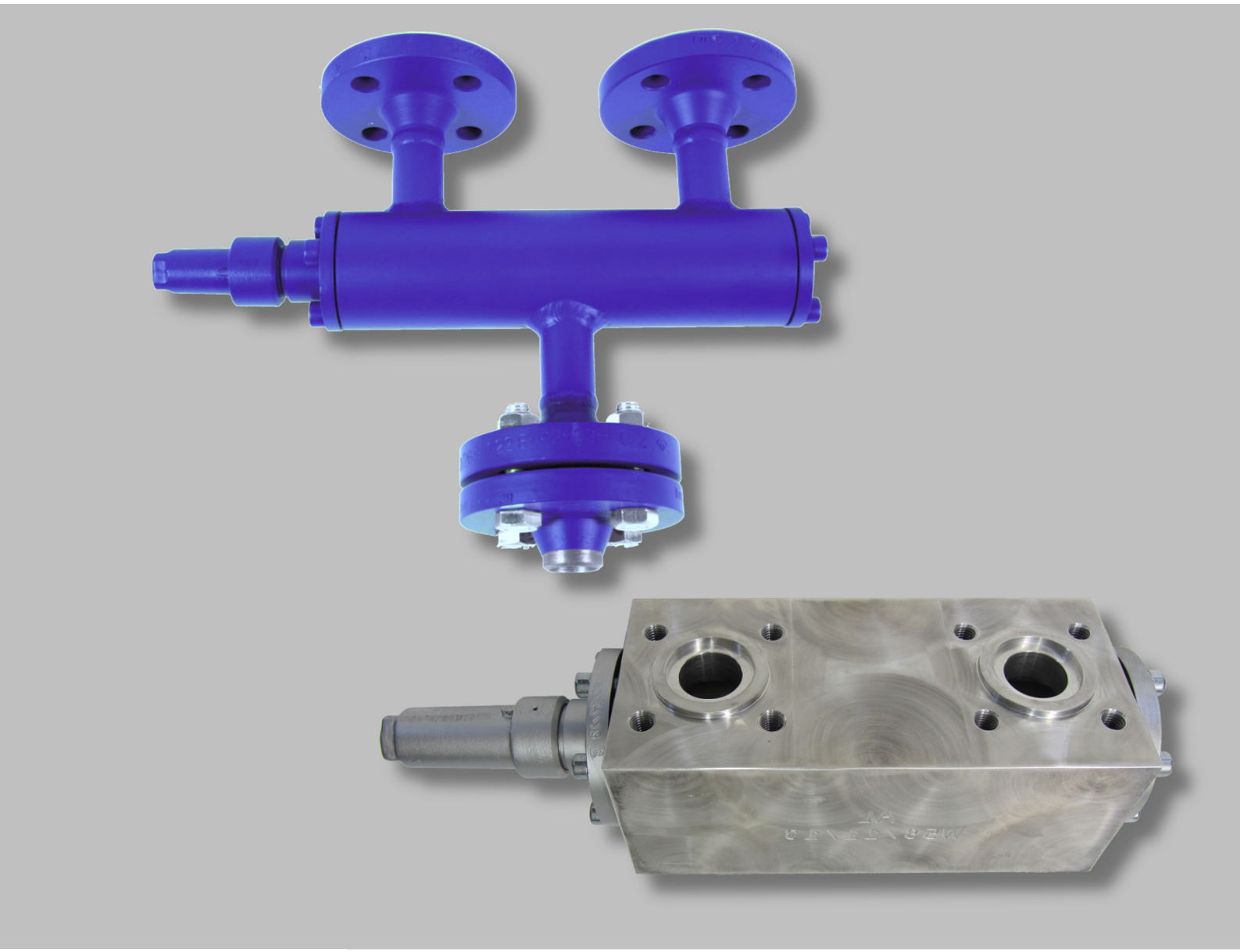

# 7. Wechselventile – 3-Way Valves

WVR / WVB / WVR AL
Stahl/Edelstahl/Aluminium – Steel/Stainless Steel/Aluminum

# WVR / WVB / WVR AL

WVR: Wechselventile - Spindelabdichtung Schraubbuchse mit elastischem PTFE-Ring
3-way valve - stem-sealing screwed-in bush with elastic PTFE-Ring

| WVR | Anschluss connection | Form design | Werkstoff material | Ventiltyp valve type | Seite page |
|---|---|---|---|---|---|
| WVR | Werkstoffe / materials | | | | 7.2 |
| WVR PS25 / PS40 / PS63 | Flanschenden flanged ends | | St | WVR FL | 7.3 |
| | | | NIRO | WVR FL NIRO | 7.4 |
| | Schraubenden screwed ends | | St | WVR SE | 7.5 |
| | | | NIRO | WVR SE NIRO | 7.6 |

WVB: Wechselventile - Spindelabdichtung Metallbalg und Schraubbuchse
3-way valve - stem-sealing metal bellows and screwed-in bush

| WVB | Anschluss connection | Form design | Werkstoff material | Ventiltyp valve type | Seite page |
|---|---|---|---|---|---|
| WVB | Werkstoffe / materials | | | | 7.7 |
| WVB PS25 / Ps40 | Flanschenden flanged ends | | St | WVB FL | 7.8 |
| | | | Niro | WVB FL NIRO | 7.9 |
| | Schraubenden screwed ends | | St | WVB SE | 7.10 |
| | | | NIRO | WVB SE NIRO | 7.11 |

WVR AL: Wechselventile, Kompaktbauweise - Spindelabdichtung Schraubbuchse mit elastischem PTFE-Ring
3-way valve, compact construction method - stem-sealing screwed-in bush with elastic PTFE-Ring

| WVR AL | Anschluss connection | Form design | Werkstoff material | Ventiltyp valve type | Seite page |
|---|---|---|---|---|---|
| WVR AL | Werkstoffe / materials | | | | 7.12 |
| WVR AL PS25 / Ps40 | Flanschenden flanged ends | | Alu/St | WVR AL FL | 7.13 |
| | | | Alu/Niro | WVR AL FL NIRO | 7.14 |
| Information | SV UM + ST / WVR DM Schraubenden / screwed connections | | | | 7.15 |
| | Darstellung des geöffneten Stutzens / Representation of opened connection | | | | 7.16 |
| | Dichtsystem Ventilspindel / Seal system valve stem | | | | 7.17 |
| | HR / K Handrad / Kappe / handwheel / cap | | | | 7.18 |
| | Vergleich europäische/amerikanische Werkstoffe / Comparison American vs. European material numbers | | | | 7.19 |
| | DIN-FL Vorschweißflansche - DIN / Welding neck flanges - DIN | | | | 7.20/7.21 |
| | EN-FL Vorschweißflansche - EN / Welding neck flanges - EN | | | | 7.22/7.23 |
| | ANSI-FL Vorschweißflansche - glatt / Welding neck flanges - raised face | | | | 7.24 |
| | AWP-FL Vorschweißflansche - AWP / Welding neck flanges - AWP | | | | 7.25 |
| | Rechtliche Hinweise / Legal Note | | | | 7.26 |

St = Stahl / steel NIRO = nicht rostender Edelstahl / stainless steel Alu = Aluminium



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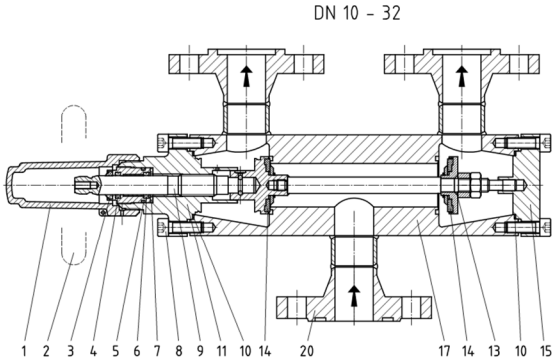
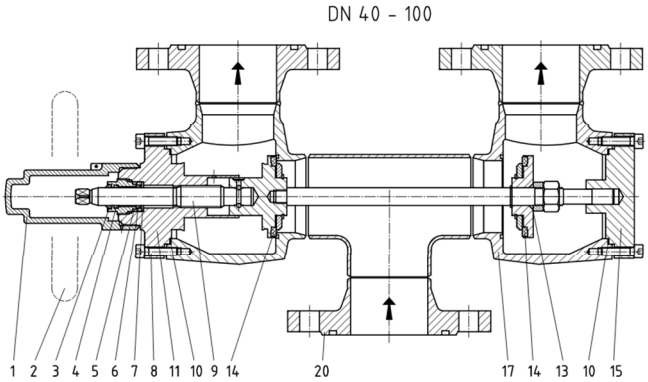
# WVR Werkstoffe / materials

## Benennung und Materialien / naming and materials
## WVR - Wechselventil / 3-way valve




| | Einzelteil / part: | Werkstoff Stahlventile material steel valves | Werkstoff Edelstahlventile material stainless steel valves |
|---|---|---|---|
| 1 | Kappe / cap | Aluminium / aluminum AlSi10Mg | Aluminium / aluminum AlSi10Mg |
| 2 | Handrad / hand wheel | Stahl / steel | Stahl / steel |
| 3 | Abstreifring / scraper ring | NBR | NBR |
| 4 | O-Ring A / O-ring A | CR, NBR, HNBR, EPDM, FPM* | CR, NBR, HNBR, EPDM, FPM* |
| 5 | O-Ring B / O-ring B | CR, NBR, HNBR, EPDM, FPM* | CR, NBR, HNBR, EPDM, FPM* |
| 6 | federbelasteter Nutring / spring loaded U-ring | PTFE | PTFE |
| 7 | Flachdichtring Schraubbuchse / flat seal ring screwed-in bush | AFM30 | AFM30 |
| 8 | Deckelschraube / cover screw | 8.8 | A2-70 |
| 9 | Spindel / stem | X8CrNiS18-9 1.4305 | X8CrNiS18-9 1.4305 |
| 10 | Flachdichtring Deckel / flat seal ring cover | AFM30 | AFM30 |
| 11 | Deckel / cover | S355J2 1.0577 | X8CrNiS18-9 1.4305<br>X5CrNi18-10 1.4301<br>X2CrNi19-11 1.4306 |
| 13 | Ventilteller / valve disc | S355J2 1.0577 | X8CrNiS18-9 1.4305<br>X5CrNi18-10 1.4301 |
| 14 | Flachdichtring Ventilteller / flat seal ring valve disc | PTFE | PTFE |
| 15 | Deckel 2 / cover 2 | S355J2 1.0577 | X8CrNiS18-9 1.4305<br>X5CrNi18-10 1.4301<br>X2CrNi19-11 1.4306 |
| 17 | Gehäuse / body | S355J2 1.0577<br>P235GH 1.0345 | X5CrNi18-10 1.4301 |
| 20 | Flansche / flanges | P250GH 1.0460<br>P355NL1 1.0566 | X6CrNiTi18-10 1.4541 |

* abhängig vom verwendeten Kältemittel / depending on used refrigerant

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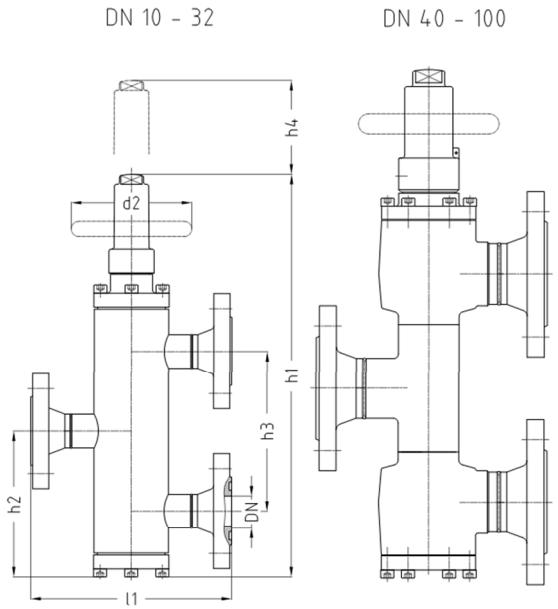
# WVR Stahl / steel

## Wechselventil
## 3-way valve

für natürliche Kältemittel (NH3, CO2) und nicht korrosive Gase und Flüssigkeiten nach EN 378-1 sowie Kühlsolen
for natural refrigerants (Ammonia, CO2) and non-corrosive gases and liquids acc. to EN 378-1 and for brine

### WVR FL
**FL - Flanschenden / butt welding ends**




Druck- / Temperatureinsatzgrenzen:
Pressure- / temperature limits of application:

PS: max. zulässiger Betriebsdruck in bar ü / max. allowable working pressure in bar gauge

TS: den zulässigen Betriebsüberdrücken (PS) zugeordnete zulässige Betriebstemperatur in °C / max. allowable working temperature in °C, associated with PS

| DN / INCH | PN | -60 | -40 | -25 | -10 | +50 | +150 | TS [°C] |
|---|---|---|---|---|---|---|---|---|
| DN 10…100 3/8"…4" | PN25 | 7,3 | 18,3 | 18,7 | 25 | 25 | 25 | PS [bar] |
| | PN40 | 11,8 | 29,4 | 30 | 40 | 40 | 40 | PS [bar] |
| | PN63 | 18,5 | 46,3 | 47,2 | 63 | 63 | 63 | PS [bar] |

