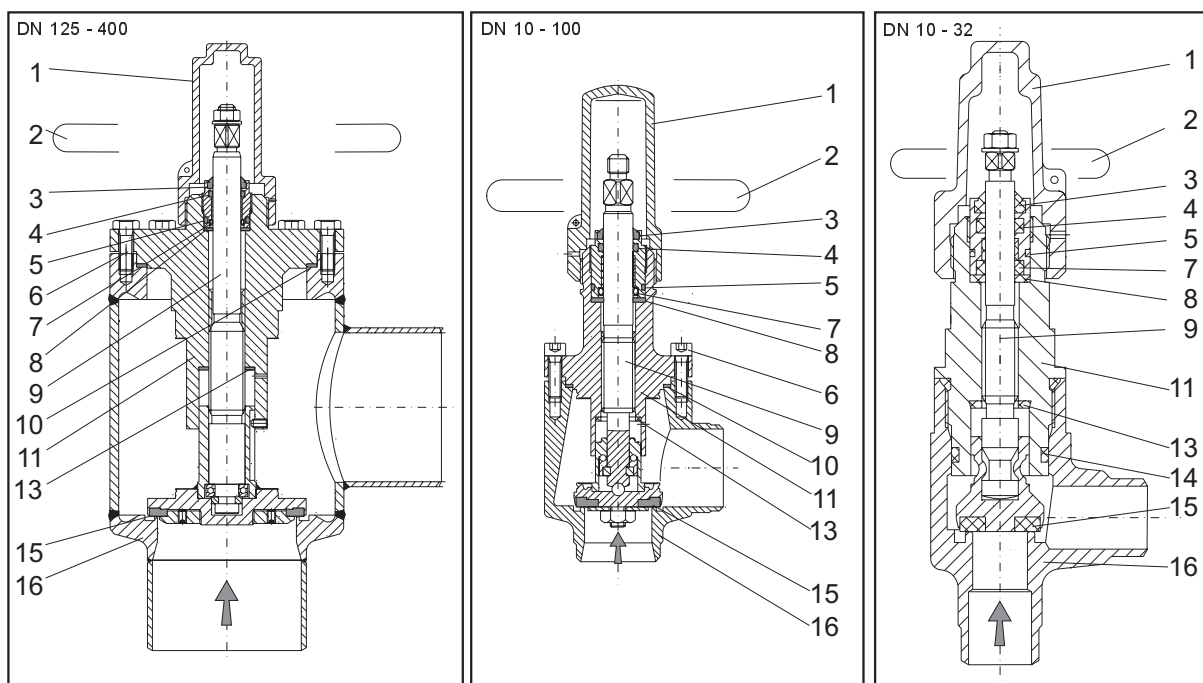
| PN | DN        | TB(MWT) [°C] | - 60 | - 10 | + 50 | + 150 |
|----|-----------|--------------|------|------|------|-------|
| 40 | 10 - 100  |              | 30   | 40   | 40   | 40    |
| 25 | 125 - 400 | PB(MWP)[bar] | 18,7 | 25   | 25   | 25    |

### Durchgangsform / Eckform

### globe type / angle type

mit und ohne Deckelverlängerung

with and without cover extension



| Pos. | Teil / part       |                      | Material                           |
|------|-------------------|----------------------|------------------------------------|
| 1    | Kappe             | cap                  | 3.2341                             |
| 2    | Handrad           | handwheel            | steel                              |
| 3    | Abstreifring      | scraper              | NBR-85                             |
| 4    | O-Ring A          | O - ring seal A      | CR-70                              |
| 5    | O-Ring B          | O - ring seal B      | CR-70                              |
| 6    | Schrauben         | screws               | 8.8 / A2 - 70                      |
| 7    | elast.PTFE-Ring   | elastic PTFE - ring  | 1.4571 / PTFE                      |
| 8    | Flachdichtring SB | flat sealing ring SB | AFM - asbestfrei                   |
| 9    | Spindel kpl.      | stem cmpl.           | 1.4305                             |
| 10   | Flachdichtring K  | flat sealing ring K  | 3.0255 / PTFE                      |
| 11   | Deckel            | cover                | 1.0038 / 1.0488<br>1.4305          |
| 13   | Flachdichtring R  | flat sealing ring R  | PTFE                               |
| 14   | O-Ring D          | O - ring seal D      | HNBR-70                            |
| 15   | Flachdichtring S  | flat sealing ring S  | PTFE                               |
| 16   | Gehäuse           | body                 | 1.0305 / 1.0488<br>1.4541 / 1.4301 |

## SF / RVZ / AVR

### Saugfilterkombination

Saugfilter mit angeflanschem  
Zwischenflanschrückschlagventil  
und Absperrventil

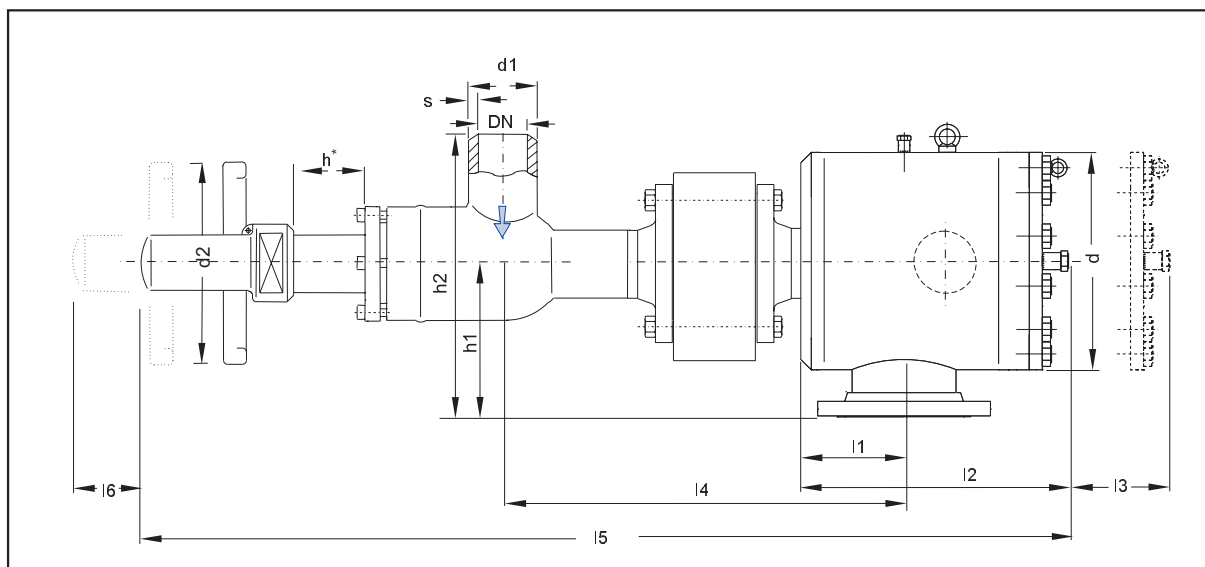
### suction filter combination

suction filter with flanged  
check valve clamp  
and shut off valve

Absperrventil in Eckform  
Shut off valve in angle type

**574 02** Anschweißende am Eingang / with welding ends on inlet

**574 22** Flansch am Eingang / with flange on inlet



#### Einbaulängen / lengths in mm :

| DN  | Reihe 1/ range 1 |     | ANSI Sched 40 |      | h   | h1  | h2  | l1  | l2  | l3  | l4   | l5   | l6  | d   | d2  |
|-----|------------------|-----|---------------|------|-----|-----|-----|-----|-----|-----|------|------|-----|-----|-----|
|     | d1               | s   | d1            | s    |     |     |     |     |     |     |      |      |     |     |     |
| 80  | 88,9             | 3,2 | 88,9          | 5,5  | 60  | 200 | 355 | 130 | 290 | 235 | 450  | 925  | 170 | 220 | 200 |
| 100 | 114,3            | 3,6 | 114,3         | 6,0  | 60  | 215 | 390 | 130 | 330 | 275 | 490  | 985  | 170 | 245 | 250 |
| 125 | 139,7            | 4,0 | 139,7         | 6,6  | 80  | 260 | 460 | 160 | 390 | 322 | 550  | 1160 | 240 | 324 | 300 |
| 150 | 168,3            | 4,5 | 168,3         | 7,1  | 80  | 280 | 505 | 165 | 390 | 322 | 585  | 1245 | 270 | 356 | 400 |
| 200 | 219,1            | 6,3 | 219,1         | 8,2  | 80  | 310 | 585 | 205 | 450 | 374 | 725  | 1445 | 425 | 407 | 630 |
| 250 | 273,0            | 7,1 | 273,0         | 9,3  | 90  | 377 | 702 | 245 | 565 | 483 | 865  | 1845 | 600 | 508 | 630 |
| 300 | 323,9            | 8,0 | 323,8         | 10,3 | 100 | 485 | 860 | 280 | 660 | 565 | 1005 | 2060 | 700 | 610 | 630 |
| 350 | 355,6            | 8,0 | 355,6         | 11,1 | 100 | 485 | 910 | 285 | 660 | 565 | 1135 | 2175 | 700 | 610 | 630 |

\* h, ( ) für Deckverlängerung / for cover extension ; DN 400 auf Anfrage / upon request

#### Varianten / variants :

| DN  | Werkstoff material | Ausführung / design |       | Maschenweite Siebeinsatz mesh width Strainer | Anschweißende welding end         | Flansch / flange | Bypass mit Flansch bypass with flansch |     |
|-----|--------------------|---------------------|-------|----------------------------------------------|-----------------------------------|------------------|----------------------------------------|-----|
| 80  | 1.0305             | Handrad             | Kappe | 63 µm - 1000 µm                              | Reihe 1/ range 1<br>ANSI Sched 40 | DIN<br>ANSI      | DIN / ANSI                             |     |
| 100 | 1.4541             | handwheel           | cap   |                                              |                                   |                  | DN                                     | DN  |
| 125 |                    | -                   | -     |                                              |                                   |                  | 25                                     | 65  |
| 150 |                    | x                   | -     |                                              |                                   |                  | 32                                     | 80  |
| 200 |                    | -                   | x     |                                              |                                   |                  | 40                                     | 100 |
| 250 |                    | x                   | x     |                                              |                                   |                  | 50                                     | 125 |
| 300 |                    |                     |       |                                              |                                   |                  |                                        |     |
| 350 |                    |                     |       |                                              |                                   |                  |                                        |     |

## Saugfilterkombination

*Schmutzsammler mit angeschweißtem,  
 absperrbarem Rückschlagventil*

## suction filter combination

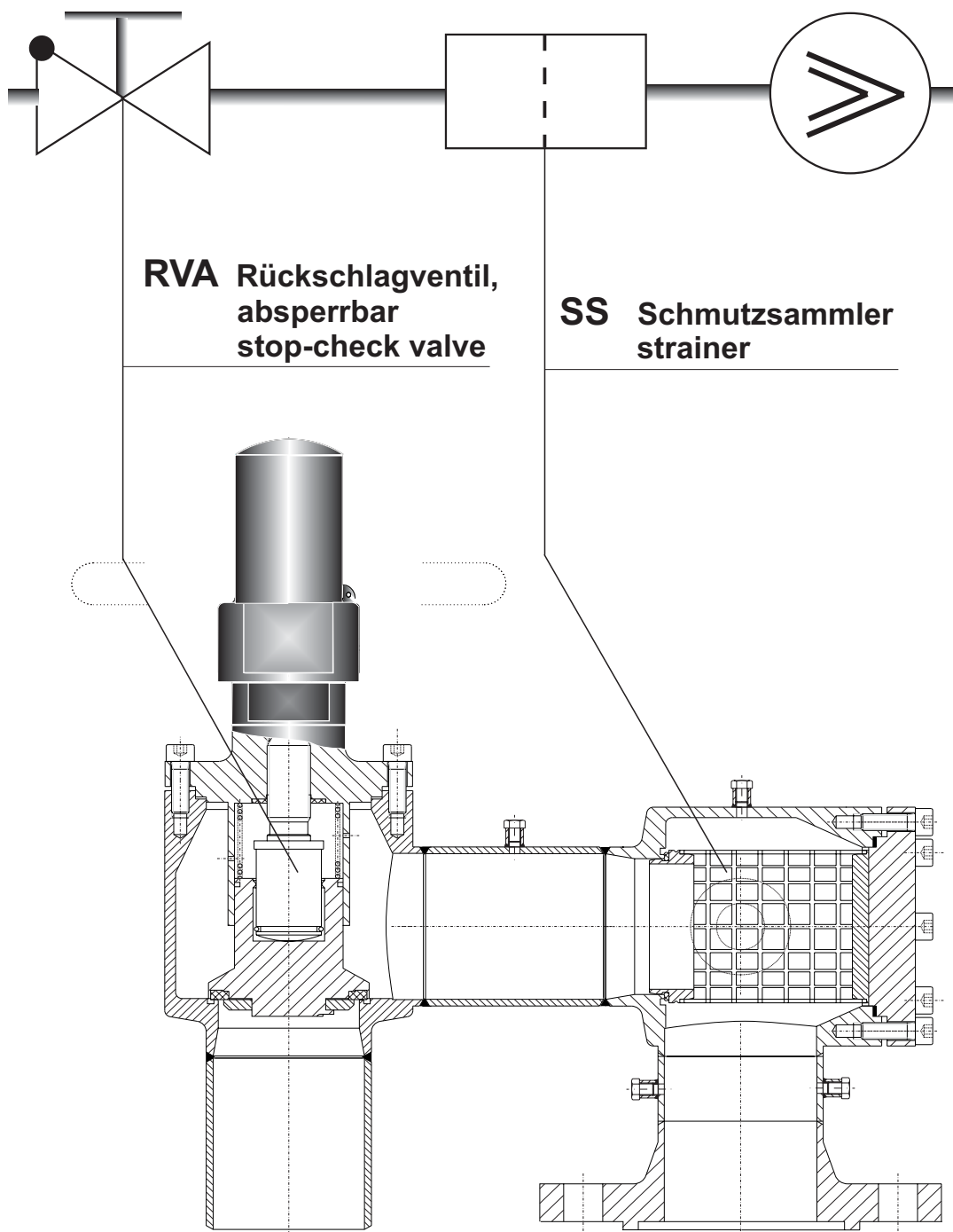
*strainer with welded stop-check valve*

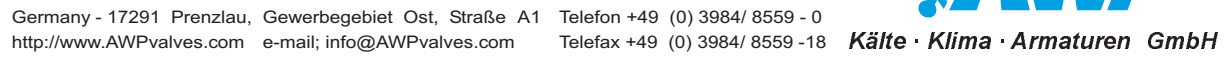
**DN 50 - DN 200**

**SS / RVA**

**PN 25**

( PN 40 auf Anfrage / upon request )



[illegible]

## Saugfilterkombination

*Schmutzsammler mit angeschweißtem,  
 absperrbarem Rückschlagventil*

## suction filter combination

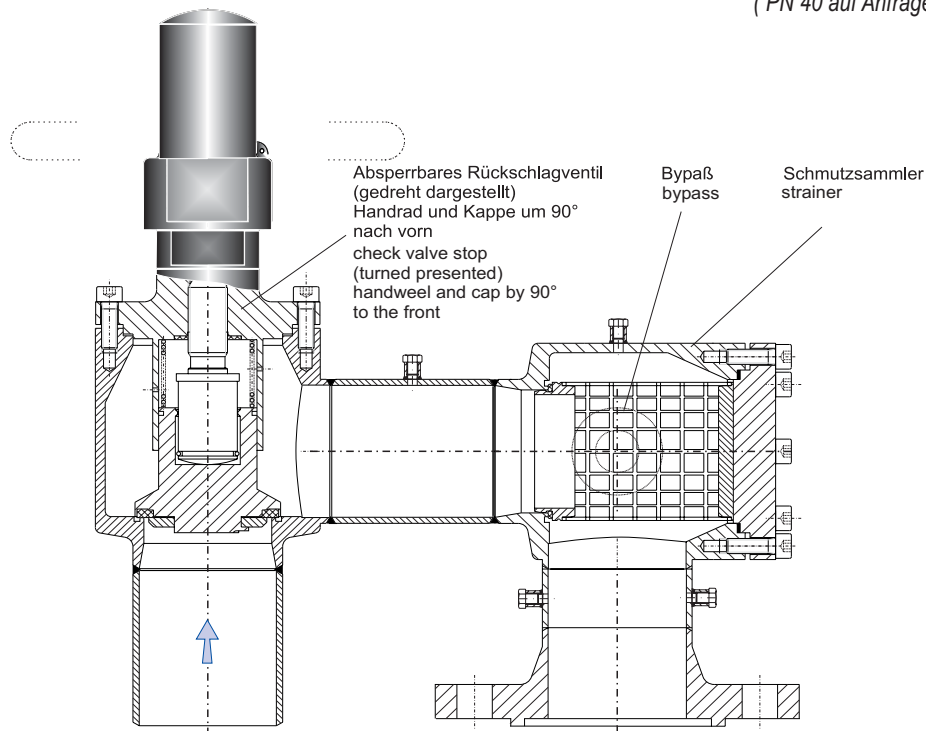
*strainer with welded stop-check valve*

**DN 50 - DN 200**

**SS / RVA**

**PN 25**

( PN 40 auf Anfrage / upon request )



### Kompakte Bauweise / compact design

- ◆ gute Strömungswerte / low pressure drop
- ◆ geringe Montagezeiten / short assembly time
- ◆ Anschlüsse für Meß- und Prüfstutzen sowie Bypassanschluß als Option  
 optional connections for measure and test nozzles as well as bypass connections
- ◆ Integriertes Rückschlagventil mit Dämpfung gegen Klappern bei Teillast  
 equipped check valve with damping against flutter noises at part load
- ◆ Heißgasanschluß auf Wunsch / hot gas connection upon request

### Filterelement / filter element

- ◆ Edelstahl / stainless steel
- ◆ Maschenweite von 63 µm bis 1000 µm / mesh width from 63 µm to 1000 µm

### Flanschanschlüsse / flange connection

- ◆ DIN / ANSI
- ◆ andere Normen auf Wunsch / other standards upon request

## Schmutzsammler

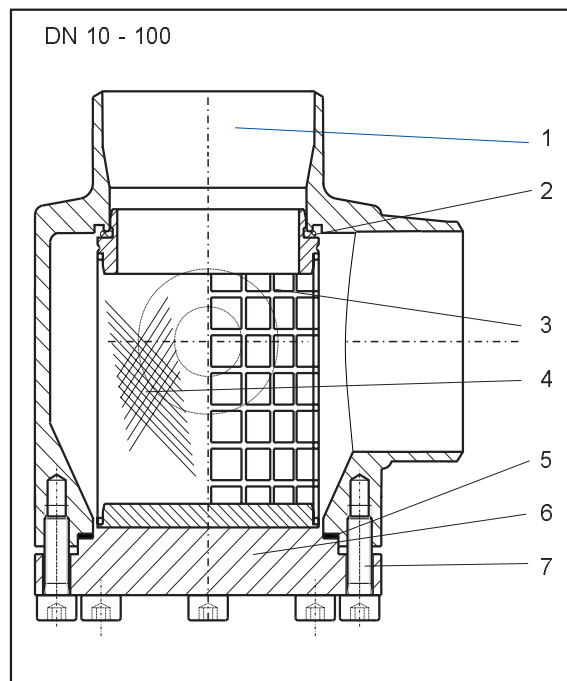
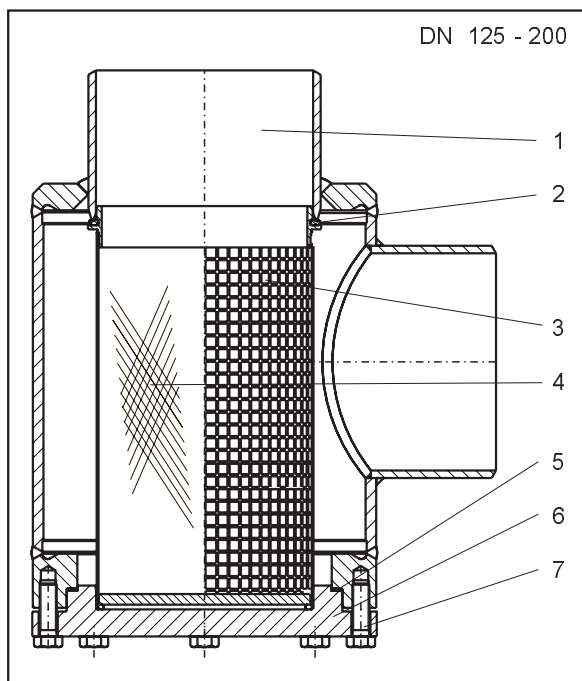
## SS

## strainer

| PN | DN        | TB(MWT) [°C]  | - 60 | - 10 | + 50 | + 150 |
|----|-----------|---------------|------|------|------|-------|
| 40 | 10 - 100  | PB(MWP) [bar] | 30   | 40   | 40   | 40    |
| 25 | 125 - 200 |               | 18,7 | 25   | 25   | 25    |

### Durchgangsform / Eckform

### globe type / angle type



| Pos. | Teil / part      |                     | Material                           |
|------|------------------|---------------------|------------------------------------|
| 1    | Gehäuse          | body                | 1.0305 / 1.0488<br>1.4541 / 1.4301 |
| 2    | O - Ring         | o - ring            | CR - 70                            |
| 3    | Lochblech        | hole sheet metal    | 1.4541                             |
| 4    | Siebgewebe       | wire gaze           | 1.4541                             |
| 5    | Flachdichtring K | flat sealing ring K | 3.0255 / PTFE                      |
| 6    | Deckel           | cover               | 1.0038<br>1.4305                   |
| 7    | Schrauben        | screws              | 8.8 / 5.6 / A2-70                  |

# **Rückschlagventil -elast. PTFE-Ring- absperribar / mit Dämpfung**

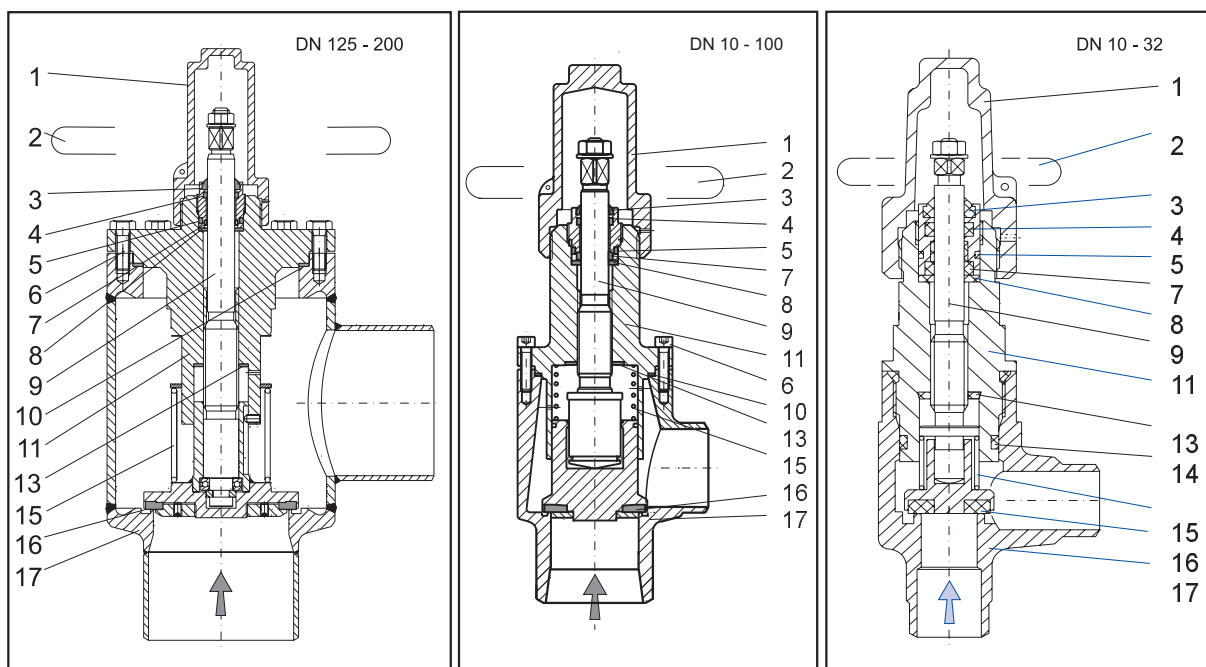
# **RVA**

# **check valve -elastic PTFE-ring- stop / with damping**

| PN | DN        | TB(MWT) [°C]  | - 60 | - 10 | + 50 | + 150 |
|----|-----------|---------------|------|------|------|-------|
| 40 | 10 - 100  |               | 30   | 40   | 40   | 40    |
| 25 | 125 - 200 | PB(MWP) [bar] | 18,7 | 25   | 25   | 25    |

**Durchgangsform / Eckform**

**globe type / angle type**



| Pos. | Teil / part       |                      | Material                           |
|------|-------------------|----------------------|------------------------------------|
| 1    | Kappe             | cap                  | 3.2341                             |
| 2    | Handrad           | handwheel            | Stahlblech/ sheet steel            |
| 3    | Abstreifring      | slip off ring        | NBR-85                             |
| 4    | O-Ring A          | O - ring seal A      | CR-70                              |
| 5    | O-Ring B          | O - ring seal B      | CR-70                              |
| 6    | Schrauben         | screws               | 8.8 / A2 - 70                      |
| 7    | elast.PTFE-Ring   | elastic PTFE - ring  | 1.4571 / PTFE                      |
| 8    | Flachdichtring SB | flat sealing ring SB | AFM - asbestfrei                   |
| 9    | Spindel           | stem                 | 1.4305                             |
| 10   | Flachdichtring K  | flat sealing ring K  | 3.0255 / PTFE                      |
| 11   | Deckel            | cover                | 1.0038<br>1.4305                   |
| 13   | Flachdichtring R  | flat sealing ring R  | PTFE                               |
| 14   | O-Ring D          | o-ring D             | HNBR-70                            |
| 15   | Druckfeder        | spring               | 1.4310                             |
| 16   | Flachdichtring S  | flat sealing ring S  | PTFE                               |
| 17   | Gehäuse           | body                 | 1.0305 / 1.0488<br>1.4541 / 1.4305 |

## SS / RVA

### Saugfilterkombination

*Schmutzsammler  
mit angeweißtem,  
absperzbarem Rückschlagventil*

### suction filter combination

*strainer  
with welded  
stop - check valve*

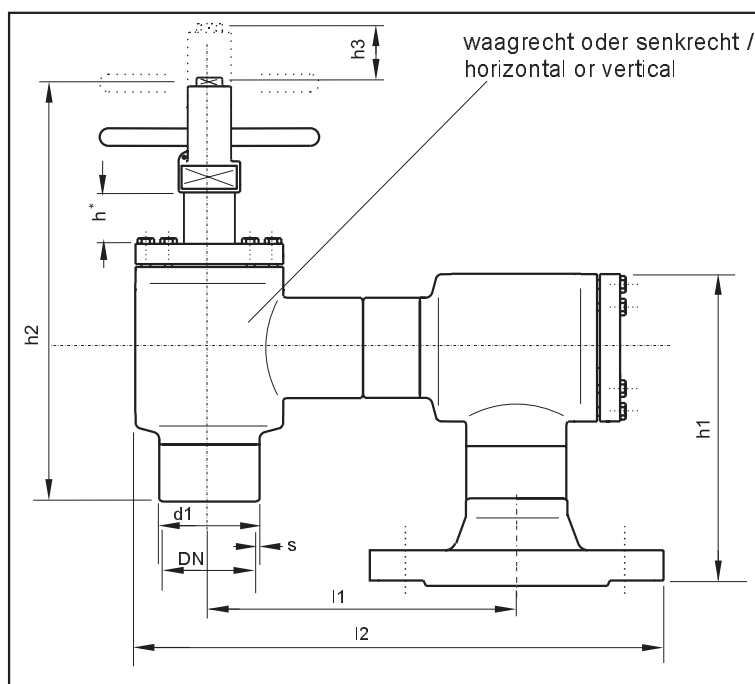
### Eckform/ angle type

#### 575 02

Anschweißende am Eingang  
with welding end on inlet

#### 575 22

Flansch am Eingang  
with flange on inlet



### Einbaulängen / lengths in mm :

| DN  | Anschweißende / welding end |     |               |     |     |     |    |     |           |     |
|-----|-----------------------------|-----|---------------|-----|-----|-----|----|-----|-----------|-----|
|     | Reihe 1 / range 1           |     | ANSI Sched 40 |     |     |     |    |     |           |     |
|     | d1                          | s   | d1            | s   | l1  | l2  | h  | h1  | h2        | h3  |
| 50  | 60,3                        | 2,9 | 60,3          | 3,9 | -   | -   | 50 | -   | 315 (365) | 130 |
| 65  | 76,1                        | 2,9 | 76,1          | 5,2 | 290 | 447 | 60 | 145 | 395 (455) | 145 |
| 80  | 88,9                        | 3,2 | 88,9          | 5,5 | 310 | 505 | 60 | 155 | 450 (510) | 170 |
| 100 | 114,3                       | 3,6 | 114,3         | 6,0 | 350 | 564 | 60 | 175 | 465 (525) | 170 |
| 125 | 139,7                       | 4,0 | 139,7         | 6,6 | 400 | 725 | 80 | 200 | 575 (655) | 240 |
| 150 | 168,3                       | 6,3 | 168,3         | 7,1 | 450 | 818 | 80 | 225 | 650 (730) | 270 |
| 200 | 219,1                       | 6,3 | 219,1         | 8,2 | 550 | 982 | 80 | 275 | 745 (825) | 425 |

\* h, ( ) für Deckelverlängerung / for cover extension

### Varianten / variants :

| DN  | Werkstoff material | Ausführung / design |       | Maschenweite Siebeinsatz mesh width Strainer | Anschweißende welding end         | Flansch / flange | Bypass mit Flansch bypass with flange |    |
|-----|--------------------|---------------------|-------|----------------------------------------------|-----------------------------------|------------------|---------------------------------------|----|
| 50  | 1.0305             | Handrad             | Kappe | 63µm - 1000µm                                | Reihe 1/ range 1<br>ANSI Sched 40 | DIN<br>ANSI      | DIN / ANSI                            |    |
| 65  | 1.4301             | handwheel           | cap   |                                              |                                   |                  | DN                                    | DN |
| 80  | 1.0488             | -                   | -     |                                              |                                   |                  |                                       |    |
| 100 | 1.4541             | x                   | -     |                                              |                                   |                  |                                       |    |
| 125 |                    | -                   | x     |                                              |                                   |                  |                                       |    |
| 150 |                    | x                   | x     |                                              |                                   |                  |                                       |    |
| 200 |                    |                     |       |                                              |                                   |                  | 40                                    | 80 |

## Saugfilterkombination

Schmutzsammler mit angeflanschem  
 Zwischenflanschrückschlagventil  
 und Absperrventil

DN 80 - DN 200

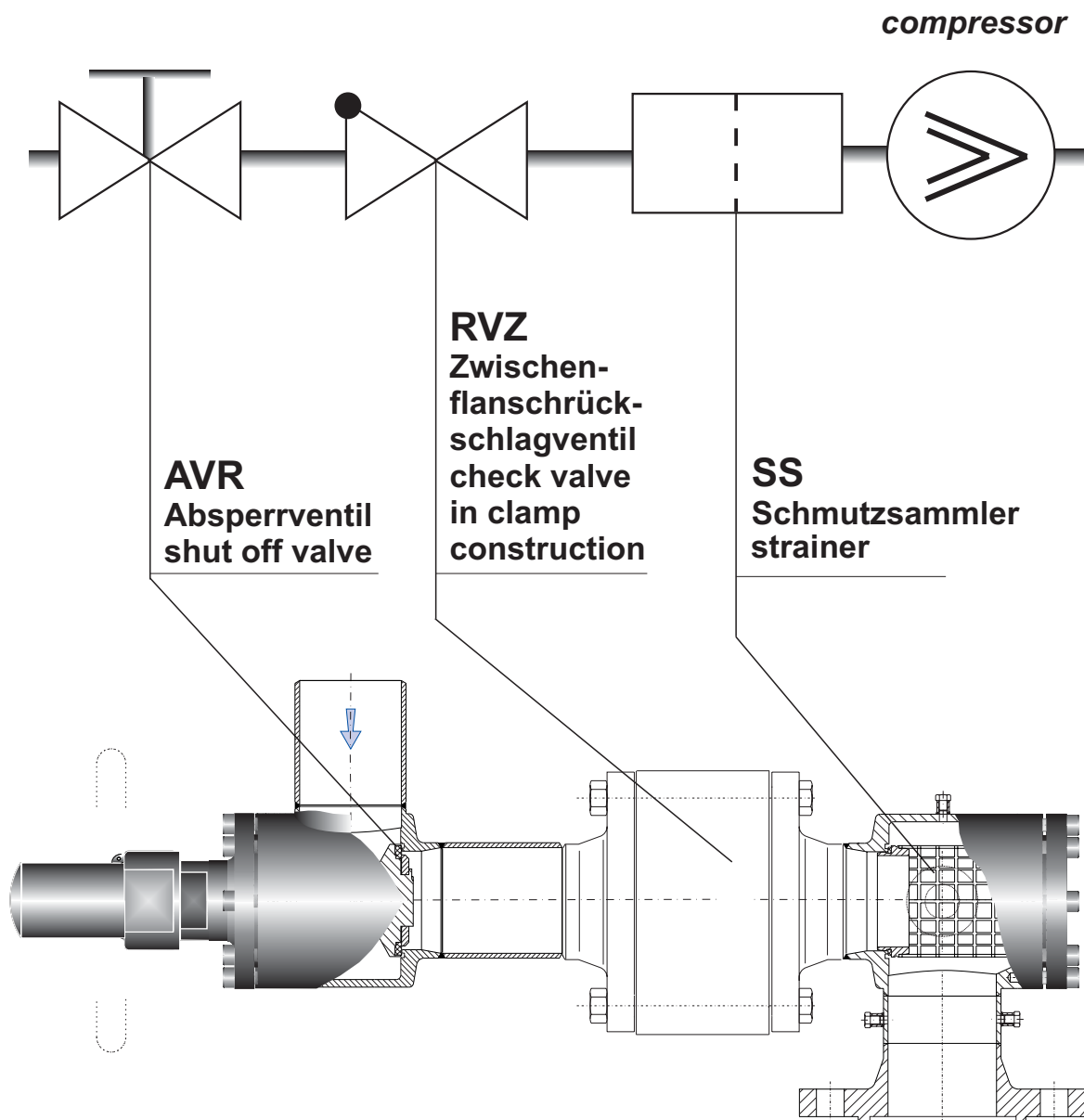
## suction filter combination

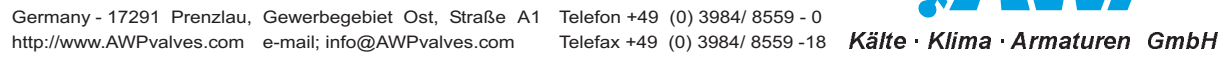
strainer with flanged check valve  
 clamp and shut off valve

SS / RVZ / AVR

PN 25

( PN 40 auf Anfrage / upon request )





## This image shows a full page of blank graph paper. The grid consists of small, uniform squares formed by thin, light gray lines. The paper is otherwise completely white and contains no other markings or text.

