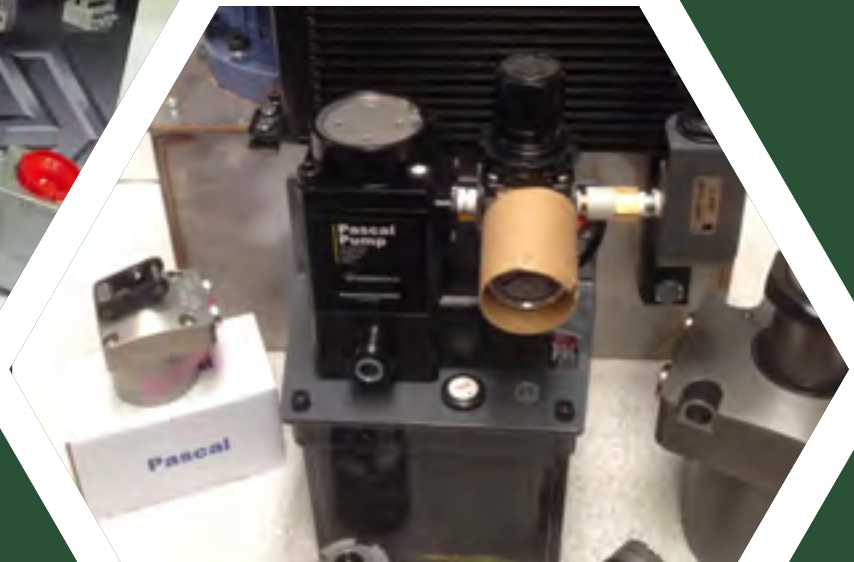




**CORRIDOR
CONNECTIONS**

PRICE LIST 2020





HISTORY

Corridor Connections has been working in the Hydraulics Industry for 23 years, before that since 1985. Our areas of expertise are special purpose machine tools, hydraulic fixtures, earthmoving/construction equipment and industrial systems. We have provided solutions all over Australia and around the world - intermittent faults, old equipment upgrades, design/build projects for end users and OEMs.

SCOPE OF SERVICES

Pascal Engineering	Distributor, Stockist	www.pascaleng.co.jp/us
Oilpath Hydraulics	Stockist	www.oilpathhydraulics.com.au
Hydraforce Inc.	Stockist	www.hydraforce.com
Sun Hydraulics Inc.	Stockist	www.sunhydraulics.com
Vonberg Valve Inc	Stockist	www.vonberg.com
Power unit design	Basic or custom designed, OEM series production or one off.	
Hydraulic coolers	Fan cooled units, AC/DC small Australian designed/made.	
Hydraulic fittings	Metric Light, Heavy, ORFS, BSP and JIC	

POINT OF DIFFERENCE

There are many options when looking for hydraulic services. What we offer is a depth of knowledge and experience in a range of industries. What we have learned can make a solution to your problem less difficult. We have a wide range of valves and parts in stock. We can supply accumulators charged to your requirements, pumps, motors and components from most manufacturers, we have a large range of Cetop 3 (NG6) and Cetop 5 (NG10) solenoid valves in stock, DIN plugs and Deutsch connectors.

We stock electrical components, moulded DIN, Junior Timer and Deutsch Plug/cables, lamp plugs, pressure switches, transducers. PWM controllers, valve drivers and pots.

We design and manufacture simple custom manifolds and bodies, aluminium and steel in house, small volume - short lead time.

We have designed and manufactured lubrication systems for machine tools: Spindle and jacket cooling systems: Oil cleaning and preparation systems. Die change systems, hydraulic die clamps and Pump/Control units.

CETOP VALVES

Cetop 3 (Ng6)
Cetop 5 (Ng10)
Cetop 7 (Ng16)
Sandwich valves



PUMPS AND MOTORS

Piston, Vane, Gear
Gerotor, Geroller
Air over oil
Hascal



CUSTOM POWER UNITS

Oil coolers
Accumulators
Filters and Elements
Hoses and Fittings



ACCESSORIES

Moulded plugs and cables
DIN, Deutsch, Junior Timer
Pressure switches
ECUs Controllers PWM





HYDRAFORCE

Hydraforce is a USA based manufacturer of hydraulic valves, manifolds and line bodies and associated electronics. Hydraforce are Tier 1 suppliers to reputable manufacturers such as Caterpillar, John Deere, Case New Holland and others. As such their quality control is second to none. Products are designed and manufactured to the highest standard to ensure that they are capable of doing their intended function on your machine for the longest period.

OVERVIEW

There are 3 basic types of cartridge valves; -

1. ISO standard cavity
2. Manufacturer specific cavity
3. Parts in cavity

Hydraforce products generally conform to ISO specifications for installation in manifolds and equipment, this means that the port configuration allows for standardised tooling and interchange with other ISO products. It is possible to replace faulty valves with a Hydraforce cartridges- we can assist with the cross matching.

Hydraforce do have exceptions to the ISO products. They have valves designed for OEMs or which require special features not practically achievable in the ISO envelope. There are also "Drop In" cartridges and the HyPerformance series valves rated to 345 bar. We can assist in the identification and supply of Hydraforce valves on request.

Hydraforce manufacture a range of electronic products to let you get the best performance and control out of your system. Economical plug top controllers to powerful ECU modules to control your machine, these products are rugged, designed to be installed on machine, hot, cold, vibration and in the elements, wet and horrible.

HYDRAFORCE

Not the low cost solution - value for money, guaranteed performance, built in durability.

Stock - Wide range available, ready for immediate dispatch to you.

Technical support- 30 years hydraulics experience, we can help you solve the problem. Cleaning and preparation systems. Die change systems, hydraulic die clamps and Pump/ Control units.



SUN PRODUCTS - STOCK LINE

PRESSURE CONTROL VALVES

Relief
Reducing
Reducing Relieving
Sequence

FLOW CONTROL VALVES

Needle

LOAD HOLDING VALVES

Counter Balance

DIRECTIONAL VALVES

Check
Logic Elements

SOLENOID OPERATED VALVES

2/2 Way (2 Position, 2 Way)
2/3 Way
2/4 Way
3/4 Way

BODIES

Line (Threaded Connections)
Sandwich (Cetop or NG style)
Custom designed, function specific- space saving, reduced fitting count.

Sun manufacture a huge range of valves, we stock more than listed and can source any other products according to your requirements. We carry more Series 1 valves (60lpm), some series 0 and 2 and fewer series 3 (240 lpm)

Made in Illinois USA

In House Design & Engineering

Machining, Assembly & Testing by Vonberg



FLOW REGULATING VALVES

- Flow Control Cartridges
- Pressure Compensated Flow Controls
- Needle Valves
- Downhole Threaded Inserts

PRESSURE CONTROLS

- Counter Balance Valves
- ISO & Metric Cavities
- 9/16 to 1 1/16UN sizes



DIRECTIONAL VALVES

- Check Valves Cartridges & Inline
- Shuttle Valves
- Check/ Throttle Check Valve Fittings
- Brake Release Shuttle Valves

CARTRIDGE BODIES

- CAV06 to CAV12
- Aluminium or Ductile Iron
- BSPP, "O" Ring Boss ports



Pascal

PASCAL PRODUCT SCOPE

WORK CLAMPING SYSTEM

Swing Clamps- Hydraulic or Pneumatic

Link Clamps- Hydraulic or Pneumatic

Work Supports- Hydraulic or Pneumatic

Rotary Joint, 2-16 lines

PALLET CLAMPING SYSTEM

Pallet Clamps, Pal Coupler, Pal Fix. Precision location system for pallet, jigs and fixtures

GAS SPRINGS

Nitrogen Gas Springs, long life, high spring rate for size, linear curve

ROBOT EQUIPMENT

Nitrogen Gas Balancer- more efficient than hydraulic, compact and reliable.

Robot End Effector Tool Changer

Magnetic Gripper

OTHER PRODUCT GROUPS

Indexing Units, 90°- Fast, durable and accurate part indexing.

Machining Centre Elements, Pallet Coupling, Fluid couplers, Gas Balancers, Tool Changer.

Press Machine equipment, die changers, travelling clamps, die lifters and control system.

Injection Moulding Machine, magnetic clamps, die clamps, die location systems.

Hydraulic Cylinders, double/ single acting, hollow rod, manifold mount or threaded body.

Auto Couplers, fluid connection for Hydraulic, Pneumatic or coolant application.

Die Changer System, rapid unclamp and re-clamp of press tools. Hands off, tool free.

Magnetic clamps- rapid mould change for Injection Moulding machine.

Die/ Mould Rotators- 90° rotation of heavy dies and moulds.

Control equipment- hydraulic pumps, pressure switches, valves and air operated power units.

CORRIDOR CONNECTIONS

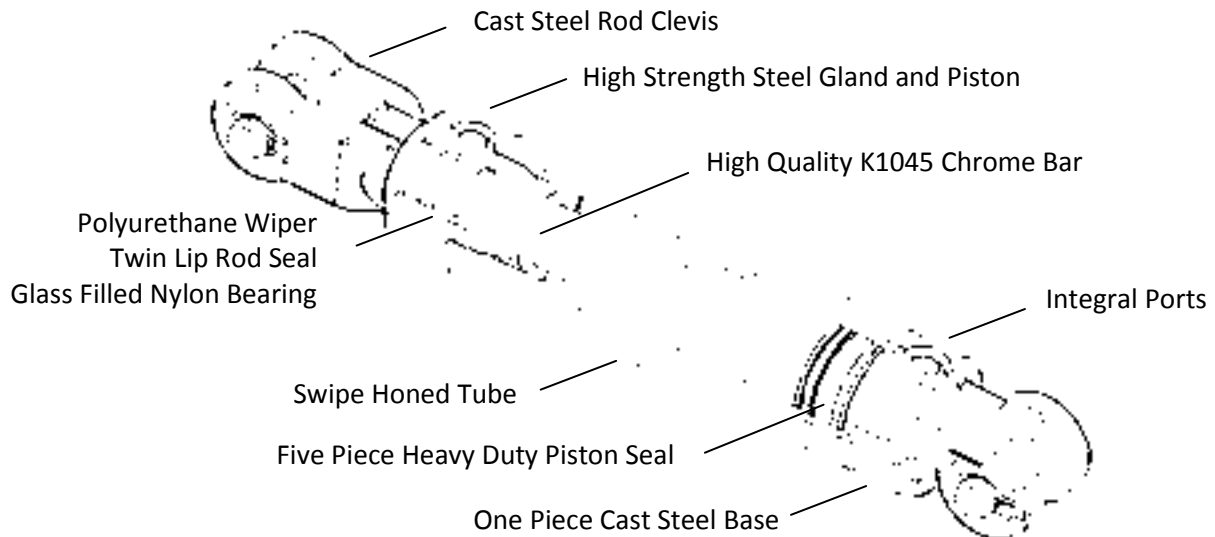
We stock a range of cylinders, clamps, work supports couplers and rotary unions, pumps, control units and seal kits. Ask and we will try to satisfy your needs.



EurekaEngineeredProducts.com

Hydraulic Cylinder Solutions

Introducing the Rebel Series ...



Features and Benefits:

- ✓ High quality cast steel rod clevis and base for longer life and improved shock resistance
- ✓ Polymer bearings for reduced wear on barrel and rod surface
- ✓ Heavy duty Hallite seals - available throughout Australia
- ✓ Screwed gland construction for ease of maintenance
- ✓ Optional port configurations (90° to pin is standard)
- ✓ Can be customised to your requirements
- ✓ 12 month limited warranty – conditions apply
- ✓ Made and supported in Australia

Mounting Options:

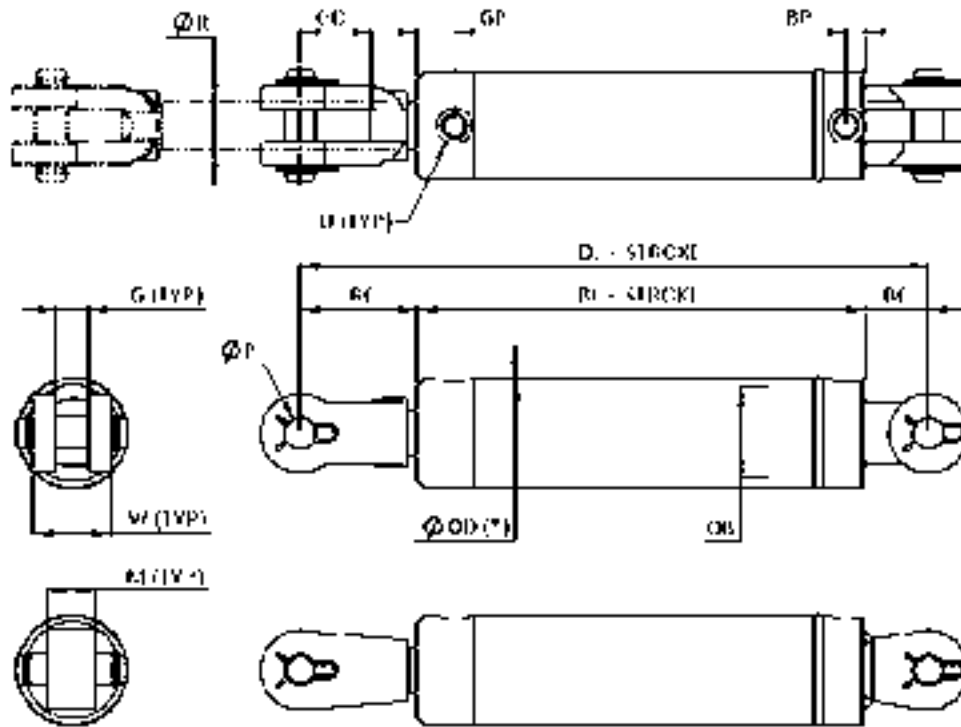
- ✓ Female Clevis (Standard)
- ✓ Male Clevis
- ✓ Pin Eye
- ✓ Top Link
- ✓ Trunnion Mount
- ✓ Spherical Bearing
- ✓ Custom



Specifications:

- Suitable for medium duty applications
- Maximum working pressure up to 3000 PSI (20.7 MPa)
- Peak pressure up to 4000 PSI (27.6 MPa)
- Consideration should be given to buckling as stroke and pressure increase
- Operating temperature between -20°C and 100°C
- Rod speed up to 0.5 m/s

Female & Male Clevis Cylinder Standard Sizes:



ØB	ØR	DL	ØP(**)	U	GD	GP	BP	G	RC	BL	BC	W	ØOD	M
1.5" (38.1)	0.875" (22.23)	241	0.75" (19.05)	9/16" UN O Ring	28	29	13.5	21	57	146	38	46	2.0" (50.8)	40
2.0" (50.8)	1.25" (31.75)	241	0.75" (19.05)	9/16" UN O Ring	28	29	13.5	21	57	146	38	46	2.5" (63.5)	40
2.5" (63.5)	1.50" (38.1)	311	1.0" (25.4)	3/4" UN O Ring	57	31	16	27	95.5	164	51.5	65	3.0"(*) (76.2)	40
3.0" (76.2)	1.50" (38.1)	311	1.0" (25.4)	3/4" UN O Ring	57	31	16	27	95.5	164	51.5	65	3.5" (88.9)	40
3.5" (88.9)	1.75" (44.45)	311	1.0" (25.4)	3/4" UN O Ring	57	31	16	27	91.5	168	51.5	65	4.0" (101.6)	40
4.0" (101.6)	1.75" (44.45)	311	1.0" (25.4)	3/4" UN O Ring	57	25	16	27	92.5	167	51.5	65	4.5" (114.3)	40

All dimensions correct at time of publication. Subject to change without notice.

(*) Gland Outer Diameter (OD) on 2.5" cylinder is Ø87. For all other cylinders gland OD is equal to barrel OD.

(**) 1" pins can be optioned up to 1.25" pin.

Manufactured By:

Eureka Engineered Products Pty Ltd (ABN 35 047 814 147)
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AUSTRALIA
Ph +61 3 5336 0011
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Sales@EurekaEngineeredProducts.com
www.EurekaEngineeredProducts.com

Your Local Distributor:



**CORRIDOR
CONNECTIONS**

0418 549 188
nigel@corridorconnections.com.au

45 Cooina Road,
Beaconsfield, Victoria 3807

www.corridorconnections.com.au

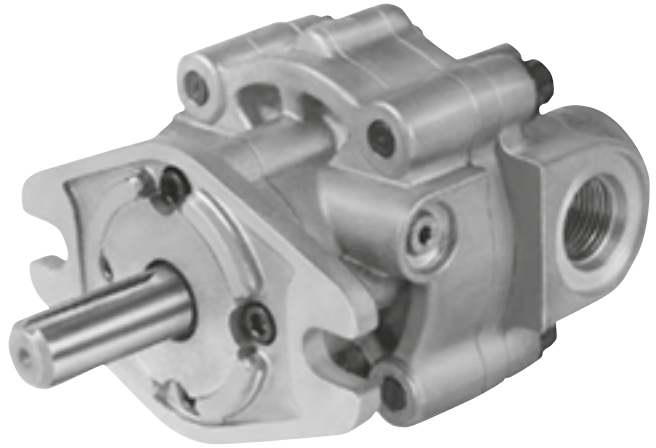


Hydraulics - Motors - Pumps - Seal kits - Parts - Filters - Values

SPECIFICATIONS FOR GEROTOR PUMPS & MOTORS

- Gerotor design (HSLT)*
- Aluminum construction for optimum power to weight ratio
- Bi-directional
- High-pressure mechanical seals available for series application to 1000 PSI back pressure
- Roller bearings for long life
- Buna-N Seals are standard for petroleum and glycol based fluids.
- MGG — Motor
 - Shaft speeds to 5000 RPM
- Up to 17 HP output for motors

*High Speed / Low Torque



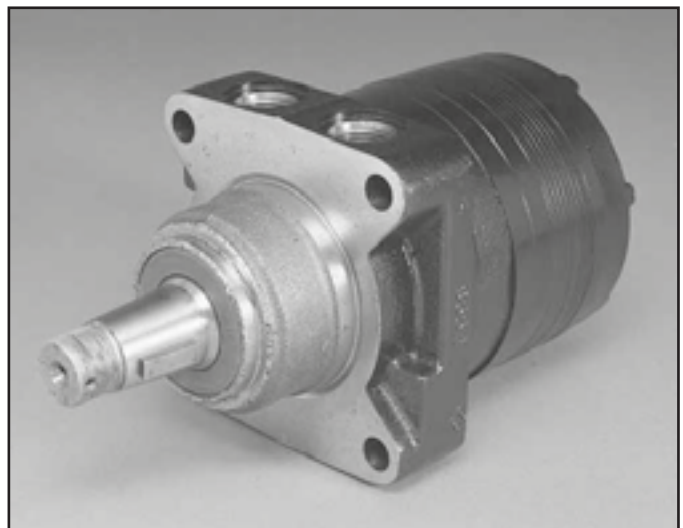
LSHT Torqmotors™ and Nichols™ Motors
TG Series / Serie / Série

HY13-1590-005/US,EU

Exceptional Strength and Durability in a High Performance Motor

The heart of Parker's TG Series powertrain, the torque link, is an extra heavy duty part that includes patented 60:40 spline geometry. Rugged construction throughout allows the transmission of over 13,000 lb-in of torque. The entire powertrain is continually washed in cool, high flow fluid to assure long life. Roller vanes and sealed commutator maintain high efficiency and provide smooth low speed performance.