Abmessungen / dimensions in mm:

| Nominal size: | | Flanschenden gemäß: / flanged ends acc. to: | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | AWP DN10-20 PN25 DN25-80 PN40 | PN25 DIN 2634 EN1092-1 | PN40 DIN 2635 EN1092-1 | PN63 DIN 2636 EN1092-1 | ANSI 300 RF | | | | | | |
| DN | INCH | l1 | l1 | l1 | l1 | l1 | h1 | h2 | h3 | h3*) | h4 | d2 |
| 10 | 3/8" | 198 | 204 | 204 | 224 | | 294 | 107 | 108 | 135 | 185 | 60 |
| 15 | 1/2" | 192 | 204 | 204 | 218 | 233 | 307 | 114 | 120 | 145 | 200 | 60 |
| 20 | 3/4" | 212 | 228 | 228 | 244 | 262 | 337 | 129 | 150 | 160 | 230 | 60 |
| 25 | 1" | 210 | 202 | 202 | 238 | 246 | 405 | 146 | 160 | 175 | 240 | 120 |
| 32 | 1 1/4" | 210 | 206 | 206 | 242 | 252 | 405 | 146 | 180 | 185 | 240 | 120 |
| 40 | 1 1/2" | 203 | 216 | 216 | 250 | 263 | 496 | 184 | 214 | 214 | 315 | 140 |
| 50 | 2" | 220 | 230 | 230 | 258 | 274 | 510 | 191 | 228 | 228 | 330 | 140 |
| 65 | 2 1/2" | 268 | 265 | 265 | 297 | 313 | 581 | 231 | 276 | 276 | 405 | 140 |
| 80 | 3" | 294 | 304 | 304 | 332 | 345 | 743 | 289 | 325 | 325 | 530 | 180 |
| 100 | 4" | | 356 | 356 | 382 | 397 | 812 | 329 | 393 | 393 | 600 | 180 |

*) gilt nur für PN63 / only for PN63 h4 = Ausbaumaß / dismantling measure

DIN/EN-Flanschdichtflächen serienmäßig Eintritt mit Nut und Austritt mit Feder nach DIN2512, andere auf Anfrage. /
DIN/EN-flange facing standard inlet with groove and outlet with tongue acc. to DIN2512, others on request.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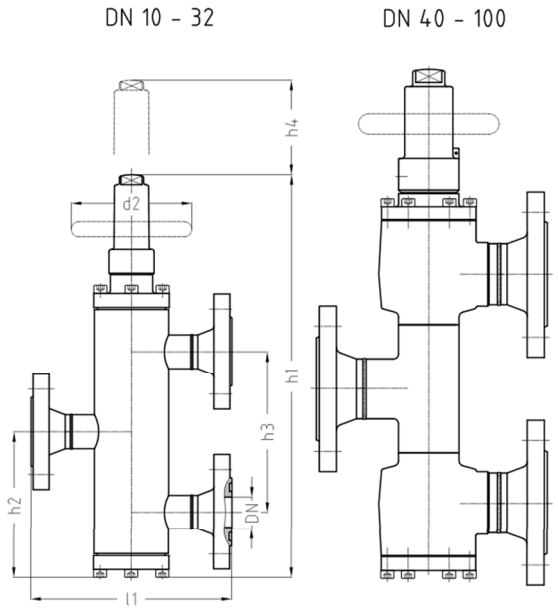
# WVR Edelstahl / stainless steel

Wechselventil
3-way valve

für natürliche Kältemittel (NH3, CO2) und nicht korrosive Gase und Flüssigkeiten nach EN 378-1 sowie Kühlsolen
for natural refrigerants (Ammonia, CO2) and non-corrosive gases and liquids acc. to EN 378-1 and for brine

## WVR FL NIRO

**FL** - Flanschenden / butt welding ends




Druck- / Temperatureinsatzgrenzen:
Pressure- / temperature limits of application:

**PS:** max. zulässiger Betriebsdruck in bar ü / max. allowable working pressure in bar gauge

**TS:** den zulässigen Betriebsüberdrücken (PS) zugeordnete zulässige Betriebstemperatur in °C / max. allowable working temperature in °C, associated with PS

| DN / INCH | PN | -60 | -10 | +50 | +150 | TS [°C] |
|---|---|---|---|---|---|---|
| DN 10…100 3/8"…4" | PN25 | 25 | 25 | 25 | 25 | PS [bar] |
| | PN40 | 40 | 40 | 40 | 40 | PS [bar] |
| | PN63 | 63 | 63 | 63 | 63 | PS [bar] |

Abmessungen / dimensions in mm:

| Nominal size: | | Flanschenden gemäß: / flanged ends acc. to: | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | AWP DN10-20 PN25 DN25-80 PN40 | PN25 DIN 2634 EN1092-1 | PN40 DIN 2635 EN1092-1 | PN63 DIN 2636 EN1092-1 | ANSI 300 RF | | | | | | |
| **DN** | **INCH** | **l1** | **l1** | **l1** | **l1** | **l1** | **h1** | **h2** | **h3** | **h3*)** | **h4** | **d2** |
| **10** | **3/8"** | 198 | 204 | 204 | 224 | | 294 | 107 | 108 | 135 | 185 | 60 |
| **15** | **1/2"** | 192 | 204 | 204 | 218 | 233 | 307 | 114 | 120 | 145 | 200 | 60 |
| **20** | **3/4"** | 212 | 228 | 228 | 244 | 262 | 337 | 129 | 150 | 160 | 230 | 60 |
| **25** | **1"** | 210 | 202 | 202 | 238 | 246 | 405 | 146 | 160 | 175 | 240 | 120 |
| **32** | **1 1/4"** | 210 | 206 | 206 | | 252 | 405 | 146 | 180 | | 240 | 120 |
| **40** | **1 1/2"** | 203 | 216 | 216 | | 263 | 496 | 184 | 214 | | 315 | 140 |
| **50** | **2"** | 220 | 230 | 230 | | 274 | 510 | 191 | 228 | | 330 | 140 |
| **65** | **2 1/2"** | 268 | 265 | 265 | | 313 | 581 | 231 | 276 | | 405 | 140 |
| **80** | **3"** | 294 | 304 | 304 | | 345 | 743 | 289 | 325 | | 530 | 180 |
| **100** | **4"** | | 356 | 356 | | 397 | 812 | 329 | 393 | | 600 | 180 |

*) gilt nur für PN63 / only for PN63 h4 = Ausbaumaß / dismantling measure

DIN/EN-Flanschdichtflächen serienmäßig Eintritt mit Nut und Austritt mit Feder nach DIN2512, andere auf Anfrage. /
DIN/EN-flange facing standard inlet with groove and outlet with tongue acc. to DIN2512, others on request.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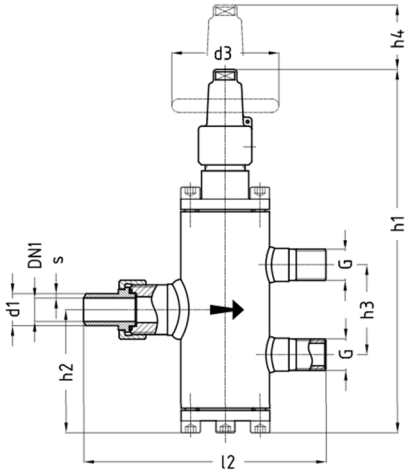
# WVR Stahl / steel

Wechselventil
3-way valve

für natürliche Kältemittel (NH3, CO2) und nicht korrosive Gase und Flüssigkeiten nach EN 378-1 sowie Kühlsolen
for natural refrigerants (Ammonia, CO2) and non-corrosive gases and liquids acc. to EN 378-1 and for brine

## WVR SE

**SE** - Schraubenden / screwed ends




Druck- / Temperatureinsatzgrenzen:
Pressure- / temperature limits of application:

**PS:** max. zulässiger Betriebsdruck in bar ü / max. allowable working pressure in bar gauge

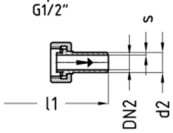
**TS:** den zulässigen Betriebsüberdrücken (PS) zugeordnete zulässige Betriebstemperatur in °C / max. allowable working temperature in °C, associated with PS

| DN | PN | -60 | -40 | -25 | -10 | +50 | +150 | TS [°C] |
|---|---|---|---|---|---|---|---|---|
| DN15 G1"/G1/2" | PN25 | 7,3 | 18,3 | 18,7 | 25 | 25 | 25 | PS [bar] |
| | PN40 | 11,8 | 29,4 | 30 | 40 | 40 | 40 | PS [bar] |
| | PN63 | 18,5 | 46,3 | 47,2 | 63 | 63 | 63 | PS [bar] |

Zubehör / fittings: Ausgänge/fittings

Doppelmutter links/rechts G1/2"
double nut left/right G1/2"

Überwurfmutter und Schweißtülle G1/2"
cap nut and tail G1/2"




Abmessungen WVR SE für Aufbau SVU /
dimensions for WVR SE for assembling with SVU in mm:

| Nominal size: | Schraubenden / screwed ends | | Schweißtüllen / tails | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | Eingang / inlet | Ausgang / outlet | Eingang / inlet | | Ausgang / outlet | | | | | | | | |
| **DN1/DN2** | **G*** | **G*** | **d1** | **s** | **d2** | **s** | **l1** | **l2** | **h1** | **h2** | **h3** | **h4** | **d3** |
| **15/8** | 1" | 1/2" | 21,3 | 2,0 | 13,5 | 1,8 | 195 | 164 | 246 | 83 | 60 | 140 | 60 |

Abmessungen WVR SE für Aufbau SVA/SVU P / dimensions WVR SE for assembling with SVA/SVU P in mm:

| Nominal size: | Schraubenden / screwed ends | | Schweißtüllen / tails | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | Eingang / inlet | Ausgang / outlet | Eingang / inlet | | Ausgang / outlet | | | | | | | | |
| **DN1/DN2** | **G*** | **G*** | **d1** | **s** | **d2** | **s** | **l1** | **l2** | **h1** | **h2** | **h3** | **h4** | **d3** |
| **15/8** | 1" | 1/2" | 21,3 | 2,0 | 13,5 | 1,8 | 195 | 164 | 307 | 113 | 120 | 140 | 60 |

*) Whitworth – Rohrgewinde DIN ISO 228 / Whitworth – tube thread ISO 228 ….h4 = Ausbaumaß / dismantling measure

### Verfügbares Zubehör / available fittings:

Eingang / inlet:

UM+ST = Überwurfmutter mit Schweißtülle und Dichtung G1"/21,3x20,0
cap nut with weld nipple and gasket G1"/21,3x20,0

Ausgang / outlet:

DM = Doppelmutter Rechts/links mit Dichtung G1/2"-G1/2"L
double nut right/left hand with gasket G1/2"-G1/2"L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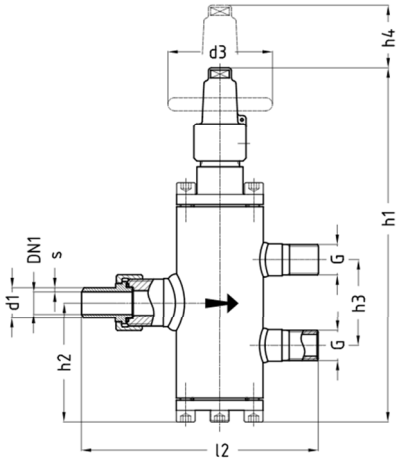
# WVR Edelstahl / stainless steel

Wechselventil
3-way valve

für natürliche Kältemittel (NH3, CO2) und nicht korrosive Gase und Flüssigkeiten nach EN 378-1 sowie Kühlsolen
for natural refrigerants (Ammonia, CO2) and non-corrosive gases and liquids acc. to EN 378-1 and for brine

## WVR SE NIRO

**SE** - Schraubenden / screwed ends



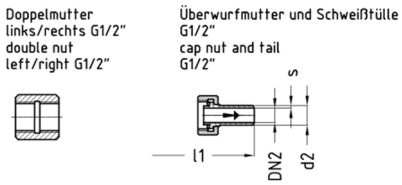

Druck- / Temperatureinsatzgrenzen:
Pressure- / temperature limits of application:

**PS:** max. zulässiger Betriebsdruck in bar ü / max. allowable working pressure in bar gauge

**TS:** den zulässigen Betriebsüberdrücken (PS) zugeordnete zulässige Betriebstemperatur in °C / max. allowable working temperature in °C, associated with PS

| DN | PN | -60 | -10 | +50 | +150 | TS [°C] |
|---|---|---|---|---|---|---|
| DN15 G1"/G1/2" | PN25 | 25 | 25 | 25 | 25 | PS [bar] |
| | PN40 | 40 | 40 | 40 | 40 | PS [bar] |
| | PN63 | 63 | 63 | 63 | 63 | PS [bar] |