## **Saugfilterkombination**

**Schmutzsammler mit angeflanschem  
Zwischenflanschrückschlagventil  
und Absperrventil**

**DN 80 - DN 200**

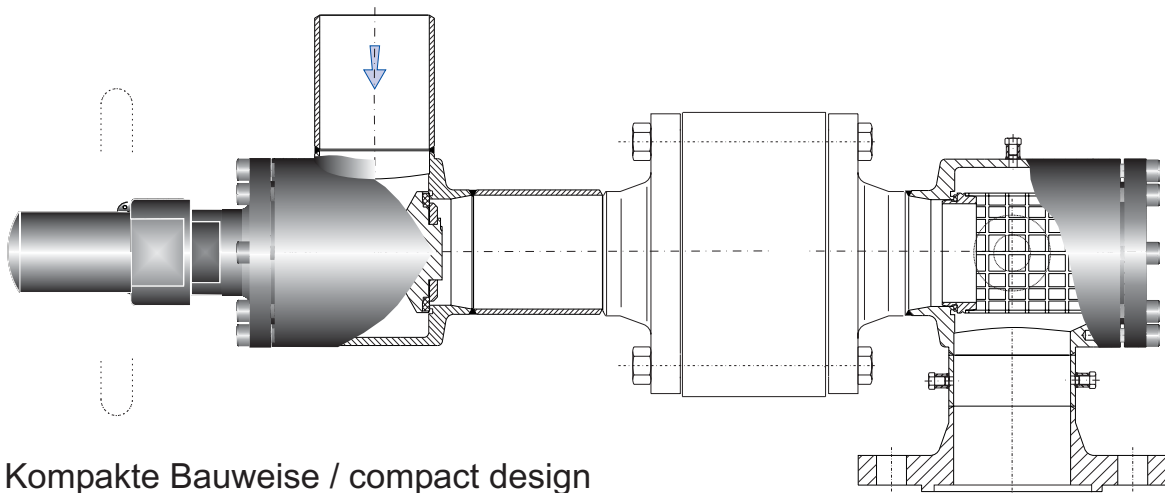
**SS / RVZ / AVR**

## **suction filter combination**

**strainer with flanged check valve  
clamp and shut off valve**

**PN 25**

( PN 40 auf Anfrage / upon request )



### **Kompakte Bauweise / compact design**

- ◆ gute Strömungswerte / low pressure drop
- ◆ geringe Montagezeiten / short assembly time
- ◆ Anschlüsse für Meß- und Prüfstutzen sowie Bypaßanschluß als Option  
optional connections for measure and test nozzles as well as bypass connections
- ◆ Rückschlagventil mit Dämpfung gegen Klappern bei Teillast  
check valve with damping against flutter noise at part load
- ◆ Heißgasanschluß auf Wunsch  
hot gas connection upon request

### **Flanschanschlüsse / flange connection**

- ◆ DIN / ANSI
- ◆ andere Normen auf Wunsch / other standards upon request

### **Filterelement / filter element**

- ◆ Edelstahl / stainless steel
- ◆ Maschenweite von 63 µm bis 1000 µm  
mesh width from 63 µm to 1000 µm

## Schmutzsammler

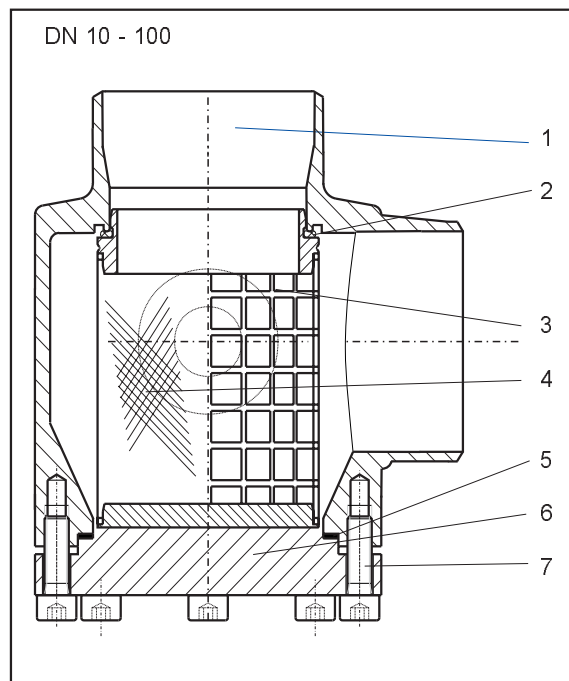
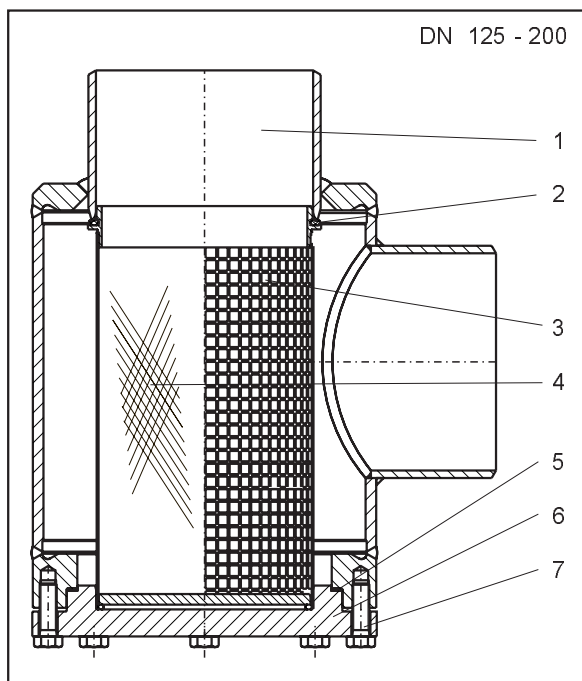
## SS

## strainer

| PN | DN        | TB(MWT) [°C]  | - 60 | - 10 | + 50 | + 150 |
|----|-----------|---------------|------|------|------|-------|
| 40 | 10 - 100  | PB(MWP) [bar] | 30   | 40   | 40   | 40    |
| 25 | 125 - 200 |               | 18,7 | 25   | 25   | 25    |

### Durchgangsform / Eckform

### globe type / angle type



| Pos. | Teil / part      |                     | Material                           |
|------|------------------|---------------------|------------------------------------|
| 1    | Gehäuse          | body                | 1.0305 / 1.0488<br>1.4541 / 1.4301 |
| 2    | O - Ring         | o - ring            | CR - 70                            |
| 3    | Lochblech        | hole sheet metal    | 1.4541                             |
| 4    | Siebgewebe       | wire gaze           | 1.4541                             |
| 5    | Flachdichtring K | flat sealing ring K | 3.0255 / PTFE                      |
| 6    | Deckel           | cover               | 1.0038<br>1.4305                   |
| 7    | Schrauben        | screws              | 8.8 / 5.6 / A2-70                  |

## Rückschlagventil

## RVZ

## check valve

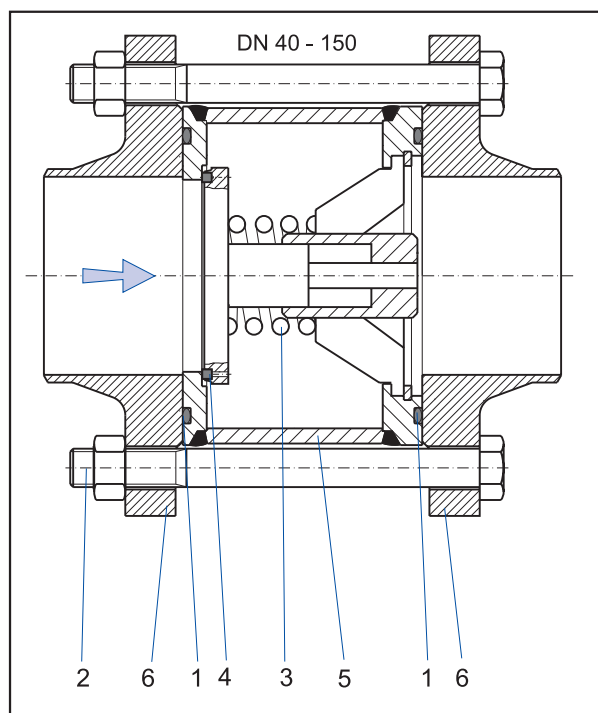
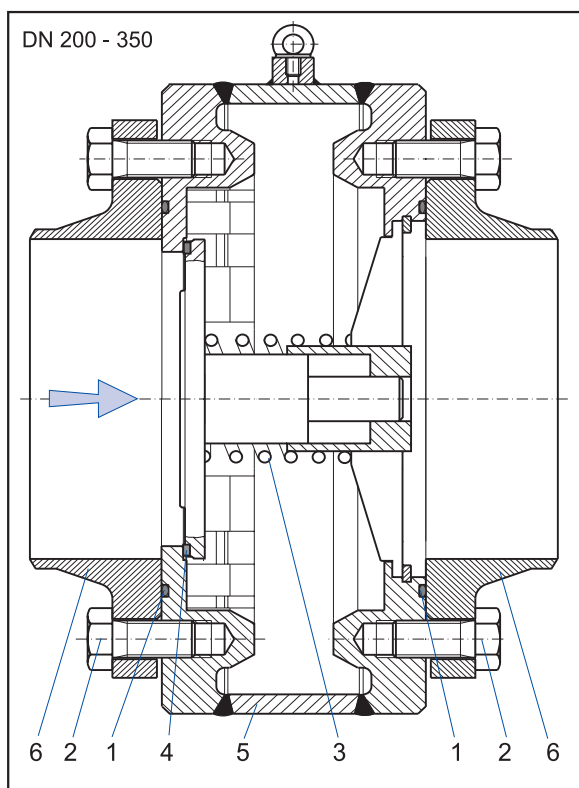
| PN | DN        | TB(MWT) [°C]  | - 60 | - 10 | + 50 | + 150 |
|----|-----------|---------------|------|------|------|-------|
| 40 | 40 - 150  | PB(MWP) [bar] | 30   | 40   | 40   | 40    |
| 25 | 200 - 350 |               | 18,7 | 25   | 25   | 21    |

### Klemmausführung

- ohne Dämpfung **Typ 307 91**
- mit Dämpfung **Typ 307 92**

### clamp construction

- with out damping **type 307 91**
- with damping **type 307 92**



| Pos. | Teil / part      |                     | Material            |
|------|------------------|---------------------|---------------------|
| 1    | O-Ringe          | O - ring seals      | CR-70               |
| 2    | Schrauben        | screws              | 8.8 / 5.6 / A2 - 70 |
| 3    | Druckfeder       | spring              | 1.4310              |
| 4    | Flachdichtring S | flat sealing ring S | PTFE                |
| 5    | Gehäuse          | body                | 1.0305 / 1.0038     |
| 6    | Klemmflansche    | clamp flanges       | 1.0460              |

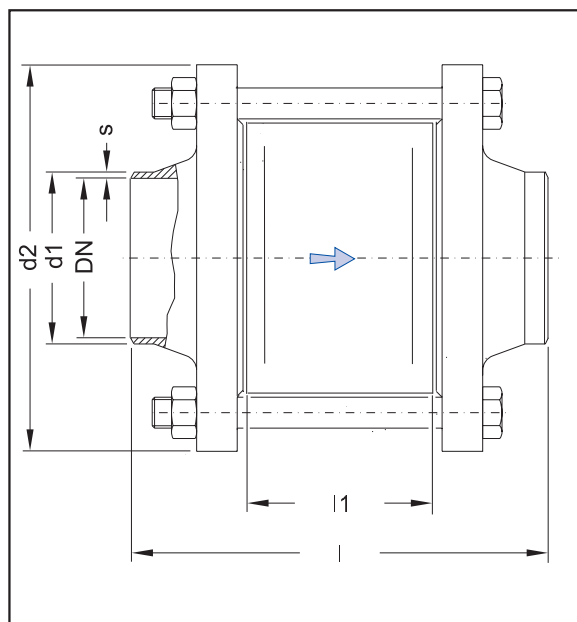
**Rückschlagventil**  
**in Klemmausführung**

**RVZ**

**check valve**  
**with clamp construction**

**307 91**

**307 92** mit Dämpfung / with damping



**Einbaulängen / lengths in mm :**

|     |       | Anschweißenden / welding ends |     |               |      | Flansche / flanges |      |     |     |
|-----|-------|-------------------------------|-----|---------------|------|--------------------|------|-----|-----|
|     |       | Reihe 1 / range 1             |     | ANSI Sched 40 |      | DIN                | ANSI |     |     |
| DN  | INCH  | d1                            | s   | d1            | s    | l                  | l    | l1  | d2  |
| 40  | 1 1/2 | 48,3                          | 2,6 | 48,3          | 3,7  | 160                | 194  | 70  | 150 |
| 50  | 2     | 60,3                          | 2,9 | 60,3          | 3,9  | 176                | 207  | 80  | 165 |
| 65  | 2 1/2 | 76,1                          | 2,9 | 76,1          | 5,2  | 184                | 220  | 80  | 185 |
| 80  | 3     | 88,9                          | 3,2 | 88,9          | 5,5  | 216                | 240  | 100 | 200 |
| 100 | 4     | 114,3                         | 3,6 | 114,3         | 6,0  | 245                | 267  | 115 | 235 |
| 125 | 5     | 139,7                         | 4,0 | 139,7         | 6,6  | 251                | 293  | 115 | 270 |
| 150 | 6     | 168,3                         | 4,5 | 168,3         | 7,1  | 265                | 293  | 115 | 300 |
| 200 | 8     | 219,1                         | 6,3 | 219,1         | 8,2  | 320                | 363  | 160 | 407 |
| 250 | 10    | 273,0                         | 7,1 | 273,0         | 9,3  | 376                | 403  | 200 | 457 |
| 300 | 12    | 323,9                         | 8,0 | 323,9         | 10,3 | 434                | 478  | 250 | 506 |
| 350 | 14    | 355,6                         | 8,0 | 355,6         | 11,1 | 520                | 574  | 320 | 610 |

**Varianten / variants :**

| DN / INCH | Werkstoff / material | Zubehör/ fittings                                                                                                                                                                                                                                                             |
|-----------|----------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 40 1 1/2  | 1.0305               | - Klemmflansche mit Schrauben und Muttern /<br>clamp flanges with screws and nuts<br>DIN<br>ANSI<br>- Anschweißenden / welding ends<br>Reihe1/ range 1<br>ANSI Schedule 40<br>! O - Ringe gehören zum Lieferumfang ! /<br>! O-ring seals are included in the delivery range ! |
| 50 2      | 1.4541               |                                                                                                                                                                                                                                                                               |
| 65 2 1/2  |                      |                                                                                                                                                                                                                                                                               |
| 80 3      |                      |                                                                                                                                                                                                                                                                               |
| 100 4     |                      |                                                                                                                                                                                                                                                                               |
| 125 5     |                      |                                                                                                                                                                                                                                                                               |
| 150 6     |                      |                                                                                                                                                                                                                                                                               |
| 200 8     |                      |                                                                                                                                                                                                                                                                               |
| 250 10    |                      |                                                                                                                                                                                                                                                                               |
| 300 12    |                      |                                                                                                                                                                                                                                                                               |
| 350 14    |                      |                                                                                                                                                                                                                                                                               |

## Absperrventil -elast. PTFE -Ring-

## AVR

## shut off valve -elastic PTFE -ring-

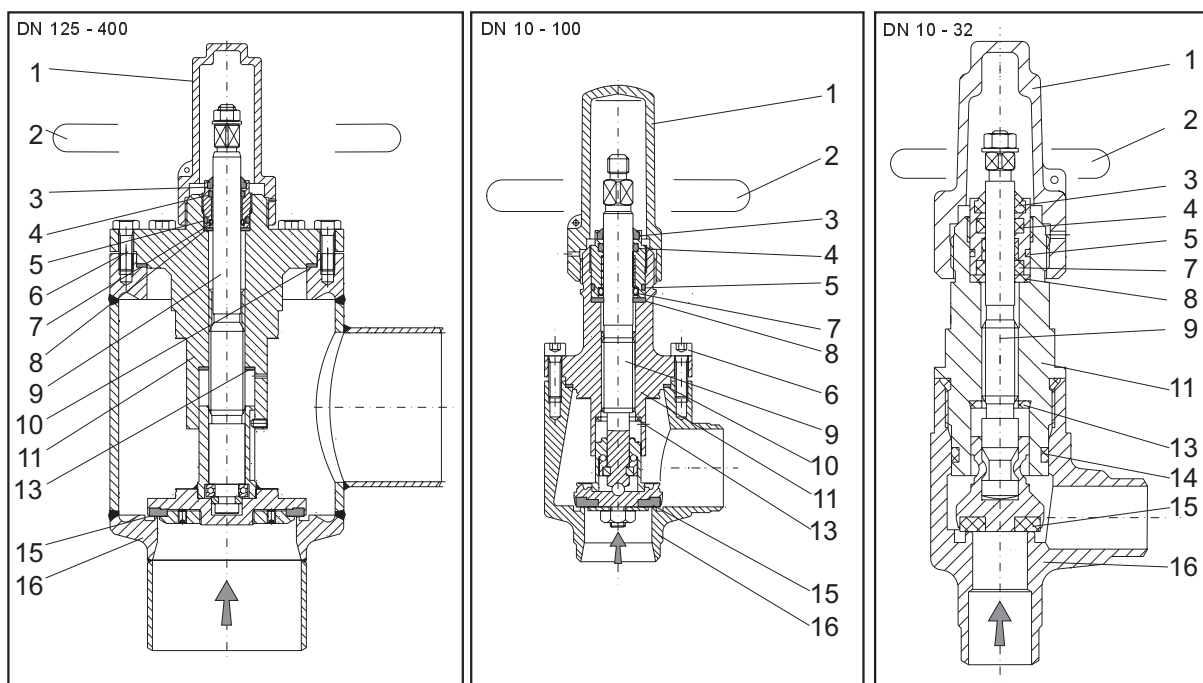
| PN | DN        | TB(MWT) [°C] | - 60 | - 10 | + 50 | + 150 |
|----|-----------|--------------|------|------|------|-------|
| 40 | 10 - 100  |              | 30   | 40   | 40   | 40    |
| 25 | 125 - 400 | PB(MWP)[bar] | 18,7 | 25   | 25   | 25    |

### Durchgangsform / Eckform

### globe type / angle type

mit und ohne Deckelverlängerung

with and without cover extension



| Pos. | Teil / part       |                      | Material                           |
|------|-------------------|----------------------|------------------------------------|
| 1    | Kappe             | cap                  | 3.2341                             |
| 2    | Handrad           | handwheel            | steel                              |
| 3    | Abstreifring      | scraper              | NBR-85                             |
| 4    | O-Ring A          | O - ring seal A      | CR-70                              |
| 5    | O-Ring B          | O - ring seal B      | CR-70                              |
| 6    | Schrauben         | screws               | 8.8 / A2 - 70                      |
| 7    | elast.PTFE-Ring   | elastic PTFE - ring  | 1.4571 / PTFE                      |
| 8    | Flachdichtring SB | flat sealing ring SB | AFM - asbestfrei                   |
| 9    | Spindel kpl.      | stem cmpl.           | 1.4305                             |
| 10   | Flachdichtring K  | flat sealing ring K  | 3.0255 / PTFE                      |
| 11   | Deckel            | cover                | 1.0038 / 1.0488<br>1.4305          |
| 13   | Flachdichtring R  | flat sealing ring R  | PTFE                               |
| 14   | O-Ring D          | O - ring seal D      | HNBR-70                            |
| 15   | Flachdichtring S  | flat sealing ring S  | PTFE                               |
| 16   | Gehäuse           | body                 | 1.0305 / 1.0488<br>1.4541 / 1.4301 |

## SS / RVZ / AVR

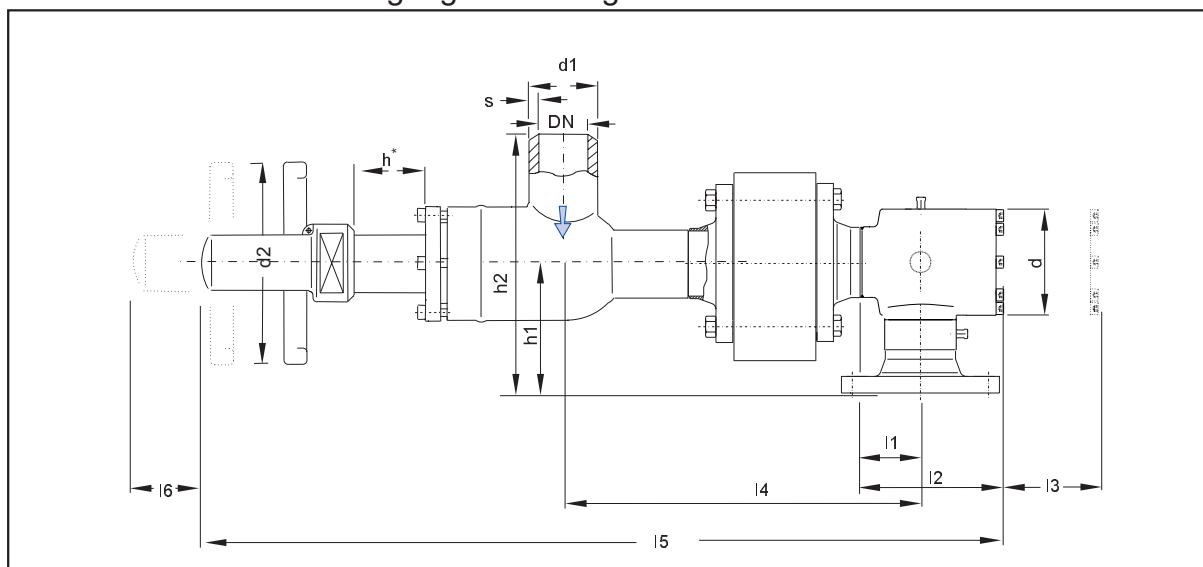
**Saugfilterkombination**  
**Schmutzsammler mit angeflanschem**  
**Zwischenflanschrückschlagventil**  
**und Absperrventil**

**suction filter combination**  
**strainer with flanged**  
**check valve clamp**  
**and shut off valve**

Absperrventil in Eckform  
Shut off valve in angle type

**576 02** Anschweißende am Eingang / with welding ends on inlet

**576 22** Flansch am Eingang / with flange on inlet



Einbaulängen / lengths in mm :

|     | Reihe 1/ range 1 |     | ANSI Sched 40 |     |    |     |     |     |     |     |     |      |     |     |     |
|-----|------------------|-----|---------------|-----|----|-----|-----|-----|-----|-----|-----|------|-----|-----|-----|
| DN  | d1               | s   | d1            | s   | h  | h1  | h2  | l1  | l2  | l3  | l4  | l5   | l6  | d   | d2  |
| 80  | 88,9             | 3,2 | 88,9          | 5,5 | 60 | 200 | 355 | 155 | 280 | 170 | 475 | 915  | 170 | 142 | 200 |
| 100 | 114,3            | 3,6 | 114,3         | 6,0 | 60 | 215 | 390 | 175 | 305 | 170 | 535 | 960  | 170 | 168 | 250 |
| 125 | 139,7            | 4,0 | 139,7         | 6,6 | 80 | 260 | 460 | 200 | 415 | 240 | 590 | 1185 | 240 | 219 | 300 |
| 150 | 168,3            | 4,5 | 168,3         | 7,1 | 80 | 280 | 505 | 225 | 470 | 270 | 645 | 1325 | 270 | 245 | 400 |
| 200 | 219,1            | 6,3 | 219,1         | 8,2 | 80 | 310 | 585 | 275 | 545 | 425 | 795 | 1540 | 425 | 325 | 630 |

\*h, ( ) für Deckverlängerung / for cover extension ; DN 400 auf Anfrage / upon request

Varianten / variants :

| DN  | Werkstoff material | Ausführung / design |       | Maschenweite Siebeinsatz mesh width Strainer | Anschweißende welding end         | Flansch / flange | Bypass mit Flansch bypass with flansch |     |
|-----|--------------------|---------------------|-------|----------------------------------------------|-----------------------------------|------------------|----------------------------------------|-----|
| 80  | 1.0305             | Handrad             | Kappe | 63 µm - 1000 µm                              | Reihe 1/ range 1<br>ANSI Sched 40 | DIN<br>ANSI      | DIN / ANSI                             |     |
| 100 | 1.4541             | handwheel           | cap   |                                              |                                   |                  | DN                                     | DN  |
| 125 |                    | -                   | -     |                                              |                                   |                  | 25                                     | 65  |
| 150 |                    | x                   | -     |                                              |                                   |                  | 32                                     | 80  |
| 200 |                    | -                   | x     |                                              |                                   |                  | 40                                     | 100 |
|     |                    | x                   | x     |                                              |                                   |                  | 50                                     | 125 |

## Doppelölfilter

## DOF

## double oil filter

**DN 25 - DN 80**

**PN 25**

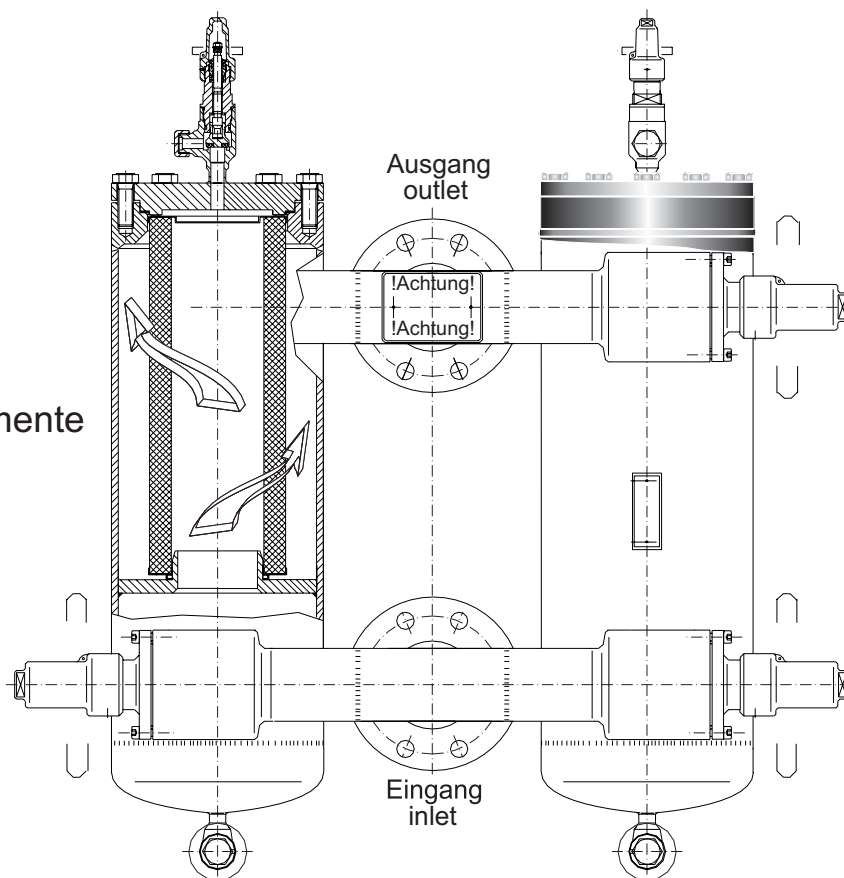
( PN 40 auf Anfrage / upon request )

Durchflußrichtung  
 flow direction

- ◆ von innen nach außen  
 from inside to outside
- ◆ von außen nach innen  
 from outside to inside

Material der Filterelemente  
 filter- material

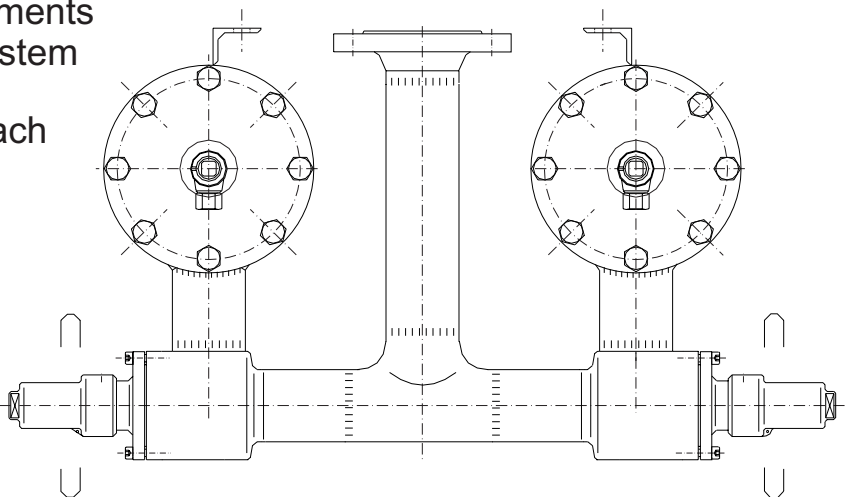
- ◆ Papier / paper
- ◆ Glasvlies  
 fibrous web of glass
- ◆ Edelstahlgewebe /  
 stainless steel mesh
- ◆ Filterfeinheit / fineness  
 10µm, 25µm, 40µm



Auswechseln der Filter  
 bei laufendem Betrieb  
 replacing the filter elements  
 during operation of system

Flanschanschlüsse nach  
 flange connection  
 according to

- ◆ DIN / ANSI
- ◆ Sonderwunsch  
 upon request

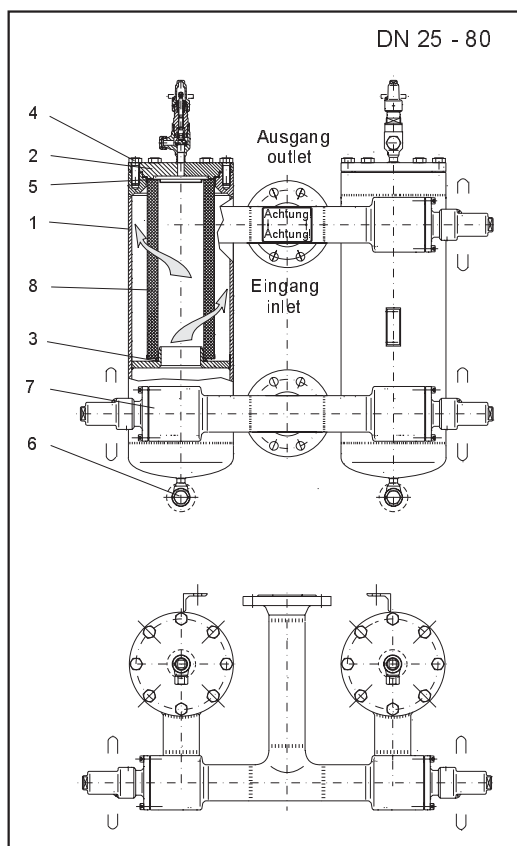


## Doppelölfilter

## DOF

## double oil filter

| PN | DN      | TB(MWT) [°C] | - 10 | + 50 | + 100 |
|----|---------|--------------|------|------|-------|
| 25 | 25 - 80 | PB(MWP)[bar] | 25   | 25   | 25    |



| Pos. | Teil / part            |                         | Material                                                                                                                                                                                                                                                    |
|------|------------------------|-------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 1    | Gehäuse                | body                    | 1.0305 / 1.0038                                                                                                                                                                                                                                             |
| 2    | Deckel                 | cover                   | 1.0038                                                                                                                                                                                                                                                      |
| 3    | O - Ring               | o - ring                | Neopren                                                                                                                                                                                                                                                     |
| 4    | Schrauben              | screws                  | 8.8; A2-70                                                                                                                                                                                                                                                  |
| 5    | Flachdichtung          | Flat sealing ring       | AFM asbestfrei / AFM asbestos free                                                                                                                                                                                                                          |
| 6    | Ablauf- und Füllventil | drain and fill up valve |                                                                                                                                                                                                                                                             |
| 7    | Absperrventil AVR      | shut off valve AVR      |                                                                                                                                                                                                                                                             |
| 8    | Filter                 | filter                  | <ul style="list-style-type: none"> <li>- Edelstahlgewebe / stainless steel</li> <li>- Metallvlies / fibrous web made of metal fibre</li> <li>- Papiervlies / fibrous web made of paper</li> <li>- Polyestervlies / fibrous web made of polyester</li> </ul> |

## Doppelölfilter

## DOF

## double oil filter

| Typ       | Filterelement<br>filter element |
|-----------|---------------------------------|
| <b>58</b> | EPE                             |
| <b>59</b> | INTERNORMEN                     |

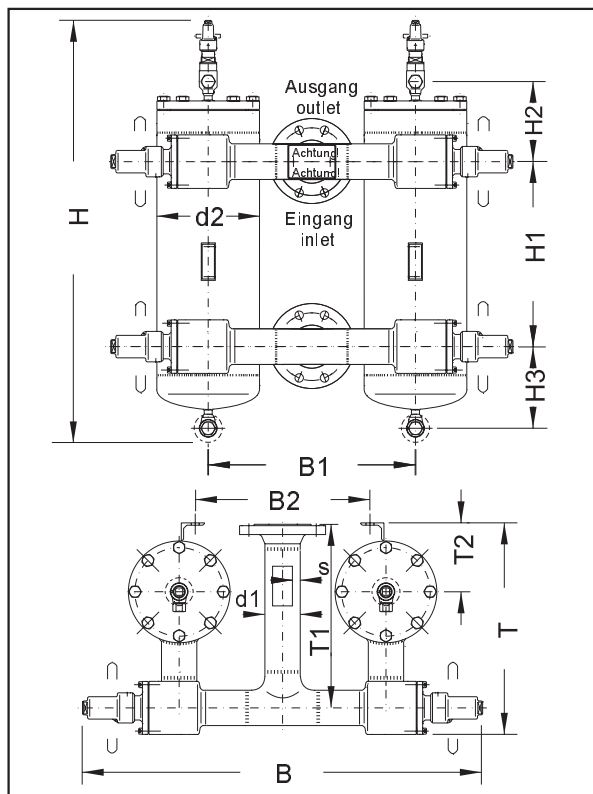
Für detaillierte Auslegung bitte

- Mengendurchsatz in l/min (Volumenstrom)
- Viskosität des Öls
- gewünschter Druckverlust
- Filterfeinheit
- Durchflußrichtung

angeben.

for the specified selection has to be advised :

- volume flow l/min
- oil viscosity
- required pressure drop
- filter fineness
- flow direction



Darstellung und Maßstabelle für Ausführung stehend mit EPE - Filter  
 Presentation and Dimension for design vertical with EPE - filter

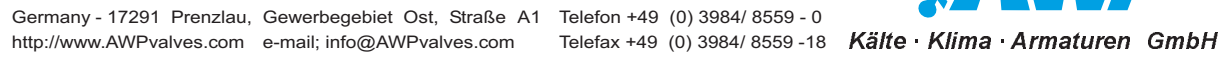
### Einbaulängen / lengths in mm :

|    | Reihe 1/ range 1 |     | ANSI Sched 40 |     |      |     |     |      |     |     |     |     |     |     |     |
|----|------------------|-----|---------------|-----|------|-----|-----|------|-----|-----|-----|-----|-----|-----|-----|
| DN | d1               | s   | d1            | s   | H    | H1  | H2  | H3   | B   | B1  | B2  | T   | T1  | T2  | d2  |
| 25 | 33,7             | 2,6 | 33,4          | 3,4 | 890  | 395 | 171 | 139  | 720 | 320 | 376 | 390 | 350 | 148 | 140 |
| 32 | 42,4             | 2,6 | 42,2          | 3,6 | 890  | 395 | 171 | 139  | 720 | 320 | 376 | 390 | 350 | 148 | 140 |
| 40 | 48,3             | 2,6 | 48,3          | 3,7 | 890  | 395 | 171 | 175  | 720 | 320 | 376 | 390 | 350 | 148 | 140 |
| 50 | 60,3             | 2,9 | 60,3          | 3,9 | 890  | 395 | 171 | 175  | 760 | 360 | 376 | 412 | 365 | 148 | 140 |
| 65 | 76,1             | 2,9 | 76,1          | 5,2 | 890  | 395 | 171 | 175* | 860 | 445 | 376 | 455 | 395 | 148 | 219 |
| 80 | 88,9             | 3,2 | 88,9          | 5,5 | 1034 | 520 | 181 | 184  | 970 | 484 | 376 | 475 | 405 | 148 | 219 |

\* für EPE 901, EPE 1401 = 184 mm / for EPE 901, for EPE 1401 = 184 mm

### Varianten / variants :

| DN                               | Werkstoff<br>material | Ausführung / design<br>Filtermaterial / material                                                                                                                                                               | Feinheit / fineness<br>[µm] | Anschweißenden /<br>welding ends      | Flansch /<br>flange | Lötende /<br>soldered end |
|----------------------------------|-----------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------|---------------------------------------|---------------------|---------------------------|
| 25<br>32<br>40<br>50<br>65<br>80 | 1.0305<br>1.0038      | <b>EPE</b><br>-Papiervlies /<br>fibrous web made of paper<br><br><b>INTERNORMEN</b><br>-Glasfaservlies /<br>fibrous web made of glass fiber<br><br>andere Filter auf Anfrage /<br>further filters upon request | P15<br><br><br>16GV         | Reihe 1 / range 1<br>ANSI Schedule 40 | DIN<br>ANSI         | DIN<br>ANSI               |



## This image shows a full page of blank graph paper. The grid consists of small, uniform squares formed by thin, light gray lines. The paper is otherwise completely white and contains no other markings or text.

## Öl - Filter mit Magneten

OF

oil filter  
with magnets

DN 25 - DN 80

PN 25

( PN 40 auf Anfrage / upon request )

Durchflußrichtung  
flow direction

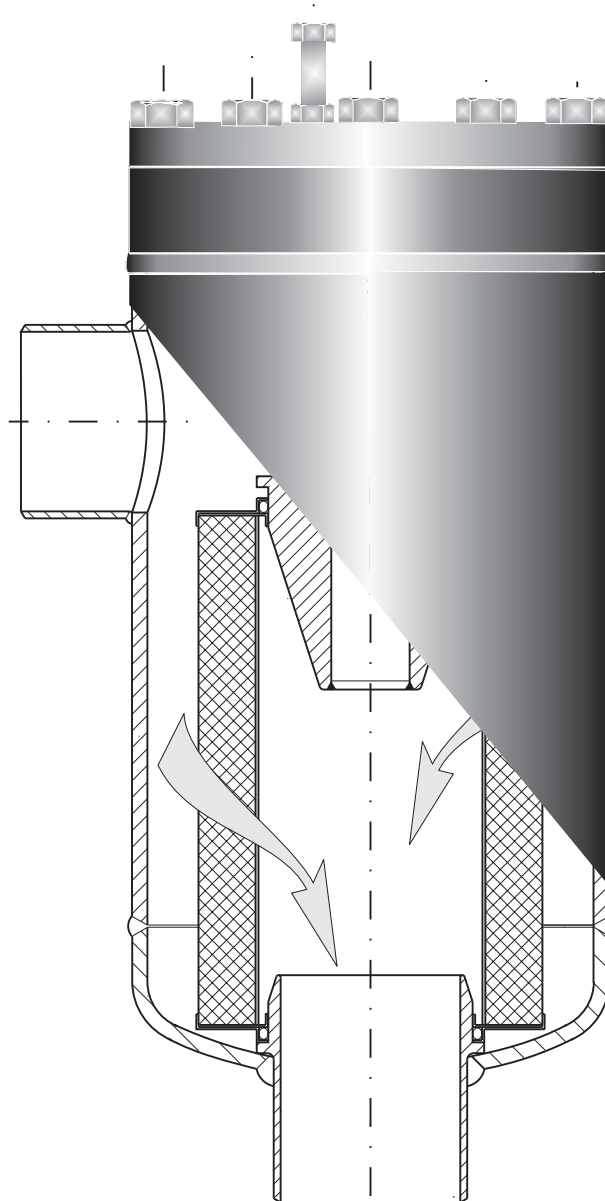
- ◆ von außen nach innen  
from outside to inside

Material der Filterelemente  
filter- material

- ◆ Papier / paper
- ◆ Glasvlies  
fibrous web of glass
- ◆ Edelstahlgewebe /  
stainless steel mesh
- ◆ Filterfeinheit / fineness  
10µm, 25µm, 40µm

Anschlußarten  
connections

- ◆ Flansche  
flanges  
- DIN  
- ANSI
- ◆ Anschweißenden  
welding ends
- ◆ Lötenden  
solder ends
- ◆ Anschlußarten kombinierbar  
connection combinably
- ◆ Sonderwunsch  
upon request



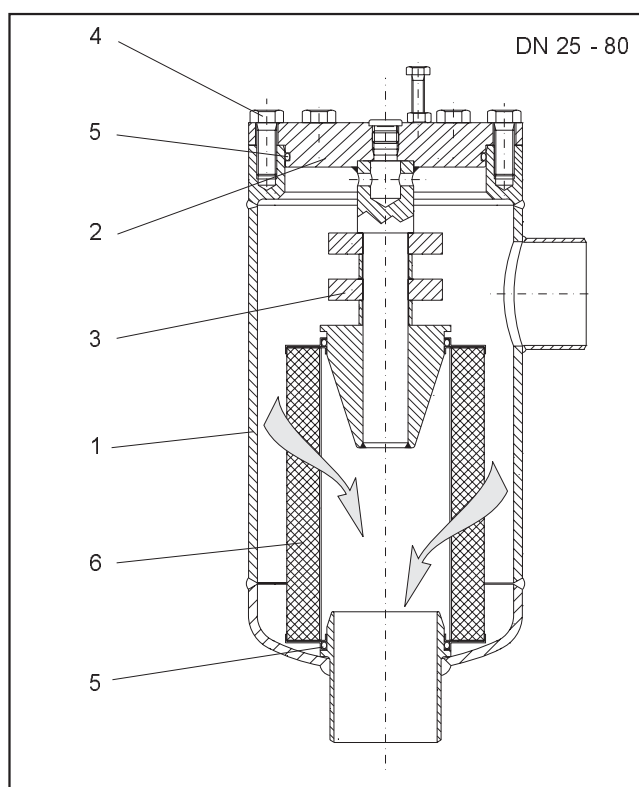
## Ölfilter mit Magneten

# OF

## oil filter with magnets

| PN | DN      | TB(MWT) [°C] | - 10 | + 50 | + 100 |
|----|---------|--------------|------|------|-------|
| 40 | 25 - 80 | PB(MWP)[bar] | 30   | 40   | 40    |
| 25 | 25 - 80 |              | 25   | 25   | 25    |

### Eckform / angle type



| Pos. | Teil / part |        | Material                                                                               |
|------|-------------|--------|----------------------------------------------------------------------------------------|
| 1    | Gehäuse     | body   | 1.0305 / 1.0038                                                                        |
| 2    | Deckel      | cover  | 1.0038                                                                                 |
| 3    | Magnet      | magnet | 0 x 8/22 (0 x 100)                                                                     |
| 4    | Schrauben   | screws | 8.8; A2-70                                                                             |
| 5    | O-Ring      | O-ring | Neopren                                                                                |
| 6    | Filter      | filter | - Edelstahlgewebe /<br>stainless steel<br>- Papiervlies /<br>fibrous web made of paper |

**Ölfilter**  
**mit Magneten**

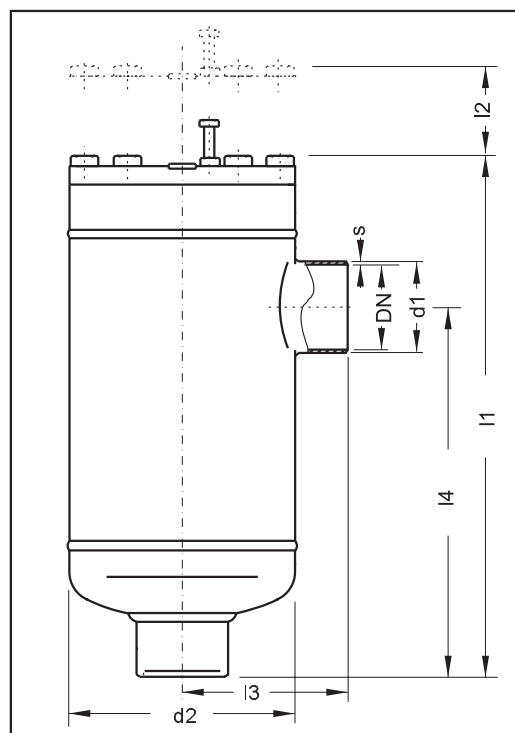
**OF**

**oil filter**  
**with magnets**

**577 00** *Anschweißende /  
 welding end*

**577 20** *Flanschanschluß /  
 flange connection*

**577 80** *Lötanschluß /  
 solder end*



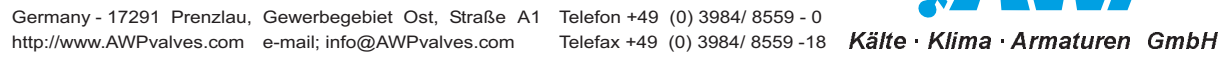
Anschlußkombinationen möglich - auf Anfrage  
 connection combinations available - upon request

**Einbaulängen / lengths in mm :**

| DN | Anschweißenden / welding ends |     |               |     |     |     |     |     |     |
|----|-------------------------------|-----|---------------|-----|-----|-----|-----|-----|-----|
|    | Reihe 1 / range 1             |     | ANSI Sched 40 |     |     |     |     |     |     |
|    | d1                            | s   | d1            | s   | l1  | l2  | l3  | l4  | d2  |
| 25 | 33,7                          | 2,6 | 33,4          | 3,4 | 350 | 200 | 120 | 230 | 140 |
| 32 | 42,4                          | 2,6 | 42,2          | 3,6 | 350 | 200 | 120 | 230 | 140 |
| 40 | 48,3                          | 2,6 | 48,3          | 3,7 | 350 | 200 | 120 | 230 | 140 |
| 50 | 60,3                          | 2,9 | 60,3          | 3,9 | 350 | 200 | 120 | 230 | 140 |
| 65 | 76,1                          | 2,9 | 76,1          | 5,2 | 505 | 260 | 160 | 360 | 219 |
| 80 | 88,9                          | 3,2 | 88,9          | 5,5 | 505 | 260 | 160 | 360 | 219 |

**Varianten / variants :**

| DN                               | Werkstoff<br>material | Ausführung / design<br>Filtermaterial / material | Feinheit / fineness<br>[µm] | Anschweißenden /<br>welding ends      | Flansch /<br>flange | Lötenden /<br>solder ends |
|----------------------------------|-----------------------|--------------------------------------------------|-----------------------------|---------------------------------------|---------------------|---------------------------|
| 25<br>32<br>40<br>50<br>65<br>80 | 1.0305<br>1.0038      | Edelstahlgewebe /<br>stainless steel             | G10 G25 G40                 | Reihe 1 / range 1<br>ANSI Schedule 40 | DIN<br>ANSI         | DIN<br>ANSI               |
|                                  |                       | Papiervlies /<br>fibrous web made of paper       | P5 P10 P25                  |                                       |                     |                           |



## This image shows a full page of blank graph paper. The grid consists of small, uniform squares formed by thin, light gray lines. The paper is otherwise completely white and contains no other markings or text.

