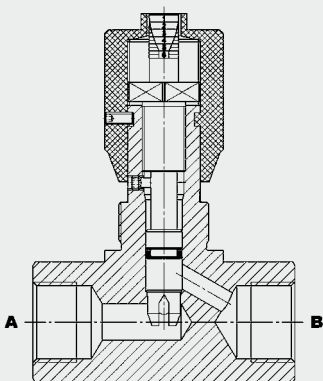


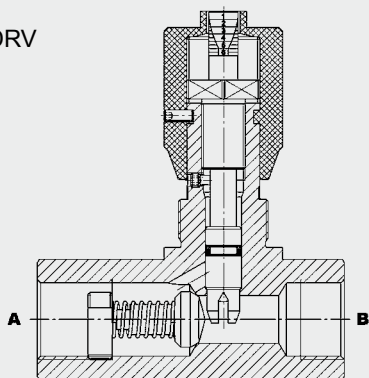
Up to 300 l/min
Up to 350 bar

FUNCTION

DV



DRV



The DV is an inline mounted flow control valve which controls the flow by adjusting the cross-section. The flow rate is therefore dependent on the pressure differential and viscosity. Starting with the throttle spindle in the fully closed position, the flow rate increases in accordance with the appropriate curve as the control knob is turned. The flow is controlled in both directions.

The scale and coloured rings on the top of the control knob enable accurate repeat setting. The DRV is a flow control valve in the same design which also allows the same fine flow adjustment, but in one direction only. Unrestricted flow in the reverse direction is via the built-in check valve (cracking pressure 0.5 bar).

Needle Valves with and without Reverse Flow Check Direct-Acting Inline Mounted - 350 bar DV, DRV 20 to 40

FEATURES

- For regulating the speed of loads
- For fine adjustment and shut-off of the flow
- For system-related damping in hydraulic circuits
- To release pressure from accumulator systems
- As an emergency drain for lowering a load without a dead man's circuit
- High level of safety provided by patented spindle safety mechanism
- A set-screw locks the setting
- Choice of four sizes for optimum adaptability to the system
- Nickel-plated version available as an option

SPECIFICATIONS

| | | |
|------------------------------------|--|---------------------------|
| Operating pressure: | max. 350 bar | |
| Nominal flow: | DV, DRV-20 | max. 300 l/min |
| | DV, DRV-25 | max. 300 l/min |
| | DV, DRV-30 | max. 300 l/min |
| | DV, DRV-40 | max. 300 l/min |
| Cracking pressure (on DRV): | 0.5 bar | |
| Media operating temperature range: | min. -20 °C to max. +100 °C | |
| Ambient temperature range: | min. -20 °C to max. +100 °C | |
| Operating fluid: | Hydraulic oil to DIN 51524 Part 1 and 2 | |
| Viscosity range: | min. 2.8 mm ² /s to max. 800 mm ² /s | |
| Filtration: | Class 21/19/16 according to ISO 4406 or cleaner | |
| MTTF ₀ : | 150 years (see "Conditions and instructions for valves" in brochure 5.300) | |
| Installation: | no orientation restrictions, preferably horizontal | |
| Materials: | Valve body: | steel |
| | Piston: | hardened and ground steel |
| | Seals: | FKM (standard) |
| | Back-up rings: | PTFE |
| Weight: | DV 20 = 2.1 kg | DRV 20 = 2.4 kg |
| | DV 25 = 2.8 kg | DRV 25 = 3.5 kg |
| | DV 30 = 3.5 kg | DRV 30 = 4.6 kg |
| | DV 40 = 5.5 kg | DRV 40 = 7.7 kg |

MODEL CODE

DRV - 20 - 01 . X / 0

Basic model

DV = Needle valve
 DRV = Needle valve with reverse flow check

Size

20, 25, 30, 40

Type

01 = standard, housing phosphated
 12 = housing zinc-nickel coated (seawater-resistant),
 fine throttle spindle in steel,
 with protective dome nut
 - adjustment with tool (not for size 40)
 17 = housing zinc-plated (not for size 40)
 30 = housing stainless steel (only size 20)
 Other types on request

Series

(determined by manufacturer)

Threaded connection

0 = BSP thread,
 threaded connection Form X to DIN 3852 Part 2
 5 = NPT thread
 12 = UNF thread

