



PV-4 SERIES

Proportional Valve

FOR MOBILE AND INDUSTRIAL
HYDRAULIC APPLICATIONS

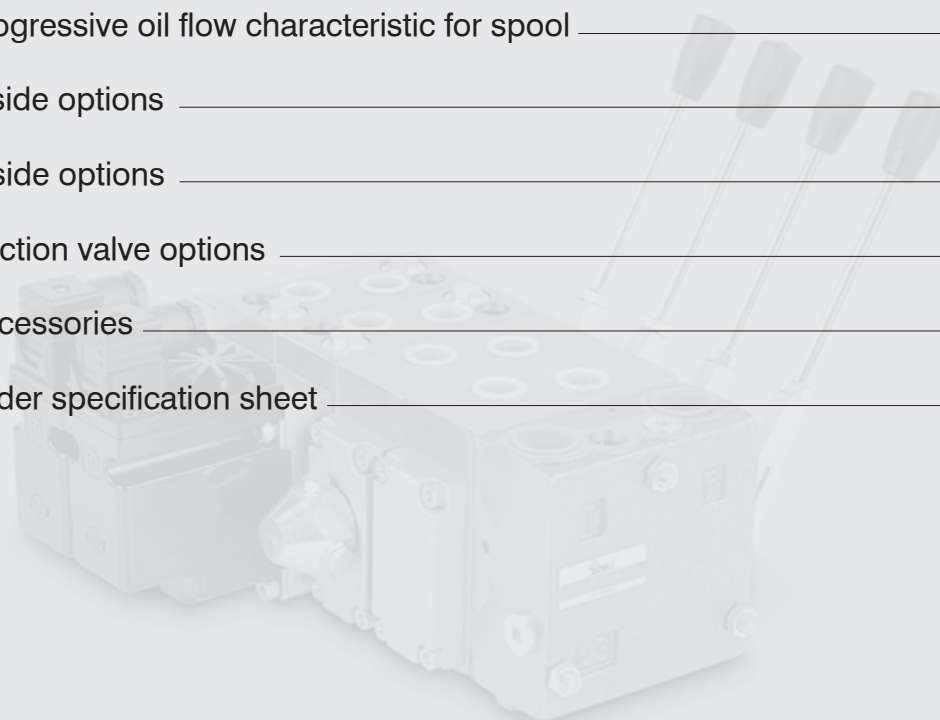


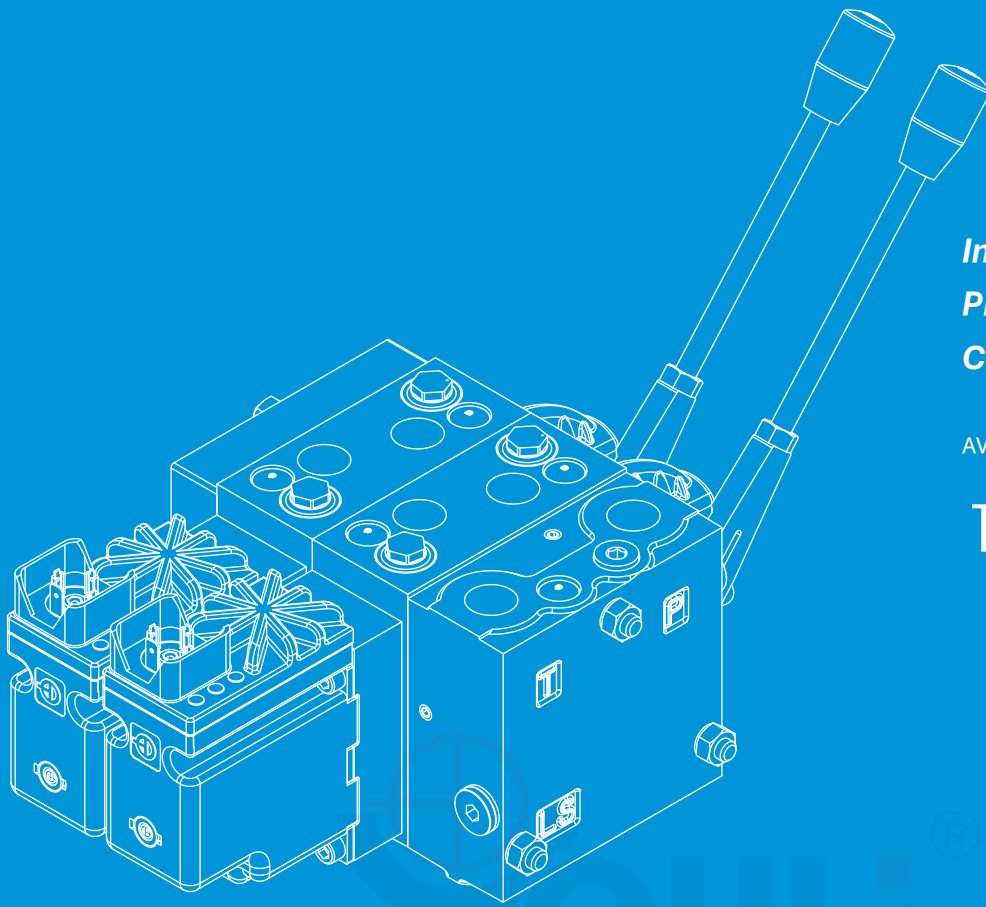
油力油壓工業股份有限公司
YOULI HYDRAULIC INDUSTRIAL CO.,LTD.

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Proportional Valve

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*Innovative Designs
Professional Quality
Customer Satisfaction !*

