

# **Itahydraulic**

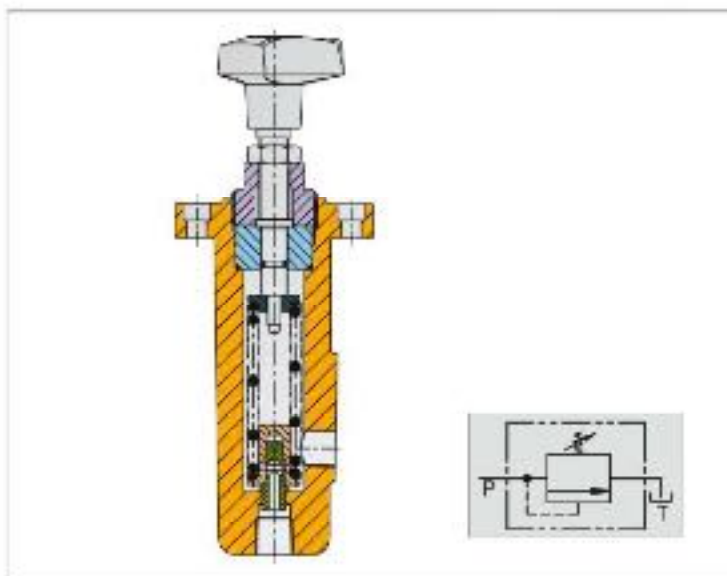
Power Technology



## ***Pressure Control Valves***

*Relief • Single • Multi Pressure • Remote • Solenoid • Manual*

## Remote Control Relief Valves Series C175



REMOTE CONTROL RELIEF VALVE **C** **175** **C** **20** DESIGN NUMBER

Model - 175

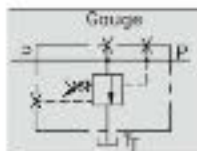
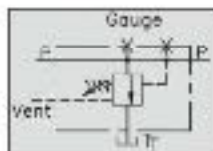
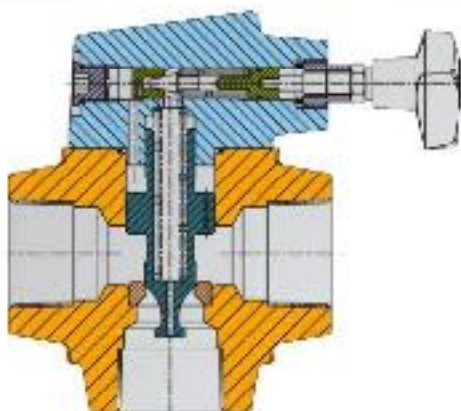
PRESSURE RANGE  
B - 75 - 1000 PSI  
C - 500 - 2000 PSI  
F - 1000 - 3000 PSI

NOTE: 1/4" NPT PORTS

### Ratings

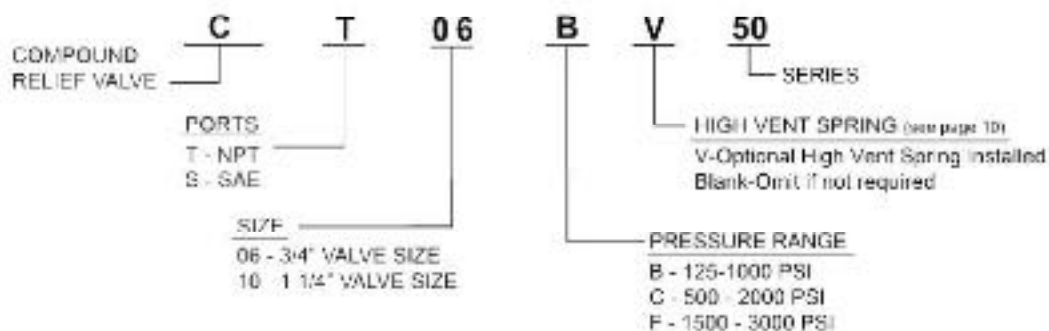
| Model  | Pressure range (PSI) | Rated Flow (US GPM) |
|--------|----------------------|---------------------|
| C175-B | 75 - 1000 PSI        | 5 US GPM            |
| C175-C | 500 - 2000 PSI       |                     |
| C175-F | 1500 - 3000 PSI      |                     |

## Relief Valves CS & CT 06, 10 sizes



- Balanced Piston Type
- Three Pressure Ranges Available
- Gauge Port Standard

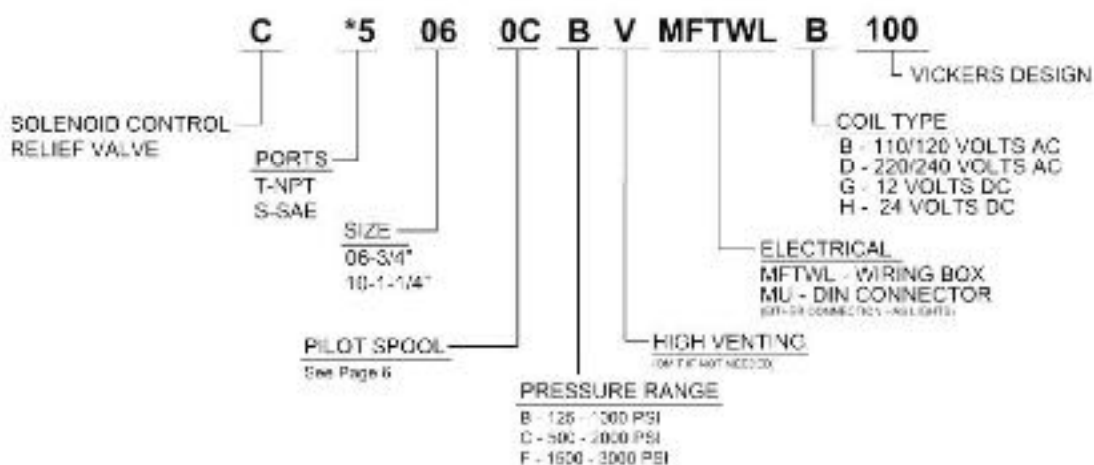
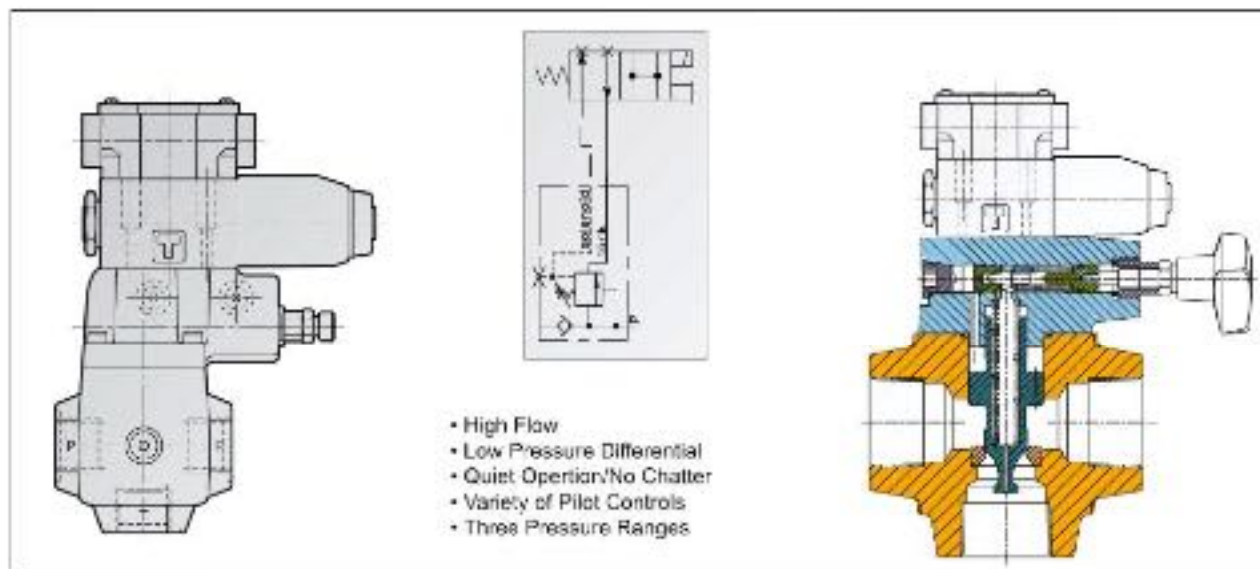
- High Flow
- Gauge Port Standard
- Low Pressure Differential
- Quiet Operation/No Chatter
- Optional Vent & Remote Port Connection



### Ratings

| Model | Pressure Ranges (PSI) | Rated Flow (US GPM)<br>WFC* 06 | Rated Flow (US GPM)<br>WFC* 10 |
|-------|-----------------------|--------------------------------|--------------------------------|
| C*5-B | 125-1000 PSI          | 60 US GPM                      | 120 US GPM                     |
| C*5-C | 500-2000 PSI          |                                |                                |
| C*5-F | 1500-3000 PSI         |                                |                                |