Zubehör / fittings: Ausgänge/fittings




Abmessungen WVR SE NRO für Aufbau SVU /
dimensions for WVR SE NIRO for assembling with SVU in mm:

| Nominal size: | Schraubenden / screwed ends | | Schweißtüllen / tails | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | Eingang / inlet | Ausgang / outlet | Eingang / inlet | | Ausgang / outlet | | | | | | | | |
| **DN1/DN2** | **G*** | **G*** | **d1** | **s** | **d2** | **s** | **l1** | **l2** | **h1** | **h2** | **h3** | **h4** | **d3** |
| **15/8** | 1" | 1/2" | 21,3 | 2,0 | 13,5 | 1,8 | 195 | 164 | 246 | 83 | 60 | 140 | 60 |

Abmessungen WVR SE NIRO für Aufbau SVA/SVU P /
dimensions WVR SE NIRO for assembling with SVA/SVU P in mm:

| Nominal size: | Schraubenden / screwed ends | | Schweißtüllen / tails | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | Eingang / inlet | Ausgang / outlet | Eingang / inlet | | Ausgang / outlet | | | | | | | | |
| **DN1/DN2** | **G*** | **G*** | **d1** | **s** | **d2** | **s** | **l1** | **l2** | **h1** | **h2** | **h3** | **h4** | **d3** |
| **15/8** | 1" | 1/2" | 21,3 | 2,0 | 13,5 | 1,8 | 195 | 164 | 307 | 113 | 120 | 140 | 60 |

*) Whitworth – Rohrgewinde DIN ISO 228 / Whitworth – tube thread ISO 228 ….h4 = Ausbaumaß / dismantling measure

### Verfügbares Zubehör / available fittings:

Eingang / inlet:
UM+ST NIRO= Überwurfmutter mit Schweißtülle und Dichtung G1"/21,3x20,0
cap nut with weld nipple and gasket G1"/21,3x20,0

Ausgang / outlet:
DM NIRO= Doppelmutter Rechts/links mit Dichtung G1/2"-G1/2"L
double nut right/left hand with gasket G1/2"-G1/2"L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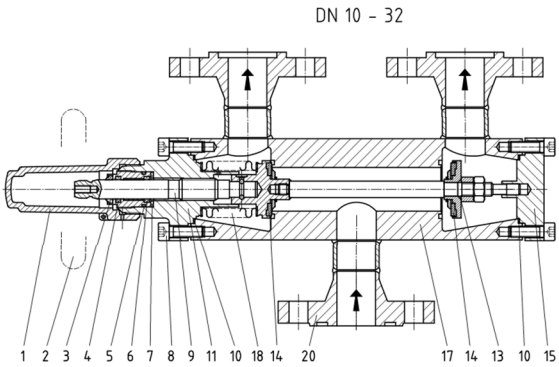
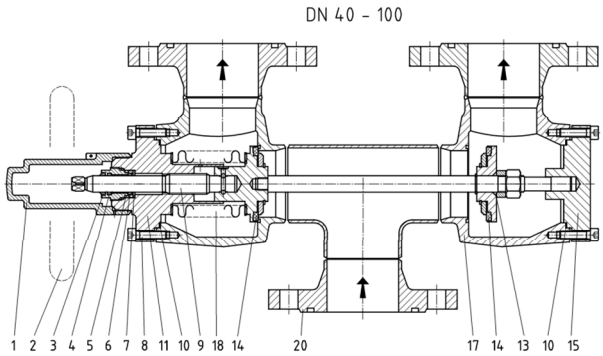
# WVB Werkstoffe / materials

## Benennung und Materialien / naming and materials
## WVB - Wechselventil mit Metallbalg / 3-way valve with metal bellows




| | Einzelteil / part: | Werkstoff Stahlventile<br>material steel valves | Werkstoff Edelstahlventile<br>material stainless steel valves |
|---|---|---|---|
| 1 | Kappe / cap | Aluminium / aluminum<br>AlSi10Mg | Aluminium / aluminum<br>AlSi10Mg |
| 2 | Handrad / hand wheel | Stahl / steel | Stahl / steel |
| 3 | Abstreifring / scraper ring | NBR | NBR |
| 4 | O-Ring A / O-ring A | CR, NBR, HNBR, EPDM, FPM* | CR, NBR, HNBR, EPDM, FPM* |
| 5 | O-Ring B / O-ring B | CR, NBR, HNBR, EPDM, FPM* | CR, NBR, HNBR, EPDM, FPM* |
| 6 | federbelasteter Nutring / spring loaded U-ring | PTFE | PTFE |
| 7 | Flachdichtring Schraubbuchse / flat seal ring screwed-in bush | AFM30 | AFM30 |
| 8 | Deckelschraube / cover screw | 8.8 | A2-70 |
| 9 | Spindel / stem | X8CrNiS18-9 1.4305 | X8CrNiS18-9 1.4305 |
| 10 | Flachdichtring Deckel / flat seal ring cover | AFM30 | AFM30 |
| 11 | Deckel / cover | S355J2 1.0577 | X8CrNiS18-9 1.4305<br>X5CrNi18-10 1.4301<br>X2CrNi19-11 1.4306 |
| 13 | Ventilteller / valve disc | S355J2 1.0577 | X8CrNiS18-9 1.4305<br>X5CrNi18-10 1.4301 |
| 14 | Flachdichtring Ventilteller / flat seal ring valve disc | PTFE | PTFE |
| 15 | Deckel 2 / cover 2 | S355J2 1.0577 | X8CrNiS18-9 1.4305<br>X5CrNi18-10 1.4301<br>X2CrNi19-11 1.4306 |
| 17 | Gehäuse / body | S355J2 1.0577<br>P235GH 1.0345 | X5CrNi18-10 1.4301 |
| 18 | Metallbalg / metal bellows | X6CrNiMoTi17-12-2 1.4571 | X6CrNiMoTi17-12-2 1.4571 |
| 20 | Flansche / flanges | P250GH 1.0460<br>P355NL1 1.0566 | X6CrNiTi18-10 1.4541 |

* abhängig vom verwendeten Kältemittel / depending on used refrigerant

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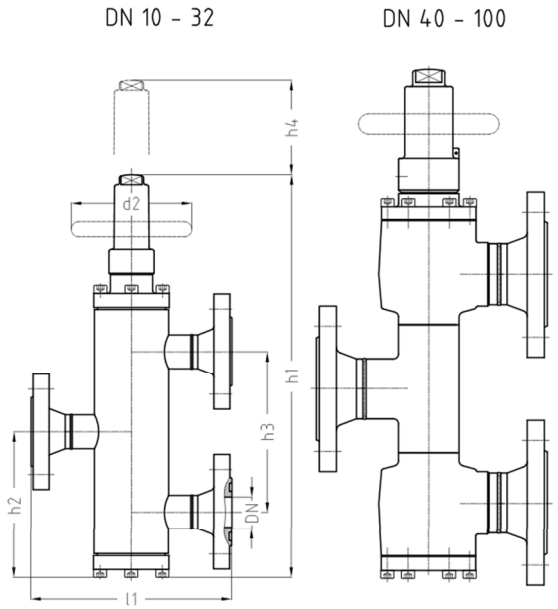
# WVB Stahl / steel

## Wechselventil - mit Metallbalg
## 3-way valve - with metal bellows

für natürliche Kältemittel (NH3, CO2) und nicht korrosive Gase und Flüssigkeiten nach EN 378-1 sowie Kühlsolen
for natural refrigerants (Ammonia, CO2) and non-corrosive gases and liquids acc. to EN 378-1 and for brine

### WVB FL
**FL** - Flanschenden / butt welding ends




Druck- / Temperatureinsatzgrenzen:
Pressure- / temperature limits of application:

PS: max. zulässiger Betriebsdruck in bar ü / max. allowable working pressure in bar gauge

TS: den zulässigen Betriebsüberdrücken (PS) zugeordnete zulässige Betriebstemperatur in °C / max. allowable working temperature in °C, associated with PS

| DN / INCH | PN | -60 | -40 | -25 | -10 | +50 | +150 | TS [°C] |
|---|---|---|---|---|---|---|---|---|
| DN 10…100 3/8"…4" | PN25 | 7,3 | 18,3 | 18,7 | 25 | 25 | 25 | PS [bar] |
| | PN40 | 11,8 | 29,4 | 30 | 40 | 40 | 40 | PS [bar] |

Abmessungen / dimensions in mm:

| Nominal size: | | Flanschenden gemäß: / flanged ends acc. to: | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | | AWP DN10-20 PN25 DN25-80 PN40 | PN25 DIN 2634 EN1092-1 | PN40 DIN 2635 EN1092-1 | ANSI 300 RF | | | | | |
| DN | INCH | l1 | l1 | l1 | l1 | h1 | h2 | h3 | h4 | d2 |
| 10 | 3/8" | 198 | 204 | 204 | | 294 | 107 | 108 | 185 | 60 |
| 15 | 1/2" | 192 | 204 | 204 | 233 | 307 | 114 | 120 | 200 | 60 |
| 20 | 3/4" | 212 | 228 | 228 | 262 | 337 | 129 | 150 | 230 | 60 |
| 25 | 1" | 210 | 202 | 202 | 246 | 405 | 146 | 160 | 240 | 120 |
| 32 | 1 1/4" | 210 | 206 | 206 | 252 | 405 | 146 | 180 | 240 | 120 |
| 40 | 1 1/2" | 203 | 216 | 216 | 263 | 496 | 184 | 214 | 315 | 140 |
| 50 | 2" | 220 | 230 | 230 | 274 | 510 | 191 | 228 | 330 | 140 |
| 65 | 2 1/2" | 268 | 265 | 265 | 313 | 581 | 231 | 276 | 405 | 140 |
| 80 | 3" | 294 | 304 | 304 | 345 | 743 | 289 | 325 | 530 | 180 |
| 100 | 4" | | 356 | 356 | 397 | 812 | 329 | 393 | 600 | 180 |

*) gilt nur für PN63 / only for PN63 h4 = Ausbaumaß / dismantling measure

DIN/EN-Flanschdichtflächen serienmäßig Eintritt mit Nut und Austritt mit Feder nach DIN2512, andere auf Anfrage. / DIN/EN-flange facing standard inlet with groove and outlet with tongue acc. to DIN2512, others on request.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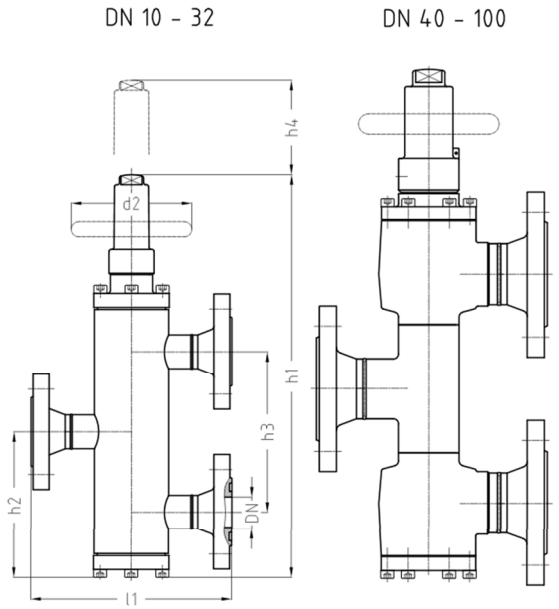
# WVB Edelstahl / stainless steel

## Wechselventil - mit Metallbalg
## 3-way valve - with metal bellows

für natürliche Kältemittel (NH3, CO2) und nicht korrosive Gase und Flüssigkeiten nach EN 378-1 sowie Kühlsolen
for natural refrigerants (Ammonia, CO2) and non-corrosive gases and liquids acc. to EN 378-1 and for brine

### WVB FL NIRO
**FL** - Flanschenden / butt welding ends




Druck- / Temperatureinsatzgrenzen:
Pressure- / temperature limits of application:

PS: max. zulässiger Betriebsdruck in bar ü / max. allowable working pressure in bar gauge

TS: den zulässigen Betriebsüberdrücken (PS) zugeordnete zulässige Betriebstemperatur in °C / max. allowable working temperature in °C, associated with PS

| DN / INCH | PN | -60 | -10 | +50 | +150 | TS [°C] |
|---|---|---|---|---|---|---|
| DN 10...100 3/8"...4" | PN25 | 25 | 25 | 25 | 25 | PS [bar] |
| | PN40 | 40 | 40 | 40 | 40 | PS [bar] |

Abmessungen / dimensions in mm:

| Nominal size: | | Flanschenden gemäß: / flanged ends acc. to: | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | | AWP DN10-20 PN25 DN25-80 PN40 | PN25 DIN 2634 EN1092-1 | PN40 DIN 2635 EN1092-1 | ANSI 300 RF | | | | | |
| DN | INCH | l1 | l1 | l1 | l1 | h1 | h2 | h3 | h4 | d2 |
| 10 | 3/8" | 198 | 204 | 204 | | 294 | 107 | 108 | 185 | 60 |
| 15 | 1/2" | 192 | 204 | 204 | 233 | 307 | 114 | 120 | 200 | 60 |
| 20 | 3/4" | 212 | 228 | 228 | 262 | 337 | 129 | 150 | 230 | 60 |
| 25 | 1" | 210 | 202 | 202 | 246 | 405 | 146 | 160 | 240 | 120 |
| 32 | 1 1/4" | 210 | 206 | 206 | 252 | 405 | 146 | 180 | 240 | 120 |
| 40 | 1 1/2" | 203 | 216 | 216 | 263 | 496 | 184 | 214 | 315 | 140 |
| 50 | 2" | 220 | 230 | 230 | 274 | 510 | 191 | 228 | 330 | 140 |
| 65 | 2 1/2" | 268 | 265 | 265 | 313 | 581 | 231 | 276 | 405 | 140 |
| 80 | 3" | 294 | 304 | 304 | 345 | 743 | 289 | 325 | 530 | 180 |
| 100 | 4" | | 356 | 356 | 397 | 812 | 329 | 393 | 600 | 180 |