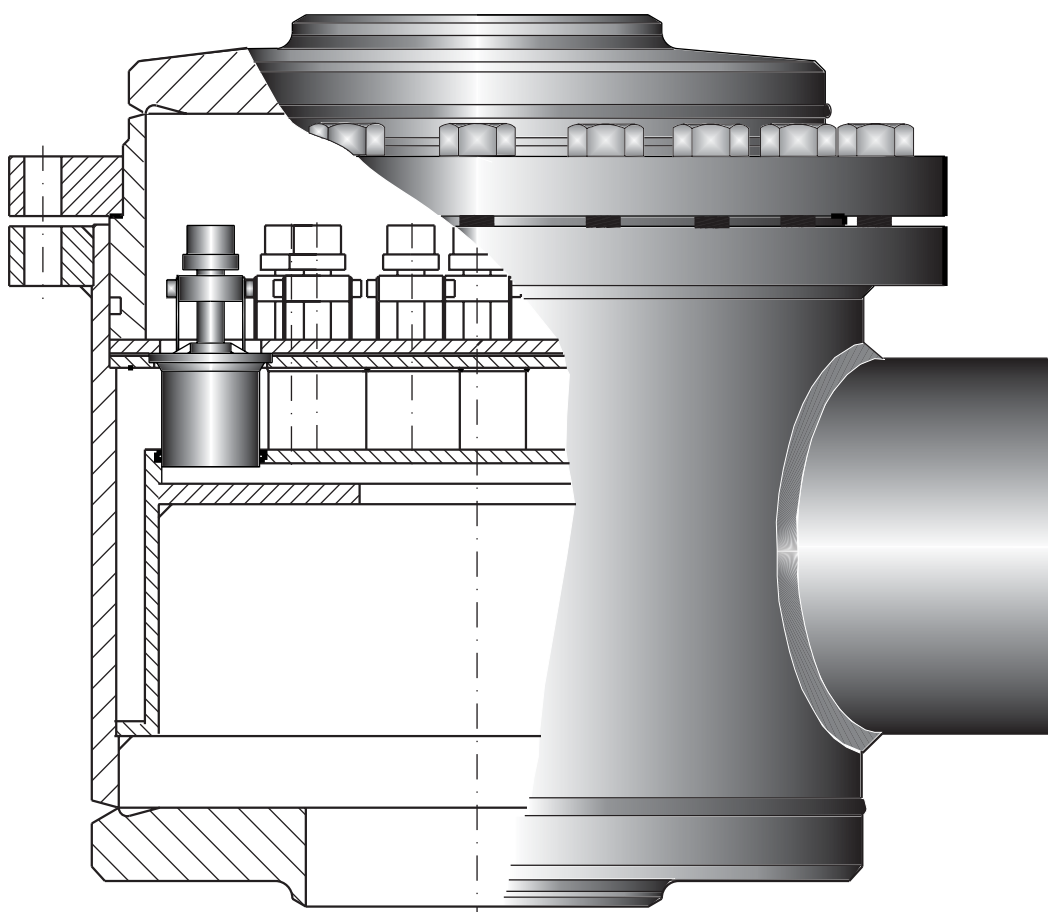
## Temperaturregler für Ölkreisläufe

**TR**

*thermostatic 3-way valve  
for oil circulations*

**DN 25 - DN 100**

**PN 40**



- ◆ kompakte Bauweise  
compact design
- ◆ feine Abstufung der Temperaturintervalle  
im Bereich von 10°C bis 125°C  
precise gradation of the temperature  
range from 10°C bis 125°C
- ◆ geringe Toleranzen im Regelbereich  
low tolerances at range of control
- ◆ variable Anschlußtechnik mit Schweißenden,  
Flanschen und Lötenden  
variable connections with welding ends,  
flanges and solder ends

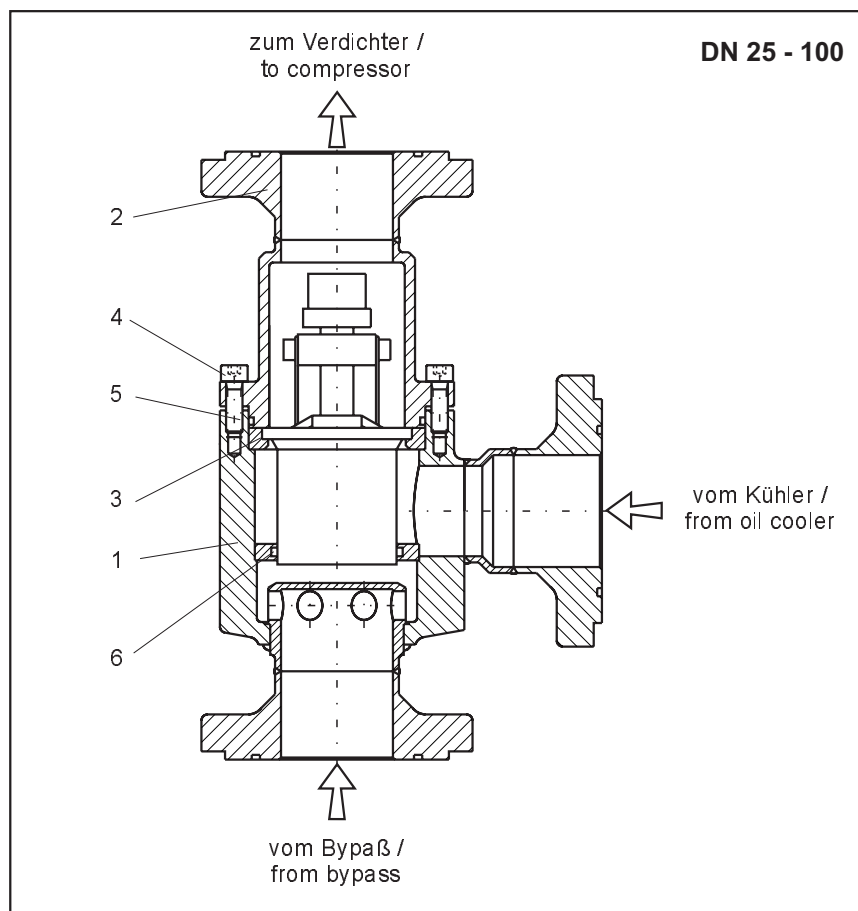
## Temperaturregler

**TR**

**thermostatic 3-way valve**

| PN | DN       | TB(MWT) [°C] | - 60 | - 10 | + 50 | + 150 |
|----|----------|--------------|------|------|------|-------|
| 40 | 25 - 100 | PB(MWP)[bar] | 30   | 40   | 40   | 40    |

### Eckform / angle type



| Pos. | Teil / part    |                   | Material                 |
|------|----------------|-------------------|--------------------------|
| 1    | Gehäuse        | body              | 1.0460 / 1.0305 / 1.4301 |
| 2    | Flansch        | Flange            | 1.0460 / 1.4541          |
| 3    | Ring           | ring              | 1.0038                   |
| 4    | Schrauben      | Screws            | 8.8; A2-70               |
| 5    | O-Ring         | O-ring            | Neopren                  |
| 6    | Flachdichtring | Flat sealing ring | PTFE (Teflon)            |

## Temperaturregler

## TR

## thermostatic 3-way valve

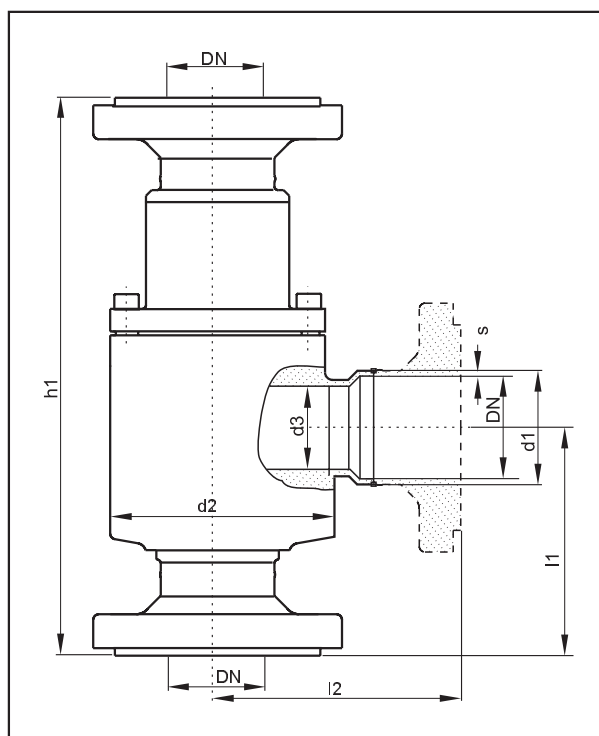
**470 0** Anschweißende /  
welding end

**470 1** Flanschanschluß /  
flange connection

**470 4** Gewindeanschluß /  
screw end

**470 8** Lötanschluß /  
solder end

Anschlußkombinationen möglich - auf Anfrage  
 connection combinations available - upon request

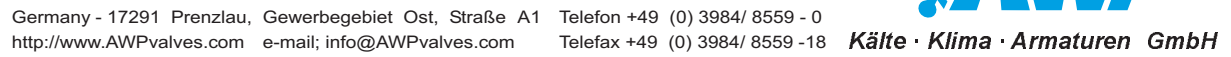


### Einbaulängen / lengths in mm :

|     | Anschweißenden/ welding ends |     |               |     |       |       |     |     |       |
|-----|------------------------------|-----|---------------|-----|-------|-------|-----|-----|-------|
|     | Reihe 1 / range 1            |     | ANSI Sched 40 |     |       |       |     |     |       |
| DN  | d1                           | s   | d1            | s   | l1    | l2    | h1  | d2  | d3    |
| 25  | 33,7                         | 2,6 | 33,4          | 3,4 | 111,0 | 116,0 | 221 | 90  | 34    |
| 32  | 42,4                         | 2,6 | 42,2          | 3,6 | 111,0 | 116,0 | 221 | 90  | 34    |
| 40  | 48,3                         | 2,6 | 48,3          | 3,7 | 105,5 | 112,5 | 238 | 90  | 34    |
| 50  | 60,3                         | 2,9 | 60,3          | 3,9 | 121,0 | 129,0 | 306 | 114 | 44    |
| 65  | 76,1                         | 2,9 | 76,1          | 5,2 | 143,0 | 188,0 | 344 | 167 | 76,1  |
| 80  | 88,9                         | 3,2 | 88,9          | 5,5 | 157,0 | 194,0 | 370 | 167 | 88,9  |
| 100 | 114,3                        | 3,6 | 114,3         | 6,0 | 197,0 | 279,0 | 450 | 243 | 114,3 |

### Varianten / variants :

| DN                             | Werkstoff material         | Ausführung / design | Anschweißenden / welding ends        | Flansch / flange | Lötenden / solder ends |
|--------------------------------|----------------------------|---------------------|--------------------------------------|------------------|------------------------|
| 25 65<br>32 80<br>40 100<br>50 | 1.0460<br>1.0305<br>1.4301 | Freone<br>Ammonia   | Reihe 1/ range 1<br>ANSI Schedule 40 | DIN<br>ANSI      | DIN<br>ANSI            |



## This image shows a full page of blank graph paper. The grid consists of small, uniform squares formed by thin, light gray lines. The paper is otherwise completely white and contains no other markings or text.

## **Wechsel - Sicherheitsventil**

**Kombination mit Flanschanschluß  
Gegendruck - abhängig**

## **dual safety valve**

**combination with flange connection  
depending on back pressure**

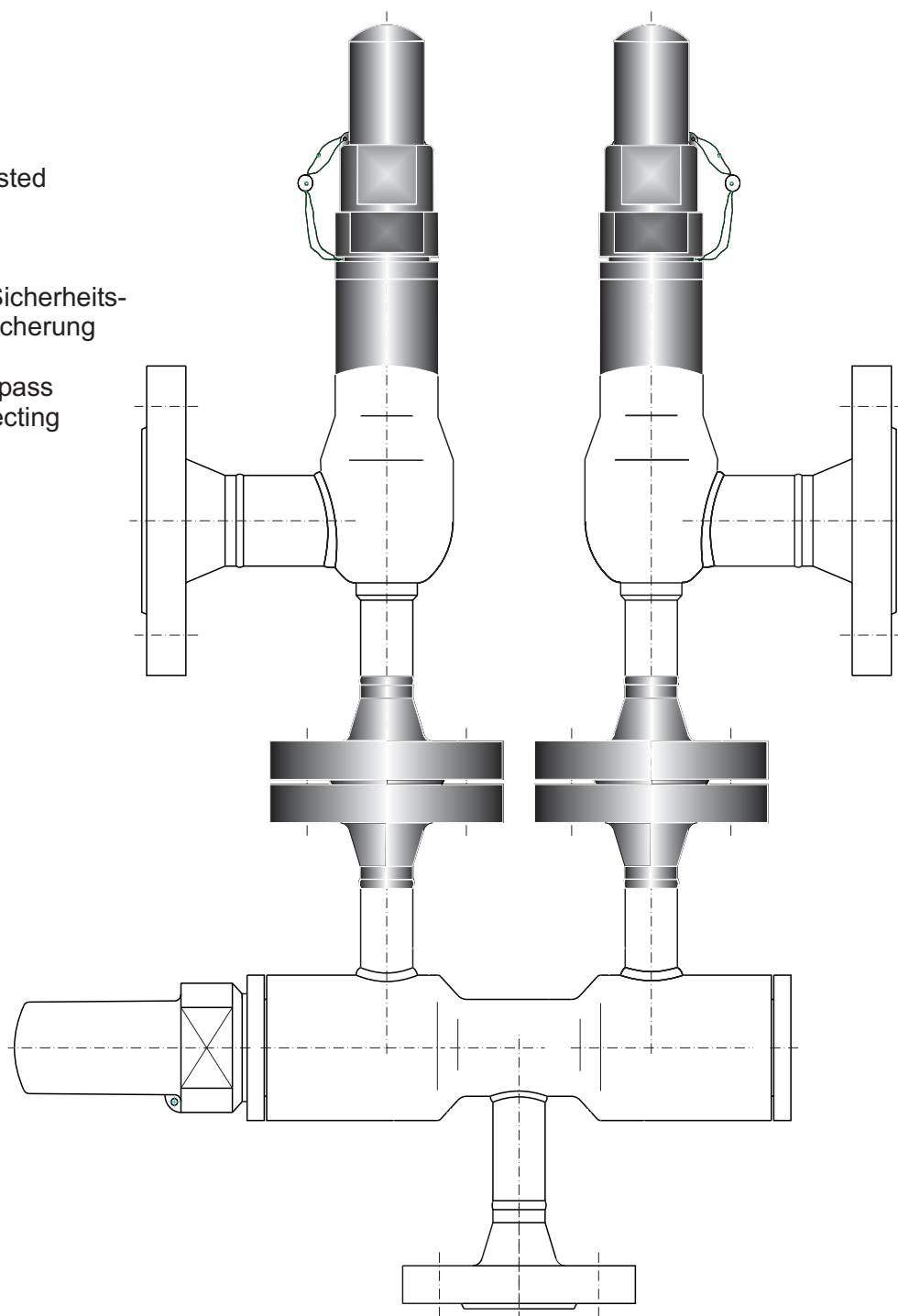
**DN 10 - DN 50**

**SVA / WVVB**

**PN 25**

( PN 40 auf Anfrage / upon request )

- ◆ bauteilgeprüft  
component tested
- ◆ geeignet als Sicherheits-  
ventil zur Absicherung  
von Behältern  
suitable as bypass  
valve for protecting  
the vessels





**Kälte · Klima · Armaturen GmbH**

## This image shows a full page of blank graph paper. The grid consists of small, uniform squares formed by thin, light gray lines. The paper is otherwise completely white and contains no other markings or text.

## **Sicherheitsventil**

*Gegendruck - abhängig*

## **safety valve**

*depending on back pressure*

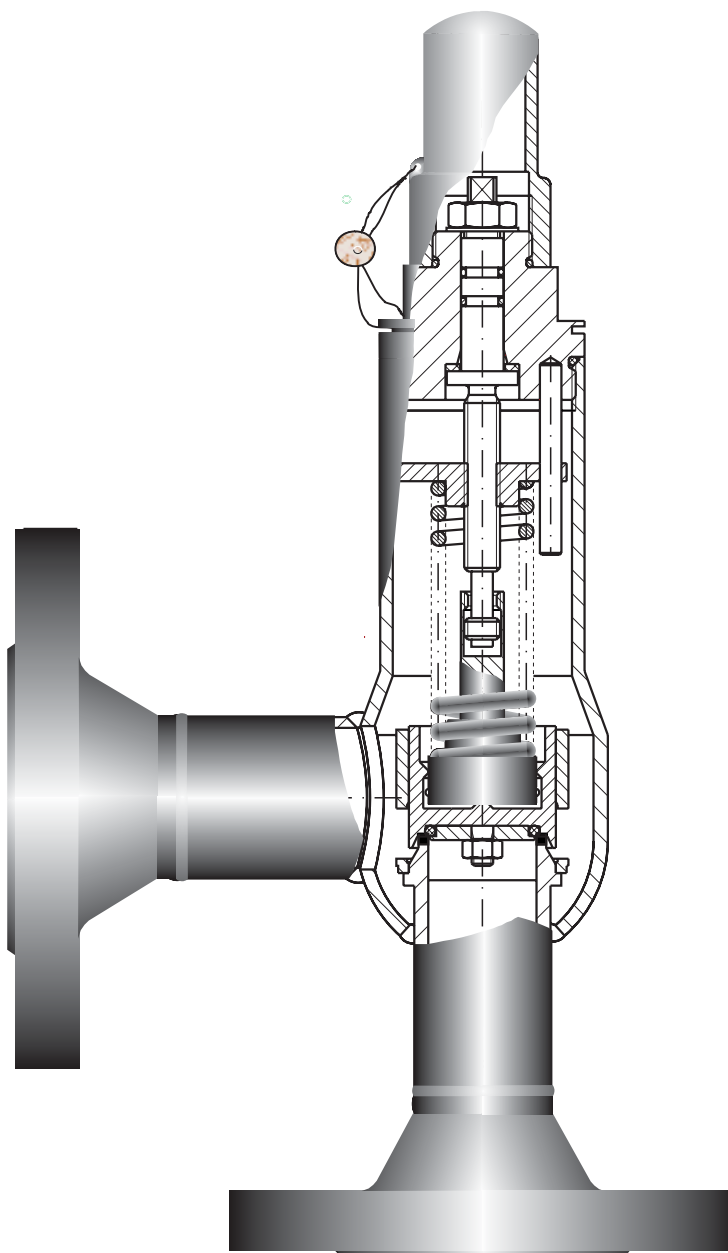
**DN 10- DN 50**

**SVA**

**PN 25**

*( PN 40 auf Anfrage / upon request )*

- ◆ bauteilgeprüft  
component tested
- ◆ geeignet als Sicherheitsventil  
zur Absicherung von Behältern  
suitable as bypass valve  
for protecting the vessels



## Sicherheitsventil Gegendruck-abhängig

## SVA

## safety valve depending on back pressure

| PN | DN      | TB(MWT) [°C]  | - 60 | - 10 | + 50 | + 150 |
|----|---------|---------------|------|------|------|-------|
| 40 | 15 - 32 | PB(MWP) [bar] | 30   | 40   | 40   | 40    |
| 25 | 40 - 50 |               | 18,7 | 25   | 25   | 25    |

### Eckform

### angle type

**Anwendung:** selbsttätig wirkende Sicherheitseinrichtung zum Schutz vor unzulässiger Druckerhöhung,

*! Achtung !*

*Ansprechdruck = Einstelldruck +  
Fremdgedruck\**

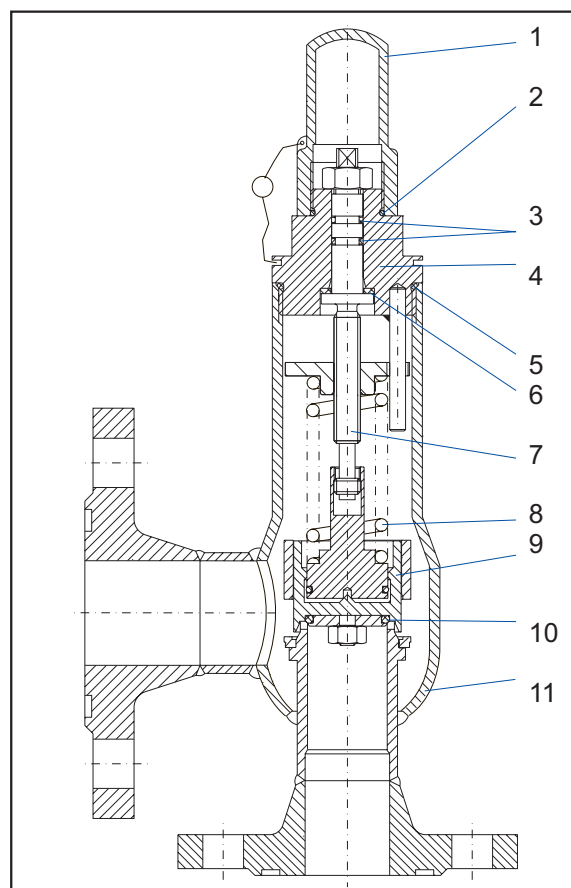
\* DIN 3320 Teil 1 09/84

**Application:** automatically working safety valve protecting against inadmissible pressure increases

*! Attention !*

*set pressure = test pressure +  
superimposed back pressure\**

\* DIN 3320 Teil 1 09/84



| Pos. | Teil / part  |                  | Material                            |
|------|--------------|------------------|-------------------------------------|
| 1    | Kappe        | cap              | 3.2341                              |
| 2    | O-Ring K     | O - ring seal K  | NBR-85                              |
| 3    | O-Ring SP    | O - ring seal SP | CR-70 (Neopren)                     |
| 4    | Deckel       | cover            | 1.0038                              |
| 5    | O-Ring D     | O - ring seal D  | CR-70 (Neopren)                     |
| 6    | Gleitscheibe | sliding disc     | PTFE (Teflon)                       |
| 7    | Spindel      | stem             | 1.4021                              |
| 8    | Druckfeder   | spring           | Federstahl C DIN 17223              |
| 9    | Dichtkolben  | tight piston     | 1.4541                              |
| 10   | O-Ring S     | O - ring seal S  | CR-85 sb (Neopren)<br>PTFE (Teflon) |
| 11   | Gehäuse      | casing           | 1.0305 / 1.0038<br>1.4541 / 1.4301  |

**Sicherheitsventil**  
**Gegendruck-abhängig**

**Anschweißenden**

**SVA**

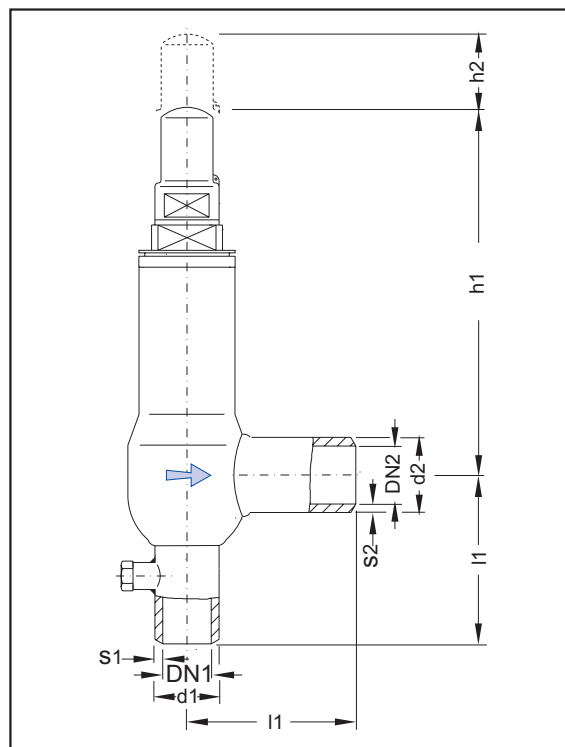
**safety valve**  
**depending on back pressure**

**welding ends**

**432 SVAB** -35°C bis / to +100°C

**434 SVAA** -60°C bis / to +180°C

Anschlußkombinationen möglich - auf Anfrage  
 connection combinations available - upon request



**Einbaulängen / lengths in mm :**

|     |     | Anschweißen/ welding ends |     |      |     |                  |     |      |     |               |     |      |     |     |     |     |
|-----|-----|---------------------------|-----|------|-----|------------------|-----|------|-----|---------------|-----|------|-----|-----|-----|-----|
|     |     | Reihe 1/ range 1          |     |      |     | Reihe 2/ range 2 |     |      |     | ANSI Sched 40 |     |      |     |     |     |     |
| DN1 | DN2 | d1                        | s1  | d2   | s2  | d1               | s1  | d2   | s2  | d1            | s1  | d2   | s2  | l1  | h1  | h2  |
| 10  | 20  | 17,2                      | 1,8 | 26,9 | 2,3 | 15,0             | 2,5 | 25,0 | 2,5 | 17,1          | 2,3 | 26,7 | 2,9 | 50  | 175 | 105 |
| 15  | 25  | 21,3                      | 2,0 | 33,7 | 2,6 | 20,0             | 2,5 | 32,0 | 3,0 | 21,3          | 2,8 | 33,4 | 3,4 | 60  | 175 | 105 |
| 20  | 25  | 26,9                      | 2,3 | 33,7 | 2,6 | 25,0             | 2,5 | 32,0 | 3,0 | 26,7          | 2,9 | 33,4 | 3,4 | 60  | 175 | 105 |
| 25  | 40  | 33,7                      | 2,6 | 48,3 | 2,6 | 32,0             | 3,0 | 45,0 | 3,0 | 33,4          | 3,4 | 48,3 | 3,7 | 75  | 216 | 125 |
| 32  | 40  | 42,4                      | 2,6 | 48,3 | 2,6 | 38,0             | 3,0 | 45,0 | 3,0 | 42,2          | 3,6 | 48,3 | 3,7 | 75  | 218 | 125 |
| 40  | 65  | 48,3                      | 2,6 | 76,1 | 2,9 | 45,0             | 3,0 | 76,1 | 3,4 | 48,3          | 3,7 | 76,1 | 5,2 | 105 | 294 | 140 |
| 50  | 65  | 60,3                      | 2,9 | 76,1 | 2,9 | 57,0             | 3,2 | 76,1 | 3,4 | 60,3          | 3,9 | 76,1 | 5,2 | 115 | 291 | 140 |

**Varianten / variants :**

| DN | Werkstoff<br>material | Ausführung / design<br>Einstelldruck / test pressure pe [bar] |    |    | Anschweißenden<br>welding ends                             |
|----|-----------------------|---------------------------------------------------------------|----|----|------------------------------------------------------------|
| 10 | 1.0305                | 4                                                             | 13 | 22 | Reihe 1 / range 1<br>Reihe 2 / range 2<br>ANSI Schedule 40 |
| 15 | 1.4301                | 5                                                             | 14 | 23 |                                                            |
| 20 | 1.4541                | 6                                                             | 15 | 24 |                                                            |
| 25 |                       | 7                                                             | 16 | 25 |                                                            |
| 32 |                       | 8                                                             | 17 | 26 |                                                            |
| 40 |                       | 9                                                             | 18 | 27 |                                                            |
| 50 |                       | 10                                                            | 19 | 28 |                                                            |
|    |                       | 11                                                            | 20 |    |                                                            |
|    |                       | 12                                                            | 21 |    |                                                            |

**Sicherheitsventil**  
 Gegendruck-abhängig

**Flanschanschluß**

**SVA**

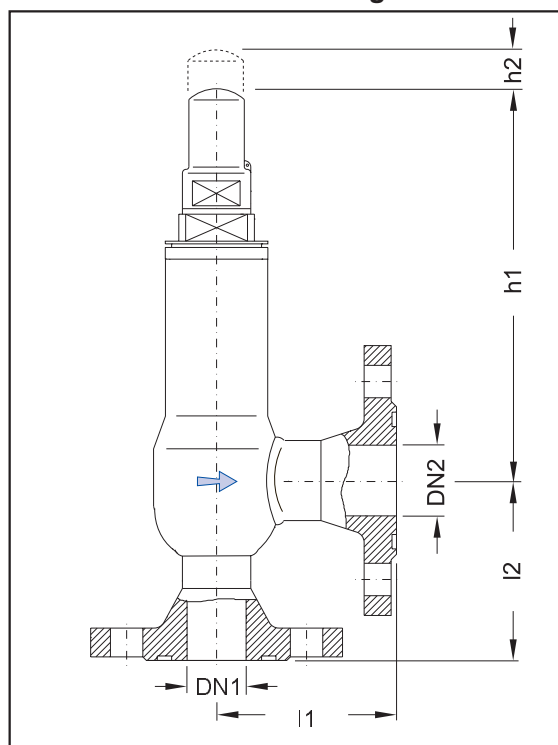
**safety valve**  
 depending on back pressure

**flange connection**

**432 SVAB** -35°C bis / to +100°C

**434 SVAA** -60°C bis / to +180°C

Anschlußkombinationen möglich - auf Anfrage  
 connection combinations available - upon request



**Einbaulängen / lengths in mm :**

|     |     | AWP-Standard |       | Flansche / flanges<br>DIN 2635 |     | ANSI Sched 40 |     |     |     |
|-----|-----|--------------|-------|--------------------------------|-----|---------------|-----|-----|-----|
| DN1 | DN2 | I1           | I2    | I1                             | I2  | I1            | I2  | h1  | h2  |
| 10  | 20  | 81,5         | 81,5  | 90                             | 85  | -             | -   | 175 | 105 |
| 15  | 25  | 104,0        | 91,5  | 100                            | 98  | 116           | 108 | 175 | 105 |
| 20  | 25  | 104,0        | 91,5  | 100                            | 100 | 116           | 112 | 175 | 105 |
| 25  | 40  | 113,5        | 119,0 | 120                            | 115 | 137           | 131 | 216 | 125 |
| 32  | 40  | 113,5        | 119,0 | 120                            | 117 | 137           | 133 | 218 | 125 |
| 40  | 65  | 160,0        | 145,0 | 158                            | 151 | 176           | 168 | 294 | 140 |
| 50  | 65  | 170,0        | 159,0 | 168                            | 164 | 186           | 179 | 291 | 140 |

**Varianten / variants :**

| DN | Werkstoff<br>material | Einstelldruck pe<br>test pressure [bar] |    |    | Flansche / flanges | Zubehör / fittings                                                                                              |
|----|-----------------------|-----------------------------------------|----|----|--------------------|-----------------------------------------------------------------------------------------------------------------|
| 10 | 1.0305                | 4                                       | 13 | 22 | DIN<br>ANSI<br>AWP | Flansche kpl. / AE<br>flanges cpl. / welding ends<br>Reihe 1 / range 1<br>Reihe 1 / range 2<br>ANSI Schedule 40 |
| 15 | 1.4301                | 5                                       | 14 | 23 |                    |                                                                                                                 |
| 20 | 1.4541                | 6                                       | 15 | 24 |                    |                                                                                                                 |
| 25 |                       | 7                                       | 16 | 25 |                    |                                                                                                                 |
| 32 |                       | 8                                       | 17 | 26 |                    |                                                                                                                 |
| 40 |                       | 9                                       | 18 | 27 |                    |                                                                                                                 |
| 50 |                       | 10                                      | 19 | 28 |                    |                                                                                                                 |
|    |                       | 11                                      | 20 |    |                    |                                                                                                                 |
|    |                       | 12                                      | 21 |    |                    |                                                                                                                 |

**Sicherheitsventil**  
**Gegendruck-abhängig**  
**Schraubenden**

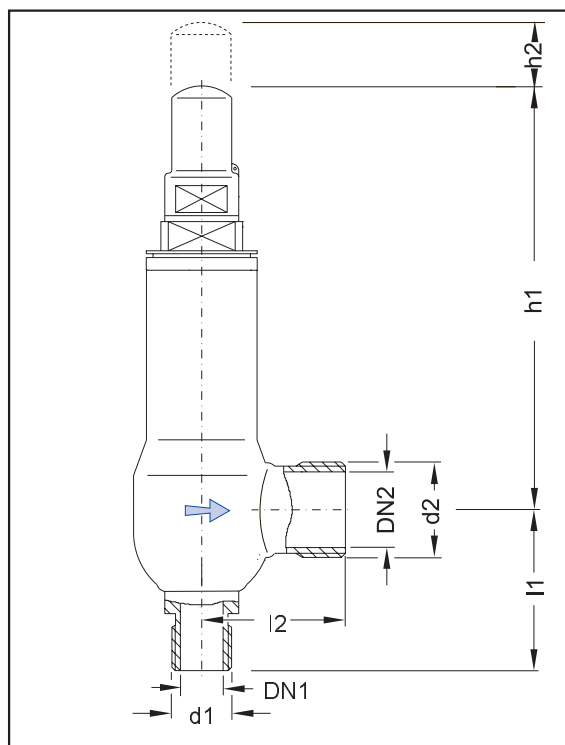
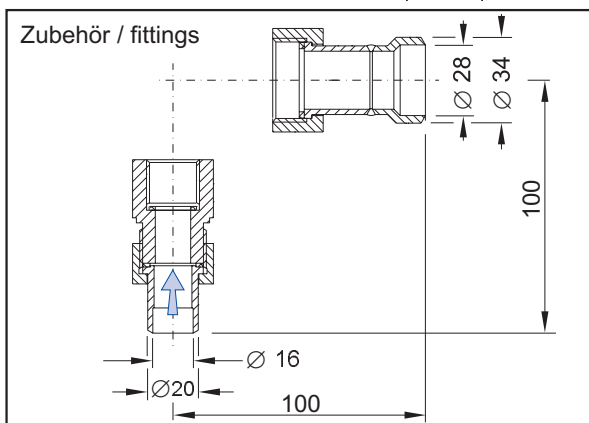
**SVA**

**safety valve**  
**depending on back pressure**  
**screw ends**

**432 SVAB** -35°C bis / to +100°C

**434 SVAA** -60°C bis / to +180°C

Anschlußkombinationen möglich - auf Anfrage  
 connection combinations available - upon request



**Einbaulängen / lengths in mm :**

| Schraubenden / screw ends |     |    |    |        |      |     |     |
|---------------------------|-----|----|----|--------|------|-----|-----|
| DN1                       | DN2 | I1 | I2 | d1     | d2   | h1  | h2  |
| 15                        | 25  | 50 | 50 | G 1/2" | G 1" | 175 | 105 |

Whitworth - Rohrgewinde DIN ISO 228, Whitworth - tube thread ISO 228

**Varianten / variants :**

| DN | Werkstoff<br>material      | Ausführung / design<br>Einstelldruck / test pressure pe [bar] |    |    | Zubehör / fittings<br>(siehe Bild/ see picture) |
|----|----------------------------|---------------------------------------------------------------|----|----|-------------------------------------------------|
| 15 | 1.0305<br>1.4301<br>1.4541 | 4                                                             | 13 | 22 |                                                 |
|    |                            | 5                                                             | 14 | 23 |                                                 |
|    |                            | 6                                                             | 15 | 24 |                                                 |
|    |                            | 7                                                             | 16 | 25 |                                                 |
|    |                            | 8                                                             | 17 | 26 |                                                 |
|    |                            | 9                                                             | 18 | 27 |                                                 |
|    |                            | 10                                                            | 19 | 28 |                                                 |
|    |                            | 11                                                            | 20 |    |                                                 |
|    |                            | 12                                                            | 21 |    |                                                 |
|    |                            |                                                               |    |    |                                                 |

**Sicherheitsventil**  
**Gegendruck-abhängig**

**Lötenden**

**SVA**

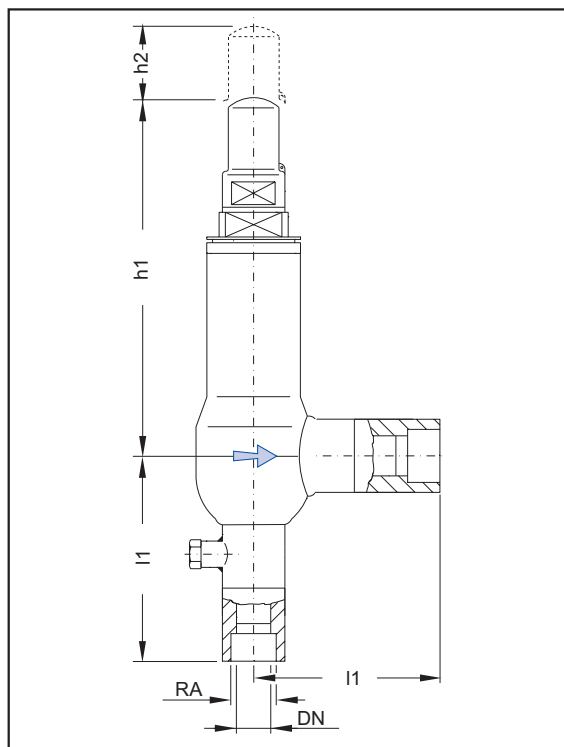
**safety valve**  
**depending on back pressure**

