



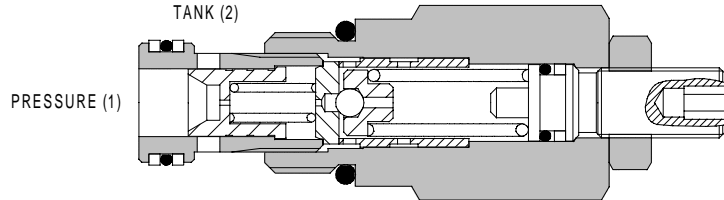
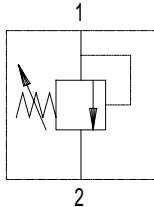
1AR SERIES RELIEF VALVE

PILOT OPERATED (ISO CAVITY NUMBER: 7789-20-1-0-90)

1AR60

SLIDING SPOOL TYPE

2



APPLICATION

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

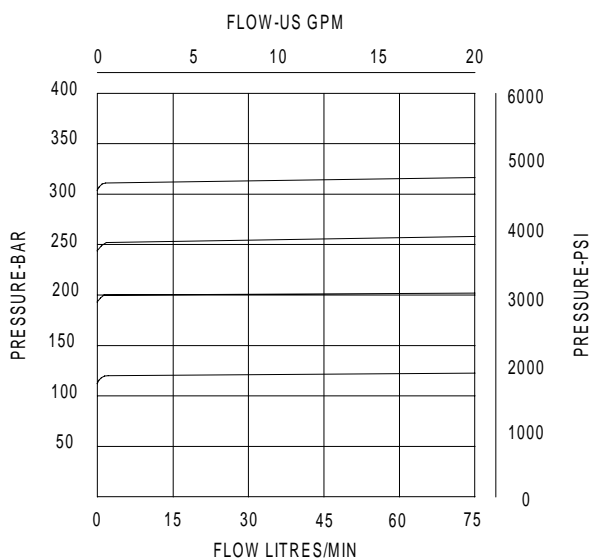
FEATURES

High accuracy of pilot operated design. Hardened working parts give long, reliable, trouble-free life. Cartridge construction for installation into your own manifold.

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



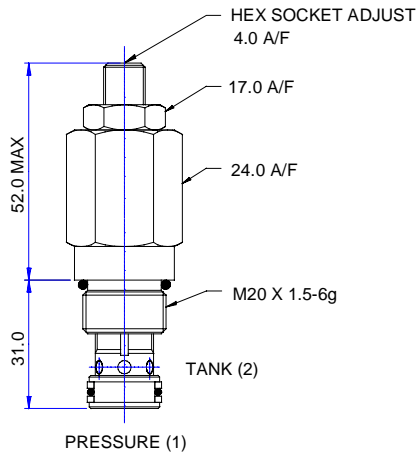
SPECIFICATIONS

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

Rated Flow	60 litres/min (16 US GPM)
Max Setting	350 bar (5000 psi)
Cartridge Material	Working parts hardened and ground steel. External surfaces zinc plated
Body Material	Standard aluminium Add Suffix '377' for steel option
Mounting Position	Unrestricted
Cavity Number	CVA20-01-0 (See Section 17)
Torque Cartridge into Cavity	45 Nm (33 lbs ft)
Weight	1AR60 0.18 kg (0.4 lbs) 1AR65 0.36 kg (0.8 lbs) 1AR66 0.48 kg (1.0 lbs)
Seal Kit Number	SK613 (Nitrile) SK613V (Viton)
Recommended Filtration Level	BS5540/4 Class 18/13 (25 micron nominal)
Operation Temp	-20°C to +90°C (Standard seals)
Leakage	35 millilitres/min nominal
Nominal Viscosity Range	5 to 500 cSt