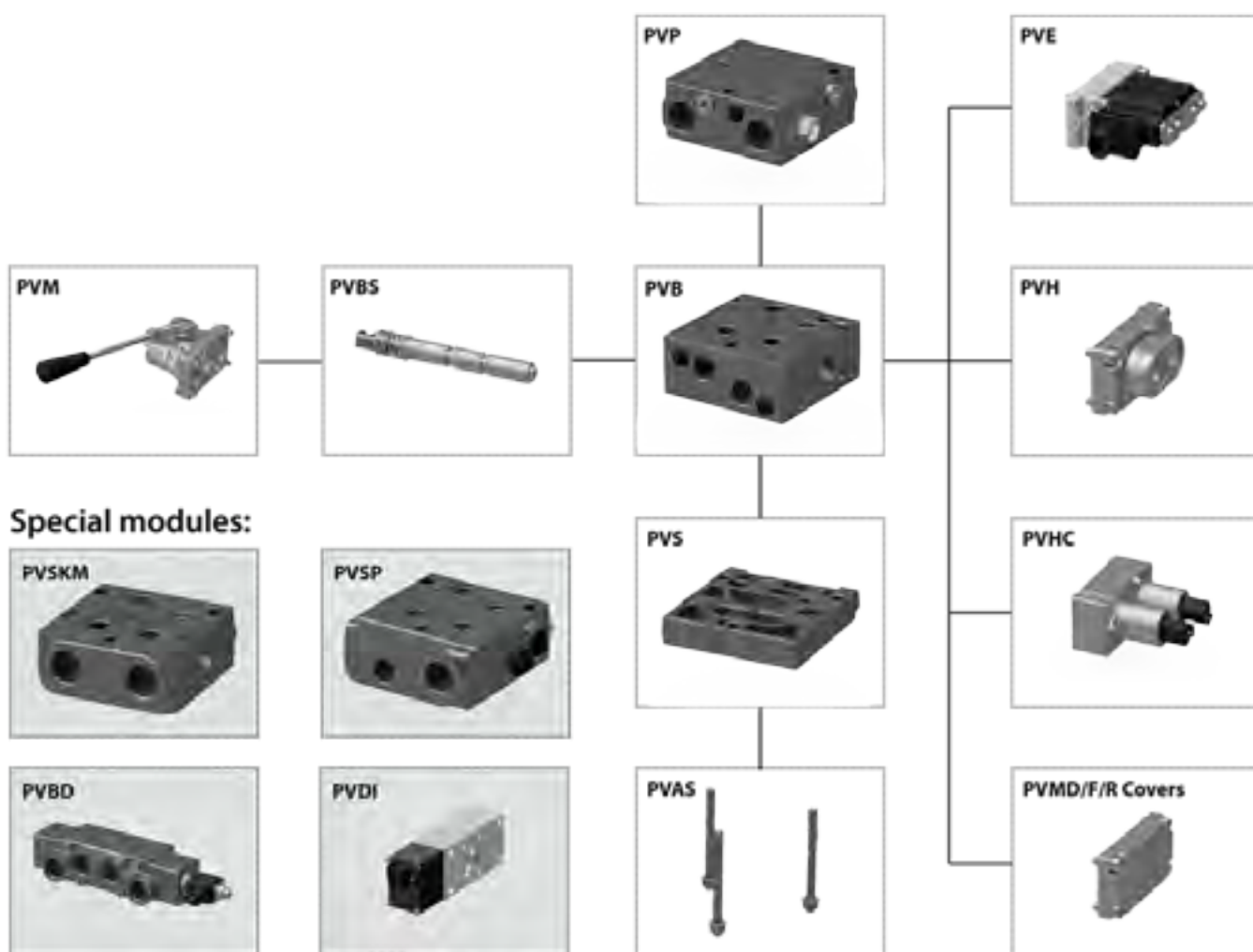
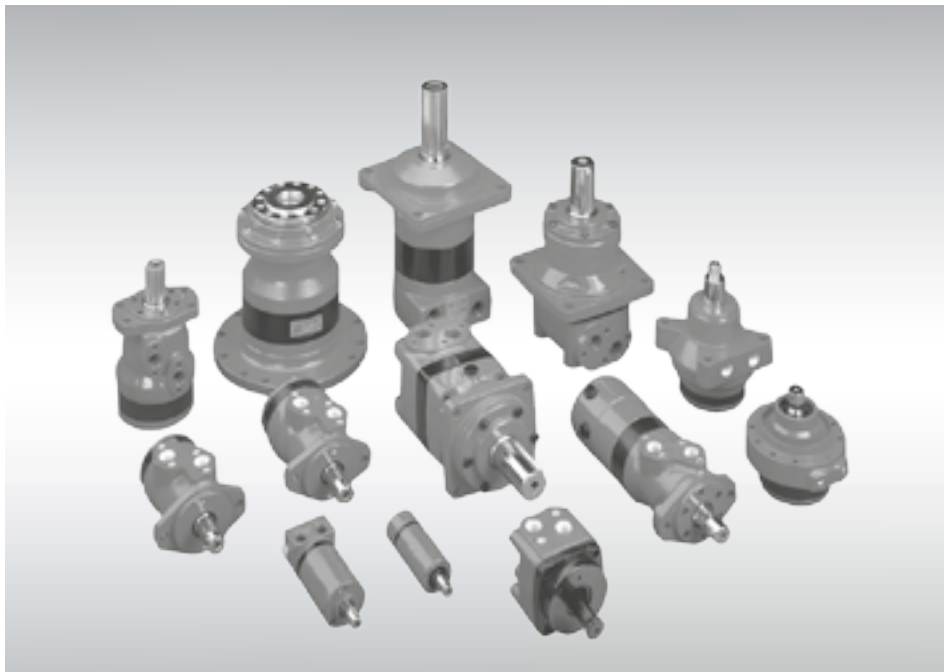
- 13 Displacements
- Max Cont Pressure 207 bar
- Max Flow 114 lpm
- Max Speed 660 rpm
- Max Torque 1044 Nm
- Max Side Load 16 Kn
- High Pressure Shelf Seal
- #####
- Zero leak commutator



Low speed high torque orbital
motors

We can supply:

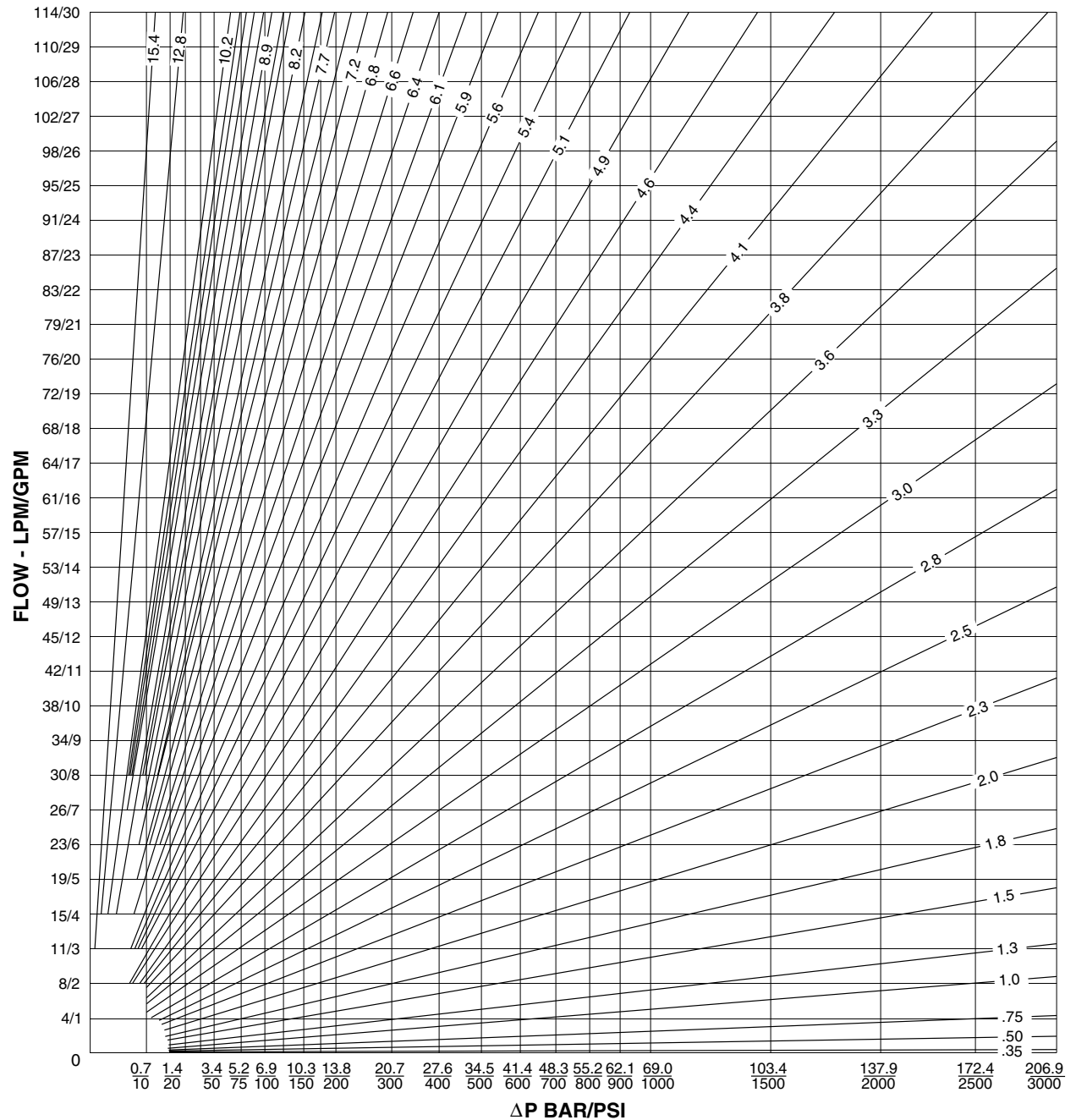
- Motors
- Pumps
- Valves
- Seal kits
- Comatrol
- Sauer Pumps
- PVG32 Valves



Orifice Disc Sizing Guides (cont'd)

ORIFICE DISC SIZING GUIDE (mm)

Curves represent orifice disc drill-thru diameters.



Note: Table is calculated at 32 cSt (150 SSU) oil at 40°C. Values will change with viscosity changes.

USEFUL HYDRAULIC FORMULAE

① to ④ Hydraulic motor

$$M = 1.59 \cdot V \cdot p \cdot \eta_{hm\%} \cdot 10^{-4}$$

$$V = 6.28 \cdot \frac{M}{p \cdot \eta_{hm\%}} \cdot 10^3$$

④ to ⑦ Flow rate (Q), pump

$$Q = V \cdot n \cdot \eta_{v\%} \cdot 10^{-5}$$

Displacement (V), pump.

$$V = \frac{Q}{n \cdot \eta_{v\%}} \cdot 10^5$$

$$n = \frac{Q}{V \cdot \eta_{v\%}} \cdot 10^5$$

②⑧ to ②⑩ Power input

$$P = \frac{Q \cdot p}{6 \cdot \eta_{t\%}} \text{ kW}$$

⑧ to ⑩ Hydraulic cylinders

$$A = \frac{d^2 \cdot \pi}{4} \cdot 10^{-2}$$

$$A = (d^2 - d_1^2) \frac{\pi}{4} \cdot 10^{-2}$$

d_1 = piston dia. in mm

$$V = A \cdot H \cdot 10^{-4}$$

$$Q = A \cdot v \cdot 10^{-1}$$

Flow rate (Q), motor

$$Q = \frac{V \cdot n}{\eta_{v\%}} \cdot 10^{-1}$$

Displacement (V), motor

$$V = \frac{Q \cdot \eta_{v\%}}{n} \cdot 10$$

$$n = \frac{Q \cdot \eta_{v\%}}{V} \cdot 10$$

Power output

$$P = \frac{Q \cdot p \cdot \eta_{t\%}}{6} \cdot 10^{-4} \text{ kW}$$

$$p_{th} = \frac{F}{A} \cdot 10^2$$

$$p = \frac{p_{th}}{\eta_{hm\%}} \cdot 10^2$$

$$Q = \frac{V}{t} \cdot 60$$

⑩ to ②⑥ Specific pressure drop in straight flow lines

$$\Delta p = \lambda \frac{1 \cdot \gamma}{d \cdot 2g} \cdot w^2 \cdot 10^2 \text{ (bar)}$$

$$\gamma = 0.9 \text{ g/cm}^3$$

$$\lambda_{laminar} = \frac{64}{Re} \quad \lambda_{turbulent} = \frac{0.316}{\sqrt[4]{Re}}$$

$$g = 9.81 \text{ m/s}^2$$

$$Re = \frac{w \cdot d}{\nu} \cdot 10^3$$

l in m

ν in mm^2/s

②⑦ to ②⑨ Flow velocity in flow lines

$$w = \frac{Q}{6 \cdot d^2 \frac{\pi}{4}} \cdot 10^2$$

Note: in all formulae, η is to be entered in %

SYMBOLS AND UNITS

Hydraulic pumps and motors

①	M	in Nm	Torque of hydraulic motor
②	p	in bar	Operating pressure before hydraulic motor
③	η_{hm}	in %	Hydro-mechanical efficiency of hydraulic motor
④	V	in cm^3/rev	Displacement of hydraulic pump or motor. Rated values
⑤	η_v	in %	Volumetric efficiency of hydraulic pump or motor
⑥	Q	in l/min	Flow rate of the hydraulic pump or motor
⑦	n	in rev/min	Drive speed for hydraulic pump or output speed of hydraulic motor

Flow lines

⑧	d	in mm	Internal diameter (ID) of the flow line
⑨	ν	in mm^2/s	Kinematic viscosity (1 cSt = 1 mm^2/s)
⑩	Q	in l/min	Hydraulic flow
⑪	ν	in mm^2/s	Kinematic viscosity with laminar flow
⑫	ν	in mm^2/s	Kinematic viscosity with turbulent flow
⑬	Δp	in bar/m	Specific pressure loss in 1 m straight flow-line with laminar flow ($\gamma = 0.9 \text{ g/cm}^3$)
⑭	d	in mm	Internal diameter (ID) of the flow line
⑮	Δp	in bar/m	Specific pressure loss in 1 m straight flow-line with turbulent flow ($\gamma = 0.9 \text{ g/cm}^3$)
⑯	d	in mm	Internal diameter (ID) of the flow line
⑰	w	in m/s	Flow velocity in flow line

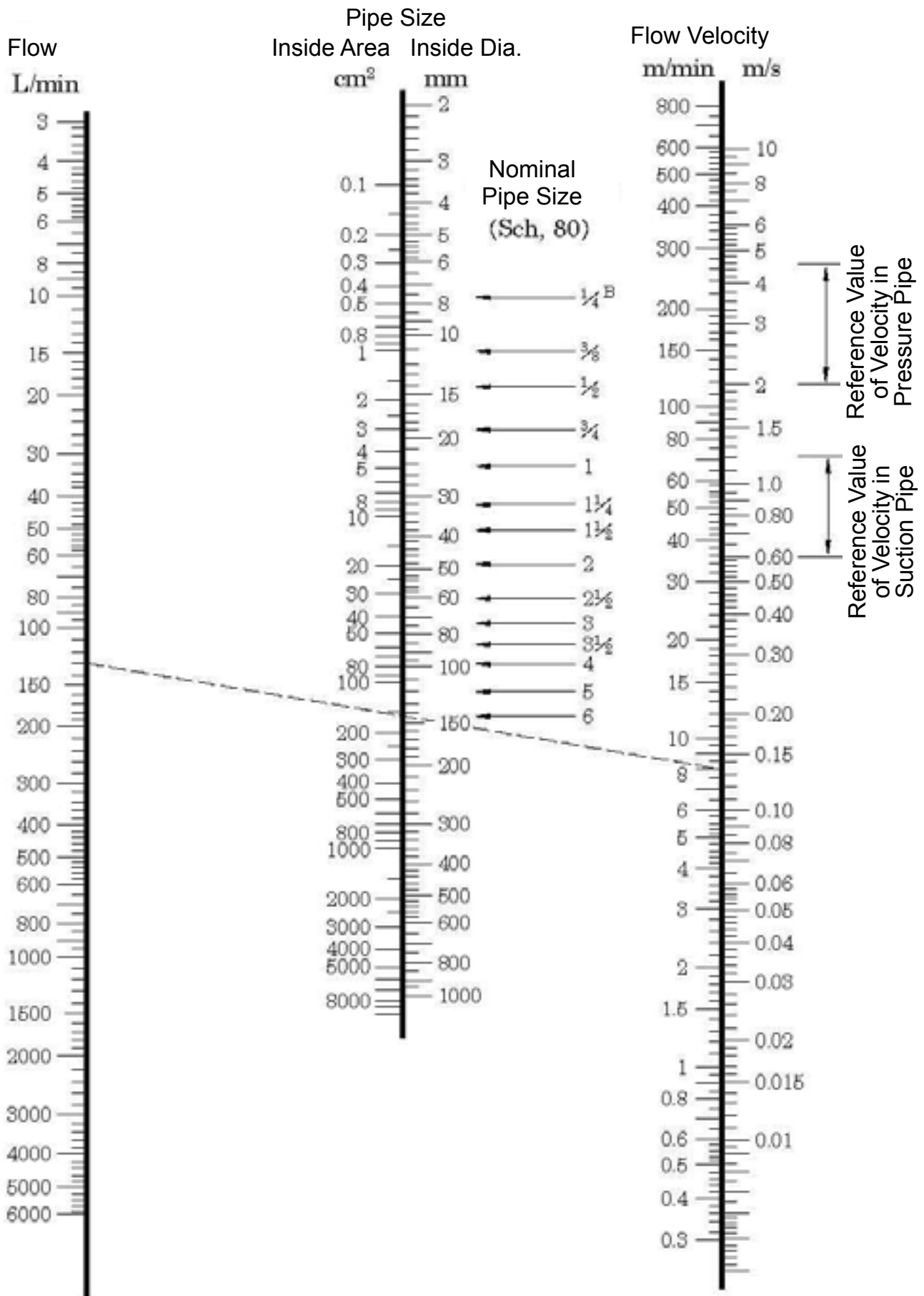
Hydraulic cylinders

⑱	d	in mm	Internal diameter (ID) of hydraulic cylinder. Standard sizes according to DIN
⑲	A	in cm^2	Piston area or annular area of hydraulic cylinder
⑳	p_{th}	in bar	$= p \cdot \eta_{hm} \cdot 10^{-2}$ Product of the operating pressure at inlet to hydraulic cylinder and hydro-mechanical efficiency of the cylinder
㉑	F	in kN	Piston force
㉒	Q	in l/min	Flow rate before hydraulic cylinder
㉓	v	in m/min	Stroke velocity
㉔	H	in mm	Stroke of hydraulic cylinder. Standard strokes according to DIN
㉕	V	in l	Swept volume of hydraulic cylinder
㉖	t	in s	Time for complete stroke of hydraulic cylinder
㉗	Q	in l/min	Flow rate before hydraulic cylinder

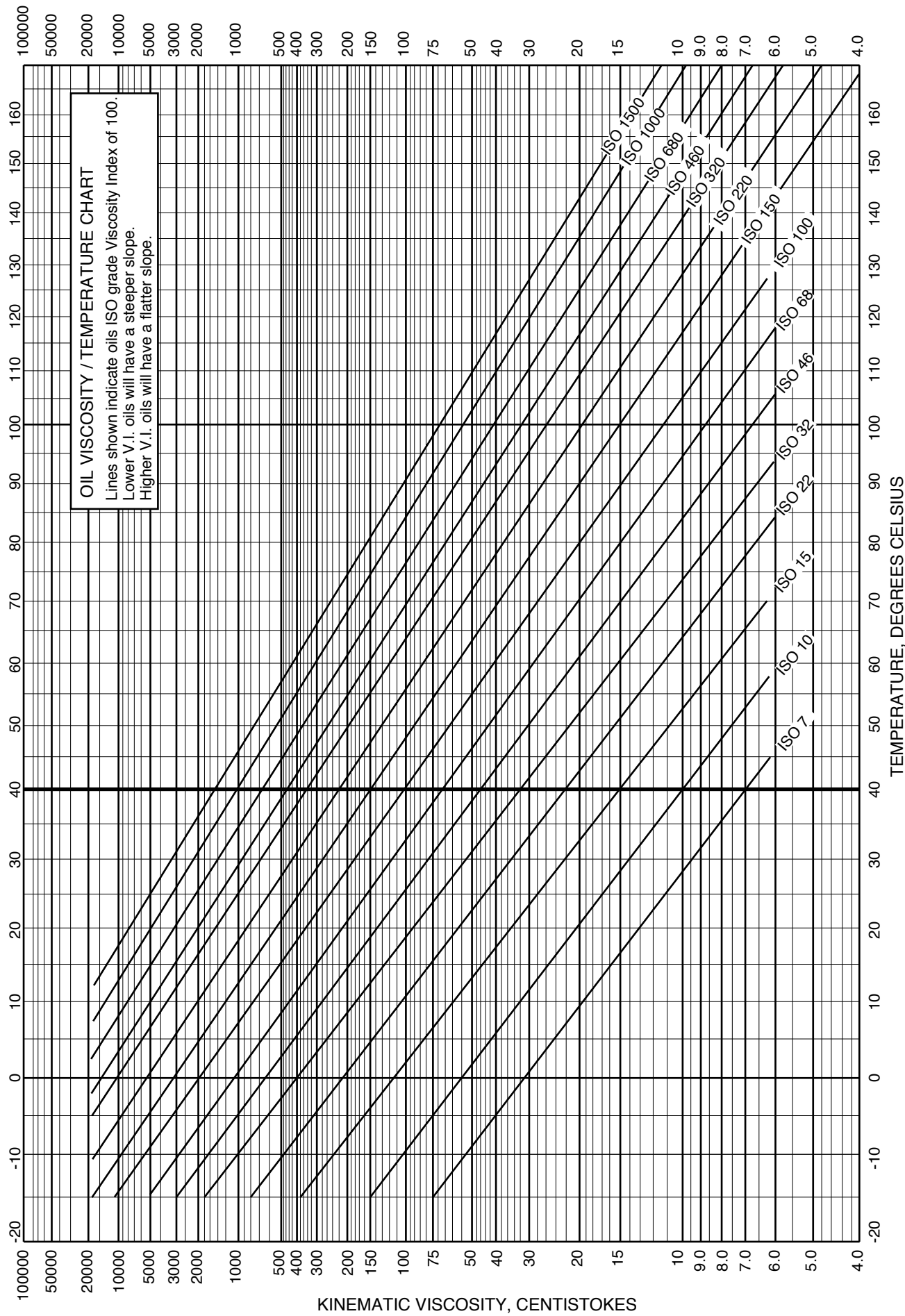
Power

㉘	Q	in l/min	Hydraulic flow rate in the flow line or delivery of hydraulic pump
㉙	p	in bar	Operating pressure after the hydraulic pump or before the hydraulic motor
㉚	η_t	in %	Overall efficiency of hydraulic pump or motor
	P	in kW	Power input of hydraulic pump or power output of hydraulic motor