AVAILABLE SECTIONS FROM

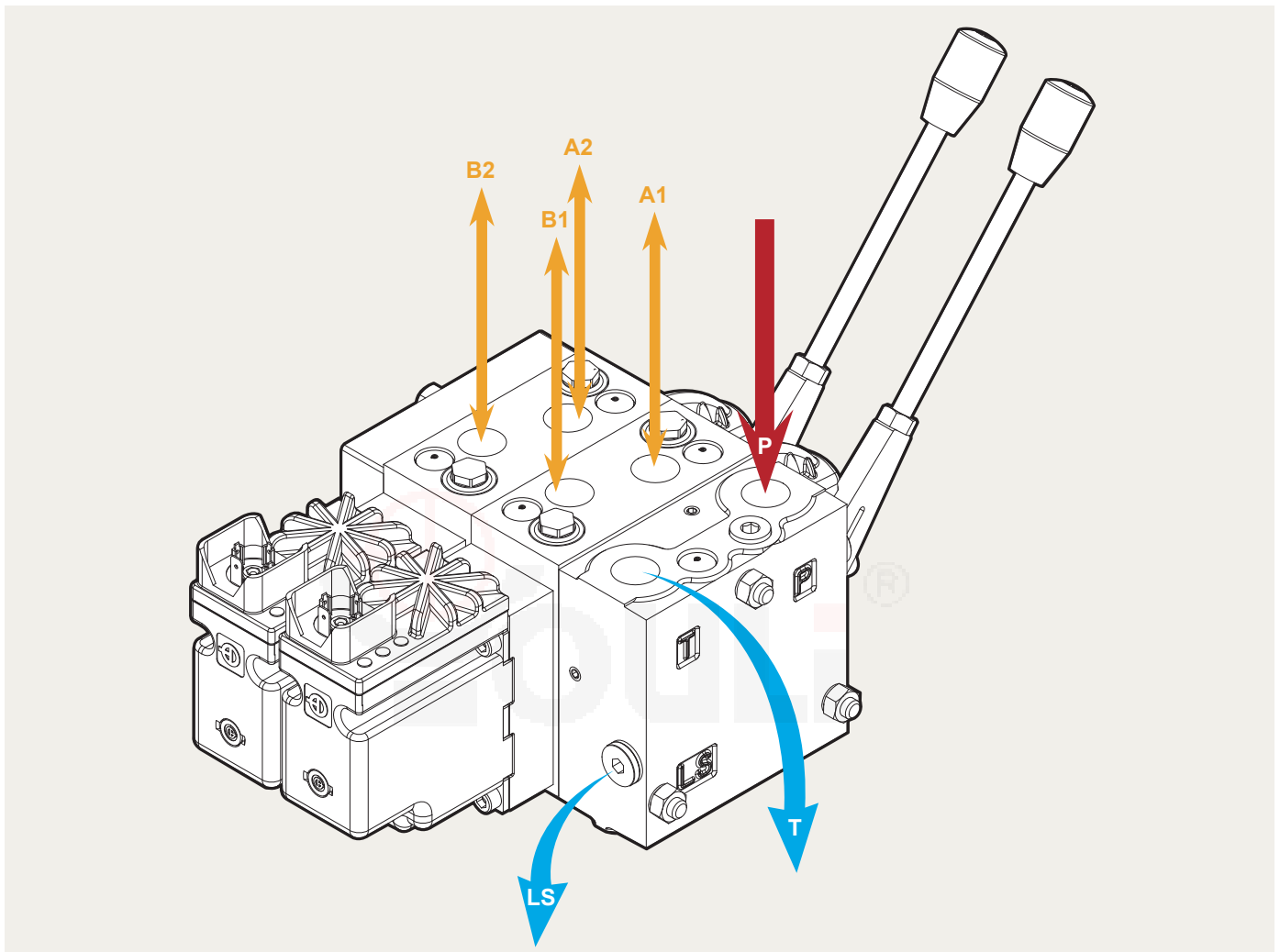
1 TO 10

PV-4 Proportional Valve



PV-4 Technical Data

Proportional Valve



PV-4 Proportional Valve Data

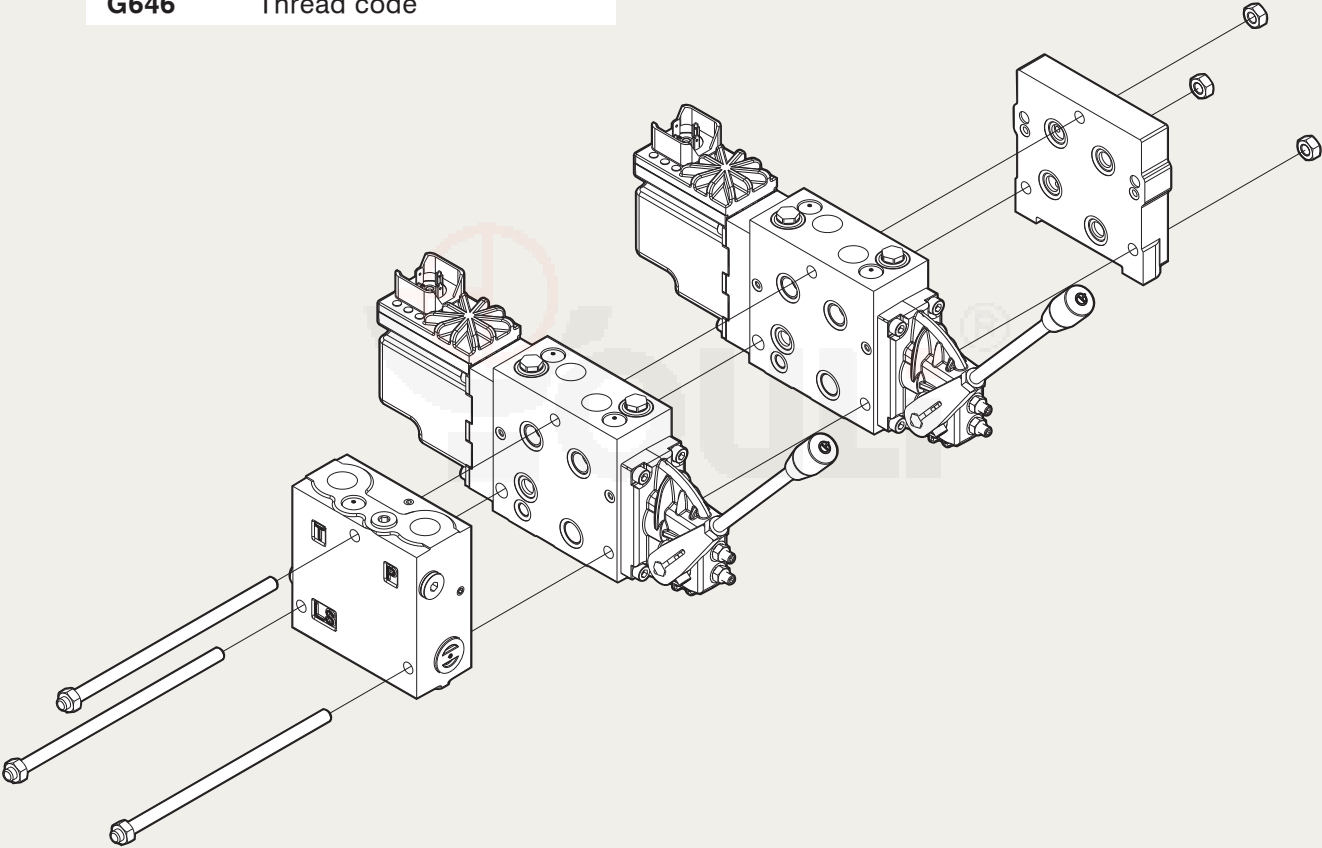
Max. pressure	P	350 bar	5075 psi
	A/B	350 bar	5075 psi
	T	40 bar	580 psi
Oil flow rated	P	140 L/min	37 gal/min
Oil Temperature (Inlet Temperature)		from -20 to 90°C	from -4 to 194°F
Oil Viscosity	Operating range	from 15 to 75 mm ² /s	from 15 to 75 cst
	min	12 mm ² /s	12 cst
	max.	4 mm ² /s	4 cst
Ambient Temperature		from -30° to 60°C	from -22° to 140° F

• All specifications, dimensions and design characteristic shown in this catalogue are subject to change without notice.

