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WEBTEC PRODUCTS LIMITED

**Hydraulic Directional
Control Valves (CETOP)
(Formerly H&C/JFP/B&G)**



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Hydraulic Directional Control Valves

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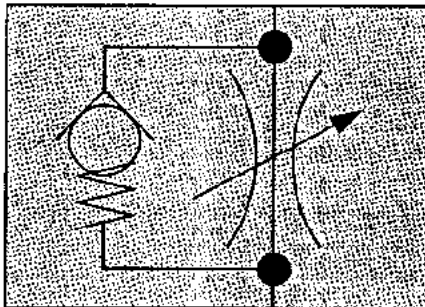
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Cetop 03 (NG6) Modular Stacking System

An extensive range of Control Valve Modules for stack mounting to provide fully integrated, flexible hydraulic control systems. Mounting dimensions to DIN 24340.

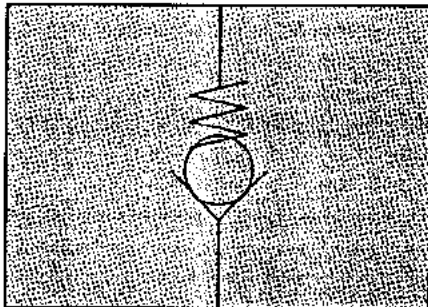
Flow Control Module



Single and dual flow control valve modules with integral free flow reverse check valve. Cartridge type construction. Valve all steel construction.

Nomina. flow rate	50 litres/min
Max. pressure	350 Bar
Recommended operating temp.	-30°C min + 80°C max.
Recommended filtration	25 microns or better
Seals	Medium nitrile (consult Technical Sales for alternatives)

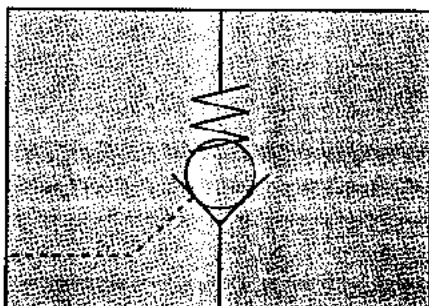
Direct Check Module



Single direct acting check valve, with reverse free-flow, on service ports A or B. Cartridge type construction. Valve all steel construction.

Nominal flow rate	50 litres/min
Max. pressure	350 Bar
Cracking Pressure	1.5 Bar
Recommended operating temp.	-30°C min + 80°C max.
Recommended filtration	25 microns or better
Seals	Medium nitrile (consult Technical Sales for alternatives)

Pilot Operated Check Module



Single and dual pilot operated check valve module, reverse free flow. Cartridge type construction. Valve all steel construction.

Nominal flow rate	50 litres/min
Max. pressure	350 Bar
Pilot ratio	2.25:1
Cracking pressure	1.5 Bar
Recommended operating temp.	-30°C min + 80°C max.
Recommended filtration	25 microns or better
Seals	Medium nitrile (consult Technical Sales for alternatives)



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Cetop 03 (NG6) Modular Stacking System

The new JFP3 CETOP 3 valves were developed by applying 'value analysis engineering' techniques to our previous valves, already renowned worldwide for their quality and reliability. This has resulted in a significant rise in specification and a dramatic drop in price. Production costs have been lowered by using the latest computer

integrated equipment including 8-axis turning centres and vertical machining facilities and we have passed the benefits on to our customers. All valves are quality assured to BS5750 pt. 1 standard and are available from our nationwide distributor network.

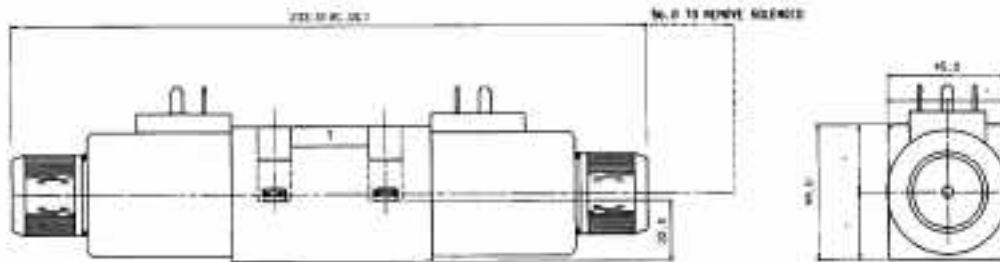


JFP3 General Description

Nominal flow rate	50 litres/min. (see graph for further details)
Max. pressure	350 bar standard (higher pressure available on request)
Max. pressure on T port	140 bar standard (210 bar available on request)
Recommended operating viscosity range	min. 13 cSt - max. 800 cSt
Recommended operating temperatures	min. -30 °C - max. 80 °C
Recommended filtration	25 microns or better
Seals	medium nitrile (consult Technical Sales for alternatives)
Recommended fixing bolt tightening torque	5Nm
Leakage	typical max. allowable on works test 25cc at 210 bar, oil 35 cSt at 40 °C
Mounting	spool should be maintained in horizontal plane.

N.B. All materials suitable for N.C.B. underground use.

Solenoid Operated Valve



Directional Functions

Spools 'A, C and H'

Energise solenoid A for P to B port
Energise solenoid B for P to A port

Spool G

Energise solenoid A for P to A port
Energise solenoid B for P to B port.

On single solenoid valve offset P to A port, solenoid is on A port and
Max. cycling rate single 250/min. double 100/min.
Response time - 25 to 40 M.S.

Electrical Details

Standard Voltages AC 110V, 220V, 240V, - 50 and 60Hz. DC 12V, 24V
Power Rating AC 180VA inrush. 70VA hold. D.C.28 watts

Lever Operated Valve

Directional Functions

N.B. Lever fitted on A port end as standard.

Spools 'A, C and H'

Lever pulled away from valve
P to B port

Lever pushed towards valve
P to A port

Spool 'G'

Lever pulled away from valve
P to A port

Lever pushed towards valve
P to B port

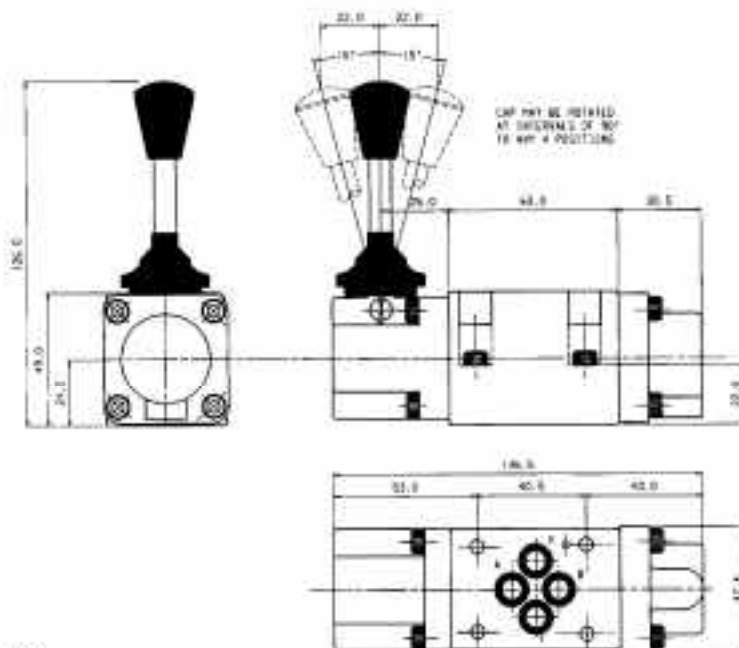
Spool 'O'

Lever upright P to B port

Lever pushed towards valve P to
A port

Force required to move lever at
standard knob centre - 1.5 kg

N.B. All materials suitable for N.C.B.
underground use.