**solder ends**

**432 SVAB** -35°C bis / to +100°C

**434 SVAA** -60°C bis / to +180°C

Anschlußkombinationen möglich - auf Anfrage  
 connection combinations available - upon request



**Einbaulängen / lengths in mm :**

|    |      | Lötenden ( Rohraußen - Ø ) / solder ends ( tube O.D. ) |     |     |
|----|------|--------------------------------------------------------|-----|-----|
| DN | RA Ø | l1                                                     | h1  | h2  |
| 10 | 12   | 75                                                     | 175 | 105 |
| 15 | 15   | 85                                                     | 175 | 105 |
| 15 | 18   | 85                                                     | 175 | 105 |
| 20 | 20   | 85                                                     | 175 | 105 |
| 20 | 22   | 85                                                     | 175 | 105 |
| 25 | 25   | 100                                                    | 216 | 125 |
| 25 | 28   | 100                                                    | 216 | 125 |
| 32 | 35   | 100                                                    | 218 | 125 |
| 32 | 38   | 100                                                    | 218 | 125 |
| 40 | 42   | 130                                                    | 294 | 140 |
| 50 | 54   | 140                                                    | 291 | 140 |

**Varianten / variants :**

| DN | Werkstoff<br>material | Ausführung / design<br>Einstelldruck / test pressure pe [bar] |    |    | Anschweißenden<br>welding ends                           |
|----|-----------------------|---------------------------------------------------------------|----|----|----------------------------------------------------------|
| 10 | 1.0305                | 4                                                             | 13 | 22 | Reihe 1/ range 1<br>Reihe 2/ range 2<br>ANSI Schedule 40 |
| 15 | 1.4301                | 5                                                             | 14 | 23 |                                                          |
| 20 | 1.4541                | 6                                                             | 15 | 24 |                                                          |
| 25 |                       | 7                                                             | 16 | 25 |                                                          |
| 32 |                       | 8                                                             | 17 | 26 |                                                          |
| 40 |                       | 9                                                             | 18 | 27 |                                                          |
| 50 |                       | 10                                                            | 19 | 28 |                                                          |
|    |                       | 11                                                            | 20 |    |                                                          |
|    |                       | 12                                                            | 21 |    |                                                          |

## Wechselventile -Metallbalg-

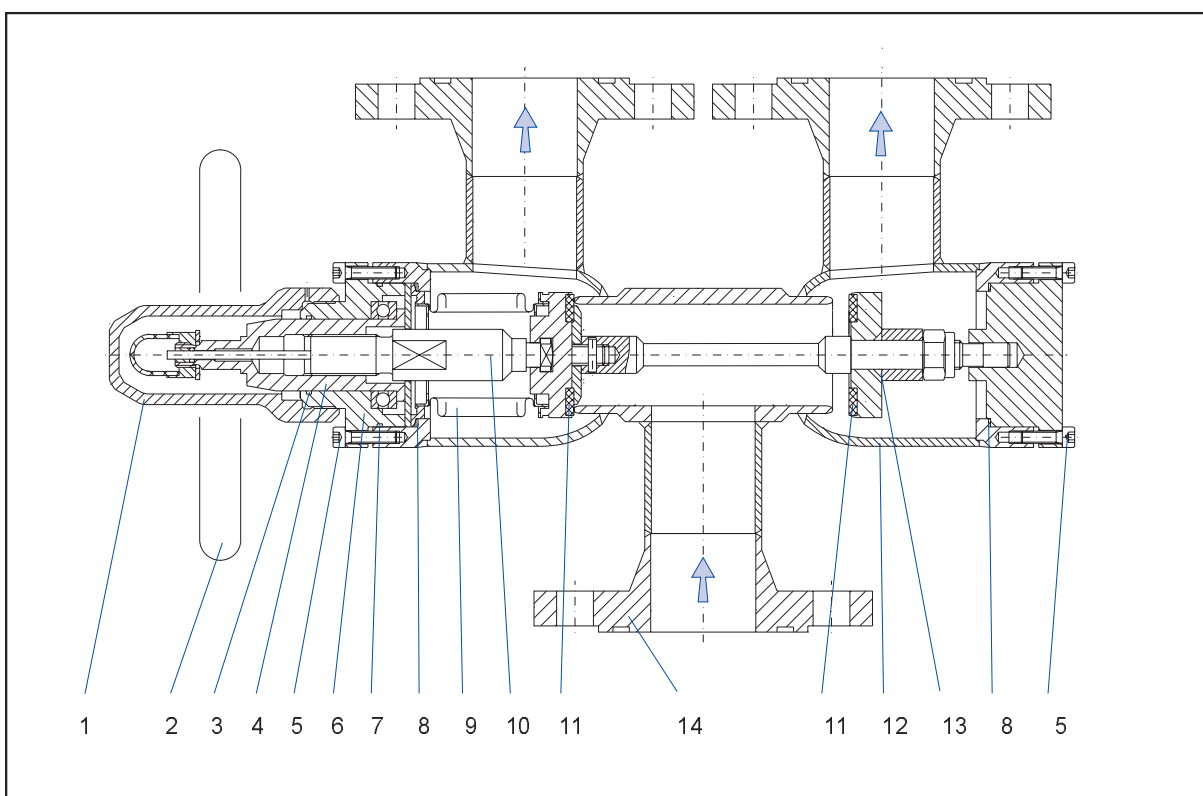
## WVB

## 3 - way - valves -metal bellow-

| PN | DN       | TB(MWT) [°C]  | - 60 | - 10 | + 50 | + 150 |
|----|----------|---------------|------|------|------|-------|
| 40 | 10 - 32  | PB(MWP) [bar] | 30   | 40   | 40   | 40    |
| 25 | 40 - 100 |               | 18,7 | 25   | 25   | 25    |

- mit Stellungsanzeige

- with position indicator



| Pos. | Teil / part      |                     | Material                  |
|------|------------------|---------------------|---------------------------|
| 1    | Kappe            | cap                 | 3.2341                    |
| 2    | Handrad          | handwheel           | Stahlblech / sheet steel  |
| 3    | O-Ring A         | O-ring seal A       | CR-70                     |
| 4    | Mitnehmerhülse   | driving sleeve      | 1.4305                    |
| 5    | Schrauben        | screws              | 8.8 / A2 - 70             |
| 6    | Deckel           | cover               | 1.0038<br>1.4305          |
| 7    | O-Ring B         | O-ring B            | CR-70                     |
| 8    | Flachdichtring K | flat sealing ring K | 3.0255 / PTFE             |
| 9    | Metallbalg       | metal bellows       | 1.4541                    |
| 10   | Spindel          | stem                | 1.0503 / 1.0060<br>1.4305 |
| 11   | Flachdichtring S | flat sealing ring S | PTFE                      |
| 12   | Gehäuse          | body                | 1.0305 / 1.0038<br>1.4541 |
| 13   | O-Ring C         | o-ring C            | CR-70                     |
| 14   | Flansche         | flanges             | 1.0460                    |

## Wechselventil -Metallbalg-

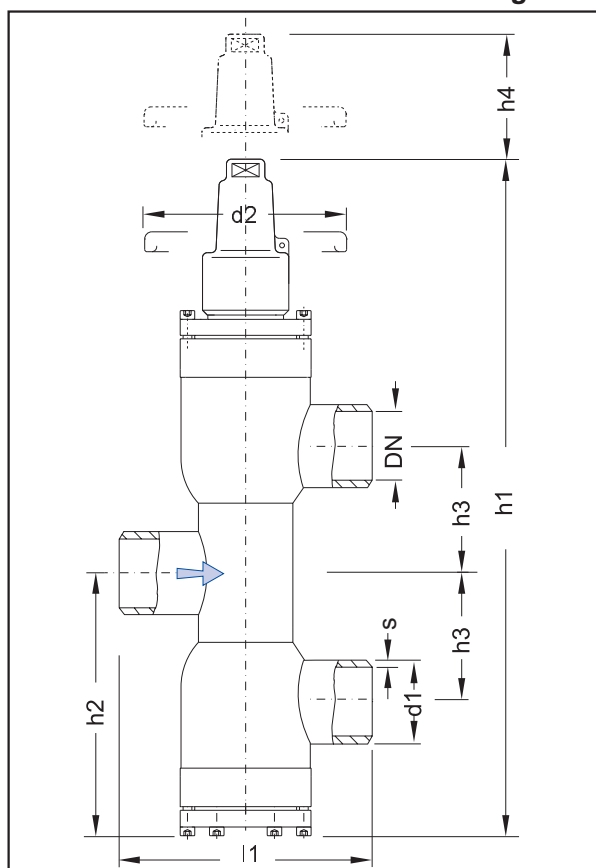
## WVB

## 3 - way - valve -metal bellow-

### Anschweißenden

### welding ends

230 00



### Einbaulängen / lengths in mm :

| DN  | Anschweißenden / welding ends |     |                  |     |               |     |     |     |     |       |     |     |
|-----|-------------------------------|-----|------------------|-----|---------------|-----|-----|-----|-----|-------|-----|-----|
|     | Reihe 1/ range 1              |     | Reihe 2/ range 2 |     | ANSI Sched 40 |     |     |     |     |       |     |     |
|     | d1                            | s   | d1               | s   | d1            | s   | l1  | h1  | h2  | h3    | h4  | d2  |
| 10  | 17,2                          | 1,8 | 15,0             | 2,5 | 17,1          | 2,3 | 125 | 370 | 117 | 54,0  | 170 | 100 |
| 15  | 21,3                          | 2,0 | 20,0             | 2,5 | 21,3          | 2,8 | 119 | 370 | 117 | 60,0  | 170 | 100 |
| 20  | 26,9                          | 2,3 | 25,0             | 2,5 | 16,7          | 2,9 | 139 | 370 | 117 | 60,0  | 170 | 100 |
| 25  | 33,7                          | 2,6 | 32,0             | 3,0 | 33,4          | 3,4 | 98  | 407 | 140 | 80,0  | 215 | 125 |
| 32  | 42,4                          | 2,6 | 38,0             | 3,0 | 42,2          | 3,6 | 108 | 423 | 148 | 90,0  | 215 | 125 |
| 40  | 48,3                          | 2,6 | 45,0             | 3,0 | 48,3          | 3,7 | 127 | 472 | 178 | 107,0 | 240 | 150 |
| 50  | 60,3                          | 2,9 | 57,0             | 3,2 | 60,3          | 3,9 | 134 | 486 | 178 | 114,0 | 240 | 150 |
| 65  | 76,1                          | 2,9 | 76,1             | 3,6 | 76,1          | 5,2 | 161 | 558 | 224 | 138,0 | 270 | 200 |
| 80  | 88,9                          | 3,2 | 88,9             | 4,0 | 88,9          | 5,5 | 188 | 721 | 288 | 162,5 | 290 | 200 |
| 100 | 114,3                         | 3,6 | 108,0            | 4,0 | 114,3         | 6,0 | 228 | 730 | 293 | 196,5 | 300 | 200 |

### Varianten / variants :

| DN |     | Werkstoff<br>material | Ausführung / design |       | Anschweißenden / welding ends<br>Eingang / inlet      Ausgang / outlet |  |
|----|-----|-----------------------|---------------------|-------|------------------------------------------------------------------------|--|
|    |     |                       |                     |       |                                                                        |  |
| 10 | 40  | 1.0305                | Handrad             | Kappe | Reihe 1/ range 1<br>Reihe 2/ range 2<br>ANSI Schedule 40               |  |
| 15 | 50  | 1.4301                | handwheel           | cap   |                                                                        |  |
| 20 | 65  |                       | -                   | -     |                                                                        |  |
| 25 | 80  |                       | x                   | -     |                                                                        |  |
| 32 | 100 |                       | -                   | x     |                                                                        |  |
|    |     |                       | x                   | x     |                                                                        |  |

## Wechselventil -Metallbalg-

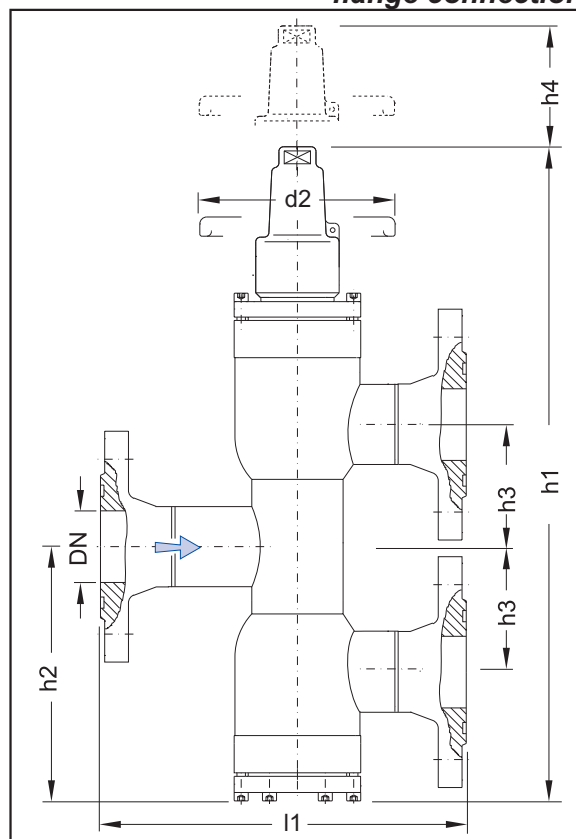
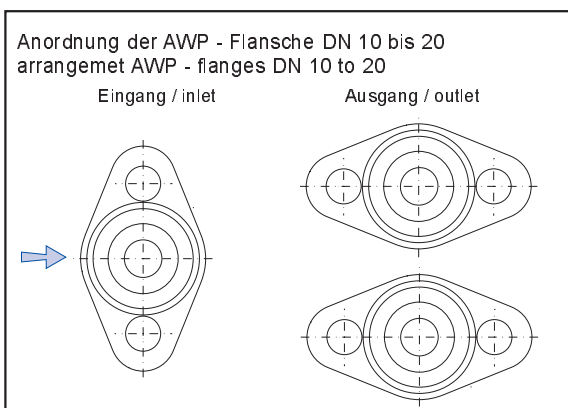
## WVB

## 3 - way - valve -metal bellow-

### Flanschanschluß

### flange connection

**230 20**



### Einbaulängen / lengths in mm :

| DN  | Flansch / flange |     |      | h1  | h2  | h3    | h4  | d2  |
|-----|------------------|-----|------|-----|-----|-------|-----|-----|
|     | AWP              | DIN | ANSI |     |     |       |     |     |
| 10  | 188              | 195 | -    | 370 | 117 | 54,0  | 170 | 100 |
| 15  | 188              | 195 | 215  | 370 | 117 | 60,0  | 170 | 100 |
| 20  | 202              | 219 | 243  | 370 | 117 | 60,0  | 170 | 100 |
| 25  | 186              | 178 | 210  | 407 | 140 | 80,0  | 215 | 125 |
| 32  | 196              | 192 | 220  | 423 | 148 | 90,0  | 215 | 125 |
| 40  | 203              | 217 | 252  | 472 | 178 | 107,0 | 240 | 150 |
| 50  | 220              | 230 | 267  | 486 | 178 | 114,0 | 240 | 150 |
| 65  | 267              | 265 | 301  | 558 | 224 | 138,0 | 270 | 200 |
| 80  | 294              | 304 | 328  | 721 | 288 | 162,5 | 290 | 200 |
| 100 | -                | 358 | 380  | 730 | 293 | 196,5 | 300 | 200 |

### Varianten / variants :

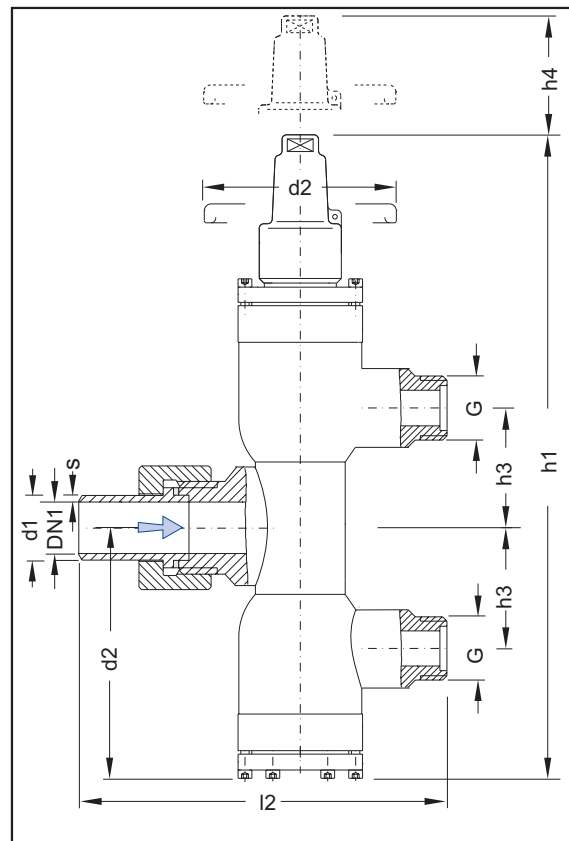
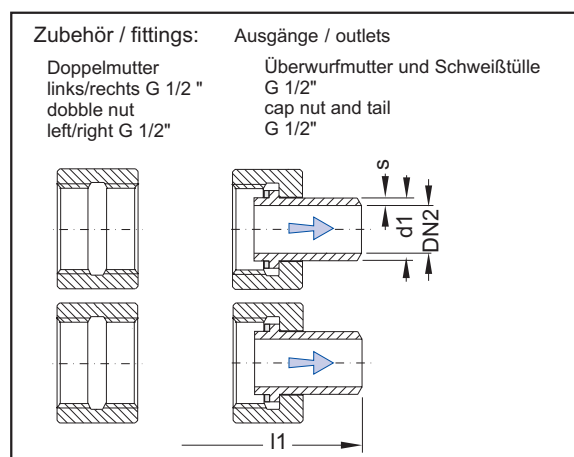
| DN     | Werkstoff material | Ausführung / design | Flansche / flanges | Zubehör / fittings      |
|--------|--------------------|---------------------|--------------------|-------------------------|
| 10 40  | 1.0305             | Handrad handwheel   | DIN                | Flansche kpl/AE         |
| 15 50  | 1.4301             | Kappe cap           | AWP                | flanges cpl/weldingends |
| 20 65  |                    | -                   | ANSI               | Reihe/range 1           |
| 25 80  |                    | x                   |                    | Reihe/range 2           |
| 32 100 |                    | -                   |                    | ANSI Schedule 40        |
|        |                    | x                   |                    |                         |

## Wechselventil -Metallbalg- Schraubenden

# WVB

## 3 - way - valve -metal bellow- screw ends

### 230 60



### Einbaulängen / lengths in mm :

|        | Schraubenden<br>screw ends |                | Schweißstüllen<br>tails |     |                |     |     |     |     |     |    |     |     |
|--------|----------------------------|----------------|-------------------------|-----|----------------|-----|-----|-----|-----|-----|----|-----|-----|
|        | Eingang/inlet              | Ausgang/outlet | Eingang/inlet           |     | Ausgang/outlet |     |     |     |     |     |    |     |     |
| DN1/2  | G*                         | G*             | d1                      | s   | d1             | s   | I1  | I2  | h1  | h2  | h3 | h4  | d2  |
| 15 / 8 | 1"                         | 1/2"L          | 21,3                    | 2,0 | 13,5           | 1,8 | 182 | 153 | 370 | 117 | 60 | 170 | 100 |

\* Whitworth - Rohrgewinde DIN ISO 228, Whitworth - tube thread ISO 228

### Varianten / variants :

| DN | Werkstoff<br>material | Ausführung / design  |              | Schraubenden<br>screw connection |                     | Zubehör / fittings                                                                                                                    |
|----|-----------------------|----------------------|--------------|----------------------------------|---------------------|---------------------------------------------------------------------------------------------------------------------------------------|
| 15 | 1.0305<br>1.4301      | Handrad<br>handwheel | Kappe<br>cap | Eingang<br>inlet                 | Ausgänge<br>outlets | - Überwurfmutter / cap nut<br>- Schweißstülle / tail<br>- Doppelmutter links / rechts<br>G 1/2"L / dobble nut left /<br>right G 1/2"L |
|    |                       | -                    | -            | 1"                               | 1/2"links           |                                                                                                                                       |
|    |                       | x                    | x            |                                  |                     |                                                                                                                                       |
|    |                       | x                    | x            |                                  |                     |                                                                                                                                       |

## Wechselventil -Metallbalg-

## WVB

## 3 - way - valve -metal bellow-

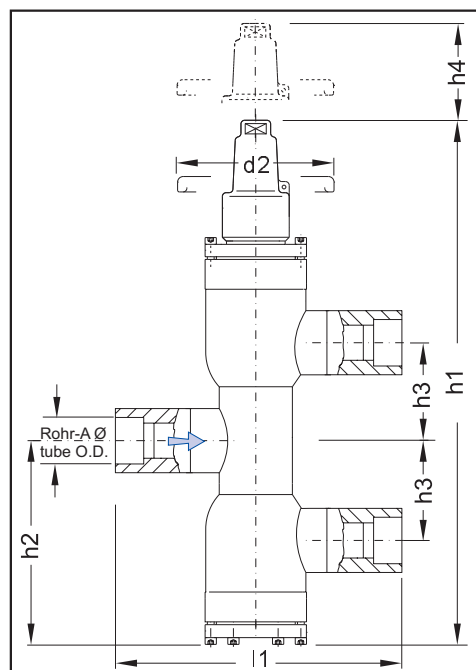
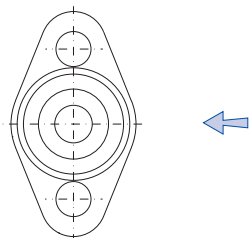
### Lötenden

### solder ends

**230 80**

Anordnung der AWP - Flansche DN 10 bis 20  
 arrangement AWP - flanges DN 10 to 20

Eingang/ inlet



### Einbaulängen / lengths in mm :

|     |     | Lötenden ( Rohraußen - Ø ) / solder ends ( tube O.D. ) |     |     |       |     |     |
|-----|-----|--------------------------------------------------------|-----|-----|-------|-----|-----|
| DN  | RAØ | l1                                                     | h1  | h2  | h3    | h4  | d2  |
| 10  | 12  | 175                                                    | 370 | 117 | 54,0  | 170 | 100 |
| 15  | 15  | 175                                                    | 370 | 117 | 60,0  | 170 | 100 |
| 15  | 18  | 175                                                    | 370 | 117 | 60,0  | 170 | 100 |
| 20  | 20  | 189                                                    | 370 | 117 | 60,0  | 170 | 100 |
| 20  | 22  | 189                                                    | 370 | 117 | 60,0  | 170 | 100 |
| 25  | 25  | 148                                                    | 407 | 140 | 80,0  | 215 | 125 |
| 25  | 28  | 148                                                    | 407 | 140 | 80,0  | 215 | 125 |
| 32  | 35  | 158                                                    | 423 | 148 | 90,0  | 215 | 125 |
| 32  | 38  | 158                                                    | 423 | 148 | 90,0  | 215 | 125 |
| 40  | 42  | 177                                                    | 472 | 178 | 107,0 | 240 | 150 |
| 50  | 54  | 184                                                    | 486 | 178 | 114,0 | 240 | 150 |
| 65  | 64  | 211                                                    | 558 | 224 | 138,0 | 270 | 200 |
| 65  | 76  | 211                                                    | 558 | 224 | 138,0 | 270 | 200 |
| 80  | 89  | 238                                                    | 721 | 288 | 162,5 | 290 | 200 |
| 100 | 108 | 278                                                    | 730 | 293 | 196,5 | 300 | 250 |

### Varianten / variants :

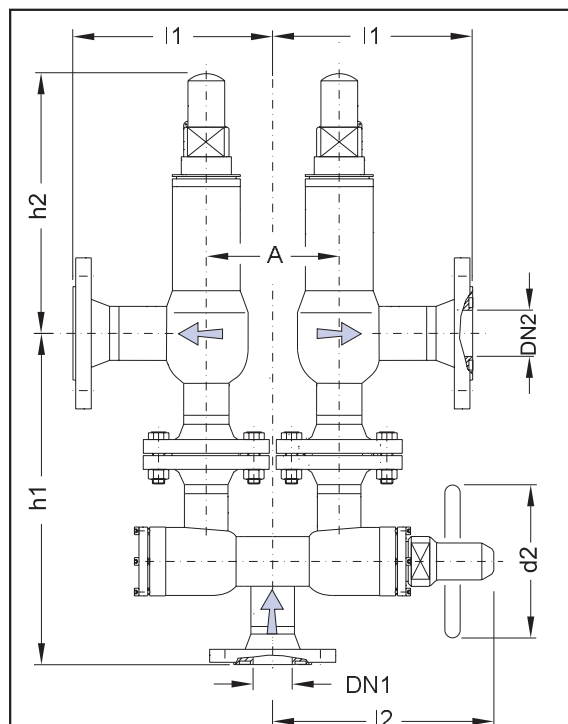
| DN     | Werkstoff material | Ausführung / design | Flansche / flanges | Zubehör / fittings      |
|--------|--------------------|---------------------|--------------------|-------------------------|
| 10 40  | 1.0305             | Handrad handwheel   | DIN                | Flansche kpl/AE         |
| 15 50  | 1.4301             | Kappe cap           | AWP                | flanges cpl/weldingends |
| 20 65  |                    | -                   | ANSI               | Reihe/range 1           |
| 25 80  |                    | x                   |                    | Reihe/range 2           |
| 32 100 |                    | -                   |                    | ANSI Schedule 40        |
|        |                    | x                   |                    |                         |

## WVB / SVA

**Wechsel - Sicherheitsventil**  
**Kombination mit Flanschanschluß**  
**Gegendruck-abhängig**

**dual safety valve**  
**combination with flange connection**  
**depending on back pressure**

**155 WVB / SVA** -60°C bis / to +180°C  
**156 WVB / SVA** -35°C bis / to +100°C



**Einbaulängen / lengths in mm :**

| DN1 | DN2 | Flansche / flanges |     |          |     |               |     |     |     |     |     |
|-----|-----|--------------------|-----|----------|-----|---------------|-----|-----|-----|-----|-----|
|     |     | AWP-Standard       |     | DIN 2634 |     | ANSI Sched 40 |     |     |     |     |     |
|     |     | l1                 | h1  | l1       | h1  | l1            | h1  | h2  | l2  | A   | d2  |
| 10  | 20  | 136                | 269 | 144      | 279 | -             | -   | 175 | 253 | 108 | 100 |
| 15  | 25  | 164                | 274 | 160      | 293 | 176           | 323 | 175 | 253 | 120 | 100 |
| 20  | 25  | 164                | 286 | 160      | 318 | 176           | 354 | 175 | 253 | 120 | 100 |
| 25  | 40  | 194                | 295 | 200      | 292 | 217           | 340 | 216 | 267 | 160 | 125 |
| 32  | 40  | 203                | 305 | 209      | 309 | 226           | 345 | 218 | 275 | 180 | 125 |
| 40  | 65  | 267                | 357 | 265      | 368 | 283           | 402 | 294 | 294 | 214 | 150 |
| 50  | 65  | 284                | 386 | 282      | 394 | 300           | 425 | 291 | 301 | 228 | 150 |

**Varianten / variants :**

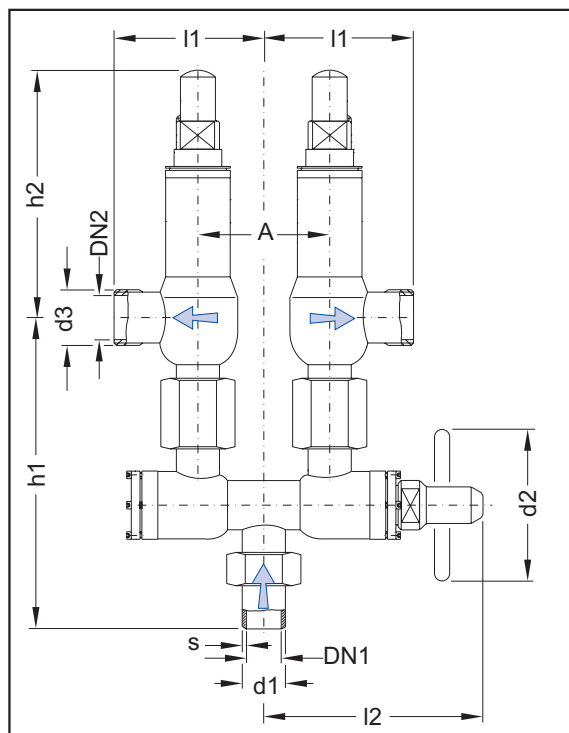
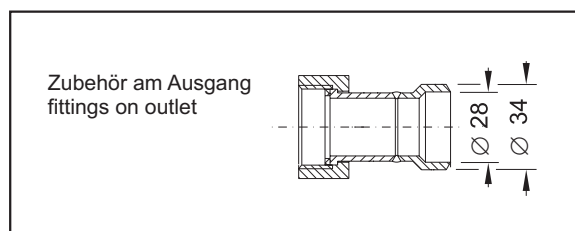
| DN | Werkstoff material | Ausführung / design |       | Einstelldruck pe [bar]<br>test pressure |    |    | Flansche flanges | Zubehör / fittings                                                                                  |
|----|--------------------|---------------------|-------|-----------------------------------------|----|----|------------------|-----------------------------------------------------------------------------------------------------|
| 10 | 1.0305             | Handrad             | Kappe | 4                                       | 12 | 20 | AWP              | Flansche kpl./AE<br>flanges cpl./welding ends<br>Reihe/range 1<br>Reihe/range 2<br>ANSI Schedule 40 |
| 15 | 1.4301             | handwheel           | cap   | 5                                       | 13 | 21 | DIN              |                                                                                                     |
| 20 |                    | -                   | -     | 6                                       | 14 | 22 | ANSI             |                                                                                                     |
| 25 |                    | x                   | -     | 7                                       | 15 | 23 |                  |                                                                                                     |
| 32 |                    | -                   | x     | 8                                       | 16 | 24 |                  |                                                                                                     |
| 40 |                    | x                   | x     | 9                                       | 17 | 25 |                  |                                                                                                     |
| 50 |                    |                     |       | 10                                      | 18 | 26 |                  |                                                                                                     |
|    |                    |                     |       | 11                                      | 19 | 27 |                  |                                                                                                     |
|    |                    |                     |       |                                         |    | 28 |                  |                                                                                                     |

## WVB / SVA

**Wechsel - Sicherheitsventil**  
**Kombination mit Gewindeanschluß**  
**Gegendruck-abhängig**

**dual safety valve**  
**combination with screw connection**  
**depending on back pressure**

**155 WVB / SVA** -60°C bis / to +180°C  
**156 WVB / SVA** -35°C bis / to +100°C



### Einbaulängen / lengths in mm :

|     |     | Anschweißenden / welding ends<br>Reihe 1/ range 1 |     |      |     | ANSI SCHED 40 |     |     |     |     |     |     |
|-----|-----|---------------------------------------------------|-----|------|-----|---------------|-----|-----|-----|-----|-----|-----|
| DN1 | DN2 | d1                                                | s   | d1   | s   | d3            | l1  | h1  | h2  | A   | l2  | d2  |
| 15  | 25  | 21,3                                              | 2,0 | 21,3 | 2,8 | G1"           | 102 | 191 | 175 | 120 | 253 | 100 |

### Varianten / variants :

| DN | Werkstoff<br>material | Ausführung / design |       | Einstelldruck pe [bar]<br>test pressure |    |    | Zubehör / fittings         |
|----|-----------------------|---------------------|-------|-----------------------------------------|----|----|----------------------------|
| 15 | 1.0305<br>1.4301      | Handrad             | Kappe | 4                                       | 12 | 20 | (siehe Bild / see picture) |
|    |                       | handwheel           | cap   | 5                                       | 13 | 21 |                            |
|    |                       | -                   | -     | 6                                       | 14 | 22 |                            |
|    |                       | x                   | -     | 7                                       | 15 | 23 |                            |
|    |                       | -                   | x     | 8                                       | 16 | 24 |                            |
|    |                       | x                   | x     | 9                                       | 17 | 25 |                            |
|    |                       |                     |       | 10                                      | 18 | 26 |                            |
|    |                       |                     |       | 11                                      | 19 | 27 |                            |
|    |                       |                     |       |                                         |    | 28 |                            |

## WVB / SVA

**Wechsel - Sicherheitsventil**  
**Kombination mit Flanschanschluß**  
**Gegendruck-abhängig**

**dual safety valve**  
**combination with flange connection**  
**depending on back pressure**

mit Berstscheibe / with bursting disk  
Betriebsdruck **70%** des Berstdruckes  
working pressure **70%** from bursting pressure

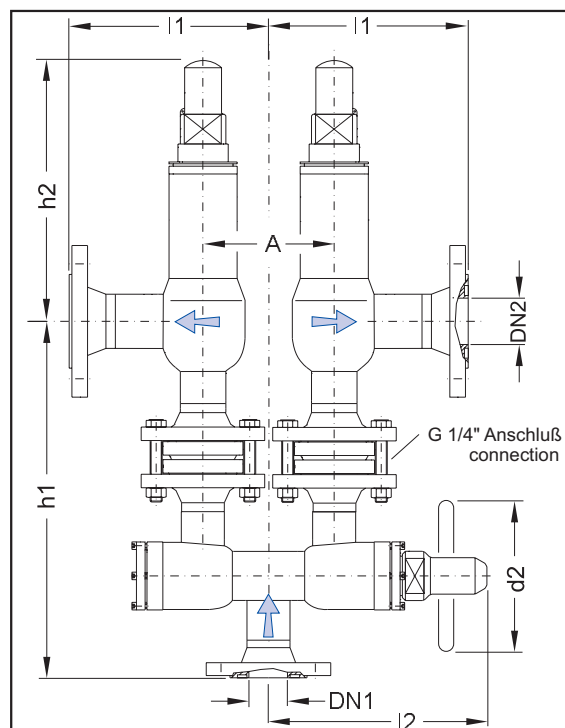
**255 WVB / SVA** -60°C bis / to +180°C

**256 WVB / SVA** -35°C bis / to +100°C

mit Berstscheibe / with bursting disk  
Betriebsdruck **90%** des Berstdruckes  
working pressure **90%** from bursting pressure

**355 WVB / SVA** -60°C bis / to +180°C

**356 WVB / SVA** -35°C bis / to +100°C



Einbaulängen / lengths in mm :

|     |     | Flansche/ flanges |     |          |     |               |     |     |     |     |     |
|-----|-----|-------------------|-----|----------|-----|---------------|-----|-----|-----|-----|-----|
|     |     | AWP-Standard      |     | DIN 2634 |     | ANSI Sched 40 |     |     |     |     |     |
| DN1 | DN2 | l1                | h1  | l1       | h1  | l1            | h1  | h2  | l2  | A   | d2  |
| 15  | 25  | 164               | 316 | 160      | 335 | 176           | 365 | 175 | 253 | 120 | 100 |
| 20  | 25  | 164               | 328 | 160      | 360 | 176           | 396 | 175 | 253 | 120 | 100 |
| 25  | 40  | 194               | 337 | 200      | 334 | 217           | 382 | 216 | 267 | 160 | 125 |
| 32  | 40  | 203               | 347 | 209      | 351 | 226           | 387 | 218 | 275 | 180 | 125 |
| 40  | 65  | 267               | 399 | 265      | 410 | 283           | 444 | 294 | 294 | 214 | 150 |
| 50  | 65  | 284               | 428 | 282      | 436 | 300           | 477 | 291 | 301 | 228 | 150 |

Varianten / variants :

| DN  | Werkstoff material | Ausführung / design |       | Einstelldruck pe [bar]<br>test pressure |    |    | Flansche flanges | Zubehör / fittings*       |                                                                       |
|-----|--------------------|---------------------|-------|-----------------------------------------|----|----|------------------|---------------------------|-----------------------------------------------------------------------|
| 15* | 1.0305             | Handrad             | Kappe | 4                                       | 12 | 20 | AWP              | Flansche kpl./AE          | * Zubehör für Berstscheibe:<br>Entspannungseinheit<br>Manometer       |
| 20  | 1.4301             | handwheel           | cap   | 5                                       | 13 | 21 | DIN              | flanges cpl./welding ends |                                                                       |
| 25  |                    | -                   | -     | 6                                       | 14 | 22 | ANSI             | Reihe/range 1             | * fittings for bursting disc:<br>excess flow valves<br>pressure gauge |
| 32  |                    | x                   | -     | 7                                       | 15 | 23 |                  | Reihe/range 2             |                                                                       |
| 40  |                    | -                   | x     | 8                                       | 16 | 24 |                  | ANSI Schedule 40          |                                                                       |
| 50  |                    | x                   | x     | 9                                       | 17 | 25 |                  |                           |                                                                       |
|     |                    |                     |       | 10                                      | 18 | 26 |                  |                           |                                                                       |
|     |                    |                     |       | 11                                      | 19 | 27 |                  |                           |                                                                       |
|     |                    |                     |       |                                         |    | 28 |                  |                           |                                                                       |

\* DN 15 nur für 265 und 266  
DN 15 only for 265 and 266

## WVB / SVA

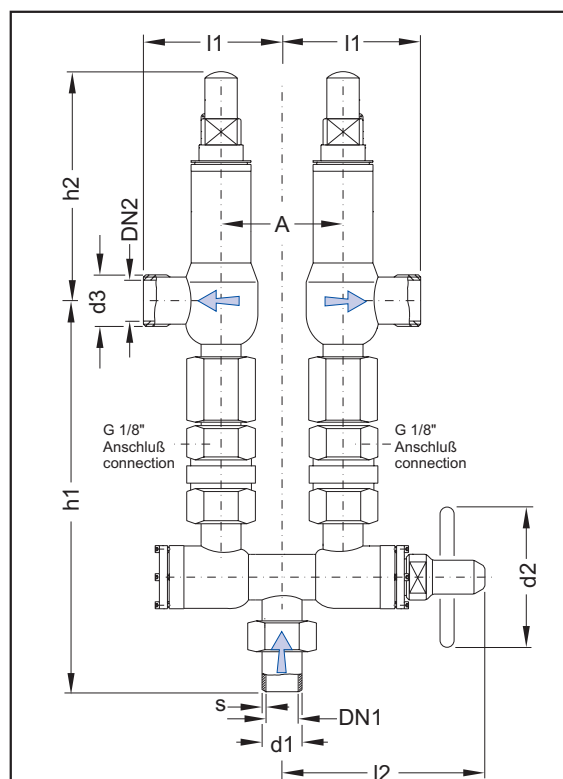
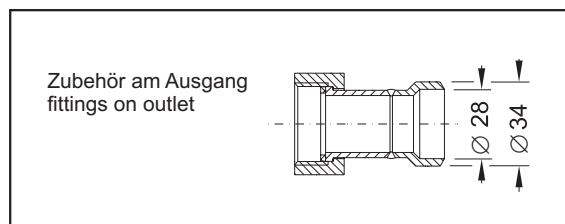
**Wechsel - Sicherheitsventil**  
**Kombination mit Gewindeanschluß**  
**Gegendruck-abhängig**

