



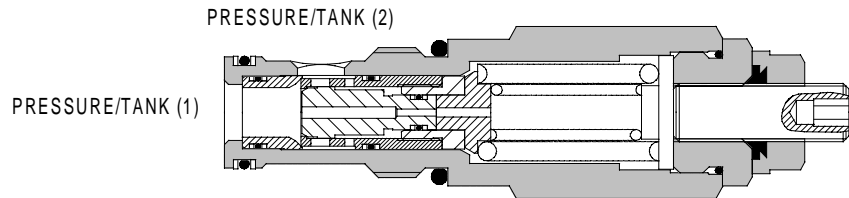
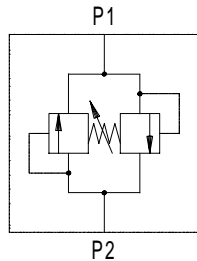
1CLLR SERIES DUAL RELIEF VALVE

DIRECT ACTING DIFFERENTIAL AREA

1CLLR100

POPPET TYPE

3



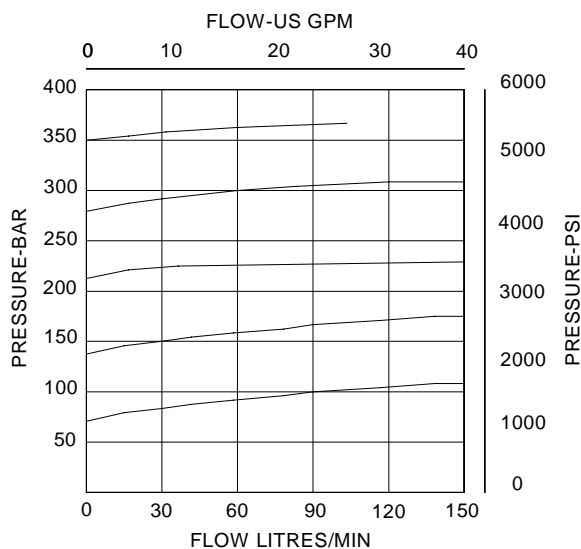
APPLICATION

To protect both lines in a circuit from over pressurisation by relieving oil to the other line. Ideal for use with motors or directional valves as a safety relief. Differential area, fast acting, poppet valve.

OPERATION

Pressure acts over one of two differential areas forcing the poppet back allowing relief flow to the other port. This being a single cartridge is ideal for mounting on to the motor in a special housing.

PRESSURE DROP



FEATURES

Single cartridge relieving in both directions cutting down space requirements, giving full adjustment through its range on both pressures at the same time.

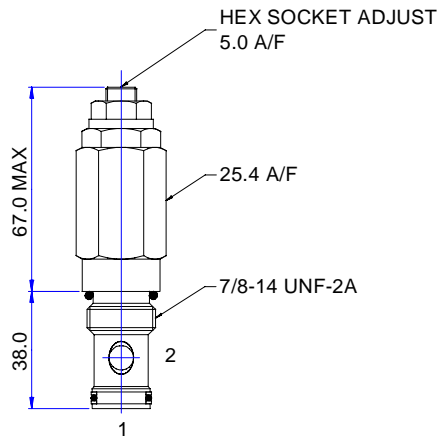
SPECIFICATIONS

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 steel 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	1CLLR100 0.23 kg (0.5 lbs) 1CLLR150 0.45 kg (1.0 lbs) 1CLLR155 1.06 kg (2.3 lbs)
Seal Kit Number	SK614 (Nitrile) SK614V (Viton)
Recommended Filtration Level	BS5540/4 Class 18/13 (25 micron nominal)
Operating Temp	-20°C to +90°C
Leakage	5 millilitres/min
Nominal Viscosity Range	5 to 500 cSt