Cam Operated Valve

Directional Functions

N.B. Cam actuator fitted on
B port end as standard

Spools 'A, C and H'

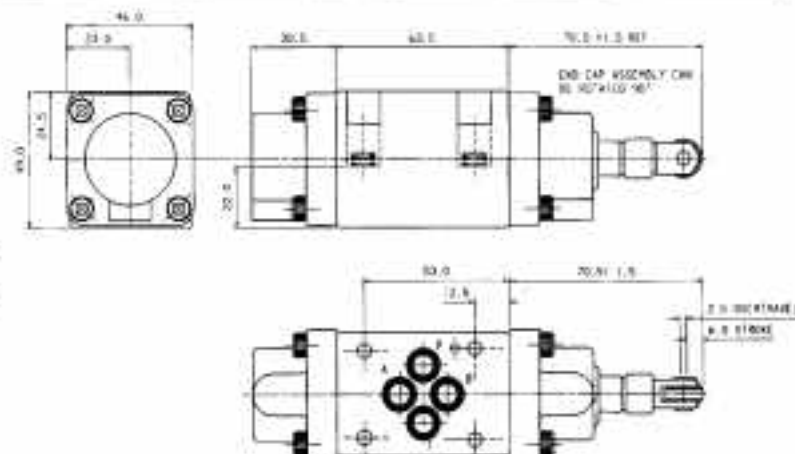
When cam is depressed P to A port

Spool 'G'

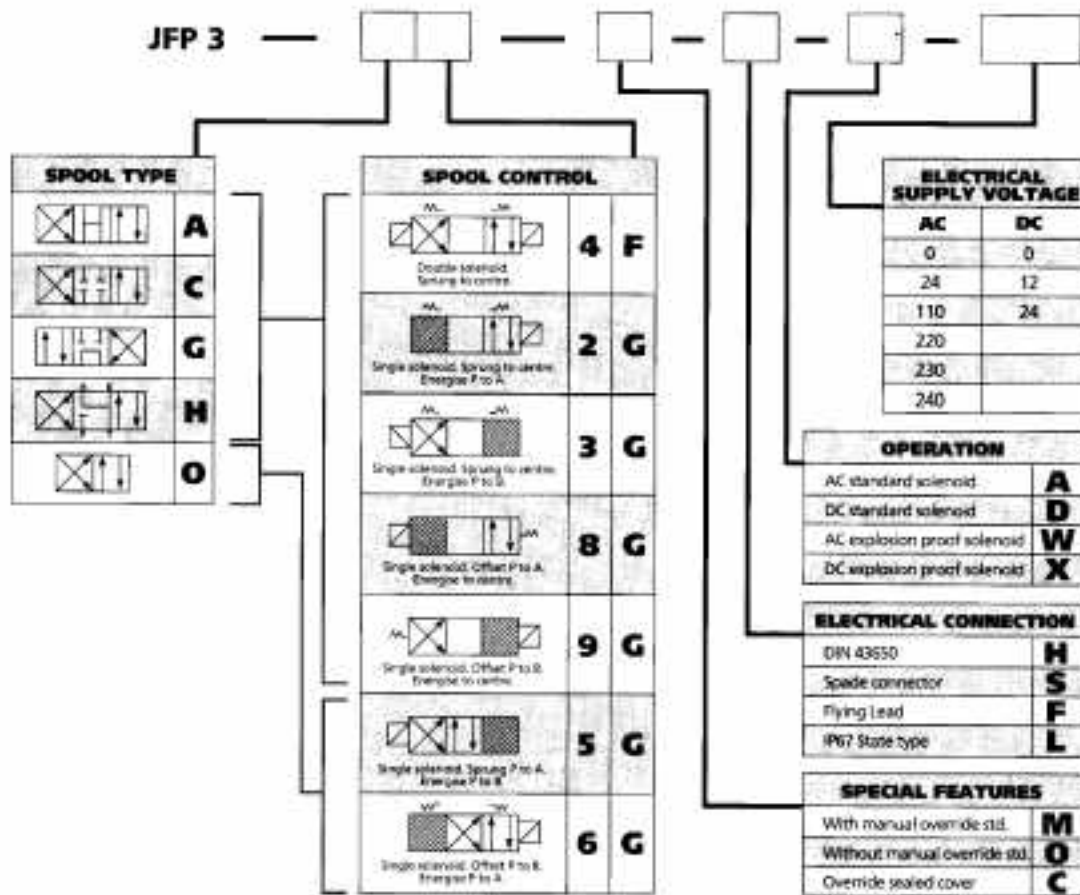
When cam is depressed P to B port

Force required to depress cam
Start - 5kg Full - 10kg

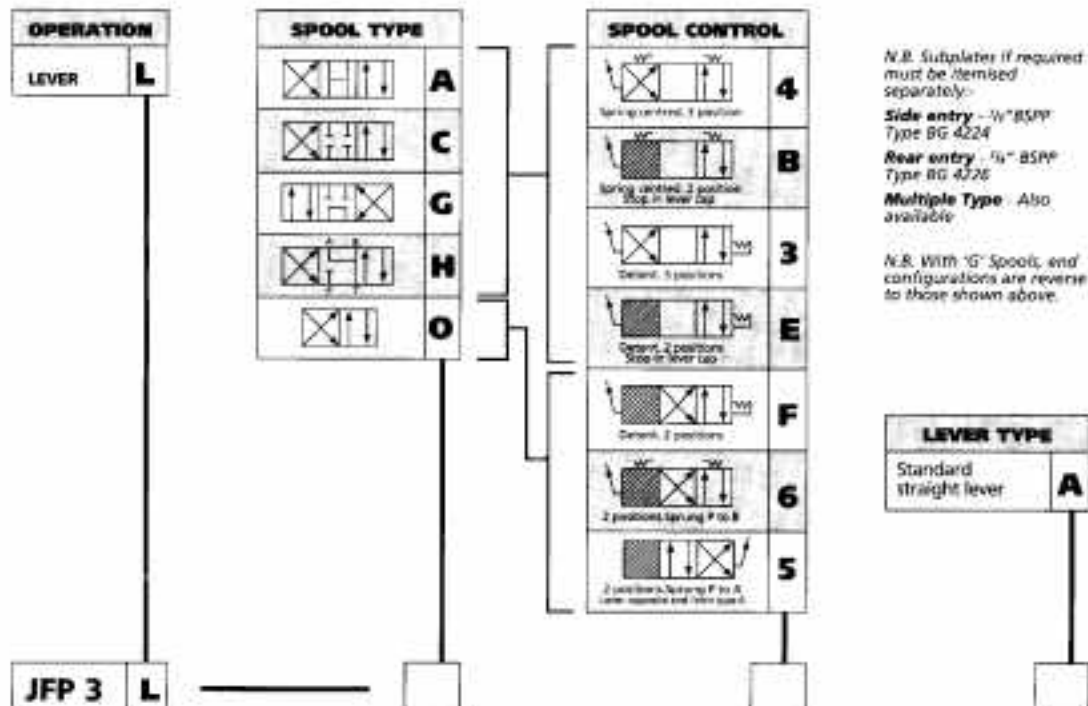
N.B. All materials suitable for N.C.B.
underground use.