PIPE SIZE / FLOW VELOCITY NOMOGRAM



OIL VISCOSITY / TEMPERATURE CHART



2019 Price List

www.oilpathhydraulics.com.au



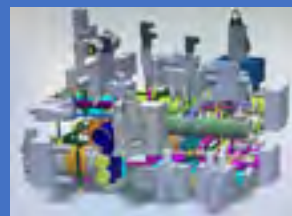
THE AUSTRALIAN DESIGNER & MANUFACTURER OF DIRECTIONAL CONTROL VALVES & CUSTOM MANIFOLDS



2019 PRICE LIST



Directional Control Valves,
Design & Manufacture of
Custom and Standard Hydraulic
Manifolds & Valve Packages



Australian Partners for
HydraForce Cartridge Valves
and Control Equipment



Counterbalance Cartridges and
Parts-in Body Counterbalance
Solutions



Mazak Machine Tools

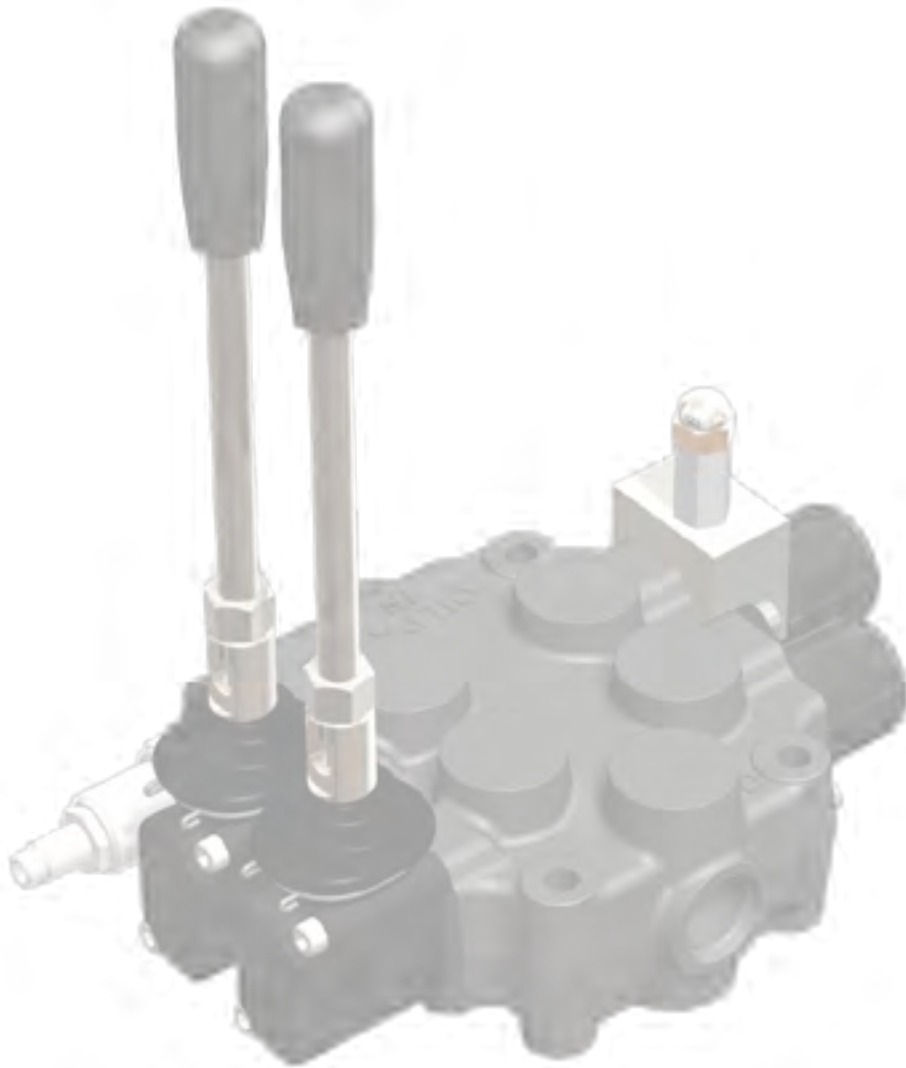
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OILPATH HYDRAULICS PTY LTD



sales@oilpathhydraulics.com.au
Phone 08 82774933



Page	Product	Description
12	OP11	45 lpm Directional Control Valves
20	OP20	100 lpm Directional Control Valves
26	OP20	OP20 Pricing Matrix
30	OP22	160 lpm Single Acting Pneumatically Controlled Tipping valves
34	OP55	250 lpm Single Acting Pneumatically Controlled Tipping valve
36	OP-APV-16-22	Pneumatically Controlled Hoist Blocking Valve
38	Electric Hoist Check	Electric Hoist Check
39	OP27	160 lpm 3 Port Diverter Valve
42	OP51FC	114 lpm pressure Compensated Flow Control Valve
44	OP80	118 lpm 6 port Diverter Valve
48	OP80S	40 & 60 lpm Solenoid Operated 6 Port Diverter Valves
49	OP101	55 lpm Pilot Operated Check Valves
50	OP110	Through Ported Relief Valves
52	OP111	Cetop 3 & 5 Sub Plates
53	OP112 & OP110	Cetop 3 & 5 Bar Manifolds
54	OP115	Cross Line Relief Valves
56	OP129	100 lpm Cross line relief with anti-cavitation checks
57	OP156	100 lpm Double Sequence Valve
58	OP157	3-way pressure compensated flow regulator
59	OP128	120 lpm Hi-Low Pump System Manifold

60	OP137	Quick Hitch Valve
61	OP140	Quick Hitch & Tilt Valve
62	Manifolds	Manifold Capability
64	Valvole	Counterbalance Product
68	Source	Motorised Flow Control Cartridges
70	OP700	60 lpm Motorised Flow Control with Pressure Compensation
71	OP701	120 lpm Motorised Flow Control with Pressure Compensation
72	OP720	60 lpm Motorised Flow Control with Pressure Compensation (by-pass style)
73	OP721	120 lpm Motorised Flow Control with Pressure Compensation (by-pass style)
74	OP722	60 lpm Motorised Flow Control with Pressure Compensation and unloader relief function
75	OP723	120 lpm Motorised Flow Control with Pressure Compensation and unloader relief function
76	OP724	120 lpm Motorised Flow Control with Priority and relief function
78	HydraForce	HydraForce Short Form Catalogue (technical details)

Disclaimer

“Oilpath is not responsible for any errors or omissions, or for the results obtained from the use of the information in this price list. All information in this document is provided “as is”, with no guarantee of completeness, accuracy, timeliness or of the results obtained from the use of this information...”



The OP11 Directional Valve Series provides a compact range of manually operated directional valves for low flow applications. Because of the physical size of OP11 valves are ideally suited for mounting on small machines where most other valves would be 'out of place'. Like all Oilpath DCV's the handle assembly is fully enclosed to reduce the likelihood of corrosion affecting the handle mechanism. The handle bracket and spring end cover are made from glass filled nylon that has better impact and wear properties than aluminium. Each valve is supplied with a 3/8" bspt plug that can be easily inserted into a pre-tapped gallery to create Power Beyond (H.P.C.) and closed centre facility.

OVERALL SPECIFICATIONS

- Number of Spools.....1 to 4
- Maximum working pressure.....345 bar (5000 psi)
- Rated flow.....45 ltrs/min (10 Imp. gpm)
- MATERIAL SPECIFICATIONS Body.....High tensile strength Australian cast iron
Spools.....Hardened steel
- Seals.....Buna - N

STANDARD FEATURES

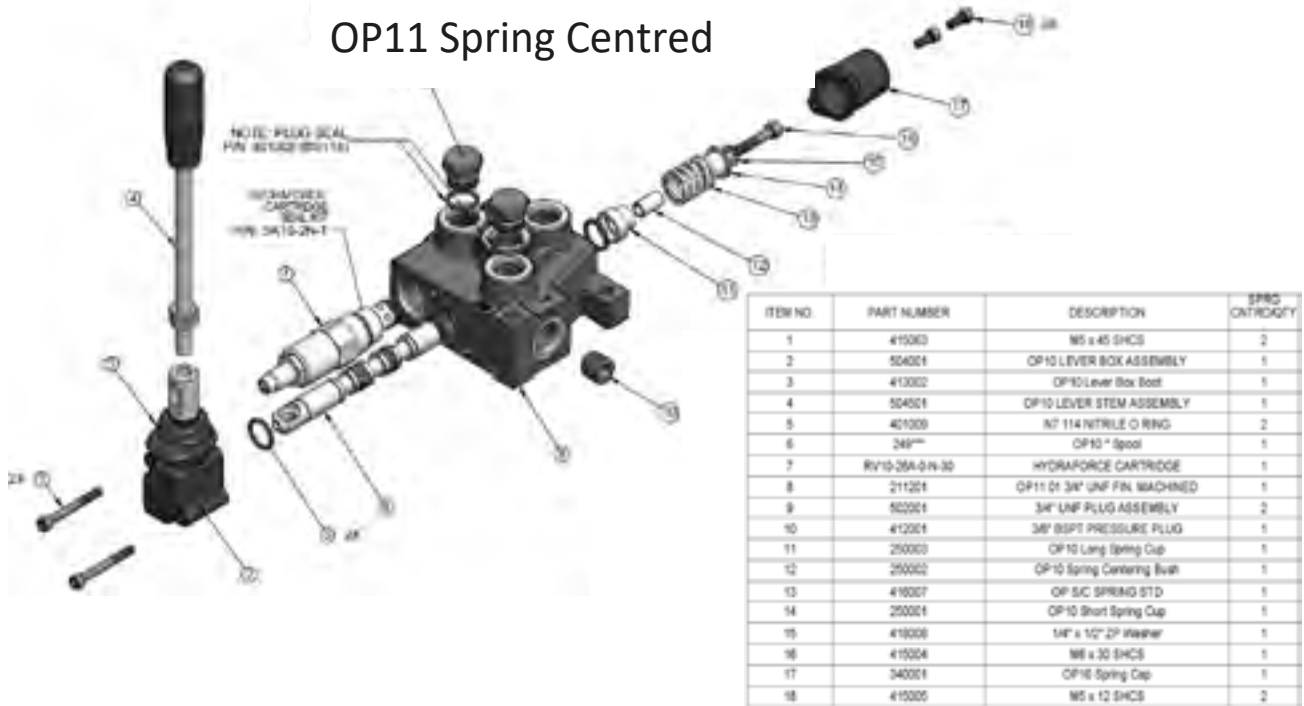
- Parallel circuit
- Integral HydraForce direct acting relief valve, adjustable [Set at 175 bar (5000 psi)]
- Optional side/top inlet and outlet ports
- 3/4" UN O-Ring inlet, outlet and work ports
- Open or closed centre positions, 3-way or 4-way operation, motor spool and other spool options
- Hardened steel non-return check

OPTIONS

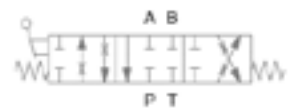
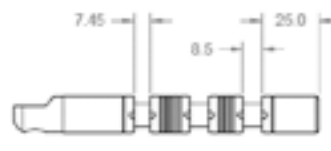
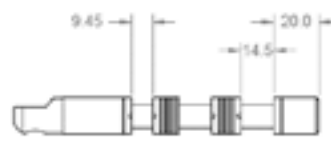
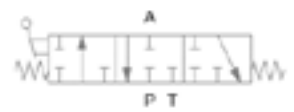
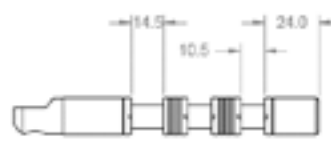
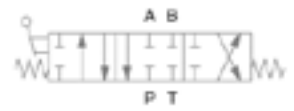
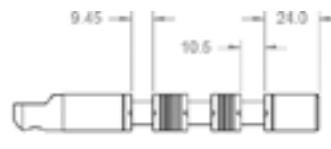
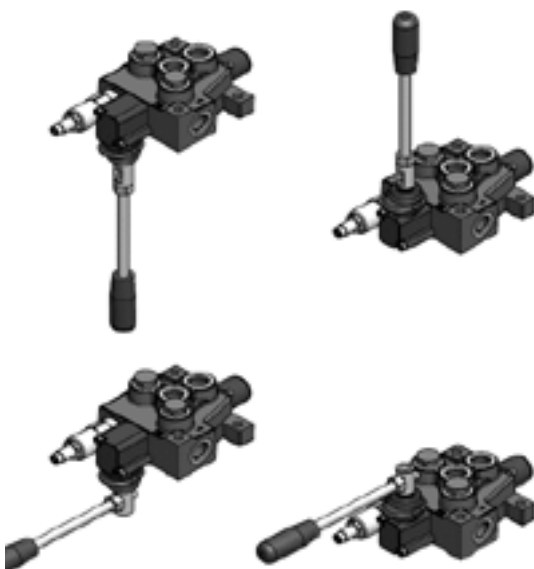
- Micro switch actuation on spool shift
- 2 and 3 position detent & spring centred detent
- Pneumatic spool actuation
- Closed circuit & power beyond
- Electric limit switch

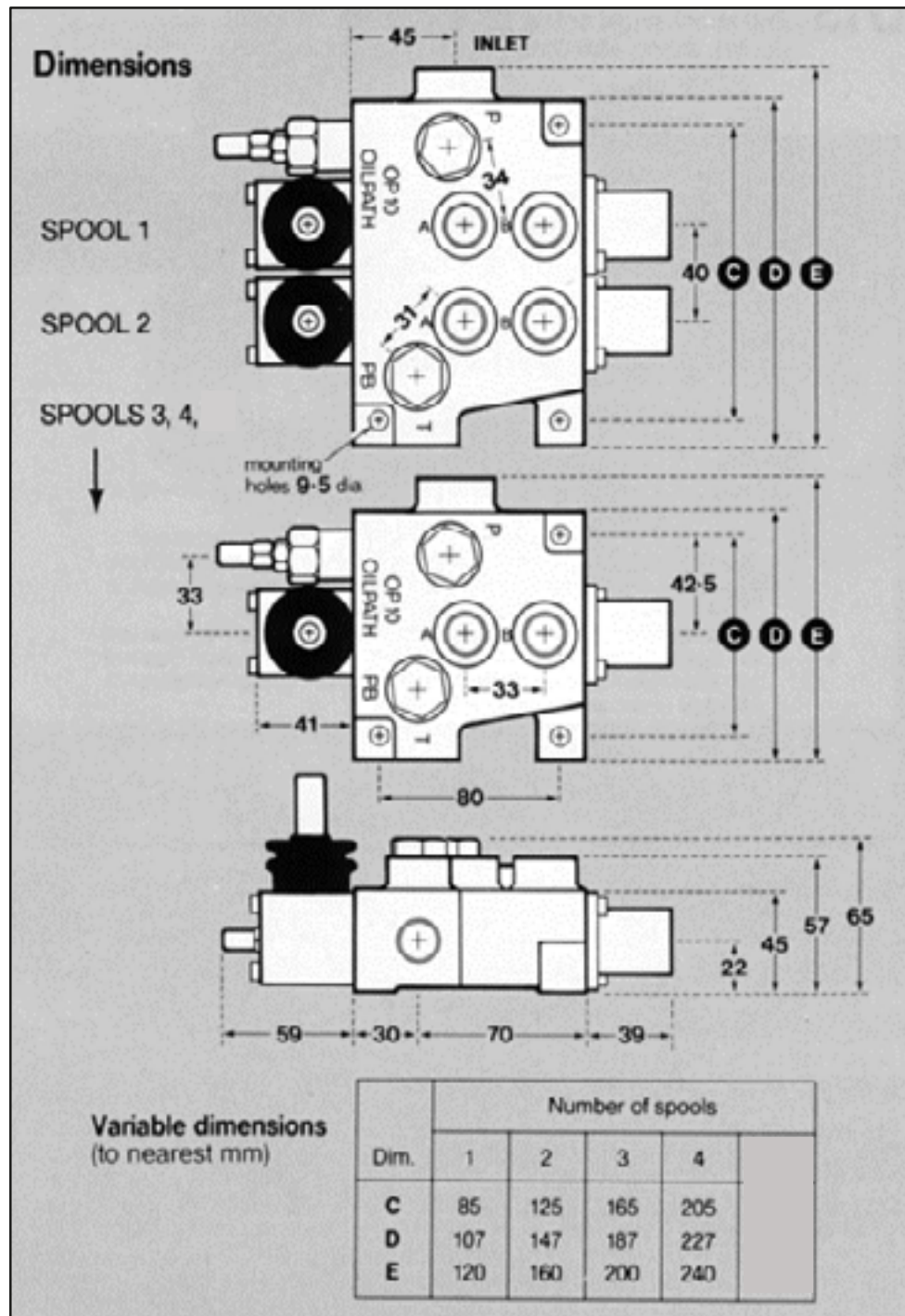
****Note 4 spool valves remain as OP10 designation***

OP11 Spring Centred



NOTE: ALTERNATE HANDLE ORIENTATION FOR OP11 VALVE





ORDERING INFORMATION

OP11 (OP10) valves can be ordered by quoting a number/letter group sequence as follows:
Valve series; Spool configuration; Relief setting; Options required

Valve Model	Spool Types		Relief Setting	Options	
OP11	D	Double Acting	Specify Relief Valve Pressure Setting 100 - 5000 psi HydraForce Relief Valves on OP11 No Setting required with NR option	PB	High pressure carry over. Plug supplied in package as standard
	Q	Double Acting low flow version		CC	Closed Centre
	S	Single Acting		NR	Relief valve not required
	M	Motor Spool		SCDA	Spring centred dented to port A
OP10 (4 spool only)			400 - 5000 psi Oilpath Relief valves on OP10-4	SCDB	Spring centred dented to port B
				A	Air Control (OP118) supplied only with manual override
				D	Three position detent
				E	Electric limit switch followed by numeral indicating spools

OP11 D 2000 PB Single Double acting spool 2000psi relief high pressure carry over
 OP11 DS 2500 D2 Double 1st spool double acting spring centred 2nd spool single acting detented
 OP11 DDD 1500 D1A23 Triple all double acting spools 1500 psi relief detent on 1st spool pneumatically operated 2nd & 3rd spools
 OP10 DDDM 3500 SCDB23 OP10 four spool with double acting spools on 1,2,3, motor spool on 4 3500 psi relief spring centred to B on 2nd & 3rd spool

OP10 & OP11 Directional Control Valve Pricing

Part Number	Description	List Price for Base Valve	Standard Double Acting (no options)
0111xxxx	Single Spool Valve	334	290
0112xxxx	Two Spool Valve	513	446
0113xxxx	Three Spool Valve	681	592
0104xxxx	Four Spool Valve	840	730

OP10 & OP11 Options Pricing (on new builds)

OPTIONS for OP11/10	Part Number	Description	List Price
D1	507020	Detent per spool, (three pos.) factory fitted # indicates pos.	39
CC	511048	OP10 Pressure Relief Blanking Plug kit, for closed centre	39
	511014	OP11 Pressure Relief Blanking Plug kit, for closed centre	48
E1	503003	Electric Limit Switch for single spool valve, factory fitted Note: Micro switch is not included in price	113
E12	503004	Electric Limit Switch for double spool valve, factory fitted Note: Micro switch is not included in price	209
E123	503005	Electric Limit Switch for triple spool valve, factory fitted Note: Micro switch is not included in price	289
E1234	503006	Electric Limit Switch for four spool valve, factory fitted Note: Micro switch is not included in price	377
	503010	Micro Switch for above kits, (one per valve) standard micro switch. This switch has a weather-proof rating to IP67	84
13A	248013	Optional micro switch sleeve for S/A spools with code E, kit only (add on spool)	20
Q		Optional D/A spool with metering for low flow DC power units	POA
SCDA	509018	Spring Centred Detent with det. acting on A port is pressurised	130
SCDB	509012	Spring Centred Detent with det. acting on B port is pressurised	130
S/O	509010	Spring offset to "B" (No centre position)	43
A1		OP118 Air Kit with handle control	234
MU		Valve prepared for a Marine environment	34

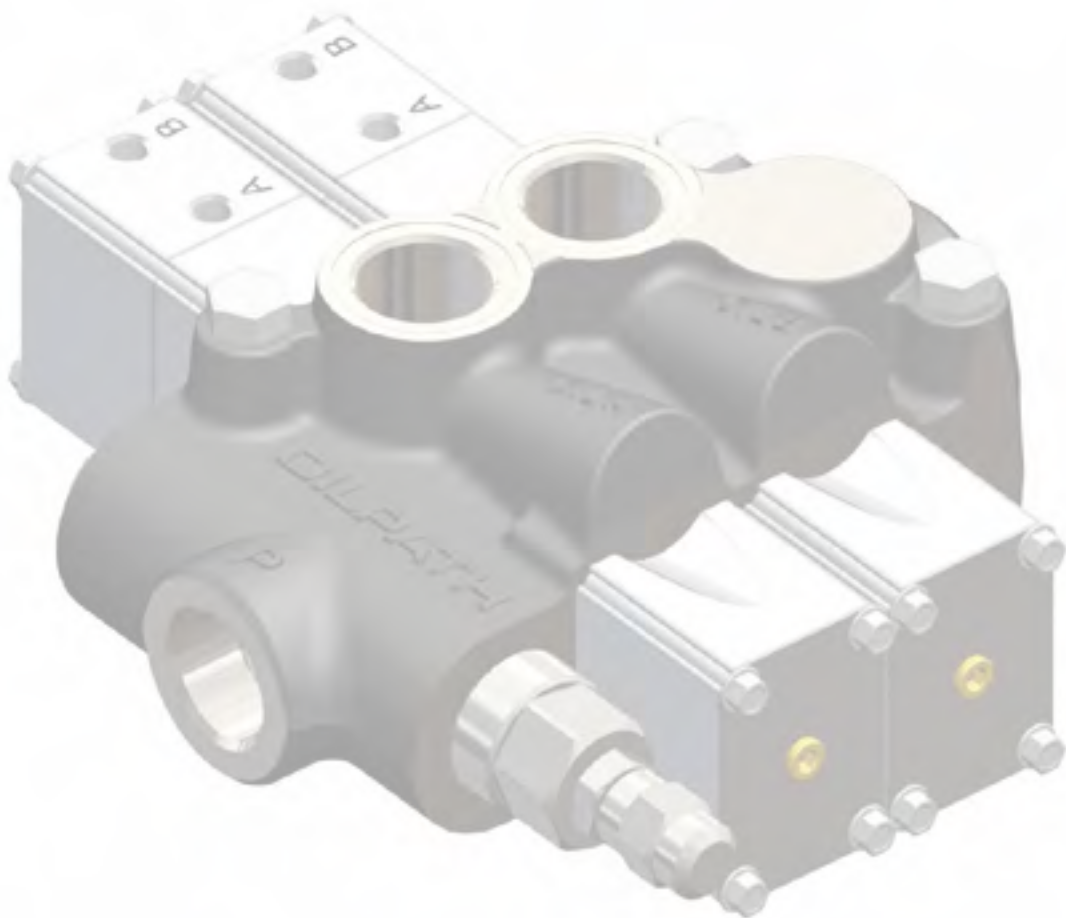
Note: 4 spool valves remain as OP10 designation with Oilpath integrated lift drop check and relief valve.