PV-4 Complete Proportional Valve

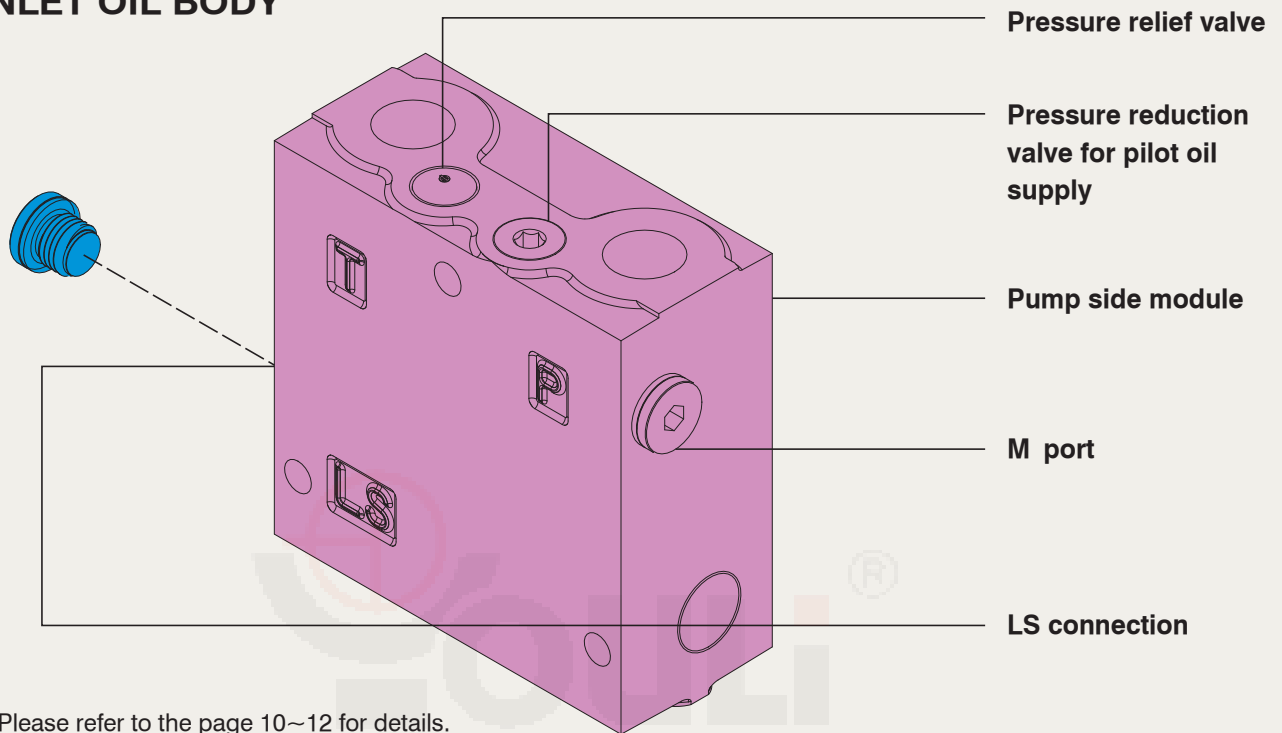
PV-4 / ※ ※ ※ ※ / G 646

- PV-4** Series code
- ※※※※ Reference code
- G646** Thread code

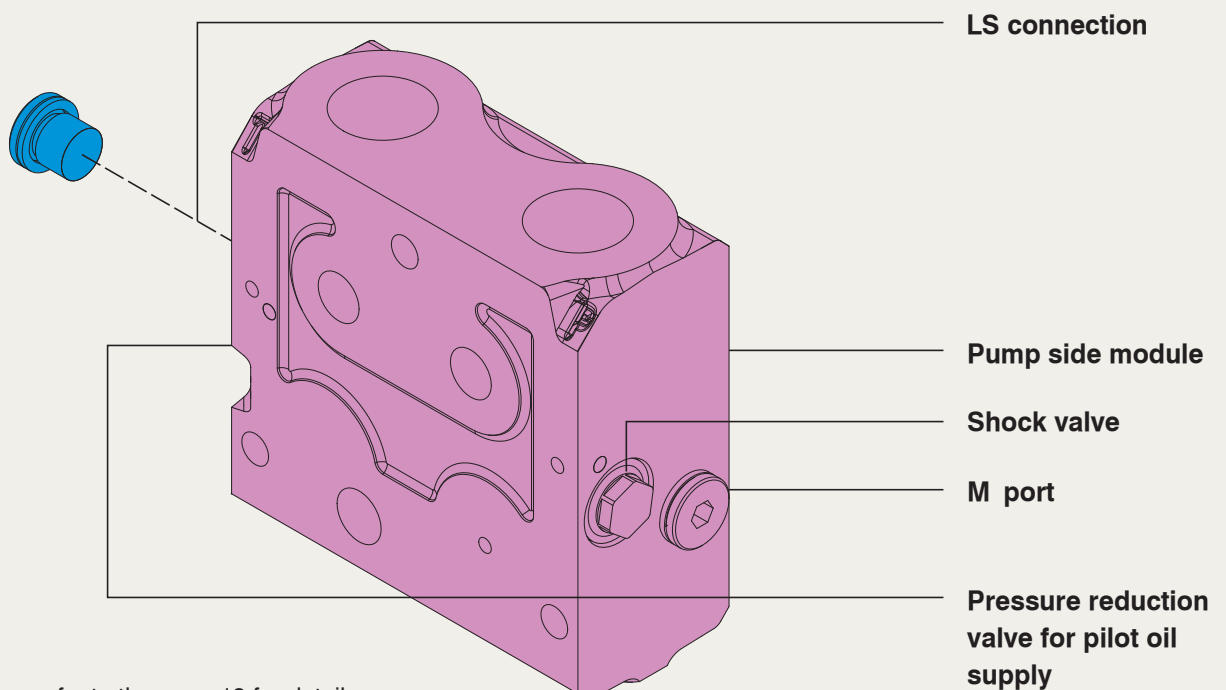


PV-4 Pump Side Module Proportional Valve

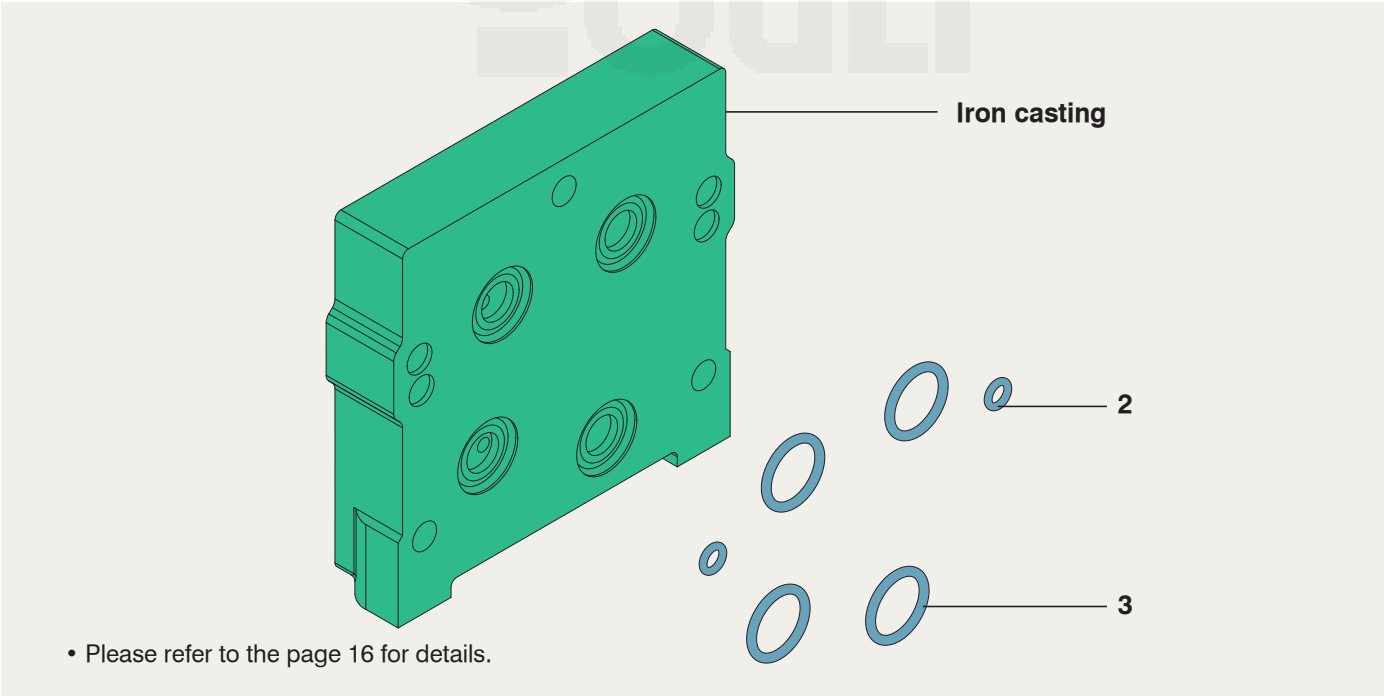
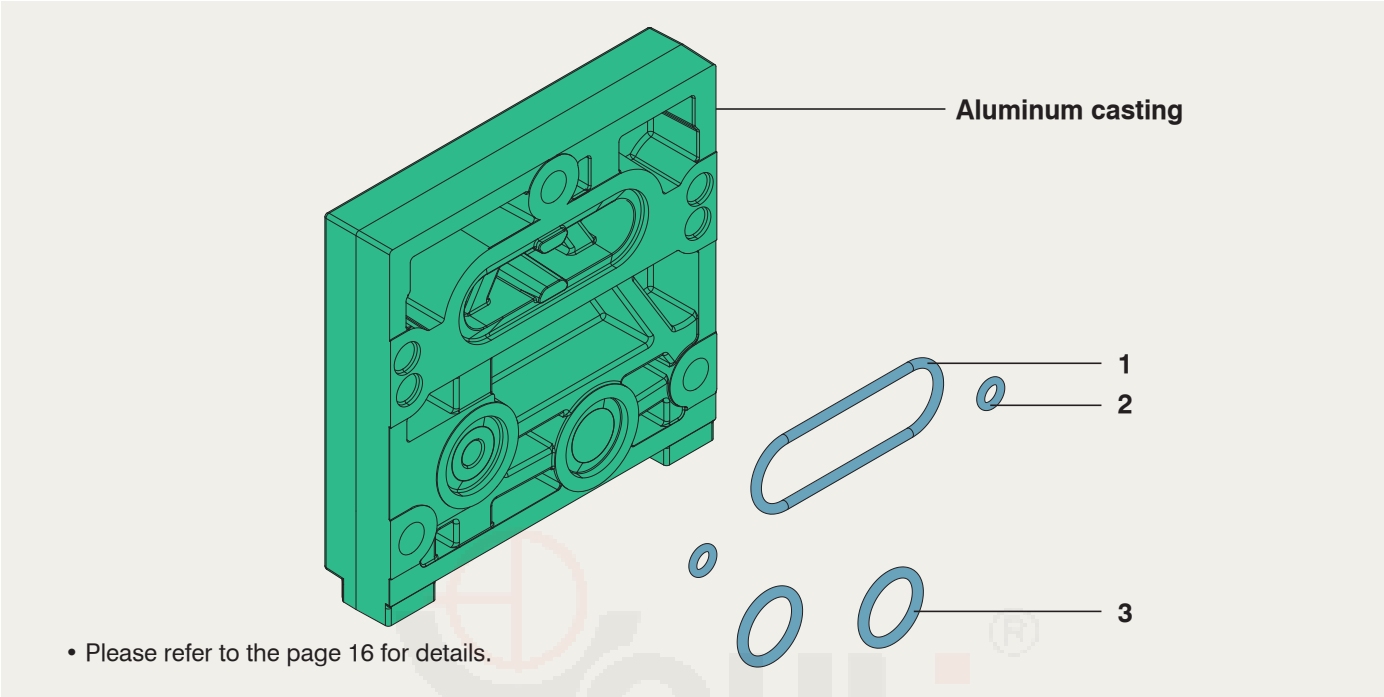
INLET OIL BODY



