



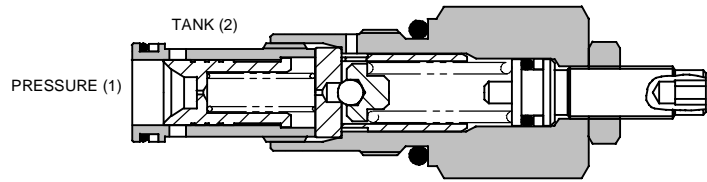
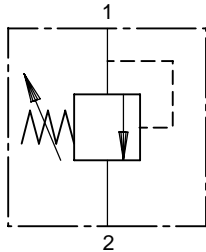
# 1AR SERIES RELIEF VALVE

## PILOT OPERATED

### 1AR100

#### SLIDING SPOOL TYPE

2



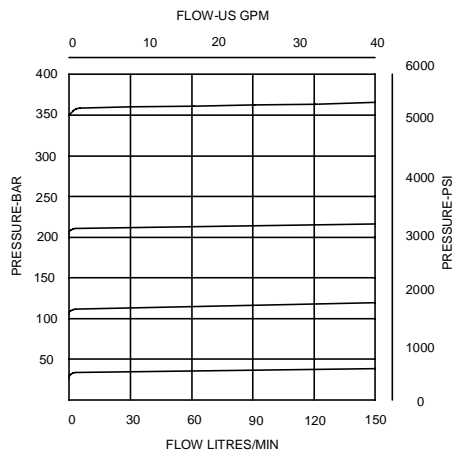
### APPLICATION

To limit pressure in a system. Ideal for continuous duty providing accurate pressure control with constant or varying flows.

### OPERATION

When the inlet pressure exceeds the setting of the valve, the pilot section opens, causing a small flow across the orifice in the main spool. The subsequent pressure drop moves the spool against a light spring opening a ring of radial holes in the sleeve, allowing relief flow to tank.

### PRESSURE DROP



### FEATURES

Very low pressure rise for any increase in flow giving accurate pressure control. Hardened working parts give long, reliable, trouble-free life. Cartridge construction giving maximum flexibility in mounting.

### SPECIFICATIONS

Figures based on: Oil Temp = 40°C Viscosity = 40 cSt

<b>Rated Flow</b>	150 litres/min (40 US GPM)
<b>Max Setting</b>	1AR100 400 bar (5800 psi)
<b>Cartridge Material</b>	Working parts hardened and ground steel. External surfaces zinc plated
<b>Body Material</b>	Standard aluminium (up to 210 bar*) Add Suffix '377' for steel option
<b>Mounting Position</b>	Unrestricted
<b>Cavity Number</b>	A881 (See Section 17)
<b>Torque Cartridge into Cavity</b>	60 Nm (44 lbs ft)
<b>Weight</b>	1AR100 0.14 kg (0.3 lbs) 1AR150 0.65 kg (1.4 lbs) 1AR155 0.91 kg (2.0 lbs)
<b>Seal Kit Number</b>	SK164 (Nitrile) SK164V (Viton)
<b>Recommended Filtration Level</b>	BS5540/4 Class 18/13 (25 micron nominal)
<b>Operating Temp</b>	-20°C to +90°C (Standard seals)
<b>Leakage</b>	20 to 65 millilitres/min nominal
<b>Nominal Viscosity Range</b>	5 to 500 cSt

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

### Integrated Hydraulics Ltd

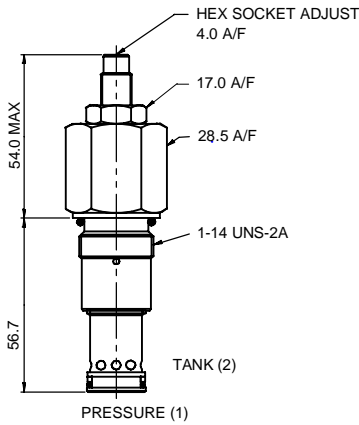
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## CARTRIDGE ONLY

