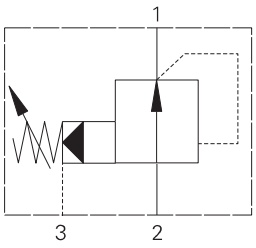
# 1PA100 - Pressure reducing valve

Spool, pilot operated
100 L/min (26 USgpm) • 10 bar (150 psi) to 350 bar (5000 psi)




## Operation

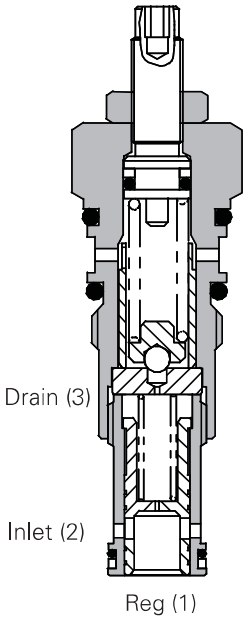
This valve is normally open, allowing oil from the inlet to pass through to the regulated port of the cartridge.

When the regulated pressure reaches the valve setting, the pilot section opens causing a pressure imbalance across the main spool which moves, throttling the inlet flow, preventing any further pressure rise in the regulated line.

## Features

Internal parts hardened, match ground and honed to give long, trouble-free life. Pilot style design allows for high flows and accurate performance.

## Sectional view




## Performance data

**Ratings and specifications**

| *Figures based on: Oil Temp = 40° C Viscosity = 32 cSt (150 SUS)* | | |
|---|---|---|
| Rated flow | | 100 L/min (26 USgpm) |
| Pressure range | | 10 to 350 bar (150 to 5000 psi) |
| Max differential | | 210 bar (3000 psi) between 1 and 2 |
| Cartridge material | | Working parts hardened and ground steel. External surfaces zinc plated. |
| Body material | | Standard aluminium (up to 210 bar*). Add suffix "377" for steel option. |
| Mounting position | | Unrestricted |
| Cavity number | | A880 (See Section M) |
| Torque cartridge into cavity | | 60 Nm (44 lbs ft) |
| Weight | 1PA100 | 0.17 kg (0.37 lbs) |
| | 1PA150 | 0.60 kg (1.32 lbs) |
| Seal kit number | | SK177 (Nitrile) SK177V (Viton®) |
| Recommended filtration level | | BS5540/4 Class 18/13 (25 micron nominal) |
| Operating temp | | -30°C to +90°C (-22°C to 194°F) |
| Pilot flow | | 500 milliliters/min @ standard setting |
| Nominal viscosity range | | 5 to 500 cSt |

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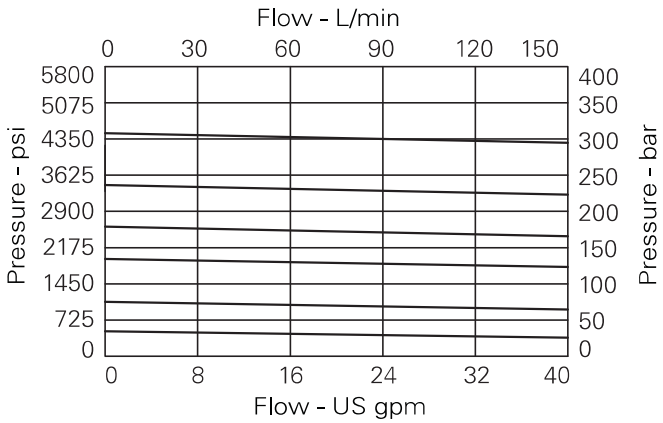
## Description

This is a pilot operated pressure reducing valve designed to maintain a constant downstream pressure lower than the inlet pressure. Ideal for use in two pressure systems or to protect low pressure actuators such as brake cylinders.