*) gilt nur für PN63 / only for PN63 h4 = Ausbaumaß / dismantling measure

DIN/EN-Flanschdichtflächen serienmäßig Eintritt mit Nut und Austritt mit Feder nach DIN2512, andere auf Anfrage. / DIN/EN-flange facing standard inlet with groove and outlet with tongue acc. to DIN2512, others on request.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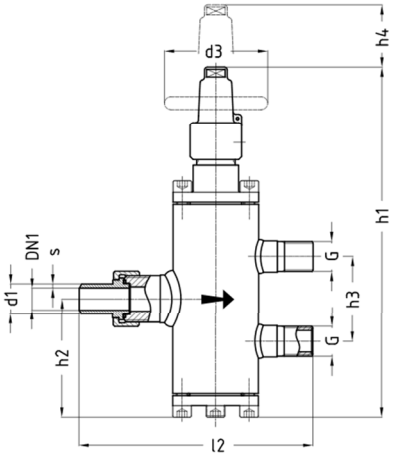
# WVB Stahl / steel

## Wechselventil - mit Metallbalg
## 3-way valve - with metal bellows

für natürliche Kältemittel (NH3, CO2) und nicht korrosive Gase und Flüssigkeiten nach EN 378-1 sowie Kühlsolen
for natural refrigerants (Ammonia, CO2) and non-corrosive gases and liquids acc. to EN 378-1 and for brine

## WVB SE

**SE** - Schraubenden / screwed ends



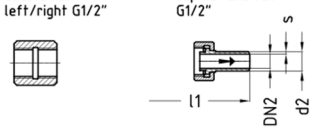

Druck- / Temperatureinsatzgrenzen:
Pressure- / temperature limits of application:

**PS:** max. zulässiger Betriebsdruck in bar ü / max. allowable working pressure in bar gauge

**TS:** den zulässigen Betriebsüberdrücken (PS) zugeordnete zulässige Betriebstemperatur in °C / max. allowable working temperature in °C, associated with PS

| DN | PN | -60 | -40 | -25 | -10 | +50 | +150 | TS [°C] |
|---|---|---|---|---|---|---|---|---|
| DN15 G1"/G1/2" | PN25 | 7,3 | 18,3 | 18,7 | 25 | 25 | 25 | PS [bar] |
| | PN40 | 11,8 | 29,4 | 30 | 40 | 40 | 40 | PS [bar] |

Zubehör / fittings: Ausgänge/fittings




Abmessungen / dimensions in mm:

| Nominal size: | Schraubenden / screwed ends | | Schweißtüllen / tails | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | Eingang / inlet | Ausgang / outlet | Eingang / inlet | | Ausgang / outlet | | | | | | | | |
| **DN1/DN2** | **G*** | **G*** | **d1** | **s** | **d2** | **s** | **l1** | **l2** | **h1** | **h2** | **h3** | **h4** | **d3** |
| **15/8** | 1" | 1/2" | 21,3 | 2,0 | 13,5 | 1,8 | 195 | 164 | 246 | 83 | 60 | 140 | 60 |

*) Whitworth – Rohrgewinde DIN ISO 228 / Whitworth – tube thread ISO 228 ….h4 = Ausbaumaß / dismantling measure

### Verfügbares Zubehör / available fittings:

Eingang / inlet:

UM+ST = Überwurfmutter mit Schweißtülle und Dichtung G1"/21,3x20,0
cap nut with weld nipple and gasket G1"/21,3x20,0

Ausgang / outlet:

DM = Doppelmutter Rechts/links mit Dichtung G1/2"-G1/2"L
double nut right/left hand with gasket G1/2"-G1/2"L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# WVB Edelstahl / stainless steel

## Wechselventil - mit Metallbalg
## 3-way valve - with metal bellows

für natürliche Kältemittel (NH3, CO2) und nicht korrosive Gase und Flüssigkeiten nach EN 378-1 sowie Kühlsolen
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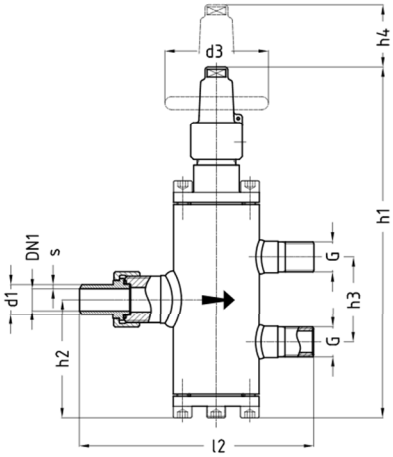
### WVB SE NIRO
**SE** - Schraubenden / screwed ends

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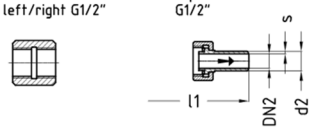
| DN | PN | -60 | -10 | +50 | +150 | TS [°C] |
|---|---|---|---|---|---|---|
| DN15 G1"/G1/2" | PN25 | 25 | 25 | 25 | 25 | PS [bar] |
| | PN40 | 40 | 40 | 40 | 40 | PS [bar] |

Zubehör / fittings: Ausgänge/fittings

Doppelmutter links/rechts G1/2" double nut left/right G1/2"

Überwurfmutter und Schweißtülle G1/2" cap nut and tail G1/2"




Abmessungen / dimensions in mm:

| Nominal size: | Schraubenden / screwed ends | | Schweißtüllen / tails | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | Eingang / inlet | Ausgang / outlet | Eingang / inlet | | Ausgang / outlet | | | | | | | | |
| **DN1/DN2** | **G*** | **G*** | **d1** | **s** | **d2** | **s** | **l1** | **l2** | **h1** | **h2** | **h3** | **h4** | **d3** |
| **15/8** | 1" | 1/2" | 21,3 | 2,0 | 13,5 | 1,8 | 195 | 164 | 246 | 83 | 60 | 140 | 60 |

*) Whitworth – Rohrgewinde DIN ISO 228 / Whitworth – tube thread ISO 228 ….h4 = Ausbaumaß / dismantling measure

### Verfügbares Zubehör / available fittings:

Eingang / inlet:
UM+ST NIRO= Überwurfmutter mit Schweißtülle und Dichtung G1"/21,3x20,0
cap nut with weld nipple and gasket G1"/21,3x20,0

Ausgang / outlet:
DM NIRO= Doppelmutter Rechts/links mit Dichtung G1/2"-G1/2"L
double nut right/left hand with gasket G1/2"-G1/2"L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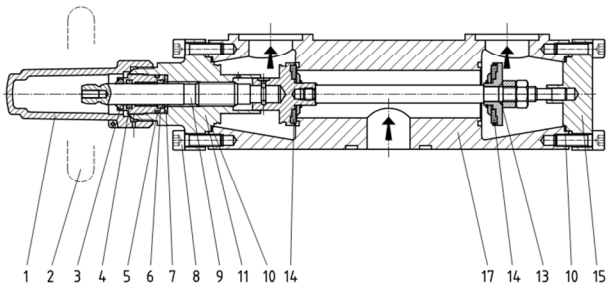
# WVR AL Werkstoffe / materials

## Benennung und Materialien / naming and materials
## WVR AL – Wechselventil, Kompaktbauweise / 3-way valve, compact construction method

DN 15 - 32




| | Einzelteil / part: | Werkstoff – in Stahlausführung Material – of steel make | Werkstoff – in Edelstahlausführung Material – of stailess steel make |
|---|---|---|---|
| 1 | Kappe / cap | Aluminium / aluminum AlSi10Mg | Aluminium / aluminum AlSi10Mg |
| 2 | Handrad / hand wheel | Stahl / steel | Stahl / steel |
| 3 | Abstreifring / scraper ring | NBR | NBR |
| 4 | O-Ring A / O-ring A | CR, NBR, HNBR, EPDM, FPM* | CR, NBR, HNBR, EPDM, FPM* |
| 5 | O-Ring B / O-ring B | CR, NBR, HNBR, EPDM, FPM* | CR, NBR, HNBR, EPDM, FPM* |
| 6 | federbelasteter Nutring / spring loaded U-ring | PTFE | PTFE |
| 7 | Flachdichtring Schraubbuchse / flat seal ring screwed-in bush | AFM30 | AFM30 |
| 8 | Deckelschraube / cover screw | 8.8 | A2-70 |
| 9 | Spindel / stem | X8CrNiS18-9 1.4305 | X8CrNiS18-9 1.4305 |
| 10 | Flachdichtring Deckel / flat seal ring cover | AFM30 | AFM30 |
| 11 | Deckel / cover | S355J2 1.0577 | X8CrNiS18-9 1.4305<br>X5CrNi18-10 1.4301<br>X2CrNi19-11 1.4306 |
| 13 | Ventilteller / valve disc | S355J2 1.0577 | X8CrNiS18-9 1.4305<br>X5CrNi18-10 1.4301 |
| 14 | Flachdichtring Ventilteller / flat seal ring valve disc | PTFE | PTFE |
| 15 | Deckel 2 / cover 2 | S355J2 1.0577 | X8CrNiS18-9 1.4305<br>X5CrNi18-10 1.4301<br>X2CrNi19-11 1.4306 |
| 17 | Gehäuse / body | EN AW-AlSi1MgMn EN AW-6082 | EN AW-AlSi1MgMn EN AW-6082 |

* abhängig vom verwendeten Kältemittel / depending on used refrigerant

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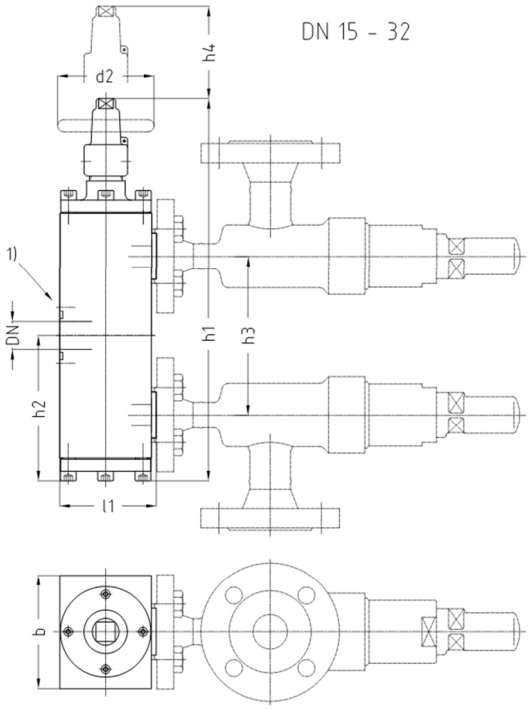
# WVR AL Aluminium / aluminum

## Wechselventil, Kompaktbauweise in Stahlausführung
## 3-way valve, compact construction method – of steel make

für natürliche Kältemittel (NH3, CO2) und nicht korrosive Gase und Flüssigkeiten nach EN 378-1 sowie Kühlsolen
for natural refrigerants (Ammonia, CO2) and non-corrosive gases and liquids acc. to EN 378-1 and for brine

## WVR AL FL

**FL** - Flanschenden / butt welding ends

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| DN / INCH | PN | -60 | -40 | -25 | -10 | +50 | +120 | TS [°C] |
|---|---|---|---|---|---|---|---|---|
| DN 15…32 1/2"…1 1/4" | PN25 | 7,3 | 18,3 | 18,7 | 25 | 25 | 25 | PS [bar] |
| | PN40 | 11,8 | 29,4 | 30 | 40 | 40 | 40 | PS [bar] |
| | | | | | | | | |

Abmessungen / dimensions in mm:

| Nominal size: | | Flanschenden gemäß: / flanged ends acc. to: PN25 DIN 2634 EN1092-1 | PN40 DIN 2634 EN1092-1 | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| **DN** | **INCH** | **l1** | **l1** | **h1** | **h2** | **h3** | **h4** | **b2** | **d2** |
| **15** | **1/2"** | 80 | 80 | 317 | 121,5 | 120 | 200 | 94 | 60 |
| **20** | **3/4"** | 80 | 80 | 337 | 129 | 150 | 230 | 104 | 60 |
| **25** | **1"** | 100 | 100 | 406 | 145,5 | 160 | 240 | 115 | 120 |
| **32** | **1 1/4"** | 100 | 100 | 444 | 165,5 | 194 | 240 | 140 | 120 |

h4 = Ausbaumaß / dismantling measure
DIN/EN-Flanschdichtflächen serienmäßig Eintritt mit Nut und Austritt mit Feder nach DIN2512, andere auf Anfrage. /
DIN/EN-flange facing standard inlet with groove and outlet with tongue acc. to DIN2512, others on request.
1) Gewindebohrungen für das Lochbild nach EN 1092-1 PN25/40 sind vorhanden
1) Threaded holes for the hole pattern to EN 1092-1 PS25/40 are existing