OP11 valves contain a separate lift drop check and a HydraForce Pressure Relief Valve

OP10/11 SPARES

		List Price
RV50-26A-0-P-50	HydraForce Relief Valve up to 5000 psi	160
RV10-26A-0-N-30	HydraForce Relief Valve up to 3000 psi	144
512011	Seal Kit Single Spool	28
512015	Seal Kit Double Spool	31
512043	Seal Kit Triple Spool	34
512017	Seal Kit Four Spool	37
511048	CC OP10 Pressure Relief Blanking Plug kit, for closed centre	43
511014	OP11 Pressure Relief Blanking Plug kit, for closed centre	54
509018	SCDA spring Centred Detent with det. acting on A port is pressurised	140
509012	SCDB Spring Centred Detent with det. acting on B port is pressurised	140
509001	Spring Centring Kit to suit all spools, without spring cap	38
507020	D1 Detent per spool, (three pos.) kit, or factory fitted # indicates pos.	42
506081	OP118 Air Kit for OP11	244
505016	Relief Valve complete cartridge including lift drop check	116
504504	Handle Lever Stainless Steel 10mm diameter	35
504503	Handle Lever complete with nut and rubber knob M8	31
504501	Handle Lever complete with nut and rubber knob	31
504027	Lever Box with shift leg & rubber boot but no handle	96
503010	Micro Switch, (one per valve) standard micro switch This switch has a weather-proof rating to IP67	92

503009	13A Optional micro switch sleeve for S/A spools with code E, kit only	130
503006	E1234 Electric Limit Switch for four spool valve kit Note: Micro switch is not included in price	406
503005	E123 Electric Limit Switch for triple spool valve kit	313
503004	E12 Electric Limit Switch for double spool valve kit	226
503003	E1 Electric Limit Switch for single spool valve, kit or factory fitted	130
416220	Rubber Boot Bottom Clips	4
416219	Rubber Boot Top Clips	4
416009	Relief Valve Main Spring Z (not required for HydraForce Cartridges)	24
416008	Relief Valve Main Spring X (not required for HydraForce Cartridges)	24
416005	Relief Valve Main Spring Y (not required for HydraForce Cartridges)	24
413002	Rubber Boot for lever box	11
340001	Spring Cap supplied without M5 cap screws	27
249017	Q Optional D/A spool with metering for low flow DC power units	POA
249004	Motor Spool with no spring centring mechanism	116
249003	Single Acting Spool with no spring centring mechanism	116
249002	Double Acting Spool with no spring centring mechanism	116
	With spring centring mechanism ADD	38 (not required for HydraForce Cartridges)





The OP20 Directional Valve Series provides an 80-118 lpm range of manually operated directional valves. The physical size of OP20 valves is ideally suited for mounting on small and large machines and has a higher flow range than other valves of this size. Like all Oilpath DCV's the handle assembly is fully enclosed to reduce the likelihood of corrosion affecting the handle mechanism. The handle bracket and spring end cover are made from glass filled nylon that has better impact and wear properties than aluminium. The OP20 has individual lift drop checks in the end of each spool giving the valve a unique feature in having a checks to maintain lift individually for all appropriate valve functions. (e.g. a 5 spool double acting valve has 10 lift drop checks). Closed centre and power beyond are also available with the use of plugs.

OVERALL SPECIFICATIONS

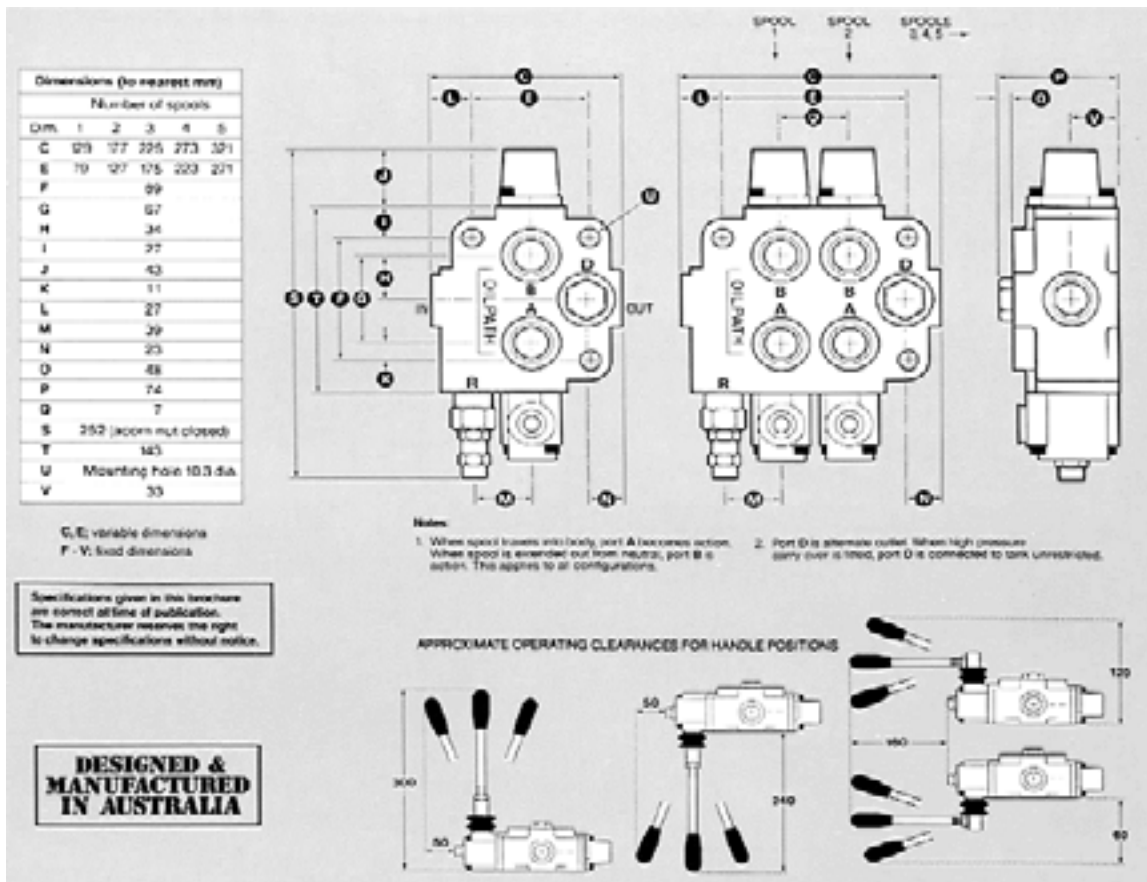
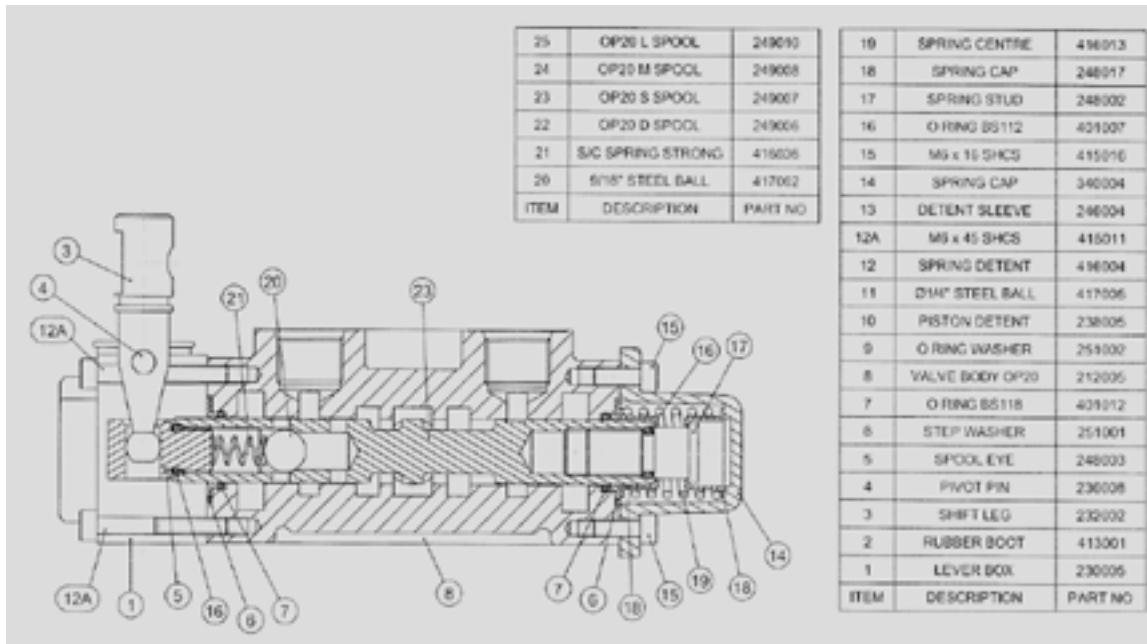
- Number of Spools.....1 to 5
- Maximum working pressure.....280 bar (4000 psi)
- Rated flow.....118 ltrs/min (25 gpm)
- MATERIAL SPECIFICATIONS Body.....High tensile strength Australian cast iron
- Spools.....Hardened steel
- Seals.....Buna - N

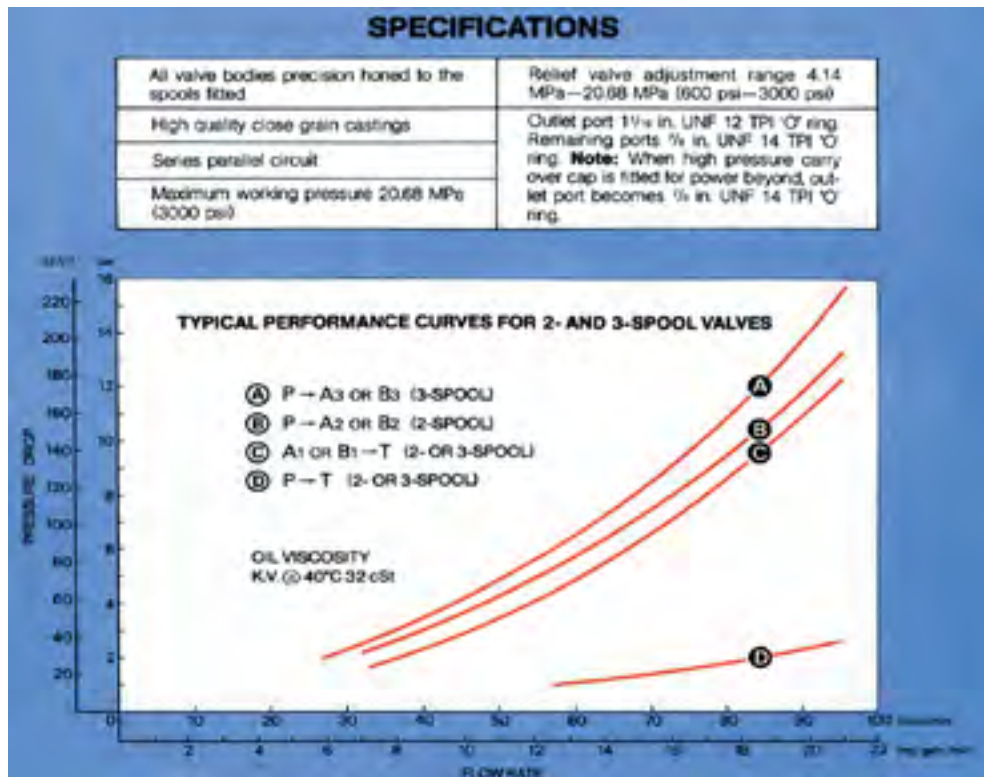
STANDARD FEATURES

- Series Parallel circuit
- Integral HydraForce direct acting relief valve, adjustable [Set at 175 bar (4000 psi)]
- Optional side/top outlet ports
- 7/8" un O-ring inlet, outlet & work ports (options include 3/4 bspp, 3/4 bspt & 1-1/16" un)
- Open or closed centre positions, 3-way or 4-way operation, motor spool and other spool options
- Individual steel ball non-return checks located in spools

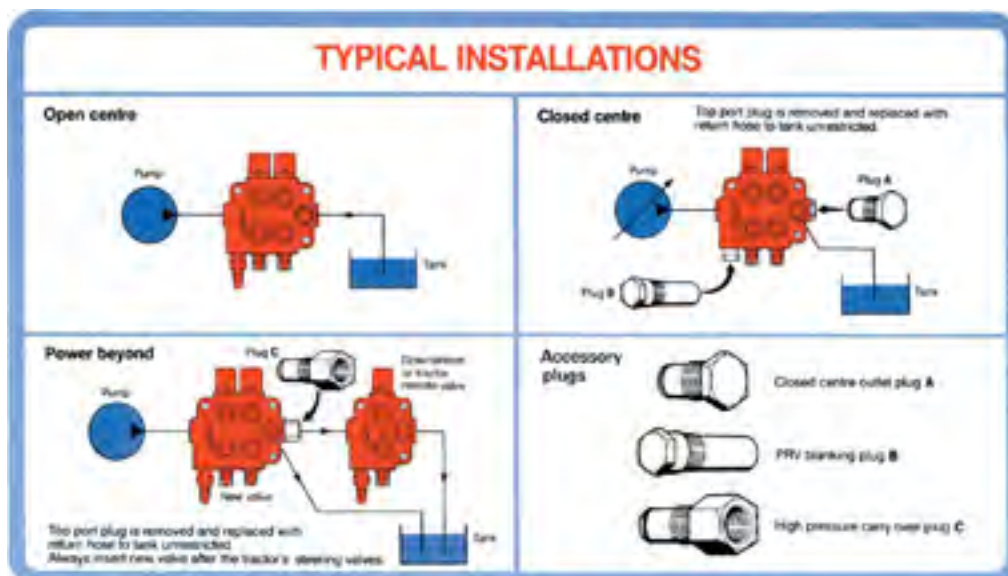
OPTIONS

- Micro switch actuation on spool shift
- 2 and 3 position detent & spring centred detent
- Pneumatic spool actuation
- Electric over air
- Closed circuit & power beyond
- Cable control





Note: For pressure drop figures for individual Valves, please visit www.oilpathhydraulics.com.au



Spool Type		Relief Setting	Options			
D	Double Acting	Specify pressure within a range of 600-4000 psi	PB	High Pressure carry over	D	Three Position Detent
S	Single Acting		CC	Closed Centre	W	Air Control OP106
M	Motor Control		NR	No Relief	BF	Bottom face Outlet
K	Flow Control not pressure compensated in multi spool vales only		SCDA	Spring centred detent to "A"	SCDB	Spring centred detent to "B"
L	Double Acting Spool with no load checks		H	Handle on auxiliary control e.g. W1H1	HI FLOW	Hi Flow, increasing flow to120 l/min with 3/4"bspp or 1-1/16" un 3/4"bspt, R2 relief
P	Pressure Compensated Flow Control in multi spool vales only		OP106S	Electric over air solenoid control state voltage required e.g. OP106S24V	MU	special plating and hardware for mine or marine use
Please Note: Maximum tank pressure is 250 psi on OP20 valves				RESTA	Restricted detent to "A" port	RESTB

OP20D 2000 PB
 OP20DDS 2500 W123H123
 OP20DSSS 1500 SCDB1
 OP20DDDDM 3500 SCDB23

Single Double acting spool 2000psi relief high pressure carry over

Triple 1st & 2nd spool double acting 3rd spool single acting 2500 psi relief with air and handle operation on all spools

Four spool valve 1st spool double acting spools 2nd 3rd & 4th spools single acting 1500 psi relief with spring centred detent to "B" detent on 1st spool

Five spool with double acting spools on 1,2,3, & 4 and motor spool on 5th spool 3500 psi relief spring with 24volt solenoid unloading relief valve

Proportional Electrical / Hydraulic Spool Actuation for OP20 Control Valves



OP20 configured with 3 solenoid actuated spools with manual override and 2 manually operated spools (in the upside-down configuration). Typically utilised in Tilt Tray applications

The OP20, Australia's benchmark 80 lpm directional control valve is now available with on/off – proportional control powered by World Class HydraForce 12 or 24 volt drop in cartridges.

FEATURES:

- On / Off plus Proportional capability
- Low Current draw:
 - 12-volt 1.3 amp Maximum
 - 24-volt 0.65 amp Maximum
- Coils have a 100% duty cycle @ + or – 15% of specified voltage
- Ambient Air temperature -40° C to 80° C
- Operating temperature -40° C to 149° C
- High Pressure Waterproof coils IP69K

OPTIONS:

- 12-volt or 24-volt coils
- 2, 3,4,5 spool valve configurations
- Double acting, Single acting, and motor spools available
- Manual override on all spools.

PRICING

- Pricing upon application for each configuration *

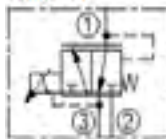
HydraForce cartridge utilised for actuating spool movement

EHPR98-T33 — Proportional, Reducing / Relieving, Drop-In

STP file for EHPR98-T33.
Request a quote.



SYMBOL:



DESCRIPTION

A drop-in, flange mount, direct-acting, hydraulic pressure reducing/relieving valve, which can be infinitely adjusted across a prescribed range using a variable electric input. Pressure output is proportional to DC current input. The E-coil is an integral part of the valve assembly, and cannot be replaced or field-serviced.

OPERATION

The EHPR98-T33 allows free flow from 1 to 3 when no current is applied to the coil. When the coil is energized, 2 is connected to 1. Increasing current applied to the coil will increase the control (reduced) pressure proportionally. If pressure at 1 exceeds the setting induced by the coil, pressure from 1 is relieved to 3.

Note: Back pressure on port 3 becomes additive to the pressure setting at a 1:1 ratio.

FEATURES

- 12 or 24 VDC coils in Australia
- Economical drop-in style.
- Integral waterproof coil standard.
- Corrosion-resistant plating.
- Manual override and screen options.
- Several push-on termination options.