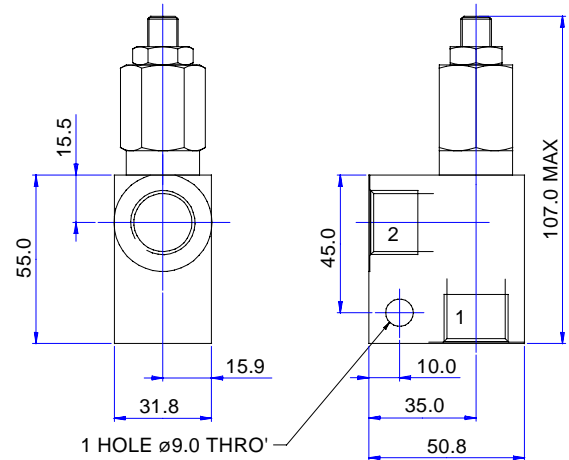
CARTRIDGE ONLY

BASIC CODE: 1AR60



COMPLETE VALVE 3/8" 1/2" PORTS

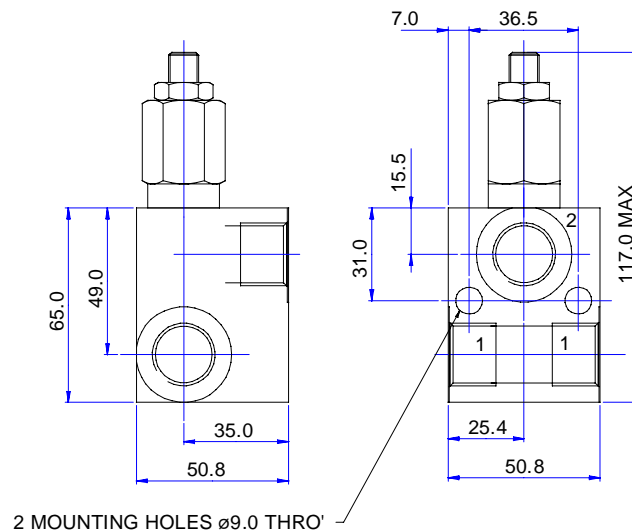
BASIC CODE: 1AR65



2

COMPLETE VALVE 1/2" PORTS

BASIC CODE: 1AR66



Where measurements are critical request certified drawings

ORDERING CODE EXAMPLE

1AR P 3W 35 S**

Basic Code

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

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

10 = 10-100 bar. Std setting 50 bar

20 = 10-200 bar. Std setting 100 bar

35 = 30-350 bar. Std setting 280 bar

Std setting made at 14 litres/min

We reserve the right to change specifications without notice



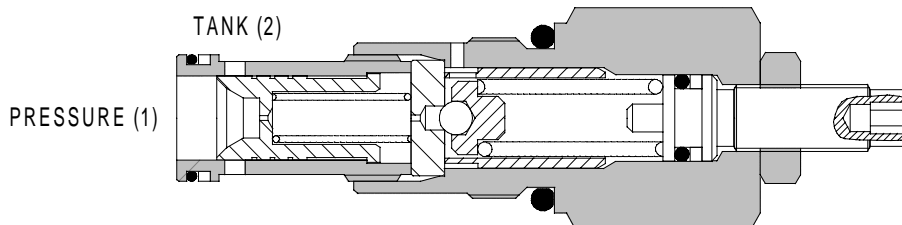
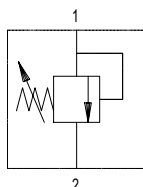
1AR SERIES RELIEF VALVE

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.

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.

OPERATION

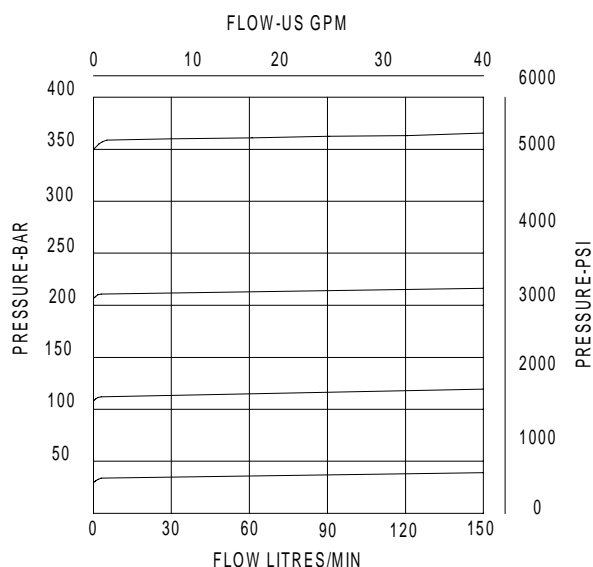
When the inlet pressure exceeds the setting of the valve, the pilot section opens, causing a small flow across the orifice in the main spool. The subsequent pressure drop moves the spool against a light spring opening a ring of radial holes in the sleeve, allowing relief flow to tank.