SYSTEM WITH MID INLET



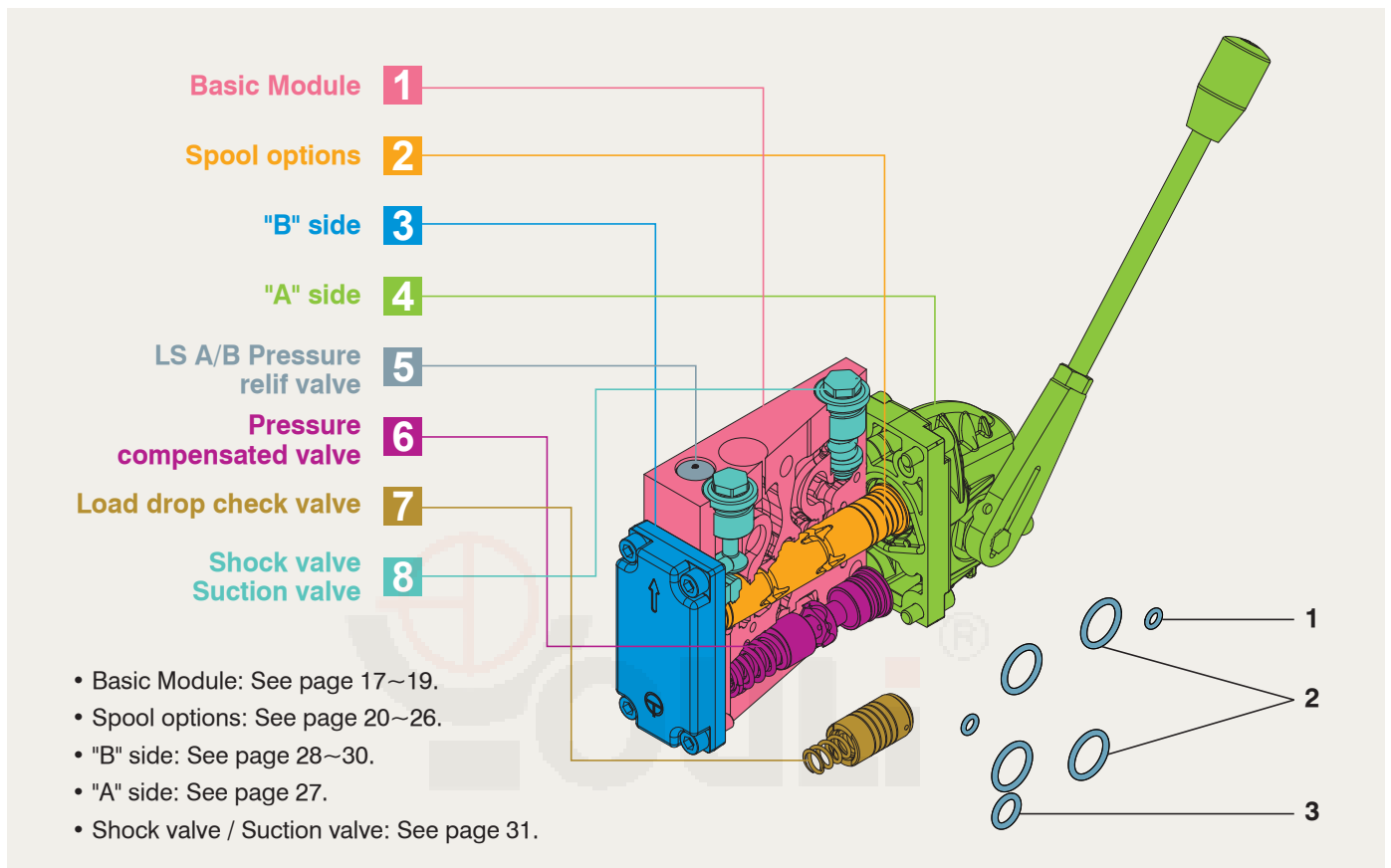
PV-4 End Plate Proportional Valve



Seal For End Plate		QTY	
ITEM	CODE	ALUMINUM CASTING	IRON CASTING
1	PV-ORN-001	1	
2	P5	2	2
3	AS114	2	4

PV-4 Basic Modules

Proportional Valve

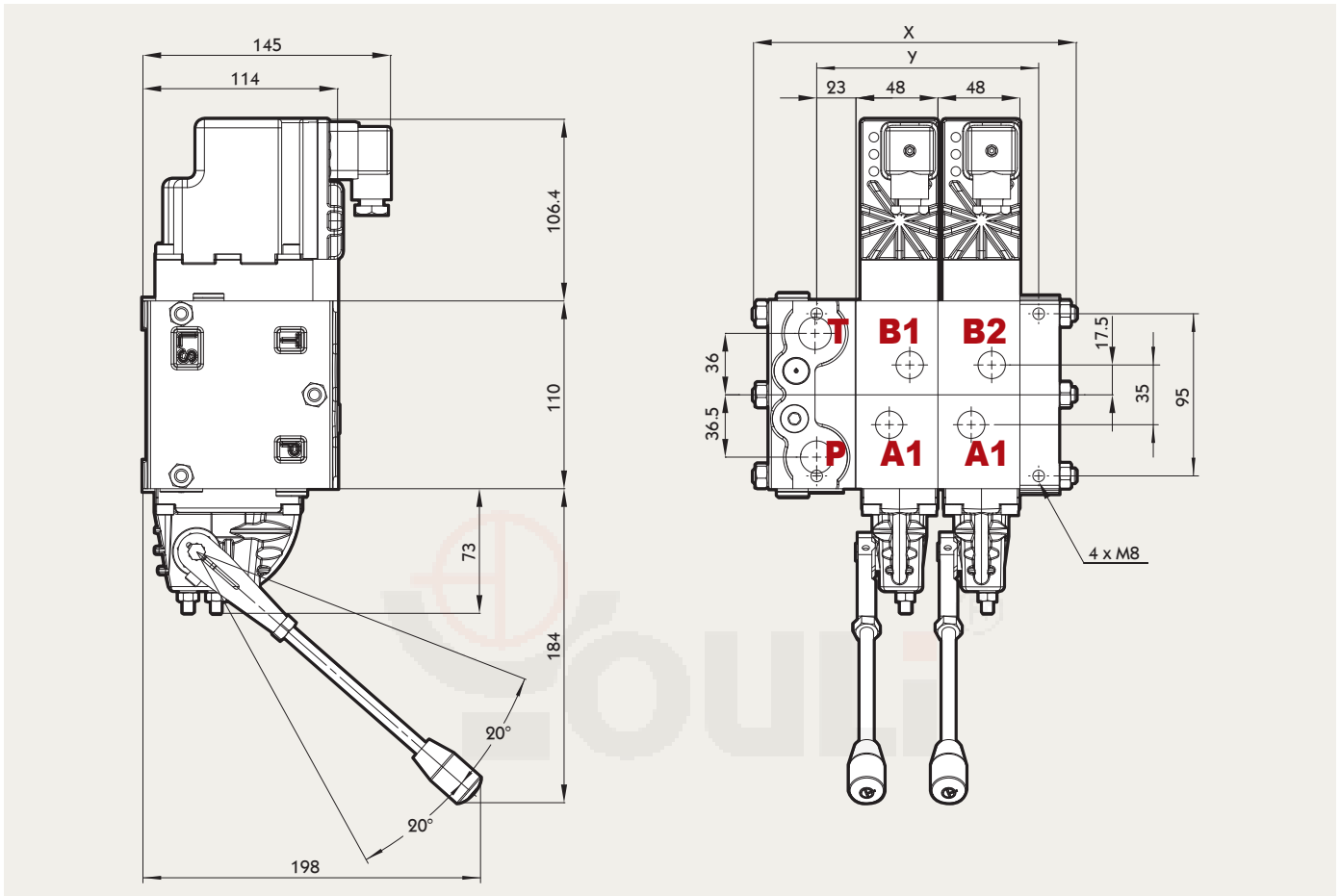


Seal For Basic Module

ITEM	CODE	QTY
1	P5	2
2	P16	4
3	P10A	1

PV-4 General Dimensions

Proportional Valve



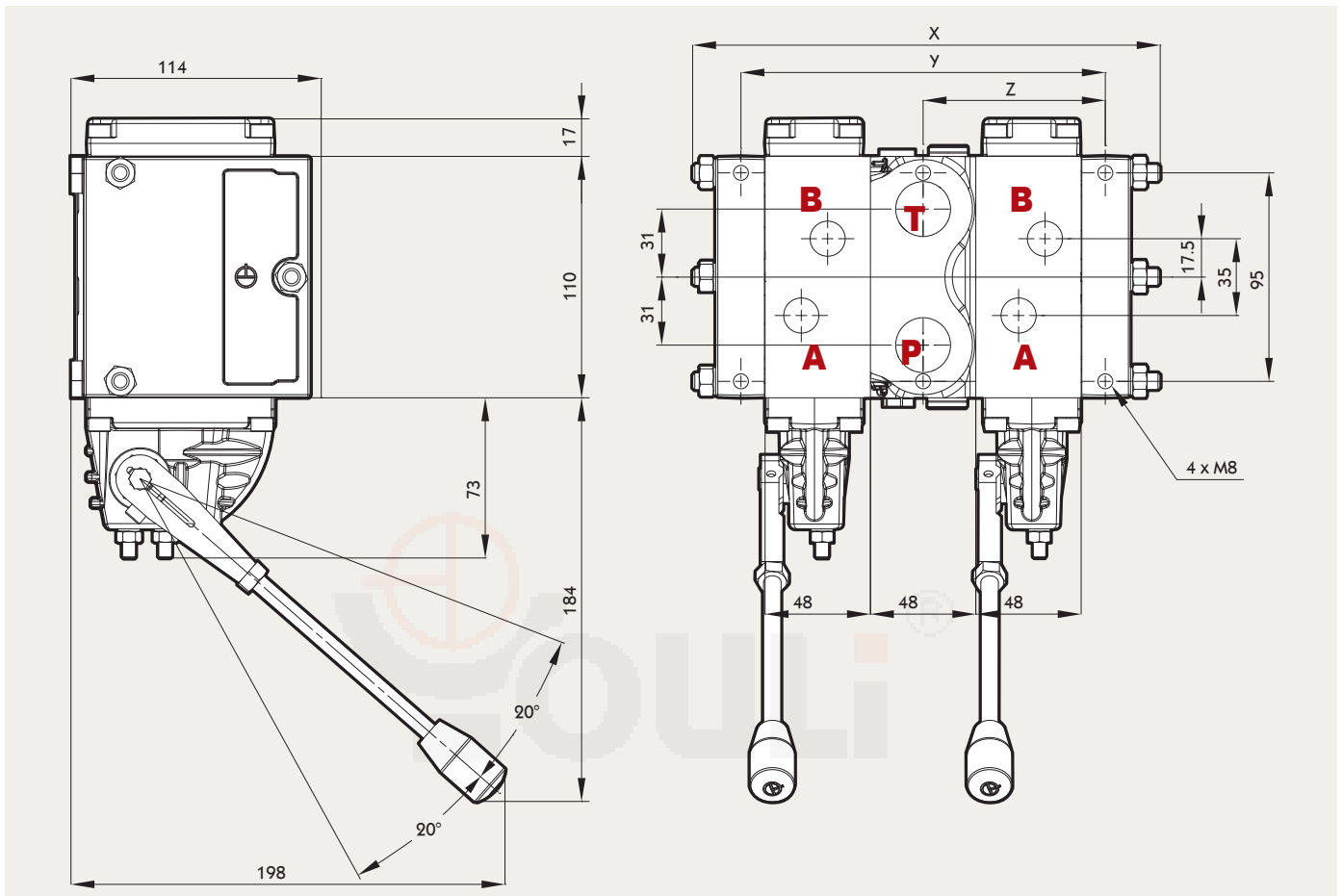
Ports	P	A / B	T
BSP	G1/2 \ G3/4	G1/2	G3/4
UN-UNF	7/8-14 UNF (SAE10) \ 1 1/16-12UN (SAE12)	7/8-14 UNF (SAE10)	1 1/16-12 UN (SAE12)

• G-1/2 : G4 G-3/4 : G6
SAE10 : E10 SAE12 : E12

Item	X		Y		Item	X		Y	
	mm	in	mm	in		mm	in	mm	in
PV4 /1S	140	5.51	82	3.23	PV4 /6S	385	15.16	322	12.68
PV4 /2S	189	7.44	130	5.12	PV4 /7S	434	17.09	370	14.57
PV4 /3S	238	9.37	178	7.01	PV4 /8S	483	19.02	418	16.46
PV4 /4S	287	11.3	226	8.9	PV4 /9S	527	20.95	466	18.35
PV4 /5S	336	13.23	274	10.79	PV4 /10S	576	22.87	514	20.24