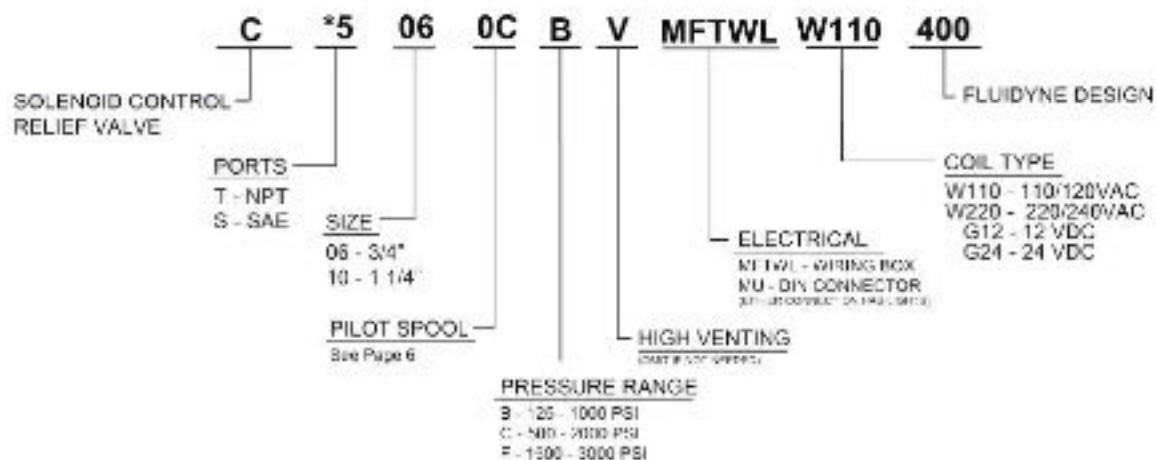
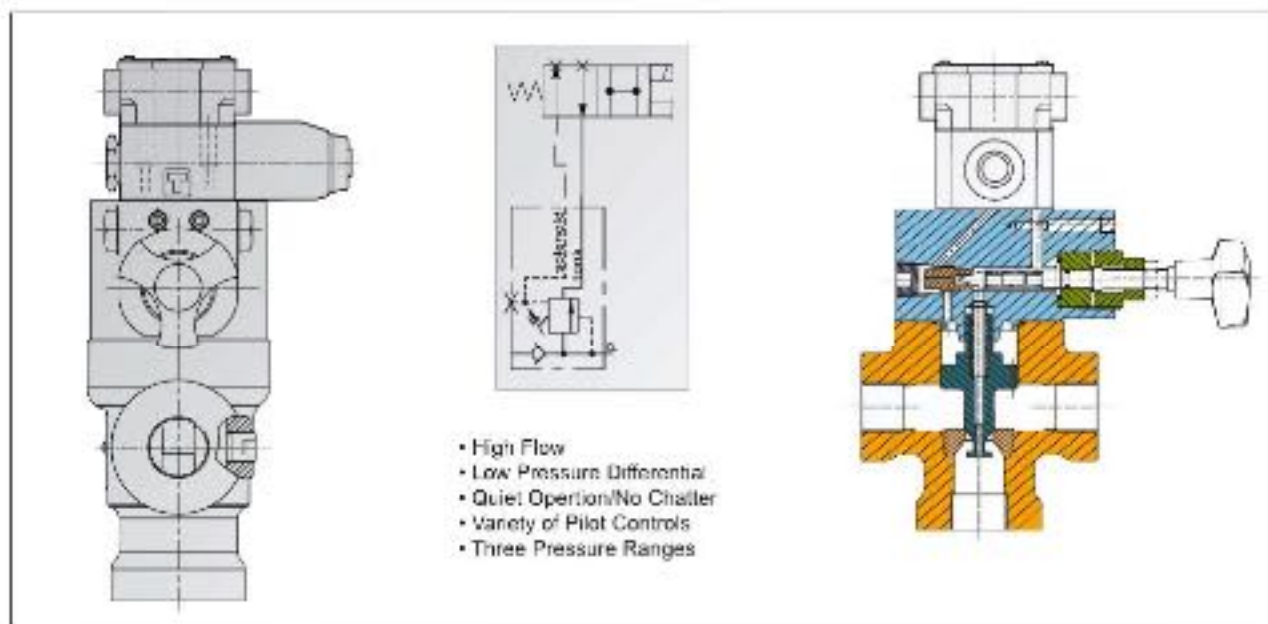
## Solenoid Pilot Operated Relief Valves CT5,CS5



### Ratings

| Model | Pressure Ranges             | Rated Flow 06-3/4"    | Rated Flow 10-1-1/4" |
|-------|-----------------------------|-----------------------|----------------------|
| C*5-B | 125-1000 PSI (7-69 bar)     | 60 US GPM (227.4 LPM) | 120 US GPM (454 LPM) |
| C*5-C | 500-2000 PSI (34-138 bar)   |                       |                      |
| C*5-F | 1500-3000 PSI (103-207 bar) |                       |                      |

## Solenoid Pilot Operated Relief Valves CT5, CS5



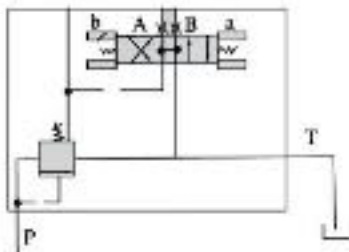
### Ratings

| Model | Pressure Ranges             | Rated Flow 06-3/4"    | Rated Flow 10-1-1/4" |
|-------|-----------------------------|-----------------------|----------------------|
| C*5-B | 125-1000 PSI (7-69 bar)     | 60 US GPM (227.4 LPM) | 120 US GPM (454 LPM) |
| C*5-C | 500-2000 PSI (34-138 bar)   |                       |                      |
| C*5-F | 1500-3000 PSI (103-207 bar) |                       |                      |

## Solenoid Pilot Operated Relief Valves CT5,CS5

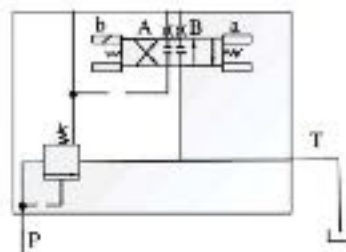
### Model C\*5-\*\*-0C Pilot Valve (DG4V3-0C)

|                        |                        |
|------------------------|------------------------|
| Solenoid "A" energized | Control connection "A" |
| Solenoid "B" energized | Control connection "B" |
| Solenoid de-energized  | Valve is Vented        |



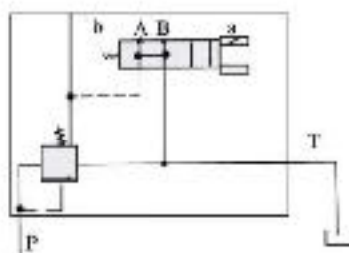
### Model C\*5-\*\*-2C Pilot Valve (DG4V3-2C)

|                        |                        |
|------------------------|------------------------|
| Solenoid "A" energized | Control connection "A" |
| Solenoid "B" energized | Control connection "B" |
| Solenoid de-energized  | Main Body Adjustment   |



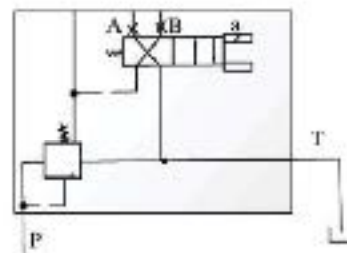
### Model C\*5-\*\*-0A Pilot Valve (DG4V3-0BL)

|                        |                      |
|------------------------|----------------------|
| Solenoid "A" energized | Main Body Adjustment |
| Solenoid de-energized  | Valve is Vented      |



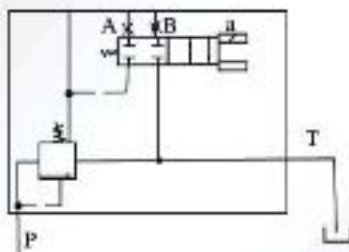
### Model C\*5-\*\*-1A Pilot Valve (DG4V3-2AL)

|                        |                        |
|------------------------|------------------------|
| Solenoid "A" energized | Control connection "A" |
| Solenoid de-energized  | Control connection "B" |



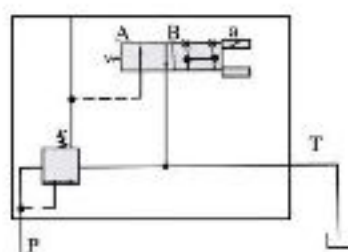
### Model C\*5-\*\*-2A Pilot Valve (DG4V3-2BL)

|                        |                        |
|------------------------|------------------------|
| Solenoid "A" energized | Control Connection "A" |
| Solenoid de-energized  | Main Body Adjustment   |



### Model C\*5-\*\*-0F Pilot Valve (DG4V3-0FL)

|                        |                      |
|------------------------|----------------------|
| Solenoid "A" energized | Valve is vented      |
| Solenoid de-energized  | Main Body Adjustment |

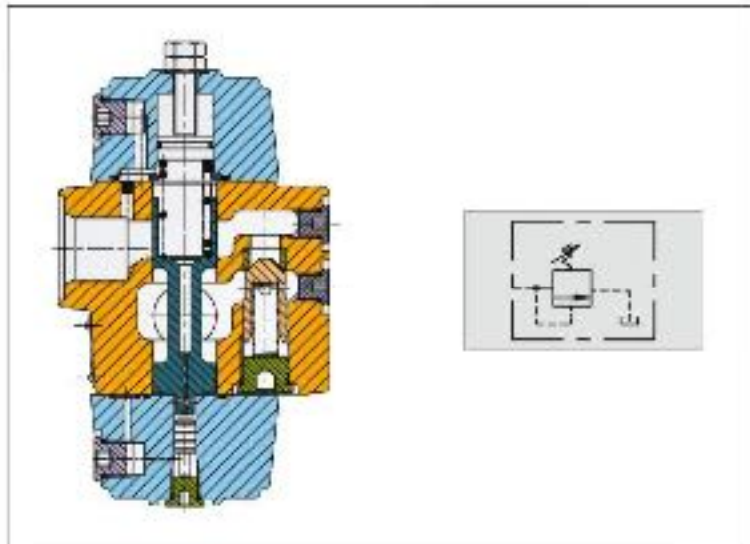


## Press. Control Valves RS/T.RCS/T. 06 & 10 SIZES

### IN-LINE PRESSURE CONTROL VALVE

Multiple Configurable Functionality

- Relief Valve
- Sequence Valve
- Counterbalance Valve
- Unloading Valve



**R (C) S 06 B 1 30**

**VALVE TYPE**  
R – Pressure control valve

**INTEGRAL CHECK VALVE**  
C – Reverse free flow check (omit if not required)

**CONNECTIONS**  
S – SAE straight thread  
T – NPTF thread

**VALVE SIZE**  
06 – 3/4" pipe or 1.0625-12 UN-2B straight thread (0.750 tubing)  
10 – 1 1/4" pipe or 1.6250-12 UN-2B straight thread (1.250 tubing)