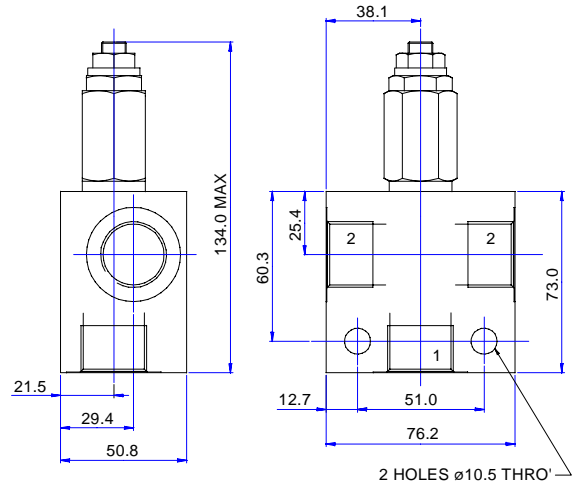
CARTRIDGE ONLY

BASIC CODE: 1CLLR100



COMPLETE VALVE 3/4" 1" PORTS

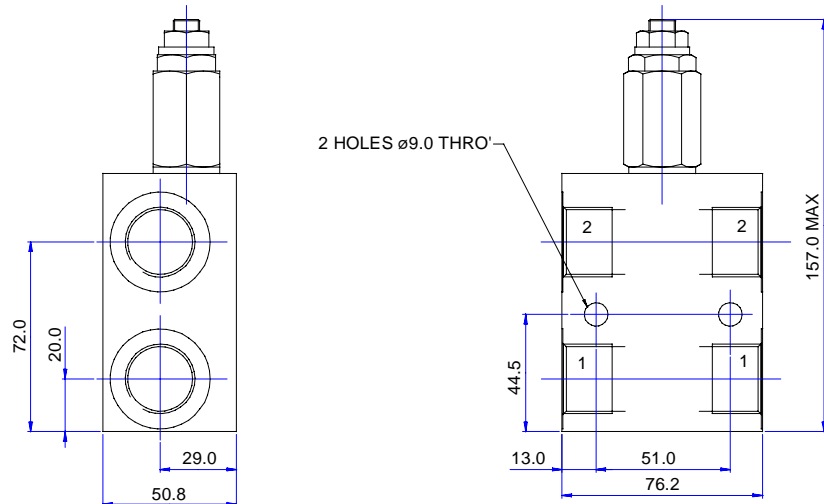
BASIC CODE: 1CLLR150



3

COMPLETE VALVE 3/4" PORTS

BASIC CODE: 1CLLR155



Where measurements are critical request certified drawings

ORDERING CODE EXAMPLE

1CLLR* F 6W 35 S**

Basic Code

Adjustment Means

F = Screw Adjustment

Port Sizes - Bodied Valves Only

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

35 = 114-350 bar. Std setting 280 bar
Std setting made at 14 litres/min

We reserve the right to change specifications without notice

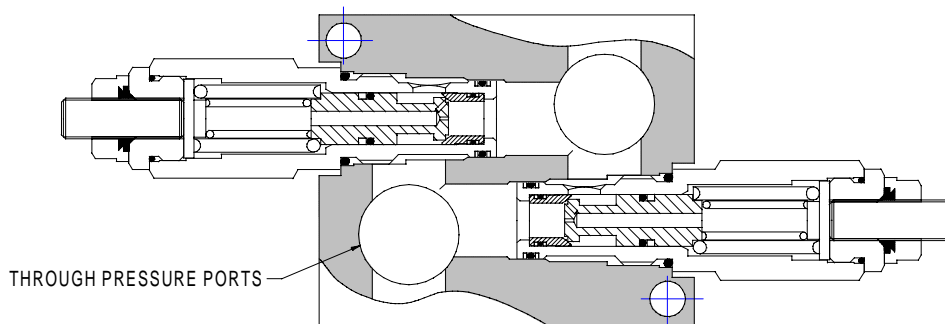
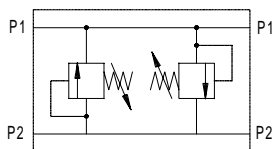