PV-4 General Dimensions

Proportional Valve



Ports	P	A / B	T
BSP	G1	G1/2	G1
UN-UNF	1-5/16 UN (SAE16)	7/8-14 UNF (SAE10)	1-5/16 UN (SAE16)

• G-1/2 : G4 G-3/4 : G6 G-1 : G8
 SAE10 : E10 SAE12 : E12 SAE16 : E16

Item	X		Y		Z		Item	X		Y		Z	
	mm	in	mm	in	mm	in		mm	in	mm	in	mm	in
PV4 /1S	165	6.5	116	4.57	83	3.27	PV4 /6S	409	16.1	358	14.09	323	12.72
PV4 /2S	213	8.39	166	6.54	131	5.16	PV4 /7S	458	18.03	406	16	371	14.61
PV4 /3S	262	10.31	214	8.42	179	7.05	PV4 /8S	507	19.96	454	17.87	419	16.5
PV4 /4S	311	12.24	262	10.31	227	8.94	PV4 /9S	551	21.69	502	19.76	467	18.38
PV4 /5S	360	14.17	310	12.2	275	10.85	PV4 /10S	600	23.62	550	21.65	515	20.28

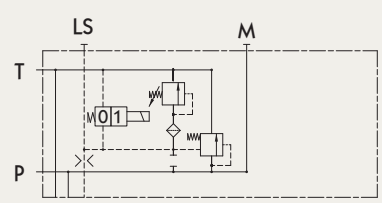
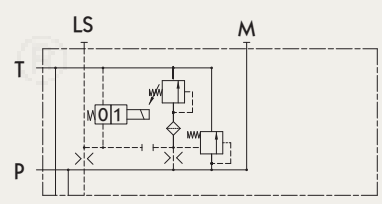
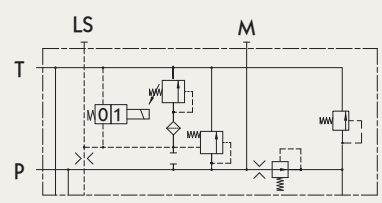
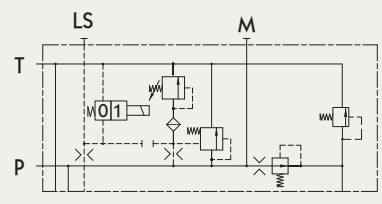
PV-4 Pump Side Module Options

Proportional Valve

PV4P0101		
<p>For mechanically actuated valves. Open centre pump side module for pumps with fixed displacement.</p>	PV4P0101-G4	P port: G1/2
	PV4P0101-E10	P port: 7/8-14UNF
	PV4P0101-G6	P port: G3/4
	PV4P0101-E12	P port: 1-1/16UN
PV4P0201		
<p>For mechanically actuated valves. Closed centre pump side module for pumps with variable displacement.</p>	PV4P0201-G4	P port: G1/2
	PV4P0201-E10	P port: 7/8-14UNF
	PV4P0201-G6	P port: G3/4
	PV4P0201-E12	P port: 1-1/16UN
PV4P0102		
<p>With pilot oil supply for electrically actuated valves. Open centre pump side module for pumps with fixed displacement.</p>	PV4P0102-G4	P port: G1/2
	PV4P0102-E10	P port: 7/8-14UNF
	PV4P0102-G6	P port: G3/4
	PV4P0102-E12	P port: 1-1/16UN
PV4P0202		
<p>With pilot oil supply for electrically actuated valves. Closed centre pump side module for pumps with variable displacement.</p>	PV4P0202-G4	P port: G1/2
	PV4P0202-E10	P port: 7/8-14UNF
	PV4P0202-G6	P port: G3/4
	PV4P0202-E12	P port: 1-1/16UN

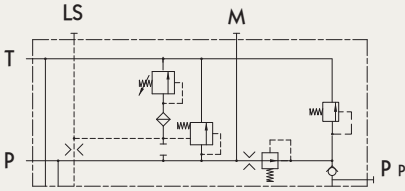
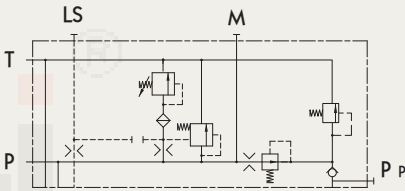
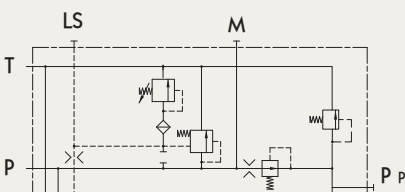
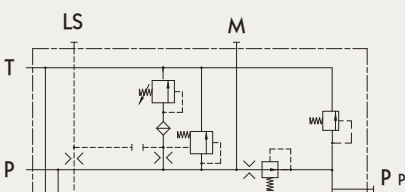
PV-4 Pump Side Module Options

Proportional Valve

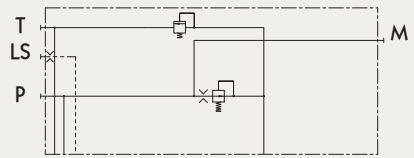
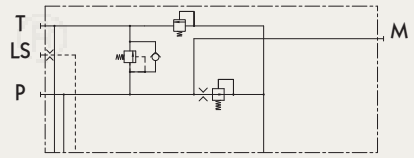
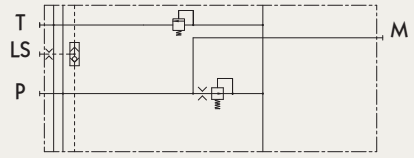
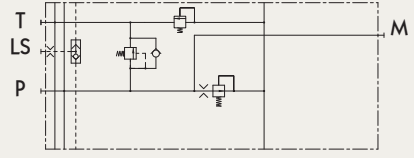
PV4P0103		
<p>For mechanically actuated valves. Connection for LS unloading valve. Open center pump side module for pumps with fixed displacement.</p>	<p>PV4P0103-G6 P port: G3/4</p>	
PV4P0203		
<p>For mechanically actuated valves. Connection for LS unloading valve. Closed centre pump side module for pumps with variable displacement.</p>	<p>PV4P0203-G6 P port: G3/4</p>	
PV4P0104		
<p>Connection for electrical LS unloading valve. Open centre pump side module for pumps with fixed displacement. With pilot oil supply for electrically actuated valves.</p>	<p>PV4P0104-G4 P port: G1/2 PV4P0104-E10 P port: 7/8-14UNF PV4P0104-G6 P port: G3/4 PV4P0104-E12 P port: 1-1/16UN</p>	
PV4P0204		
<p>Connection for electrical LS unloading valve. Closed centre pump side module for pumps with variable displacement. With pilot oil supply for electrically actuated valves.</p>	<p>PV4P0204-G4 P port: G1/2 PV4P0204-E10 P port: 7/8-14UNF PV4P0204-G6 P port: G3/4 PV4P0204-E12 P port: 1-1/16UN</p>	