**DESIGN NUMBER**  
Subject to change. Installation dimensions same for designs 30 through 38.

**VALVE APPLICATION TYPE\***

- 1 – Internal drain directly operated
- 2 – External drain directly operated
- 3 – External drain remotely operated
- 4 – Internal drain remotely operated

\* Valve function

- 1 - Back pressure/Counterbalance
- 2 - Sequence valve
- 3 - Remote Sequence
- 4 - Remote Unloading/Counterbalance

See next page for hydraulic configuration

**PRESSURE RANGE**

A – 5.2 to 17.2 bar (80 to 250 psi)  
B – 8.5 to 35 bar (125 to 500 psi)  
D – 17.2 to 70 bar (250 to 1000 psi)  
F – 35 to 140 bar (475 to 2000 psi)

### Ratings

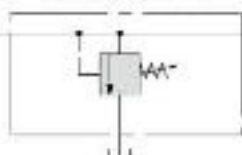
|                                 |                      |
|---------------------------------|----------------------|
| <b>Rated Pressure (Maximum)</b> | 210 bar (3000 psi)   |
| <b>Rated Capacity (Maximum)</b> |                      |
| R*-06                           | 114 l/min (30 USgpm) |
| R*-10                           | 284 l/min (75 USgpm) |

**Press. Control Valves RS/T,RCS/T, 06 & 10 SIZES**

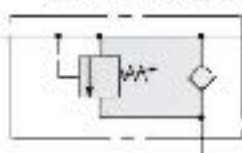
**Back Pressure and Counter Balance Valve  
Internally Operated - Internal Drain**

Code 1

Back Pressure RS/T



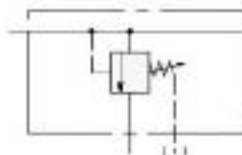
Counterbalance RCS/T



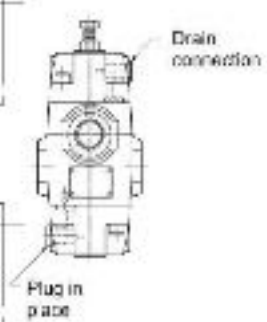
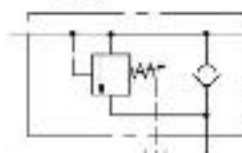
**Sequence Valve  
Internally Operated - External Drain**

Code 2

Sequence RS/T



RCS/T



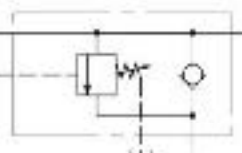
**Sequence Valve  
Remote Control Operated - External Drain**

Code 3

RS/T



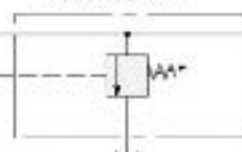
RCS/T



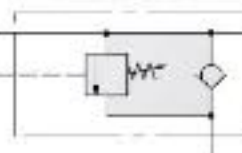
**Unloading and Counterbalance Valve  
Remote Control Operated - Internal Drain**

Code 4

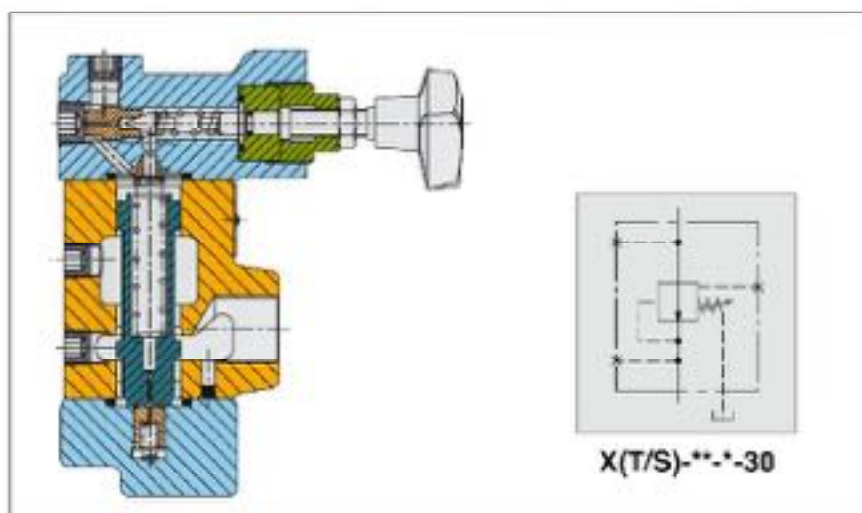
Unloading RS/T



Counterbalance RCS/T



## Pressure Reducing Valve XS/T, 06/10 SIZES



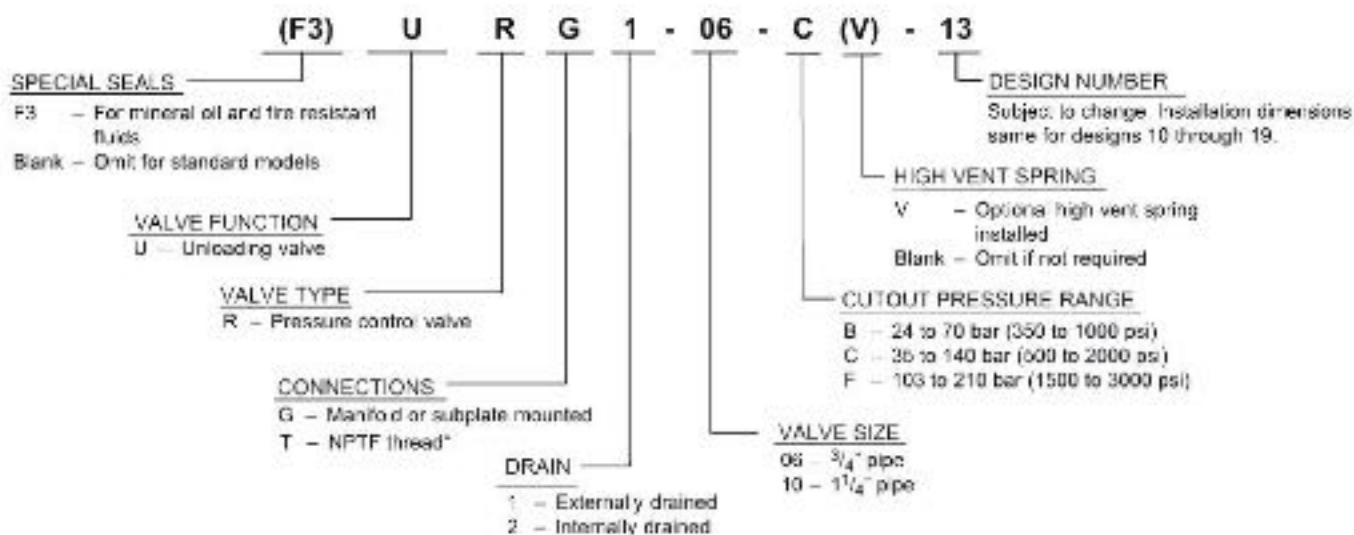
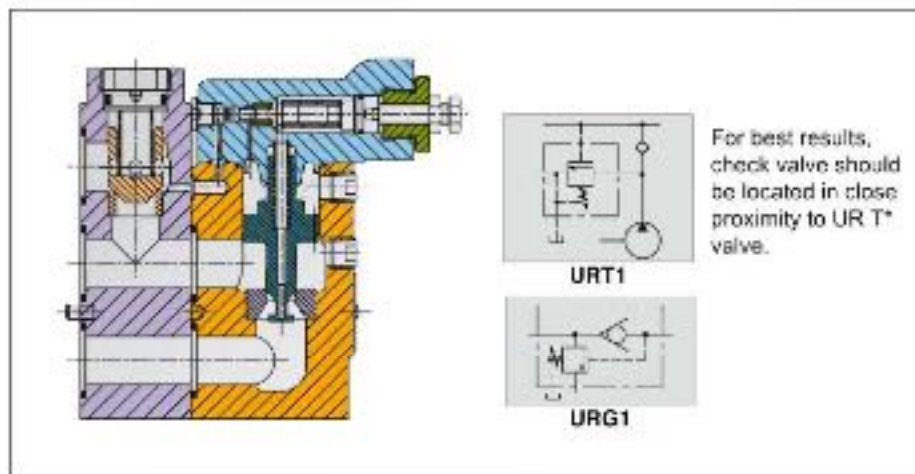
|          |          |                 |          |           |                                                                           |
|----------|----------|-----------------|----------|-----------|---------------------------------------------------------------------------|
| <b>X</b> | <b>*</b> | <b>- 06 - 3</b> | <b>B</b> | <b>30</b> |                                                                           |
|          |          |                 |          |           | <b>DESIGN NUMBER</b>                                                      |
|          |          |                 |          |           | Subject to change. Installation dimension same for designs 30 through 39. |
|          |          |                 |          |           | <b>MAXIMUM RATED FLOW CAPACITY</b>                                        |
|          |          |                 |          |           | <b>*B - Size      Flow l/min (USgpm)</b>                                  |
|          |          |                 |          |           | 06      75 (20)                                                           |
|          |          |                 |          |           | 10      189 (50)                                                          |
|          |          |                 |          |           | <b>F - Size      Flow l/min (USgpm)</b>                                   |
|          |          |                 |          |           | 06      114 (30)                                                          |
|          |          |                 |          |           | 10      284 (75)                                                          |
|          |          |                 |          |           | <b>MAXIMUM ADJUSTABLE PRESSURE</b>                                        |
|          |          |                 |          |           | 1 - 7-70 bar (100 - 1000 psi)                                             |
|          |          |                 |          |           | 2 - 7-140 bar (100 - 2000 psi)                                            |
|          |          |                 |          |           | *3 - 7-210 bar (100 - 2850 psi)                                           |

