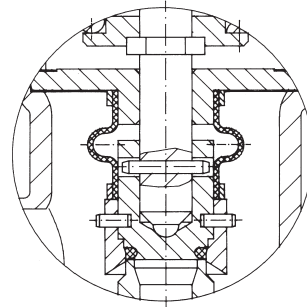
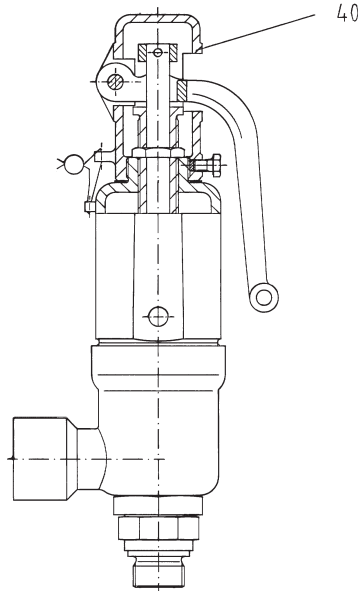


**Type
460**

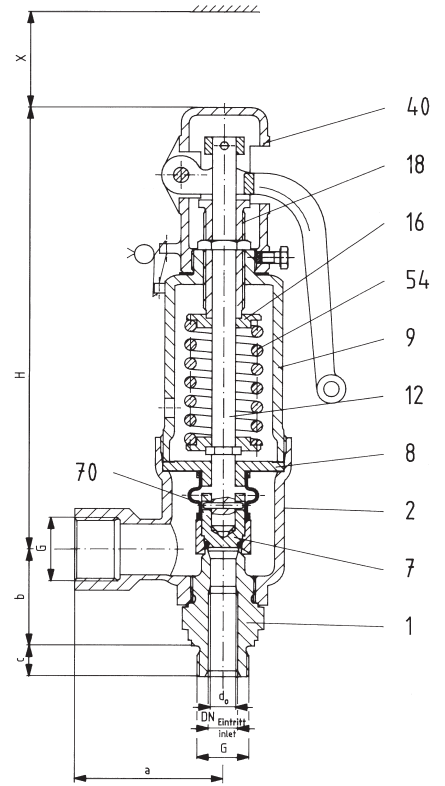
Sicherheitsventil nach TRD 721 Abschnitt 6 Safety Valve acc. to TRD 721 section 6

für Wasserheizungsanlagen bis 120 °C nach DIN 4751 Teil 2
for Heating Plants up to 120 °C acc. to DIN 4751 part 2



Elastomer-Faltenbalg
zum Schutz der gleitenden und beweglichen Teile sowie der Feder,
Teller mit metallisch abgestützter
O-Ring-Abdichtung
Elastomer bellows
for protection of sliding and moving parts
as well as the spring,
metallic supported O-ring disc

Type 460
mit Anlüftung und Kontrollbohrung
with lifting device and inspection hole



Zulassungen/Approvals

| | Dämpfe/Gase/Heizung D/G/H Steam/Gases/Heating S/G/H |
|---|--|
| TÜV (TRD 721) Listennr./Approval number Ausflußziffer/Coefficient of discharge α_d Öffnungscharakteristik/Opening characteristic | 909 DN 15: 0,81 / DN 20: 0,79 Normal/Standard |

| Eintrittskörperwerkstoff Body material | | Temperatureinsatzgrenze °C Temperature range °F | Artikelnummer Article Number | | |
|--|-------------------------------|--|---------------------------------|---------|-------|
| DIN EN | | bis to | DN/d _o | | |
| Werkstoffbezeichnung Material Designation | Werkstoff-Nr. Material No. | | 15/13 | 20/17,5 | |
| X14 CrMoS 17 | 1.4104 | +120/+248 | 4603 | .7853 | .7863 |

Bei Bestellung bitte Artikelnummer entsprechend Bestellbeispiel im Teil 1 und Ansprechdruck angeben.

Please state article number corresponding to the example for ordering in section 1 and set pressure.

Änderungen behalten wir uns vor.

Modifications reserved.