PV-4 Pump Side Module Options

Proportional Valve

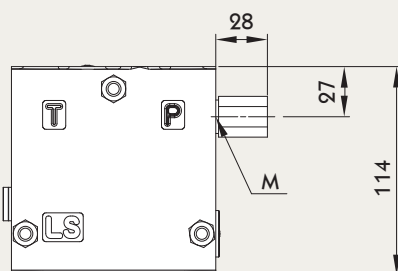
PV4P0105		
<p>With pilot oil supply for electrical actuated and connection for pilot oil pressure. Open centre pump side module for pumps with fixed displacement.</p>	<p>PV4P0105-G6 P port: G3/4 PV4P0105-E10 P port: 7/8-14UNF</p>	
PV4P0205		
<p>With pilot oil supply for electrical actuated and connection for pilot oil pressure. Closed centre pump side module for pumps with variable displacement.</p>	<p>PV4P0205-G6 P port: G3/4 PV4P0205-E10 P port: 7/8-14UNF</p>	
PV4P0106		
<p>With pilot oil supply for hydraulic actuated and connection for pilot oil pressure. Open centre pump side module for pumps with fixed displacement.</p>	<p>PV4P0106-G6 P port: G3/4 PV4P0106-E10 P port: 7/8-14UNF</p>	
PV4P0206		
<p>With pilot oil supply for hydraulic actuated and connection for pilot oil pressure. Closed centre pump side module for pumps with variable displacement.</p>	<p>PV4P0206-G6 P port: G3/4 PV4P0206-E10 P port: 7/8-14UNF</p>	

PV-4 System With Mid Inlet Proportional Valve

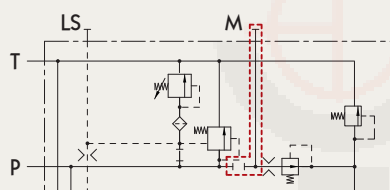
PV4P0301		
<p>The rated max spool oil flow 150 L/min. Closed center pump side module for pumps with variable displacement, with pilot oil supply for electrical actuation.</p>	<p>PV4P0301-G8 P, T port: G1 PV4P0301-E16 P, T port: 1-5/16UN</p>	
PV4P0302		
<p>The rated max spool oil flow 150 L/min. Closed center pump side module for pumps with variable displacement, with pilot oil supply for electrical actuation and shock valve.</p>	<p>PV4P0302-G8 P, T port: G1 PV4P0302-E16 P, T port: 1-5/16UN</p>	
PV4P0303		
<p>The rated max spool oil flow 230 L/min. Closed center pump side module for pumps (middle inlet) with variable displacement, with pilot oil supply for electrical actuation.</p>	<p>PV4P0303-G8 P, T port: G1 PV4P0303-E16 P, T port: 1-5/16UN</p>	
PV4P0304		
<p>The rated max spool oil flow 230 L/min. Closed center pump side module for pumps (middle inlet) with variable displacement, with pilot oil supply for electrical actuation and shock valve.</p>	<p>PV4P0304-G8 P, T port: G1 PV4P0304-E16 P, T port: 1-5/16UN</p>	

PV-4 Plug For External Pilot Oil Supply Proportional Valve

Dimension



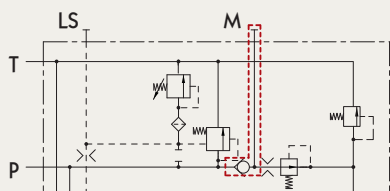
Symbol



**Plug for external pilot oil supply,
it's suitable for fixed displacement
or variable displacement.**

Code

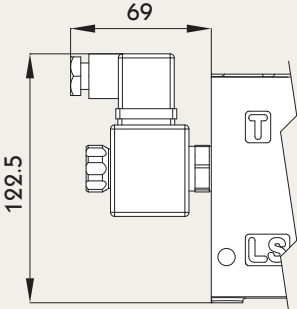
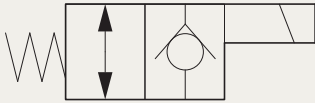
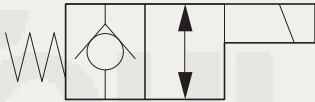
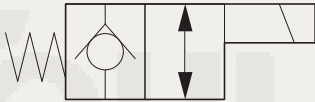
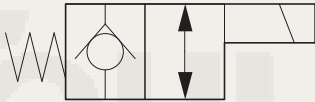
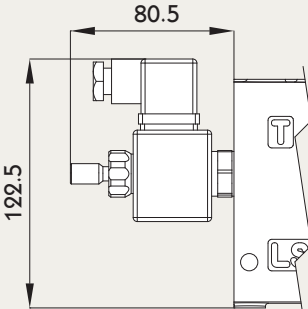
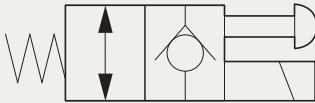
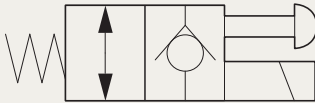
PV4-POG Port: G1/4
PV4-POE Port: 1/2-20UNF



**Plug for external pilot oil supply
with check valve. It's suitable
for fixed displacement.**



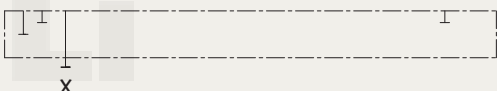
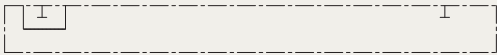
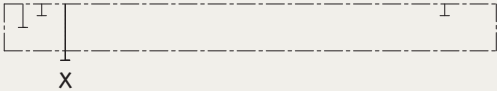
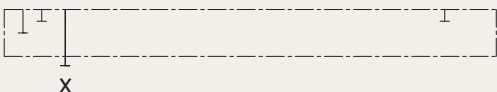
PV4-PCG Port: G1/4
PV4-PCE Port: 1/2-20UNF

PV-4 LS Solenoid Unloading Valve Proportional Valve

Dimension	Symbol	Code
<p>Hirschmann connector</p> 	<p>Normally open (NO)</p> 	<p>PV4-ELN12 Rated Voltage 12VDC</p>
	<p>Normally closed (NC)</p> 	<p>PV4-ELN24 Rated Voltage 24VDC</p>
	<p>Normally closed (NC)</p> 	<p>PV4-ELF12 Rated Voltage 12VDC</p>
	<p>Normally closed (NC)</p> 	<p>PV4-ELF24 Rated Voltage 24VDC</p>
<p>Hirschmann connector</p> 	<p>Emergency bottom for Normally open (NO)</p> 	<p>PV4-ELNM12 Rated Voltage 12VDC</p>
	<p>Emergency bottom for Normally open (NO)</p> 	<p>PV4-ELNM24 Rated Voltage 24VDC</p>
<p>Plug</p>	<p>Plug</p>	<p>PV4-ELSV</p>

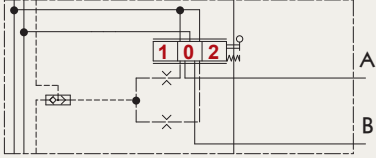
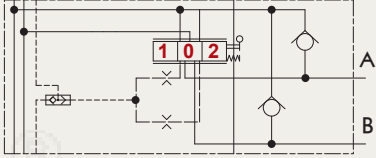
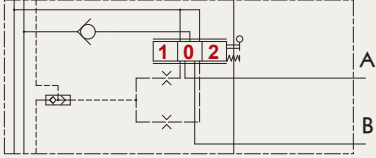
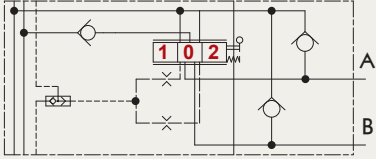
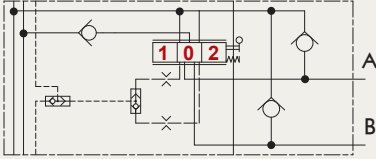
PV-4 End Plate Options

Proportional Valve

PV4C0101	
<p>Aluminum casting, No connection. Max. pressure: 300 bar (4351 psi)</p>	
PV4C0102	
<p>Aluminum casting, LS G1/8 external connection. Max. pressure: 250 bar (3625 psi)</p>	
PV4C0103	
<p>Aluminum casting, LS 3/8-24 UNF external connection. Max. pressure: 250 bar (3625 psi)</p>	
PV4C0201	
<p>Iron casting, No connection. Max. pressure: 350 bar (5057 psi)</p>	
PV4C0202	
<p>Iron casting, LS G1/4 external connection. Max. pressure: 350 bar (5075 psi)</p>	
PV4C0203	
<p>Iron casting, LS 1/2-20 UNF external connection. Max. pressure: 350 bar (5075 psi)</p>	