Standard models

| Model code | Part No. |
|---------------|----------|
| DV-20-01.1/0 | 705062 |
| DV-25-01.1/0 | 705074 |
| DV-30-01.1/0 | 705086 |
| DV-40-01.1/0 | 705098 |
| DRV-20-01.1/0 | 705562 |
| DRV-25-01.1/0 | 705574 |
| DRV-30-01.1/0 | 705586 |
| DRV-40-01.1/0 | 705598 |

Other models on request

Seal kits

| Code | Part No. |
|-----------------------------------|----------|
| SEAL KIT 20FKM DV/P DRV/P RVP SRV | 555094 |
| SEAL KIT 25FKM DV/P DRV/P RVP | 555095 |
| SEAL KIT 30FKM DV/P DRV/P RVP | 555096 |
| SEAL KIT 40FKM DV/P DRV/P RVP | 561456 |

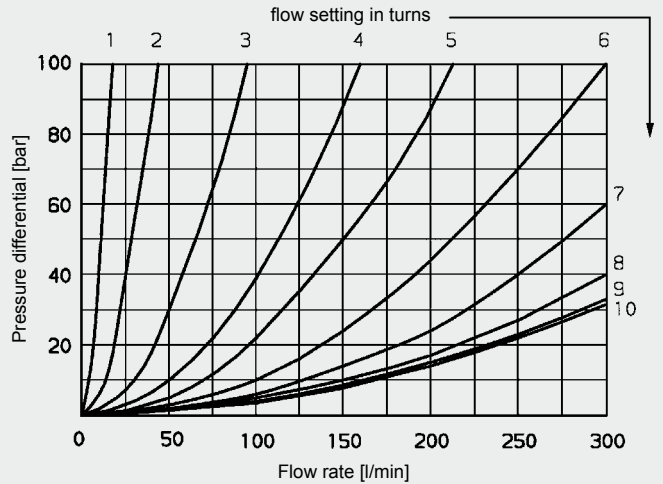
PERFORMANCE

Pressure drop, dependent on flow rate

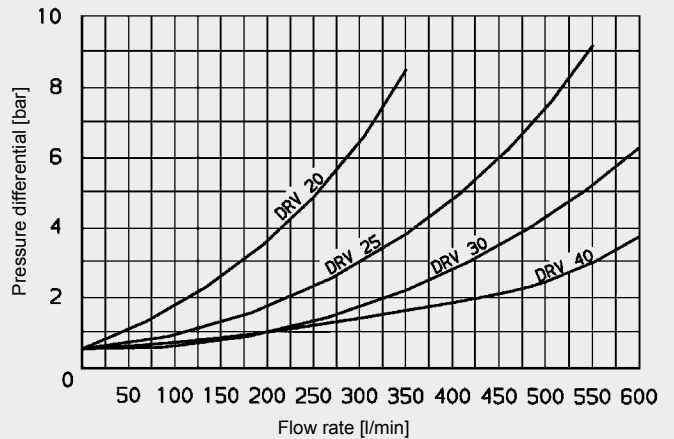
DV = flow direction A → B and B → A

DRV = flow direction A → B

Pressure differential Δp measured against flow rate Q ,
 measured at constant flow setting, $v = 54 \text{ mm}^2/\text{s}$ and $T_{\text{oil}} = 36 \text{ }^\circ\text{C}$