\*Preferred Valve Options

### Ratings

|                                 |                             |
|---------------------------------|-----------------------------|
| <b>Rated Capacity (Maximum)</b> | <b>189 l/min (50 USgpm)</b> |
| <b>Inlet Pressure (Maximum)</b> | <b>210 bar (3000 psi)</b>   |

## Unloading Relief Valves URG, URT<sup>+</sup> - 06/10



## Pressure relief valve, direct operated, Type DBD

Nominal sizes 6 to 30

Series 1X

Maximum operating pressure 630 bar

Maximum flow 330 L/min



### Contents

#### Description

Features

Ordering details

Function, section, symbol

Technical data

Characteristic curves

Unit dimensions

Design tested pressure relief valves

#### Page

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4

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### Features

- As cartridge valve (cartridge)
- For threaded connections
- for manifold mounting
- 3 pressure adjustment elements, optional:
  - Grub screw with hexagon and protective cap
  - Rotary knob / hand lever
  - Lockable rotary knob

#### Note:

**Design tested pressure relief valve**

**Type DBD../..B, series 1X (characteristic curves, ordering details) see page 8.**

## Ordering details

Pressure relief valve, direct operated

|     |  |  |  |     |  |   |
|-----|--|--|--|-----|--|---|
| DBD |  |  |  | 1X/ |  | * |
|-----|--|--|--|-----|--|---|

### Adjustment element

|                                            | Nominal size |   |    |    |    |    |    |     |
|--------------------------------------------|--------------|---|----|----|----|----|----|-----|
|                                            | 6            | 8 | 10 | 15 | 20 | 25 | 30 |     |
| Grub screw with hexagon and protective cap | ●            | ● | ●  | ●  | ●  | ●  | ●  | = S |
| Rotary knob <sup>1)</sup>                  | ●            | ● | ●  | ●  | ●  | —  | —  | = H |
| Hand wheel <sup>2)</sup>                   | —            | — | —  | —  | —  | ●  | ●  | = H |
| Lockable rotary knob <sup>1, 3)</sup>      | ●            | ● | ●  | ●  | ●  | —  | —  | = A |

<sup>1)</sup> With sizes 15 and 20 only available for pressure stages 25, 50 or 100 bar.

<sup>2)</sup> Only available for pressure stages 25, 50 or 100 bar.

<sup>3)</sup> Key with Material no. 00008158 is included within the scope of supply.

### Nominal size

|              | = 6  | = 8  | = 10 | = 15 | = 20 | = 25   | = 30   | e. g. |
|--------------|------|------|------|------|------|--------|--------|-------|
| (connection) | G1/4 | G3/8 | G1/2 | G3/4 | G1   | G1 1/4 | G1 1/2 | = 10  |

### Type of connection

|                                |   |   |   |   |   |   |   |     |
|--------------------------------|---|---|---|---|---|---|---|-----|
| As cartridge valve (cartridge) | ● | — | ● | — | ● | — | ● | = K |
| For threaded connections       | ● | ● | ● | ● | ● | ● | ● | = G |
| For manifold mounting          | ● | — | ● | — | ● | — | ● | = P |

Series 10 to 19

(10 to 19: unchanged installation and connection dimensions)

= 1X

### Pressure stage

|                                |   |   |   |   |   |   |   |       |
|--------------------------------|---|---|---|---|---|---|---|-------|
| Pressure setting up to 25 bar  | ● | ● | ● | ● | ● | ● | ● | = 25  |
| Pressure setting up to 50 bar  | ● | ● | ● | ● | ● | ● | ● | = 50  |
| Pressure setting up to 100 bar | ● | ● | ● | ● | ● | ● | ● | = 100 |
| Pressure setting up to 200 bar | ● | ● | ● | ● | ● | ● | ● | = 200 |
| Pressure setting up to 315 bar | ● | ● | ● | ● | ● | ● | ● | = 315 |
| Pressure setting up to 400 bar | ● | ● | ● | ● | ● | — | — | = 400 |
| Pressure setting up to 630 bar | — | — | ● | — | — | — | — | = 630 |

NBR seals

= No code

FPM seals

= V

(other seals on request)

### ⚠ Attention!

The compatibility of the seals and pressure fluid has to be taken into account!

Further details in clear text

● = available

## Function, section, symbol

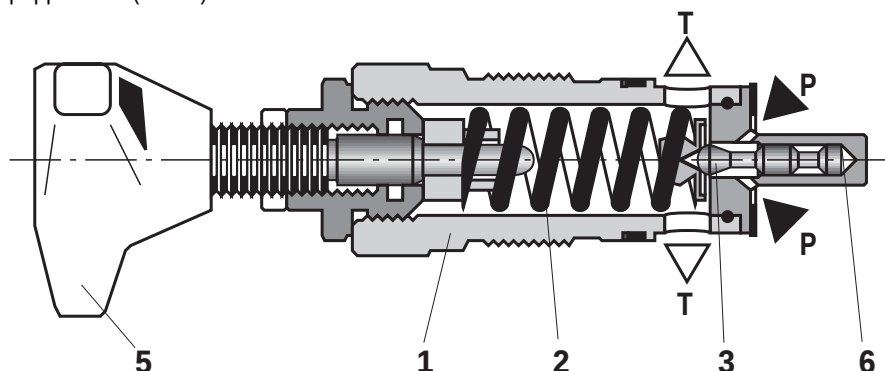
The DBD pressure relief valves are direct operated poppet valves.

They are used to limit the pressure in a hydraulic system.

The valves mainly consist of sleeve (1), spring (2), poppet with damping spool (3) (pressure stages 25 to 400 bar) or ball (4) (pressure stage 630 bar) and adjustment element (5). The setting of the system pressure is infinitely variable via the adjustment element (5). The spring (2) pushes the poppet (3) onto the seat. The P channel is connected to the system. The pressure present in the system is applied to the poppet area (or ball).

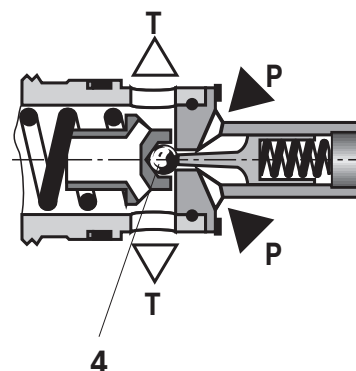
If the pressure in channel P rises above the value set at the spring (2), the poppet (3) or ball (4) opens against the spring (2). Now pressure fluid flows from channel P into channel T. The stroke of the poppet (3) is limited by a pin (6).

In order to maintain a good pressure settings over the entire pressure range the pressure range is split into 7 pressure stages. One pressure stage corresponds to a certain spring for a maximum operating pressure which may be set with it.



**Type DBDH..K 1X/...**

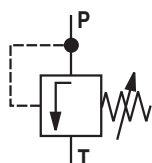
Pressure stage 25 to 400 bar (poppet seat valve)



**Type DBDH 10 K1X/...**

Pressure stage 630 bar  
(ball seat valve, only size 10)

### Symbol



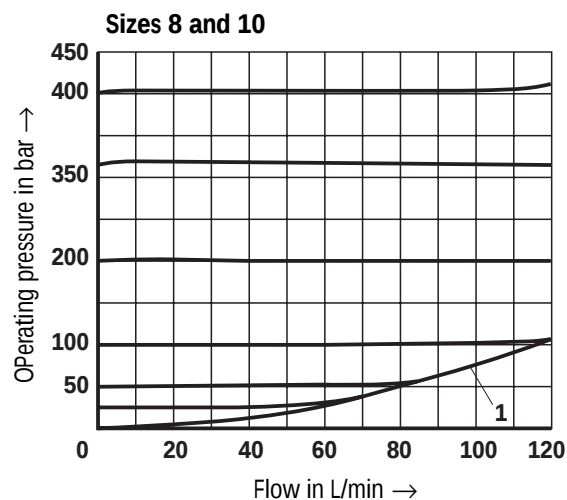
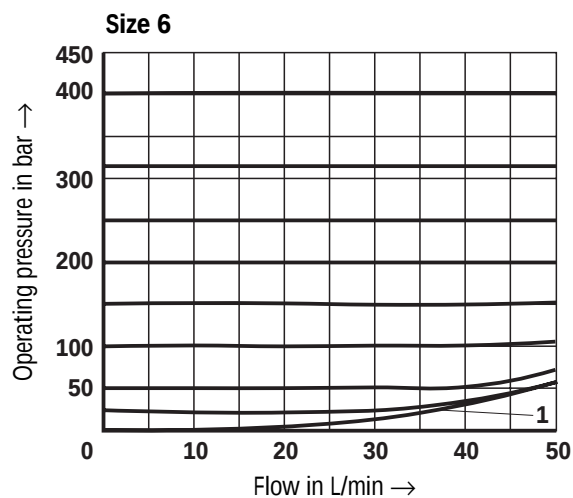
## Technical data (for applications outside these parameters, please consult us!)