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# WVR AL Aluminium / aluminum

## Wechselventil, Kompaktbauweise - in Edelstahlausführung
## 3-way valve, compact construction method - of stainless steel make

für natürliche Kältemittel (NH3, CO2) und nicht korrosive Gase und Flüssigkeiten nach EN 378-1 sowie Kühlsolen
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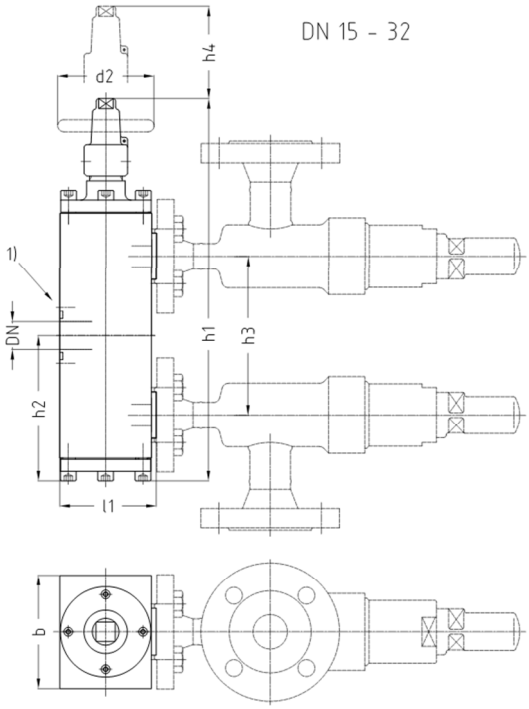
## WVR AL FL

**FL** - Flanschenden / butt welding ends

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| DN / INCH | PN | -60 | -40 | -25 | -10 | +50 | +120 | TS [°C] |
|---|---|---|---|---|---|---|---|---|
| DN 15…32 1/2"…1 1/4" | PN25 | 25 | 25 | 25 | 25 | 25 | 25 | PS [bar] |
| | PN40 | 40 | 40 | 40 | 40 | 40 | 40 | PS [bar] |
| | | | | | | | | |

Abmessungen / dimensions in mm:

| Nominal size: | | Flanschenden gemäß: / flanged ends acc. to: | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| | | PN25 DIN 2634 EN1092-1 | PN40 DIN 2634 EN1092-1 | | | | | | |
| DN | INCH | l1 | l1 | h1 | h2 | h3 | h4 | b2 | d2 |
| 15 | 1/2" | 80 | 80 | 317 | 121,5 | 120 | 200 | 94 | 60 |
| 20 | 3/4" | 80 | 80 | 337 | 129 | 150 | 230 | 104 | 60 |
| 25 | 1" | 100 | 100 | 406 | 145,5 | 160 | 240 | 115 | 120 |
| 32 | 1 1/4" | 100 | 100 | 444 | 165,5 | 194 | 240 | 140 | 120 |

h4 = Ausbaumaß / dismantling measure
DIN/EN-Flanschdichtflächen serienmäßig Eintritt mit Nut und Austritt mit Feder nach DIN2512, andere auf Anfrage. /
DIN/EN-flange facing standard inlet with groove and outlet with tongue acc. to DIN2512, others on request.
1) Gewindebohrungen für das Lochbild nach EN 1092-1 PN25/40 sind vorhanden
1) Threaded holes for the hole pattern to EN 1092-1 PS25/40 are existing


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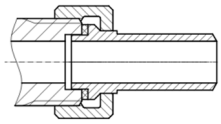
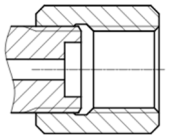
# Zubehör / Fittings

## SV UM + ST / WVR DM Schraubenden / screwed connections

GEA AWP – Armaturen mit Schraubenden können mit einer Vielzahl von Verschraubungen bestellt werden um den jeweiligen Anforderungen zu genügen. Untenstehende Auflistung zeigt Zubehör / Ventilkombinationen die derzeit hergestellt werden.

GEA AWP valves with screwed ends can be equipped with a wide range of fittings in order to fulfill respective requirements. The listing below shows those valve / fitting combinations which are currently manufactured by GEA AWP.

### Zubehör Sicherheits- / Wechselventile / fittings safety relief / 3-way valves

| Zubehörgruppe / fitting group | Ventilbezeichnung / valve name | Code fittinge/ fittings code | Anschlüsse / connections | |
|---|---|---|---|---|
| UM + ST Überwurfmutter mit Schweißtülle / cap nut and weld nipple | | | | |
| **UM + ST**  | SVUA SE G1/2" / G1/2"<br>SVUB SE G1/2" / G1/2" | 44660E10.5/10001 | E:<br>A: | G1/2" mit / with UM + ST 15,0x1,5 mm |
| | SVUA SE G1/2" / G1"<br>SVUB SE G1/2" / G1" | 44660E10.5/10001<br>00060F07A5A0B601 | E:<br>A: | G1/2" mit / with UM + ST 15,0x1,5 mm<br>G1" mit / with UM + ST 21,3x2,0 mm |
| | SVUA P SE G1/2" / G1"<br>SVUB P SE G1/2" / G1" | 45760E10.5/10001<br>15760E10.5/01001 | E:<br>A: | G1/2" mit / with UM + ST 20,0x2,0 mm<br>G1" mit / with UM + ST 34,0x3,0 mm |
| | SVAA SE G1/2" / G1"<br>SVAB SE G1/2" / G1" | 45760E10.5/10001<br>15760E10.5/01001 | E:<br>A: | G1/2" mit / with UM + ST 20,0x2,0 mm<br>G1" mit / with UM + ST 34,0x3,0 mm |
| DM Zubehörkombination mit Doppelmutter Rechts-Links / Fitting combination double nut right-left hand | | | | |
| **DM**  | WVR SE G1" / G1/2-LH"<br>für SVUA/B SE | 00060F07A5A0B601<br>00060F07A5A1A203 | E:<br>A: | G1" mit / with UM + ST 21,3x2,0 mm<br>G1/2"-LH mit / with DM (kurz/short) |
| | WVR SE G1" / G1/2-LH"<br>für SVUA/B P SE | 00060F07A5A0B601<br>00060F07A5A1A203 | E:<br>A: | G1" mit / with UM + ST 21,3x2,0 mm<br>G1/2"-LH mit / with DM |

E: = Eintritt / inlet // A: = Austritt / outlet



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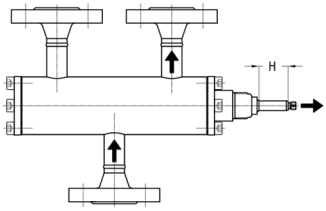
# WVR

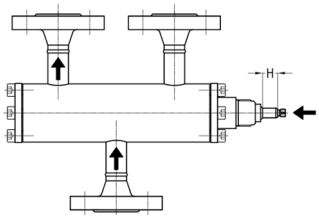
## Darstellung des geöffneten Stutzens
## Representation of opened connection

Darstellung des geöffneten Stutzens in Abhängigkeit von der Spindellänge
Representation of the opened connection as a function of the spindle length

| DN | H in [mm] |
|---|---|
| 10-20 | 22 |
| 25-32 | 34 |
| 40-50 | 38 |
| 65 | 32 |
| 80-100 | 48 |




| DN | H in [mm] |
|---|---|
| 10-20 | 15 |
| 25-32 | 24 |
| 40-50 | 22 |
| 65 | 14 |
| 80-100 | 17 |

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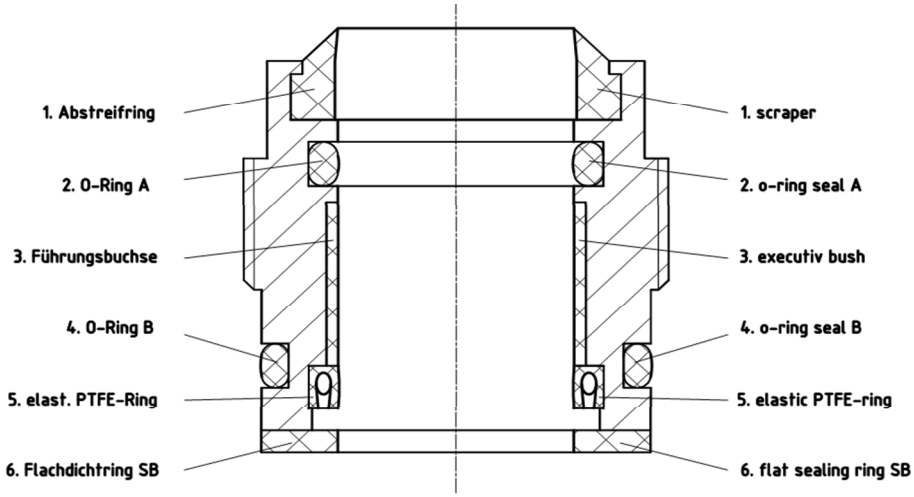
# Anhang / appendix

## Dichtsystem Ventilspindel
## Seal system valve stem

Das Dichtsystem der Ventilspindel ist wartungsfrei. / The seal system of the stem is maintenance free.

Das Dichtsystem besteht aus den folgenden Komponenten: / The seal system contains the following components:




1. Abstreifring / scraper
   Der Abstreifring verhindert das Eindringen von Schmutz und Wasser von außen.
   The scraper prevents the penetration of dirt and water from outside.
2. O-Ring A / o-ring seal A
   O-Ring A macht das Ventil vakuumdicht. (Betrieb des Ventils im Unterdruckbereich bei tiefen Temperaturen)
   O-ring A makes the valve vacuum tight. (Valve might operate under negative pressure at low temperatures)
3. Führungsbuchse / executive bush
   Die Führungsbuchse verhindert Beschädigungen an der Spindel.
   The executive bush protects the stem from getting damaged.
4. O-Ring B / o-ring seal B
   O-Ring B dichtet zusätzlich zum Flachdichtring SB den äußeren Teil des Dichtsystems ab.
   O-ring B tightens in addition to the flat sealing ring SB the outer part of the seal system.
5. Elastischer PTFE-Ring / elastic PTFE-ring
   Der elastische PTFE-Ring ist die Primärdichtung des Dichtsystems. Er besteht aus einem Hochleistungs-PTFE-Compound mit gewickelter Edelstahlfeder. Diese Dichtung dichtet das Ventil nach außen ab.
   The elastic PTFE-ring is the primarily seal of the seal system. It contains a high performance PTFE compound with a stainless steel spiral spring. The elastic PTFE-ring tightens the valve to the outside.
6. Flachdichtring SB / flat sealing ring SB
   Der Flachdichtring SB dichtet den äußeren Teil des Dichtsystems ab.
   The flat sealing ring SB tightens the outer part of the seal system.

Hinweis: / notice:
GEA AWP - Ventile haben eine Rückdichtung. Daher sind der Ausbau des Dichtsystems und dessen Wechseln während des Betriebes der Anlage möglich. Bitte beachten Sie hierzu die Hinweise in unseren Betriebsvorschriften.

GEA AWP valves are equipped with a back seat. Due to the back seat the seal system can be replaced during operation. Please, pay attention moreover to the indications in our operating instructions.



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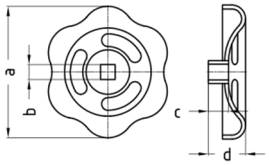
# HR / K

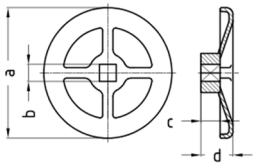
## Handrad / Kappe
## handwheel / cap

### HR
Handrad / handwheel
DN 6-500

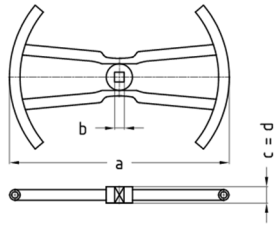
DN 6 - 20




DN 25- 150




DN 200 - 500

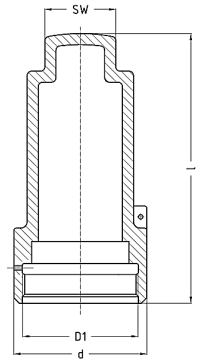



Abmessungen / dimensions in mm:

| für Typ / for type : HRS AVR AVB HRAR HRAB RVA RVAK | | | | |
|---|---|---|---|---|
| | Durchmesser / diameter | Nabenvierkant / hub square | Nabenhöhe / hub height | Höhe / height |
| **DN** | **a** | **b** | **c** | **d** |
| 6-20 | 60 | 6 | 9 | 15 |
| 25-32 | 120 | 11 | 14 | 31,0 |
| 40-65 | 140 | 12 | 16 | 32,5 |
| 80-100 | 180 | 14 | 22 | 42,0 |
| 125 | 300 | 22 | 28 | 55 |
| 150 | 400 | 22 | 28 | 60 |
| 200-500 | 630 | 28 | 46 | 46 |

### K
Kappe / cap
DN 6-500

DN 6 - 500




Abmessungen / dimensions in mm:

| für Typ / for type : AVR AVB HRAR HRAB RVA RVAK | | | | |
|---|---|---|---|---|
| | Höhe / height | Durchmesser / diameter | Gewinde / thread | Schlüsselweite / spanner flats |
| **DN** | **l** | **d** | **D1** | **SW** |
| 6-20 | 65 | 36 | M27x2 | 19 |
| 25-32 | 99 | 45 | M36x2 | 24 |
| 40-65 | 122 | 60 | M52x3 | 32 |
| 80-100 | 148 | 72 | M60x3 | 41 |
| 125-150 | 165 | 90 | M76x3 | 50 |
| 200-350 | 260 | 100 | M80x3 | 60 |
| 400 | 319 | 100 | M80x3 | 90 |
| 500 | 325 | 100 | M80x3 | 90 |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# Anhang / appendix

## Vergleich europäische / amerikanische Werkstoffe
## Comparison American vs. European material numbers

GEA AWP - Ventile enthalten Einzelteile in unterschiedlichen Werkstoffen. Die folgende Tabelle enthält alle Werkstoffe, die GEA AWP für drucktragende Teile verwendet und listet die amerikanischen Vergleichswerkstoffe auf.

