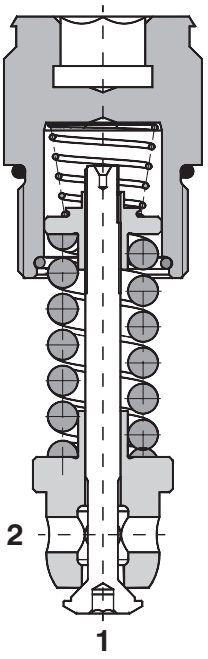
© GS GLOBAL REOURCES, INC. ALL RIGHTS RESERVED.

ARGO HYTOS

# Pressure Relief Valve with Reverse Flow Check, Poppet Type, Not Adjustable

## DBV3

M24x1.5 • $Q_{max}$ 200 l/min (53 GPM) • $p_{max}$ 480 bar (7000 PSI)



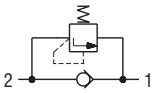

## Technical Features

› Excellent stability throughout flow range with rapid response to dynamic pressure changes
› Low hysteresis, accurate pressure control and low pressure drop through CFD optimized flow paths
› Adjustable pressure range 160-480 bar
› Factory pre-set, not adjustable version only
› Hardened precision parts
› Sharp-edged steel seats for dirt-tolerant performance
› Leak-free closing, suitable for fast cycling with long life
› One-way bypass valve with suction function
› In the standard version, the valve is zinc-coated for 240 h protection acc. to ISO 9227

## Functional Description

A direct acting, poppet type hydraulic relief valve in the form of a screw-in cartridge with reverse flow check intended for use as a pressure limiting and anti-cavitation device for common hydraulic circuit protection. The spring acts on the poppet and presses it on the valve seat. If the hydraulic pressure is below the pre-set value, the valve is closed. If the hydraulic force exceeds the pre-set value, the valve opens and flow passes to the tank port until the system pressure drops below the spring pre-set value and the valve closes again.

Symbol




## Technical Data

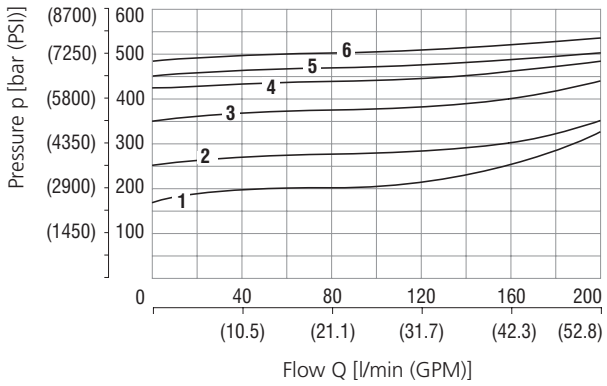
| Valve size / Cartridge cavity | | M24 x 1.5 / QH2 |
|---|---|---|
| Max. flow | l/min (GPM) | 200 (52.8) |
| Max. operating pressure | bar (PSI) | 480 (6960) |
| Fluid temperature range (NBR) | °C (°F) | -30... + 100 (-22 ... +212) |
| Fluid temperature range (FPM) | °C (°F) | -20 ... +120 (-4 ... +248) |
| Mass | kg (lbs) | 0.16 (0.36) |

| | Datasheet | Type |
|---|---|---|
| General information | GI_0060 | Products and operating conditions |
| Cavity details | SMT_0019 | SMT-QH2* |
| Spare parts | SP_8010 | |

## Characteristics measured at $\nu$ = 32 mm²/s (156 SUS)

### Relief pressure related to flow rate

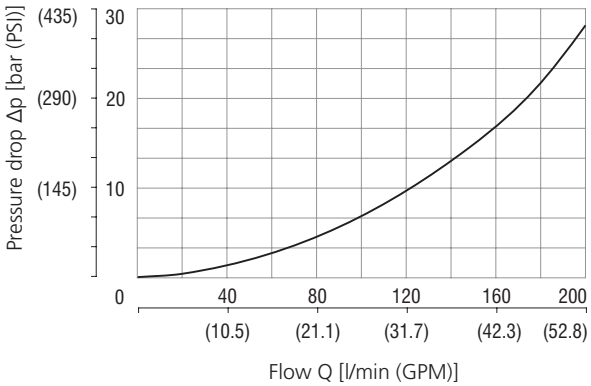
Pressure relief function, flow direction 2 - 1



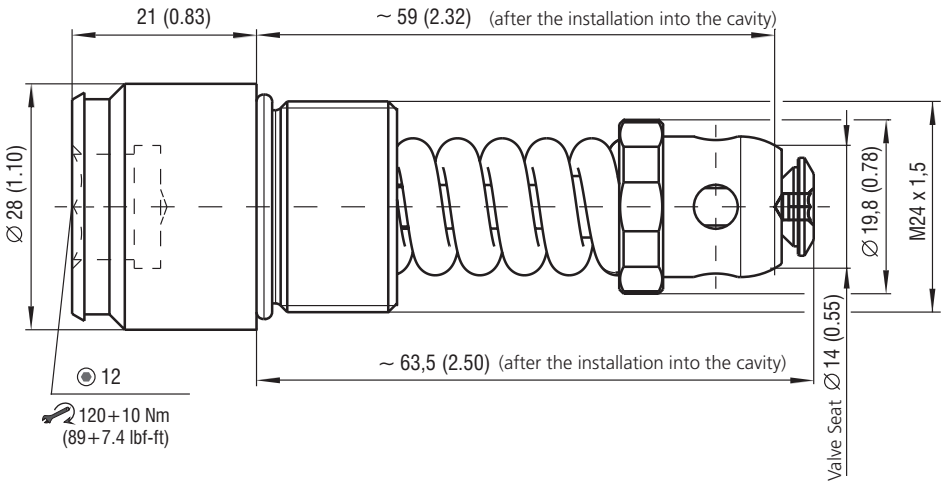

| Pressure settings | | | | | |
|---|---|---|---|---|---|
| 1 | 2 | 3 | 4 | 5 | 6 |
| 160 | 250 | 350 | 420 | 450 | 480 |

### Pressure drop related to flow rate

Check valve function, flow direction 1 - 2



## **Dimensions** in millimeters (inches)




## Ordering Code

**DBV 3 - ☐ / 4 - ☐ ☐ - ☐**

**Pressure relief valve with reverse flow check, poppet type, direct acting, non-adjustable**

**Design stage**

**Pressure range**

| | |
|---|---|
| up to 160 bar (2320 PSI) | **160** |
| up to 250 bar (3630 PSI) | **250** |
| up to 350 bar (5080 PSI) | **350** |
| up to 420 bar (6090 PSI) | **420** |
| up to 450 bar (6530 PSI) | **450** |
| up to 480 bar (6960 PSI) | **480** |

*All standard valves settings are at flow 4 l/min (1.06 GPM)

**Model**

| | |
|---|---|
| **M1** | M24x1.5 |
| **S1** | SAE12 |

**Seals**

| | |
|---|---|
| **No designation** | NBR |
| **V** | FPM (Viton) |

**Surface treatment**

| | |
|---|---|
| **No designation** | phosphated valve cup |
| **A** | zinc-coated (ZnCr-3), ISO 9227 (240 h) |
| **B** | zinc-coated (ZnNi), ISO 9227 (520 h) |