**dual safety valve**  
**combination with screw connection**  
**depending on back pressure**

mit Berstscheibe / with bursting disk  
Betriebsdruck **90%** des Berstdruckes  
working pressure **90%** from bursting pressure

**355 WVB / SVA** -60°C bis / to +180°C

**356 WVB / SVA** -35°C bis / to +100°C

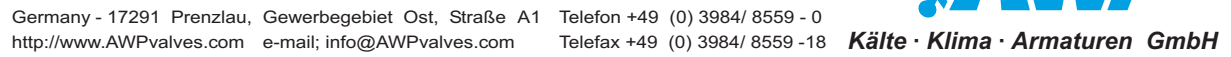


### Einbaulängen / lengths in mm :

|     |     | Anschweißenden / welding ends<br>Reihe 1/ range 1 |     |      |     | ANSI SCHED 40 |     |     |     |     |     |     |
|-----|-----|---------------------------------------------------|-----|------|-----|---------------|-----|-----|-----|-----|-----|-----|
| DN1 | DN2 | d1                                                | s   | d1   | s   | d3            | l1  | h1  | h2  | A   | l2  | d2  |
| 15  | 25  | 21,3                                              | 2,0 | 21,3 | 2,8 | G1"           | 102 | 236 | 175 | 120 | 253 | 100 |

### Varianten / variants :

| DN | Werkstoff<br>material | Ausführung / design  | Einstelldruck pe [bar]<br>test pressure |    |    | Zubehör / fittings*                                                   |
|----|-----------------------|----------------------|-----------------------------------------|----|----|-----------------------------------------------------------------------|
| 15 | 1.0305<br>1.4301      | Handrad<br>handwheel | 4                                       | 12 | 20 | (siehe Bild / see picture)                                            |
|    |                       | Kappe<br>cap         | 5                                       | 13 | 21 | * Zubehör für Berstscheibe:<br>Entspannungseinheit<br>Manometer       |
|    |                       | -                    | 6                                       | 14 | 22 |                                                                       |
|    |                       | x                    | 7                                       | 15 | 23 |                                                                       |
|    |                       | -                    | 8                                       | 16 | 24 |                                                                       |
|    |                       | x                    | 9                                       | 17 | 25 |                                                                       |
|    |                       |                      | 10                                      | 18 | 26 | * fittings for bursting disc:<br>excess flow valves<br>pressure gauge |
|    |                       |                      | 11                                      | 19 | 27 |                                                                       |
|    |                       |                      |                                         |    | 28 |                                                                       |

[illegible]

## **Sicherheitsventil**

**Gegendruck - unabhängig**

## **safety valve**

**not depending on back pressure**

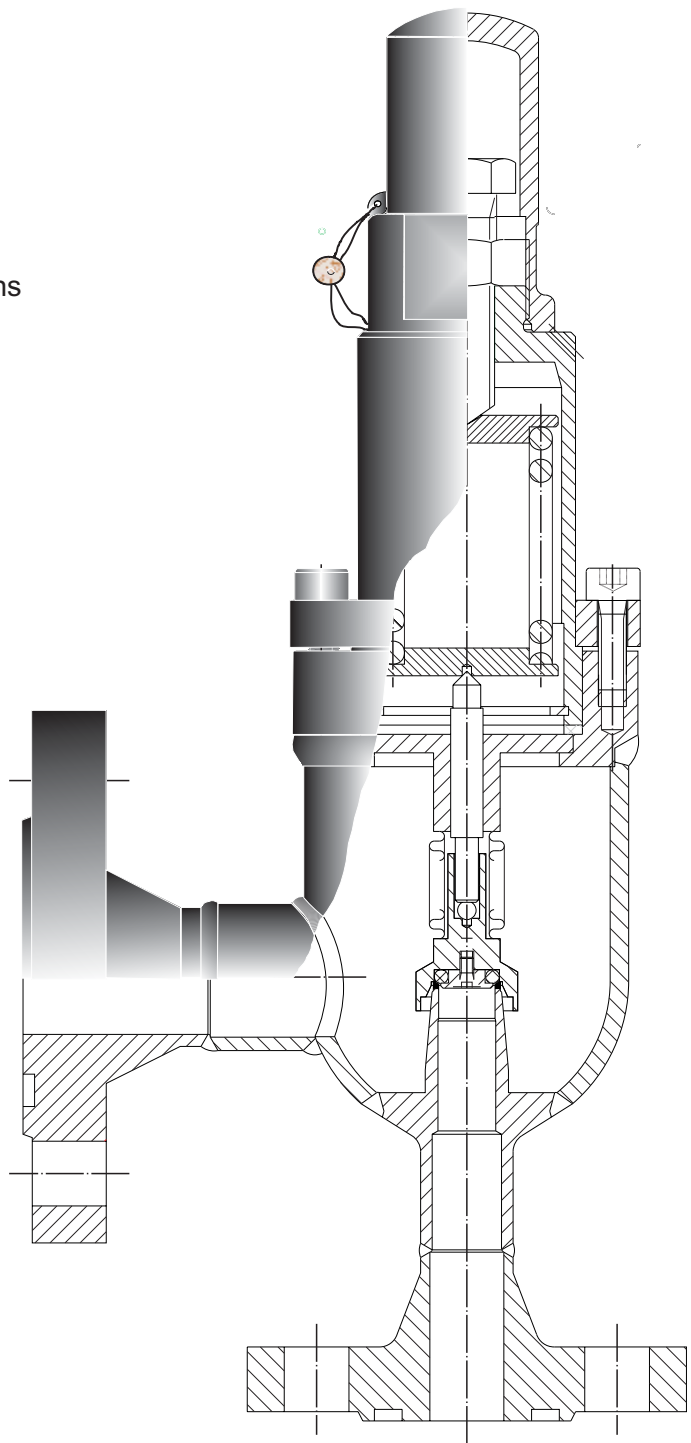
**DN 15 - DN 65**

**SVU**

**PN 25**

( PN 40 auf Anfrage / upon request )

- ◆ bauteilgeprüft  
component tested
- ◆ gegendruckunabhängig, öffnet bei  
eingestelltem Druck  
not depending on back pressure, opens  
at set pressure
- ◆ hohe Leistungen bei geringen  
Drucküberschreitungen  
high power at low pressure  
exceeding
- ◆ hermetische Dichtheit nach außen  
durch Metallbalgabdichtung  
high tightness to outside due to  
metal bellows-seal
- ◆ geeignet als Bypassventil  
für Kompressoren  
suitable as bypass valve for  
compressors



## Sicherheitsventil

Gegendruck - unabhängig<sup>x</sup>

## SVU

safety valve

not depending on back pressure

| PN | DN      | TB(MWT) [°C]  | - 60 | - 10 | + 50 | + 150 |
|----|---------|---------------|------|------|------|-------|
| 40 | 15 - 32 | PB(MWP) [bar] | 30   | 40   | 40   | 40    |
| 25 | 40 - 50 |               | 18,7 | 25   | 25   | 25    |
|    | 65      |               | 18,7 | 25   | 25   | 23    |

Eckform

angle type

Anwendung: selbsttätig wirkende Sicherheitseinrichtung zum Schutz vor unzulässiger Druckerhöhung,

auch als Überströmventil

*Das Vollhub-Sicherheitsventil ist mit einem Gegendruck<sup>x</sup> kompensierenden Metallbalg ausgestattet.*

**! Achtung !**

*Ansprechdruck = Einstelldruck*

Application: automatically working safety valve protecting against inadmissible pressure increases

and as overflow valve

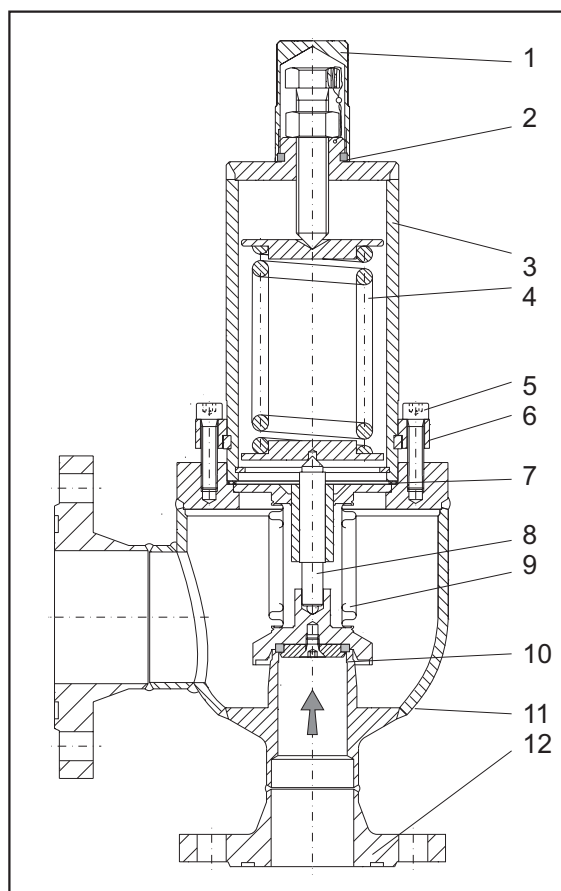
*the full-lift safety valve is constructed with a back pressure<sup>x</sup> compensating metal-bellows-seal.*

**! Attention !**

*set pressure = test pressure*

x siehe DIN 3320 Teil 1 09/84

x see DIN 3320 part 1 09/84



| Pos. | Teil / part      |                     | Material                            |
|------|------------------|---------------------|-------------------------------------|
| 1    | Kappe            | cap                 | 3.2341                              |
| 2    | O-Ring K         | O - ring seal K     | NBR-85                              |
| 3    | Haube            | bonnet              | 1.0038                              |
| 4    | Druckfeder       | spring              |                                     |
| 5    | Schrauben        | screws              |                                     |
| 6    | loser Flansch    | movable flange      | 1.0038                              |
| 7    | Flachdichtring K | flat sealing ring K | 3.0255 / PTFE(Teflon)               |
| 8    | Spindel          | stem                | 1.4021                              |
| 9    | Metallbalg       | metal bellows       | 1.4541                              |
| 10   | O-Ring S         | O - ring seal S     | CR-85 sb (Neopren)<br>PTFE (Teflon) |
| 11   | Gehäuse          | body                | 1.0305 / 1.0038<br>1.4541           |
| 12   | Flansch          | flange              | 1.0460<br>1.4541                    |

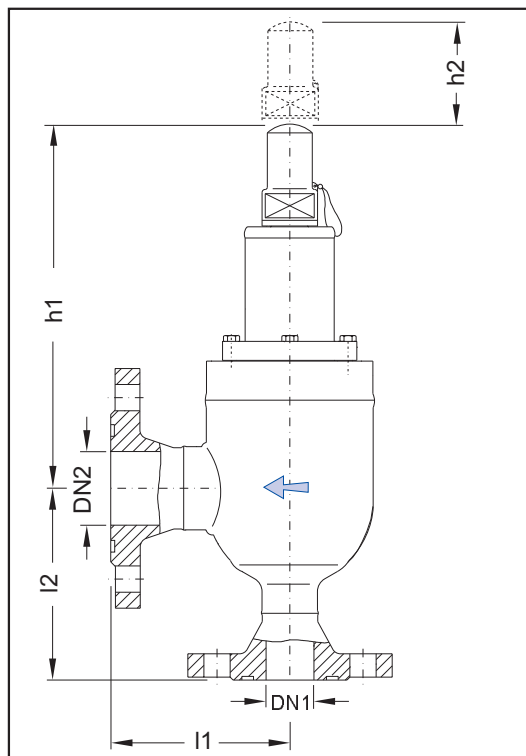
**Sicherheitsventil**  
**Gegendruck - unabhängig<sup>x</sup>**  
**Flanschanschluß**

**SVU**

**safety valve**  
**not depending on back pressure**  
**flange connection**

**442 FL SVUB** -35°C bis / to +100°C

**444 FL SVUA** -60°C bis / to +180°C



**Einbaulängen / lengths in mm**

| DN1 | DN2 | AWP-Standard |     | Flansche / flanges<br>DIN 2635 |     | ANSI SCHED 40 |     | h1  | h2  |
|-----|-----|--------------|-----|--------------------------------|-----|---------------|-----|-----|-----|
|     |     | I1           | I2  | I1                             | I2  | I1            | I2  |     |     |
| 15  | 25  | 100          | 90  | 96                             | 96  | 112           | 106 | 209 | 50  |
| 20  | 32  | 110          | 100 | 108                            | 108 | 123           | 120 | 222 | 40  |
| 25  | 40  | 110          | 120 | 116                            | 116 | 133           | 132 | 245 | 35  |
| 32  | 50  | 117          | 130 | 122                            | 128 | 138           | 143 | 248 | 40  |
| 40  | 65  | 149          | 130 | 147                            | 136 | 165           | 153 | 278 | 60  |
| 50  | 80  | 155          | 145 | 160                            | 150 | 172           | 165 | 382 | 110 |
| 65  | 100 | 202          | 190 | 202                            | 189 | 213           | 207 | 572 | 120 |

**Varianten / variants :**

| DN | Werkstoff<br>material | Ausführung / design<br>Einstelldruck / test pressure / pe [ bar ] |    |    | Anschweißenden /<br>welding ends                           | Flansch /<br>flange |
|----|-----------------------|-------------------------------------------------------------------|----|----|------------------------------------------------------------|---------------------|
| 15 | 1.0305                | 7                                                                 | 15 | 23 | Reihe 1 / range 1<br>Reihe 2 / range 2<br>ANSI Schedule 40 | DIN<br>ANSI<br>AWP  |
| 20 | 1.4301                | 8                                                                 | 16 | 24 |                                                            |                     |
| 25 | 1.4541                | 9                                                                 | 17 | 25 |                                                            |                     |
| 32 |                       | 10                                                                | 18 | 26 |                                                            |                     |
| 40 |                       | 11                                                                | 19 | 27 |                                                            |                     |
| 50 |                       | 12                                                                | 20 | 28 |                                                            |                     |
| 65 |                       | 13                                                                | 21 |    |                                                            |                     |
|    |                       | 14                                                                | 22 |    |                                                            |                     |

**Sicherheitsventil**  
**Gegendruck-unabhängig**  
**Schraubenden**

**SVU**

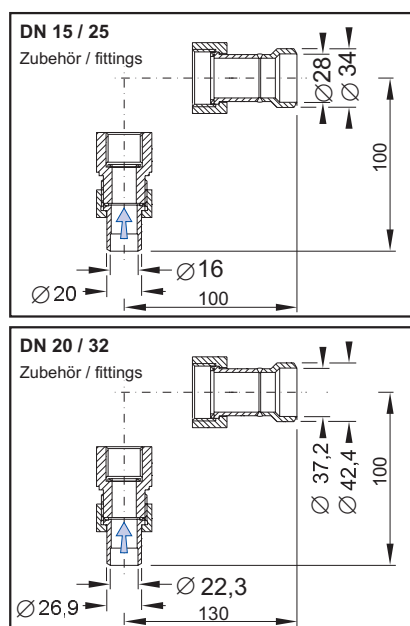
**safety valve**  
**not depending on back pressure**  
**screw ends**

**442 SE SVUB**

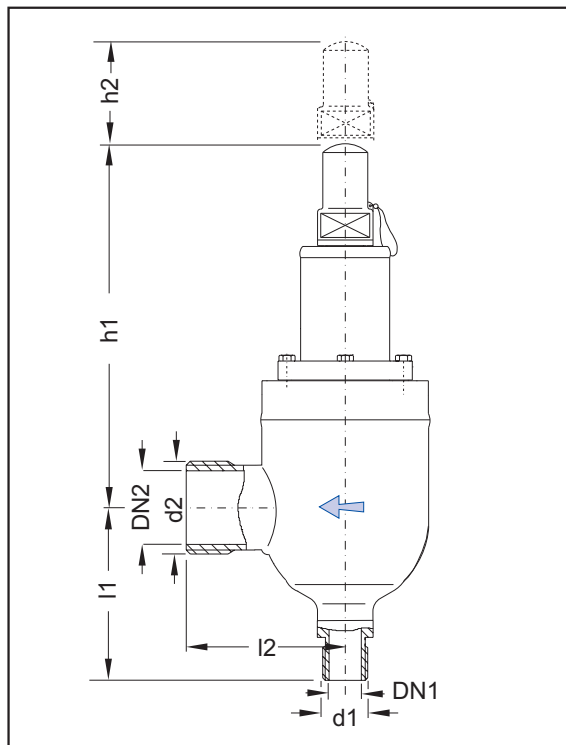
-35°C bis / to +100°C

**444 SE SVUA**

-60°C bis / to +180°C



andere Anschlußdurchmesser auf Anfrage /  
 other diameters upon request



**Einbaulängen / lengths in mm :**

| Schraubenden / screw ends |     |    |    |        |          |     |    |
|---------------------------|-----|----|----|--------|----------|-----|----|
| DN1                       | DN2 | l1 | l2 | d1     | d2       | h1  | h2 |
| 15                        | 25  | 58 | 58 | G 1/2" | G 1"     | 209 | 50 |
| 20                        | 32  | 70 | 80 | G 1"   | G 1 1/2" | 222 | 40 |

Whitworth - Rohrgewinde DIN ISO 228, Whitworth - tube thread ISO 228

**Varianten / variants :**

| DN | Werkstoff material | Ausführung / design<br>Einstelldruck / test pressure pe [bar] |    |    | Zubehör / fittings<br>(siehe Bild/ see picture) |
|----|--------------------|---------------------------------------------------------------|----|----|-------------------------------------------------|
| 15 | 1.0305             | 9                                                             | 15 | 21 |                                                 |
| 20 | 1.4301             | 10                                                            | 16 | 22 |                                                 |
|    |                    | 11                                                            | 17 | 23 |                                                 |
|    |                    | 12                                                            | 18 | 24 |                                                 |
|    |                    | 13                                                            | 19 | 25 |                                                 |
|    |                    | 14                                                            | 20 |    |                                                 |

**Sicherheitsventil**  
**Gegendruck - unabhängig<sup>x</sup>**

**Lötenden**

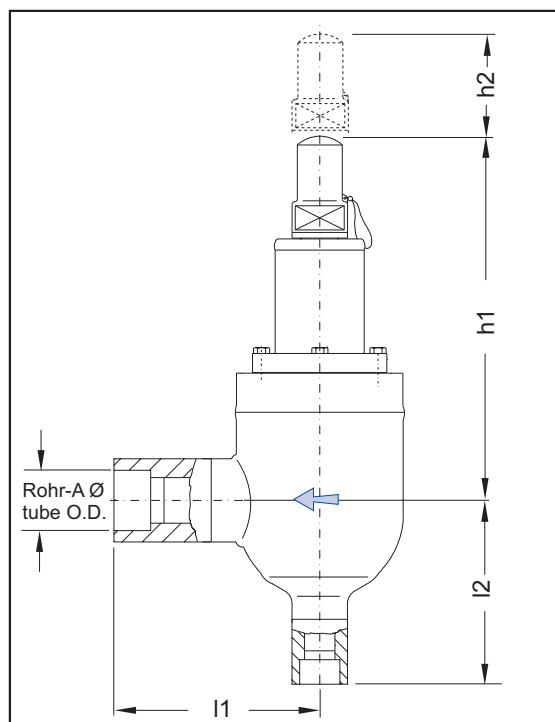
**SVU**

**safety valve**  
**not depending on back pressure**

**solder ends**

**442 LE SVUB** -35°C bis / to +100°C

**444 LE SVUA** -60°C bis / to +180°C



**Einbaulängen / lengths in mm**

|    |      | Lötenden ( Rohraußen - Ø ) / solder ends ( tube O.D. ) |     |     |     |
|----|------|--------------------------------------------------------|-----|-----|-----|
| DN | RA Ø | l1                                                     | l2  | h1  | h2  |
| 15 | 12   | 81                                                     | 83  | 209 | 50  |
| 15 | 15   | 81                                                     | 83  | 209 | 50  |
| 20 | 18   | 91                                                     | 93  | 222 | 40  |
| 20 | 20   | 91                                                     | 93  | 222 | 40  |
| 25 | 22   | 96                                                     | 101 | 245 | 35  |
| 25 | 25   | 96                                                     | 101 | 245 | 35  |
| 32 | 28   | 99                                                     | 111 | 248 | 40  |
| 32 | 35   | 99                                                     | 111 | 248 | 40  |
| 40 | 38   | 120                                                    | 116 | 278 | 60  |
| 50 | 42   | 127                                                    | 127 | 382 | 110 |
| 65 | 54   | 162                                                    | 162 | 572 | 120 |
| 65 | 64   | 162                                                    | 162 | 572 | 120 |

**Varianten / variants :**

| DN | Werkstoff<br>material | Ausführung / design<br>Einstelldruck / test pressure / pe [ bar ] |    |    | Anschweißenden /<br>welding ends                           | Flansch /<br>flange |
|----|-----------------------|-------------------------------------------------------------------|----|----|------------------------------------------------------------|---------------------|
| 15 | 1.0305                | 7                                                                 | 15 | 23 | Reihe 1 / range 1<br>Reihe 2 / range 2<br>ANSI Schedule 40 | DIN<br>ANSI<br>AWP  |
| 20 | 1.4301                | 8                                                                 | 16 | 24 |                                                            |                     |
| 25 | 1.4541                | 9                                                                 | 17 | 25 |                                                            |                     |
| 32 |                       | 10                                                                | 18 | 26 |                                                            |                     |
| 40 |                       | 11                                                                | 19 | 27 |                                                            |                     |
| 50 |                       | 12                                                                | 20 | 28 |                                                            |                     |
| 65 |                       | 13                                                                | 21 |    |                                                            |                     |
|    |                       | 14                                                                | 22 |    |                                                            |                     |

## Sicherheitsventil Gegendruck-unabhängig

## SVU

safety valve  
not depending on back pressure

| PN | DN     | TB(MWT) [°C] | - 60 | - 10 | + 50 | + 180 |
|----|--------|--------------|------|------|------|-------|
| 40 | 6 - 15 | PB(MWP)[bar] | 30   | 40   | 40   | 40    |

### Eckform

### angle type

#### Anwendung:

selbsttätig wirkende Sicherheitseinrichtung zum Schutz vor unzulässiger Druckerhöhung,

Das Normal-Sicherheitsventil ist mit einem Gegendruck\* kompensierenden Dichtelement ausgestattet.

**! Achtung !**

\* DIN 3320 Teil 1 09/84 Ansprechdruck = Einstelldruck

**Besonders geeignet ist das bauteilgeprüfte Sicherheitsventil als Überströmventil, abblasend in Anlagenbehälter oder Rohrleitungen niederen Drucks.**

Das Ventil erfüllt alle an Sicherheitsventile bzw. Überströmventile gestellten Anforderungen der UVV (VBG 20), der DIN 8975, der DIN EN 378, sowie des § 31a des Bundes-Immissionsgesetzes und des § 2 Abs.3 der Störfallverordnung.

Den Anforderung der TAA-GS-12 "Sicherheitstechnische Anforderungen NH3-Kälteanlagen" wird entsprochen.

#### Application:

automatically working safety valve protecting against inadmissible pressure increases.

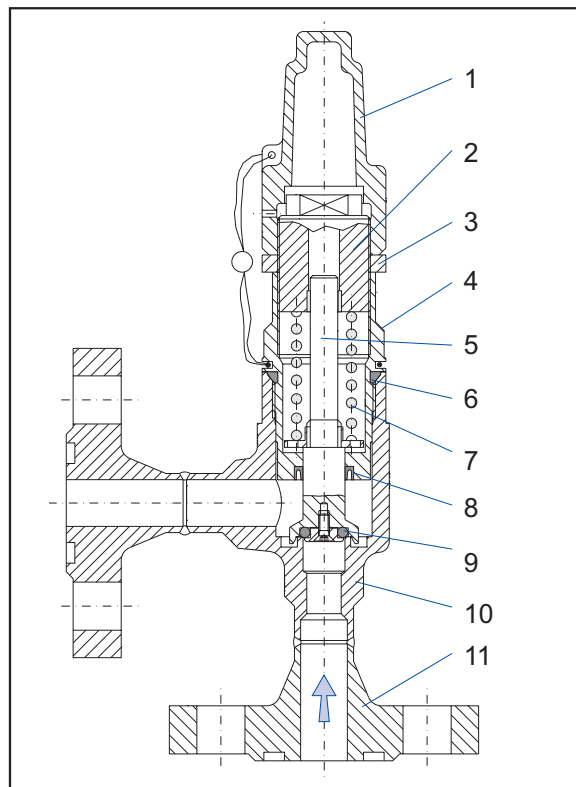
the standard safty valve is constructed with a back pressure\* compensating sealing-ring.

**! Attention !**

\* DIN 3320 Teil 1 09/84 set pressure = test pressure

**Specially applicable is the component examined safty valve as overflow valve, cancelling in installations or pipes low pressure.**

The valve fulfills all in safty valves or rather overflow valves put requirements the accident prevention regulations UVV (VBG 20), the DIN 8975, the DIN EN 378, as well as the § 31a the "Federal Immission Law" and § 2 clause.3 the "Abnormal accident order".



The requirement the TAA-GS-12 "Safty principles NH3-refrigerating plants" will taken into account.

| Pos. | Teil / part      |                   | Material               |
|------|------------------|-------------------|------------------------|
| 1    | Kappe            | cap               | 3.2341                 |
| 2    | Einstellschraube | adjusting screw   | 1.4305                 |
| 3    | Klemmring        | clamping ring     | 1.0038 / 1.4305        |
| 4    | Deckel           | cover             | 1.0038 / 1.4305        |
| 5    | Spindel          | stem              | 1.4305                 |
| 6    | O-Ring D         | o-ring seal D     | CR 70 / HNBR 70        |
| 7    | Druckfeder       | spring            | Federstahl C DIN 17223 |
| 8    | elast. PTFE-Ring | elastic PTFE-ring | 1.4571 / PTFE          |
| 9    | O-Ring S         | o-ring seal S     | CR 85 sb / PTFE        |
| 10   | Gehäuse          | casing            | 1.4301                 |
| 11   | Flansch          | flange            | 1.0460 / 1.4541        |

**Sicherheitsventil**  
 Gegendruck - unabhängig<sup>x</sup>

**SVU**

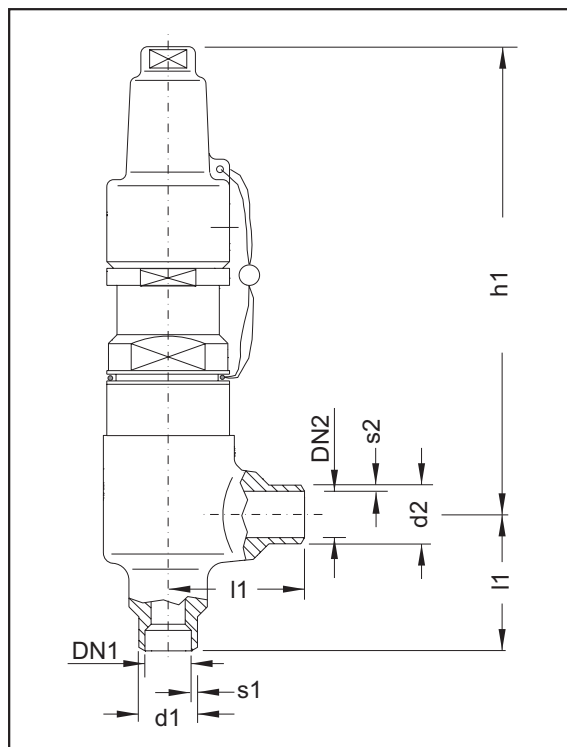
**safety valve**  
 not depending on back pressure

**Anschweißenden**

**welding ends**

**446 AE SVUB** -35°C bis / to +100°C

**448 AE SVUA** -60°C bis / to +180°C



**Einbaulängen / lengths in mm :**

|     |     | Anschweißenden / welding ends |     |      |     |               |     |      |     |    |     |
|-----|-----|-------------------------------|-----|------|-----|---------------|-----|------|-----|----|-----|
|     |     | Reihe 1 / range 1             |     |      |     | ANSI SCHED 40 |     |      |     |    |     |
| DN1 | DN2 | d1                            | s1  | d2   | s2  | d1            | s1  | d2   | s2  | l1 | h1  |
| 8   | 10  | 13,5                          | 1,8 | 17,2 | 1,8 | 13,7          | 2,2 | 17,1 | 2,3 | 40 | 137 |
| 10  | 10  | 17,2                          | 1,8 | 17,2 | 1,8 | 17,1          | 2,3 | 17,1 | 2,3 | 40 | 137 |
| 15  | 15  | 21,3                          | 2,0 | 21,3 | 2,0 | 21,3          | 2,8 | 21,3 | 2,8 | 40 | 137 |

**Varianten / variants :**

| DN1            | Werkstoff material | Ausführung / design<br>Einstelldrücke/test pressure pe [bar] |                                              |                                        |                                        |                                        | Anschweißenden<br>welding ends        |
|----------------|--------------------|--------------------------------------------------------------|----------------------------------------------|----------------------------------------|----------------------------------------|----------------------------------------|---------------------------------------|
| 08<br>10<br>15 | 1.0488<br>1.4301   | 4<br>5<br>6<br>7<br>8<br>9<br>10<br>11                       | 12<br>13<br>14<br>15<br>16<br>17<br>18<br>19 | 20<br>21<br>22<br>23<br>24<br>25<br>26 | 27<br>28<br>29<br>30<br>31<br>32<br>33 | 34<br>35<br>36<br>37<br>38<br>39<br>40 | Reihe 1 / range 1<br>ANSI Schedule 40 |

## Sicherheitsventil

Gegendruck - unabhängig<sup>x</sup>

Flanschanschluß

## SVU

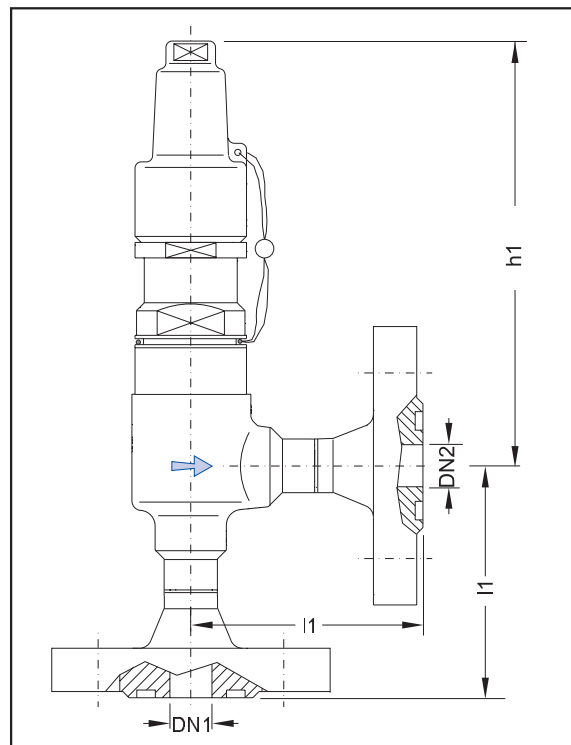
## safety valve

not depending on back pressure

flange connection

**446 FL SVUB** -35°C bis / to +100°C

**448 FL SVUA** -60°C bis / to +180°C



### Einbaulängen / lengths in mm :

|     |     | AWP - Standard | Flansche/ flanges<br>DIN 2635 | ANSI Sched 40 |     |
|-----|-----|----------------|-------------------------------|---------------|-----|
| DN1 | DN2 | l1             | l1                            | l1            | h1  |
| 10  | 10  | 71             | 75                            | -             | 137 |
| 15  | 15  | 71             | 78                            | 88            | 137 |

(DN 10 Flansche nur mit Anschweißenden Reihe 1 / DN 10 flanges only welding ends range 1 )

### Varianten / variants :

| DN1      | Werkstoff<br>material | Ausführung / design<br>Einstelldrücke/test pressure pe [bar] |    |    |    |    | Flansche<br>flanges | Zubehör / fittings                                                                         |
|----------|-----------------------|--------------------------------------------------------------|----|----|----|----|---------------------|--------------------------------------------------------------------------------------------|
| 10<br>15 | 1.0488<br>1.4301      | 4                                                            | 12 | 20 | 27 | 34 | AWP<br>DIN<br>ANSI  | Flansche kpl. / AE<br>flanges cpl. / welding ends<br>Reihe 1 / range 1<br>ANSI Schedule 40 |
|          |                       | 5                                                            | 13 | 21 | 28 | 35 |                     |                                                                                            |
|          |                       | 6                                                            | 14 | 22 | 29 | 36 |                     |                                                                                            |
|          |                       | 7                                                            | 15 | 23 | 30 | 37 |                     |                                                                                            |
|          |                       | 8                                                            | 16 | 24 | 31 | 38 |                     |                                                                                            |
|          |                       | 9                                                            | 17 | 25 | 32 | 39 |                     |                                                                                            |
|          |                       | 10                                                           | 18 | 26 | 33 |    |                     |                                                                                            |
|          |                       | 11                                                           | 19 |    |    |    |                     |                                                                                            |

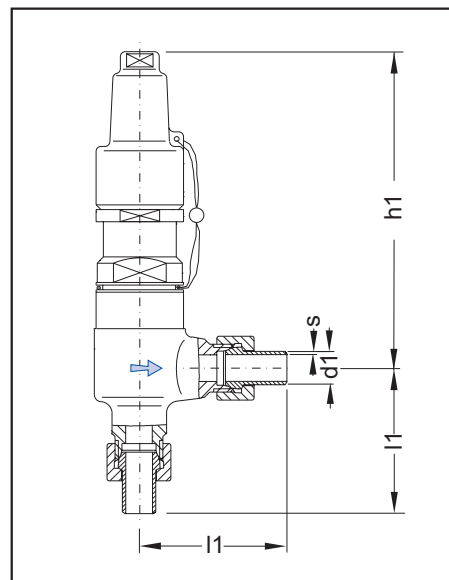
**Sicherheitsventil**  
**Gegendruck-unabhängig**  
**Schraubenden**

**SVU**

**safety valve**  
**not depending on back pressure**  
**screw ends**

**446 SE SVUB** -35°C bis / to +100°C

**448 SE SVUA** -60°C bis / to +180°C



**Einbaulängen / lengths in mm :**

| DN | Gewinde /<br>Rohraußendurchmesser | d1   | s   | l1 | h1  |
|----|-----------------------------------|------|-----|----|-----|
| 15 | M 22x1,5 L* RA15                  | 15,0 | 2,0 | 73 | 137 |

L\* = Leichte Baureihe / light range

**Varianten / variants :**

| DN | Werkstoff<br>material | Ausführung / design<br>Einstelldrücke/test pressure pe [bar] |    |    |    |    | Zubehör / fittings                           |
|----|-----------------------|--------------------------------------------------------------|----|----|----|----|----------------------------------------------|
| 15 | 1.0488<br>1.4301      | 4                                                            | 12 | 20 | 27 | 34 | - Überwurfmutter / cap nut                   |
|    |                       | 5                                                            | 13 | 21 | 28 | 35 | - Schweißkugelbuchse / weld ball-type nipple |
|    |                       | 6                                                            | 14 | 22 | 29 | 36 | - Schneidring / cutting ring                 |
|    |                       | 7                                                            | 15 | 23 | 30 | 37 | - Blindmutter / blind nut                    |
|    |                       | 8                                                            | 16 | 24 | 31 | 38 | - Schweißstülle / tail                       |
|    |                       | 9                                                            | 17 | 25 | 32 | 39 |                                              |
|    |                       | 10                                                           | 18 | 26 | 33 | 40 |                                              |
|    |                       | 11                                                           | 19 |    |    |    |                                              |

## Sicherheitsventil

Gegendruck - unabhängig<sup>x</sup>

Lötenden

## SVU

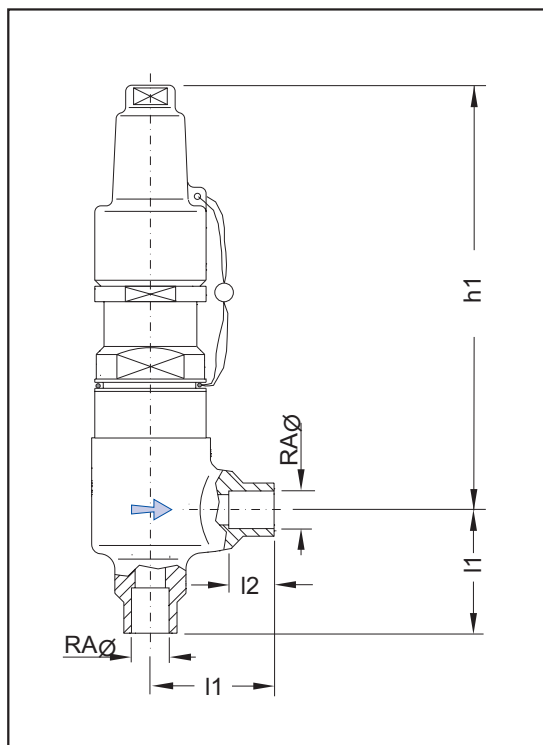
safety valve

not depending on back pressure

solder ends

**446 LE SVUB** -35°C bis / to +100°C

**448 LE SVUA** -60°C bis / to +180°C



### Einbaulängen / lengths in mm :

| Lötenden für Rohraußen Ø / solder ends for tube O.D. |    |    |     |
|------------------------------------------------------|----|----|-----|
| RAØ / tube O.D.                                      | l1 | l2 | h1  |
| 15                                                   | 40 | 15 | 137 |
| 18                                                   | 40 | 15 | 137 |

(Lötenden für Kapillarlötung / solder ends for capillary brazing, CU - Rohr / tube DIN 59735, DIN 1786 )

### Varianten / variants :

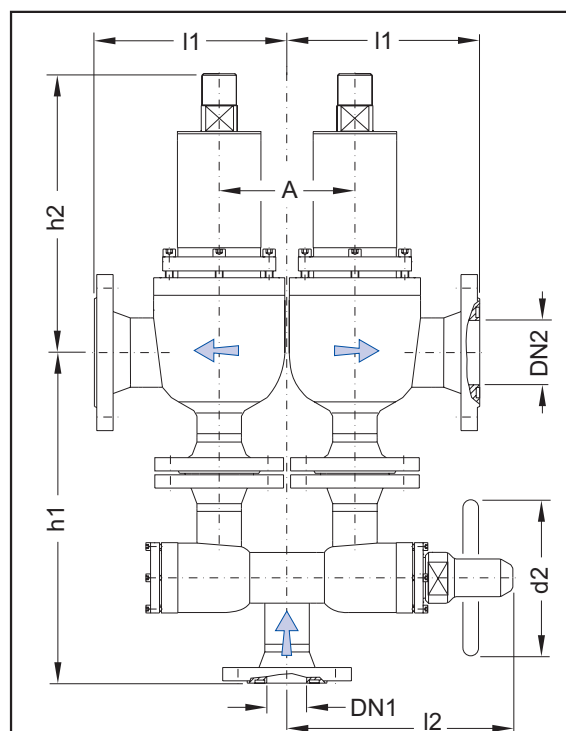
| RAØ | Werkstoff / material | Ausführung / design                   |    |    |    |    |
|-----|----------------------|---------------------------------------|----|----|----|----|
|     |                      | Einstelldrücke/test pressure pe [bar] |    |    |    |    |
| 15  | 1.0488               | 4                                     | 12 | 20 | 27 | 34 |
| 18  | 1.4301               | 5                                     | 13 | 21 | 28 | 35 |
|     |                      | 6                                     | 14 | 22 | 29 | 36 |
|     |                      | 7                                     | 15 | 23 | 30 | 37 |
|     |                      | 8                                     | 16 | 24 | 31 | 38 |
|     |                      | 9                                     | 17 | 25 | 32 | 39 |
|     |                      | 10                                    | 18 | 26 | 33 | 40 |
|     |                      | 11                                    | 19 |    |    |    |