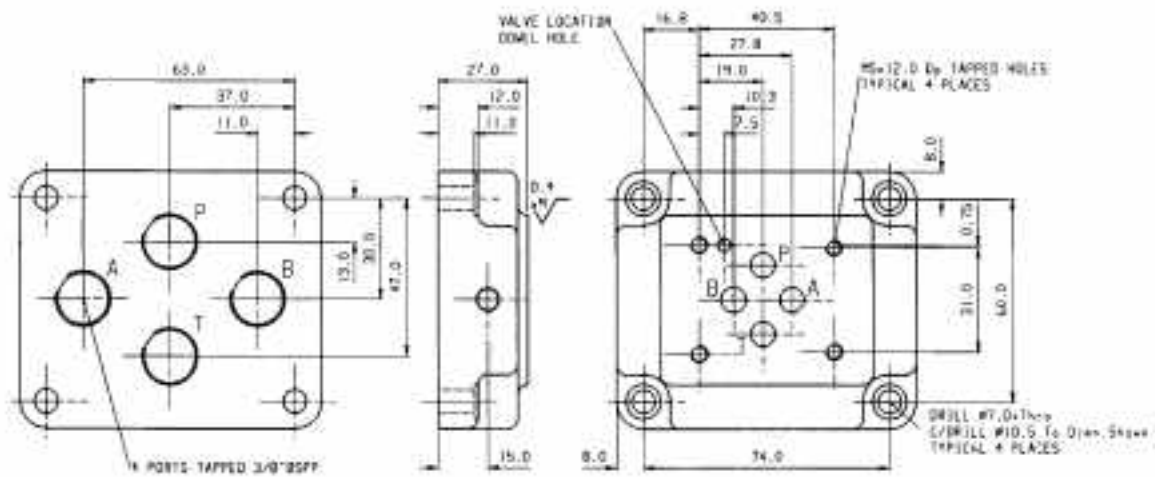
Ordering Code (Solenoid Valves)



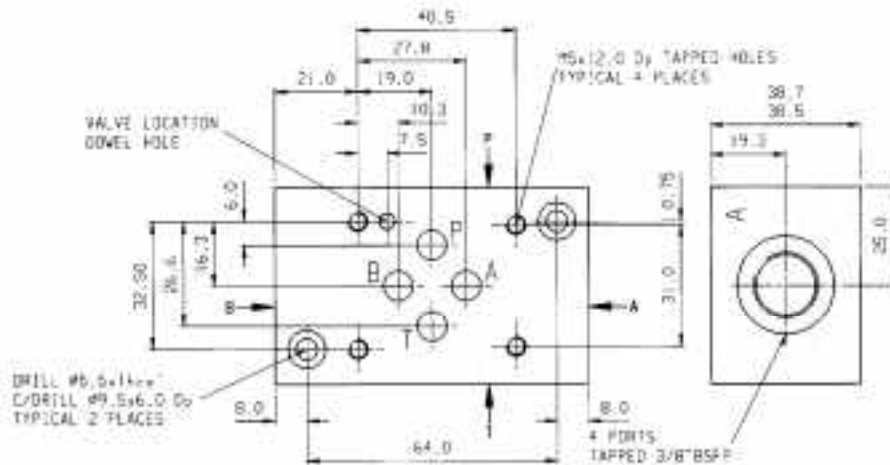
Ordering Code (Lever Operated Valve)