RATINGS

Max. Inlet Pressure: 241 bar (3500 psi)

Max. Tank Pressure at port 3: 34.5 bar (500 psi)

Max. Control Current: 1.30 amps for 10 VDC coil, 1.30 amps for 12 VDC coil, 0.69 amps for 20 VDC coil, 0.65 amps for 24 VDC coil

Control Pressure at Maximum Control Current: 30 bar (435 psi)

Resistance: 4.2 ohm (10V), 5.1 ohm (12V), 17.0 ohm (20V), 19.3 ohm (24V)

Inductance: 80 mH (12V)

Hysteresis: 4% with 100 Hz PWM

Rated Flow: 3.8 lpm (1.0 gpm)

Maximum Internal Leakage: De-energized: 200 ml/min (12 cu. in./min) @ 241 bar (3500 psi)
Energized @ I_{max}: 400 ml/min (24 cu. in./min) @ 241 bar (3500 psi)

Step Response: T_{ON} <30 ms, T_{OFF} <12 ms

Temperature: -40° to 149°C (-40° to 300°F) with HNBR seals

-26° to 204°C (-15° to 400°F) with Fluorocarbon seals

-54° to 107°C (-65° to 225°F) with Polyurethane seals

Ambient Air Temperature: -40° to 80°C (-40° to 176°F)

Environmental Rating: IP69K

Filtration: See page 9.010.1

Fluids: Mineral-based or synthetics with lubricating properties at viscosities of 7.4 to 420 cSt (50 to 2000 sus). See Temperature and Oil Viscosity, page 9.080.1

Installation: Flange Mount

Mounting Screws: M4 x 0.7 x 12 Long, Part No. 4001015 (not provided with valve)

Cavity: VC-T009; See page 9.111.1

Cavity Tool: CT-T009R0-X-G; See page 8.600.1

Seal Kit: SKEHPR98-T3x; See page 8.650.1

OP20 Directional Control Valve Pricing

Part Number	Description	List Price Base Valve	Standard Double Acting List Price (no options)
0201xxxx	Single Spool Valve	449	390
0202xxxx	Two Spool Valve	661	575
0203xxxx	Triple Spool Valve	891	775
0204xxxx	Four Spool Valve	1141	992
0205xxxx	Five Spool Valve	1408	1224

OP20 Options Pricing (on new builds)

OPTIONS for OP20	Part Number	Description	List Price
P	-	Priority Flow Control Spool Factory fit only, lead time applies	346
K	-	Spool includes friction detent and can only be factory fitted	95
L	-	L Spool is D/A and has no load checks, used for high flows applications	37
D1	507007	Detent per spool, (3 position) factory fit, # indicates position	44
SCDB	509020	Spring Centred Detent with det. Acting on B port is pressurised	133
SCDA	509007	Spring Centred Detent with det. acting on A port is pressurised	133
PB	511003	High Pressure Carry over plug for power beyond "Hi-Cap"	25
PBH	511005	High Pressure Carry over plug 1- 1/16" UNF Hi - Flow	60
CC	511047	Closed Centre Plug (Plug A) part of kit for closed centre	24
NR	511002	Pressure Relief Plug (Plug B) part of kit for closed centre	23
LW	-	Pressure Relief Lock Wire (lead seal)	25
BF	-	Bottom Face Outlet available only as special build from factory	POA
S/O	-	Spring Offset P-B (No Centre Position)	31

MU	-	Mine Use per spool, factory build only, nylon end caps and plated spool	31
W1	506023	OP106 air shift	187
-	506028	OP106 Solenoid manifold kit (includes manifold, screws and 'O' rings. 12or 24 volt DC	95
	506027	OP106 Solenoid kit (includes manifold kit, and 2 off solenoid valves	410
-	506025	OP106 Solenoid Air kit (incl. OP106 kit, manifold, and 2 off solenoid valves 24 volt DC	575
-	506031	same as above for 12volt DC	575
H1	-	Used only in price build for new assembly requiring dual control, (e.g.) lever and air or lever and cable.	117
HI- FLOW	-	Special D/A or S/A spools with load checks for 25 gpm for Tippers and fitted into single or double spool valves with 3/4" bspt ports & R2 Relief per valve	44
-	-	If above spools are ordered with 1 1/16"un service ports, per spool and in a valve with R1 or R2 relief cavity.	44
FBC	-	Port relief cavity last spool - suit RV08-20A not including cartridge	74
Port Relief	RV08-20A-0-N-XX	Relief Valve	110
-	CP08-20-N	Plug VC08-2to suit above cavity (CP08-20N)	23
AS xx	SVRV10-26X	Relief and solenoid unloading adaptor, nominate voltage and pressure.	319

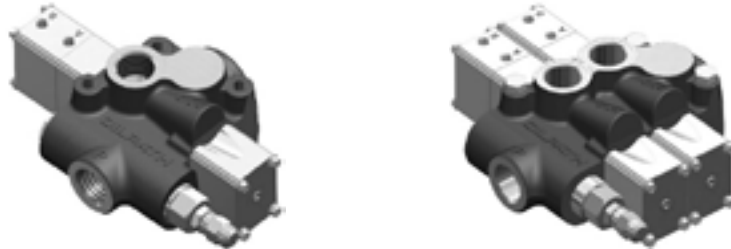


OP20 Spare Parts Pricing

Part Number	DESCRIPTION	LIST PRICE
MU for Spool	For Marine or mine use ADD on per spool (exchange for like)	28
513044	Motor Spool with spring centring mechanism	164
513037	L Spool with spring centring mechanism	164
513034	Double Acting Hi Flo Spool with spring centring mechanism	153
513029	Single Acting Hi-Flo Spool with spring centring mechanism	153
513028	Single Acting Spool with spring centring mechanism	153
513027	Double Acting Spool with spring centring mechanism	153
512055	OP106 Seal Kit all seals	37
512002	Seal Kit Single Spool all seals and metal step washers	38
512008	Seal Kit Double Spool all seals and metal step washers	50
512029	Seal Kit Triple Spool all seals and metal step washers	62
512004	Seal Kit Four Spool all seals and metal step washers	70
512005	Seal Kit Five Spool all seals and metal step washers	82
512021	OP105 Seal Kit all seals	POA
512019	OP104 Seal Kit all seals	POA
512016	OP103 Seal Kit all seals	11
512007	Proportional Air Seal Kit (old kit with stainless steel piston)	11
512003	Proportional Air Seal Kit (new kit with aluminium piston)	90
511047	CC Closed Centre Plug (Plug A) part of kit for closed centre	26
511005	PBH High Pressure Carry over plug 1- 1/16" UNF Hi - Flow	64
511003	PB High Pressure Carry over plug for power beyond "Hi-Cap"	27
511002	NR Pressure Relief Plug (Plug B) part of kit for closed centre	25
509020	SCDB Spring Centred Detent with det. Acting on B port is pressurised	143
509017	Spring Centring Kit to suit all spools, supplied without spring cap	50
509007	SCDA Spring Centred Detent with det. acting on A port is pressurised	143
507007	D1 Detent per spool, (3 position) kit,	46
506028	OP106 Solenoid manifold kit (includes manifold, screws & 'O' rings 12 v DC	102
506034	OP106 Solenoid manifold kit (includes manifold, screws & 'O' rings 24 v DC	102
506027	OP106 Solenoid kit (includes manifold kit, and 2 off solenoid valves 24 v DC	439

506025	OP106 Solenoid Air kit (incl. OP106 kit, manifold, and 2 off solenoid valves 24v)	617
506023	W1 OP106 air shift	201
505025	Relief Valve R2 cartridge set to 2000 psi	207
505020	Relief Valve R1 (standard) cartridge, set to 2000 psi	153
504502	Handle Lever complete with nut and rubber knob	31
504028	Lever Box with shift leg & rubber boot but no handle	135
504015	H, Kit B used when converting standard lever assembly valve to dual control, (e.g.) lever and air or lever and cable.	103
504014	H, Kit A used when fitting dual control, with air or cable already fitted.	166
504010	Handle Assembly Old Style not including handle lever	147
502019	Spool Eye New Style to suit lever box handle (current style)	29
413001	Rubber Boot for lever box	11
340004	Spring Cap supplied without M6 cap screws	31
249011	L Spool only	126
249008	Motor Spool only	134
249007	Single Acting Spool only	126
249006	Double Acting Spool only	126





**patents pending*

The OP22 pneumatically actuated hydraulic directional control valve is the benchmark in the tipping industry for efficiency, unlike other products utilised in this application the Oilpath OP22 is specifically designed as a tipping valve and has various patents protecting the design. The Oilpath engineers designed the galleries inside the valve casting to provide minimal pressure drop especially in the return to tank line which allows the most efficient hoist down times in the industry.

Note: Oilpath re-designed its high-performance differential area direct acting relief valve which now as well as providing minimal pressure drop and incredible stability (see charts) has a feature that makes it impossible to inadvertently over pressurize the system past 3,200 psi.

OVERALL SPECIFICATIONS

- Rated Flow.....160 lpm.
- Maximum working pressure.....220 bar (3200 psi)
- Working ports.....1" bspp
- Tank Port.....1 1/4" bspp

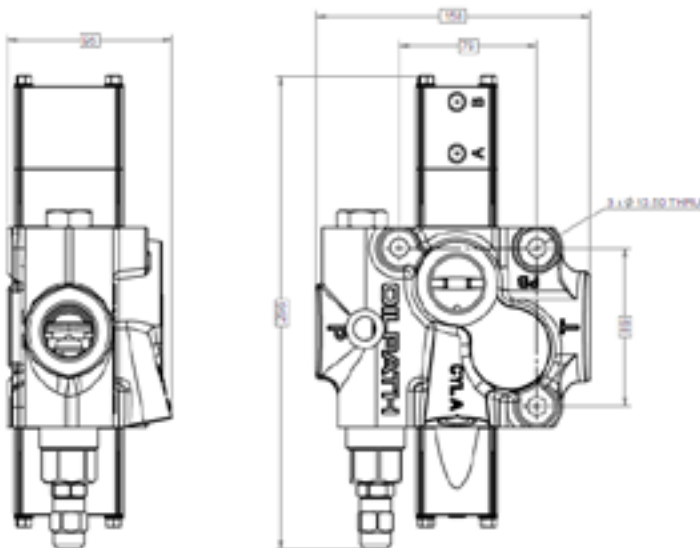
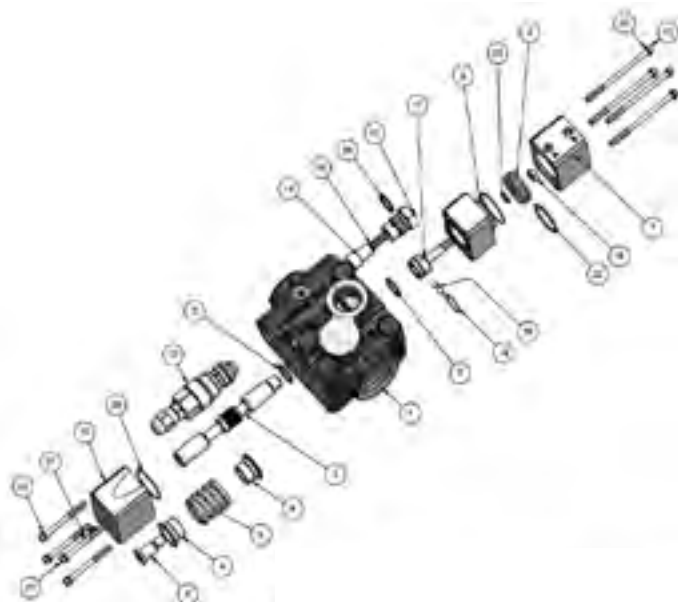
MATERIAL SPECIFICATIONS BODY

- Body.....High tensile strength cast iron
- Spools..... Hardened steel spools
- Seals.....Buna - N

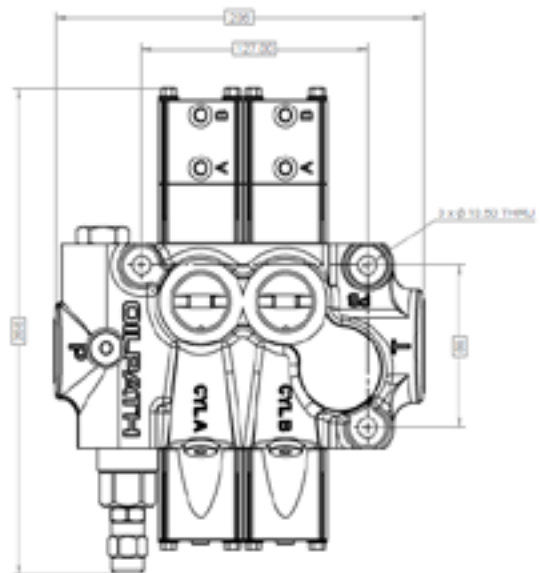
STANDARD FEATURES

- Relief Valve.....Oilpath R3 Full Flow Direct Acting
- Pneumatic Ports.....1/8" bspp
- Test Points.....1/4" bspp "A" "B" & "P" for setting & aux functions
- Vacuum Elimination.....Pneumatic actuator system has a vacuum elimination feature minimising the ingestion of moisture

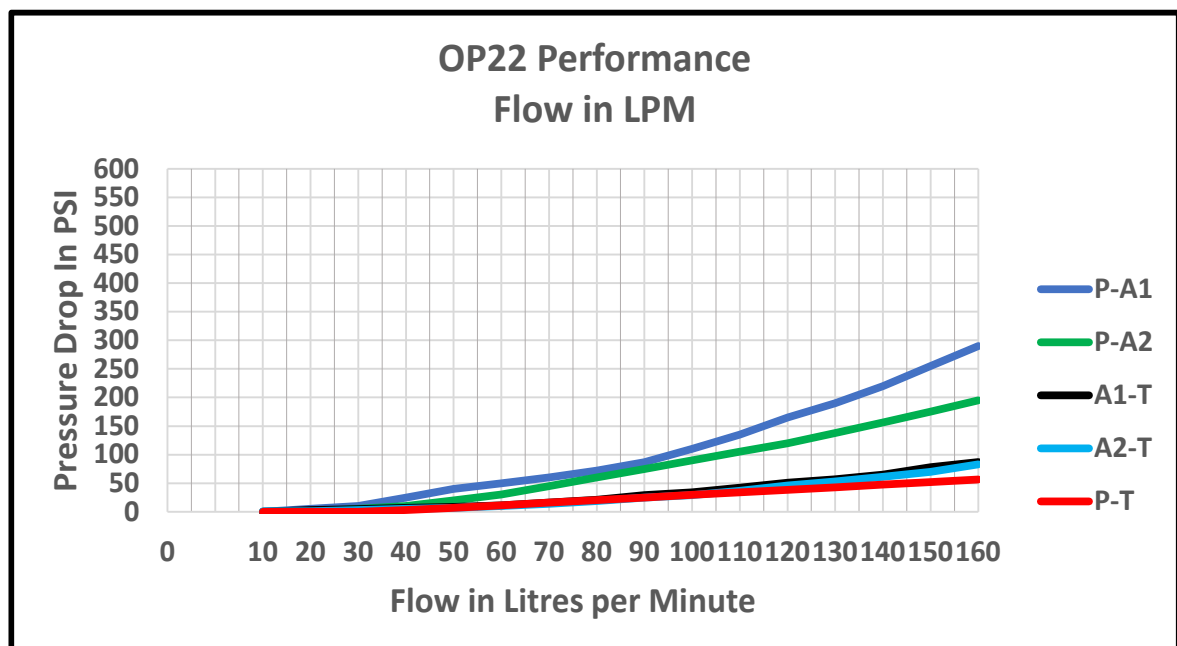
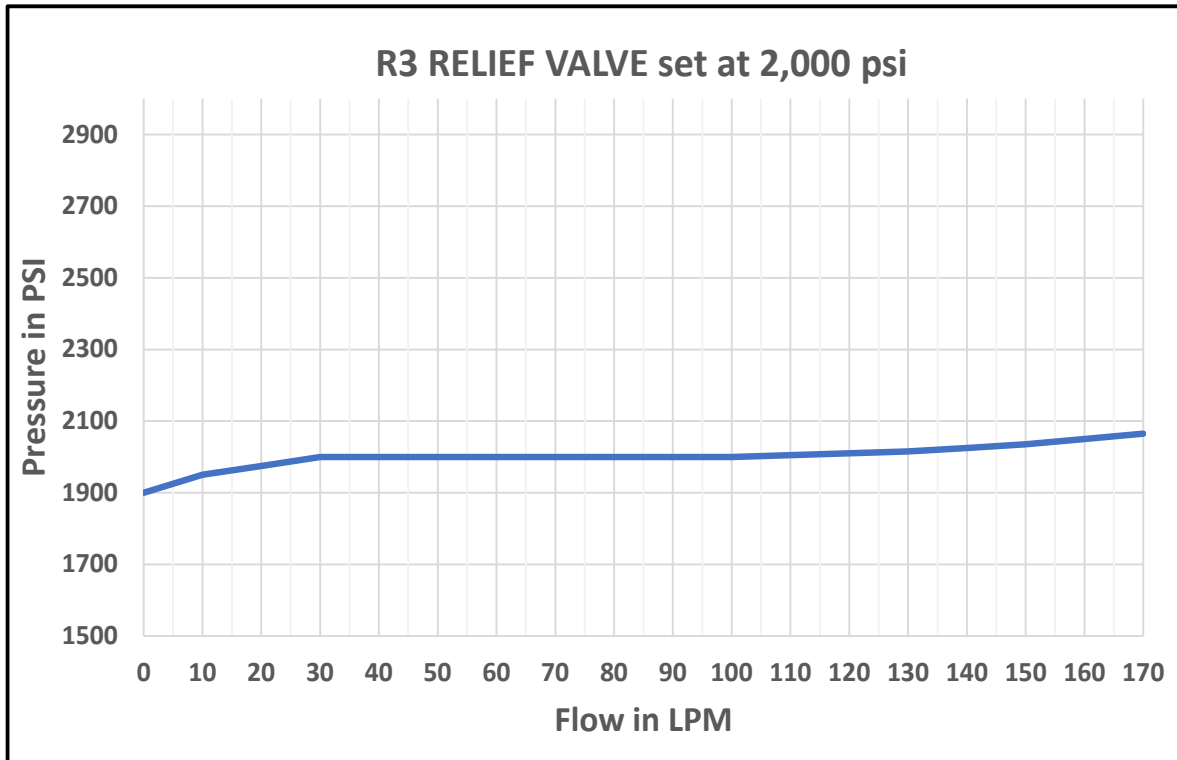
ITEM NO	PART NUMBER	DESCRIPTION	QTY.
1	202181	OP22 SINGLE SPOOL CASTING R3 RELIEF	1
2	401010	BS 118 NITRILE O-RING	2
3	240335	SPOOL	1
4	240011	Spring Cup - OP22	3
5	415310	Spring Centre Spring	1
6	244021	Centre Shaft - OP22 Spool	1
7	253189	Air Cylinder - Extruded Aluminium	1
8	253181	Housing Extension	1
9	238080	Air Piston - OP22	1
10	253180	Spring Cap - Extruded Aluminium	1
11	240336	OP22 Lift Drop Check Plug	1
12	415511	M8 x 80 Small Hex Forged Bolt (Grade 4.8)	4
13	415512	M8 x 80 Small Hex Forged Bolt (Grade 4.8)	4
14	241059	OP22 Lift Drop Check Poppet	1
15	415022	OP22 Load Check Spring	1
16	230015	Check Pin - OP22	1
17	237028	Piston Rod - OP22	1
18	408008	M8 Nut - Stainless Steel Grade 304	1
19	406003	Wire Clamp - OP103	1
20	415131	5 X 6 X 0.08M ZFRG WITH RIBBED LOCK WASHER ZING PLATED	8
21	505052	1/8" BSPT Breather Valve Assembly	1
22	401186	BS 125 NITRILE O-RING	1
23	401113	BS 110 NITRILE O-RING	1
24	401324	BS 029 NITRILE O-RING	2
25	401483	BS 028 NITRILE O-RING	1
26	401066	BS 010 NITRILE O-RING	1
27	505069	R3 Relief Valve	1
28	Spring - Vent Valve	Check Valve Spring 3.4 bar	1



OP22 -1 Single Spool Truck Valve



OP22 Single Spool Truck Valve



OP22 Truck Valve Pricing

Part Number	DESCRIPTION OP22-1 SINGLE SPOOL	LIST PRICES Qty 10+	Qty 5 - 9	Qty 1- 4
02210003	OP22 SINGLE SPOOL R3 1"BSPP 1/8" BSPP PRESSURE PORT SWITCH 1/8" TEST POINT	456	500	620
Part Number	DESCRIPTION OP22 DOUBLE SPOOL	LIST PRICES Qty 10+	Qty 5 - 9	Qty 1- 4
02220007	OP22 SS A12 R3 1"BSPP - P,A,B 1-1/4"BSPP-T NO PORT RELIEF CAVITY (STD)	790	930	1,070

OP22 Spares

Part Number	Description	LIST PRICE
512098	OP22 Seal kit	46
505069	OP22 R3 Relief Valve Cartridge	258
505052	OP22 Spring Chamber Vent	40
504060	OP22 Optional Handle Assembly	NO LONGER AVAILABLE

*patents pending



The OP55 is a larger derivative of the OP22, the benchmark in the tipping industry for efficiency, similar to the OP22, the OP55 is specifically designed as a tipping valve and has various patents protecting the design. The Oilpath engineers designed the galleries inside the valve casting to provide minimal pressure drop especially in the return to tank line which allows the most efficient hoist down times in the industry.