## Pressure drop curve




*Where measurements are critical request certified drawings. We reserve the right to change specifications without notice.*

# 1PA100 - Pressure reducing valve

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100 L/min (26 USgpm) • 10 bar (150 psi) to 350 bar (5000 psi)

**Model code**

**1PA*** – P 4W – 35 S**

1 2 3 4 5

## 1 Basic code

**1PA100 -** Cartridge Only
**1PA150 -** Cartridge and Body

## 2 Adjustment means

**P -** Leakproof Screw Adjustment
**R -** Handknob Adjustment
**G -** Tamperproof Cap (See page E-7 for dimensions)

## 3 Port sizes - bodied valves only

| Code | Port size | Housing number | |
|---|---|---|---|
| | | Aluminium single | Steel single |
| **4W** | 1/2" BSP. 1/4" BSP Drain Port | B4821 | B4527 |
| **6W** | 3/4" BSP. 1/4" BSP Drain Port | B5466 | B4403 |
| **8T** | 1/2" SAE. 1/4" SAE Drain Port | B6584 | |
| **12T** | 3/4" SAE. 1/4" SAE Drain Port | B7883 | B11379 |

## 4 Pressure range @ zero flow

**Note:** Code based on pressure in bar.
**7 -** 10–70 bar
Std setting 20 bar
**20 -** 15–210 bar
Std setting 100 bar
**35 -**30–350 bar
Std setting 280 bar
Std setting made at zero flow (dead head)

## 5 Seals

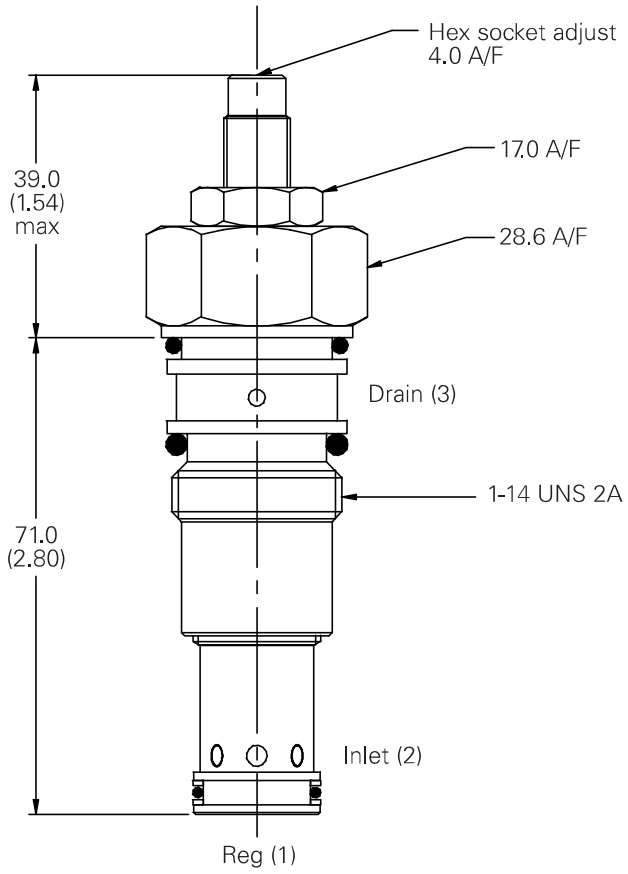
**S -** Nitrile (For use with most industrial hydraulic oils)
**SV -** Viton® (For high temperature and most special fluid applications)

## Dimensions

mm (inch)

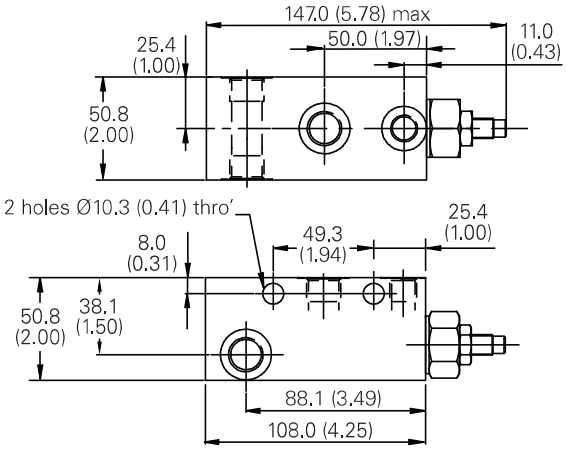
### Cartridge only

Basic Code
**1PA100**




### Complete valve

1/2", 3/4" Ports
Basic Code
**1PA150**




**Note:** Tightening torque of "F" adjuster locknut - 20 to 25 Nm

**Note:** For applications above 210 please consult our technical department or use the steel body option.

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