

DESCRIPTION

A screw-in, cartridge-style, direct-acting, poppet-type, hydraulic relief valve intended for use as a pressure limiting device for common hydraulic circuit protection.

OPERATION

The INRV10-20, blocks flow from ① to ② until sufficient pressure is present at ① to force the poppet from its seat.

The cartridge offers fast response to load changes in typical hydraulic circuits requiring low internal leakage.

NOTE: The INRV10-20 may be used in cross-over relief applications (back pressure on ② with the use of the "C" double back-up ring seal option. See Ordering Table.

FEATURES

- Adjustments cannot be backed out of the valve.
- Adjustment options A, B, and C: positive stops prevent springs from going solid.
- Optional spring ranges to 248 bar (3600 psi) .
- Rapid response to pressure changes.
- Compact size.

RATINGS

Operating Pressure:228 bar (3300 psi)

Flow:The Performance Chart illustrates flow handling capacity at maximum setting for each spring range option. Pressure rise will vary with spring (range) and with setting within range due to flow forces. Consult factory for specific flow characteristic values.

Internal Leakage:

0.25 cc/minute (5 drops/minute) max. to 80% of nominal setting

Crack Pressure Defined:

bar (psi) evident at 0.95 lpm (0.25 gpm) attained

Reseat Pressure: Nominal 90% of crack pressure

Standard Spring Ranges: Due to manufacturing tolerances, it may be possible to adjust the valve either lower or higher than the nominal ratings shown below.

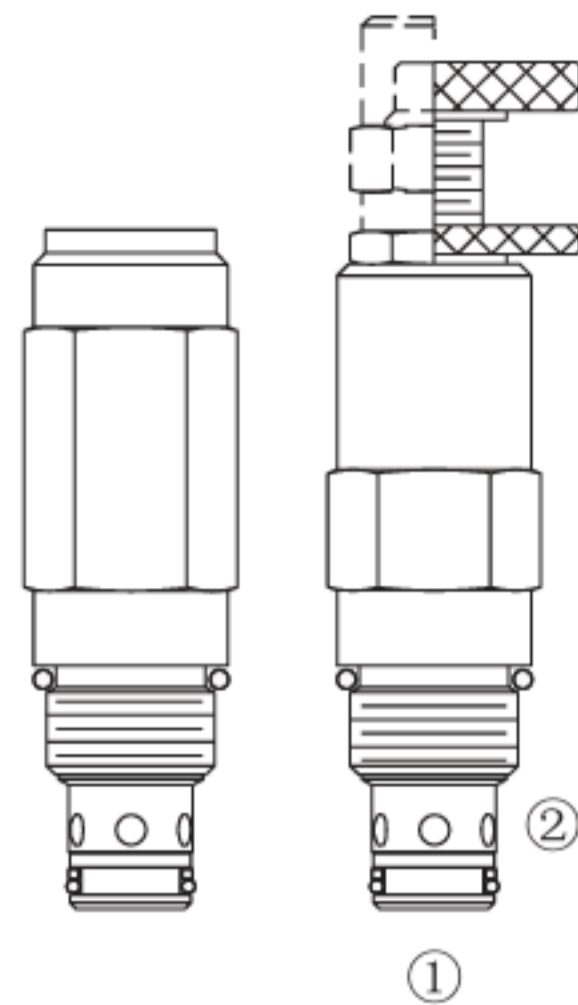
Fluids:Mineral-based or synthetics with lubricating properties at viscosities of 7.4 to 420 cSt (50 to 2000 ssu)

Spring Model Code	Nominal Factory Rating	Max Solid Adjustment
6	3.35–41.4 bar (50–600 psi)	55.17 bar (800 psi)
12	10.3–82.7 bar (150–1200 psi)	110.34 bar (1600 psi)
23	17.24–158.62 bar (250–2300 psi)	200 bar (2900 psi)
33	17.24–227.5 bar (250–3300 psi)	255.17 bar (3700 psi)