GEA AWP valves contain several components made from different materials. The following table includes all European and corresponding American material numbers, which are used for the pressure related valve parts.

| Europäischer Werkstoff<br>European material numbers | | | Amerikanischer Vergleichswerkstoff<br>Corresponding American material numbers | |
|---|---|---|---|---|
| Werkstoffnummer<br>material number | Kurzname<br>steel name | Norm<br>standard | Werkstoffnorm<br>material standard | Sorte<br>grade |
| **Armaturen aus C-Stahl / steel valves** | | | | |
| 1.0345 | P235GH, TC1 +N | DIN EN 10216-2 | ASTM A106 | A + B |
| 1.0038 | S235JR +N | DIN EN 10025-2 | ASTM A570 | 36 |
| 1.0425 | P265GH | DIN EN 10028-2 | ASTM A516 | 60 |
| 1.0577 | S355J2 +N | DIN EN 10025-2 | ASTM A516 | 65 |
| 1.6220 | G20Mn5 +QT | DIN EN 10213 | ASTM A352 | LCC |
| 1.0460 | C22.8 | VdTÜV 350/3 | ASTM A105 | - |
| **Armaturen aus TT-Stahl / low temp steel valves** | | | | |
| 1.0451 | P215NL +N | DIN EN 10216-4 | ASTM A333 | 6 |
| 1.0452 | P255QL +QT | DIN EN 10216-4 | | |
| 1.0566 | P355NL1 +N | DIN EN 10028-3<br>DIN 17103<br>VdTÜV 354/3 | ASTM A662<br>ASTM A420<br>ASTM A350 | B<br>WPL6<br>LF2 |
| 1.0488 | TStE 285 | DIN 17103<br>VdTÜV 352/3 | ASTM A662<br>ASTM A350 | A<br>LF2 |
| 1.6220 | G20Mn5 +QT | DIN EN 10213 | ASTM A352 | LCC |
| **Armaturen aus Edelstahl / stainless steel valves** | | | | |
| 1.4301 | X5CrNi18-10 | DIN EN 10216-5<br>DIN EN 10028-7<br>DIN EN 10222-5<br>DIN EN 1092-1 | ASTM A312<br>ASTM A240<br><br>ASTM A182 | TP304<br>304<br><br>F304 |
| 1.4581 | GX5CrNiMoNb19-11-2 | DIN EN 10213 | ASTM A351 | CF10M |

Durchgangsventile in nicht standardmäßiger Ausführung (z.B. abweichende Werkstoffe, Abnahme durch Dritte) sind nur in Schrägsitzform lieferbar.

Straightway valves of not standard design (e.g. deviant materials, inspection by third parties) are available only in y-type form.



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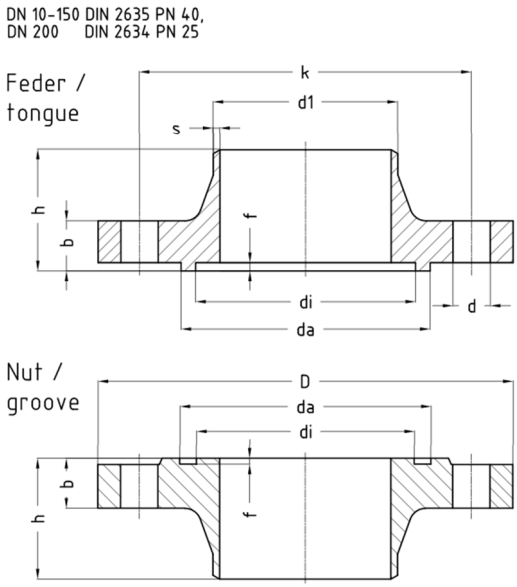
# DIN-FL

## Vorschweißflansche - DIN 2634/2635
## Welding neck flanges - DIN 2634/2635

**DIN-FL N**
**DIN-FL F**
**DIN-FL C**
**DIN-FL D**
**FL** - Flansch / flange
**Form N** - Nut / groove, DIN 2512
**Form F** - Feder / tongue, DIN 2512
**Form C** - glatte Dichtleiste / raised face, (Rz160) DIN2526
**Form D** - glatte Dichtleiste / raised face, (Rz 40) DIN2526




Einbaulängen / lengths in mm:

| DIN2634 PN25 DN10-150 / DIN 2635 PN40 DN10-400 | | | | | | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | Anschweißenden / butt welding ends | | | | | | | | | Dichtleistenausführung / types of contact face | | | | | | Schrauben / screws DIN 931 | | | Dichtring / sealring DIN 2691 | |
| | Reihe 1 series 1 | | Reihe 2 series 2 | | | | | | | Nut / groove | | | Feder / tongue | | | | | | | |
| DN | d1 | s | d1 | s | b | k | h | d | D | di | da | f | di | da | f | Anzahl quantity | Gewinde thread | Länge length | di | da |
| 10 | 17,2 | 1,8 | 15,0 | 2,5 | 16 | 60 | 35 | 14 | 90 | 23 | 35 | 2,5 | 24 | 34 | 4,0 | 4 | M 12 | 45 | 24 | 34 |
| 15 | 21,3 | 2,0 | 20,0 | 2,5 | 16 | 65 | 38 | 14 | 95 | 28 | 40 | 2,5 | 29 | 39 | 4,0 | 4 | M 12 | 45 | 29 | 39 |
| 20 | 26,9 | 2,3 | 25,0 | 2,5 | 18 | 75 | 40 | 14 | 105 | 35 | 51 | 2,5 | 36 | 50 | 4,0 | 4 | M 12 | 50 | 36 | 50 |
| 25 | 33,7 | 2,6 | 32,0 | 3,0 | 18 | 85 | 40 | 14 | 115 | 42 | 58 | 2,5 | 43 | 57 | 4,0 | 4 | M 12 | 50 | 43 | 57 |
| 32 | 42,4 | 2,6 | 38,0 | 3,0 | 18 | 100 | 42 | 18 | 140 | 50 | 66 | 2,5 | 51 | 65 | 4,0 | 4 | M 16 | 55 | 51 | 65 |
| 40 | 48,3 | 2,6 | 45,0 | 3,0 | 18 | 110 | 45 | 18 | 150 | 60 | 76 | 2,5 | 61 | 75 | 4,0 | 4 | M 16 | 55 | 61 | 75 |
| 50 | 60,3 | 2,9 | 57,0 | 3,2 | 20 | 125 | 48 | 18 | 165 | 72 | 88 | 2,5 | 73 | 87 | 4,0 | 4 | M 16 | 60 | 73 | 87 |
| 65 | 76,1 | 2,9 | 76,1 | 3,6 | 22 | 145 | 52 | 18 | 185 | 94 | 110 | 2,5 | 95 | 109 | 4,0 | 8 | M 16 | 60 | 95 | 109 |
| 80 | 88,9 | 3,2 | 88,9 | 4,0 | 24 | 160 | 58 | 18 | 200 | 105 | 121 | 2,5 | 106 | 120 | 4,0 | 8 | M 16 | 65 | 106 | 120 |
| 100 | 114,3 | 3,6 | 108,0 | 4,0 | 24 | 190 | 65 | 22 | 235 | 128 | 150 | 3,0 | 129 | 149 | 4,5 | 8 | M 20 | 70 | 129 | 149 |
| 125 | 139,7 | 4,0 | 133,0 | 4,0 | 26 | 220 | 68 | 26 | 270 | 154 | 176 | 3,0 | 155 | 175 | 4,5 | 8 | M 24 | 80 | 155 | 175 |
| 150 | 168,3 | 4,5 | 159,0 | 4,5 | 28 | 250 | 75 | 26 | 300 | 182 | 204 | 3,0 | 183 | 203 | 4,5 | 8 | M 24 | 80 | 183 | 203 |
| 200 | 219,1 | 6,3 | | | 34 | 320 | 88 | 30 | 375 | 238 | 260 | 3,0 | 239 | 259 | 4,5 | 12 | M 27 | 100 | 239 | 259 |
| 250 | 273,0 | 7,1 | | | 38 | 385 | 105 | 33 | 450 | 291 | 313 | 3,0 | 292 | 312 | 4,5 | 12 | M 30 | 110 | 292 | 312 |
| 300 | 323,9 | 8,0 | | | 42 | 450 | 115 | 33 | 515 | 342 | 364 | 3,0 | 343 | 363 | 4,5 | 16 | M 30 | 120 | 343 | 363 |
| 350 | 355,6 | 8,8 | | | 46 | 510 | 125 | 36 | 580 | 394 | 422 | 3,5 | 395 | 421 | 5,0 | 16 | M 33 | 130 | 395 | 421 |
| 400 | 406,4 | 11,0 | | | 50 | 585 | 135 | 39 | 660 | 446 | 474 | 3,5 | 447 | 473 | 5,0 | 16 | M 36 | 140 | 447 | 473 |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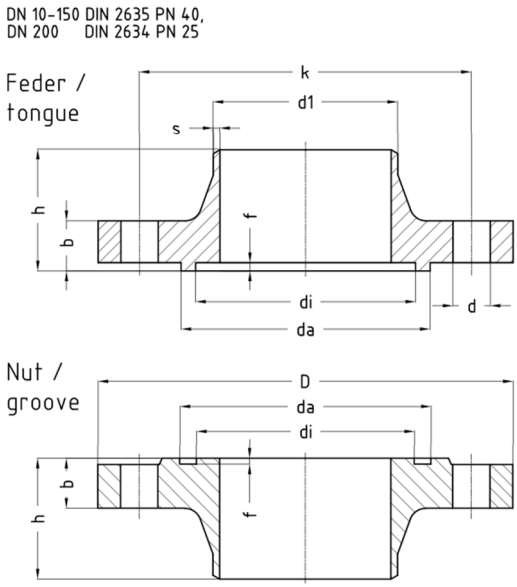
# DIN-FL

## Vorschweißflansche - DIN 2634/2636/2637
## Welding neck flanges - DIN 2634/2636/2637

**DIN-FL N**
**DIN-FL F**
**DIN-FL C**
**DIN-FL D**
**FL** - Flansch / flange
**Form N** - Nut / groove, DIN 2512
**Form F** - Feder / tongue, DIN 2512
**Form C** - glatte Dichtleiste / raised face, (Rz160) DIN2526
**Form D** - glatte Dichtleiste / raised face, (Rz40) DIN2526