## WVB / SVU

**Wechsel - Sicherheitsventil**  
**Kombination mit Flanschanschluß**  
**Gegendruck - unabhängig**

**dual safety valve**  
**combination with flange connection**  
**not depending on back pressure**

**165 FL WVB / SVU** -60°C bis / to 180°C  
**166 FL WVB / SVU** -35°C bis / to 100°C



**Einbaulängen / lengths in mm :**

| DN1 | DN2 | Flansche / flanges |     |          |     |               |     |     |     |     |     |
|-----|-----|--------------------|-----|----------|-----|---------------|-----|-----|-----|-----|-----|
|     |     | AWP-Standard       |     | DIN 2634 |     | ANSI Sched 40 |     |     |     |     |     |
|     |     | l1                 | h1  | l1       | h1  | l1            | h1  | h2  | l2  | A   | d2  |
| 15  | 25  | 160                | 272 | 156      | 291 | 172           | 321 | 209 | 253 | 120 | 100 |
| 20  | 32  | 170                | 295 | 168      | 327 | 176           | 363 | 222 | 253 | 120 | 100 |
| 25  | 40  | 190                | 296 | 196      | 294 | 203           | 342 | 246 | 267 | 160 | 125 |
| 32  | 50  | 207                | 316 | 211      | 320 | 227           | 363 | 248 | 275 | 180 | 125 |
| 40  | 65  | 256                | 334 | 254      | 353 | 272           | 388 | 277 | 294 | 214 | 150 |
| 50  | 80  | 270                | 280 | 274      | 385 | 286           | 411 | 300 | 301 | 228 | 150 |
| 65  | 100 | 340                | 458 | 340      | 456 | 351           | 474 | 572 | 334 | 276 | 200 |

**Varianten / variants :**

| DN | Werkstoff material | Ausführung / design |       | Einstelldruck pe [bar]<br>test pressure |    |    | Flansche flanges | Zubehör / fittings                                                                                            |
|----|--------------------|---------------------|-------|-----------------------------------------|----|----|------------------|---------------------------------------------------------------------------------------------------------------|
| 15 | 1.0305             | Handrad             | Kappe | 7                                       | 14 | 21 | AWP              | Flansche kpl. / AE<br>flanges cpl. / welding ends<br>Reihe1 / range 1<br>Reihe2 / range 2<br>ANSI Schedule 40 |
| 20 | 1.4301             | handwheel           | cap   | 8                                       | 15 | 22 | DIN              |                                                                                                               |
| 25 |                    | -                   | -     | 9                                       | 16 | 23 | ANSI             |                                                                                                               |
| 32 |                    | x                   | -     | 10                                      | 17 | 24 |                  |                                                                                                               |
| 40 |                    | -                   | x     | 11                                      | 18 | 25 |                  |                                                                                                               |
| 50 |                    | x                   | x     | 12                                      | 19 | 26 |                  |                                                                                                               |
| 65 |                    |                     |       | 13                                      | 20 | 27 |                  |                                                                                                               |
|    |                    |                     |       |                                         |    | 28 |                  |                                                                                                               |

## WVB / SVU

**Wechsel - Sicherheitsventil**  
**Kombination mit Flanschanschluß**  
**Gegendruck - unabhängig<sup>x</sup>**

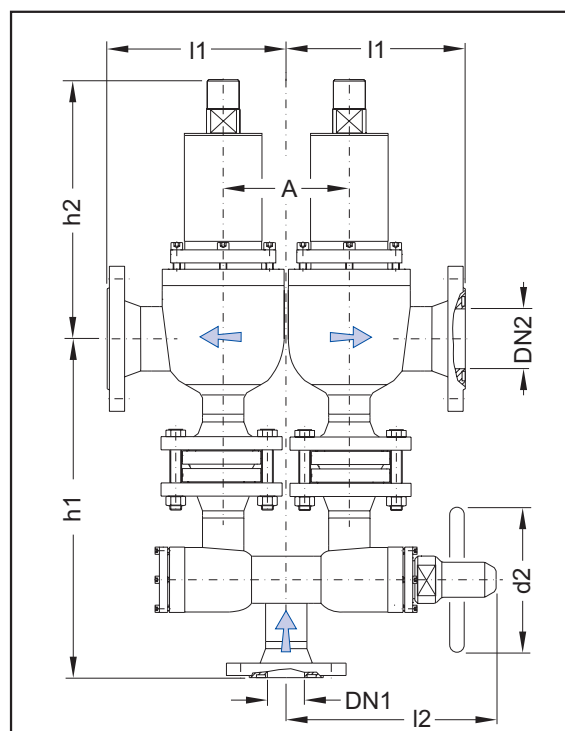
**dual safety valve**  
**with flange connection**  
**not depending on back pressure**

mit Berstscheibe / with bursting disk  
Betriebsdruck **70%** des Berstdruckes  
working pressure **70%** from bursting pressure

**265 FL WVB / SVU** -60°C bis / to +180°C  
**266 FL WVB / SVU** -35°C bis / to +100°C

mit Berstscheibe / with bursting disk  
Betriebsdruck **90%** des Berstdruckes  
working pressure **90%** from bursting pressure

**365 FL WVB / SVU** -60°C bis / to +180°C  
**366 FL WVB / SVU** -35°C bis / to +100°C



**Einbaulängen / lengths in mm :**

| DN1 | DN2 | Flansche / flanges |     |          |     |               |     |     |     |     |     |
|-----|-----|--------------------|-----|----------|-----|---------------|-----|-----|-----|-----|-----|
|     |     | AWP-Standard       |     | DIN 2634 |     | ANSI Sched 40 |     | h2  | l2  | A   | d2  |
|     |     | l1                 | h1  | l1       | h1  | l1            | h1  |     |     |     |     |
| 15  | 25  | 160                | 314 | 156      | 333 | 172           | 363 | 209 | 253 | 120 | 100 |
| 20  | 32  | 170                | 328 | 168      | 360 | 176           | 396 | 222 | 253 | 120 | 100 |
| 25  | 40  | 190                | 336 | 196      | 334 | 203           | 382 | 246 | 267 | 160 | 125 |
| 32  | 50  | 207                | 357 | 211      | 361 | 227           | 404 | 248 | 275 | 180 | 125 |
| 40  | 65  | 256                | 376 | 254      | 395 | 272           | 430 | 277 | 294 | 214 | 150 |
| 50  | 80  | 270                | 322 | 274      | 427 | 286           | 454 | 300 | 301 | 228 | 150 |
| 65  | 100 | 340                | 500 | 340      | 498 | 351           | 516 | 572 | 334 | 276 | 200 |

**Varianten / variants :**

| DN  | Werkstoff material | Ausführung / design |       | Einstelldruck pe [bar]<br>test pressure |    |    | Flansche flanges | Zubehör / fittings*                                                                                 |                                                                       |
|-----|--------------------|---------------------|-------|-----------------------------------------|----|----|------------------|-----------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------|
| 15* | 1.0305             | Handrad             | Kappe | 7                                       | 14 | 21 | AWP              | Flansche kpl./AE<br>flanges cpl./welding ends<br>Reihe/range 1<br>Reihe/range 2<br>ANSI Schedule 40 | * Zubehör für Berstscheibe:<br>Entspannungseinheit<br>Manometer       |
| 20  | 1.4301             | handwheel           | cap   | 8                                       | 15 | 22 | DIN              |                                                                                                     |                                                                       |
| 25  |                    | -                   | -     | 9                                       | 16 | 23 | ANSI             |                                                                                                     |                                                                       |
| 32  |                    | x                   | -     | 10                                      | 17 | 24 |                  |                                                                                                     | * fittings for bursting disc:<br>excess flow valves<br>pressure gauge |
| 40  |                    | -                   | x     | 11                                      | 18 | 25 |                  |                                                                                                     |                                                                       |
| 50  |                    | x                   | x     | 12                                      | 19 | 26 |                  |                                                                                                     |                                                                       |
| 65  |                    |                     |       | 13                                      | 20 | 27 |                  |                                                                                                     |                                                                       |
|     |                    |                     |       |                                         |    | 28 |                  |                                                                                                     |                                                                       |

\* DN 15 nur für 265 und 266  
DN 15 only for 265 and 266

## WVB / SVU

### Wechsel - Sicherheitsventil

#### Kombination mit Gewindeanschluß

Gegendruck-unabhängig

### dual safety valve

#### combination with screw connection

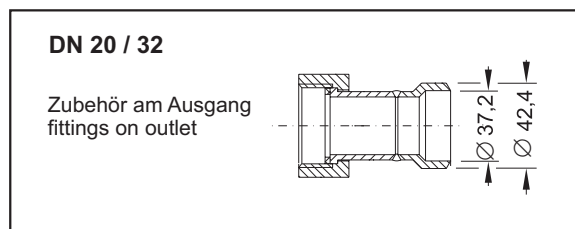
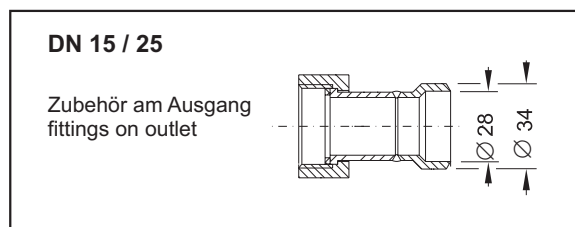
not depending on back pressure

### 165 SE WVB / SVU

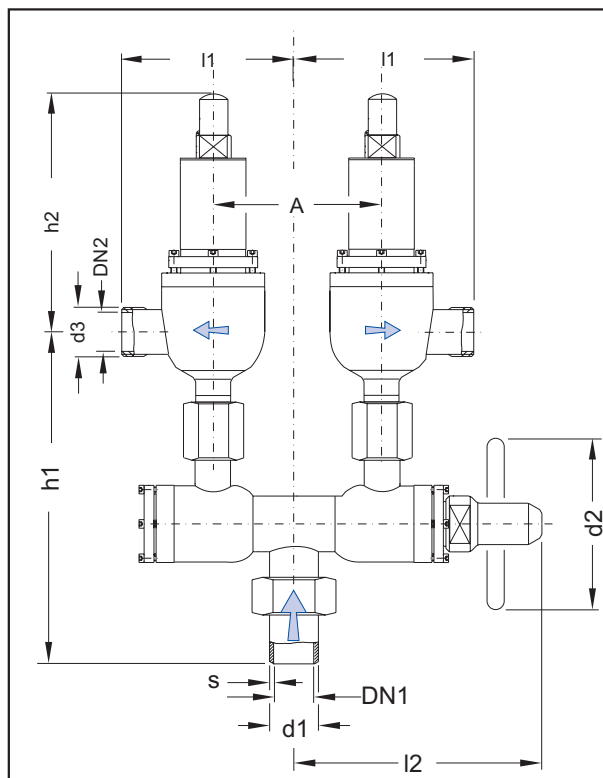
-60°C bis +180°C

### 166 SE WVB / SVU

-35°C bis +100°C



andere Anschlußdurchmesser auf Anfrage /  
other diameters upon request

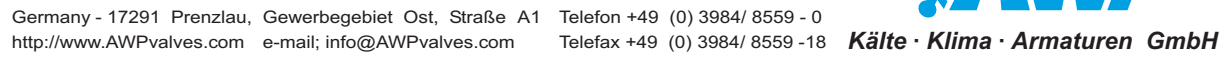


### Einbaulängen / lengths in mm :

|     |     | Anschweißenden / welding ends<br>Reihe 1/ range 1 |     |      |     | ANSI SCHED 40 |     |     |     |     |     |     |
|-----|-----|---------------------------------------------------|-----|------|-----|---------------|-----|-----|-----|-----|-----|-----|
| DN1 | DN2 | d1                                                | s   | d1   | s   | d3            | L1  | L2  | h1  | h2  | A   | d2  |
| 15  | 25  | 21,3                                              | 2,0 | 21,3 | 2,8 | G1"           | 124 | 253 | 216 | 209 | 120 | 100 |
| 20  | 32  | 26,9                                              | 2,3 | 26,7 | 2,9 | G1 1/2 "      | 166 | 253 | 253 | 222 | 120 | 100 |

### Varianten / variants :

| DN       | Werkstoff<br>material | Ausführung / design  | Einstelldruck pe [bar]<br>test pressure |                                 |                                  | Zubehör / fittings         |
|----------|-----------------------|----------------------|-----------------------------------------|---------------------------------|----------------------------------|----------------------------|
| 15<br>20 | 1.0305<br>1.4301      | Handrad<br>handwheel | Kappe<br>cap                            | 9<br>10<br>11<br>12<br>13<br>14 | 15<br>16<br>17<br>18<br>19<br>20 | 21<br>22<br>23<br>24<br>25 |
|          |                       | -<br>x<br>-<br>x     | -<br>-<br>x<br>x                        |                                 |                                  |                            |
|          |                       |                      |                                         |                                 |                                  | (siehe Bild / see picture) |

[illegible]

## Sicherheitsgruppe mit Sicherheitsventilen und Wechselventil

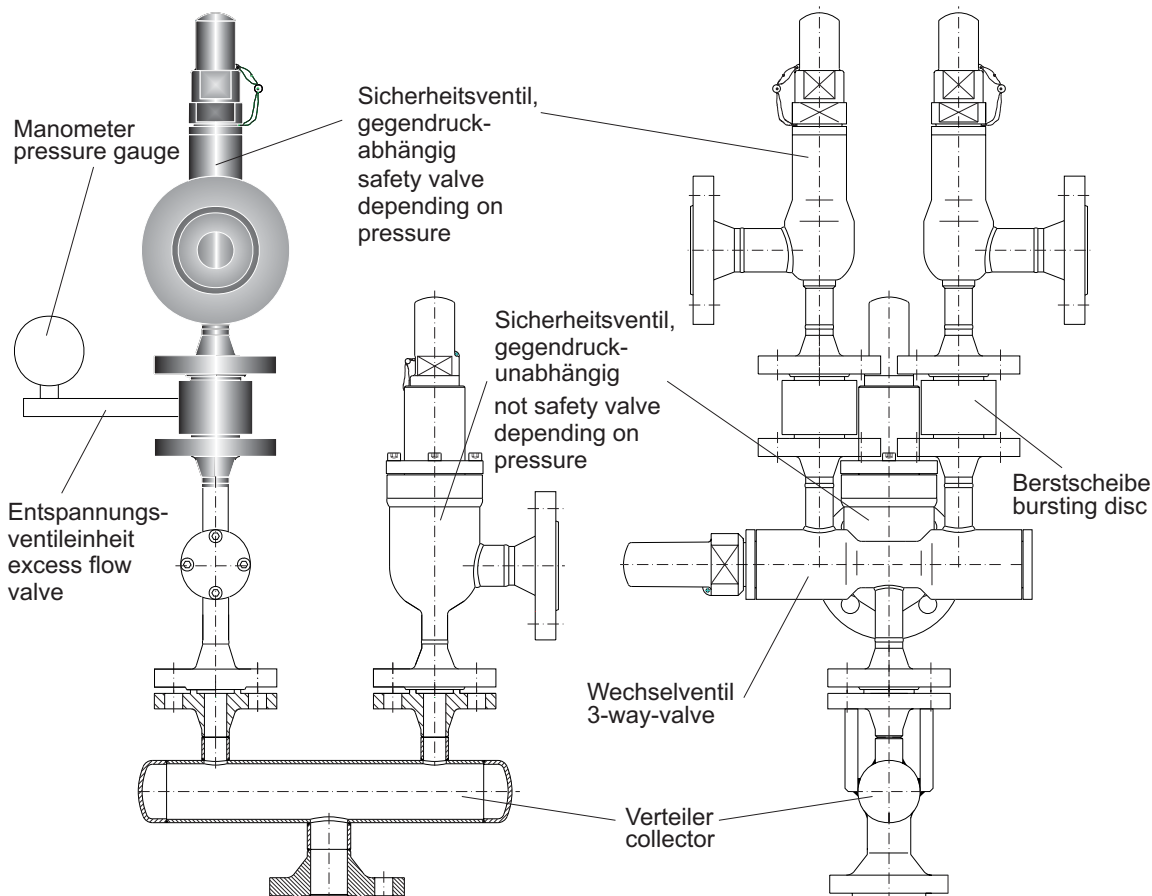
## safety group with safety valves and 3-way-valve

DN 15 - DN 65

SG / WVB

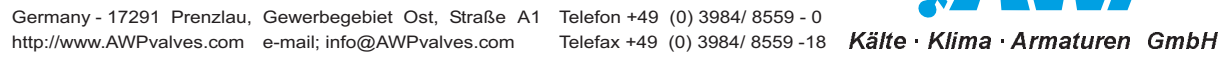
PN 25

( PN 40 auf Anfrage / upon request )



### kompakte Baugruppe / compacte design

- ◆ Normalsicherheitsventil zur Absicherung des Ölabscheiders  
 standard-safety valve for protection of oil separator
- ◆ Überströmventil, gegendruckunabhängig, im Bypass von Druck- zur Saugseite  
 overflow valve, not depending on back pressure, in bypass from the pressure side to the suction side
- ◆ Normalsicherheitsventil auch als Wechselventil-Kombination  
 standard-safety valve as 3-way-valve combination
- ◆ zusätzliche Sicherung durch Berstscheibe als Option  
 protection in addition due to bursting discs as option
- ◆ einfache Montage / simple assembly
- ◆ Flanschanschlüsse nach DIN / ANSI oder Sonderwunsch  
 flanges according to DIN / ANSI or upon request



## This image shows a full page of blank graph paper. The grid consists of small, uniform squares formed by thin, light gray lines. The paper is otherwise completely white and contains no other markings or text.

## Rückschlagventil

-elast. PTFE-Ring-

absperrrbar / mit Dämpfung

## check valve

-elastic PTFE-ring-

stop / with damping

DN 10 - DN 200

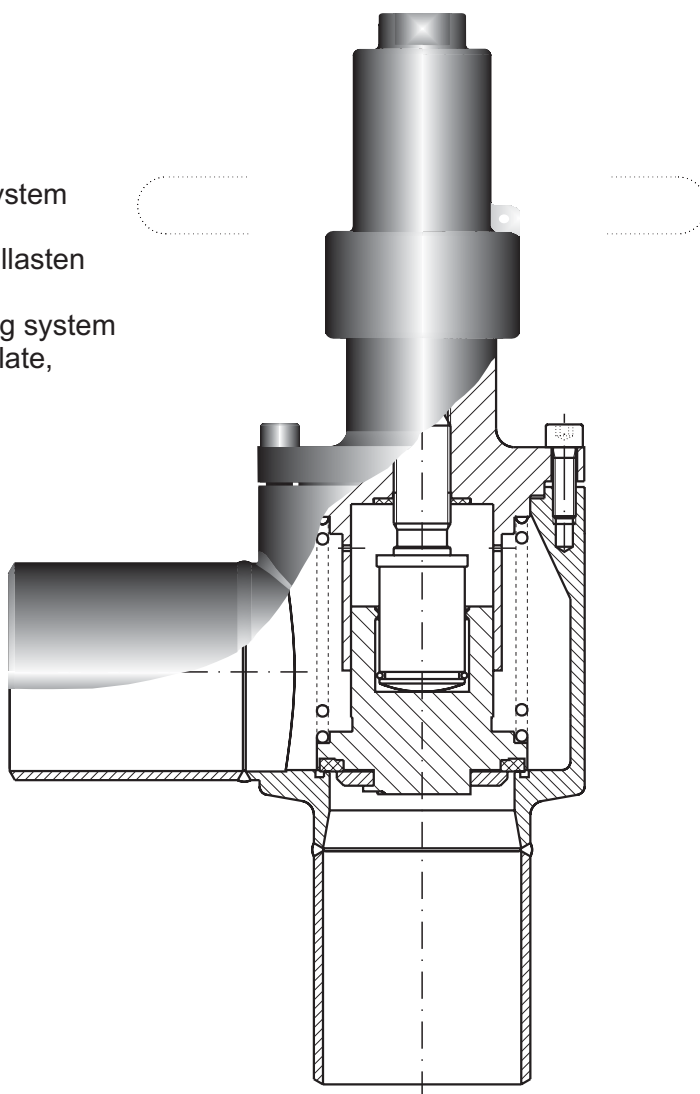
RVA

PN 25

( PN 40 auf Anfrage / upon request )

- ◆ das Ventil ist mit einem Dämpfungssystem ausgerüstet, dass Schwingungen des Ventiltellers, insbesondere bei Teillasten verhindert  
the Valve is equipped with a damping system to prevent the vibration of the valve plate, specially at low power

- ◆ kompakte Bauweise  
compacte design



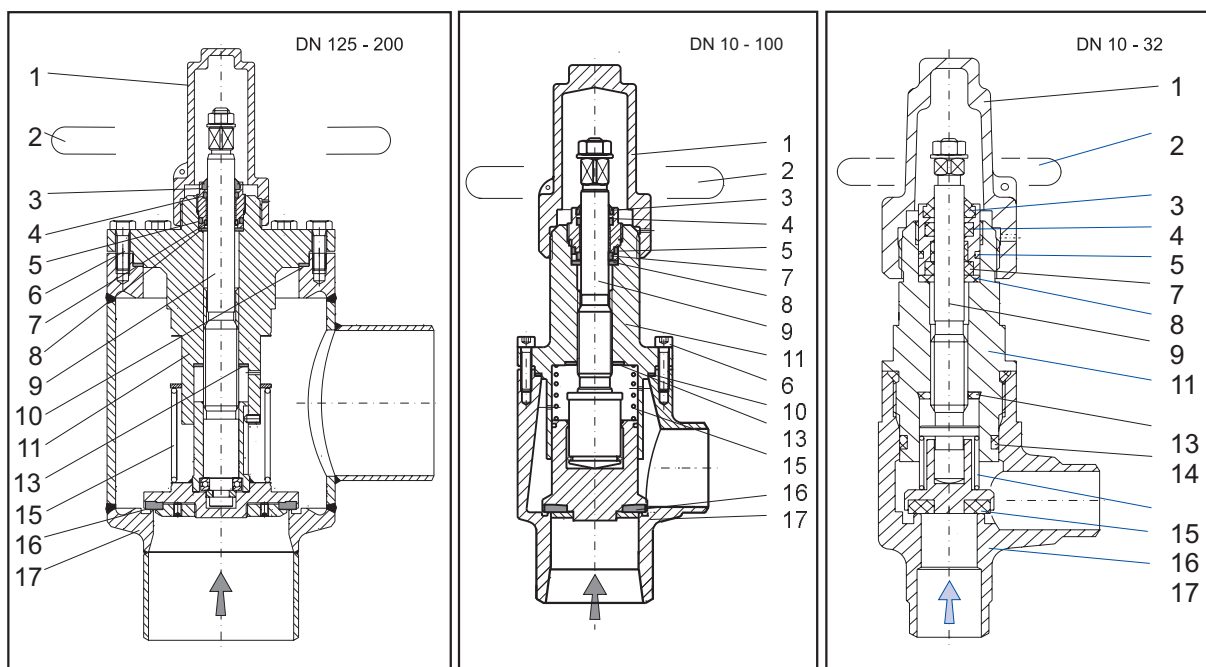
# **Rückschlagventil -elast. PTFE-Ring- RVA** **absperrrbar / mit Dämpfung**

# **check valve -elastic PTFE-ring- stop / with damping**

| PN | DN        | TB(MWT) [°C]  | - 60 | - 10 | + 50 | + 150 |
|----|-----------|---------------|------|------|------|-------|
| 40 | 10 - 100  |               | 30   | 40   | 40   | 40    |
| 25 | 125 - 200 | PB(MWP) [bar] | 18,7 | 25   | 25   | 25    |

## **Durchgangsform / Eckform**

## **globe type / angle type**



| Pos. | Teil / part       |                      | Material                           |
|------|-------------------|----------------------|------------------------------------|
| 1    | Kappe             | cap                  | 3.2341                             |
| 2    | Handrad           | handwheel            | Stahlblech/ sheet steel            |
| 3    | Abstreifring      | slip off ring        | NBR-85                             |
| 4    | O-Ring A          | O - ring seal A      | CR-70                              |
| 5    | O-Ring B          | O - ring seal B      | CR-70                              |
| 6    | Schrauben         | screws               | 8.8 / A2 - 70                      |
| 7    | elast.PTFE-Ring   | elastic PTFE - ring  | 1.4571 / PTFE                      |
| 8    | Flachdichtring SB | flat sealing ring SB | AFM - asbestfrei                   |
| 9    | Spindel           | stem                 | 1.4305                             |
| 10   | Flachdichtring K  | flat sealing ring K  | 3.0255 / PTFE                      |
| 11   | Deckel            | cover                | 1.0038<br>1.4305                   |
| 13   | Flachdichtring R  | flat sealing ring R  | PTFE                               |
| 14   | O-Ring D          | o-ring D             | HNBR-70                            |
| 15   | Druckfeder        | spring               | 1.4310                             |
| 16   | Flachdichtring S  | flat sealing ring S  | PTFE                               |
| 17   | Gehäuse           | body                 | 1.0305 / 1.0488<br>1.4541 / 1.4305 |

# **Rückschlagventil -elast. PTFE-Ring- absperribar / mit Dämpfung**

**Anschweißenden**

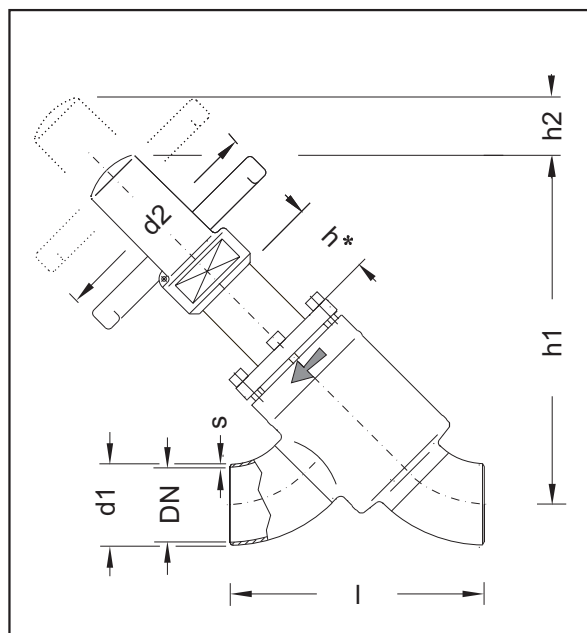
# **check valve -elastic PTFE-ring- stop / with damping**

**welding ends**

Durchgangsform / globe type

**293 00**

**293 10** Deckverlängerung / cover extension



Anschlußkombinationen möglich - auf Anfrage  
connection combinations available - upon request

## **Einbaulängen / lengths in mm :**

|     |       | Anschweißenden / welding ends |     |                   |     |               |     |     |    |           |     |     |
|-----|-------|-------------------------------|-----|-------------------|-----|---------------|-----|-----|----|-----------|-----|-----|
|     |       | Reihe 1 / range 1             |     | Reihe 2 / range 2 |     | ANSI Sched 40 |     |     |    |           |     |     |
| DN  | INCH  | d1                            | s   | d1                | s   | d1            | s   | l   | h  | h1        | h2  | d2  |
| 10  | 3/8   | 17,2                          | 1,8 | 15,0              | 2,5 | 17,1          | 2,3 | 130 | 40 | 180 (180) | 50  | 100 |
| 15  | 1/2   | 21,3                          | 2,0 | 20,0              | 2,5 | 21,3          | 2,8 | 130 | 40 | 180 (180) | 50  | 100 |
| 20  | 3/4   | 26,9                          | 2,3 | 25,0              | 2,5 | 26,7          | 2,9 | 150 | 40 | 180 (180) | 50  | 100 |
| 25  | 1     | 33,7                          | 2,6 | 32,0              | 3,0 | 33,4          | 3,4 | 140 | 50 | 193 (243) | 65  | 125 |
| 32  | 1 1/4 | 42,4                          | 2,6 | 38,0              | 3,0 | 42,2          | 3,6 | 153 | 50 | 193 (243) | 65  | 125 |
| 40  | 1 1/2 | 48,3                          | 2,6 | 45,0              | 3,0 | 48,3          | 3,7 | 155 | 50 | 192 (242) | 75  | 150 |
| 50  | 2     | 60,3                          | 2,9 | 57,0              | 3,2 | 60,3          | 3,9 | 180 | 50 | 198 (248) | 75  | 150 |
| 65  | 2 1/2 | 76,1                          | 2,9 | 76,1              | 3,6 | 76,1          | 5,2 | 255 | 60 | 236 (296) | 85  | 200 |
| 80  | 3     | 88,9                          | 3,2 | 88,9              | 4,0 | 88,9          | 5,5 | 306 | 60 | 286 (346) | 115 | 200 |
| 100 | 4     | 114,3                         | 3,6 | 108,0             | 4,0 | 114,3         | 6,0 | 385 | 60 | 305 (365) | 115 | 250 |
| 125 | 5     | 139,7                         | 4,0 | 133,0             | 4,0 | 139,7         | 6,6 | 468 | 80 | 398 (478) | 165 | 300 |
| 150 | 6     | 168,3                         | 4,5 | 159,0             | 4,5 | 168,3         | 7,1 | 535 | 80 | 431 (511) | 190 | 400 |
| 200 | 8     | 219,1                         | 7,1 | -                 | -   | 219,1         | 8,2 | 708 | 80 | 602 (682) | 270 | 630 |

\*h, ( ) für Deckverlängerung / for cover extension

## **Varianten / variants :**

| DN / INCH | DN / INCH | Werkstoff material | Ausführung / design |       | Anschweißenden / welding ends<br>Eingang / inlet      Ausgang / outlet |  |
|-----------|-----------|--------------------|---------------------|-------|------------------------------------------------------------------------|--|
| 10 3/8    | 50 2      | 1.0305             | Handrad             | Kappe | Reihe 1 / range 1<br>Reihe 2 / range 2<br>ANSI Schedule 40             |  |
| 15 1/2    | 65 2 1/2  | 1.0488             | handwheel           | cap   |                                                                        |  |
| 20 3/4    | 80 3      | 1.4301             | -                   | -     |                                                                        |  |
| 25 1      | 100 4     | 1.4541             | x                   | -     |                                                                        |  |
| 32 1 1/4  | 125 5     |                    | -                   | x     |                                                                        |  |
| 40 1 1/2  | 150 6     |                    | x                   | x     |                                                                        |  |
|           | 200 8     |                    |                     |       |                                                                        |  |

## Rückschlagventil -elast. PTFE-Ring- absperrrbar / mit Dämpfung

Anschweißenden

## check valve -elastic PTFE-ring- stop / with damping

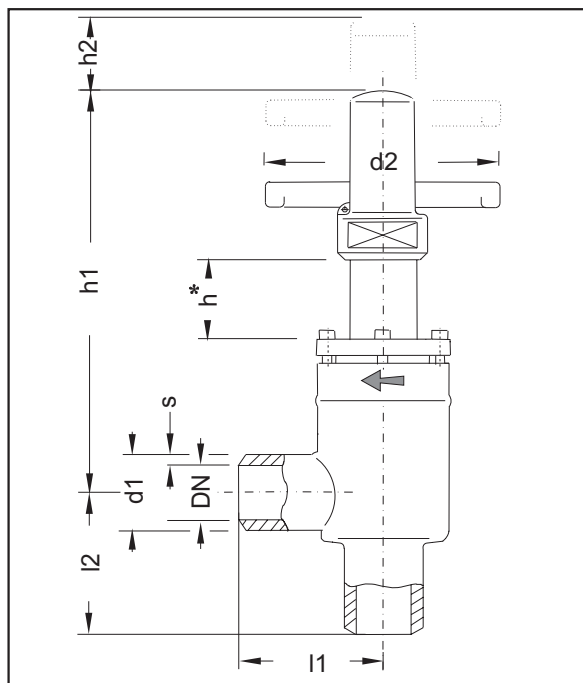
welding ends

Eckform / angle type

**294 00**

**294 10** Deckverlängerung / cover extension

Anschlußkombinationen möglich - auf Anfrage  
connection combinations available - upon request



### Einbaulängen / lengths in mm :

|     |       | Anschweißenden / welding ends |     |                   |     |               |     |     |     |    |           |     |     |
|-----|-------|-------------------------------|-----|-------------------|-----|---------------|-----|-----|-----|----|-----------|-----|-----|
|     |       | Reihe 1 / range 1             |     | Reihe 2 / range 2 |     | ANSI Sched 40 |     |     |     |    |           |     |     |
| DN  | INCH  | d1                            | s   | d1                | s   | d1            | s   | l1  | l2  | h  | h1        | h2  | d2  |
| 10  | 3/8   | 17,2                          | 1,8 | 15,0              | 2,5 | 17,1          | 2,3 | 44  | 61  | 40 | 186 (186) | 85  | 100 |
| 15  | 1/2   | 21,3                          | 2,0 | 20,0              | 2,5 | 21,3          | 2,8 | 44  | 61  | 40 | 186 (186) | 85  | 100 |
| 20  | 3/4   | 26,9                          | 2,3 | 25,0              | 2,5 | 26,7          | 2,9 | 44  | 61  | 40 | 186 (186) | 85  | 100 |
| 25  | 1     | 33,7                          | 2,6 | 32,0              | 3,0 | 33,4          | 3,4 | 60  | 60  | 50 | 188 (238) | 115 | 125 |
| 32  | 1 1/4 | 42,4                          | 2,6 | 38,0              | 3,0 | 42,2          | 3,6 | 60  | 60  | 50 | 188 (238) | 115 | 125 |
| 40  | 1 1/2 | 48,3                          | 2,6 | 45,0              | 3,0 | 48,3          | 3,7 | 70  | 70  | 50 | 187 (237) | 130 | 150 |
| 50  | 2     | 60,3                          | 2,9 | 57,0              | 3,2 | 60,3          | 3,9 | 70  | 70  | 50 | 187 (237) | 130 | 150 |
| 65  | 2 1/2 | 76,1                          | 2,9 | 76,1              | 3,6 | 76,1          | 5,2 | 85  | 85  | 60 | 195 (245) | 145 | 200 |
| 80  | 3     | 88,9                          | 3,2 | 88,9              | 4,0 | 88,9          | 5,5 | 100 | 100 | 60 | 241 (301) | 170 | 200 |
| 100 | 4     | 114,3                         | 3,6 | 108,0             | 4,0 | 114,3         | 6,0 | 120 | 120 | 60 | 242 (302) | 170 | 250 |
| 125 | 5     | 139,7                         | 4,0 | 133,0             | 4,0 | 139,7         | 6,6 | 200 | 200 | 80 | 328 (408) | 240 | 300 |
| 150 | 6     | 168,3                         | 6,3 | 159,0             | 4,5 | 168,3         | 7,1 | 225 | 225 | 80 | 344 (424) | 270 | 400 |
| 200 | 8     | 219,1                         | 6,3 | -                 | -   | 219,1         | 8,2 | 275 | 275 | 80 | 519 (619) | 425 | 630 |

\* h<sub>1</sub> ( ) für Deckverlängerung / for cover extension

### Varianten / variants :

| DN / INCH | DN / INCH | Werkstoff material | Ausführung / design |                  | Anschweißenden / welding ends                              |  |
|-----------|-----------|--------------------|---------------------|------------------|------------------------------------------------------------|--|
|           |           |                    | Eingang / inlet     | Ausgang / outlet |                                                            |  |
| 10 3/8    | 50 2      | 1.0305             | Handrad             | Kappe            | Reihe 1 / range 1<br>Reihe 2 / range 2<br>ANSI Schedule 40 |  |
| 15 1/2    | 65 2 1/2  | 1.0488             | handwheel           | cap              |                                                            |  |
| 20 3/4    | 80 3      | 1.4301             | -                   | -                |                                                            |  |
| 25 1      | 100 4     | 1.4541             | x                   | -                |                                                            |  |
| 32 1 1/4  | 125 5     |                    | -                   | x                |                                                            |  |
| 40 1 1/2  | 150 6     |                    | x                   | x                |                                                            |  |
|           | 200 8     |                    |                     |                  |                                                            |  |

## Rückschlagventil -elast. PTFE-Ring- absperribar / mit Dämpfung

Anschweißenden

**RVA**

## check valve -elastic PTFE-ring- stop / with damping

welding ends

Durchgangsform / globe type

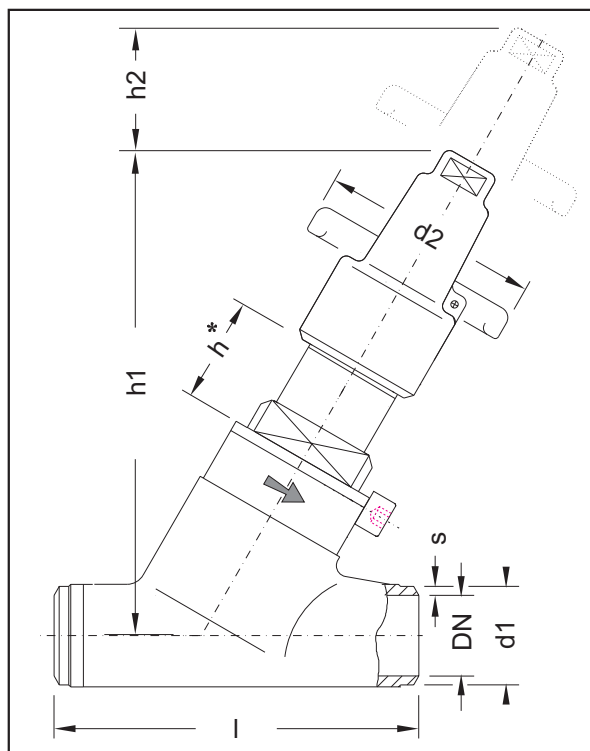
**391 00** (-20°C bis / to +100°C)

**391 10** Deckverlängerung/ cover extension

**393 00** (-60°C bis / to +150°C)

**393 10** Deckverlängerung/ cover extension

Anschlußkombinationen möglich - auf Anfrage  
 connection combinations available - upon request



### Einbaulängen / lengths in mm :

|    |       | Anschweißenden / welding ends |     |                   |     |               |     |     |    |           |    |     |
|----|-------|-------------------------------|-----|-------------------|-----|---------------|-----|-----|----|-----------|----|-----|
|    |       | Reihe 1 / range 1             |     | Reihe 2 / range 2 |     | ANSI Sched 40 |     |     |    |           |    |     |
| DN | INCH  | d1                            | s   | d1                | s   | d1            | s   | l   | h  | h1        | h2 | d2  |
| 6  | 1/8   | 10,2                          | 1,6 | -                 | -   | 10,3          | 1,7 | 100 | 25 | 128 (153) | 40 | 60  |
| 8  | 1/4   | 13,5                          | 1,8 | -                 | -   | 13,7          | 2,2 | 100 | 25 | 128 (153) | 40 | 60  |
| 10 | 3/8   | 17,2                          | 1,8 | 15,0              | 2,5 | 17,1          | 2,3 | 100 | 25 | 128 (153) | 40 | 60  |
| 15 | 1/2   | 21,3                          | 2,0 | 20,0              | 2,5 | 21,3          | 2,8 | 100 | 25 | 128 (153) | 40 | 60  |
| 20 | 3/4   | 26,9                          | 2,3 | 25,0              | 2,5 | 26,7          | 2,9 | 120 | 30 | 180 (210) | 40 | 100 |
| 25 | 1     | 33,7                          | 2,6 | 32,0              | 3,0 | 33,4          | 3,4 | 120 | 30 | 180 (210) | 40 | 100 |
| 32 | 1 1/4 | 42,4                          | 2,6 | 38,0              | 3,0 | 42,2          | 3,6 | 120 | 30 | 180 (210) | 40 | 100 |