|                                  |        |                                                                                                                                                                                                                                                                                |                                                                                                                                                                  |           |                 |
|----------------------------------|--------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------|-----------------|
| Pressure fluid                   |        | Mineral oil (HL, HLP) to DIN 51 524 <sup>1)</sup> ;<br>Fast bio-degradable pressure fluids to<br>VDMA 24 568 (also see RE 90 221); HETG (rape seed oil) <sup>1)</sup> ;<br>HEPG (Polyglycol) <sup>2)</sup> ; HEES (synthetic ester) <sup>2)</sup> ;<br>other fluids on request |                                                                                                                                                                  |           |                 |
| Pressure fluid temperature range |        | °C                                                                                                                                                                                                                                                                             | – 30 to + 80 (for NBR seals)                                                                                                                                     |           |                 |
|                                  |        |                                                                                                                                                                                                                                                                                | – 20 bis + 80 (for FPM seals)                                                                                                                                    |           |                 |
| Degree of contamination          |        |                                                                                                                                                                                                                                                                                | Maximum permissible degree of contamination of the fluid is to NAS 1638 class 9. We, therefore, recommend a filter with a retention rate of $\beta_{10} \geq 75$ |           |                 |
| Viscosity range:                 |        | mm <sup>2</sup> /s                                                                                                                                                                                                                                                             | 10 to 800                                                                                                                                                        |           |                 |
| Operating pressure range:        |        |                                                                                                                                                                                                                                                                                | Sizes 6 and 8                                                                                                                                                    | Size 10   | Sizes 15 and 20 |
|                                  | Input  | bar                                                                                                                                                                                                                                                                            | up to 400                                                                                                                                                        | up to 630 | up to 400       |
|                                  | Output | bar                                                                                                                                                                                                                                                                            | 315                                                                                                                                                              | 315       | 315             |

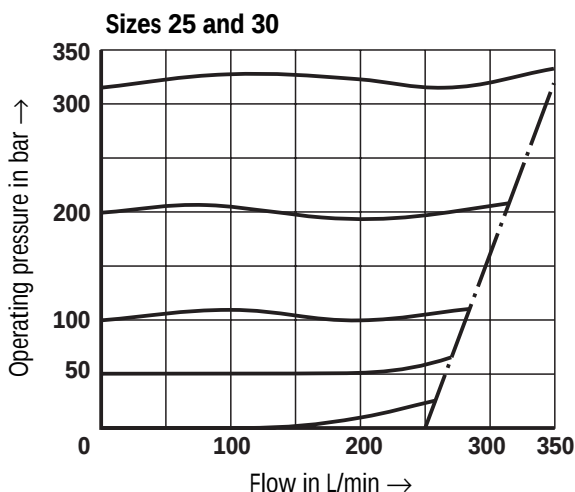
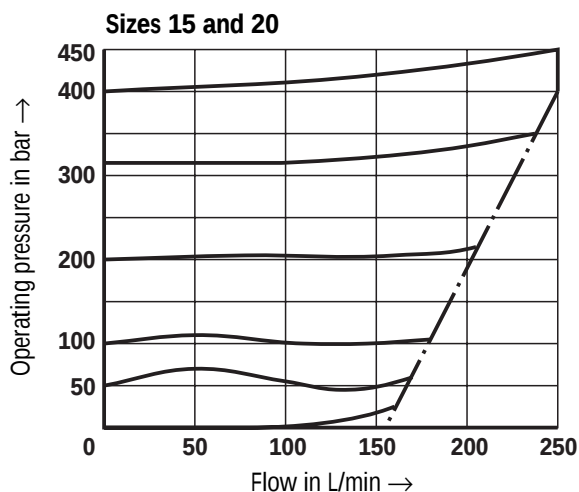
<sup>1)</sup> Suitable for NBR **and** FPM seals

<sup>2)</sup> **Only** suitable for FPM seals

**Characteristic curves** (measured at  $v = 41 \text{ mm}^2/\text{s}$  and  $\vartheta = 50 \text{ }^\circ\text{C}$ )



1 lowest settable pressure



**⚠ Attention!**

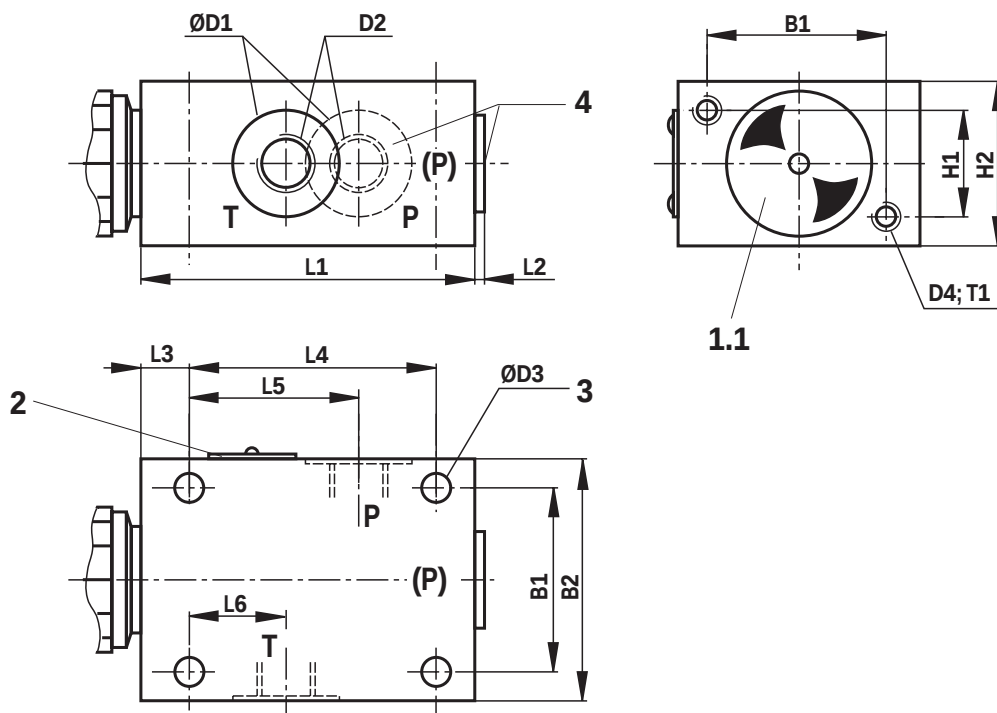
The characteristic curves are valid for the output pressure = zero in the complete flow range and are measured without consideration of the housing pressure drop!

**⚠ Attention!**

The characteristic curves refer to the given pressure stages (e. g. 200 bar). The further the pressure setting value exceeds the nominal pressure stage (e. g. < 200 bar), the greater the pressure increase with the flow.

**Unit dimensions:** for threaded connections

(Dimensions in mm)



| Size             | B1  | B2  | $\varnothing D1$ | D2                | $\varnothing D3$ | D4  | H1 | H2 | L1  | L2      | L3 | L4  | L5 | L6 | T1 | Weight          |
|------------------|-----|-----|------------------|-------------------|------------------|-----|----|----|-----|---------|----|-----|----|----|----|-----------------|
| <b>6</b>         | 45  | 60  | 25               | G 1/4             | 6.6              | M6  | 25 | 40 | 80  | 4       | 15 | 55  | 40 | 20 | 10 | approx. 1.5 kg  |
| <b>(8) + 10</b>  | 60  | 80  | (28) 34          | (G 3/8) G 1/2     | 9                | M8  | 40 | 60 | 100 | 4       | 20 | 70  | 49 | 21 | 20 | approx. 3.7 kg  |
| <b>(15) + 20</b> | 70  | 100 | (42) 47          | (G 3/4) G1        | 9                | M8  | 50 | 70 | 135 | (4) 5.5 | 20 | 100 | 65 | 34 | 20 | approx. 6.4 kg  |
| <b>(25) + 30</b> | 100 | 130 | (56) 61          | (G 1 1/4) G 1 1/2 | 11               | M10 | 60 | 90 | 180 | 5.5     | 25 | 130 | 85 | 35 | 25 | approx. 13.9 kg |

- 1.1** Adjustment element „S“  
grub screw for pressure setting and protective cap  
internal hexagon (up to size 20)  
external hexagon (sizes 25, 30)