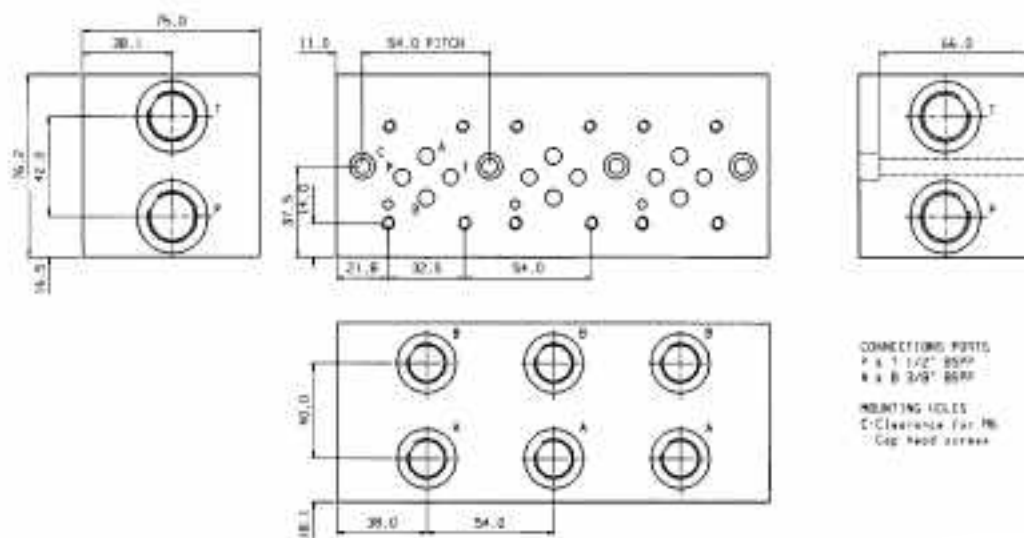
Rear Entry Subplate



Side Entry Subplate



Multiple Station Manifold





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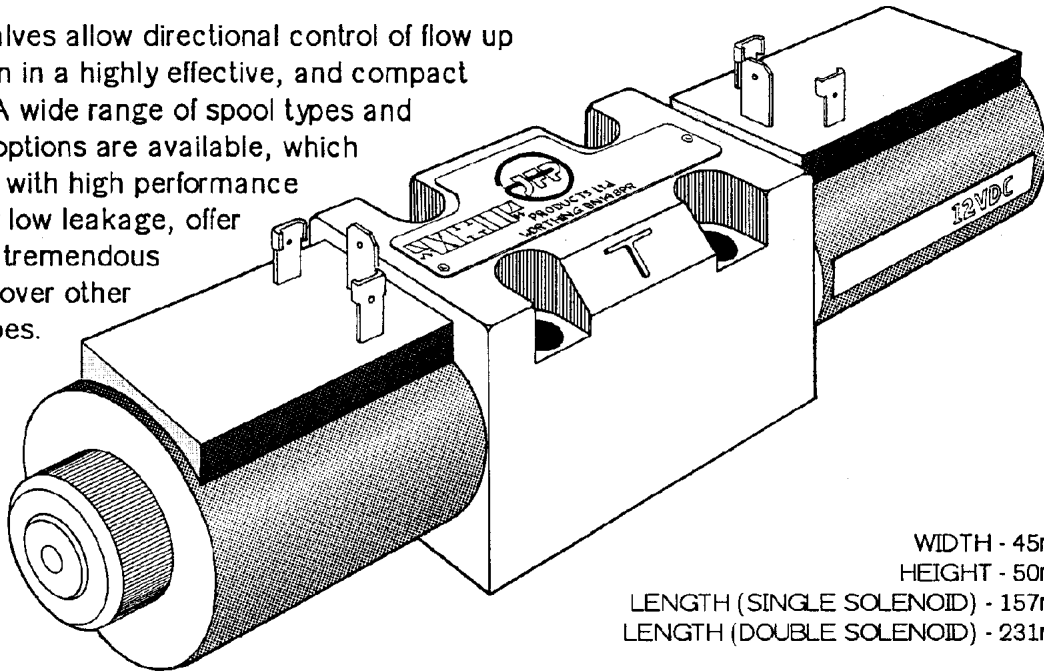
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Cetop 3 Solenoid Operated Directional Control Valves

These valves allow directional control of flow up to 60 lpm in a highly effective, and compact design. A wide range of spool types and voltage options are available, which together with high performance and very low leakage, offer the user tremendous benefits over other valve types.

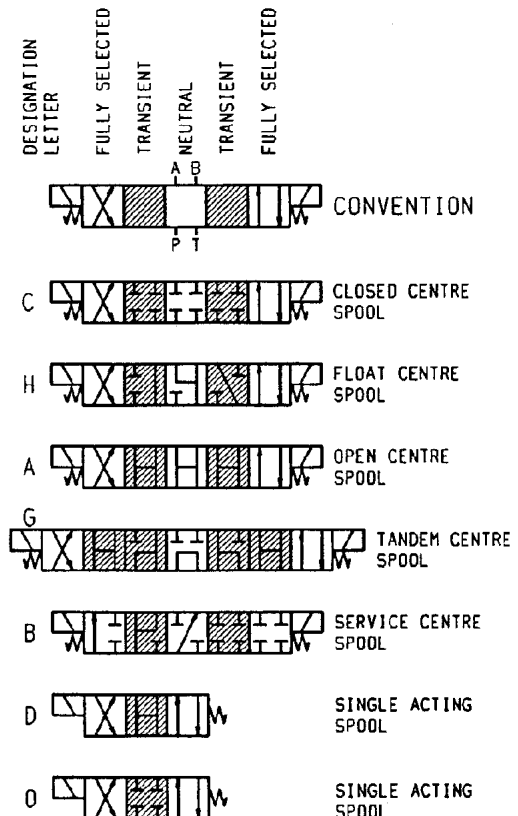


WIDTH - 45mm
 HEIGHT - 50mm
 LENGTH (SINGLE SOLENOID) - 157mm
 LENGTH (DOUBLE SOLENOID) - 231mm

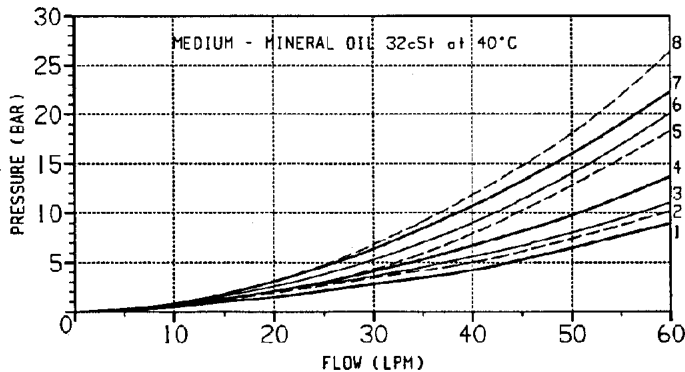
GENERAL SPECIFICATIONS

NOMINAL FLOW RATE	60 lpm
MAXIMUM OPERATING PRESSURE	350 BAR
MAXIMUM TANK LINE PRESSURE	140 BAR (STANDARD)
OPERATING TEMPERATURES	-30° C TO 80° C
SOLENOID POWER	30W
FLUID VISCOSITY	13c/st TO 800c/st
FLUID TYPE	MINERAL OIL
FILTRATION REQUIRED	25 µm OR BETTER

SPOOL OPTIONS



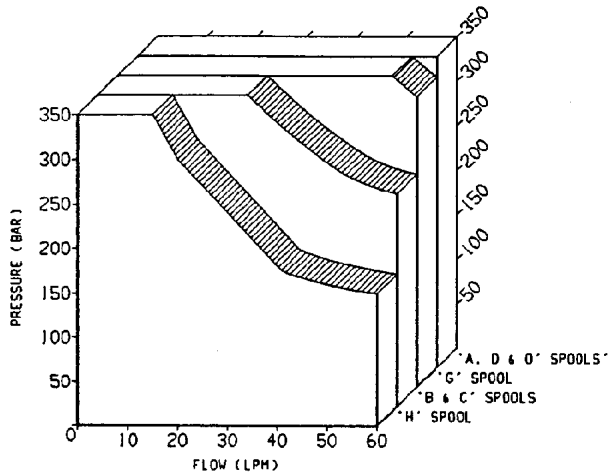
TYPICAL PERFORMANCE



FLOW PATH \ SPOOL	PERFORMANCE CURVE						
	A	B	C	D	G	H	O
P - A	1	2	2	7	8	2	7
P - B	1	2	2	2	8	2	2
A - T	3	N/A	2	2	6	3	2
B - T	3	N/A	2	7	6	3	7
P - T	4	N/A	N/A	N/A	5	N/A	N/A

Cetop 3 Solenoid Operated Directional Control Valves

ENERGISING LIMITS



The limits illustrated were produced from results taken when the coil temperature was approx 60° C, and with a voltage of 10% less than the nominal rating.

The results are valid only when considering flow to, and returning from the service, through the valve.