\*h<sub>i</sub> ( ) für Deckverlängerung / for cover extension

### Varianten / variants :

| DN / INCH | Werkstoff<br>material | Ausführung / design |       | Anschweißenden / welding ends                              |                  |
|-----------|-----------------------|---------------------|-------|------------------------------------------------------------|------------------|
|           |                       |                     |       | Eingang / inlet                                            | Ausgang / outlet |
| 6 1/8     | 1.0488                | Handrad             | Kappe | Reihe 1 / range 1<br>Reihe 2 / range 2<br>ANSI Schedule 40 |                  |
| 8 1/4     | 1.4301                | handwheel           | cap   |                                                            |                  |
| 10 3/8    |                       | -                   | -     |                                                            |                  |
| 15 1/2    |                       | x                   | -     |                                                            |                  |
| 20 3/4    |                       | -                   | x     |                                                            |                  |
| 25 1      |                       | x                   | x     |                                                            |                  |
| 32 1 1/4  |                       |                     |       |                                                            |                  |

# **Rückschlagventil -elast. PTFE-Ring- absperrrbar / mit Dämpfung**

**Anschweißenden**

**RVA**

**check valve -elastic PTFE-ring-  
stop / with damping**

**welding ends**

**Eckform / angle type**

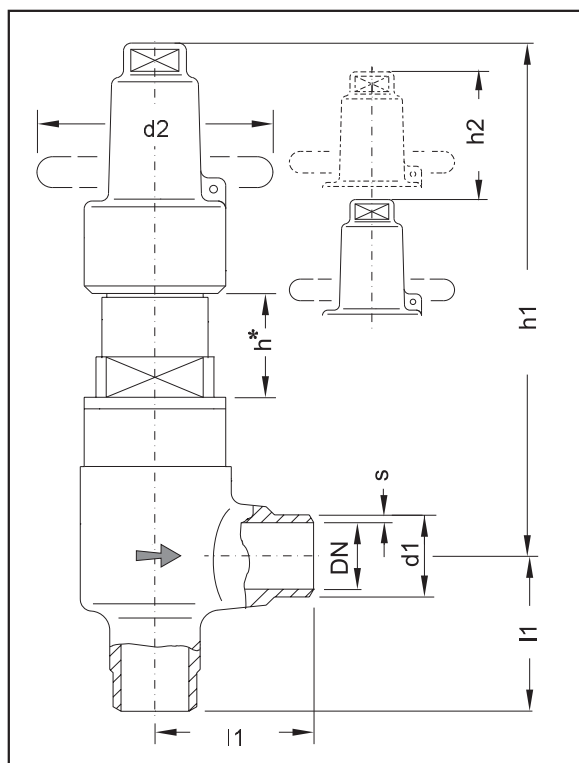
**392 00** (-20°C bis / to +100°C)

**392 10** Deckverlängerung/cover extension

**394 00** (-60°C bis / to +150°C)

**394 10** Deckverlängerung/cover extension

Anschlußkombinationen möglich - auf Anfrage  
connection combinations available - upon request



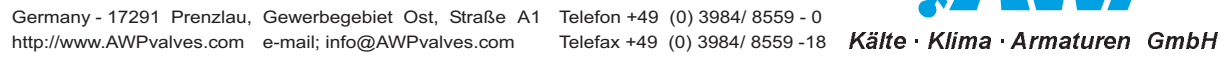
## **Einbaulängen / lengths in mm :**

|    |       | Anschweißenden / welding ends |     |                   |     |               |     |    |    |           |    |     |
|----|-------|-------------------------------|-----|-------------------|-----|---------------|-----|----|----|-----------|----|-----|
|    |       | Reihe 1 / range 1             |     | Reihe 2 / range 2 |     | ANSI Sched 40 |     |    |    |           |    |     |
| DN | INCH  | d1                            | s   | d1                | s   | d1            | s   | l1 | h  | h1        | h2 | d2  |
| 6  | 1/8   | 10,2                          | 1,6 | -                 | -   | 10,3          | 1,7 | 40 | 25 | 131 (156) | 40 | 60  |
| 8  | 1/4   | 13,5                          | 1,8 | -                 | -   | 13,7          | 2,2 | 40 | 25 | 131 (156) | 40 | 60  |
| 10 | 3/8   | 17,2                          | 1,8 | 15,0              | 2,5 | 17,1          | 2,3 | 40 | 25 | 131 (156) | 40 | 60  |
| 15 | 1/2   | 21,3                          | 2,0 | 20,0              | 2,5 | 21,3          | 2,8 | 40 | 25 | 131 (156) | 40 | 60  |
| 20 | 3/4   | 26,9                          | 2,3 | 25,0              | 2,5 | 26,7          | 2,9 | 60 | 30 | 170 (200) | 40 | 100 |
| 25 | 1     | 33,7                          | 2,6 | 32,0              | 3,0 | 33,4          | 3,4 | 60 | 30 | 170 (200) | 40 | 100 |
| 32 | 1 1/4 | 42,4                          | 2,6 | 38,0              | 3,0 | 42,2          | 3,6 | 60 | 30 | 170 (200) | 40 | 100 |

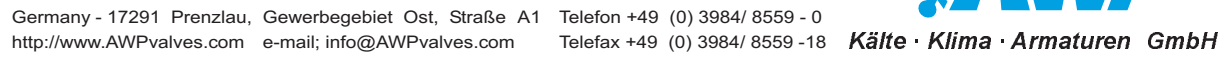
\*h, ( ) für Deckverlängerung / for cover extension

## **Varianten / variants :**

| DN / INCH | Werkstoff<br>material | Ausführung / design |       | Anschweißenden / welding ends                              |                  |
|-----------|-----------------------|---------------------|-------|------------------------------------------------------------|------------------|
|           |                       |                     |       | Eingang / inlet                                            | Ausgang / outlet |
| 6 1/8     | 1.0488                | Handrad             | Kappe | Reihe 1 / range 1<br>Reihe 2 / range 2<br>ANSI Schedule 40 |                  |
| 8 1/4     | 1.4301                | handwheel           | cap   |                                                            |                  |
| 10 3/8    |                       | -                   | -     |                                                            |                  |
| 15 1/2    |                       | x                   | -     |                                                            |                  |
| 20 3/4    |                       | -                   | x     |                                                            |                  |
| 25 1      |                       | x                   | x     |                                                            |                  |
| 32 1 1/4  |                       |                     |       |                                                            |                  |



## This image shows a full page of blank graph paper. The grid consists of small, uniform squares formed by thin, light gray lines. The paper is otherwise completely white and contains no other markings or text.



## This image shows a full page of blank graph paper. The grid consists of small, uniform squares formed by thin, light gray lines. The paper is otherwise completely empty, with no margins, text, or other markings.

## ***Rückschlagventil mit Dämpfung***

***DN 10 - DN 200***

***RV***

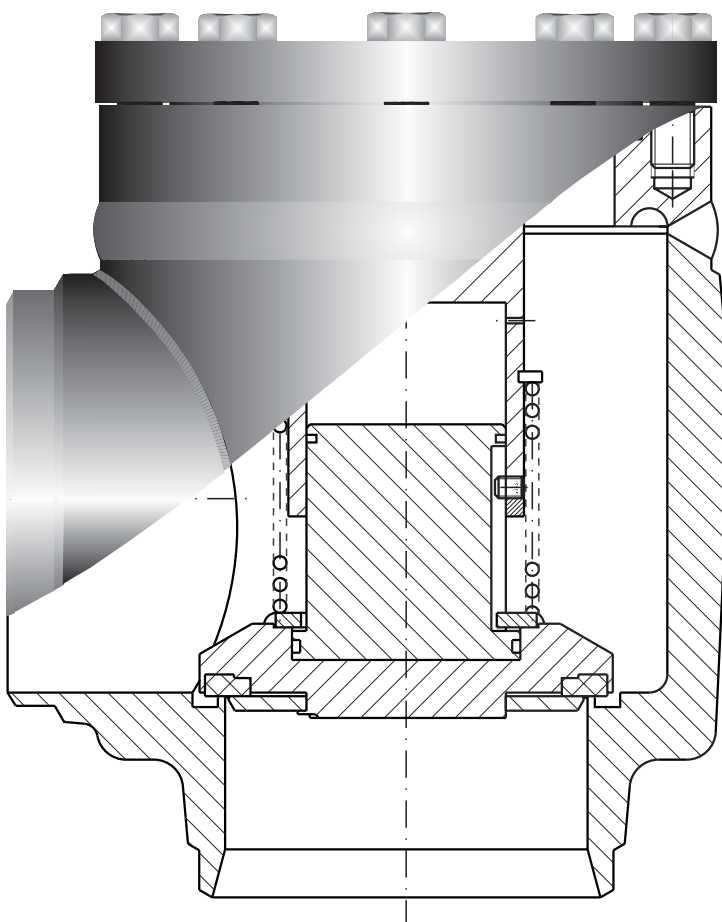
## ***check valve with damping***

***PN 25***

*( PN 40 auf Anfrage / upon request )*

- ◆ das Ventil ist mit einem Dämpfungssystem ausgerüstet, dass Schwingungen des Ventiltellers, insbesondere bei Teillasten verhindert  
 the valves is equipped with a damping system to prevent the vibration of the valve plate, specially at low power

- ◆ kompakte Bauweise  
 compacte design



## Rückschlagventil mit Dämpfung

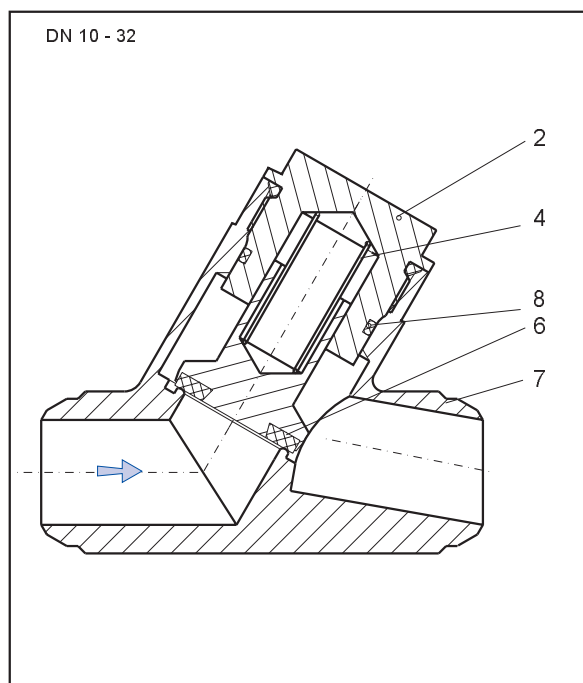
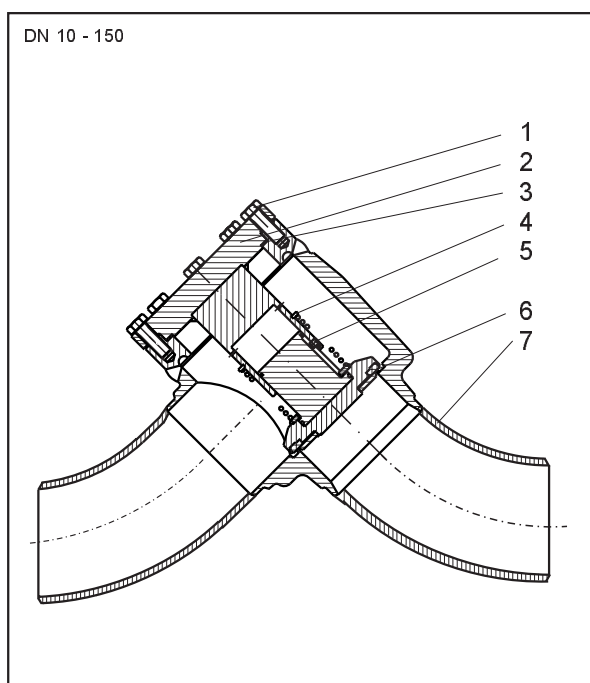
# RV

## check valve with damping

| PN | DN        | TB(MWT) [°C]  | - 60 | - 10 | + 50 | + 150 |
|----|-----------|---------------|------|------|------|-------|
| 40 | 10 - 100  | PB(MWP) [bar] | 30   | 40   | 40   | 40    |
| 25 | 125 - 150 |               | 18,7 | 25   | 25   | 25    |

Durchgangsform / Eckform

globe type / angle type



| Pos. | Teil / part      |                     | Material        |
|------|------------------|---------------------|-----------------|
| 1    | Schrauben        | screws              | 8.8 / A2 - 70   |
| 2    | Deckel           | cover               | 1.0038          |
|      |                  |                     | 1.4305          |
| 3    | Flachdichtring K | flat sealing ring K | 3.0255 / PTFE   |
| 4    | Druckfeder       | spring              | 1.4310          |
| 5    | Dämpfungsringe   | damping rings       | 1.4021          |
| 6    | Flachdichtring S | flat sealing ring S | PTFE            |
| 7    | Gehäuse          | body                | 1.0305 / 1.0038 |
|      |                  |                     | 1.4541          |
| 8    | O - Ring B       | O - ring seal B     | HNBR - 70       |

## Rückschlagventil mit Dämpfung

Anschweißenden

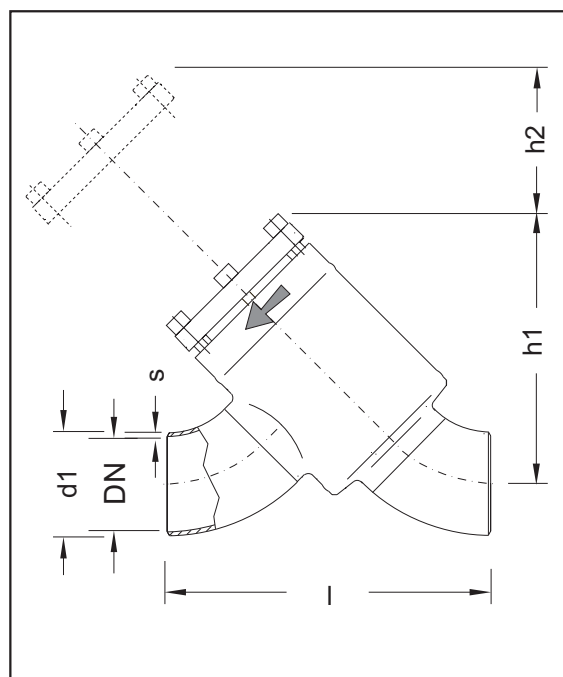
**RV**

check valve  
with damping

welding ends

Durchgangsform / globe type

**283 00**



Anschlußkombinationen möglich - auf Anfrage  
 connection combinations available - upon request

### Einbaulängen / lengths in mm :

|     |       | Anschweißenden / welding ends |     |                   |     |               |     |     |     |     |
|-----|-------|-------------------------------|-----|-------------------|-----|---------------|-----|-----|-----|-----|
|     |       | Reihe 1 / range 1             |     | Reihe 2 / range 2 |     | ANSI Sched 40 |     |     |     |     |
| DN  | INCH  | d1                            | s   | d1                | s   | d1            | s   | l   | h1  | h2  |
| 10  | 3/8   | 17,2                          | 1,8 | 15,0              | 2,5 | 17,1          | 2,3 | 130 | 80  | 60  |
| 15  | 1/2   | 21,3                          | 2,0 | 20,0              | 2,5 | 21,3          | 2,8 | 130 | 80  | 60  |
| 20  | 3/4   | 26,9                          | 2,3 | 25,0              | 2,5 | 26,7          | 2,9 | 150 | 80  | 60  |
| 25  | 1     | 33,7                          | 2,6 | 32,0              | 3,0 | 33,4          | 3,4 | 140 | 120 | 80  |
| 32  | 1 1/4 | 42,4                          | 2,6 | 38,0              | 3,0 | 42,2          | 3,6 | 153 | 125 | 80  |
| 40  | 1 1/2 | 48,3                          | 2,6 | 45,0              | 3,0 | 48,3          | 3,7 | 155 | 135 | 90  |
| 50  | 2     | 60,3                          | 2,9 | 57,0              | 3,2 | 60,3          | 3,9 | 180 | 140 | 90  |
| 65  | 2 1/2 | 76,1                          | 2,9 | 76,1              | 3,6 | 76,1          | 5,2 | 255 | 185 | 100 |
| 80  | 3     | 88,9                          | 3,2 | 88,9              | 4,0 | 88,9          | 5,5 | 306 | 245 | 120 |
| 100 | 4     | 114,3                         | 3,6 | 108,0             | 4,0 | 114,3         | 6,0 | 385 | 277 | 120 |
| 125 | 5     | 139,7                         | 4,0 | 133,0             | 4,0 | 139,7         | 6,6 | 468 | 355 | 170 |
| 150 | 6     | 168,3                         | 4,5 | 159,0             | 4,5 | 168,3         | 7,1 | 535 | 400 | 190 |

### Varianten / variants :

| DN / INCH | DN / INCH | Werkstoff / material | Anschweißenden / welding ends<br>Eingang / inlet      Ausgang / outlet |
|-----------|-----------|----------------------|------------------------------------------------------------------------|
| 10 3/8    | 50 2      | 1.0305               | Reihe 1 / range 1                                                      |
| 15 1/2    | 65 2 1/2  | 1.0488               | Reihe 2 / range 2                                                      |
| 20 3/4    | 80 3      | 1.4301               | ANSI Schedule 40                                                       |
| 25 1      | 100 4     | 1.4541               |                                                                        |
| 32 1 1/4  | 125 5     |                      |                                                                        |
| 40 1 1/2  | 150 6     |                      |                                                                        |

## Rückschlagventil mit Dämpfung

Anschweißenden

**RV**

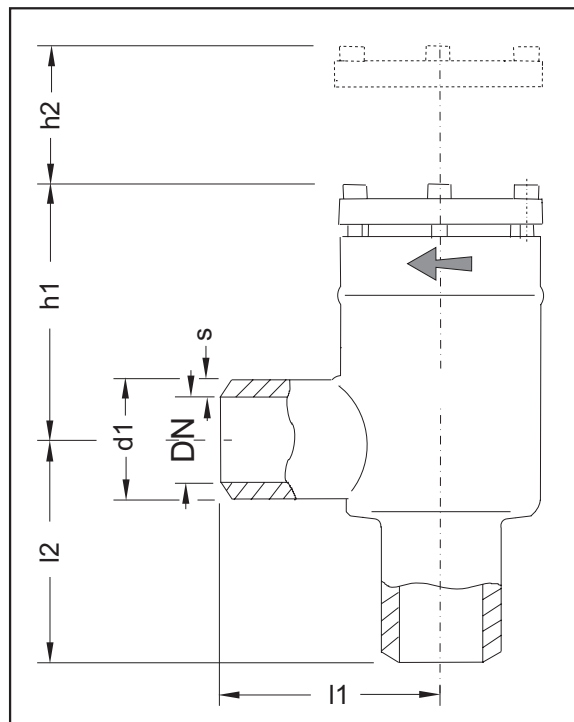
check valve  
with damping

welding ends

Eckform / angle type

**284 00**

Anschlußkombinationen möglich - auf Anfrage  
 connection combinations available - upon request



### Einbaulängen / lengths in mm :

|     |       | Anschweißenden / welding ends |     |                   |     |               |     |     |     |     |     |
|-----|-------|-------------------------------|-----|-------------------|-----|---------------|-----|-----|-----|-----|-----|
|     |       | Reihe 1 / range 1             |     | Reihe 2 / range 2 |     | ANSI Sched 40 |     |     |     |     |     |
| DN  | INCH  | d1                            | s   | d1                | s   | d1            | s   | l1  | l2  | h1  | h2  |
| 10  | 3/8   | 17,2                          | 1,8 | 15,0              | 2,5 | 17,1          | 2,3 | 44  | 61  | 51  | 85  |
| 15  | 1/2   | 21,3                          | 2,0 | 20,0              | 2,5 | 21,3          | 2,8 | 44  | 61  | 51  | 85  |
| 20  | 3/4   | 26,9                          | 2,3 | 25,0              | 2,5 | 26,7          | 2,9 | 44  | 61  | 51  | 85  |
| 25  | 1     | 33,7                          | 2,6 | 32,0              | 3,0 | 33,4          | 3,4 | 60  | 60  | 60  | 115 |
| 32  | 1 1/4 | 42,4                          | 2,6 | 38,0              | 3,0 | 42,2          | 3,6 | 60  | 60  | 70  | 115 |
| 40  | 1 1/2 | 48,3                          | 2,6 | 45,0              | 3,0 | 48,3          | 3,7 | 70  | 70  | 72  | 130 |
| 50  | 2     | 60,3                          | 2,9 | 57,0              | 3,2 | 60,3          | 3,9 | 70  | 70  | 72  | 130 |
| 65  | 2 1/2 | 76,1                          | 2,9 | 76,1              | 3,6 | 76,1          | 5,2 | 85  | 85  | 87  | 145 |
| 80  | 3     | 88,9                          | 3,2 | 88,9              | 4,0 | 88,9          | 5,5 | 100 | 100 | 125 | 170 |
| 100 | 4     | 114,3                         | 3,6 | 108,0             | 4,0 | 114,3         | 6,0 | 120 | 120 | 130 | 170 |
| 125 | 5     | 139,7                         | 4,0 | 133,0             | 4,0 | 139,7         | 6,6 | 200 | 200 | 175 | 240 |
| 150 | 6     | 168,3                         | 6,3 | 159,0             | 4,5 | 168,3         | 7,1 | 225 | 225 | 190 | 270 |

### Varianten / variants :

| DN / INCH | DN / INCH | Werkstoff / material | Anschweißenden / welding ends<br>Eingang / inlet      Ausgang / outlet |
|-----------|-----------|----------------------|------------------------------------------------------------------------|
| 10 3/8    | 50 2      | 1.0305               | Reihe 1 / range 1<br>Reihe 2 / range 2<br>ANSI Schedule 40             |
| 15 1/2    | 65 2 1/2  | 1.0488               |                                                                        |
| 20 3/4    | 80 3      | 1.4301               |                                                                        |
| 25 1      | 100 4     | 1.4541               |                                                                        |
| 32 1 1/4  | 125 5     |                      |                                                                        |
| 40 1 1/2  | 150 6     |                      |                                                                        |

## Rückschlagventil mit Dämpfung

Anschweißenden

# RV

check valve  
with damping

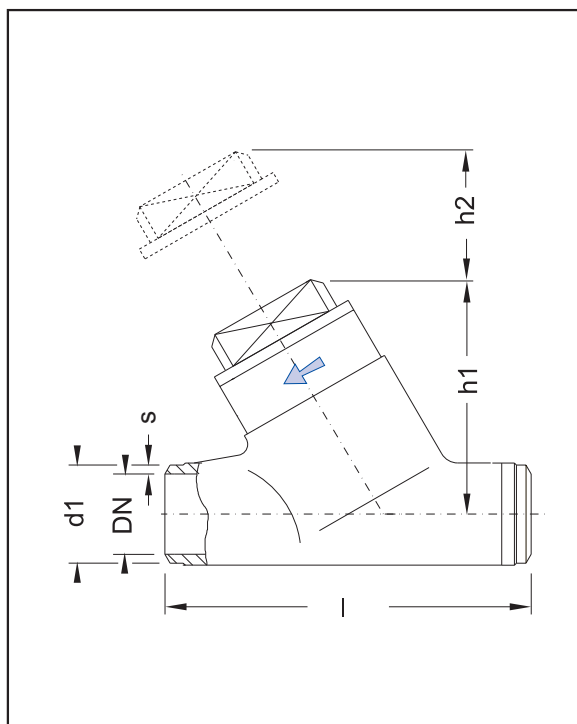
welding ends

Durchgangsform / globe type

**381 00** (-20°C bis / to +100°C)

**383 00** (-60°C bis / to +150°C)

Anschlußkombinationen möglich - auf Anfrage  
 connection combinations available - upon request



### Einbaulängen / lengths in mm :

|    |       | Anschweißenden / welding ends |     |                   |     |               |     |     |    |    |
|----|-------|-------------------------------|-----|-------------------|-----|---------------|-----|-----|----|----|
|    |       | Reihe 1 / range 1             |     | Reihe 2 / range 2 |     | ANSI Sched 40 |     |     |    |    |
| DN | INCH  | d1                            | s   | d1                | s   | d1            | s   | l   | h1 | h2 |
| 6  | 1/8   | 10,2                          | 1,6 | -                 | -   | 10,3          | 1,7 | 100 | 60 | 40 |
| 8  | 1/4   | 13,5                          | 1,8 | -                 | -   | 13,7          | 2,2 | 100 | 60 | 40 |
| 10 | 3/8   | 17,2                          | 1,8 | 15,0              | 2,5 | 17,1          | 2,3 | 100 | 60 | 40 |
| 15 | 1/2   | 21,3                          | 2,0 | 20,0              | 2,5 | 21,3          | 2,8 | 100 | 60 | 40 |
| 20 | 3/4   | 26,9                          | 2,3 | 25,0              | 2,5 | 26,7          | 2,9 | 120 | 90 | 40 |
| 25 | 1     | 33,7                          | 2,6 | 32,0              | 3,0 | 33,4          | 3,4 | 120 | 90 | 40 |
| 32 | 1 1/4 | 42,4                          | 2,6 | 38,0              | 3,0 | 42,2          | 3,6 | 120 | 90 | 40 |

### Varianten / variants :

| DN / INCH                                                                        | Werkstoff / material | Anschweißenden / welding ends<br>Eingang / inlet      Ausgang / outlet |
|----------------------------------------------------------------------------------|----------------------|------------------------------------------------------------------------|
| 6    1/8<br>8    1/4<br>10   3/8<br>15   1/2<br>20   3/4<br>25   1<br>32   1 1/4 | 1.0488<br>1.4301     | Reihe 1 / range 1<br>Reihe 2 / range 2<br>ANSI Schedule 40             |

**Rückschlagventil  
mit Dämpfung**  
**Anschweißenden**

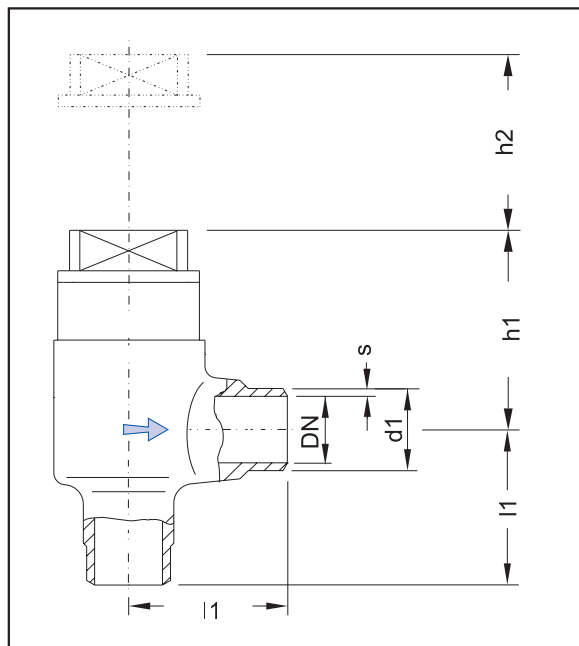
**RV**

**check valve  
with damping  
welding ends**

Eckform / angle type

**382 00** (-20°C bis / to +100°C)

**384 00** (-60°C bis / to +150°C)



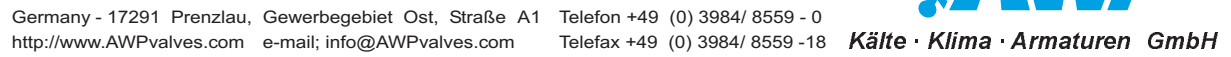
Anschlußkombinationen möglich - auf Anfrage  
 connection combinations available - upon request

**Einbaulängen / lengths in mm :**

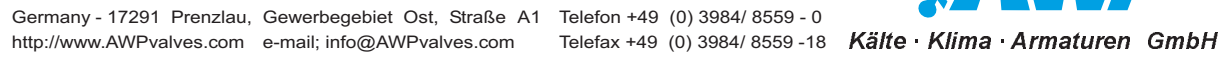
|    |       | Anschweißenden / welding ends |     |                   |     |               |     |    |    |    |
|----|-------|-------------------------------|-----|-------------------|-----|---------------|-----|----|----|----|
|    |       | Reihe 1 / range 1             |     | Reihe 2 / range 2 |     | ANSI Sched 40 |     |    |    |    |
| DN | INCH  | d1                            | s   | d1                | s   | d1            | s   | l1 | h1 | h2 |
| 6  | 1/8   | 10,2                          | 1,6 | -                 | -   | 10,3          | 1,7 | 40 | 47 | 40 |
| 8  | 1/4   | 13,5                          | 1,8 | -                 | -   | 13,7          | 2,2 | 40 | 47 | 40 |
| 10 | 3/8   | 17,2                          | 1,8 | 15,0              | 2,5 | 17,1          | 2,3 | 40 | 47 | 40 |
| 15 | 1/2   | 21,3                          | 2,0 | 20,0              | 2,5 | 21,3          | 2,8 | 40 | 47 | 40 |
| 20 | 3/4   | 26,9                          | 2,3 | 25,0              | 2,5 | 26,7          | 2,9 | 60 | 55 | 40 |
| 25 | 1     | 33,7                          | 2,6 | 32,0              | 3,0 | 33,4          | 3,4 | 60 | 55 | 40 |
| 32 | 1 1/4 | 42,4                          | 2,6 | 38,0              | 3,0 | 42,2          | 3,6 | 60 | 55 | 40 |

**Varianten / variants :**

| DN / INCH  | Werkstoff / material | Anschweißenden / welding ends<br>Eingang / inlet      Ausgang / outlet |
|------------|----------------------|------------------------------------------------------------------------|
| 6    1/8   | 1.0488<br>1.4301     | Reihe 1 / range 1<br>Reihe 2 / range 2<br>ANSI Schedule 40             |
| 8    1/4   |                      |                                                                        |
| 10   3/8   |                      |                                                                        |
| 15   1/2   |                      |                                                                        |
| 20   3/4   |                      |                                                                        |
| 25   1     |                      |                                                                        |
| 32   1 1/4 |                      |                                                                        |



Notizen / notice



## This image shows a full page of blank graph paper. The grid consists of small, uniform squares formed by thin, light gray lines. The paper is otherwise completely white and contains no other markings or text.

## Öldruckregulierventil

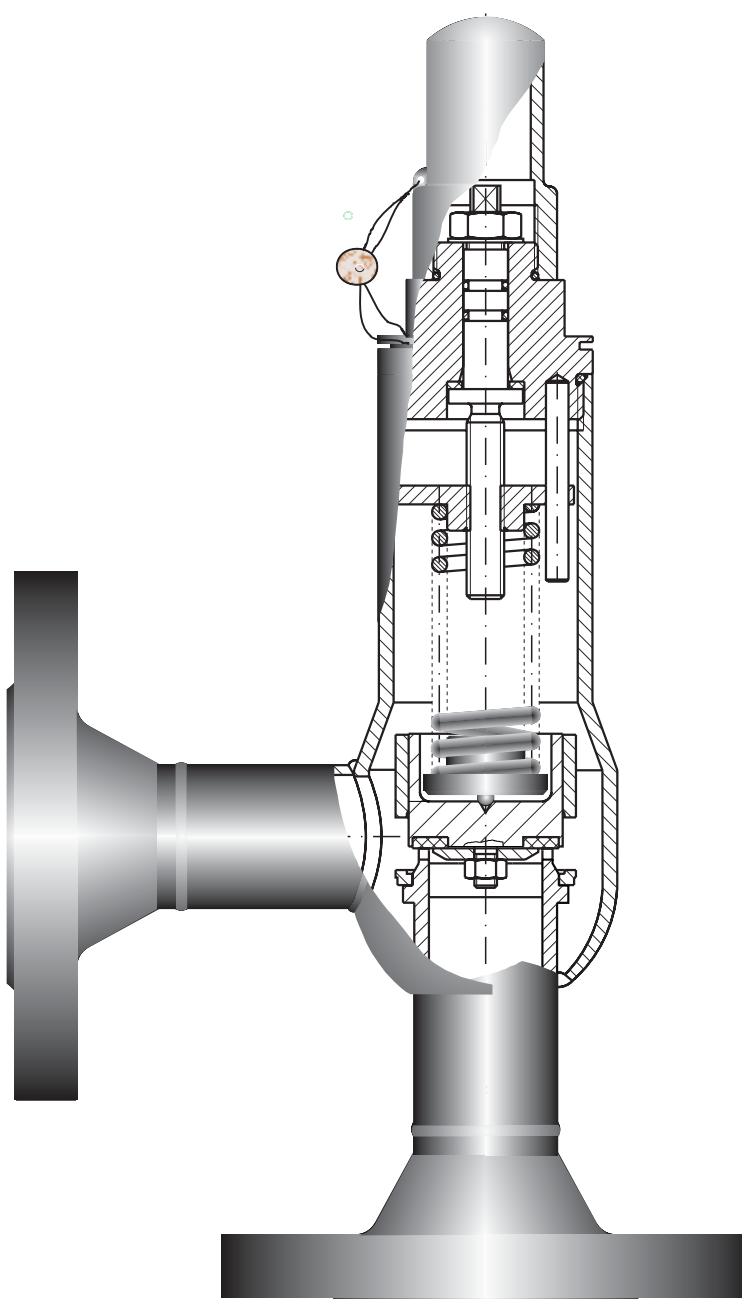
## oil pressure control valve

DN 25 - DN 50

ORV

PN 40

- ◆ geeignet als Bypassventil  
für die Ölpumpe  
suitable as bypass valve  
for the oil pump



## Öldruckreguliertventil

## ORV

## oil pressure control valve

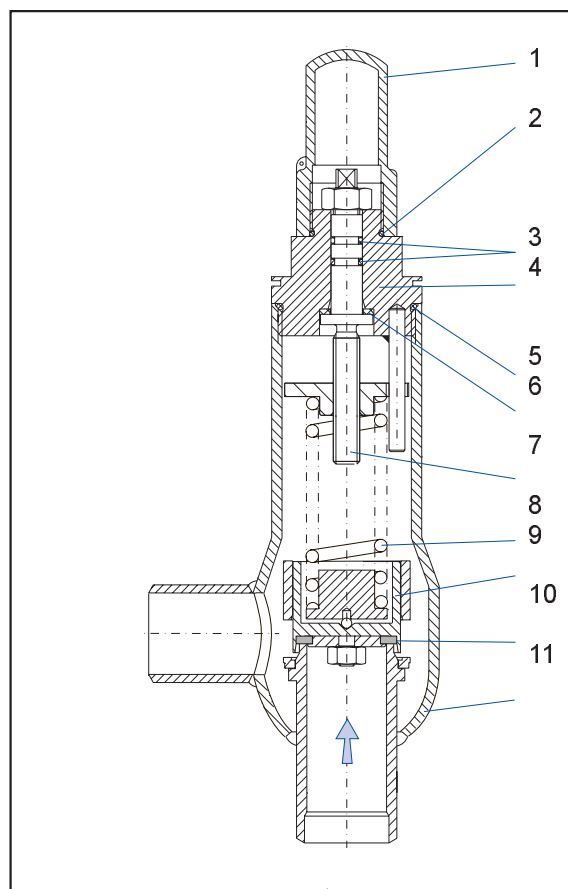
| PN | DN      | TB(MWT) [°C]  | - 60 | - 10 | + 50 | + 150 |
|----|---------|---------------|------|------|------|-------|
| 40 | 25 - 32 | PB(MWP) [bar] | 30   | 40   | 40   | 40    |
| 25 | 40 - 50 |               | 18,7 | 25   | 25   | 25    |

### Eckform

### angle type

**Anwendung:** selbsttätig wirkende Regeleinrichtung, die innerhalb des Ölkreislaufes von Kältemittel-Schraubenverdichter-Aggregaten eine konstante Druckdifferenz regelt

**Application:** automatically- working controlling device, that regulates the pressure difference and maintains it at a constant level within the oil circulation of refrigerant-screw compressor-units.



| Pos. | Teil / part      |                     | Material               |
|------|------------------|---------------------|------------------------|
| 1    | Kappe            | cap                 | 3.2341                 |
| 2    | O-Ring K         | O - ring seal K     | NBR-85                 |
| 3    | O-Ring SP        | O - ring seal SP    | CR-70 (Neopren)        |
| 4    | Deckel           | cover               | 1.0038                 |
| 5    | O-Ring D         | O - ring seal D     | CR-70 (Neopren)        |
| 6    | Gleitscheibe     | sliding disc        | PTFE (Teflon)          |
| 7    | Spindel          | stem                | 1.4021                 |
| 8    | Druckfeder       | spring              | Federstahl C Din 17223 |
| 9    | Dichtkolben      | tight piston        | 1.4541                 |
| 10   | Flachdichtring S | flat sealing ring S | PTFE (Teflon)          |
| 11   | Gehäuse          | body                | 1.0305                 |

## Öldruckregulierventil Anschweißenden

## ORV

## oil pressure control valve welding ends

**DN 25 - 32 geschraubter Deckel /  
screwed cover**

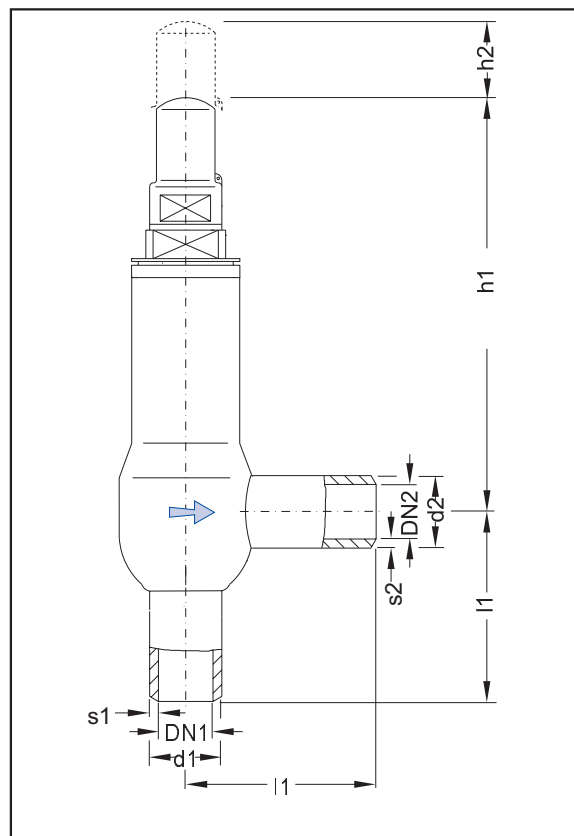
**452** -60°C bis / to +180°C

**DN 40 - 50 geflanschter Deckel /  
flanged cover**

**454** -35°C bis / to +100°C

**456** -60°C bis / to +180°C

Anschlußkombinationen möglich - auf Anfrage  
connection combinations available - upon request



### Einbaulängen / lengths in mm :

|     |     | Anschweißenden / welding ends |     |      |     |               |     |      |     |     |     |     |
|-----|-----|-------------------------------|-----|------|-----|---------------|-----|------|-----|-----|-----|-----|
|     |     | Reihe 1 / range 1             |     |      |     | ANSI Sched 40 |     |      |     |     |     |     |
| DN1 | DN2 | d1                            | s1  | d2   | s2  | d1            | s1  | d2   | s2  | l1  | h1  | h2  |
| 25  | 25  | 33,7                          | 2,6 | -    | -   | 33,4          | 3,4 | -    | -   | 75  | 215 | 70  |
| 32  | 32  | 42,4                          | 2,6 | -    | -   | 42,2          | 3,6 | -    | -   | 75  | 215 | 70  |
| 40  | 65  | 48,3                          | 2,6 | 76,1 | 2,9 | 48,3          | 3,7 | 76,1 | 5,2 | 105 | 295 | 100 |
| 50  | 65  | 60,3                          | 2,9 | 76,1 | 2,9 | 60,3          | 3,9 | 76,1 | 5,2 | 115 | 295 | 100 |