**2** Name plate

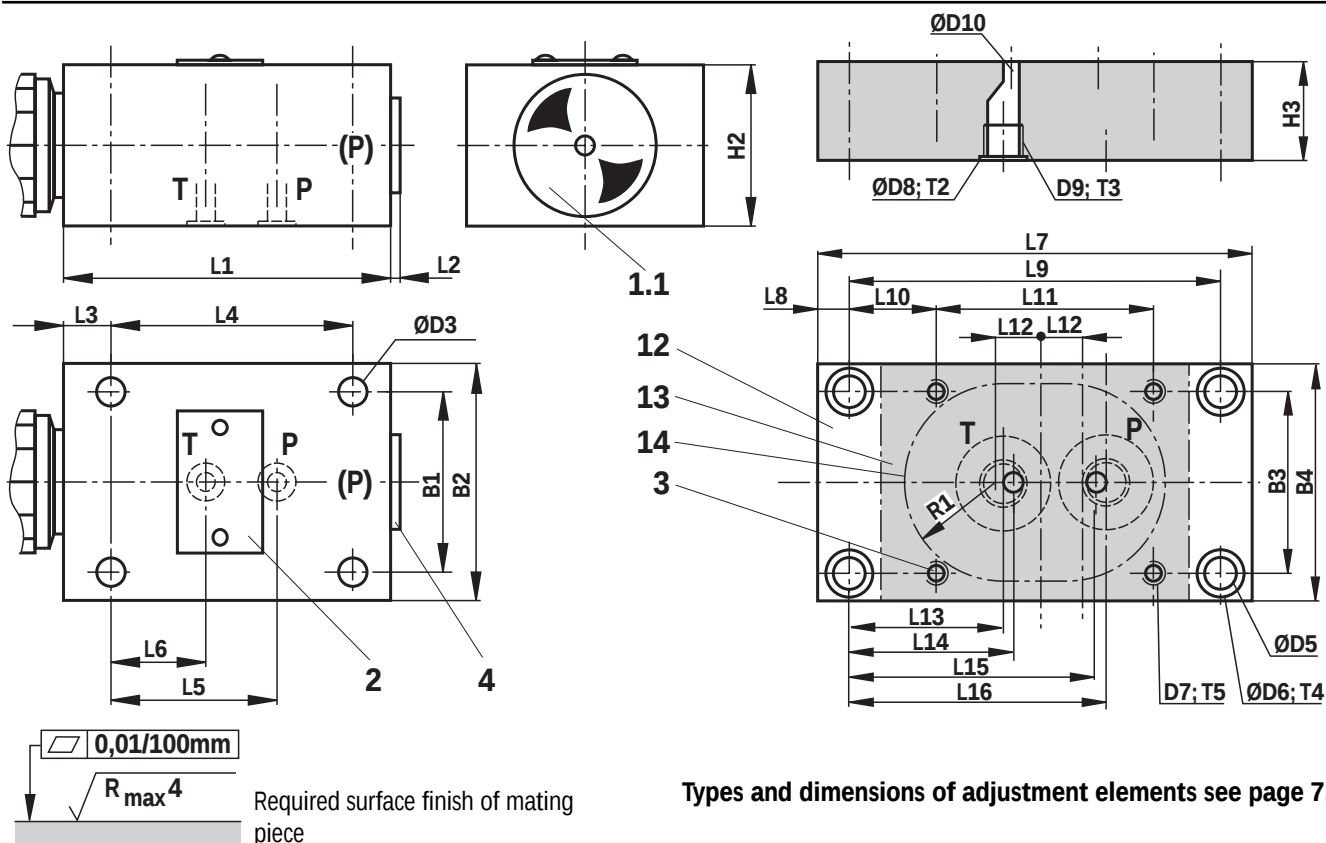
**3** 4 valve fixing holes

**4** Connection port P, optional (e.g. for pressure measuring)  
for dimensions see dimension D2

**Types and dimensions of setting elements see page 7.**

**Unit dimensions:** for manifold mounting

(Dimensions in mm)



Types and dimensions of adjustment elements see page 7.

- 1.1 Adjustment element „S“ grub screw for pressure setting and protective cap internal hexagon (up to size 20) external hexagon (size 25, 30)
- 2 Name plate
- 3 4 valve fixing holes
- 4 Connection port P, optional (e.g. for pressure measuring)
- 12 Sub-plate type code see below
- 13 Valve contact area
- 14 Panel cut-out

| Valve fixing screws<br>(must be ordered separately) |           |              | $M_A$<br>in Nm |
|-----------------------------------------------------|-----------|--------------|----------------|
| Size 6                                              | M6 x 50   | DIN 912–10.9 | approx. 15.5   |
| Size 10                                             | M8 x 70   | DIN 912–10.9 | approx. 37     |
| Size 20                                             | M8 x 90   | DIN 912–10.9 | approx. 37     |
| Size 30                                             | M10 x 110 | DIN 912–10.9 | approx. 75     |

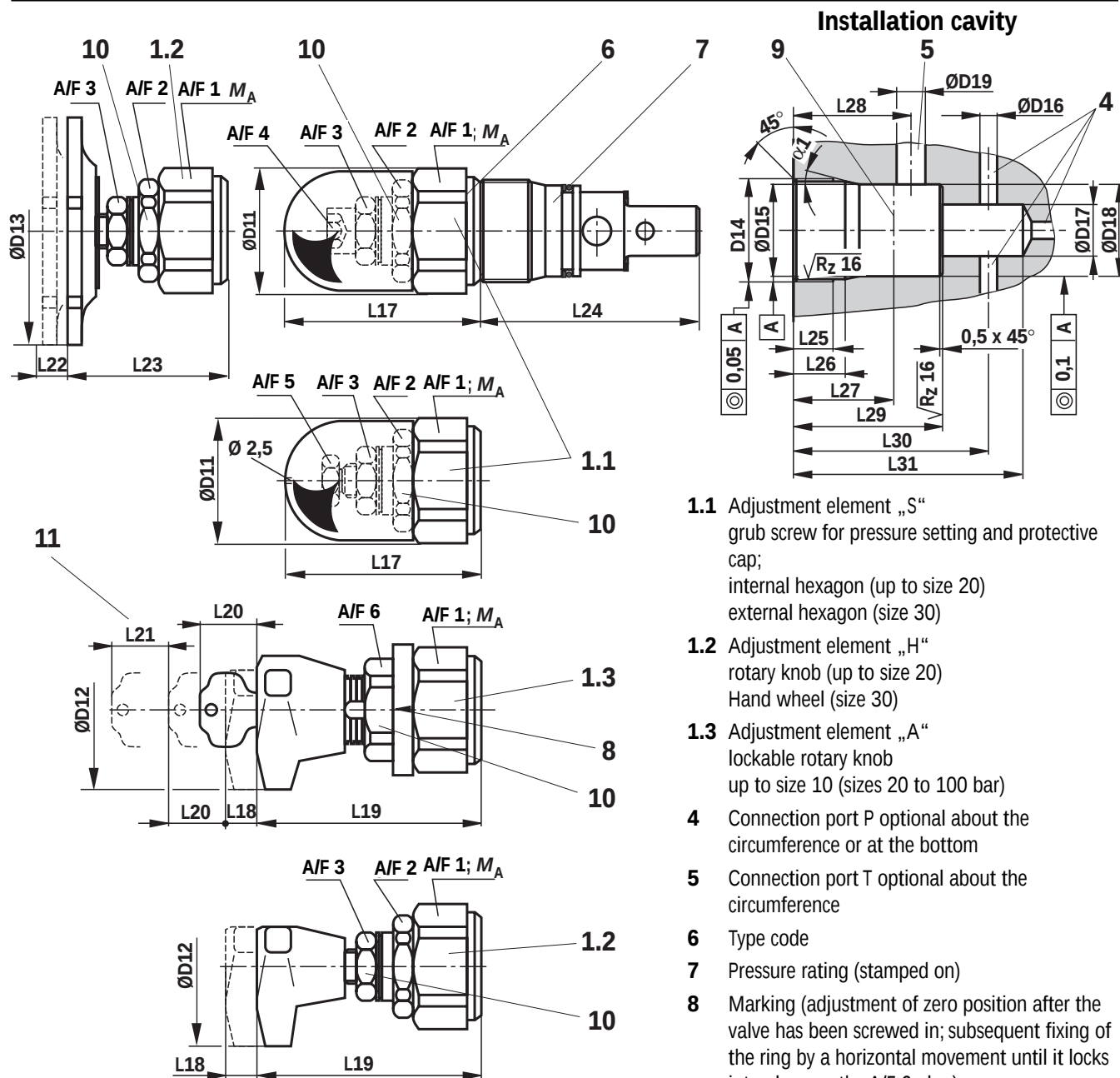
| Size | Pressure relief valve |     |     |    |     |     |    |     |    |    | Port<br>(P) | R-ring<br>(ports P, T) | Weight          |
|------|-----------------------|-----|-----|----|-----|-----|----|-----|----|----|-------------|------------------------|-----------------|
|      | B1                    | B2  | ØD3 | H2 | L1  | L2  | L3 | L4  | L5 | L6 |             |                        |                 |
| 6    | 45                    | 60  | 6.6 | 40 | 80  | 4   | 15 | 55  | 40 | 20 | G 1/4       | 8.01 x 1.6 x 1.78      | approx. 1.5 kg  |
| 10   | 60                    | 80  | 9   | 60 | 100 | 4   | 20 | 70  | 45 | 21 | G 1/2       | 12.81 x 2.4 x 2.62     | approx. 3.7 kg  |
| 20   | 70                    | 100 | 9   | 70 | 135 | 5.5 | 20 | 100 | 65 | 34 | G 3/4       | 23.47 x 2.62 x 2.62    | approx. 6.4 kg  |
| 30   | 100                   | 130 | 11  | 90 | 180 | 5.5 | 25 | 130 | 85 | 35 | G 1 1/4     | 34.59 x 2.62 x 2.62    | approx. 13.9 kg |

| Size | Sub-plate           |     |     |      |      |     |         |                   |         |    | ØD8 | D9 | ØD10 | H3 |
|------|---------------------|-----|-----|------|------|-----|---------|-------------------|---------|----|-----|----|------|----|
|      | Type                | B3  | B4  | ØD5  | ØD6  | D7  | ØD8     | D9                | ØD10    | H3 |     |    |      |    |
| 6    | G 300/01            | 45  | 60  | 7    | 11   | M6  | 25      | G 1/4             | 6       | 25 |     |    |      |    |
| 10   | (G 301/01) G 302/01 | 60  | 80  | 7    | 11   | M8  | (28) 34 | (G 3/8) G 1/2     | 10      | 25 |     |    |      |    |
| 20   | (G 303/01) G 304/01 | 70  | 100 | 11.5 | 17.5 | M8  | (42) 47 | (G 3/4) G 1       | (15) 20 | 40 |     |    |      |    |
| 30   | (G 305/01) G 306/01 | 100 | 130 | 11.5 | 17.5 | M10 | (56) 61 | (G 1 1/4) G 1 1/2 | 30      | 40 |     |    |      |    |

| Size | Sub-plate |      |     |      |     |      |         |      |       |           |    |         |      |         |                  | Weight |
|------|-----------|------|-----|------|-----|------|---------|------|-------|-----------|----|---------|------|---------|------------------|--------|
|      | L7        | L8   | L9  | L10  | L11 | L12  | L13     | L14  | L15   | L16       | T2 | T3      | T4   | T5      | R1               |        |
| 6    | 110       | 8    | 94  | 22   | 55  | 10   | 39      | 42   | 62    | 65        | 1  | 15      | 9    | 15      | 25 <sup>+2</sup> | 1.5 kg |
| 10   | 135       | 10   | 115 | 27.5 | 70  | 12.5 | 40.5    | 48.5 | 72.5  | 80.5      | 1  | (15) 16 | 9    | 15      | 30 <sup>+5</sup> | 2 kg   |
| 20   | 170       | 15   | 140 | 20   | 100 | 20   | (45) 42 | 54   | 85    | (94) 97   | 1  | 20      | 13   | (12) 22 | 40 <sup>+3</sup> | 5.5 kg |
| 30   | 190       | 12.5 | 165 | 17.5 | 130 | 22.5 | 42      | 52.5 | 102.5 | (113) 117 | 1  | 24      | 11.5 | 22      | 55 <sup>+4</sup> | 8 kg   |