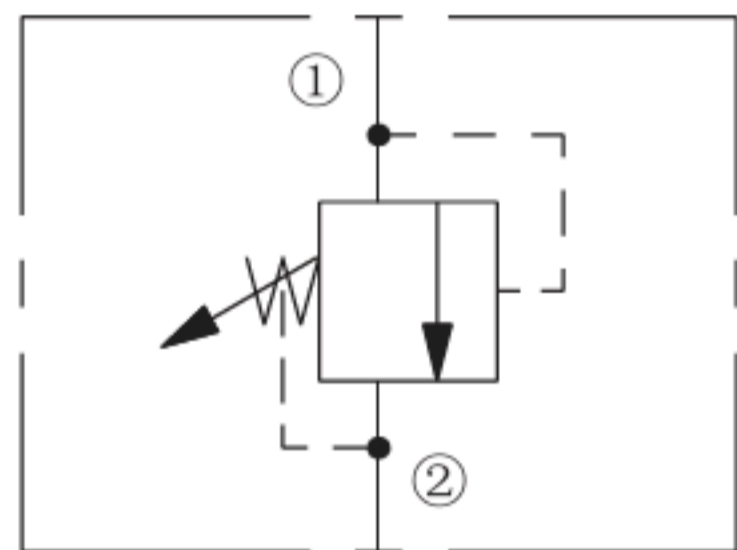
Temperature:–40°C ~ 120°C

Fluids:Mineral-based or synthetics with lubricating properties at viscosities of 7.4 to 420 cSt (50 to 2000 ssu)

Cavity: T08–2A ; See bottom of this catalog.

