1LR SERIES RELIEF VALVE

DIRECT ACTING DIFFERENTIAL AREA

1LR100 POPPET TYPE

2



APPLICATION

Ideal for intermittent duty as protection against overload or surge conditions for all types of actuators. Very fast acting and extremely dirt tolerant.

OPERATION

Pressure acts over the differential area between the seat and seal on the poppet. When the pressure exceeds the setting, the valve opens, allowing relief flow to tank, washing contaminant away from the seat.

PRESSURE DROP



FEATURES

Dirt tolerant, robust and consistent with good pressure rise to increase in flow characteristics for a direct acting valve. Cartridge construction provides for maximum flexiblity in mounting.

SPECIFICATIONS

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

Rated Flow	150 litres/min (40 US GPM)
Max Setting	350 bar (5000 psi)
Cartridge Material	Working parts hardened and ground steel. External surfaces black oxide
Body Material	Standard aluminium Add Suffix '377' for steel option
Mounting Position	Unrestricted
Cavity Number	A878 (See Section 17)
Torque Cartridge into Cavity	60 Nm (44 lbs ft)
Weight	1LR100 0.23 kg (0.5 lbs) 1LR150 0.45 kg (1.0 lbs) 1LR155 1.06 kg (2.3 lbs)
Seal Kit Number	SK170 (Nitrile) SK170V (Viton)
Recommended Filtration Level	BS5540/4 Class 18/13 (25 micron nominal)
Operation Temp	-20°C to +90°C
Leakage	0.3 millilitres/min nominal (5 dpm)
Nominal Viscosity Range	5 to 500 cSt





2

BASIC CODE: 1LR155



50.8



Where measurements are critical request certified drawings



We reserve the right to change specifications without notice

1LR SERIES RELIEF VALVE

DIRECT ACTING DIFFERENTIAL AREA

1LR300 POPPET TYPE

2

1



APPLICATION

Ideal for intermittent duty as protection against overload or surge conditions for all types of actuators. Very fast acting and extremely dirt tolerant.

OPERATION

Pressure acts over the differentail area between the seat and seal on the poppet. When the pressure exceeds the setting, the valve opens, allowing relief flow to tank, washing contaminant away from the seat.

PRESSURE DROP



FEATURES

Dirt tolerant, robust and consistent with good pressure rise to increase in flow characteristics for a direct acting valve. Cartridge construction provides for maximum flexiblity in mounting at the point where it is most needed.

SPECIFICATIONS

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

380 litres/min (100 US GPM)
350 bar (5000 psi)
Working parts hardened and ground steel. External surfaces zinc plated
Standard aluminium Add Suffix '377' for steel option
Unrestricted
A1126 (See Section 17)
150 Nm (110 lbs ft)
1LR300 1.04 kg (2.3 lbs) 1LR350 2.08 kg (4.6 lbs)
SK207 (Nitrile) SK207V (Viton)
BS5540/4 Class 18/13 (25 micron nominal)
-20°C to +90°C
1 millilitre/min nominal (15 dpm)
5 to 500 cSt
210 bar (3000 psi)



CARTRIDGE ONLY

BASIC CODE: 1LR300





Port Sizes - Bodied Valves Only _____ 10W = 1 1/4" BSP 20T = 1 1/4" SAE Pressure Range @ 25 l/min
20 = 35-210 bar. Std setting 100 bar
35 = 70-350 bar. Std setting 280 bar
Std setting made at 25 litres/min

We reserve the right to change specifications without notice

2

PILOT OPERATED

1VR100

2

SLIDING SPOOL TYPE





APPLICATION

To limit pressure in a system. Good for continuous duty and accurate pressure control with constant or varying flows. The vent feature can be used with remote pilot section for a two-pressure system or to allow manual or remote 'unloading' of the pump.

OPERATION

When inlet pressure exceeds the setting of the valve, the pilot section opens. The pilot flow causes a pressure imbalance across the main section spool causing it to open, allowing relief flow to tank. When 'vented', pilot flow is referenced directly to tank, bypassing the pilot section. This flow through the vent causes a pressure imbalance, opening the main section and dumping the pump at minimum pressure drop.

FEATURES

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

SPECIFICATIONS

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

Rated Flow	100 litres/min (26 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	A3146 (See Section 17)
Torque Cartridge into Cavity	75 Nm (55 lbs ft)
Weight	1VR100 0.46 kg (1.0 lbs) 1VR150 1.13 kg (2.5 lbs)
Seal Kit Number	SK275 (Nitrile) SK275V (Viton)
Recommended Filtration Level	BS5540/4 Class 18/13 (25 micron nominal)
Operating Temp	-20°C to +90°C
Leakage	35 millilitres/min @ 280 bar
Nominal Viscosity Range	5 to 500 cSt



PRESSURE DROP



PILOT OPERATED

1VR200

2

SLIDING SPOOL TYPE



3



APPLICATION

To limit pressure in a system. Good for continuous duty and accurate pressure control with constant or varying flows. The vent feature can be used with a remote pilot section for a two-pressure system or to allow manual or remote 'unloading' of the pump.

OPERATION

When inlet pressure exceeds the setting of the valve, the pilot section opens. The pilot flow causes a pressure imbalance across the main section spool causing it to open, allowing relief flow to tank. When 'vented', pilot flow is referenced directly to tank, bypassing the pilot section. This flow through the vent port causes a pressure imbalance, opening the main section and dumping the pump at minimum pressure drop.

FEATURES

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

SPECIFICATIONS

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

Rated Flow	200 litres/min (52 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	A3145 (See Section 17)
Torque Cartridge into Cavity	100 Nm (73 lbs ft)
Weight	1VR200 0.74 kg (1.6 lbs) 1VR250 1.82 kg (4.0 lbs)
Seal Kit Number	SK173 (Nitrile) SK173V (Viton)
Recommended Filtration Level	BS5540/4 Class 18/13 (25 micron nominal)
Operating Temp	-20°C to +90°C
Leakage	35 millilitres/min @ 280 bar
Nominal Viscosity Range	5 to 500 cSt



PRESSURE DROP



CARTRIDGE ONLY

BASIC CODE: 1VR200



COMPLETE VALVE 3/4" 1" PORTS

BASIC CODE: 1VR250





We reserve the right to change specifications without notice