**Unit dimensions: cartridge valve (cartridge)**

(Dimensions in mm)

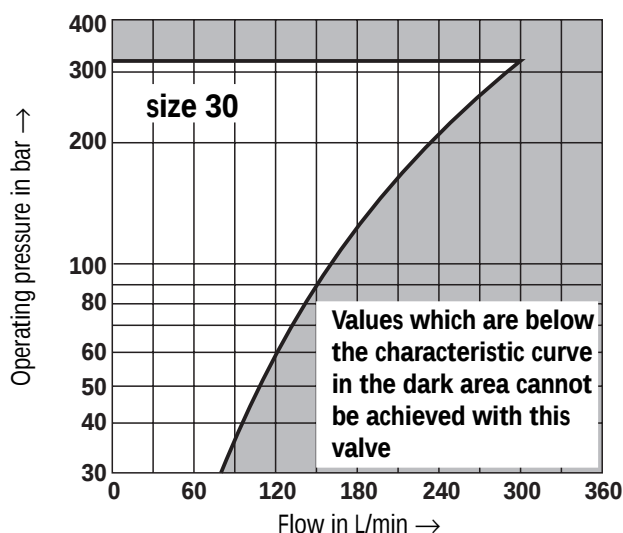
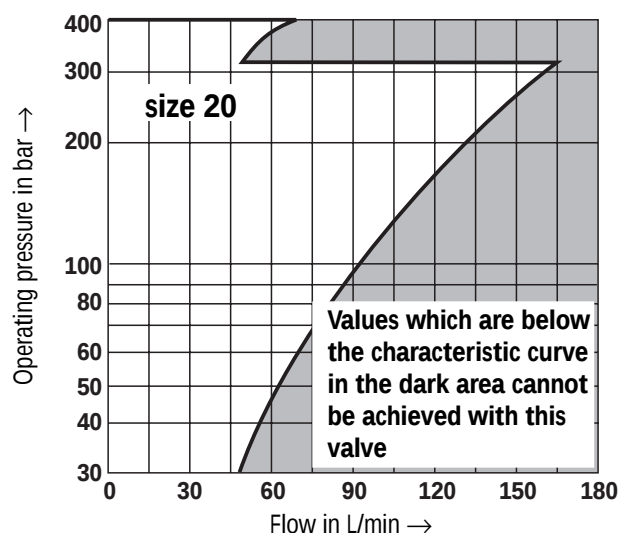
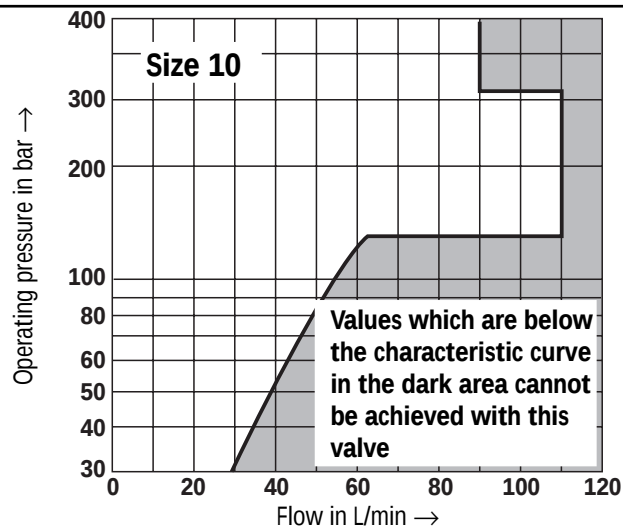
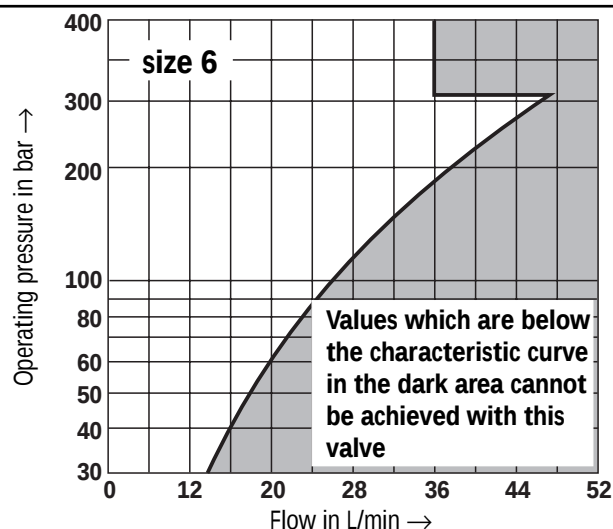


- 1.1** Adjustment element „S“  
grub screw for pressure setting and protective cap;  
internal hexagon (up to size 20)  
external hexagon (size 30)
- 1.2** Adjustment element „H“  
rotary knob (up to size 20)  
Hand wheel (size 30)
- 1.3** Adjustment element „A“  
lockable rotary knob  
up to size 10 (sizes 20 to 100 bar)
- 4** Connection port P optional about the circumference or at the bottom
- 5** Connection port T optional about the circumference
- 6** Type code
- 7** Pressure rating (stamped on)
- 8** Marking (adjustment of zero position after the valve has been screwed in; subsequent fixing of the ring by a horizontal movement until it locks into place on the A/F 6 plug)
- 9** Fitting depth
- 10** Locknut
- 11** Space required to remove key

|      | Cartridge valve |      |      |     |     |     |     |     |     |     |      |      |                          |      |      |      |      |      |                |
|------|-----------------|------|------|-----|-----|-----|-----|-----|-----|-----|------|------|--------------------------|------|------|------|------|------|----------------|
| Size | ØD11            | ØD12 | ØD13 | L17 | L18 | L19 | L20 | L21 | L22 | L23 | L24  | A/F1 | M <sub>A</sub> , approx. | A/F2 | A/F3 | A/F4 | A/F5 | A/F6 | Weight         |
| 6    | 34              | 60   | –    | 72  | 11  | 83  | 28  | 20  | –   | –   | 64.5 | 32   | 80 Nm                    | 30   | 19   | 6    | –    | 30   | approx. 0.4 kg |
| 10   | 38              | 60   | –    | 68  | 11  | 79  | 28  | 20  | –   | –   | 77   | 36   | 140 Nm                   | 30   | 19   | 6    | –    | 30   | approx. 0.5 kg |
| 20   | 48              | 60   | –    | 65  | 11  | 77  | 28  | 20  | –   | –   | 106  | 46   | 170 Nm                   | 36   | 19   | 6    | –    | 30   | approx. 1 kg   |
| 30   | 63              | –    | 80   | 83  | –   | –   | –   | –   | 11  | 56  | 131  | 60   | 200 Nm                   | 46   | 19   | –    | 13   | –    | approx. 2.2 kg |

| Installation cavity |           |                   |                   |                   |                   |                   |     |     |     |     |     |            |     |            |
|---------------------|-----------|-------------------|-------------------|-------------------|-------------------|-------------------|-----|-----|-----|-----|-----|------------|-----|------------|
| Size                | D14       | $\varnothing D15$ | $\varnothing D16$ | $\varnothing D17$ | $\varnothing D18$ | $\varnothing D19$ | L25 | L26 | L27 | L28 | L29 | L30        | L31 | $\alpha 1$ |
| 6                   | M28 x 1.5 | 25 <sup>H9</sup>  | 6                 | 15                | 24.9              | 6                 | 15  | 19  | 30  | 35  | 45  | 56.5±5.5   | 65  | 15°        |
| 10                  | M35 x 1.5 | 32 <sup>H9</sup>  | 10                | 18.5              | 31.9              | 10                | 18  | 23  | 35  | 41  | 52  | 67.5±7.5   | 80  | 15°        |
| 20                  | M45 x 1.5 | 40 <sup>H9</sup>  | 20                | 24                | 39.9              | 20                | 21  | 27  | 45  | 54  | 70  | 91.5±8.5   | 110 | 20°        |
| 30                  | M60 x 2   | 55 <sup>H9</sup>  | 30                | 38.75             | 54.9              | 30                | 23  | 29  | 45  | 60  | 84  | 113.5±11.5 | 140 | 20°        |

## Design tested pressure relief valves type DBD ../..B



The ordering code of a design tested pressure relief valve consists of description and component code.