ELECTRICAL SPECIFICATION

POWER (DC COILS). - 30W
 POWER (AC COILS). - 30W,
 INRUSH 180VA, HOLDING 70VA.
 SOLENOID - 25 TO 40 ms
 RESPONSE TIME.
 INSULATION - IP65
 MAX/ MIN VOLTAGE - +10% -10%
 RATING - CONTINUOUS
 MAX CYCLE SPEED - 250HZ

VOLTS	12	24	36	48	110	240
AMPS	2.5	1.25	0.83	0.63	0.27	0.13

ORDERING CODE

JFP3 / C 4F / M / H / A / 240

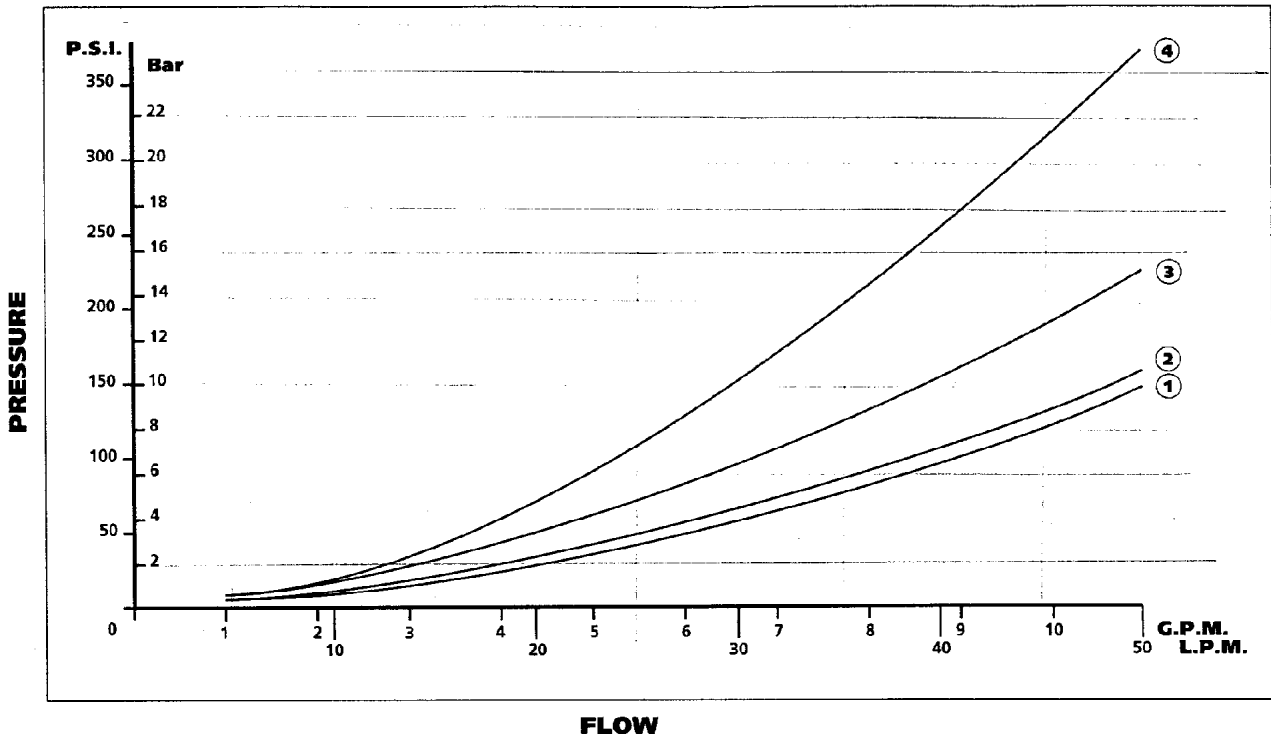
TYPE CODE		SPOOL TYPE		SPOOL POSITION		SUPPLY		VOLTAGE	
		OPEN CENTRE	A		4F	AC	A	12	
		SERVICE CENTRE	B		2G	DC	D	24	
		CLOSED CENTRE	C		3G	CONNECTOR		36	
		SINGLE ACTING (Open transient)	D		8G			DIN43650	H
		TANDEM CENTRE	G		9G	SPADE	S	110	
		FLOAT CENTRE	H		5G	LEAD	F	240	
		SINGLE ACTING (Closed transient)	O		6G	'AMP'	A		
								FEATURE	
Manual override fitted as std								M	
Without manual override								O	
With sealed manual override								C	
210 bar tank line pressure								H	

NOTE - Spool positions '5G and 6G' are only available for spool types 'D and O', as there is no neutral position.

Certain voltage/ connector options may not be available for safety reasons.

THE ABOVE DATA IS INTENDED AS A GUIDE, AND MAY BE CHANGED WITHOUT NOTICE. FOR SPECIFIC APPLICATIONS CONSULT JFP.

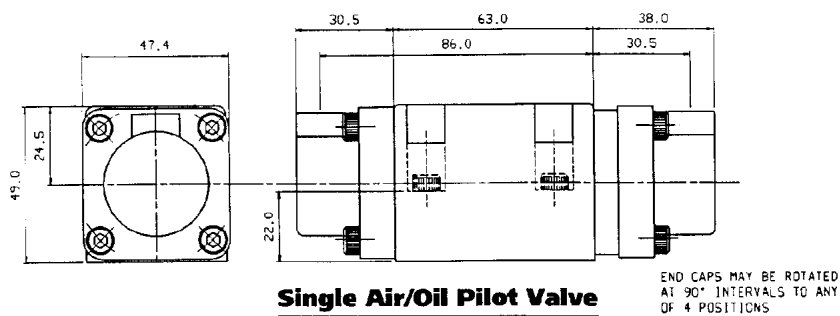
Pressure Drop Curves



Spool Type	A				C				G				H				0A				0B					
Flow Path	PT	PA	PB	AT	BT	PA	PB	AT	BT	PT	PA	PB	AT	BT	PA	PB	AT	BT	PA	PB	AT	BT	PA	PB	AT	BT
Curve	2	1	1	1	1	2	2	2	2	3	4	4	4	4	2	2	1	1	3	2	2	3	2	3	3	2

N.B. All performance data given is typical and can be influenced by application.

Air/Oil Pilot Operated Valve



Single Air/Oil Pilot Valve

Directional Functions

Spools 'A, C and H'

Pilot signal applied to port A end - P to B port
Pilot signal applied to port B end - P to A port

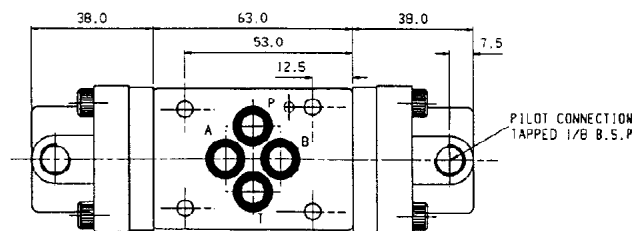
Spool 'G'

Pilot signal applied to port A end - P to A port
Pilot signal applied to port B end - P to B port

Spool 'O'