Abmessungen, Druckbereiche, Gewichte / Dimensions, Pressure Ranges, Weights

| | | | | | | | | | | | | | | |
|------------------------------|------------------------------|----------------|-----------------|-----|-------|--|--|--|--|--|--|--|--|--|
| Nennweite, Ventilgröße | Nominal Diameter, Valve size | DN | - | 15 | 20 | | | | | | | | | |
| Eintritt Zapfen | Inlet male | G | - | 3/4 | 1 | | | | | | | | | |
| Austritt Muffe | Outlet female | G | - | 1 | 1 1/2 | | | | | | | | | |
| Max. Ansprechdruck | Max. Set pressure | p | bar/bar g | 10 | 10 | | | | | | | | | |
| Engster Strömungsquerschnitt | Flow area | A ₀ | mm ² | 133 | 241 | | | | | | | | | |
| Engster Strömungsdurchmesser | Flow diameter | d ₀ | mm | 13 | 17,5 | | | | | | | | | |
| Schenkellänge | Centre to face dim. | a | mm | 75 | 75 | | | | | | | | | |
| | | b | mm | 50 | 54 | | | | | | | | | |
| Zapfenlänge | Length | c | mm | 16 | 18 | | | | | | | | | |
| Bauhöhe | Height | H | mm | 228 | 225 | | | | | | | | | |
| Deckenfreiheit | Height clearance | x | mm | 150 | 150 | | | | | | | | | |
| Gewicht | Weight | - | kg | 2,6 | 3 | | | | | | | | | |

Werkstoffe / Materials

| Pos. Item | Bauteile | Parts | 4603 Chromstahl Chrome steel |
|-----------|--------------------------|---------------------------|---|
| 1 | Eintrittskörper | Body (Base) | X 14 Cr Mo S 17 1.4104 |
| 2 | Austrittsgehäuse | Outlet chamber | GGG-40.3 0.7043 |
| 7 | O-Ring-Teller | O-ring-disc | X 39 Cr Mo 17-1 / EPDM 1.4122/EPDM |
| 8 | Führungsscheibe | Guide | X 14 Cr Mo S 17 tenifer 1.4104 tenifer |
| 9 | Federhaube | Bonnet | GGG-40.3 0.7043 |
| 12 | Spindel | Spindle | X 20 Cr 13 1.4021 |
| 16 | Federteller | Spring plate | 11 S Mn Pb 30 1.0718 |
| 18 | Druckschraube mit Buchse | Adjusting screw with bush | X 14 Cr Mo S 17 1.4104 PTFE PTFE |
| 54 | Feder | Spring | Federstahldraht C/Spring steel wire C X 10 Cr Ni 18-8 1.1200/1.4310 |
| 40 | Anlüftung H 3 | Lifting device H 3 | GGG-40 0.7040 |
| 70 | Faltenbalg | Bellows | EPDM EPDM |

| Leistungstabelle | | | Discharge Capacities | |
|---------------------------------|-------------------|--|---|-----------|
| Berechnung entsprechend TRD 721 | | | Calculation of mass flow according to TRD 721 | |
| p | Ansprechüberdruck | | Set pressure | |
| I | Sattdampf | | Sat. steam | |
| II | Wärmeleistung | | Heat capacity | |
| | | | | bar/bar g |
| | | | | kg/h |
| | | | | kW |

| DN | 15 | | 20 | | | | | | | | | | | |
|------------------------|-----|------|------|-----|--|--|--|--|--|--|--|--|--|--|
| d ₀ (mm) | 13 | | 17,5 | | | | | | | | | | | |
| p | I | II | I | II | | | | | | | | | | |
| 1.0 | 114 | 72.0 | 192 | 117 | | | | | | | | | | |
| 1.5 | 153 | 92.7 | 254 | 154 | | | | | | | | | | |
| 2.0 | 181 | 110 | 316 | 190 | | | | | | | | | | |
| 2.5 | 215 | 128 | 377 | 223 | | | | | | | | | | |
| 3.0 | 245 | 145 | 433 | 256 | | | | | | | | | | |
| 3.5 | 276 | 162 | 487 | 286 | | | | | | | | | | |
| 4.0 | 306 | 178 | 540 | 315 | | | | | | | | | | |
| 4.5 | 336 | 195 | 594 | 344 | | | | | | | | | | |
| 5.0 | 366 | 211 | 647 | 373 | | | | | | | | | | |
| 5.5 | 396 | 227 | 700 | 402 | | | | | | | | | | |
| 6.0 | 426 | 243 | 753 | 430 | | | | | | | | | | |
| 7.0 | 486 | 275 | 860 | 486 | | | | | | | | | | |
| 8.0 | 546 | 306 | 965 | 541 | | | | | | | | | | |
| 9.0 | 606 | 337 | 1070 | 595 | | | | | | | | | | |
| 10.0 | 666 | 367 | 1170 | 649 | | | | | | | | | | |