1LLR SERIES DUAL RELIEF VALVE

DIRECT ACTING DIFFERENTIAL AREA

1LLR150

POPPET TYPE



THROUGH PRESSURE PORTS

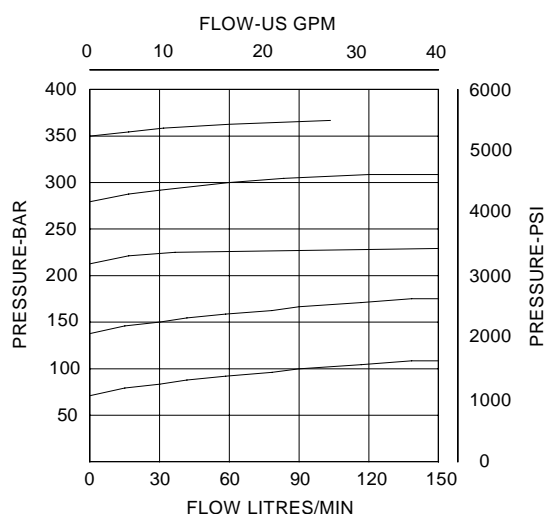
APPLICATION

To protect directional control valves from shock or surge pressures induced by changes in direction or sudden stops which create excessive load conditions.

OPERATION

The dual relief is of the cross line type, where exhaust oil from one line is transferred to the other, negating the need for a separate tank line. It also prevents cavitation when used in conjunction with a closed centre directional valve. For greatest protection the valve should be mounted as close to the actuator as possible. Note for single rod cylinders, anti-cavitation check valves and a separate tank line are necessary. See page 3-161.

PRESSURE DROP



FEATURES

Soft start and stop with fast acting operation to give maximum protection to expensive actuators. Reduces plumbing to a minimum and cartridge construction makes for easy maintenance.

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 steel surfaces zinc plated
Body Material	Standard aluminium Add Suffix '377' for steel option
Mounting Position	Line mounted
Weight	1.14 kg (2.50 lbs)
Seal Kit Number	SK362 (Nitrile) SK362V (Viton)
Recommended Filtration Level	BS5540/4 Class 18/13 (25 micron nominal)
Operating Temp	-20°C to +90°C
Leakage	0.3 millilitres/min max (5 dpm)
Nominal Viscosity Range	5 to 500 cSt

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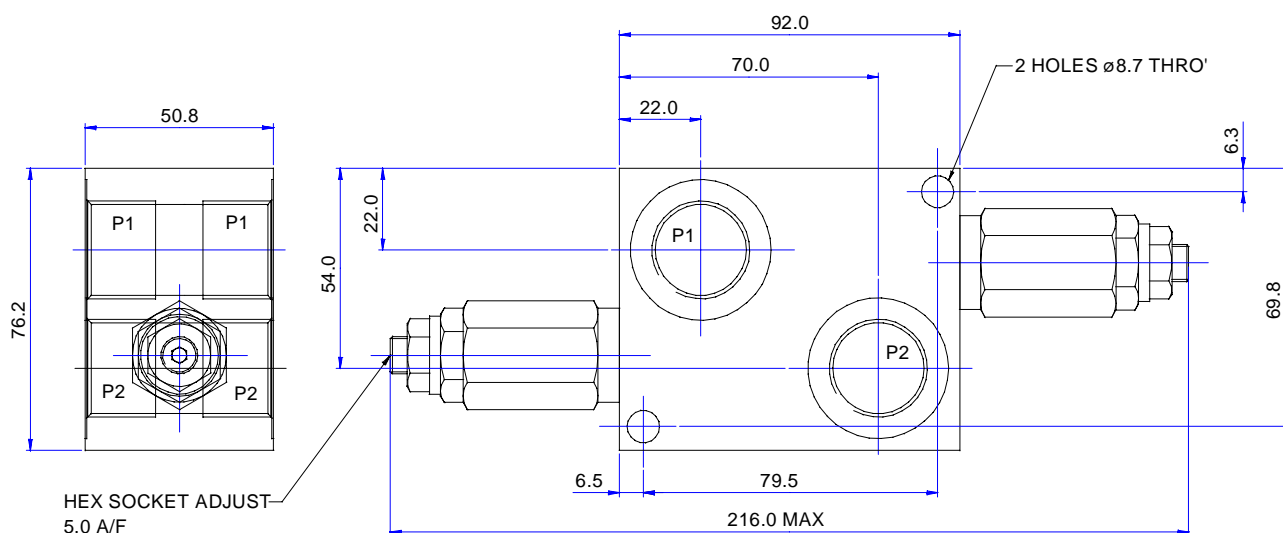
Website: www.integratedhydraulics.com