Oilpath also designed a high-performance differential area direct acting relief valve that provides minimal pressure drop and incredible stability. (see charts)

OVERALL SPECIFICATIONS

- Rated Flow.....250 lpm.
- Maximum working pressure.....250 bar (3500 psi)
- Working ports.....1" bspp or 1 ¼" bspp
- Tank Port..... 1 ¼" bspp 1 ½ "bspp

MATERIAL SPECIFICATIONS BODY

- Body.....High tensile strength cast iron
- Spools..... Hardened steel spools
- Seals.....Buna - N

STANDARD FEATURES

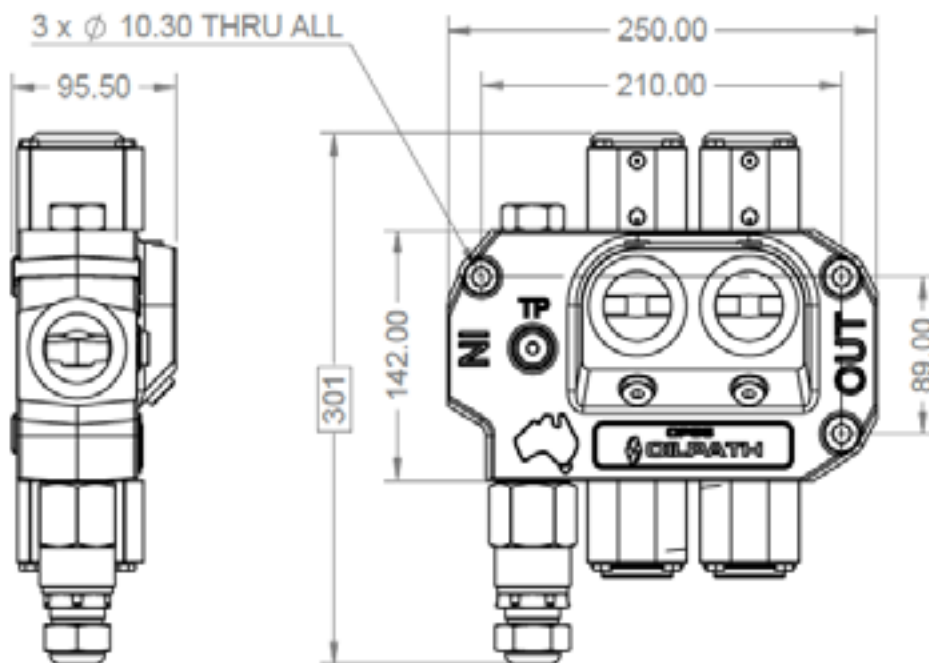
- Relief Valve.....Oilpath R55 Full Flow Direct Acting
- Pneumatic Ports.....1/8" bspp
- Test Points.....¼" bspp "A" "B" & "P" for setting & aux functions
- Tank Return.....Large internal galleries for fast lowering performance

OP55

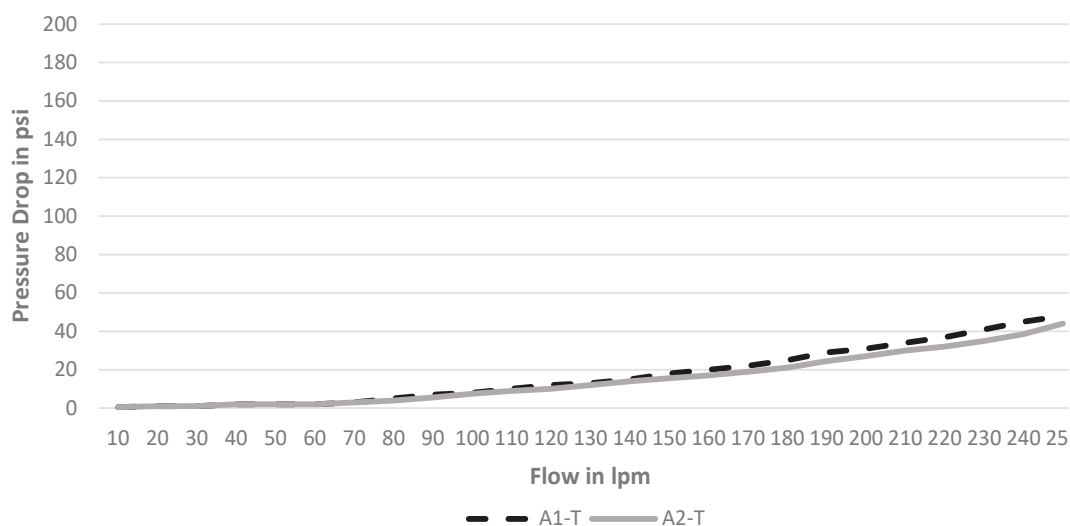
250 lpm. Single Acting Truck Valves



35



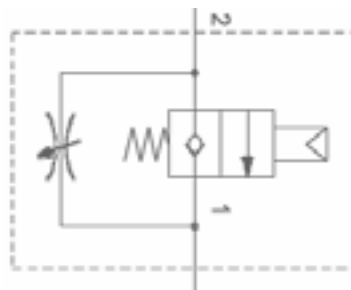
OP55 Flow Curves



Part Number	DESCRIPTION	LIST PRICES Qty 10+	Qty 5 - 9	Qty 1-4
05500002	OP55 SS A 12 R55 1 BSPP P,A&B 1-1/4" BSPP TANK 2500 OILPATH STD	1,050	1,190	1,390



**Patents Pending*



The Oilpath OP-APV-16-22 is the third generation of this market leading hoist blocking product that was designed in Australia and is manufactured in Australia utilising premium materials with “world class” manufacturing tolerances and techniques.

The latest revision provides an even lower pressure drop through the body utilising patented technology. The design also incorporates a large ratio “balanced” pneumatic cylinder which uses extremely low (2.1bar) air pressure to activate the system. The characteristics of the low-pressure requirement ensure efficient activation at times when little air is available and provides faster response times. Combining all these features guarantees the most efficient activation and hoist lowering times in the industry.

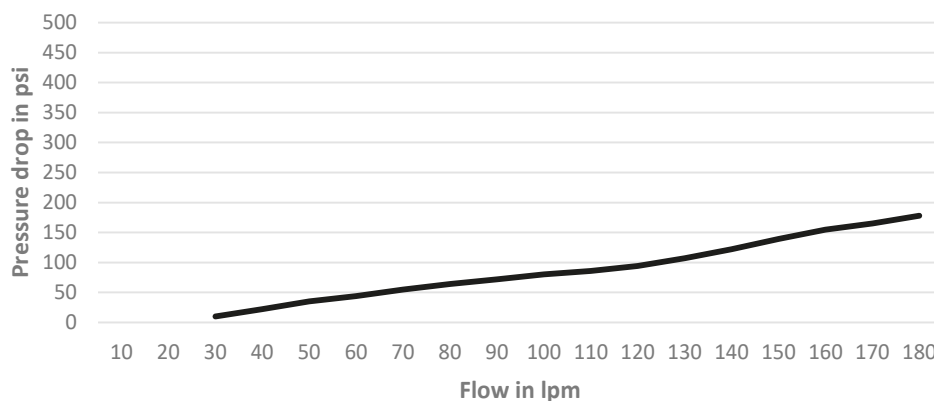
OVERALL SPECIFICATIONS

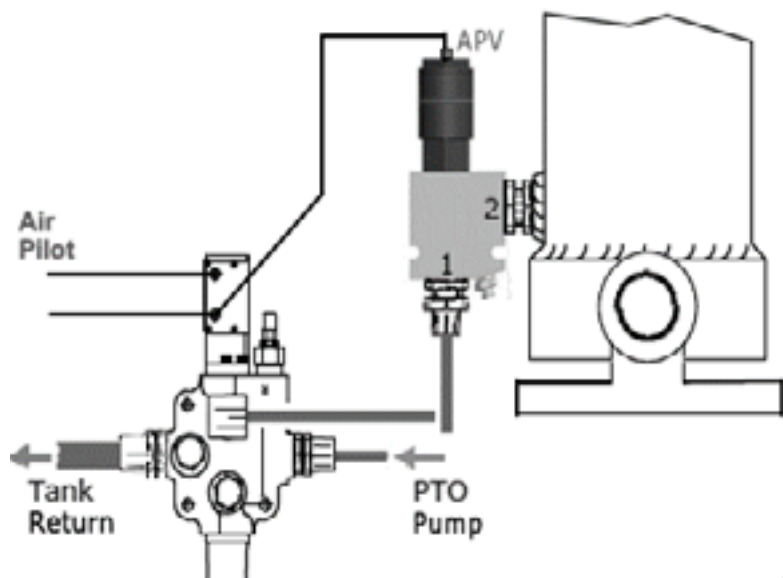
- Maximum working pressure.....210 bar (3000 psi)
- Rated flow.....180 ltrs/min

MATERIAL SPECIFICATIONS BODY

- BodyHigh tensile Aluminium
- Seals.....Buna - N

OP-APV-16-22 Hoist- Tank





Air Pilot Operation

Function	DC1	DC2	APV1
Raise	Pressure	Vent	Vent
Hold	Vent	Vent	Vent
Lower	Vent	Pressure	Pressure

Important Information

This valve must be installed by appropriately trained Hydraulics Operative as per the installation diagram above.

Do not attempt to disassemble this valve as it is designed to be maintenance free, any interference with this assembly will void all warranties and liabilities.

The only exception to the above is the external BS-029 neoprene "Breather" O-ring that needs to be replaced after 5 years or sooner if there are visible signs of deterioration.

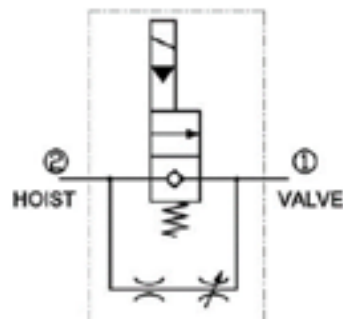
Code	Description	List Prices 20+	10-19	5-9	<5
690222 OILPATH	OP-APV-16-22 HOIST BLOCKING VALVE 1" BSPP - OILPATH LOGO	520	580	680	820

Electric Hoist block Valve

Electrically Operated Hoist Blocking Valve



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Oilpath Electric Hoist Blocking Valves utilise HydraForce normally closed poppet valves in conjunction with an Oilpath manufactured aluminum body and a manual override system from the pneumatic hoist block valve.

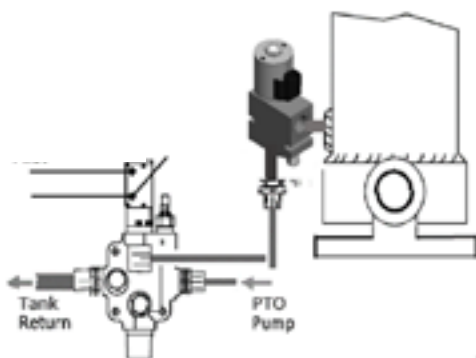
This valve utilises the world class HydraForce hardened steel poppet system and high-quality solenoids combination providing fast reliable operation and low leakage.

OVERALL SPECIFICATIONS

- Maximum working pressure.....210 bar (3000 psi)
- Sizes..... 57 lpm 1/2 " bspp & 115 lpm 3/4 "bspp
- Voltage.....12 or 24-volt Deutsch Coils

MATERIAL SPECIFICATIONS BODY

- BodyHigh tensile Aluminium
- Seals.....Buna - N

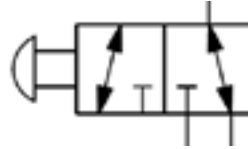


Air Pilot Operation

Function	DC1	DC2	APV1
Raise	Pressure	Vent	Vent
Hold	Vent	Vent	Vent
Lower	Vent	Pressure	Pressure

Part No	Flow l/min	Voltage	List Price 5+	List Price <5
690052	57	24	290	350
690053	115	24	326	386
690106	115	12	346	406
690107	57	12	190	350





The OP27 Three Port Valve Series is a manually operated spool type 3-way 2-position selector valve. The high-quality cast-iron valve body is cast in Australia machined at Oilpath's Adelaide facility along with the chrome plated hardened steel spools. The range also includes alternative actuation methods.

OVERALL SPECIFICATIONS

- Maximum working pressure.....210 bar (3000 psi)
- Maximum Casting shock pressure.....840 bar (12,000 psi)
- Rated flow.....118 ltrs/min (100. gpm)

MATERIAL SPECIFICATIONS

- Body..... High tensile strength Australian cast iron
- Spools.....Hardened steel chrome plated
- Seals.....Buna - N

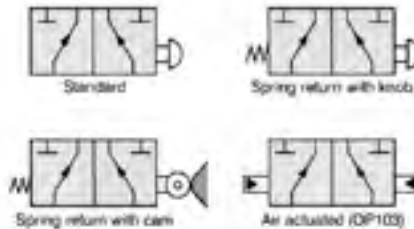
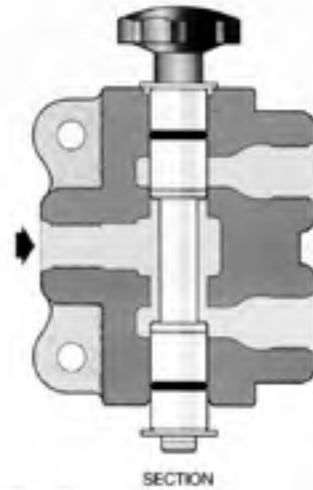
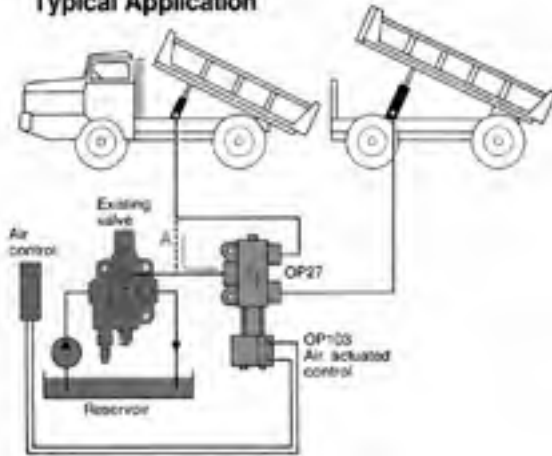
STANDARD FEATURES

- 3-way 2-position circuit
- ¾" bspt Ports
- Simple push pull operation with Knob Actuator
- Front inlet port position
- Easily added to an existing OP20 Circuit

OPTIONS

- Handle Operation (OP20 Handle)
- Air Operation
- Detent System
- Spring Offset
- Roller Cam with Spring Offset 3/8" bspp
- Alternative ports include 7/8" un, 1-1/16" un, 1-5/16" un, ¾" bspp, 1" bspp, ½" bspt & 1" bspt.

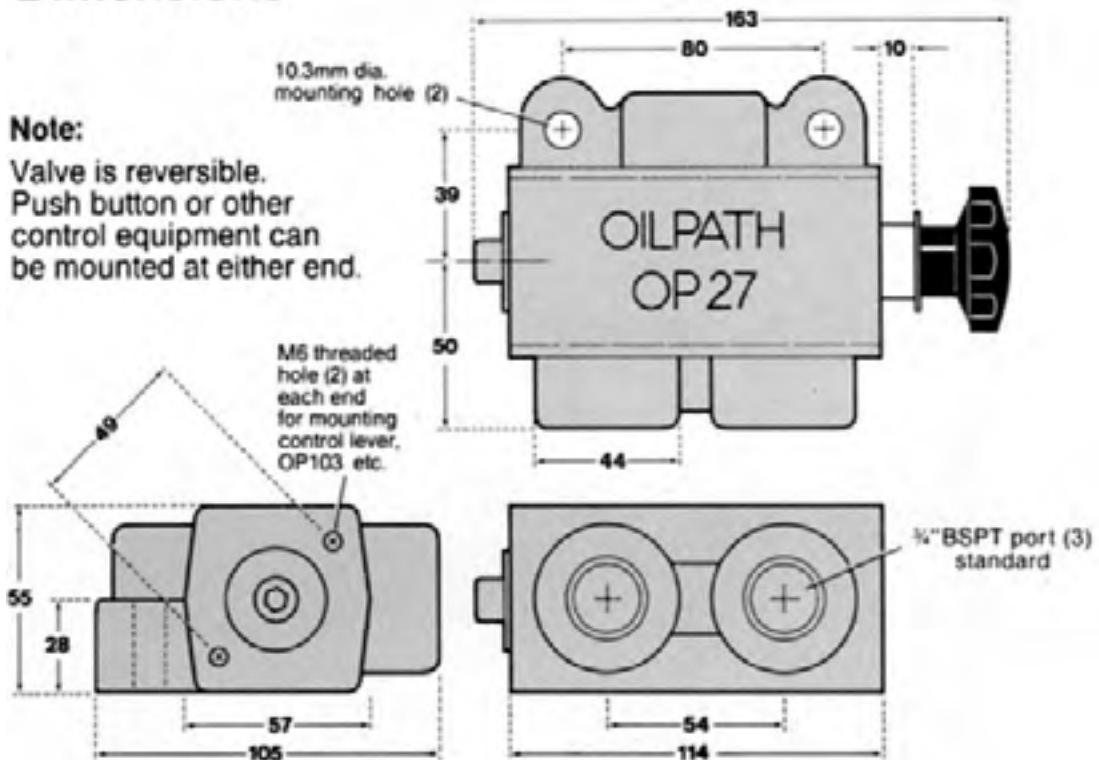
Typical Application



Dimensions

Note:

Valve is reversible.
Push button or other
control equipment can
be mounted at either end.



OP27 Valve Pricing

Part Number	Description	List Price
02700100	3/4" Ports and fitted with a plastic knob	226
02701300	3/4" Ports and fitted with spring offset kit	244
02706002	3/4" Ports and fitted with spring offset kit & new style air kit	358
	OP27 Options Pricing	
Code	Description	List Price
H	Handle operated, OP20 style	72
D	Detent	128
P	Plunger Activation Option (must include S/O option)	POA
CR	Cam roller (must include S/O option)	157
	OP27 Spares Pricing	
Part Number	DESCRIPTION	LIST PRICE
512036	Seal Kit (Spool O rings)	12
509013	Spring offset kit	42
507017	Detent kit	293
506044	B1 Air Kit (used with s/off)	148
504028	Lever Box Assembly	135
420003	Plastic Knob without washer	42
249001	Spool without knob or washers, plain	145



The model OP51FC is a pressure compensated swing arm adjustable flow control valve. By swinging the arm thru 90 °, the flow out the CF or controlled flow port can be varied within the range given in the specification.

Any remaining flow is bypassed to the EX or excess flow port. This flow can be used to power another circuit or can be returned to tank. Once the controlled flow is set, it will remain nearly constant with variations in pressure on either the controlled or excess flow ports.

Please note, if during operation the controlled flow port is blocked, then the valve will compensate in such a manner that there will also be no flow at the EX or excess flow port. With no relief valve to protect the flow in the circuit upstream, pump failure and or component damage will occur. If this situation could occur then it is recommended to fit an extra relief valve upstream or use the model OP51FCR valve.

- valve can also be used as a restrictive flow control by plugging the excess flow port.
- The valve model FCR51 has a built-in adjustable pressure relief. For this model, the excess flow port, labelled **(EX)** **must** be connected to tank.
- It should be noted that whenever these or any valve is used to bypass or restrict flow, heat will be generated. Steps may be required to keep system oil temperature from becoming too high.