### Varianten / variants :

| DN                   | Werkstoff / material | Anschweißenden / welding ends         | Flansch / flange   |
|----------------------|----------------------|---------------------------------------|--------------------|
| 25<br>32<br>40<br>50 | 1.0305<br>1.4301     | Reihe 1 / range 1<br>ANSI Schedule 40 | AWP<br>DIN<br>ANSI |

## Öldruckreguliertventil

### Flanschanschluß

## ORV

## oil pressure control valve

### flange connection

**DN 25 - 32 geschraubter Deckel /**  
**screwed cover**

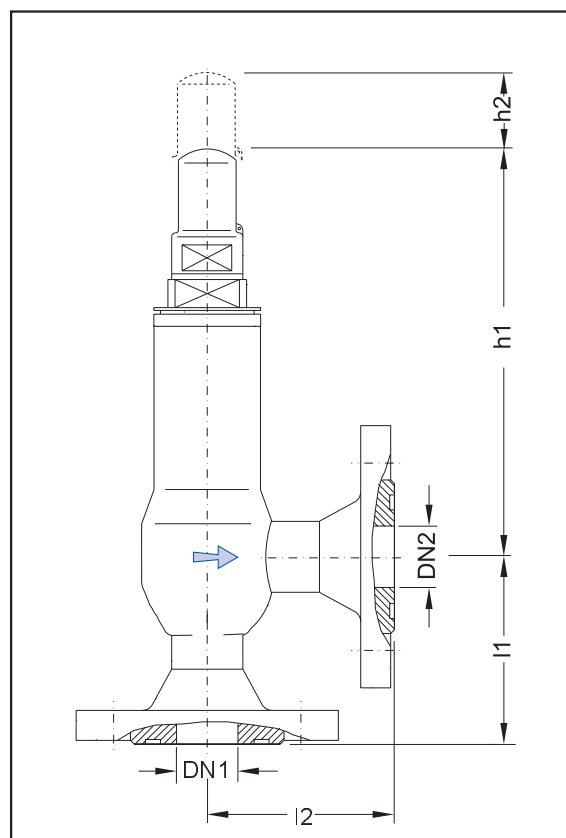
**452 FL** -60°C bis / to +180°C

**DN 40 - 50 geflanschter Deckel /**  
**flanged cover**

**454 FL** -35°C bis / to +100°C

**456 FL** -60°C bis / to +180°C

Anschlußkombinationen möglich - auf Anfrage  
 connection combinations available - upon request



### Einbaulängen/ lengths in mm :

|     |     | Flansche / flange |     |     |     |      |     |     |     |
|-----|-----|-------------------|-----|-----|-----|------|-----|-----|-----|
|     |     | AWP               |     | DIN |     | ANSI |     |     |     |
| DN1 | DN2 | l1                | l2  | l1  | l2  | l1   | l2  | h1  | h2  |
| 25  | 25  | 119               | 119 | 115 | 115 | 131  | 131 | 215 | 70  |
| 32  | 32  | 119               | 119 | 117 | 117 | 133  | 133 | 215 | 70  |
| 40  | 65  | 145               | 160 | 151 | 158 | 168  | 176 | 295 | 100 |
| 50  | 65  | 159               | 170 | 164 | 168 | 180  | 186 | 295 | 100 |

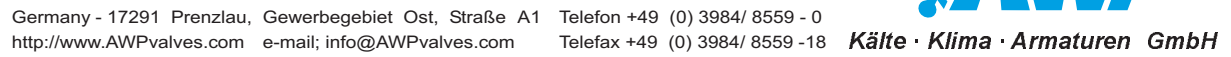
### Varianten / variants :

| DN                   | Werkstoff / material | Flansche / flanges | Zubehör/ fittings                                                                          |
|----------------------|----------------------|--------------------|--------------------------------------------------------------------------------------------|
| 25<br>32<br>40<br>50 | 1.0305<br>1.4301     | AWP<br>DIN<br>ANSI | Flansche kpl. / AE<br>flanges cpl. / welding ends<br>Reihe 1 / range 1<br>ANSI Schedule 40 |

Germany - 17291 Prenzlau, Gewerbegebiet Ost, Straße A1    Telefon +49 (0) 3984/ 8559 - 0  
<http://www.AWPvalves.com>    e-mail; [info@AWPvalves.com](mailto:info@AWPvalves.com)    Telefax +49 (0) 3984/ 8559 - 18

**Kälte · Klima · Armaturen GmbH**

## Notizen / notice



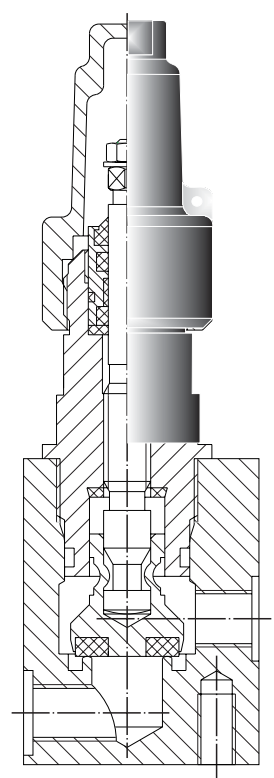
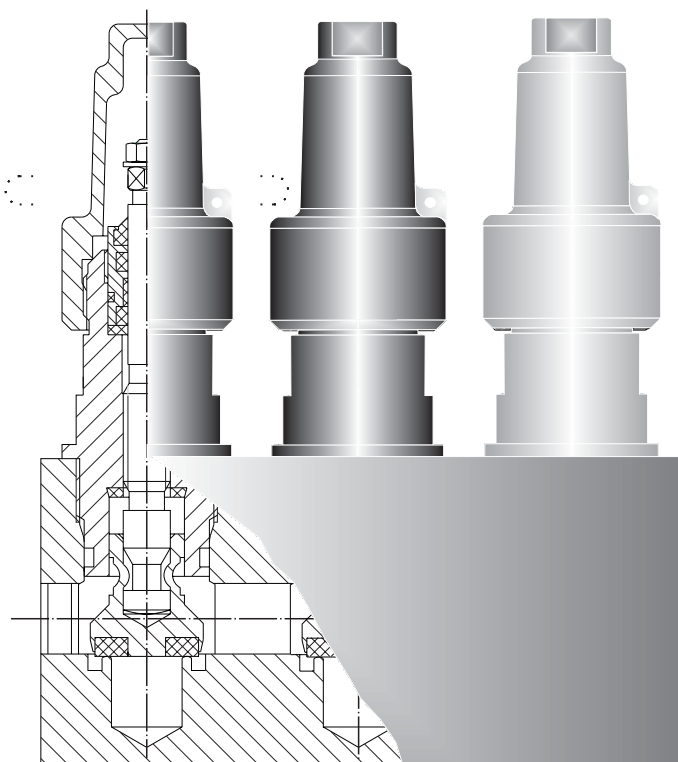
## This image shows a full page of blank graph paper. The grid consists of small, uniform squares formed by thin, light gray lines. The paper is otherwise completely white and contains no other markings or text.

## Messstellenumschalter

## measuring point switch

**MSU**

**PN 40**



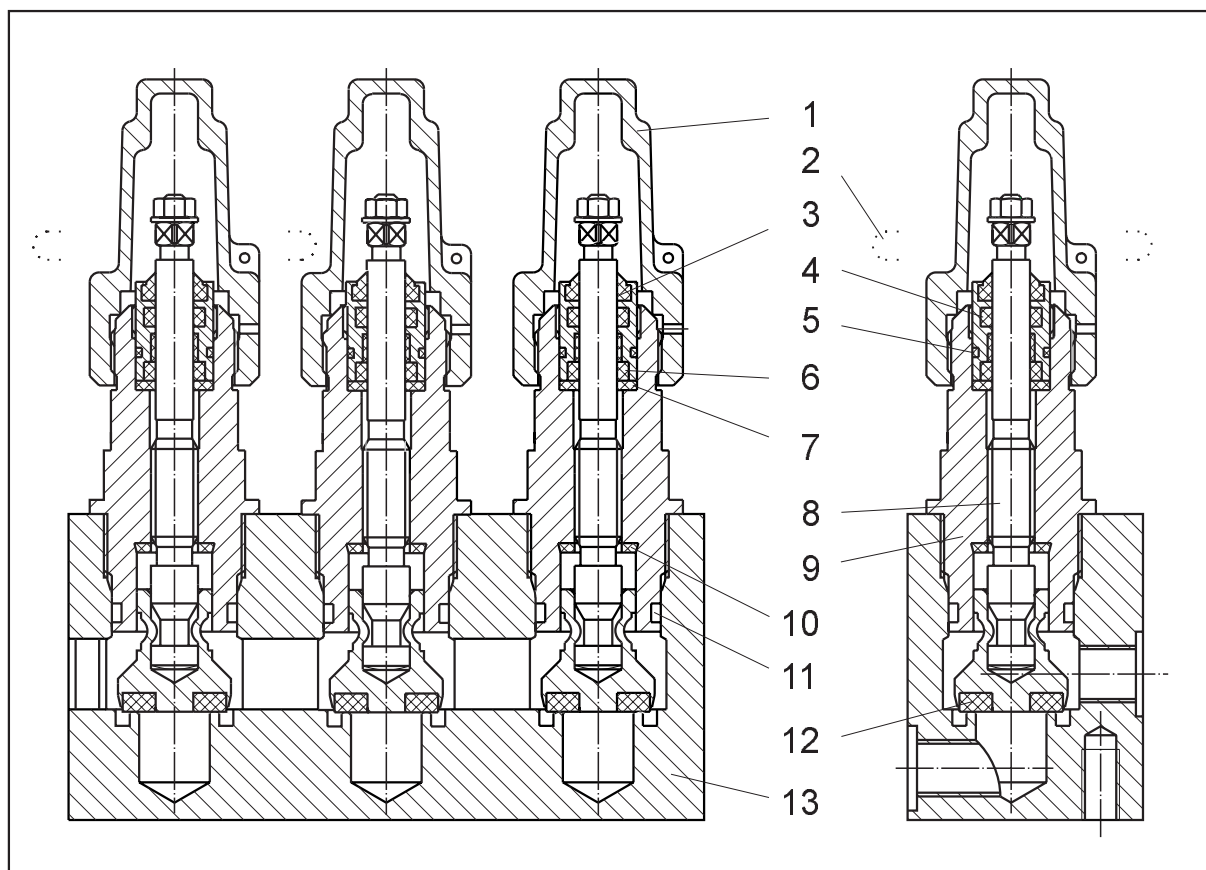
### Kompakte Bauweise compact design

- ◆ mehrere Messstellen variabel auf ein Manometer schaltbar  
several measuring points variable switchable at one manometer
- ◆ Einsparung von Manometern und Absperrventilen  
saving of manometer and shut off valves
- ◆ vereinfachte Montage  
simplification of assembly

## Messstellenumschalter

## MSU

## measuring point switch



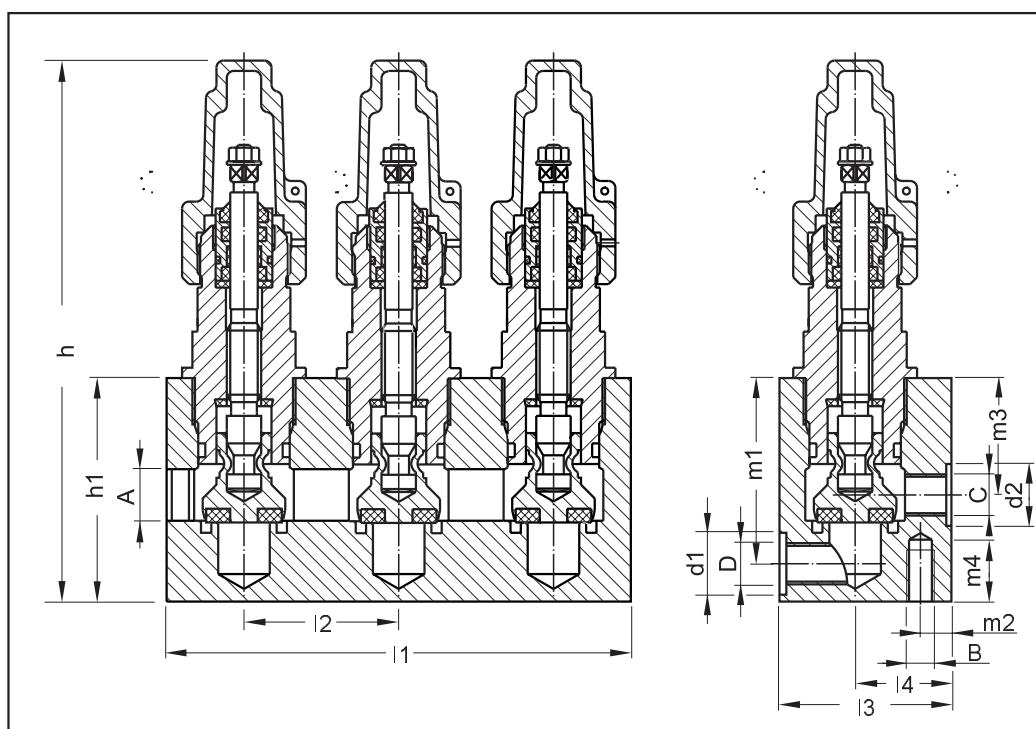
| Pos. | Teil / part       |                      | Material                  |
|------|-------------------|----------------------|---------------------------|
| 1    | Kappe             | cap                  | 3.2341                    |
| 2    | Handrad           | handwheel            | Stahlblech                |
| 3    | Abstreifring      | scraper              | NBR-85                    |
| 4    | O-Ring A          | O - ring seal A      | CR-70                     |
| 5    | O-Ring B          | O - ring seal B      | CR-70                     |
| 6    | elast.PTFE-Ring   | elastic PTFE - ring  | 1.4571 / PTFE             |
| 7    | Flachdichtring SB | flat sealing ring SB | AFM - asbestfrei          |
| 8    | Spindel kpl.      | stem cmpl.           | 1.4305                    |
| 9    | Deckel            | cover                | 1.0038 / 1.0488<br>1.4305 |
| 10   | Flachdichtring R  | flat sealing ring R  | PTFE                      |
| 11   | O-Ring D          | O - ring seal D      | HNBR-70                   |
| 12   | Flachdichtring S  | flat sealing ring S  | PTFE                      |
| 13   | Gehäuse           | body                 | St 52 - 3                 |

## Messstellenumschalter

## MSU

## measuring point switch

**439 00**

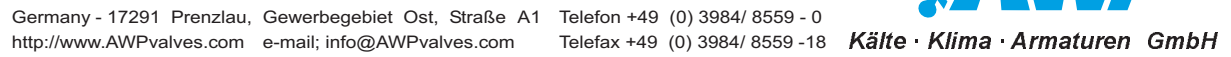


Einbaulängen / lengths in mm :

| h   | h1 | l1  | l2 | l3 | l4 | A Ø | B Ø | C Ø | D Ø | d1      | d2      | m1 | m2 | m3 | m4 |
|-----|----|-----|----|----|----|-----|-----|-----|-----|---------|---------|----|----|----|----|
| 157 | 65 | 120 | 40 | 50 | 28 | 13  | 8   | 18  | 18  | M12x1.5 | M12x1.5 | 54 | 9  | 34 | 15 |

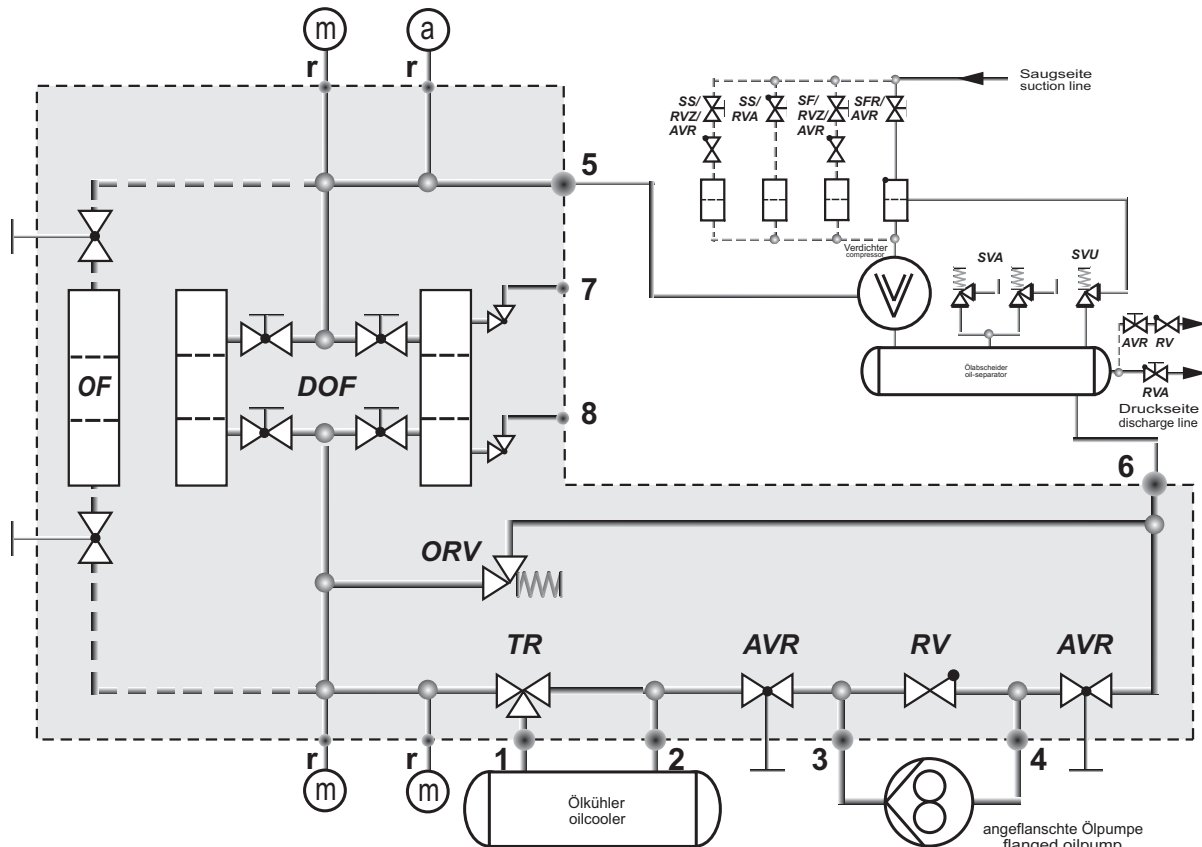
### Varianten / variants :

Messstellenumschalter für eine Messstelle, zwei oder drei Messstellen / weitere Messstellen auf Anfrage  
 measuring point switch for one measuring point, two or three measuring points /  
 further measuring points upon request



## This image shows a full page of blank graph paper. The grid consists of small, uniform squares formed by thin, light gray lines. The paper is otherwise completely white and contains no other markings or text.

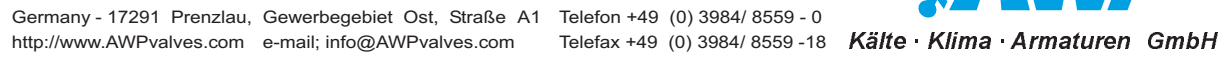
# AWP- Komponenten für Kälteaggregate AWP- Components for compressor packages



Varianten / variants :

| mit Ölpumpe<br>with oil pump | ohne Ölpumpe<br>without oil pump |
|------------------------------|----------------------------------|
| 1. ORV / TR / DOF            | 5. TR / DOF                      |
| 2. ORV / TR / OF             | 6. TR / OF                       |
| 3. ORV / DOF                 |                                  |
| 4. ORV / OF                  |                                  |

|                       |                                                                                                                                                                  |                       |                                                                                                                                                                    |              |                                                                                                                                                       |
|-----------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------|-------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>DOF</b>            | Doppel-Ölfiler<br>double-oil-filter                                                                                                                              | <b>SF / RVZ / AVR</b> | Saugfilter mit angeflanschem Zwischenflanschrückschlagventil und Absperrventil<br>suction filter with flanged check valve in clamp construction and shut off valve | <b>1 - 2</b> | Ölkühleranschluss<br>oil-cooler-connection                                                                                                            |
| <b>OF</b>             | Ölfiler<br>oil-filter                                                                                                                                            | <b>SVA</b>            | Sicherheitsventil, gegen druckabhängig<br>safety valve, depending on back pressure                                                                                 | <b>3 - 4</b> | Ölpumpenanschlüsse<br>connection-oil-pump                                                                                                             |
| <b>SS / RVZ / AVR</b> | Schmutzsammler mit angeflanschem Zwischenflanschrückschlagventil und Absperrventil<br>strainer with flanged check valve in clamp construction and shut off valve | <b>SVU</b>            | Sicherheitsventil, gegen druckunabhängig<br>safety valve, not depending on back pressure                                                                           | <b>5</b>     | - Verdichteranschluss / connection-compressor<br>- Einspritzung / injection<br>- Schmierung / lubrication<br>- Kapazitätskontrolle / capacity control |
| <b>SS / RVA</b>       | Schmutzsammler-absperbares Rückschlagventil-Kombination<br>strainer-stop-check valves-combination                                                                | <b>RVA</b>            | Rückschlagventil, absperbar<br>stop-check valve                                                                                                                    | <b>6</b>     | Ölabscheideranschluss<br>connection-oilseparator                                                                                                      |
| <b>SFR / AVR</b>      | Saugfilter mit integriertem Rückschlagventil und angeflanschem Absperrventil<br>equipped with check valve and with flanged shut off valve                        | <b>ORV</b>            | Öldruckreguliertventil<br>oil-pressure control valve                                                                                                               | <b>7</b>     | Entlüftung Ölfiler<br>ventilation oil-filter                                                                                                          |
| <b>AVR</b>            | Absperrventil<br>shut-off valve                                                                                                                                  | <b>TR</b>             | Temperaturregler<br>thermostatic 3-way valve                                                                                                                       | <b>8</b>     | Ölablaß<br>oil drain                                                                                                                                  |
|                       |                                                                                                                                                                  | <b>RV</b>             | Rückschlagventil<br>check valve                                                                                                                                    | <b>r</b>     | Individueller Messpunkt<br>individual measuring point                                                                                                 |



## This image shows a full page of blank graph paper. The grid consists of small, uniform squares formed by thin, light gray lines. The paper is otherwise white and contains no other markings or text.

## **Multifunktionsblock** für Schraubenverdichter - Ölmanagement -

## **multi - funktional - block** for screw compressor - oil management -

**DN 25 - DN 50**

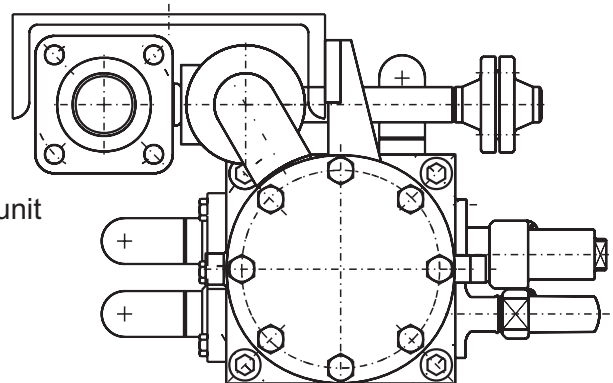
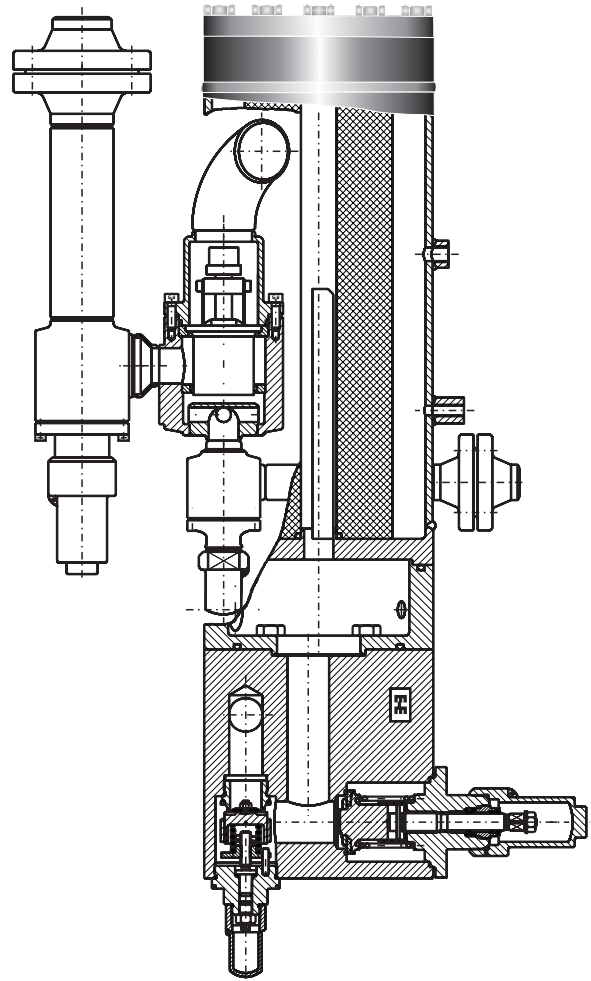
**MFB**

**PN 25**

( PN 40 auf Anfrage / upon request )

kompaktes System für  
 die Ölversorgung  
 compact design  
 oil supplies

- ◆ geringe Montagezeiten  
low assembly time
- ◆ vereinfachter Service  
simplification of service
- ◆ verbessertes Anlagen-Design  
improvement of facility design
- ◆ Minimierung von Ersatzteilen  
minimization of spare parts
- ◆ Höchste Betriebssicherheit  
highest operating safety
- ◆ keine Montagearbeiten nach dem Filter nötig  
none assembly works after filter necessary
- ◆ verringerte Vibrationen am Aggregat  
reducing the noiselevel of the Compressor-unit
- ◆ keine Verschmutzung  
none pollution
- ◆ Direktanschluß der Pumpe möglich  
pump direct connection possible
- ◆ Senkung des Geräuschpegels  
decreasing the vibration at the Compressor-unit
- ◆ optimale Anpassung an das Betriebssystem  
des Aggregats  
optimum adjustment to kind of package



## **Doppelmultifunktionsblock** für Schraubenverdichter - Ölmanagement -

## **double-multi-functional-block** for screw compressor - oil management -

**DN 25 - DN 50**

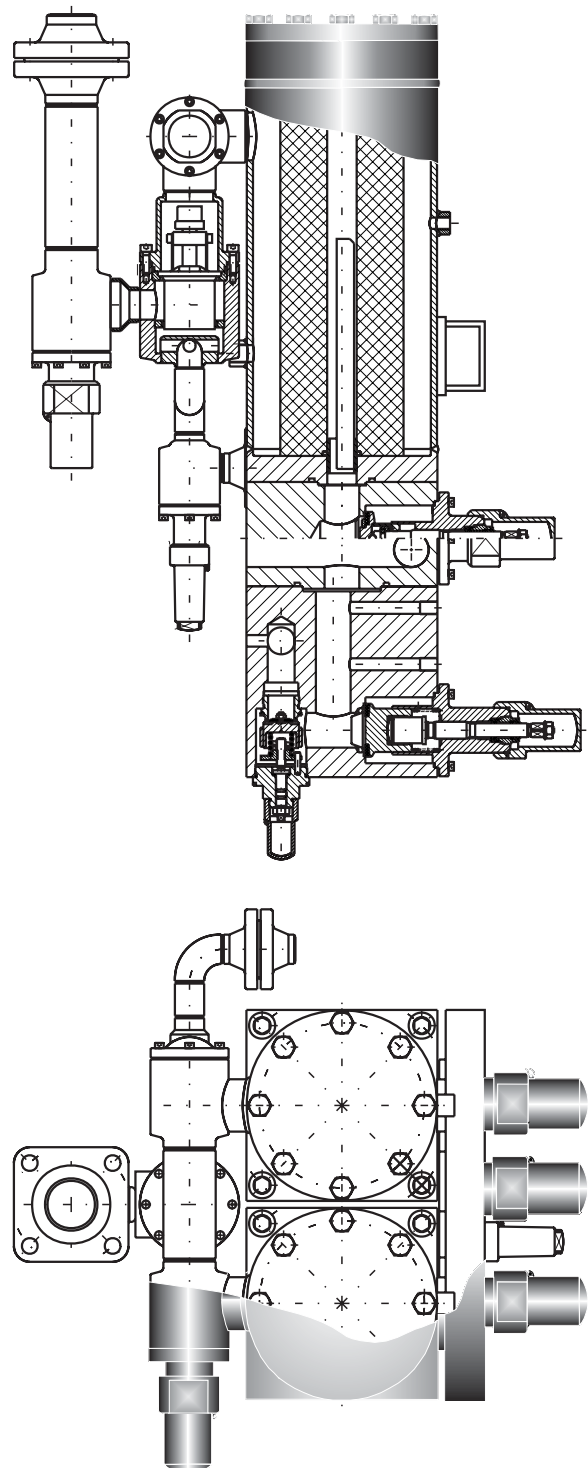
**DMFB**

**PN 25**

( PN 40 auf Anfrage / upon request )

kompaktes System für  
 die Ölversorgung  
 compact design  
 oil supplies

- ◆ geringe Montagezeiten  
low assembly time
- ◆ vereinfachter Service  
simplification of service
- ◆ verbessertes Anlagen-Design  
improvement of facility design
- ◆ Minimierung von Ersatzteilen  
minimization of spare parts
- ◆ höhere Betriebssicherheit  
higher operating safety
- ◆ Auswechseln der Filter bei  
laufendem Betrieb in Kombination  
mit Doppelölfilter  
replacing the filter elements during  
operating of system in combination  
to double-oil-filter
- ◆ Direktanschluß der Pumpe möglich  
pump direct connection possible



## Multifunktionsblock

für Schraubenverdichter  
- Ölmanagement -

## multi - funktional - block

for screw compressor  
- oil management -

DN 25 - DN 50

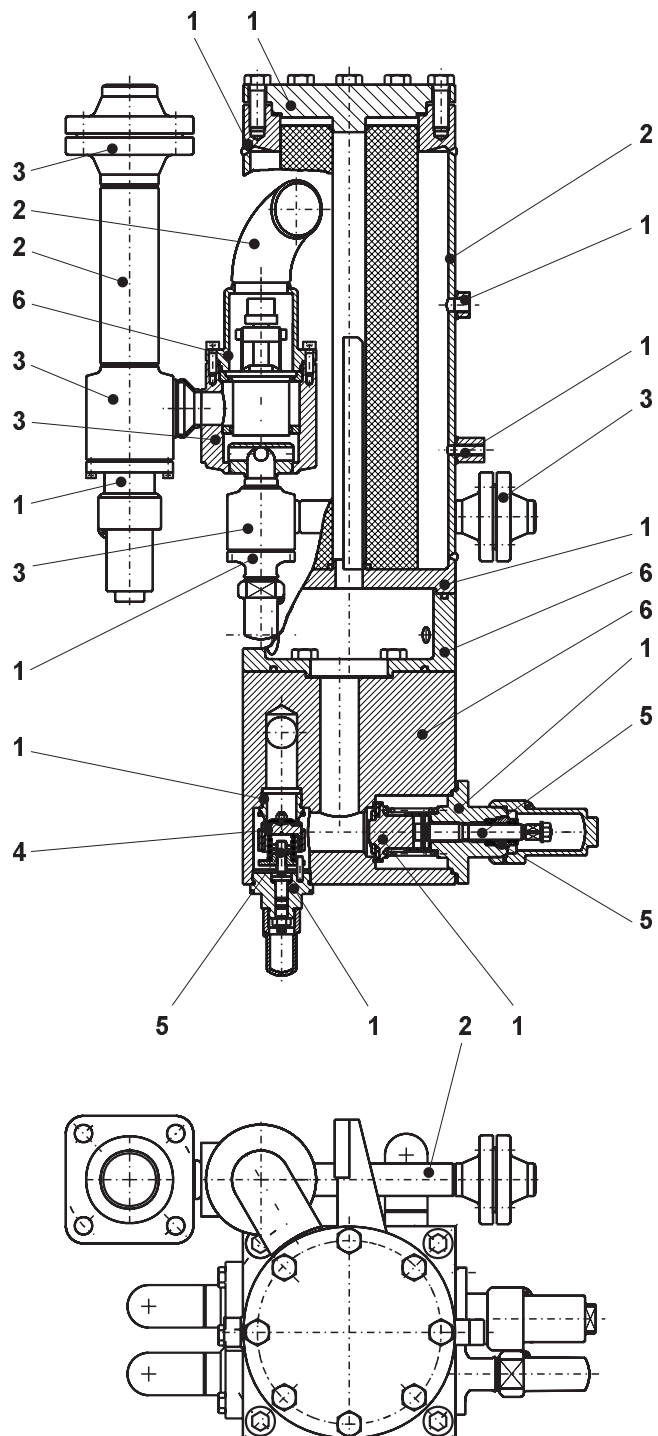
**MFB**

**PN 25**

( PN 40 auf Anfrage / upon request )

| Pos. | Material /<br>material |
|------|------------------------|
| 1    | RSt 37-2<br>1.0038     |
| 2    | St 35.8<br>1.0305      |
| 3    | C 22.8<br>1.0460       |
| 4    | X6CrNiTi1810<br>1.4541 |
| 5    | X10CrNiS189<br>1.4305  |
| 6    | St 52-3<br>1.0570      |

- andere Materialien auf Anfrage  
other materials on request



## Multifunktions- block

für Schraubenverdichter  
 - Ölmanagement -

## MFB

## multi-funktional- block

for screw compressor  
 - oil management -

**44100** mit Temperaturregler / with thermostatic valve

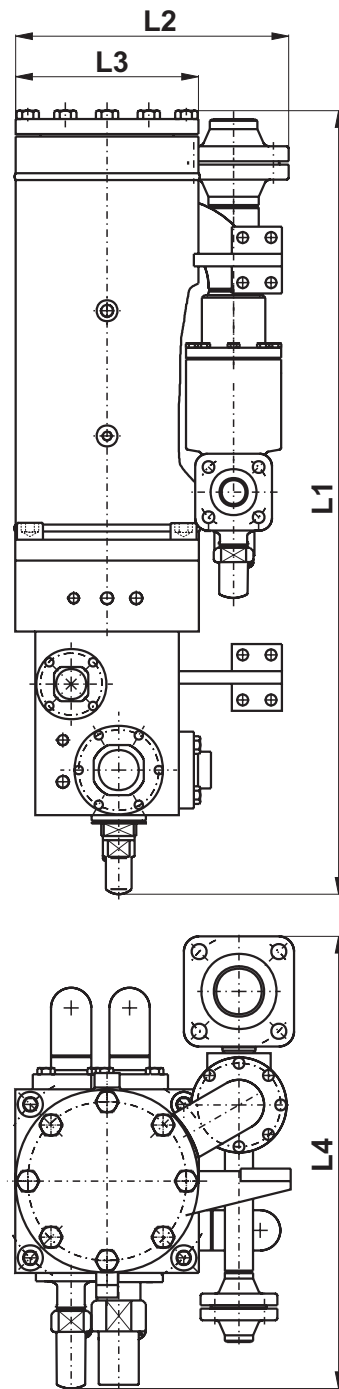
**44101** ohne Temperaturregler / without thermostatic valve

**PN 40**

- max. Temperatur  
 max. temperature: +110°C

- Druckverlust : < 0,1 bar  
 pressure loss

| DN                                     | 25/32 | 40  | 50  |
|----------------------------------------|-------|-----|-----|
| L1<br>mm                               | 614   | 990 | 939 |
| L2<br>mm                               | 246   | 230 | 334 |
| L3<br>mm                               | 140   | 140 | 219 |
| L4<br>mm                               | 505   | 526 | 548 |
| Ölflußmenge/<br>oil flow rate<br>l/min | 100   | 200 | 300 |



## Multifunktions- block

für Schraubenverdichter  
- Ölmanagement -

## DMFB

## multi-funktional- block

for screw compressor  
- oil management -

**44000** mit Temperaturregler / with thermostatic valve

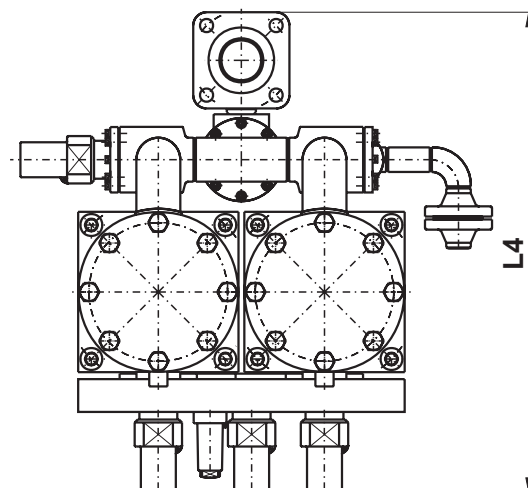
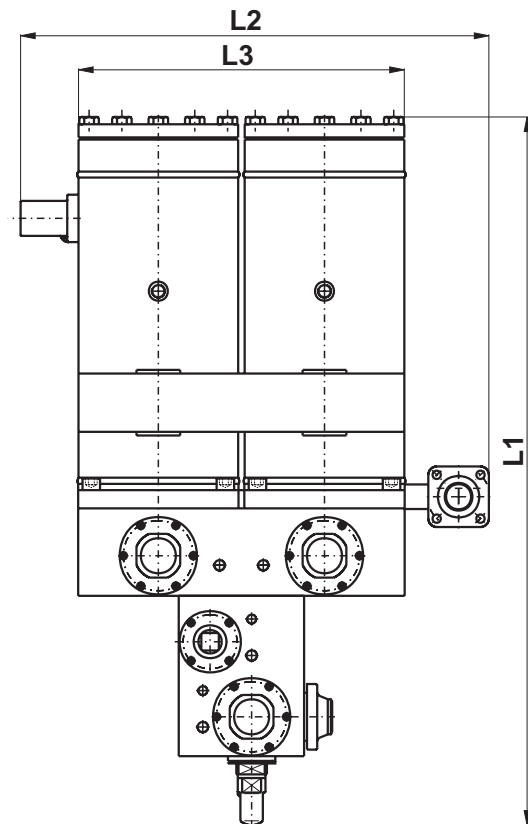
**44001** ohne Temperaturregler / without thermostatic valve

**PN 40**

- max. Temperatur  
max. temperature: +110°C

- Druckverlust : < 0,1 bar  
pressure loss

| DN                                     | 25/32 | 40   | 50  |
|----------------------------------------|-------|------|-----|
| L1<br>mm                               | 725   | 1090 | 972 |
| L2<br>mm                               | 490   | 544  | 646 |
| L3<br>mm                               | 320   | 356  | 448 |
| L4<br>mm                               | 505   | 595  | 650 |
| Ölflußmenge/<br>oil flow rate<br>l/min | 100   | 200  | 300 |





Kälte · Klima · Armaturen GmbH

## This image shows a full page of blank graph paper. The grid consists of small, uniform squares formed by thin, light gray lines. The paper has a white background, and the grid covers the entire area except for a narrow margin at the top. There are no markings, text, or drawings on the grid itself.