

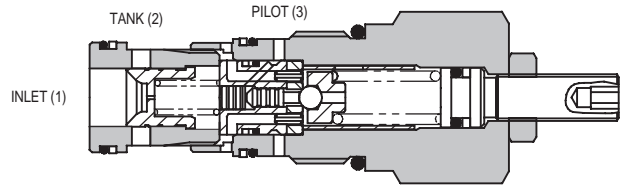
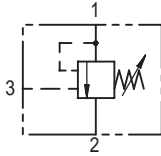


1UL60 / 1PUL60 UNLOADING VALVE

PILOT OPERATED - SLIDING SPOOL TYPE

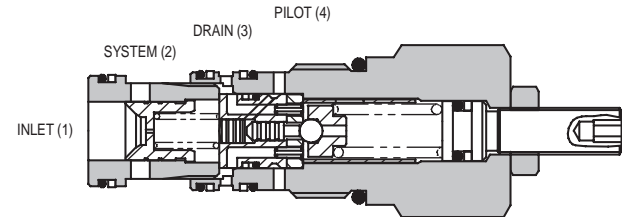
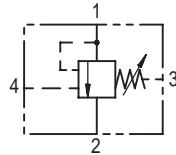
1UL60

UNLOADS TO TANK



1PUL60

UNLOADS TO A SECONDARY SYSTEM



APPLICATION

These unloader valves are used to unload a pump, or pumps, to tank when pressure in a separate part of the circuit reaches a pre-set level. The valves will close, causing the circuit to reload, when the pressure drops to approximately 85% of the unload pressure. The most common application is to maintain a pressure in an accumulator which may be used in an emergency to operate an essential hydraulic function. (Eg, a brake circuit). The 1PUL60 valve has a drain port to ensure correct valve function while allowing the bypassed oil to be used for a secondary circuit requirement.

OPERATION

Inlet pressure is seen on the nose of the valve and system pressure (downstream of the system check valve) operates on the system pilot port. When pressure rises to the valve setting, the relief section opens and the system pressure acts on the pilot piston to hold the valve in the open position. The ratio between the pilot piston diameter and the seat diameter to the relief valve pilot section ensures that the valve will be maintained in the fully open position until the system pressure drops to approximately 85% of the unload pressure.

FEATURES

Valves are available as cartridges for installation into special line bodies or into custom designed Hydraulic Integrated Circuits. (NOTE: Provision must be made for a system check valve and a pilot line to signal the system pressure). Valve assemblies can be supplied complete in a line body for use in accumulator circuits. Bodied valves include a check valve and the required connection from the system to the valve pilot port.

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)	
Differential Unload/Reload	10-15%	
Cartridge Material	All working parts hardened and ground steel. External surfaces zinc plated	
Body Material	Standard Steel	
Mounting Position	Unrestricted	
Cavity Number	1UL60 A3146 1PUL60 A12088	(See Section 17)
Torque Cartridge into Cavity	75 Nm (55 lbs ft)	
Weight	1UL60/1PUL60 0.46 kg (1.01 lbs) 1UL65/1PUL65 0.8 kg (1.76 lbs)	
Seal Kit Number	1UL60 SK451 (Nitrile) SK451V (Viton) 1PUL60 SK750 (Nitrile) SK750V (Viton)	
Recommended Filtration Level	BS5540/4 Class 18/13 (25 micron nominal)	
Operating Temp	-20°C to +90°C	
Leakage	35 millilitres/min nominal	
Nominal Viscosity Range	5 to 500 cSt	

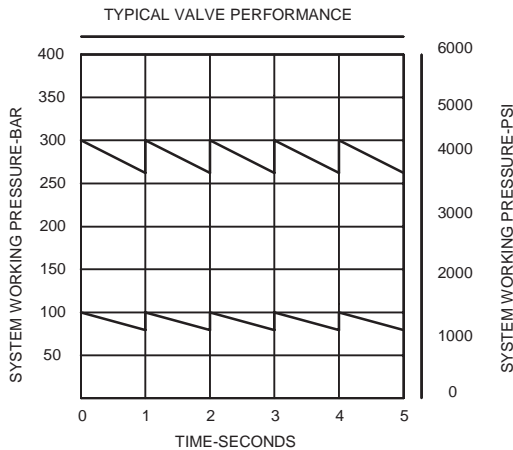
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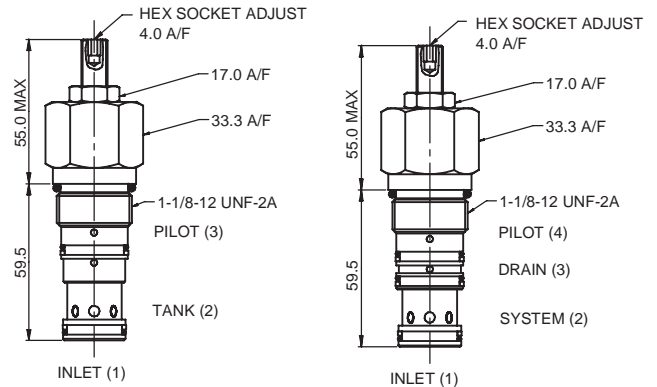
PERFORMANCE CURVE