Einbaulängen / lengths in mm:

| DIN 2634 PN25 DN200-500 | | | | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | Anschweißenden / butt welding ends Reihe 1 series 1 | | | | | | | Dichtleistenausführung / types of contact face Nut / groove | | | Feder / tongue | | | Schrauben / screws DIN 931 | | | Dichtring / sealring DIN 2691 | |
| DN | d1 | s | b | k | h | d | D | di | da | f | di | da | f | Anzahl quantity | Gewinde thread | Länge length | di | da |
| 200 | 219,1 | 6,3 | 30 | 310 | 80 | 26 | 360 | 238 | 260 | 3,0 | 239 | 259 | 4,5 | 12 | M 24 | 90 | 239 | 259 |
| 250 | 273,0 | 7,1 | 32 | 370 | 88 | 30 | 425 | 291 | 313 | 3,0 | 292 | 312 | 4,5 | 12 | M 27 | 90 | 292 | 312 |
| 300 | 323,9 | 8,0 | 34 | 430 | 92 | 30 | 485 | 342 | 364 | 3,0 | 343 | 363 | 4,5 | 16 | M 27 | 100 | 343 | 363 |
| 350 | 355,6 | 8,0 | 38 | 490 | 100 | 33 | 555 | 394 | 422 | 3,5 | 395 | 421 | 5,0 | 16 | M 30 | 110 | 395 | 421 |
| 400 | 406,4 | 8,8 | 40 | 550 | 110 | 36 | 620 | 446 | 474 | 3,5 | 447 | 473 | 5,0 | 16 | M 33 | 120 | 447 | 473 |
| 500 | 508,0 | 10,0 | 44 | 660 | 125 | 36 | 730 | 548 | 576 | 3,5 | 549 | 575 | 5,0 | 20 | M 33 | 130 | 549 | 575 |
| DIN2636 PN63 DN10-40 / DIN 2637 PN100 DN10-40 | | | | | | | | | | | | | | | | | | | |
| DN | d1 | s | b | k | h | d | D | di | da | f | di | da | f | Anzahl quantity | Gewinde thread | Länge length | di | Da |
| 10 | 17,2 | 2,0 | 20 | 70 | 45 | 14 | 100 | 23 | 35 | 2,5 | 24 | 34 | 4,0 | 4 | M 12 | 55 | 24 | 34 |
| 15 | 21,3 | 2,0 | 20 | 75 | 45 | 14 | 105 | 28 | 40 | 2,5 | 29 | 39 | 4,0 | 4 | M 12 | 55 | 29 | 39 |
| 20 | 26,9 | 2,6 | 22 | 90 | 48 | 18 | 130 | 35 | 51 | 2,5 | 36 | 50 | 4,0 | 4 | M 16 | 60 | 36 | 50 |
| 25 | 33,7 | 2,6 | 24 | 100 | 58 | 18 | 140 | 42 | 58 | 2,5 | 43 | 57 | 4,0 | 4 | M 16 | 65 | 43 | 57 |
| 32 | 42,4 | 2,9 | 24 | 110 | 60 | 22 | 155 | 50 | 66 | 2,5 | 51 | 65 | 4,0 | 4 | M 20 | 70 | 51 | 65 |
| 40 | 48,3 | 2,9 | 26 | 125 | 62 | 22 | 170 | 60 | 76 | 2,5 | 61 | 75 | 4,0 | 4 | M 20 | 70 | 61 | 75 |
| DIN 2636 PN63 DN50-125 | | | | | | | | | | | | | | | | | | | |
| DN | d1 | S | b | k | h | d | D | di | da | f | di | da | f | Anzahl quantity | Gewinde thread | Länge length | di | da |
| 50 | 60,3 | 2,9 | 26 | 135 | 62 | 22 | 180 | 72 | 88 | 2,5 | 73 | 87 | 4,0 | 4 | M 20 | 75 | 73 | 87 |
| 65 | 76,1 | 3,2 | 26 | 160 | 68 | 22 | 205 | 94 | 110 | 2,5 | 95 | 109 | 4,0 | 8 | M 20 | 75 | 95 | 109 |
| 80 | 88,9 | 3,6 | 28 | 170 | 72 | 22 | 215 | 105 | 121 | 2,5 | 106 | 120 | 4,0 | 8 | M 20 | 75 | 106 | 120 |
| 100 | 114,3 | 4,0 | 30 | 200 | 78 | 26 | 250 | 128 | 150 | 3,0 | 129 | 149 | 4,5 | 8 | M 24 | 90 | 129 | 149 |
| 125 | 139,7 | 4,5 | 34 | 240 | 88 | 30 | 295 | 154 | 176 | 3,0 | 155 | 175 | 4,5 | 8 | M 27 | 100 | 155 | 175 |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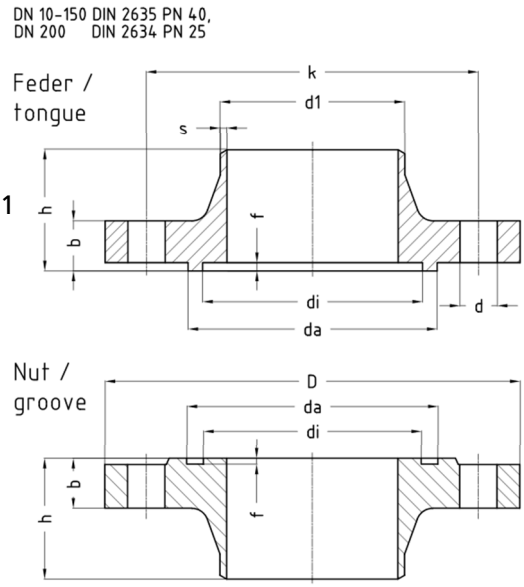
# DIN EN-FL

## Vorschweißflansche - DIN EN 1092-1
## Welding neck flanges - DIN EN 1092-1

**DIN EN-FL D**
**DIN EN-FL C**
**DIN EN-FL B1**
**DIN EN-FL B2**

**FL** - Flansch / flange
**Form D** - Nut / groove, DIN EN 1092-1
**Form C** - Feder / tongue, DIN EN 1092-1
**Form B1** - glatte Dichtleiste / raised face (Rz50) DIN EN 1092-1
**Form B2** - glatte Dichtleiste / raised face (Rz12,5) DIN EN 1092-1




Einbaulängen / lengths in mm:

| DIN EN 1092-1 PN25 DN10-150 / PN40 DN10-400 | | | | | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | Anschweißenden / butt welding ends | | | | | | | | | Dichtleistenausführung / types of contact face | | | | | | Schrauben / screws DIN 931 | | | Dichtring / sealring DIN 2691 | |
| | Reihe 1 series 1 | | Reihe 2 series 2 | | | | | | | Nut / groove | | | Feder / tongue | | | | | | | |
| DN | d1 | s | d1 | s | b | k | h | d | D | di | da | f | di | da | f | Anzahl quantity | Gewinde thread | Länge length | di | da |
| 10 | 17,2 | 1,8 | 15,0 | 2,5 | 16 | 60 | 35 | 14 | 90 | 23 | 35 | 4,0 | 24 | 34 | 4,5 | 4 | M 12 | 45 | 24 | 34 |
| 15 | 21,3 | 2,0 | 20,0 | 2,5 | 16 | 65 | 38 | 14 | 95 | 28 | 40 | 4,0 | 29 | 39 | 4,5 | 4 | M 12 | 45 | 29 | 39 |
| 20 | 26,9 | 2,3 | 25,0 | 2,5 | 18 | 75 | 40 | 14 | 105 | 35 | 51 | 4,0 | 36 | 50 | 4,5 | 4 | M 12 | 50 | 36 | 50 |
| 25 | 33,7 | 2,6 | 32,0 | 3,0 | 18 | 85 | 40 | 14 | 115 | 42 | 58 | 4,0 | 43 | 57 | 4,5 | 4 | M 12 | 50 | 43 | 57 |
| 32 | 42,4 | 2,6 | 38,0 | 3,0 | 18 | 100 | 42 | 18 | 140 | 50 | 66 | 4,0 | 51 | 65 | 4,5 | 4 | M 16 | 55 | 51 | 65 |
| 40 | 48,3 | 2,6 | 45,0 | 3,0 | 18 | 110 | 45 | 18 | 150 | 60 | 76 | 4,0 | 61 | 75 | 4,5 | 4 | M 16 | 55 | 61 | 75 |
| 50 | 60,3 | 2,9 | 57,0 | 3,2 | 20 | 125 | 48 | 18 | 165 | 72 | 88 | 4,0 | 73 | 87 | 4,5 | 4 | M 16 | 60 | 73 | 87 |
| 65 | 76,1 | 2,9 | 76,1 | 3,6 | 22 | 145 | 52 | 18 | 185 | 94 | 110 | 4,0 | 95 | 109 | 4,5 | 8 | M 16 | 60 | 95 | 109 |
| 80 | 88,9 | 3,2 | 88,9 | 4,0 | 24 | 160 | 58 | 18 | 200 | 105 | 121 | 4,0 | 106 | 120 | 4,5 | 8 | M 16 | 65 | 106 | 120 |
| 100 | 114,3 | 3,6 | 108,0 | 4,0 | 24 | 190 | 65 | 22 | 235 | 128 | 150 | 4,5 | 129 | 149 | 5,0 | 8 | M 20 | 70 | 129 | 149 |
| 125 | 139,7 | 4,0 | 133,0 | 4,0 | 26 | 220 | 68 | 26 | 270 | 154 | 176 | 4,5 | 155 | 175 | 5,0 | 8 | M 24 | 80 | 155 | 175 |
| 150 | 168,3 | 4,5 | 159,0 | 4,5 | 28 | 250 | 75 | 26 | 300 | 182 | 204 | 4,5 | 183 | 203 | 5,0 | 8 | M 24 | 80 | 183 | 203 |
| 200 | 219,1 | 6,3 | | | 34 | 320 | 88 | 30 | 375 | 238 | 260 | 4,5 | 239 | 259 | 5,0 | 12 | M 27 | 100 | 239 | 259 |
| 250 | 273,0 | 7,1 | | | 38 | 385 | 105 | 33 | 450 | 291 | 313 | 4,5 | 292 | 312 | 5,0 | 12 | M 30 | 110 | 292 | 312 |
| 300 | 323,9 | 8,0 | | | 42 | 450 | 115 | 33 | 515 | 342 | 364 | 4,5 | 343 | 363 | 5,0 | 16 | M 30 | 120 | 343 | 363 |
| 350 | 355,6 | 8,8 | | | 46 | 510 | 125 | 36 | 580 | 394 | 422 | 5,0 | 395 | 421 | 5,5 | 16 | M 33 | 130 | 395 | 421 |
| 400 | 406,4 | 11,0 | | | 50 | 585 | 135 | 39 | 660 | 446 | 474 | 5,0 | 447 | 473 | 5,5 | 16 | M 36 | 140 | 447 | 473 |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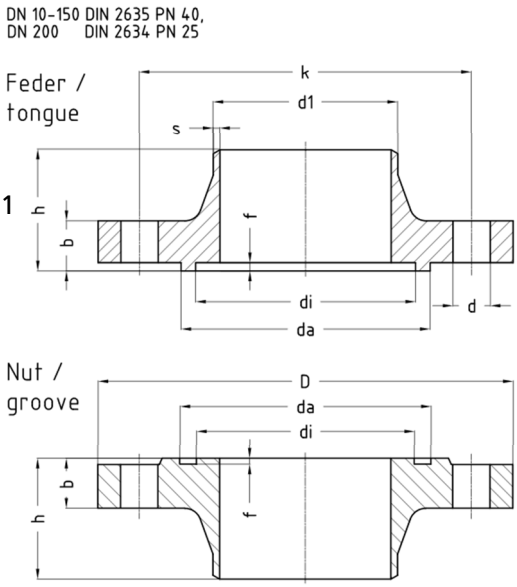
# DIN EN-FL

## Vorschweißflansche - DIN EN 1092-1
## Welding neck flanges - DIN EN 1092-1

**DIN EN-FL D**
**DIN EN-FL C**
**DIN EN-FL B1**
**DIN EN-FL B2**

**FL** - Flansch / flange
**Form D** - Nut / groove, DIN EN 1092-1
**Form C** - Feder / tongue, DIN EN 1092-1
**Form B1** - glatte Dichtleiste / raised face, (Rz50) DIN EN 1092-1
**Form B2** - glatte Dichtleiste / raised face, (Rz12,5) DIN EN 1092-1




Einbaulängen / lengths in mm:

| DIN EN 1092-1 PN25 DN200-500 | | | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | Anschweißenden / butt welding ends Reihe 1 series 1 | | | | | | | Dichtleistenausführung / types of contact face Nut / groove | | | Feder / tongue | | | Schrauben / screws DIN 931 | | | Dichtring / sealring DIN 2691 | |
| DN | d1 | s | b | k | h | d | D | di | da | f | di | da | f | Anzahl quantity | Gewinde thread | Länge length | di | da |
| 200 | 219,1 | 6,3 | 30 | 310 | 80 | 26 | 360 | 238 | 260 | 4,5 | 239 | 259 | 5,0 | 12 | M 24 | 90 | 239 | 259 |
| 250 | 273,0 | 7,1 | 32 | 370 | 88 | 30 | 425 | 291 | 313 | 4,5 | 292 | 312 | 5,0 | 12 | M 27 | 90 | 292 | 312 |
| 300 | 323,9 | 8,0 | 34 | 430 | 92 | 30 | 485 | 342 | 364 | 4,5 | 343 | 363 | 5,0 | 16 | M 27 | 100 | 343 | 363 |
| 350 | 355,6 | 8,0 | 38 | 490 | 100 | 33 | 555 | 394 | 422 | 5,0 | 395 | 421 | 5,5 | 16 | M 30 | 110 | 395 | 421 |
| 400 | 406,4 | 8,8 | 40 | 550 | 110 | 36 | 620 | 446 | 474 | 5,0 | 447 | 473 | 5,5 | 16 | M 33 | 120 | 447 | 473 |
| 500 | 508,0 | 10,0 | 44 | 660 | 125 | 36 | 730 | 548 | 576 | 5,0 | 549 | 575 | 5,5 | 20 | M 33 | 130 | 549 | 575 |

| DIN EN 1092-1 PN63 DN10-40 / PN100 DN10-40 | | | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| DN | d1 | s | b | k | h | d | D | di | da | F | di | da | f | Anzahl quantity | Gewinde thread | Länge length | di | Da |
| 10 | 17,2 | 2,0 | 20 | 70 | 45 | 14 | 100 | 23 | 35 | 4,0 | 24 | 34 | 4,5 | 4 | M 12 | 55 | 24 | 34 |
| 15 | 21,3 | 2,0 | 20 | 75 | 45 | 14 | 105 | 28 | 40 | 4,0 | 29 | 39 | 4,5 | 4 | M 12 | 55 | 29 | 39 |
| 20 | 26,9 | 2,6 | 22 | 90 | 48 | 18 | 130 | 35 | 51 | 4,0 | 36 | 50 | 4,5 | 4 | M 16 | 60 | 36 | 50 |
| 25 | 33,7 | 2,6 | 24 | 100 | 58 | 18 | 140 | 42 | 58 | 4,0 | 43 | 57 | 4,5 | 4 | M 16 | 65 | 43 | 57 |
| 32 | 42,4 | 2,9 | 24 | 110 | 60 | 22 | 155 | 50 | 66 | 4,0 | 51 | 65 | 4,5 | 4 | M 20 | 70 | 51 | 65 |
| 40 | 48,3 | 2,9 | 26 | 125 | 62 | 22 | 170 | 60 | 76 | 4,0 | 61 | 75 | 4,5 | 4 | M 20 | 70 | 61 | 75 |