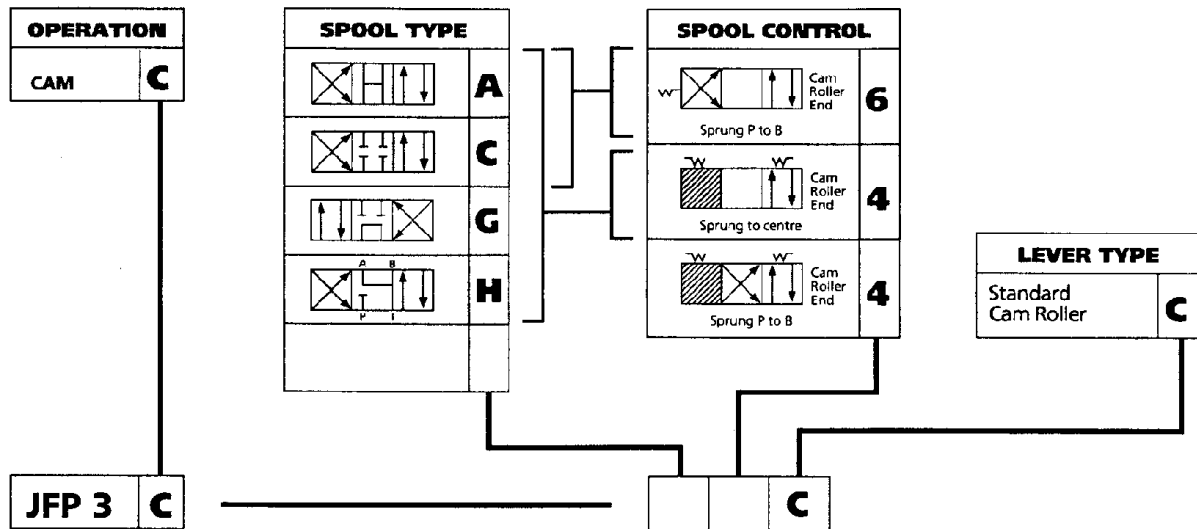
Actuator fitted to B port end as standard with P to B port in sprung offset position.

Pilot Operating Pressure - min. 5 bar - max. 100 bar
Pilot Volume - 2.5cc



Double Air/Oil Pilot Valve

Ordering Code (Cam Operated Valve)



N.B. Subplates if required must be itemised separately:-

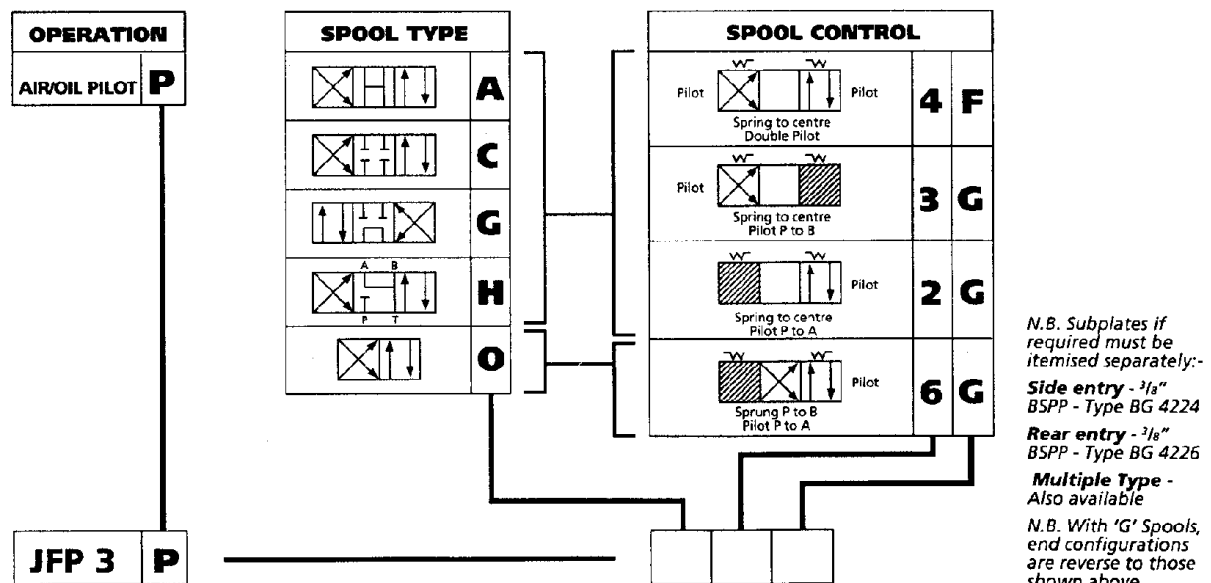
Side entry - 3/8" BSPP - Type BG 4224

Rear entry - 3/8" BSPP - Type BG 4226

Multiple Type - Also available

N.B. With 'G' Spools, end configurations are reverse to those shown above.

Ordering Code (Air/Oil Pilot Operated Valve)



N.B. Subplates if required must be itemised separately:-

Side entry - 3/8" BSPP - Type BG 4224

Rear entry - 3/8" BSPP - Type BG 4226

Multiple Type - Also available

N.B. With 'G' Spools, end configurations are reverse to those shown above.



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Cetop 5 (NG 10) Solenoid Operated Directional Control Valves

Description

Nominal flow rate (see capacity/pressure chart)
 Max. operating pressure – 340 bar (see capacity/pressure chart)
 Max. pressure on T port – 70 bar
 Recommended operating viscosity range – min. 13 c/st – max. 800 c/st
 Recommended operating temperatures – min. -30°C – max. 80°C
 Recommended filtration – 25 microns or better
 Seals – medium nitrile (consult Technical Sales for alternatives)
 Recommended fixing bolt tightening torque – 14Nm
 Leakage – typical max. allowable on works test 150cc at 135 bar, oil 35 c/st at 40°C
 Mounting – spool should be maintained in horizontal plane

Directional Functions

Spool A, C and H
 Energise solenoid A for P to B port
 Energise solenoid B for P to A port

Spool G
 Energise solenoid A for P to A port
 Energise solenoid B for P to B port

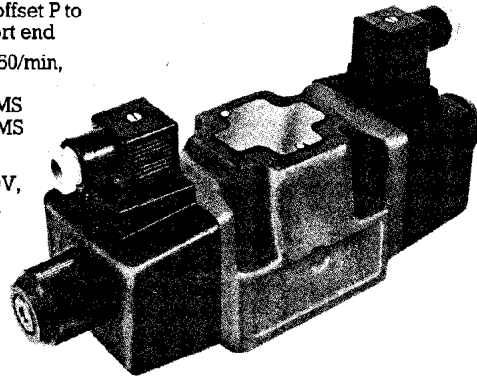
On single solenoid valve offset P to A port solenoid is on A port end

Max. cycling rate single 250/min, double 100 min
 Response time – AC – 30 MS
 DC – 55 MS