DRV Flow direction B → A

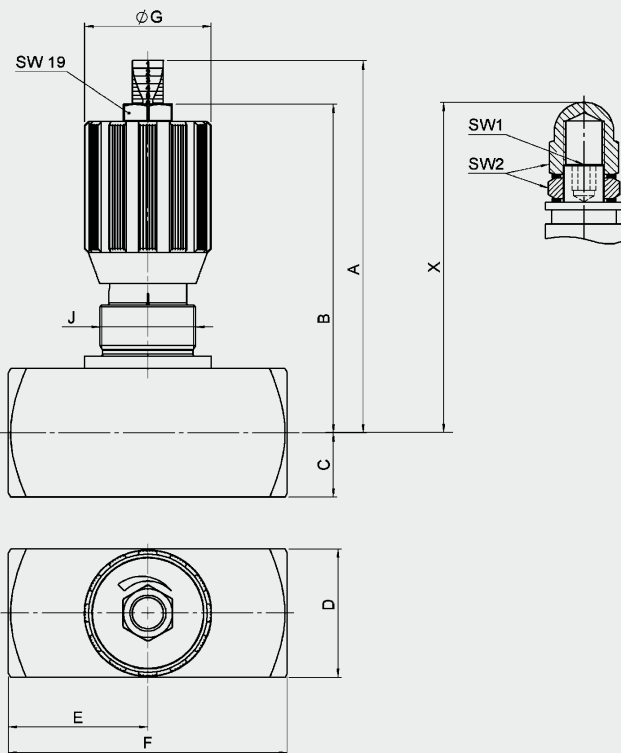


DIMENSIONS

DV

Type 01 30 11

12



millimeter (inch)
subject to technical modifications

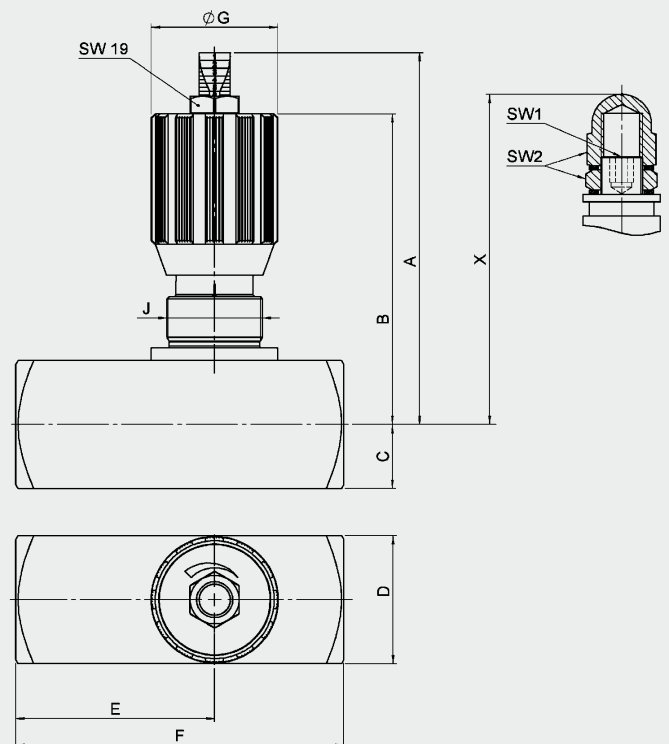
| Nominal size | Threaded connection | A | B | C | D | E |
|--------------|---------------------|-----|-----|----|----|----|
| 20 | G1 | 145 | 128 | 25 | 50 | 54 |
| 25 | G1½ | 150 | 133 | 30 | 60 | 54 |
| 30 | G1½ | 155 | 138 | 35 | 70 | 54 |
| 40 | G2 | 165 | 148 | 45 | 90 | 65 |

| F | G | J | SW1 | SW2 | X | Weight [kg] |
|-----|----|------|-----|-----|-----|-------------|
| 108 | 49 | Pg29 | 8 | 24 | 129 | 2.10 |
| 108 | 49 | Pg29 | 8 | 24 | 134 | 2.80 |
| 108 | 49 | Pg29 | 8 | 24 | 139 | 3.50 |
| 130 | 49 | Pg29 | - | - | - | 5.50 |

DRV

Type 01 30 11

12



millimeter (inch)
subject to technical modifications

| Nominal size | Threaded connection | A | B | C | D | E |
|--------------|---------------------|-----|-----|----|----|-----|
| 20 | G1 | 145 | 128 | 25 | 50 | 77 |
| 25 | G1½ | 150 | 133 | 30 | 60 | 93 |
| 30 | G1½ | 155 | 138 | 35 | 70 | 108 |
| 40 | G2 | 165 | 148 | 45 | 90 | 130 |

| F | G | J | SW1 | SW2 | X | Weight [kg] |
|-----|----|------|-----|-----|-----|-------------|
| 127 | 49 | Pg29 | 8 | 24 | 129 | 2.40 |
| 143 | 49 | Pg29 | 8 | 24 | 134 | 3.50 |
| 143 | 49 | Pg29 | 8 | 24 | 139 | 4.60 |
| 165 | 49 | Pg29 | - | - | - | 7.70 |

NOTE

The information in this brochure relates to the operating conditions and applications described. For applications or operating conditions not described, please contact the relevant technical department. Subject to technical modifications.

HYDAC Fluidtechnik GmbH
Justus-von-Liebig-Str.
D-66280 Sulzbach/Saar
Tel: 0 68 97 / 509-01
Fax: 0 68 97 / 509-598
E-Mail: flutec@hydac.com