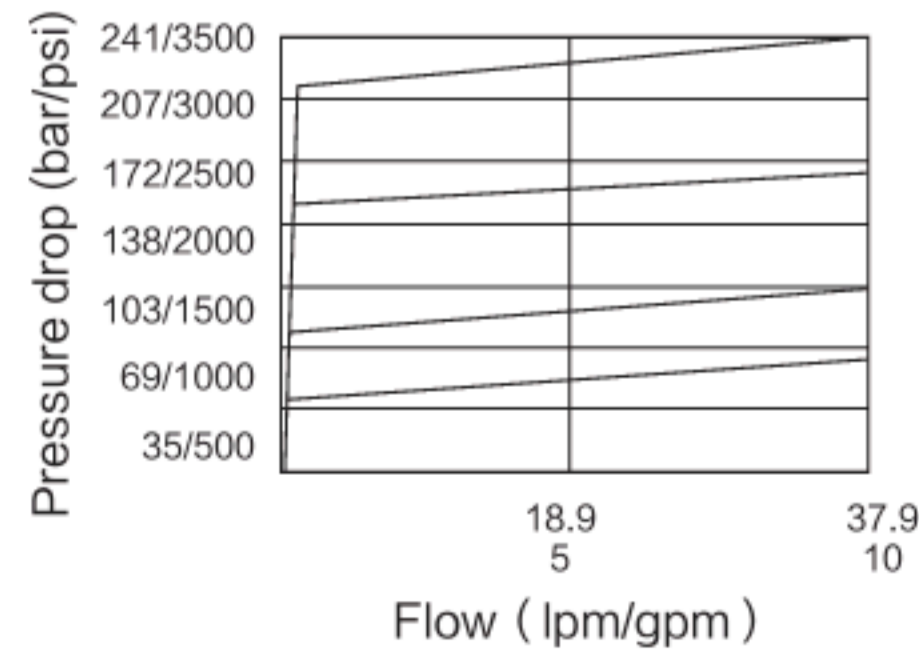


ISO SYMBOL

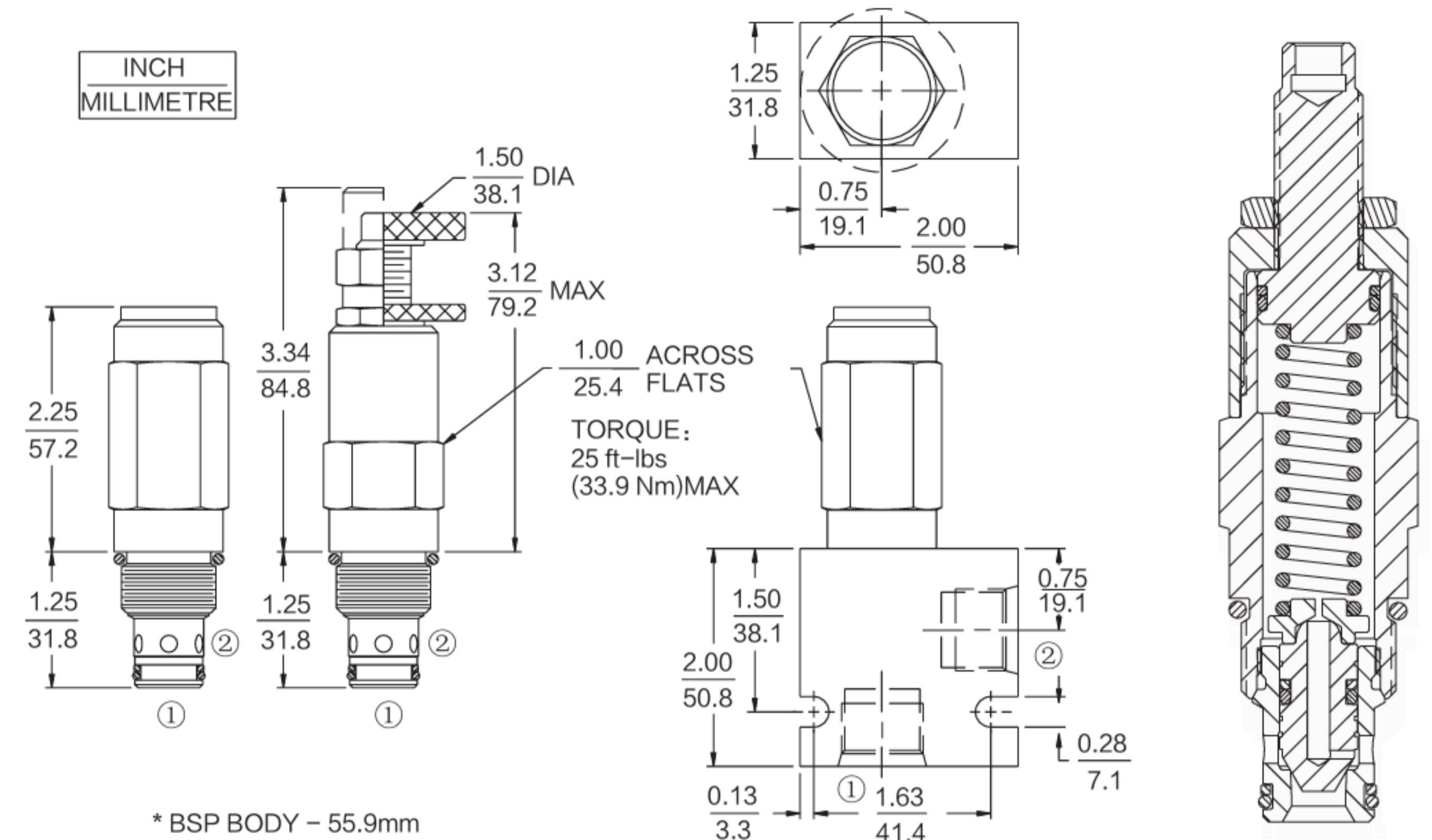


PERFORMANCE (Cartridge Only)

Pressure Drop vs. Flow
32 cSt/150 ssu oil at 40°C



DIMENSIONS



MATERIALS

Cartridge: Weight:0.23kg (0.50 lbs) ; INRV10-20

Steel with hardened work surfaces.

Zinc-plated exposed surfaces.

Buna N O-rings and polyester standard. Anodized aluminum knobs and caps.

BODY:Weight:0.16 kg (0.35lbs) ;

Anodized highstrength 6061 T6 aluminum alloy, rated to 240 bar (3500 psi) ; Ductile iron bodies available; dimensions may differ.

TO ORDER

Adjustment Option

- 1/4 in. Hex Allen Head A
- 1-1/2 in. Dia. Alum. Knobs B
- Option A with Cover Cap C
- Factory Preset Non-Adj. F
- Factory Preset Hidden Adj. H
- Option C w/Lockwire Holes L

Porting

- Cartridge Only 0
- SAE 6 6T
- SAE 8 8T
- 1/4 in. BSP* 2B
- 3/8 in. BSP* 3B
- 1/2 in. BSP* 4B

Seals

Pressure on Port Only:

- Buna N
- Fluorocarbon V

Bidirectional Pressure

- Buna NC

Setting in bar†

- (Blank) for Adjustable, or Specify, for example: M25 25 bar M100 100 bar

Setting in psi†

- (Blank) for Adjustable, or Specify, for example: 9.0 900 psi 23.5 2350 psi

Spring Range

- 6 3.45 to 41.38 bar (50 to 600 psi)
- 12 10.34 to 82.76 bar (150 to 1200 psi)
- 23 17.24 to 158.6 bar (250 to 2300 psi)
- 33 17.24 to 248.2 bar (250 to 3300 psi)

†Adjustable valves will be preset to approx. 50%