SPECIFICATIONS

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

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

PRESSURE DROP



Integrated Hydraulics Limited

Collins Road, Heathcote Industrial Estate, Warwick, CV34 6TF, England.

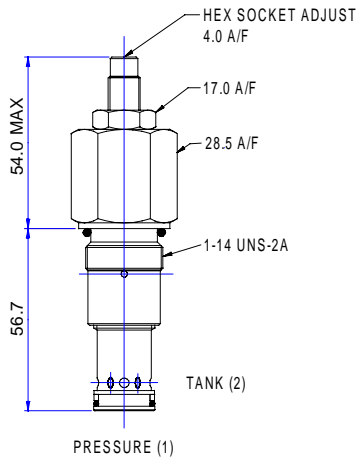
Tel: +44 (0) 1926 881171

Fax: +44 (0) 1926 315729

Website: www.integratedhydraulics.com

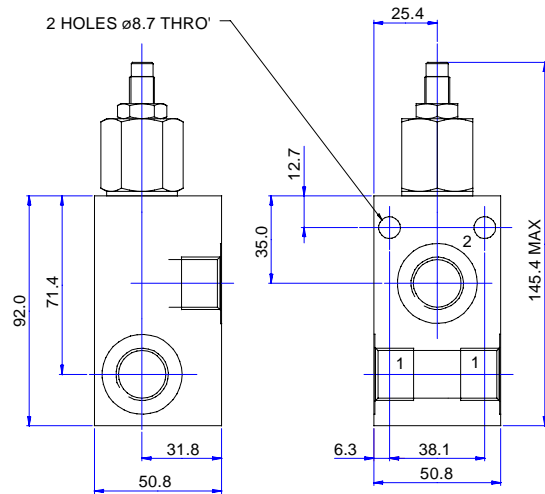
CARTRIDGE ONLY

BASIC CODE: 1AR100



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

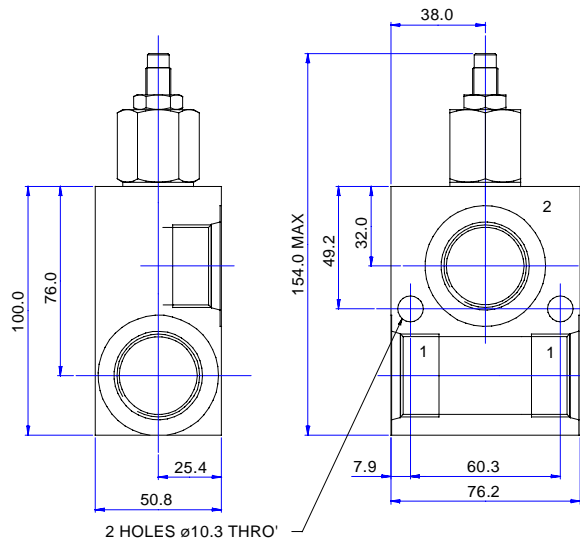
BASIC CODE: 1AR150



2

COMPLETE VALVE 1" PORTS

BASIC CODE: 1AR155



Where measurements are critical request certified drawings

ORDERING CODE EXAMPLE

1AR**

P

3W

40

S

Basic Code

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 = 10-200 bar. Std setting 100 bar

40 = 20-400 bar. Std setting 280 bar

Std setting made at 14 litres/min

We reserve the right to change specifications without notice