**BASIC CODE: 1AR100**



## COMPLETE VALVE 1/2" 3/4" PORTS

**BASIC CODE: 1AR145**

Body ONLY part numbers

BSP, aluminium

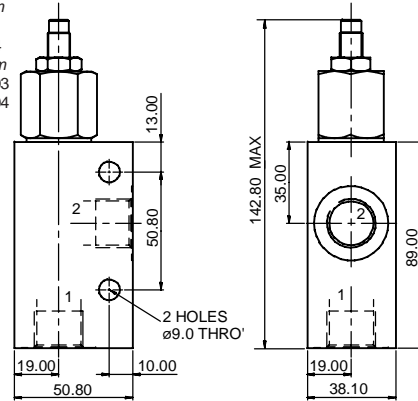
1/2" B4851

3/4" B3954

SAE, aluminium

1/2" B19403

3/4" B19404



## COMPLETE VALVE 3/8" 1/2" 3/4" PORTS

**BASIC CODE: 1AR150**

Body ONLY part numbers

BSP, aluminium

3/8" C1084

1/2" C1044

3/4" C1086

SAE, aluminium

3/8" B10784

1/2" C7140

3/4" B10506

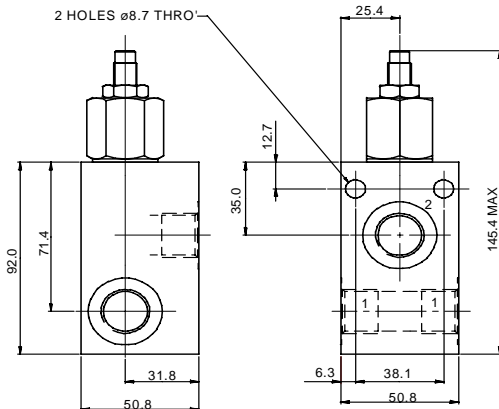
BSP, steel

1/2" C593

3/4" C4917

SAE, steel

3/4" B10742



## COMPLETE VALVE 1" PORTS

**BASIC CODE: 1AR155**

Body ONLY part numbers

BSP, aluminium

1" B1617

SAE, aluminium

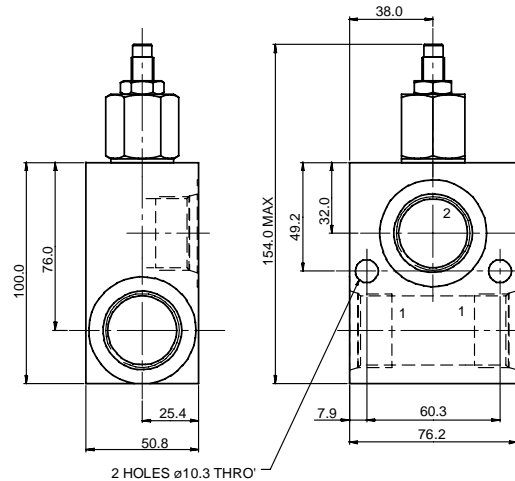
1" B1037

BSP, steel

1" B4596

SAE, steel

1" B24040



Where measurements are critical request certified drawings

## ORDERING CODE EXAMPLE

**1AR\*\***

**P**

**3W**

**40**

**S**

**Basic Code**

**1AR100** = Cartridge Only

**1AR150** = Cartridge and Body

**1AR155** = Cartridge and Body Through ported

**Adjustment Means**

**P** = Leakproof Screw Adjustment

**R** = Handknob Adjustment

**G** = Tamperproof Cap

(See page 2-102 for dimensions)

**Port Sizes - Bodied Valves Only**

**3W** = 3/8" BSP      **6T** = 3/8" SAE

**4W** = 1/2" BSP      **8T** = 1/2" SAE

**6W** = 3/4" BSP      **12T** = 3/4" SAE

**8W** = 1" BSP        **16T** = 1" SAE

**Seals**

**S** = Nitrile (For use with most industrial hydraulic oils)

**SV** = Viton (For high temperature and most special fluid applications)

**Pressure Range @ 14 l/min**

**7** = 10-70 bar. Std setting 35 bar

**20** = 10-210 bar. Std setting 100 bar

**40** = 50-400 bar. Std setting 280 bar

Std setting made at 14 litres/min

We reserve the right to change specifications without notice