| Size      | Description                        | Component code                                 |
|-----------|------------------------------------|------------------------------------------------|
| <b>6</b>  | DBDS 6K1X/ <input type="text"/> B  | TÜV.SV.94-849.5.F. $\alpha_w$ .p. <sub>G</sub> |
|           | DBDH 6K1X/ <input type="text"/> B  |                                                |
|           | DBDS 6G1X/ <input type="text"/> B  |                                                |
|           | DBDH 6G1X/ <input type="text"/> B  |                                                |
|           | DBDS 6P1X/ <input type="text"/> B  |                                                |
|           | DBDH 6P1X/ <input type="text"/> B  |                                                |
| <b>10</b> | DBDS 8G1X/ <input type="text"/> B  | TÜV.SV.94-850.6.F. $\alpha_w$ .p. <sub>G</sub> |
|           | DBDH 8G1X/ <input type="text"/> B  |                                                |
|           | DBDS 10K1X/ <input type="text"/> B |                                                |
|           | DBDH 10K1X/ <input type="text"/> B |                                                |
|           | DBDS 10G1X/ <input type="text"/> B |                                                |
|           | DBDH 10G1X/ <input type="text"/> B |                                                |
|           | DBDS 10P1X/ <input type="text"/> B |                                                |
|           | DBDH 10P1X/ <input type="text"/> B |                                                |

Pressure in the type code must be entered by customer

| Size      | Description                        | Component code                     |
|-----------|------------------------------------|------------------------------------|
| <b>20</b> | DBDS 15G1X/ <input type="text"/> B | TÜV.SV.96-361.10.F. $\alpha_w$ .p. |
|           | DBDH 15G1X/ <input type="text"/> B |                                    |
|           | DBDS 20K1X/ <input type="text"/> B |                                    |
|           | DBDH 20K1X/ <input type="text"/> B |                                    |
|           | DBDS 20G1X/ <input type="text"/> B |                                    |
|           | DBDH 20G1X/ <input type="text"/> B |                                    |
|           | DBDS 20P1X/ <input type="text"/> B |                                    |
|           | DBDH 20P1X/ <input type="text"/> B |                                    |
| <b>30</b> | DBDS 25G1X/ <input type="text"/> B | TÜV.SV.96-362.15.F. $\alpha_w$ .p. |
|           | DBDH 25G1X/ <input type="text"/> B |                                    |
|           | DBDS 30K1X/ <input type="text"/> B |                                    |
|           | DBDH 30K1X/ <input type="text"/> B |                                    |
|           | DBDS 30G1X/ <input type="text"/> B |                                    |
|           | DBDH 30G1X/ <input type="text"/> B |                                    |
|           | DBDS 30P1X/ <input type="text"/> B |                                    |
|           | DBDH 30P1X/ <input type="text"/> B |                                    |

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The specified data is for product description purposes only and may not be deemed to be guaranteed unless expressly confirmed in the contract.

# **Itahydraulic**

Power Technology



*Electric Relief Valve*

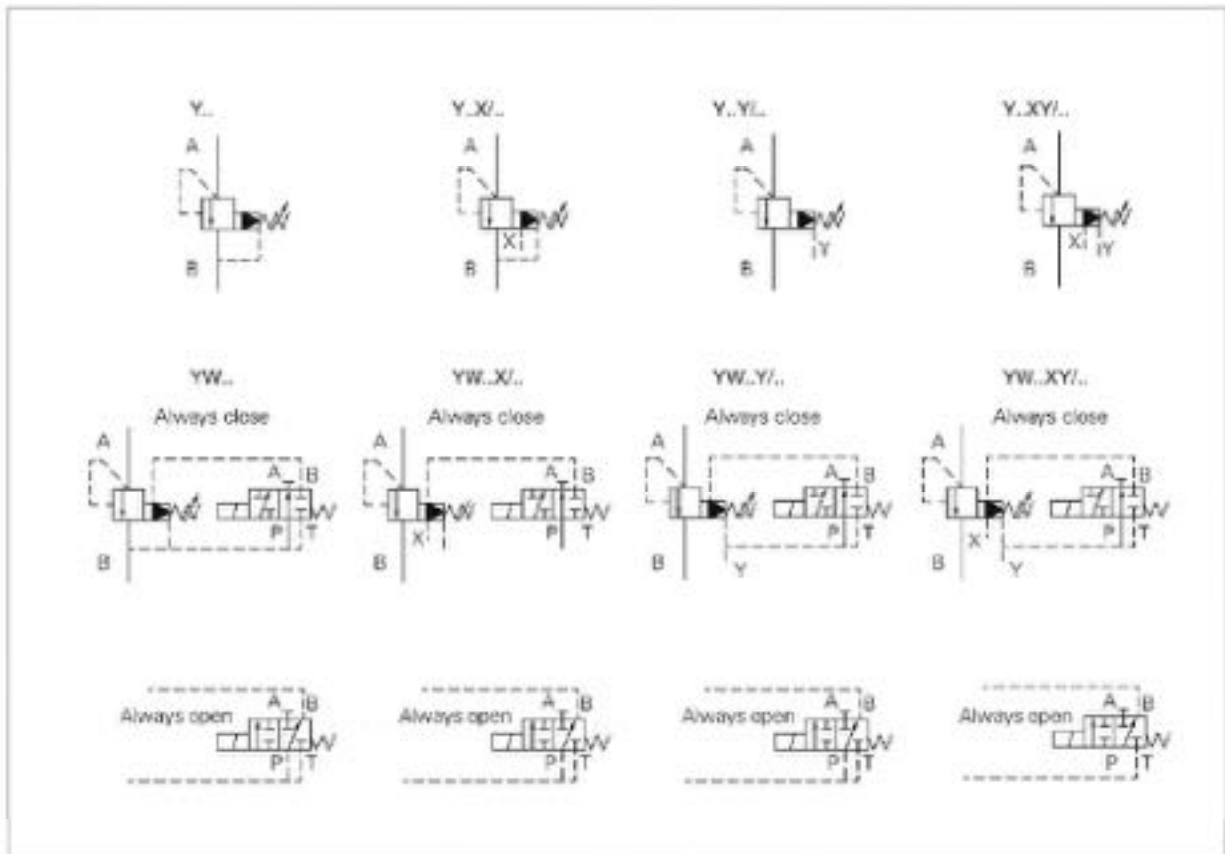


| Specification              | 03                           | 06  | 10  |     |
|----------------------------|------------------------------|-----|-----|-----|
| Max. working pressure(MPa) | 31.5                         |     |     |     |
| Max. flow(L/min)           | 250                          | 500 | 650 |     |
| Working fluid              | Mineral oil, phosphate ester |     |     |     |
| Rtd temp.(°C)              | -20 ~ 70                     |     |     |     |
| Viscosity(mm²/s)           | 10 ~ 800                     |     |     |     |
| Working Press(MPa)         | 5 16 20 31.5 35              |     |     |     |
| Weight(Kg)                 | Y                            | 2.6 | 3.5 | 4.4 |
|                            | YW                           | 3.8 | 4.7 | 5.6 |

Solenoids relief valve is a combination of electromagnetic directional valve and pilot-operated pressure relief valve, it is used to control or unload multi-stage pressure in 4 hydraulic system.

[illegible]

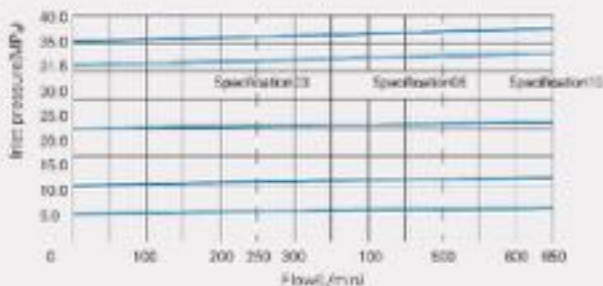
## Code Symbol



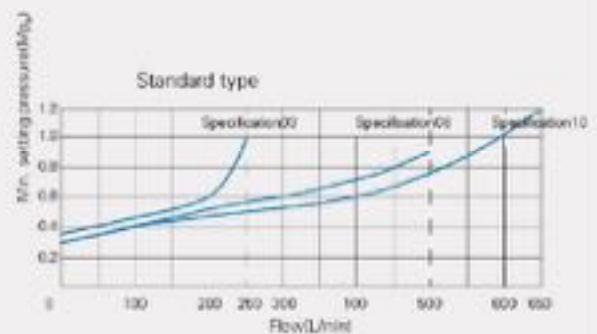
## Performance Curve

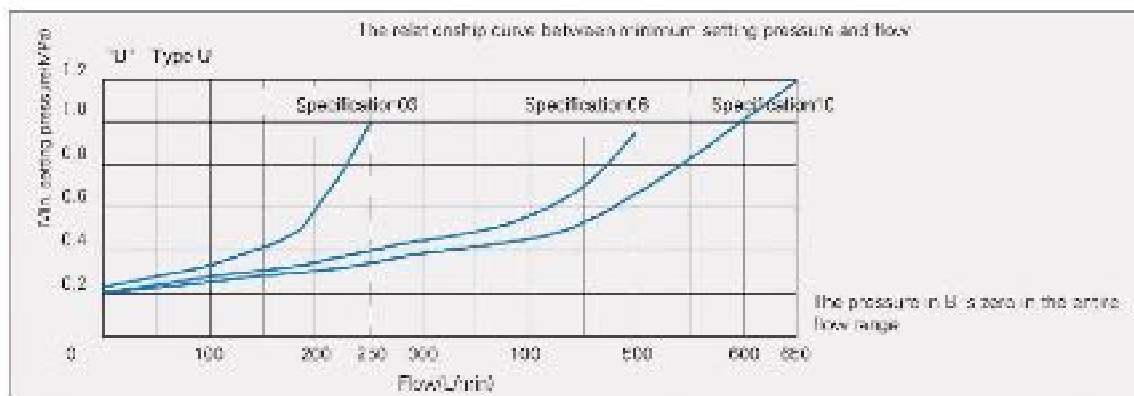
Test under  $v=41\text{mm}^2/\text{s}$  and  $t=50^\circ\text{C}$

The curve is at external, zero pressure, the pilot oil drain freely, if internal drain, the inlet pressure should add port B pressure in the curve.



The relationship curve between minimum setting pressure and flow





**Unit dimensions:** Threaded connection (nominal dimensions in mm)