Electrical Details

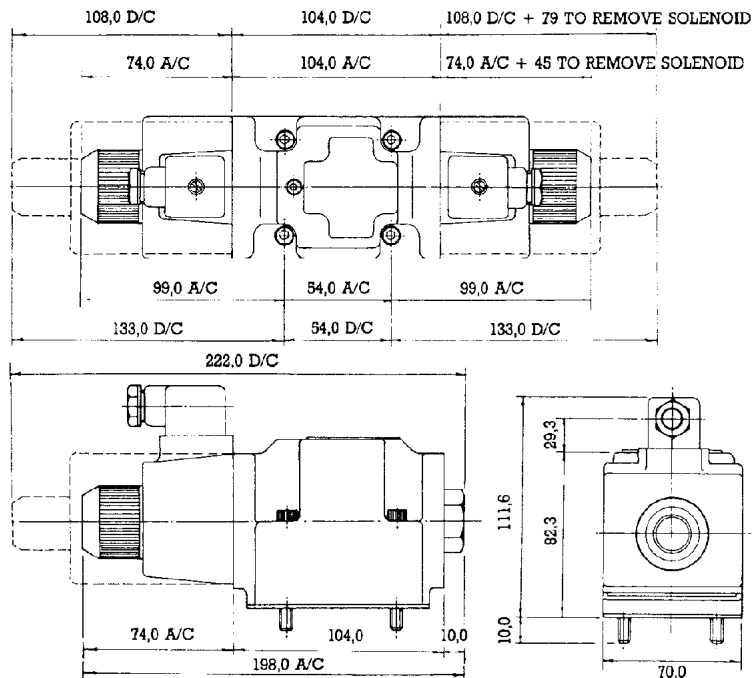
Standard Voltages AC 110V, 220V, 240V-50 and 60 Hz.
 DC 12V, 24V.
 Power rating AC 470VA inrush. 110VA hold.
 DC 48 watts
 Connection – Hirschmann connector 3 pin
 Voltage tolerance ± 10%

Explosion proof versions available to B.A.S.E.F.A. specification, details available upon request.



General Arrangement

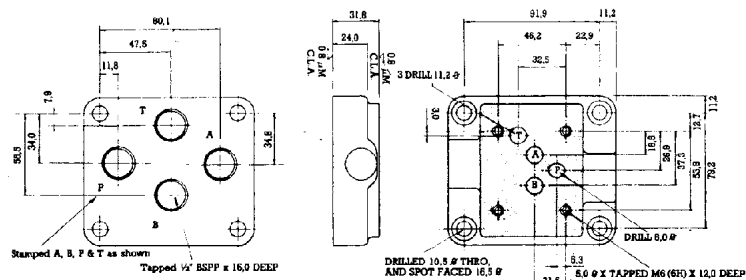
Weights:
 Single Solenoid 4.2 kg
 Double Solenoid 4.9 kg



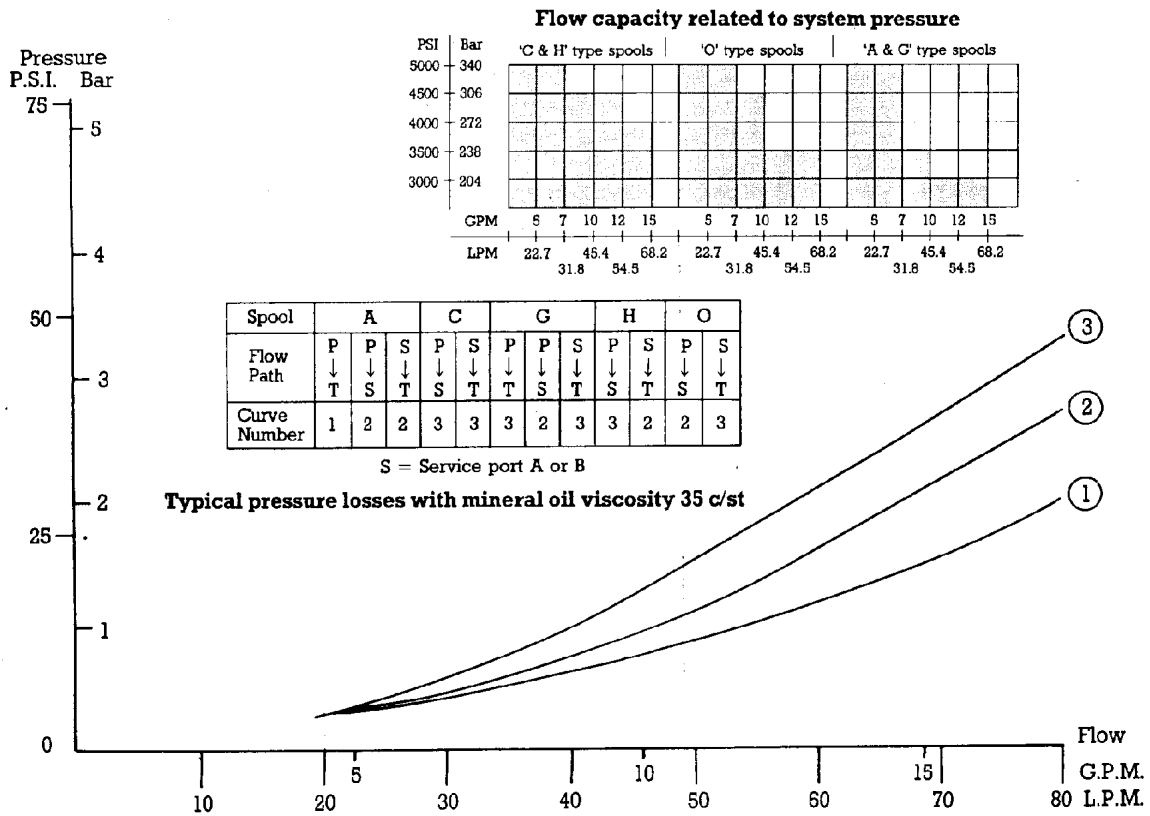
Subplate

When subplate is not used the alternative mounting surface must be perfectly flat and ground finish.
 Minimum dimensions as shown by dotted area.