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

COMPLETE VALVE 1" PORTS

BASIC CODE: 1LLR150

3



Where measurements are critical request certified drawings

ORDERING CODE EXAMPLE

1LLR150 F 8W 35 S

Basic Code

Adjustment Means
F = Screw Adjustment

Port Sizes - Bodied Valves Only
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

17 = 35-175 bar. Std setting 105 bar
28 = 70-280 bar. Std setting 170 bar
35 = 100-350 bar. Std setting 280 bar
Std setting made at 14 litres/min

We reserve the right to change specifications without notice

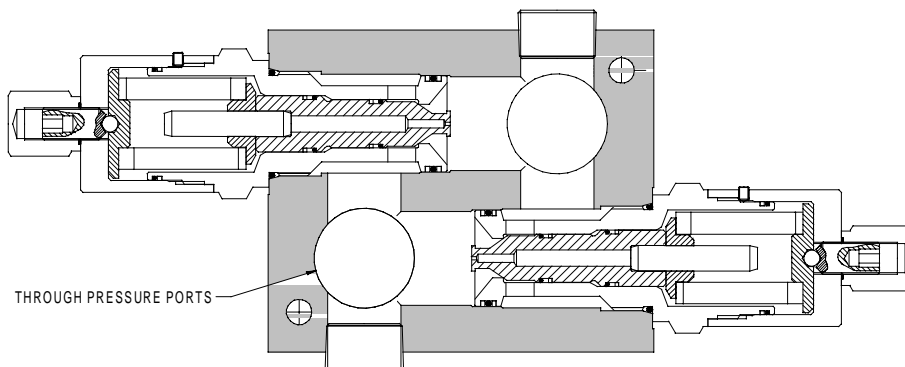
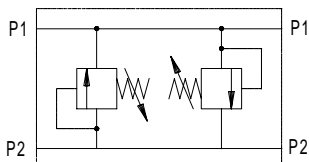


1LLR SERIES DUAL RELIEF VALVE

DIRECT ACTING DIFFERENTIAL AREA

1LLR350

POPPET TYPE



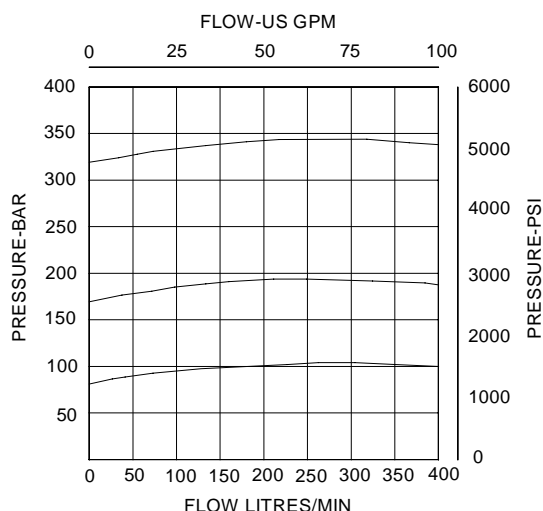
APPLICATION

To protect directional control valves from shock or surge pressures induced by changes in direction or sudden stops which create excessive load conditions.

OPERATION

The dual relief is of the cross line type, where exhaust oil from one line is transferred to the other, negating the need for a separate tank line. It also prevents cavitation when used in conjunction with a closed centre directional valve. For greatest protection the valve should be mounted as close to the actuator as possible. Note for single rod cylinders, anti-cavitation check valves and a separate tank line are necessary. See page 3-161.

PRESSURE DROP



FEATURES

Soft start and stop with fast acting operation to give maximum protection to expensive actuators. Reduces plumbing to a minimum and cartridge construction makes for easy maintenance.

SPECIFICATIONS

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

Rated Flow	380 litres/min (100 US GPM)
Max Setting	210 bar (3000 psi)
Cartridge Material	Working parts hardened and ground steel. External steel surfaces zinc plated
Body Material	Standard aluminium Add Suffix '377' for steel option
Mounting Position	Unrestricted
Weight	5.50 kg (12.0 lbs)
Seal Kit Number	SK685 (Nitrile) SK685V (Viton)
Recommended Filtration Level	BS5540/4 Class 18/13 (25 micron nominal)
Operating Temp	-20°C to +90°C
Leakage	1.2 millilitres/min max (20 dpm)
Nominal Viscosity Range	5 to 500 cSt

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