OVERALL SPECIFICATIONS

- Maximum working pressure.....210 bar (3000 psi)
- Rated flow.....114 l.p.m

MATERIAL SPECIFICATIONS BODY

- BodyHigh tensile strength cast iron
- Spools.....Hardened steel chrome plated spools
- Seals.....Buna - N

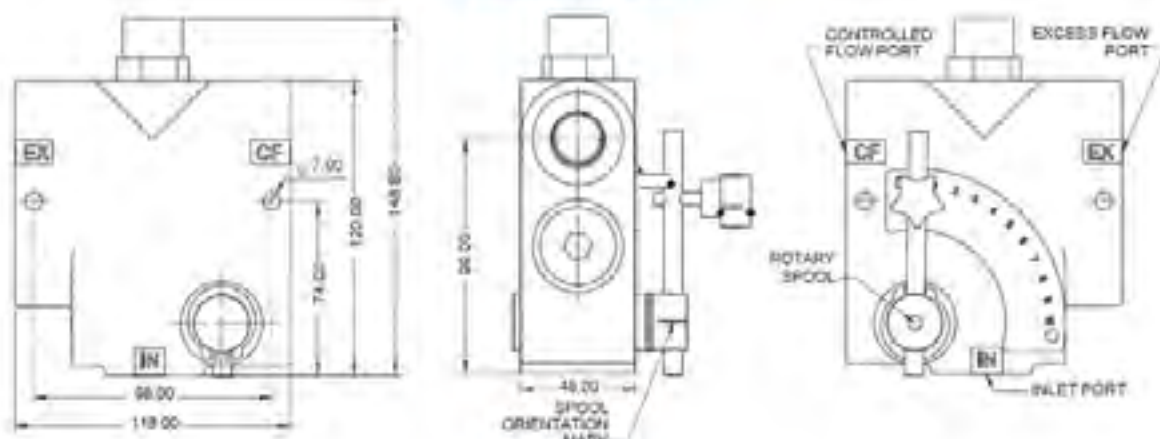
OP51FC

Pressure Compensated Flow Control

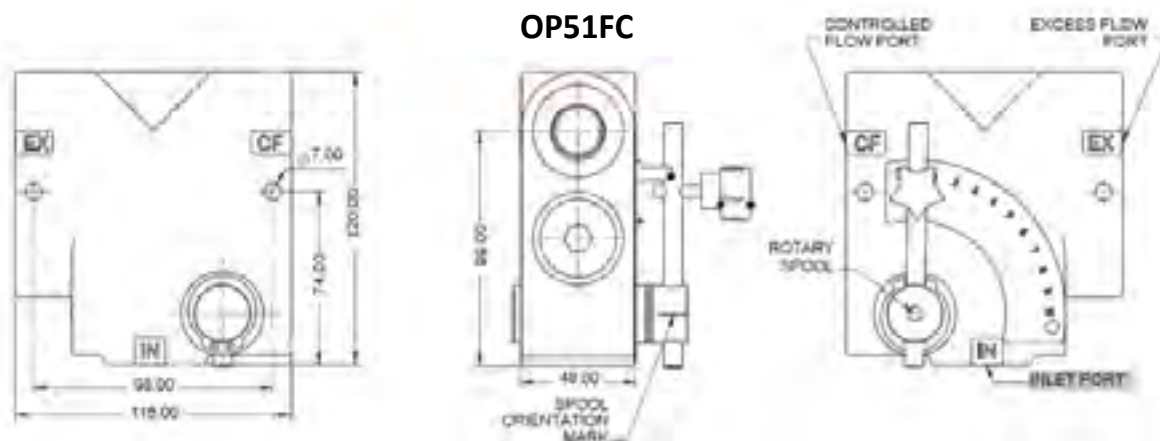


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OP51FCR



OP51FC



Model No.	Port Thread	Relief Valve	Flow US gpm	Flow l/min	Weight	List Price
OP51FC- 1/2	1/2" BSPP	No	0 - 16	0 - 60	3.8 kg	210
OP51FC - 3/4	3/4" BSPP	No	0 - 30	0 - 113	3.8 kg	210
OP51FCR - 1/2	1/2" BSPP	Yes	0 - 16	0 - 60	4.0 kg	230
OP51FCR - 3/4	3/4" BSPP	Yes	0 - 30	0 - 113	4.0 kg	230





The OP80 Six Port Valve Series is a manually operated spool type 6-way 2-position selector valve. The high-quality cast-iron valve body is cast in Australia machined at Oilpath's Adelaide facility along with the plated hardened steel. The range also includes alternative actuation methods.

OVERALL SPECIFICATIONS

- Maximum working pressure.....210 bar (3000 psi)
- Maximum Casting shock pressure.....840 bar (12,000 psi)
- Rated flow.....118 ltrs/min (100. gpm)

MATERIAL SPECIFICATIONS BODY

- BodyHigh tensile strength Australian cast iron
- Spools.....Hardened steel hard chrome plated
- Seals.....Buna - N

STANDARD FEATURES

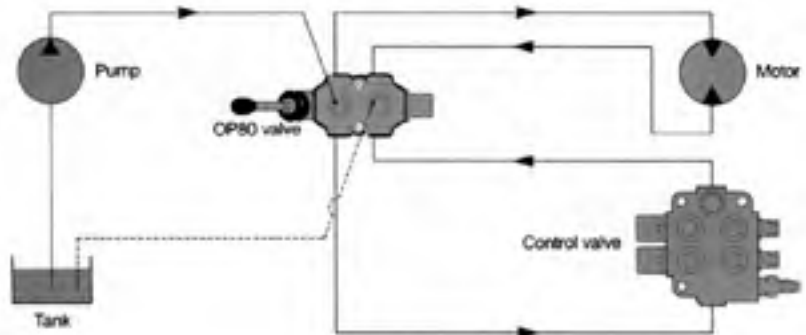
- 6-way 2-position circuit
- 1/2" bspt Ports
- Simple push pull operation with Knob Actuator
- Front inlet port position
- Easily added to an existing OP20 Circuit

OPTIONS

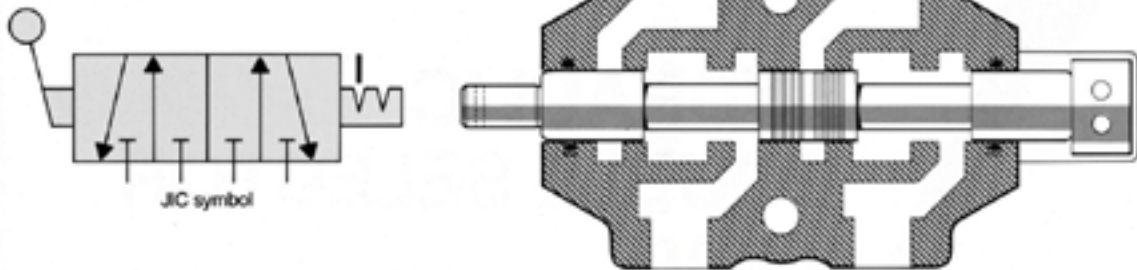
- Handle Operation (OP20 Handle)
- Air Operation
- Detent System
- Spring Offset
- Alternative ports include 7/8"un, 1-1/16"un, 3/4"bspt, 3/4"bspp

Typical application

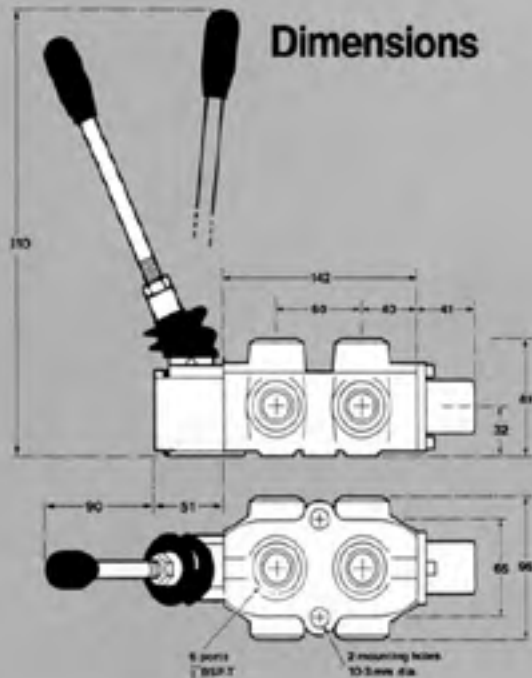
In this circuit OP80 valve is directing hydraulic pressure from pump to either a motor or a control valve.



Schematic



Dimensions

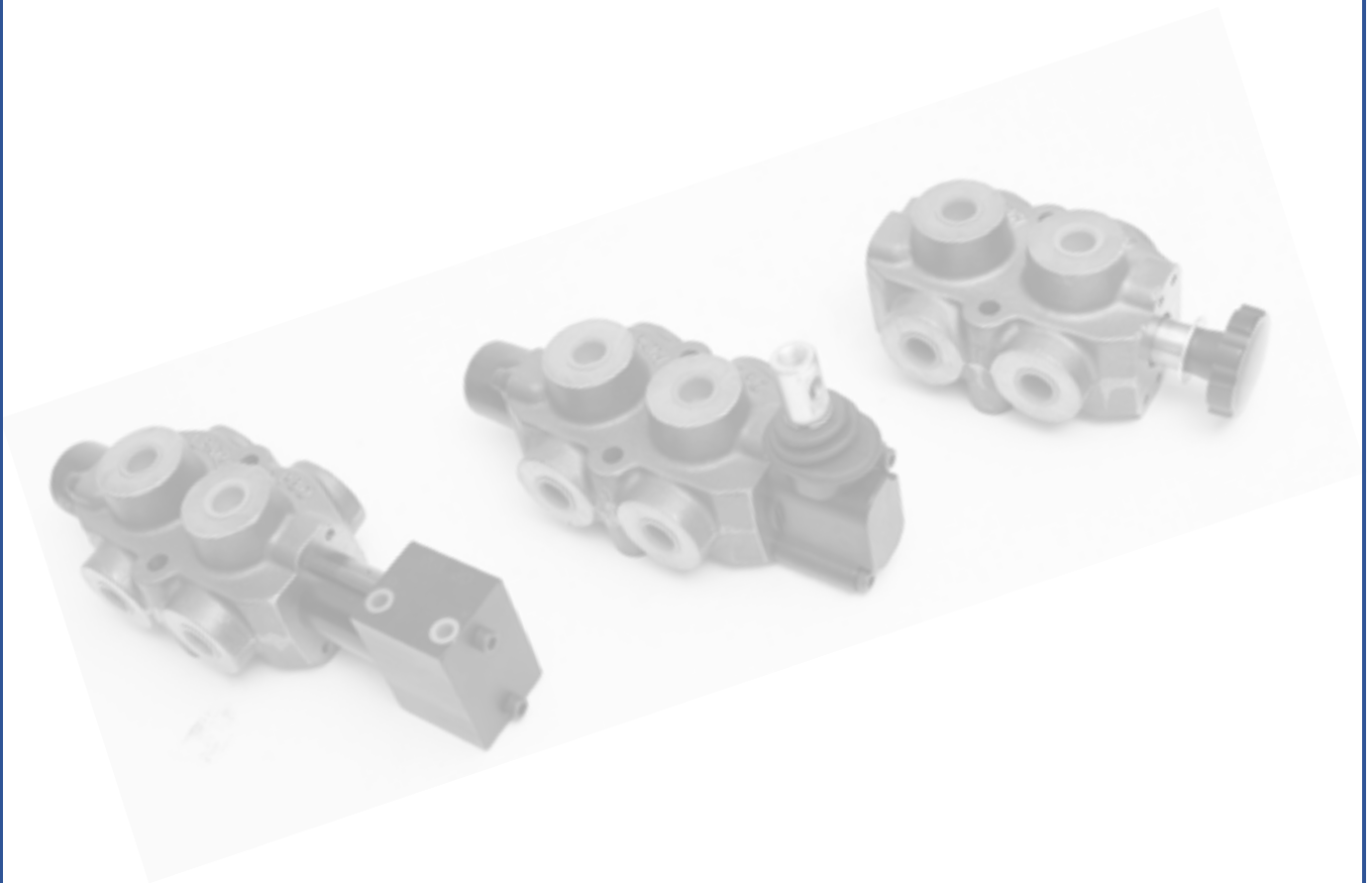


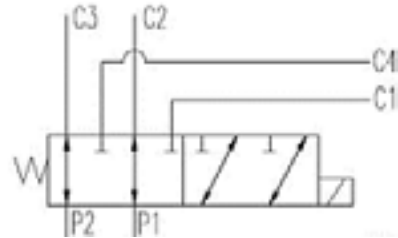
Convenient linkage enables easy repositioning of handle



OP80 Six Port Selector Valve Price List

Part Number	Description	List Price
08000001	OP80 1/2" BSPT fitted with 2 position detent and OP20 style handle	373
08001000	OP80 1/2" BSPT K fitted with a black plastic knob (push pull)	322
08063000	Fitted with Air Kit and spring offset kit	461
	OP80 Options Price List	
Part Number	Description	List Price
MU	Marine use lever box and end cap	98
	OP80 Spares Price List	
Part Number	DESCRIPTION	LIST PRICE
512037	Seal kit (Spool O rings)	6
509014	Spring offset kit	40
507002	Detent Kit Complete assembly	117
506044	B1 Air Kit (used with s/off)	148
504502	Handle Lever complete with nut and rubber knob	31
504028	OP80 Lever Box	135





The OP80S is a stackable 6 port/2 way change over valve designed to be used when extra circuits are to be operated from one control lever on machines such as fork lift trucks, agricultural front-end loader, telescopic handlers, and in transmission circuits.

OVERALL SPECIFICATIONS

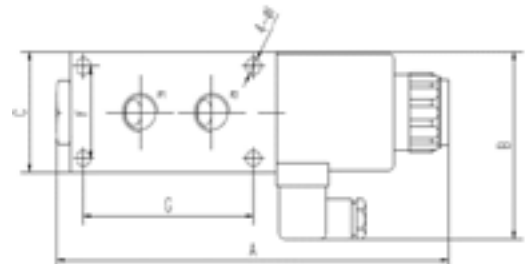
- Maximum working pressure.....250 bar (3500 psi)
- Maximum Casting shock pressure.....840 bar (12,000 psi)
- Rated flow 3/8"bspp.....40 ltrs/min
- Rated flow 1/2"bspp.....60 ltrs/min

MATERIAL SPECIFICATIONS BODY

- BodyHigh tensile strength cast iron
- Spools.....Hardened steel chrome plated spools
- Seals.....Buna - N

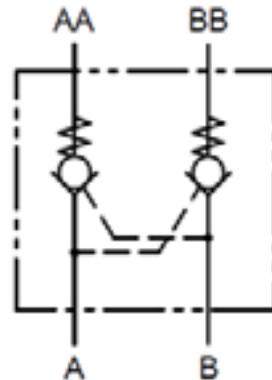
STANDARD FEATURES

- 6-way 2-position circuit
- 3/8 or 1/2" bspp Ports
- 12 or 24 volt solenoid operated



	A	B	C	D	E	F	G	H	I	J
OP80S-3/8" BSPP	175.2	84	52	36	57.5	38	42	6.4	6	52
OP80S-1/2" BSPP	229	100.6	65	46	70	50	99	8	8.4	65

Part Number	Description	List Price
08103812	OP80S-3/8" BSPP 12 VOLT DC	250
08103824	OP80S-3/8" BSPP 24 VOLT DC	250
08101212	OP80S-1/2" BSPP 12 VOLT DC	310
08101224	OP80S-1/2" BSPP 24 VOLT DC	310



Oilpath OP101 Lock valves are designed and manufactured in Australia utilising quality materials and modern machining techniques.

The pilot piston is made from hardened steel and is precision fitted to the aluminum body and activates chrome steel check valve balls the provide minimal leakage.

OVERALL SPECIFICATIONS

- Maximum working pressure.....210 bar (3000 psi)
- Sizes..... 55 lpm
- Type.....OP101-I for in-line applications
- Type.....OP101-C direct cylinder mount applications
- Port Size..... 1/2"bspt

MATERIAL SPECIFICATIONS BODY

- BodyHigh tensile aluminium
- Components.....Hardened steel balls and pilot piston
- Seals.....Buna – N

OPTIONS

- Port Size.....3/4"UNF

Model Number	Part Number	Description	List Price
OP101-C	10100100	Cylinder mounted with 1/2"BSPT ports	213
OP101-C	10100600	Cylinder mounted with 3/4" unf ports	213
OP101-I	10100200	In-Line with 1/2" BSPT ports	204
OP101-I	10100800	In-Line with 3/4" unf ports	204



Oilpath OP111 cetop 3 and cetop 5 sub plates are designed and manufactured in Australia utilising quality materials. These subplates have various outlet porting options including side or bottom.

OVERALL SPECIFICATIONS

- Maximum working pressure..... Aluminium 210 bar (3000 psi)
- Maximum working pressure..... DuraBar 345 bar (5000 psi)
- Sizes..... Cetop 3 and 5
- Port Size..... 3/8" in Cetop 3 & 1/2" bspp in Cetop 5

MATERIAL SPECIFICATIONS BODY

- BodyHigh tensile aluminium or Durbar

Product Type	Part Number	Description Cetop 3 Products	List Price
OP111-A	111001	Single Cetop 3 alloy sub-plate, side ported 3/8" BSPP	81
OP111-A-C	111005	Single Cetop 3 cast iron as above but for 350 bar	108
OP111-B	111003	Single Cetop 3 alloy sub-plate, rear ported 3/8" BSPP	113
OP111-B-C	111006	As above but produced in cast iron for 350 bar rating.	172
OP111-A-R-*	111013	Cetop 3, Alloy, RV08-20A-0-N relief cartridge, 2 - 210 bar 40 l/min. Sub-plate with Pilot Operated Pressure Relief Valve	394

Product Type	Part Number	Description Cetop 5 Products	List Price
OP1115-A	111501	Single Cetop 5 alloy sub-plate, side ported 1/2" BSPP	125
OP1115-A- C	111502	Single Cetop 5 Steel as above but for 350 bar	155
OP1115-B	111503	Single Cetop 5 alloy sub-plate, rear ported 1/2" BSPP	125
OP1115-B-C	111504	As above but produced in steel for 350 bar rating.	155



Oilpath cetop 3 & 5 bar manifolds are manufactured with an industry standard 10-2 cavity and can be provided with HydraForce relief valves and other cartridge configurations.

OP112-* CETOP3 MANIFOLD – PARALLEL ALLOY with 10-2 relief cavity
P & T Ports 1/2" BSPP, Service Ports 3/8" BSPP

Product Type	Part Number	Description	List Price
OP112-1	112001	Single Station	111
OP112-2	112002	Two Station	148
OP112-3	112003	Three Station	189
OP112-4	112004	Four Station	225
OP112-5	112005	Five Station	278
OP112-6	112006	Six Station	322

OP112-*-S CETOP3 MANIFOLD – SERIES ALLOY with 10-2 relief cavity
P & T Ports 1/2" BSPP, Service Ports 3/8" BSPP

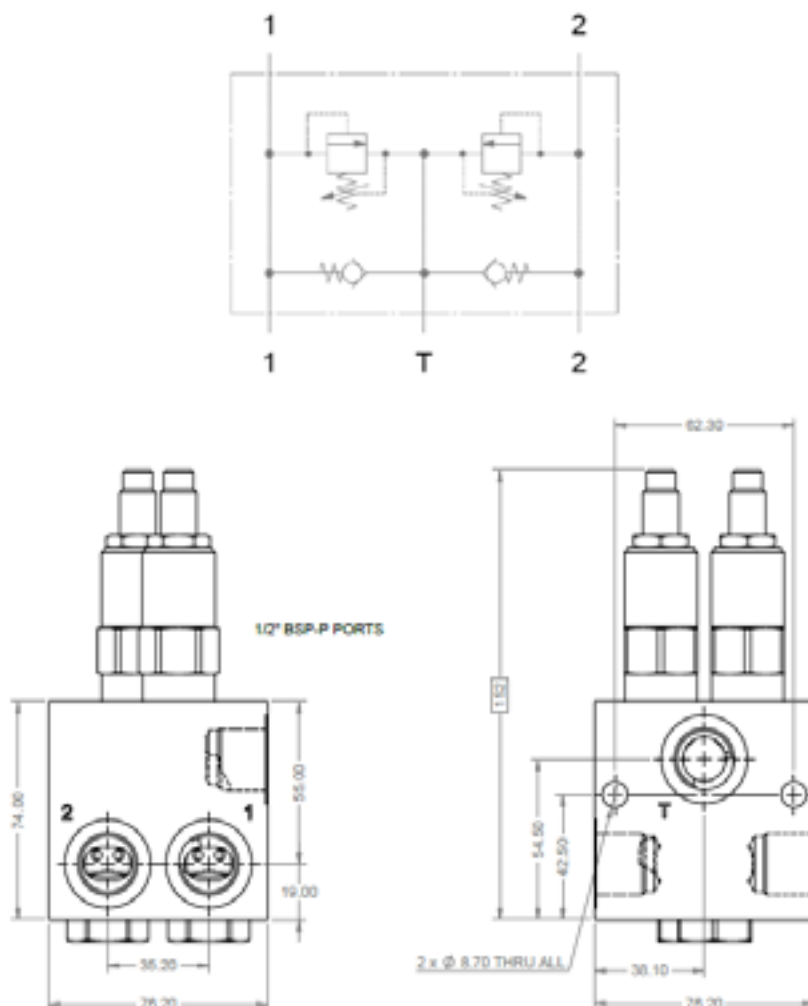
Product Type	Part Number	Description	List Price
OP112-2-S	112072	Two Station in series	163
OP112-3-S	112073	Three Station in series	204
OP112-4-S	112074	Four Station in series	240
OP112-5-S	112075	Five Station in series	293
OP112-6-S	112076	Six Station in series	338

OP114-* CETOP 5 MANIFOLD - PARALLEL ALLOY with 10-2 relief cavity
P & T Ports 3/4 " BSPP, Service Ports 1/2" BSPP

Product Type	Part Number	Description	List Price
OPS114-1	114001	Single Station	175
OPS114-2	114002	Double Station	277
OPS114-3	114003	Three Station	365
OPS114-4	114004	Four Station	464
OPS114-5	114005	Five Station	589
OPS114-6	114006	Six Station	665
		Cartridge Valves for all Manifolds	
		RV10-26A-0-N-30 HydraForce Relief Valve	144
		SVRV10-26-0-N-* Solenoid Relief / Unloader	379

Note: Other manifold configurations and material can be manufactured to order

Oilpath 100 lpm Cross Line Relief with Anti-Cavitation Checks, incorporating HydraForce Pilot operated Relief Vales and anti-cav. Check Valves.