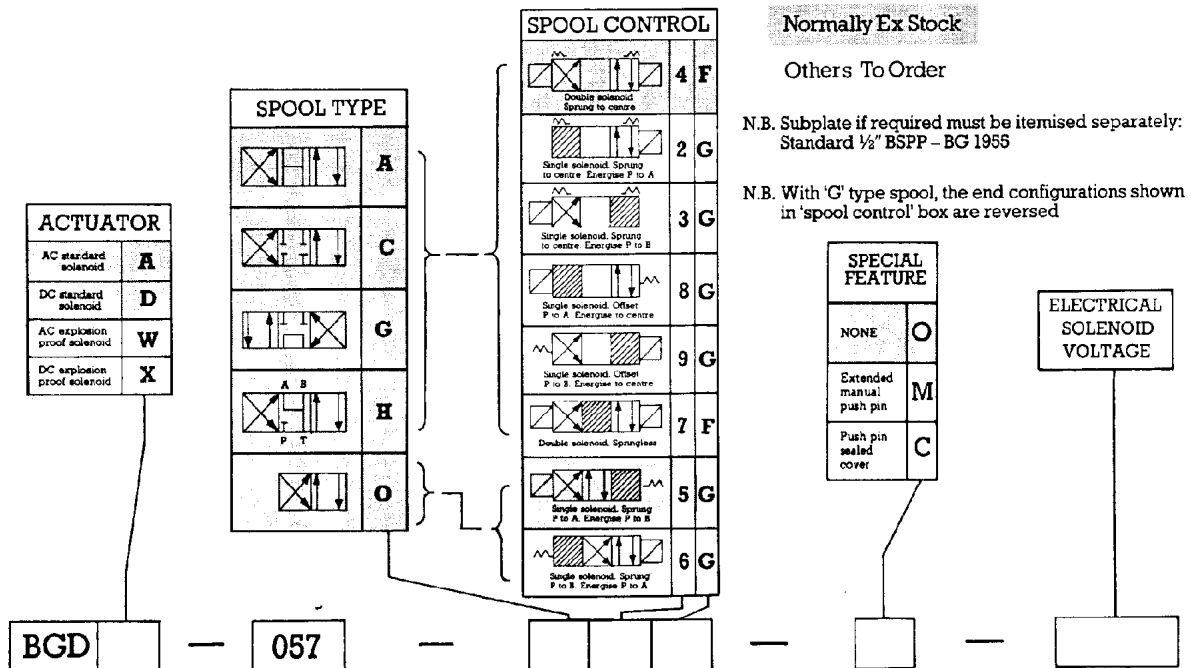
Dimensions in millimetres



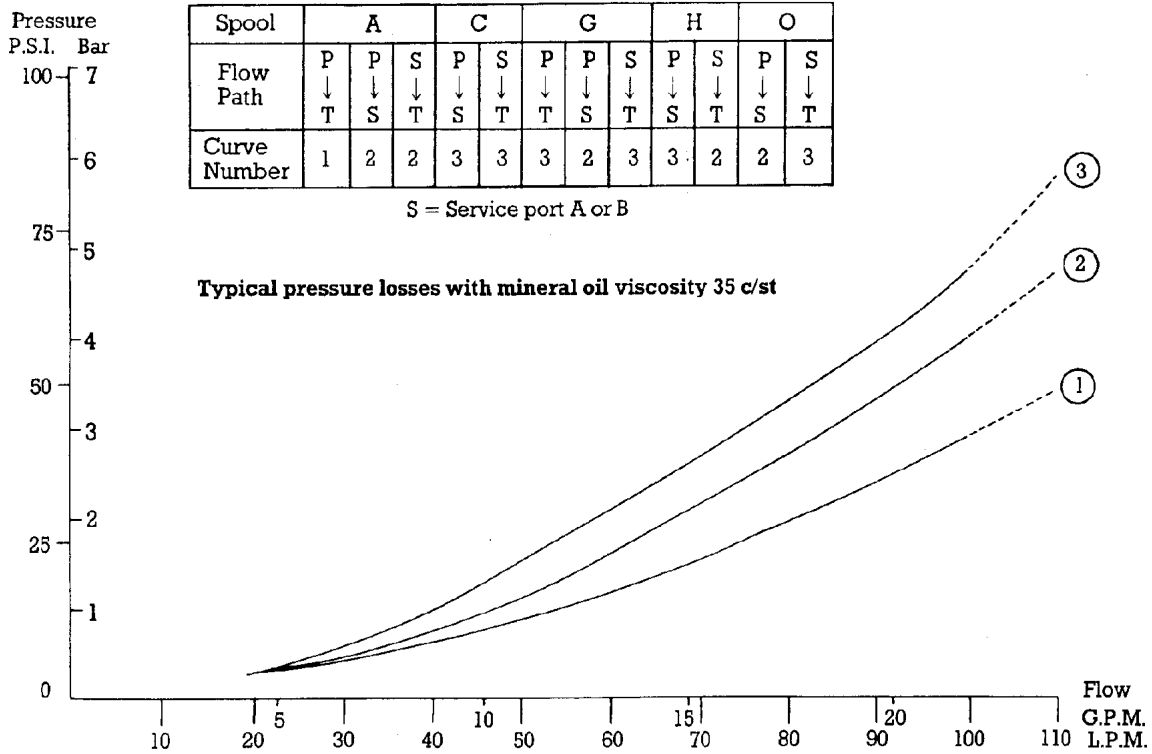
Pressure Drop Curves



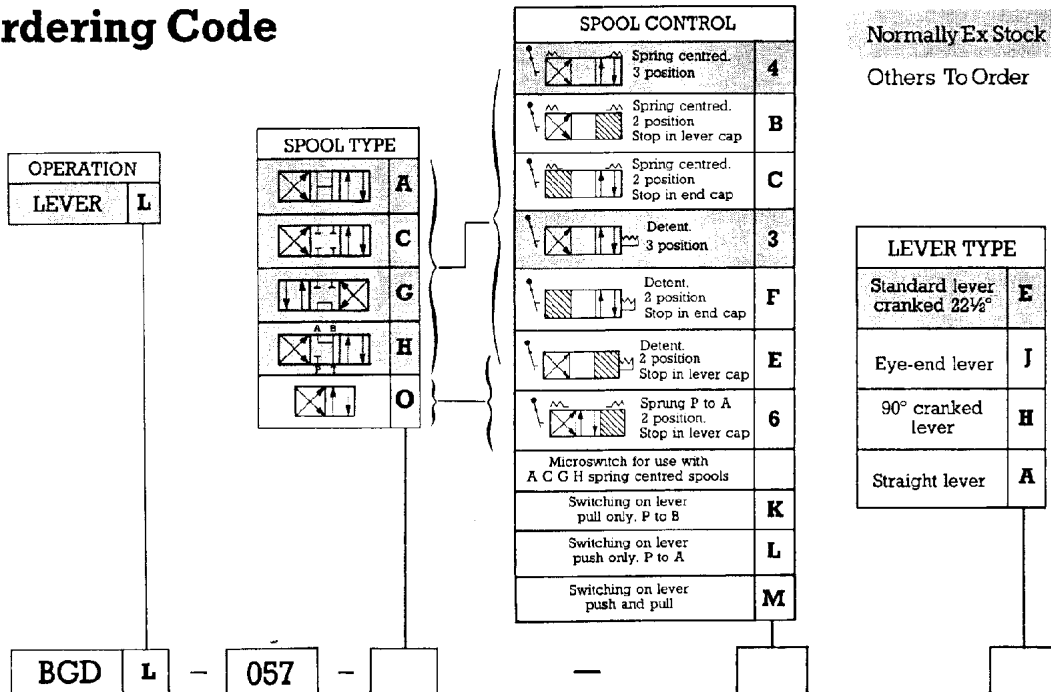
Ordering Code



Pressure Drop Curves



Ordering Code



N.B. Subplates if required must be itemised separately:
Standard ½" BSPP - BG 1955

N.B. With 'C' type spool, the end configurations
shown in 'spool control' box are reversed

Manufacturers of Hydraulic Components and Test Equipment for the Mobile, Industrial and Agricultural Industries



Your Webtec Products representative:

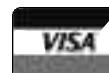


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