| DIN EN 1092-1 PN63 DN50-125 | | | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| DN | d1 | S | b | k | h | d | D | di | da | f | di | da | F | Anzahl quantity | Gewinde thread | Länge length | di | da |
| 50 | 60,3 | 2,9 | 26 | 135 | 62 | 22 | 180 | 72 | 88 | 4,0 | 73 | 87 | 4,5 | 4 | M 20 | 75 | 73 | 87 |
| 65 | 76,1 | 3,2 | 26 | 160 | 68 | 22 | 205 | 94 | 110 | 4,0 | 95 | 109 | 4,5 | 8 | M 20 | 75 | 95 | 109 |
| 80 | 88,9 | 3,6 | 28 | 170 | 72 | 22 | 215 | 105 | 121 | 4,0 | 106 | 120 | 4,5 | 8 | M 20 | 75 | 106 | 120 |
| 100 | 114,3 | 4,0 | 30 | 200 | 78 | 26 | 250 | 128 | 150 | 4,5 | 129 | 149 | 5,0 | 8 | M 24 | 90 | 129 | 149 |
| 125 | 139,7 | 4,5 | 34 | 240 | 88 | 30 | 295 | 154 | 176 | 4,5 | 155 | 175 | 5,0 | 8 | M 27 | 100 | 155 | 175 |

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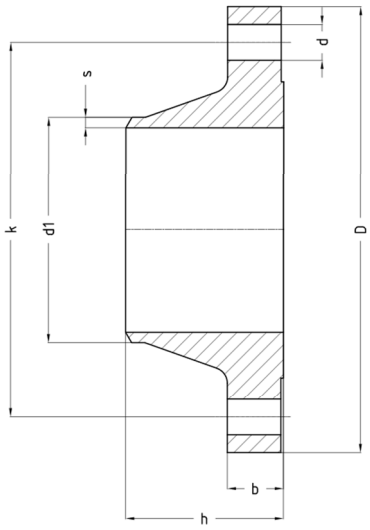
2013-1

# ANSI-FL

## Vorschweißflansche - ANSI B 16.5 glatte Dichtleiste
## Welding neck flanges - ANSI B 16.5 raised face

### ANSI-FL 150lbs RF
### ANSI-FL 300lbs RF
**FL** - Flansch / flange

Flächenbearbeitung mit großem und kleinem Vorsprung / Rücksprung /
Flächenbearbeitung mit großer und kleiner Feder / Nut nach ANSI B 16.5
Large and small male / female facings /
Large and small tongue / groove facings 150-2500lbs / sq. in see ANSI B 16.5




Einbaulängen / lengths in mm :

| Nominale size | | Anschweißenden gemäß: / butt welding ends acc. to: | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | ANSI | | ANSI-FL 150lbs RF / sq. in | | | | | Schrauben / screws DIN 931 | ANSI-FL 300lbs RF / sq. in | | | | | Schrauben / screws DIN 931 |
| DN | INCH | d1 | s | b | k | h | d | D | Anzahl quantity | b | k | h | d | D | Anzahl quantity |
| 15 | 1/2" | 21,3 | 2,8 | 11,2 | 60,5 | 47,8 | 15,7 | 88,9 | 4 | 14,2 | 66,5 | 52,3 | 15,7 | 95,2 | 4 |
| 20 | 3/4" | 26,7 | 2,9 | 12,7 | 69,9 | 52,3 | 15,7 | 98,6 | 4 | 15,7 | 82,5 | 57,1 | 19,0 | 117,3 | 4 |
| 25 | 1" | 33,4 | 3,4 | 14,2 | 79,2 | 55,6 | 15,7 | 108,0 | 4 | 17,5 | 88,9 | 62,0 | 19,0 | 123,9 | 4 |
| 32 | 1 1/4" | 42,2 | 3,6 | 15,7 | 88,9 | 57,2 | 15,7 | 117,3 | 4 | 19,0 | 98,5 | 65,0 | 19,0 | 133,3 | 4 |
| 40 | 1 1/2" | 48,3 | 3,7 | 17,5 | 98,6 | 62,0 | 15,7 | 127,0 | 4 | 20,6 | 114,3 | 68,3 | 22,3 | 155,4 | 4 |
| 50 | 2" | 60,3 | 3,9 | 19,1 | 120,7 | 63,5 | 19,1 | 152,4 | 4 | 22,3 | 127,0 | 69,8 | 19,0 | 165,1 | 6 |
| 65 | 2 1/2" | 73,0 | 5,2 | 22,4 | 139,7 | 69,9 | 19,1 | 177,8 | 4 | 25,4 | 149,3 | 76,2 | 22,3 | 190,5 | 8 |
| 80 | 3" | 88,9 | 5,5 | 23,9 | 152,4 | 69,9 | 19,1 | 190,5 | 4 | 28,4 | 168,1 | 79,2 | 22,3 | 209,5 | 8 |
| 100 | 4" | 114,3 | 6,0 | 23,9 | 190,5 | 76,2 | 19,1 | 228,6 | 8 | 31,7 | 200,1 | 85,8 | 22,3 | 254,0 | 8 |
| 125 | 5" | 141,3 | 6,6 | 23,9 | 215,9 | 88,9 | 22,4 | 254,0 | 8 | 35,0 | 234,9 | 98,5 | 22,3 | 279,4 | 8 |
| 150 | 6" | 168,3 | 7,1 | 25,4 | 241,3 | 88,9 | 22,4 | 279,4 | 8 | 36,5 | 269,7 | 98,5 | 22,3 | 317,5 | 12 |
| 200 | 8" | 219,1 | 8,2 | 28,4 | 298,5 | 101,6 | 22,4 | 342,9 | 8 | 41,1 | 330,2 | 111,2 | 25,4 | 381,0 | 12 |
| 250 | 10" | 273,0 | 9,3 | 30,2 | 362,0 | 101,6 | 25,4 | 406,4 | 12 | 47,7 | 387,3 | 117,3 | 28,4 | 444,5 | 16 |
| 300 | 12" | 323,8 | 10,3 | 31,8 | 431,8 | 114,3 | 25,4 | 482,6 | 12 | 50,8 | 450,8 | 130,0 | 31,7 | 520,7 | 16 |
| 350 | 14" | 355,6 | 11,1 | 35,1 | 476,3 | 127,0 | 28,4 | 533,4 | 12 | 53,8 | 514,3 | 142,7 | 31,7 | 584,2 | 20 |
| 400 | 16" | 406,4 | 12,7 | 36,6 | 539,8 | 127,0 | 28,4 | 596,9 | 16 | 57,1 | 571,5 | 146,0 | 35,0 | 647,7 | 20 |

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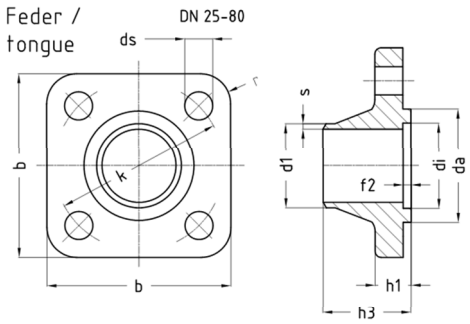
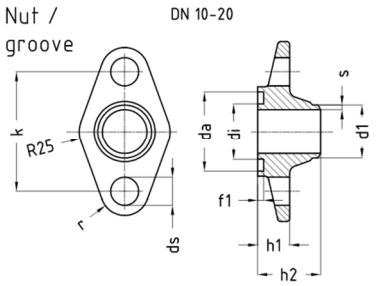
# AWP-FL

## Vorschweißflansche - AWP
## Welding neck flanges - AWP

**AWP-FL N**
**AWP-FL F**
**FL** - Flansch / flange
**N** - Nut / groove
**F** - Feder / tongue




Einbaulängen / lengths in mm:

| AWP-FL PN25 DN10-20 / PN40 DN25-80 | | | | | | | | | | | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | Anschweißenden / butt welding ends | | | | | | | | | | | Dichtleistenausführung / types of contact face | | | | | | | | Schrauben / screws DIN 931 | | | Dichtring / sealring DIN 2691 | |
| | Reihe 1 / series 1 | | Reihe 2 / series 2 | | ANSI | | | | | | | Nut / groove | | | | Feder / tongue | | | | Anzahl/ quantity | Gewinde/ thread | Länge/ length | | |
| **DN** | **d1** | **s** | **d1** | **s** | **d1** | **s** | **b** | **k** | **r** | **h1** | **ds** | **di** | **da** | **f1** | **h2** | **di** | **da** | **f2** | **h3** | | | | **di** | **da** |
| **10** | 17,2 | 1,8 | 15,0 | 2,5 | 17,1 | 2,3 | 88 | 60 | 13 | 16 | 14 | 28 | 40 | 3 | 31,5 | 29 | 39 | 4 | 32,0 | 2 | M 12 | 45 | 29 | 39 |
| **15** | 21,3 | 2,0 | 20,0 | 2,5 | 21,3 | 2,8 | 88 | 60 | 13 | 16 | 14 | 28 | 40 | 3 | 31,5 | 29 | 39 | 4 | 32,0 | 2 | M 12 | 45 | 29 | 39 |
| **20** | 26,9 | 2,3 | 25,0 | 2,5 | 26,7 | 2,9 | 88 | 60 | 13 | 16 | 14 | 28 | 40 | 3 | 31,5 | 29 | 39 | 4 | 32,0 | 2 | M 12 | 45 | 29 | 39 |
| **25** | 33,7 | 2,6 | 32,0 | 3,0 | 33,4 | 3,4 | 92 | 85 | 15 | 18 | 14 | 42 | 58 | 3 | 44,0 | 43 | 57 | 4 | 44,0 | 4 | M 12 | 50 | 43 | 57 |
| **32** | 42,4 | 2,6 | 38,0 | 3,0 | 42,2 | 3,6 | 92 | 85 | 15 | 18 | 14 | 42 | 58 | 3 | 44,0 | 43 | 57 | 4 | 44,0 | 4 | M 12 | 50 | 43 | 57 |
| **40** | 48,3 | 2,6 | 45,0 | 3,0 | 48,3 | 3,7 | 92 | 85 | 15 | 18 | 14 | 42 | 58 | 3 | 38,5 | 43 | 57 | 4 | 38,5 | 4 | M 12 | 50 | 43 | 57 |
| **50** | 60,3 | 2,9 | 57,0 | 3,2 | 60,3 | 3,9 | 132 | 135 | 20 | 28 | 18 | 84 | 96 | 3 | 43,0 | 85 | 95 | 4 | 43,0 | 4 | M 16 | 75 | A85x95* | |
| **65** | 76,1 | 2,9 | 76,1 | 3,6 | 73,0 | 5,2 | 132 | 135 | 20 | 28 | 18 | 84 | 96 | 3 | 53,5 | 85 | 95 | 4 | 53,5 | 4 | M 16 | 75 | A85x95* | |
| **80** | 88,9 | 3,2 | 88,9 | 4,0 | 88,9 | 5,5 | 132 | 135 | 20 | 28 | 18 | 84 | 96 | 3 | 53,5 | 85 | 95 | 4 | 53,5 | 4 | M 16 | 75 | A85x95* | |

* = nach DIN 7603 / acc. to DIN 7603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# Anhang / appendix

## Rechtlicher Hinweis
## Legal Note

### Rechtlicher Hinweis
GEA AWP Armaturen sind gemäß den GEA AWP Betriebsvorschriften zu handhaben.
Die in den Betriebsvorschriften genannten Sicherheitshinweise sind zu beachten.
Es liegt eine Gefahrenanalyse für GEA AWP Armaturen vor.

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Dabei sind die Hinweise zum Gebrauch persönlicher Schutzausrüstung (PSA) zu beachten.
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Weitere Informationen zu unseren Konformitätserklärungen, Betriebsvorschriften, Berechnungsprogramm und den allgemeinen Geschäftsbedingungen finden Sie auf unserer Internetseite www.awpvalves.com im Register Tools/Downloads.

Es gelten unsere allgemeinen Geschäftsbedingungen.

### Legal Note
GEA AWP valves should be handled in accordance with the GEA AWP operating instructions.
The safety notes mentioned inside the operating instructions have to be considered.
A risk analysis for GEA AWP valves is available.

To handle GEA AWP valves is permitted for authorized personnel only.
The advice to use personnel protective equipment (PPE) has to be considered.
GEA AWP valves have to be used as intended.

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Our standard business terms are valid.



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GEA Refrigeration Technologies

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