FEATURES

- Maximum working pressure..... Aluminium 210 bar (3000 psi)
- Port sizes.....1/2" bspp
- Cartridges.....HydraForce

MATERIAL SPECIFICATIONS BODY

- BodyHigh tensile aluminium

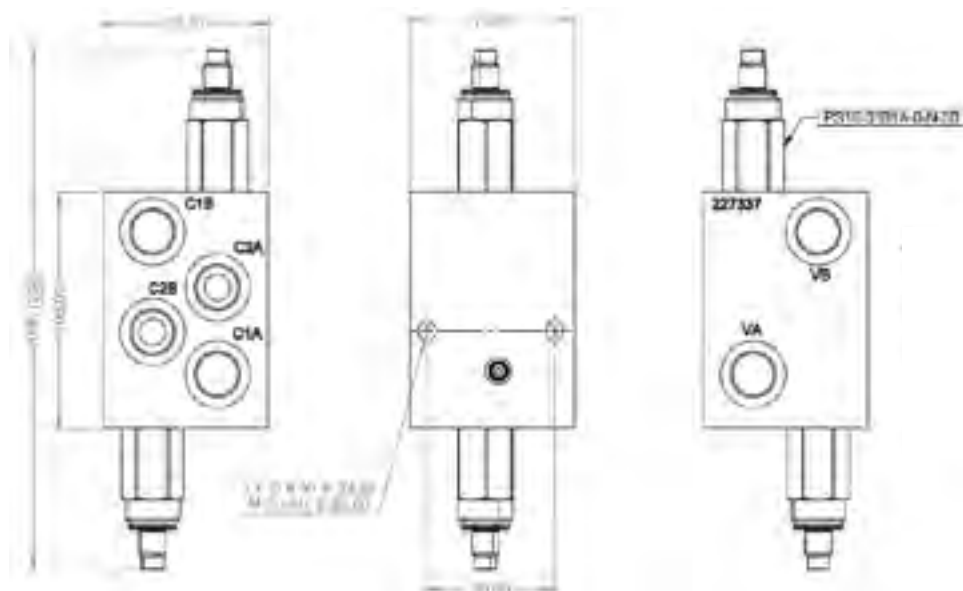
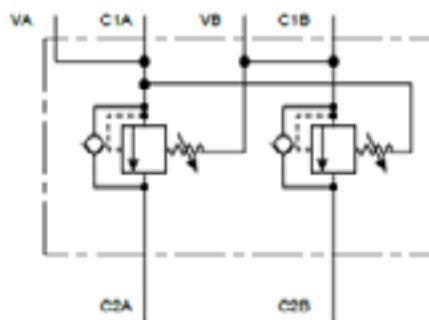
Part No.	Description	List Price
12900001	Oilpath 100 lpm Cross Line Relief with Anti-Cavitation Checks	542

* Contact factory for alternative sizing and options

OP156

100 lpm Double Sequence Valve

Oilpath 100 lpm Double Sequence Valve including reverse flow check valves, with adjustment range between 10-210 bar.



FEATURES

- Maximum working pressure..... Aluminium 210 bar (3000 psi)
- Port sizes.....1/2" bspp
- Cartridges.....HydraForce

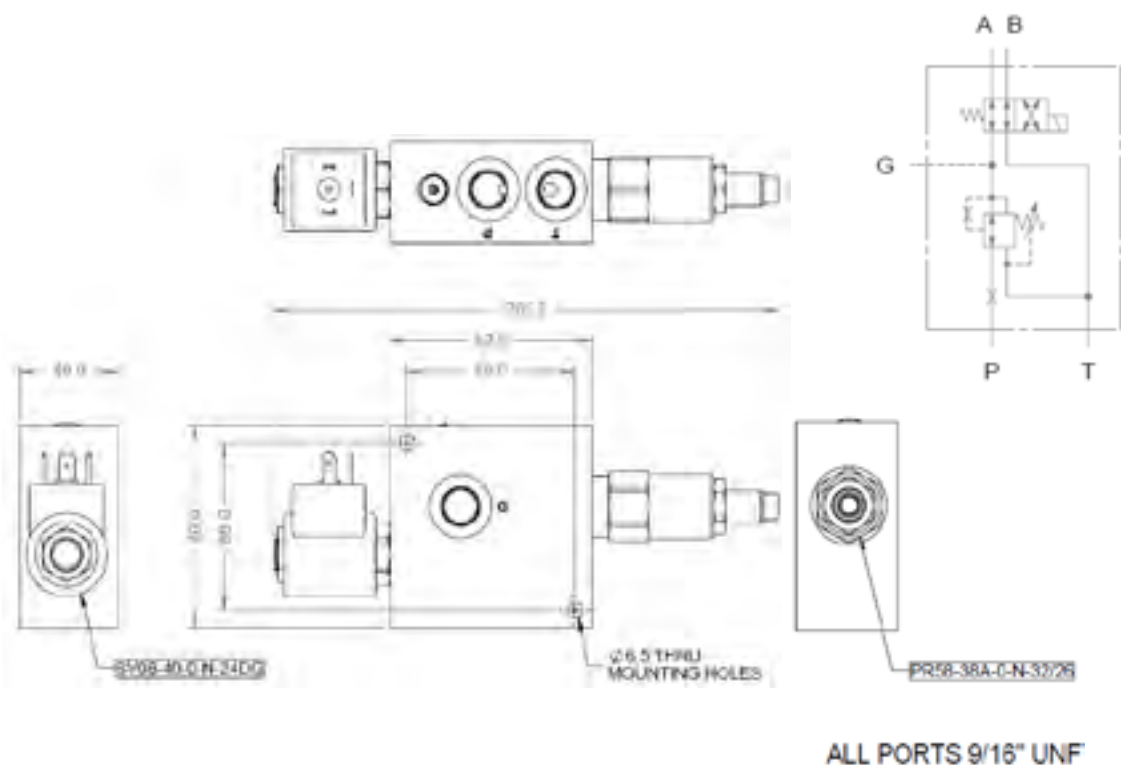
MATERIAL SPECIFICATIONS BODY

- BodyHigh tensile aluminium

Part No.	Description	List Price
15600001	Oilpath 100 lpm Double Sequence Valve including reverse flow check valves	565

* Contact factory for alternative sizing and options

Oilpath OP137 Quick Hitch Valve is an economically priced, ultra-compact, quality valve, utilising HydraForce dirt tolerant cartridges. Available with 12 or 24 volt coils



FEATURES

- Maximum working pressure..... 350 bar (5000 psi)
- Port Size.....9/16" unf
- Gauge Port.....1/4" bspp
- Cartridges.....HydraForce
- Reduced pressure to cylinder
- Orifice allows connection to high flow circuits

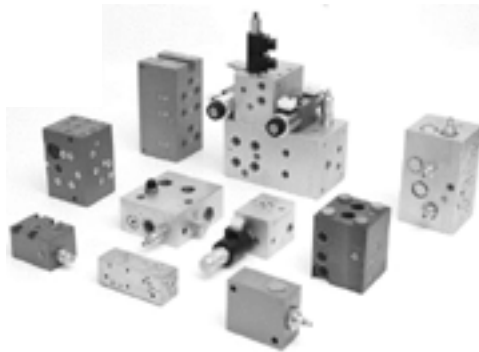
MATERIAL SPECIFICATIONS BODY

- BodyDuctile Iron

Part No.	Description	List Price
13710012	OP137 Quick Hitch Valve 12 volt	563
13710024	OP137 Quick Hitch Valve 24 volt	563

* Contact factory for alternative sizing and options

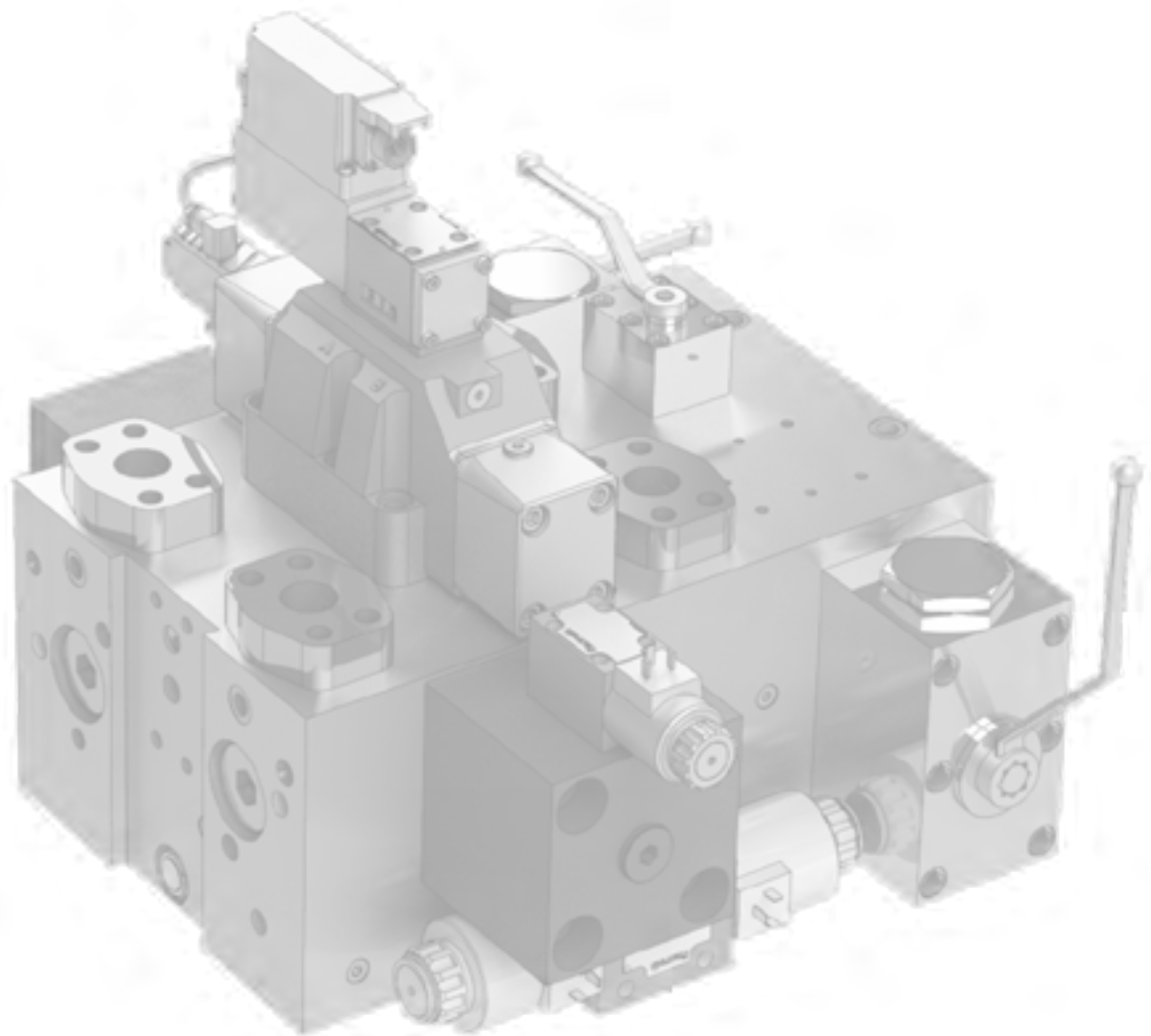
Please contact Oilpath to discuss your manifold requirements with our award winning engineers

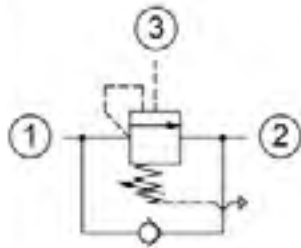


At Oilpath we believe that better performance comes from working together, and our engineers and field representatives will work with you to design your hydraulic control system. We understand that optimizing the performance of your machine starts with creative hydraulic integrated circuits, and when you work with Oilpath we utilize HydraForce cartridge valves and control equipment, therefore you can select from the broadest product range in the industry.

Our design staff will collaborate with you and verify your design prior to manufacturing a prototype. Then we'll make any necessary refinements and engineer your product to meet your exact specifications. With proprietary innovations like HydraForce I-Design, Solidworks MD Tools CAD software & Peps Manifold Expert CAM your hydraulic control schematic is easier than ever. The result is a performance- and configuration-optimized hydraulic solution that is designed exclusively for you.







Oilpath Counterbalance Cartridges from Valvole Italia

Oilpath are delighted to announce that it has entered the Counterbalance Market, we accomplished this by striking a partnership with Valvole Italia a specialist Load Holding Company formed by engineers from the counterbalance division of Oil Control, focused exclusively on the design and manufacturing of load holding product. HydraForce utilise Valvole Italia counterbalance cartridges in an increasing amount in their custom manifold division.

Oilpath are stocking a range of T11A & T2A and parts in body counterbalance product that are extremely competitively priced and technically superior to product already in the market. Oilpath have built stock in standard configurations and will stock other configurations when demand dictates, please ask about special built to specification product required.

Product Strengths

- Modular concepts available utilising same internal components
- Stainless Steel and Nickel-plated options
- Customisable pistons for specific applications optimising performance
- Cartridges proven through severe durability tests
- Proven superior stability over all other valves in market
- Superior pressure drop performance
- T11A GT Series suitable for 75 lpm with 26 bar pressure drop
- Valves designed & manufactured by a pure Load Holding Company
- T11A cartridges manufacture with smaller inscribed hexagon heads (19mm)

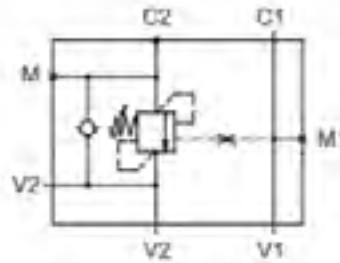
Other Counterbalance Products Available

Please be aware that other counterbalance products are available in Industry standard cavity, Vented Cartridges, Rotary Actuator Cartridges, Parts in a body, and other counterbalance solutions. Please call Oilpath to discuss your requirements.

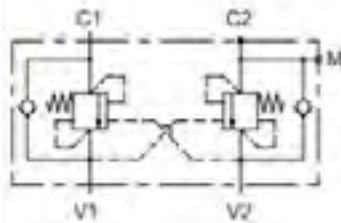
PART No.	Counterbalance Cartridge Description	List Price
C000D240021100A (CBCL-LJN)	LOAD CONTROL T11A 60 L/MIN 2:1 2000-5000PSI	140
C040M210031100A	LOAD CONTROL T11A 30 L/MIN 3:1 1000-4000PSI	140
C000M140031100A (CBCA-LHN)	LOAD CONTROL T11A 60 L/MIN 3:1 1000-3000 PSI	140
C200M110031100A	LOAD CONTROL T11A 75 L/MIN 3:1 1000-2200PSI	154
C000D210040200A (CBEA-LHN)	LOAD CONTROL T2A 120 L/MIN 4:1 2000-5000PSI	200
C000T130051100A (CBCG-LKN)	LOAD CONTROL T11A 60 L/MIN 5:1 700-3000 PSI	140
C000D285051100A (CBCG-LJN)	LOAD CONTROL T11A 60 L/MIN 5:1 3045-5200PSI	140
C000D310101100A (CBCH-LJN)	LOAD CONTROL T11A 60 L/MIN 10:1 2000-5000PSI	140



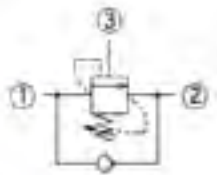
PART No.	Counterbalance Complete Parts in Body Description	List Price
SNS79L04G14D000	SINGLE C/BAL 4:1 350 BAR 1/4"BSPP	148
SNS31L04G38D000	SINGLE C/BAL 4:1 350 BAR 3/8" BSPP	154
SND79L04G14D000	DUAL C/BAL 4:1 350 BAR 1/4" BSPP	230
SND31L04G38D000	DUAL C/BAL 4:1 350 BAR 3/8" BSPP	240
SND31L04G12D000	DUAL C/BAL 4:1 350 BAR 1/2"BSPP	255
PJ17073	DUAL C/BAL 4:1 350 BAR - END C1,C2. PORTS ADJACENT TO CARTRIDGES FOR CONVENIENT CYLINDER MOUNTING 1/2"BSPP	313



Typical Single Counterbalance Parts-in-body.



Typical Double Counterbalance Parts-in-body.



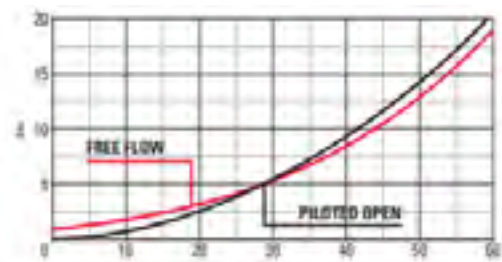
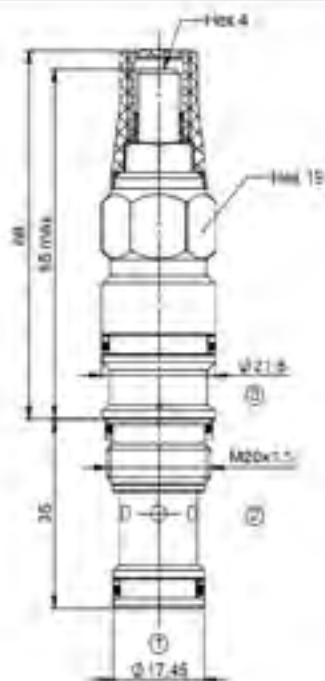
Typical Valvole Counterbalance Cartridge Example

C000M140031100A

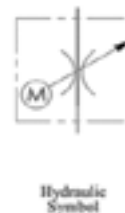
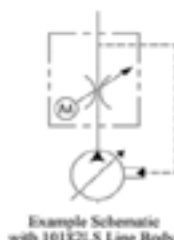
(CBCA-LHN)

3:1 Ratio

Performance Curves







Source Motorised Flow Control cartridges provide economical and simple electrical control for flows up to 190 lpm. It utilises a 12- or 24-volt DC motor to open or close a rotary spool valve. This rate is changed by providing a 12- or 24-volt signal to either increase or decrease the valve opening. In its simplest form, the control element is a DPDT three position-momentary-contact toggle or rocker switch or two DP momentary-contact push buttons.

If a more sophisticated control is desired, the loop can be closed by using a control amplifier and relay circuit in conjunction with feedback from a flow or speed sensor. The valve requires no power to maintain its flow setting. A 12-or24-volt DC is applied only while changing the flow rate and even then shut off to hold flow rate at the desired setting. In the event of a power failure or system shutdown, the system will remain at its current flow setting until power is restored and a command signal is once again supplied. Valve design allows for manual override in cases of electrical failure.

The valve is internally protected and will automatically shut down the internal drive when either the full open or full closed position are reached.

FEATURES

- Internally Protected
- Requires no power to maintain setting
- Simple to use
- Economical
- Flexible
- Efficient
- Safe

DESCRIPTION

MFC-10 and MFC-16 are cartridge design and fit generic 10-2 and 16-2 cavities respectively.

OPERATING SPECIFICATIONS

Operating Pressure 3000 psi max

Flow Rating (based on 100 psi delta P with valve fully open)	Speed in Seconds
0-5 gpm MFC-10-5- (voltage 12 or 24)	3.5 (-03 option)
0-15 gpm MFC-10-15- (voltage 12 or 24)	7.0 (-07 option)
0-20 gpm MFC-16-20- (voltage 12 or 24)	24.0 (-24 option)
0-35 gpm MFC-16-35- (voltage 12 or 24)	48.0 (-48 option)
0-50 gpm MFC-16-50- (voltage 12 or 24)	

Larger valves (20-2) available on request

All Prices available on request starting from \$1,303 List Price



Application notes on sizing motorized flow controls

The pressure drop curves shown are with the valve at full open.

There may be a small variance from valve to valve due to tolerances in each valve. The pressure drop curves represent theoretical calculations and should only be used as a general guideline when sizing a motorized flow control.

Motorized flow control sizing example:

In a circuit that is using a 100 psi compensator and one of our F1010 size valves, the expected maximum flow would be about 12GPM.

If you were to use the same F1010 valve in a load sensing circuit with a 350 PSI compensator your expected maximum flow output would increase greatly to 24gpm.

By sizing the valve as close as possible to the maximum expected flow and pressure drop you will have the best resolution possible.