CARTRIDGE ONLY

BASIC CODE: 1UL60

BASIC CODE: 1PUL60

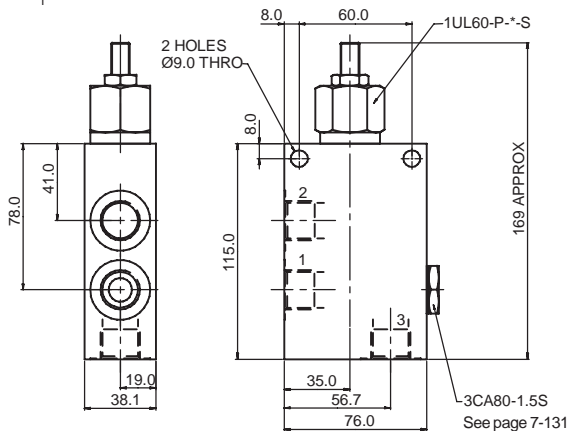
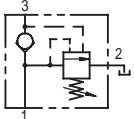


COMPLETE VALVE 1/2" PORTS

BASIC CODE: 1UL65 (WITH SYSTEM CHECK)

Sub-assembly part numbers

SAE, aluminium BSP, steel
1/2" BXP24103-8T-S 1/2" BXP24103-4W-S-377



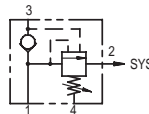
Where measurements are critical request certified drawings

COMPLETE VALVE 1/2" PORTS

BASIC CODE: 1PUL65 (WITH SYSTEM CHECK)

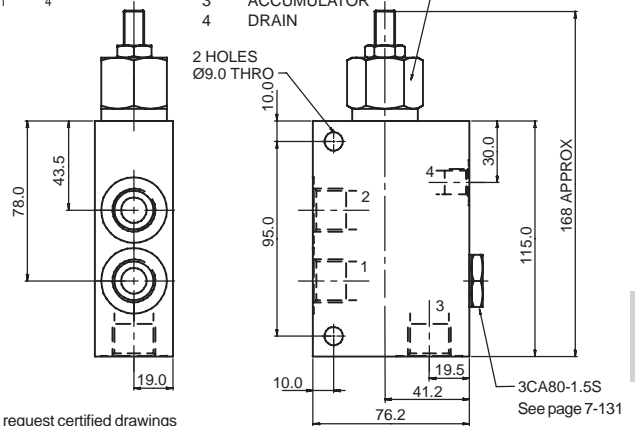
Sub-assembly part numbers

SAE, aluminium BSP, steel
1/2" BXP24046-8T-S 1/2" BXP24046-4W-S-377



TYPICAL CONNECTIONS

PORT	FUNCTION
1	PRESSURE
2	SYSTEM
3	ACCUMULATOR
4	DRAIN



ORDERING CODE EXAMPLE

1*UL P 4W 35 S 377**

Basic Code

1UL60 = Cartridge Only
1PUL60 = Cartridge Only
1UL65 = Cartridge and body
1PUL65 = Cartridge and body

Adjustment Means

P = Leakproof Screw Adjustment
G = Tamperproof Cap
(See page 12-102 for dimensions)

Port Sizes - Bodied Valves Only

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

Body Material

377 = Steel
Omit for Aluminium (up to 210 bar)

Seals

S = Nitrile (For use with most industrial hydraulic oils)
SV = Viton (For high temperature and most special fluid applications)

Pressure Range @ 4.8 l/min

10 = 40-100 bar. Std setting 75 bar
35 = 150-350 bar. Std setting 200 bar
20 = 70-210 bar. Std setting 100 bar