PV-4 Basic Module Options

Proportional Valve

PV4V01		
Without load drop check valve and pressure compensated valve.	PV4V01-G4 AB port: G1/2 PV4V01-E10 AB port: 7/8-14UNF	
PV4V01U		
With ports for suction valve or shock and suction valve. Without load drop check valve and pressure compensated valve.	PV4V01U-G4 AB port: G1/2 PV4V01U-E10 AB port: 7/8-14UNF	
PV4V02		
With load drop check valve.	PV4V02-G4 AB port: G1/2 PV4V02-E10 AB port: 7/8-14UNF	
PV4V02U		
With ports for suction valve or shock and suction valve. With load drop check valve.	PV4V02U-G4 AB port: G1/2 PV4V02U-E10 AB port: 7/8-14UNF	
PV4V03U		
With ports for suction valve or shock and suction valve. With load drop check valve, LS A/B shuttle valve.	PV4V03U-G4 AB port: G1/2 PV4V03U-E10 AB port: 7/8-14UNF	

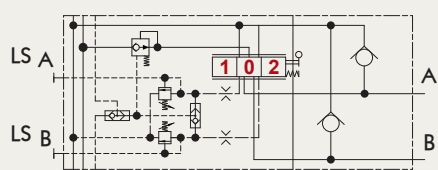
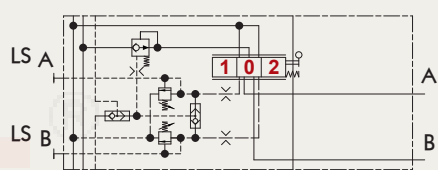
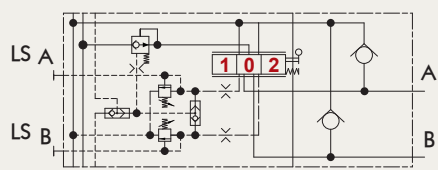
PV-4 Basic Module Options

Proportional Valve

PV4V04		
<p>With non-damped pressure compensated valve.</p>	<p>PV4V04-G4 AB port: G1/2</p> <p>PV4V04-E10 AB port: 7/8-14UNF</p>	
PV4V04U		
<p>With ports for suction valve or shock and suction valve.</p> <p>With non-damped pressure compensated valve.</p>	<p>PV4V04U-G4 AB port: G1/2</p> <p>PV4V04U-E10 AB port: 7/8-14UNF</p>	
PV4V05		
<p>With damped pressure compensated valve.</p>	<p>PV4V05-G4 AB port: G1/2</p>	
PV4V05U		
<p>With ports for suction valve or shock and suction valve.</p> <p>With damped pressure compensated valve.</p>	<p>PV4V05U-G4 AB port: G1/2</p>	
PV4V06		
<p>Adjustable LS A/B pressure relief valve.</p> <p>With non-damped pressure compensated valve.</p>	<p>PV4V06-G4 AB port: G1/2</p> <p>PV4V06-E10 AB port: 7/8-14UNF</p>	

PV-4 Basic Module Options

Proportional Valve

PV4V06U		
<p>Adjustable LS A/B pressure relief valve.</p> <p>With non-damped pressure compensated valve.</p> <p>With ports for suction valve or shock and suction valve</p>	<p>PV4V06U-G4 AB port: G1/2</p> <p>PV4V06U-E10 AB port: 7/8-14UNF</p>	
PV4V07		
<p>Adjustable LS A/B pressure relief valve.</p> <p>With damped pressure compensated valve.</p>	<p>PV4V07-G4 AB port: G1/2</p>	
PV4V07U		
<p>Adjustable LS A/B pressure relief valve.</p> <p>With damped pressure compensated valve.</p> <p>With ports for suction valve or shock and suction valve.</p>	<p>PV4V07U-G4 AB port: G1/2</p>	

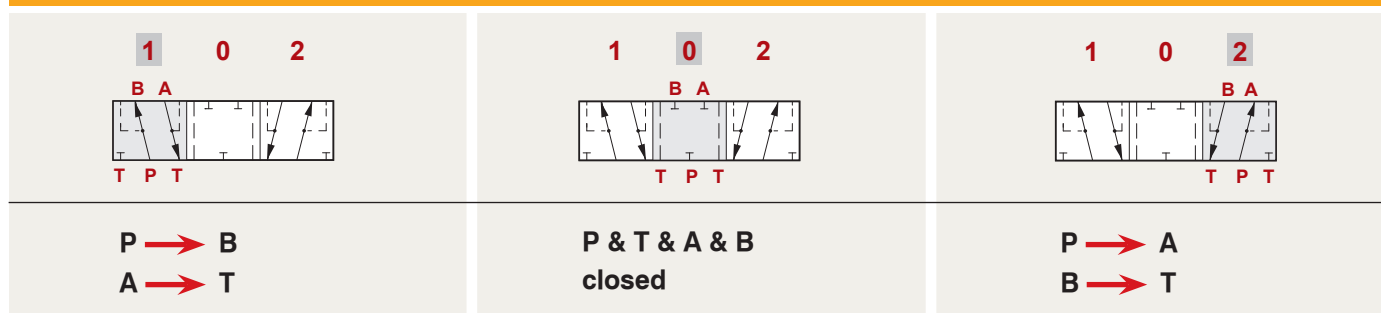
PV-4 Flow Control Spools

Proportional Valve

YLWPV42 01 ※ ※ ※

01 Spool circuit ※ ※ ※ Spool flow **AB** Shuttle valve **FD** Friction detent **HA** Hydraulic actuation

YLWPV4201 ※ ※ ※ ※

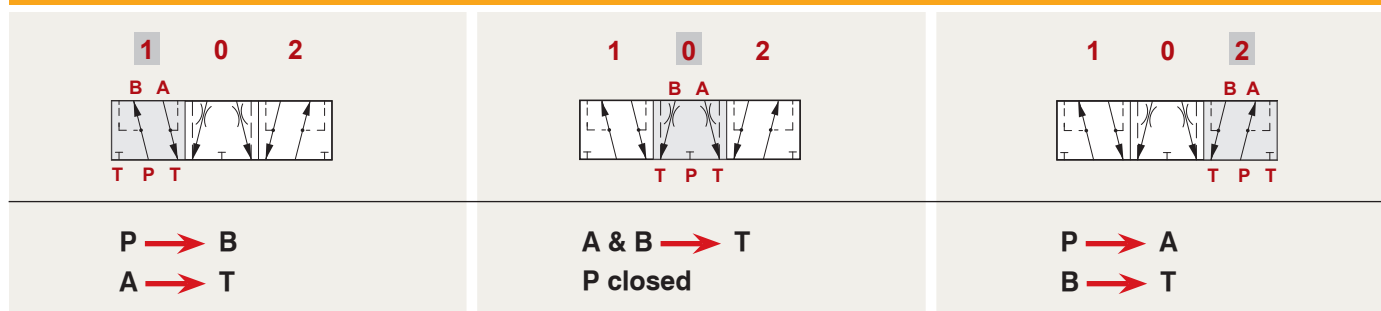


Flow	5 (L/min)	10 (L/min)	25 (L/min)	40 (L/min)	65 (L/min)	100 (L/min)	130 (L/min)
Code	YLWPV4201005	YLWPV4201010	YLWPV4201025	YLWPV4201040	YLWPV4201065	YLWPV4201100	YLWPV4201130
	YLWPV4201005AB	YLWPV4201010AB	YLWPV4201025AB	YLWPV4201040AB	YLWPV4201065AB	YLWPV4201100AB	YLWPV4201130AB
	YLWPV4201005HA	YLWPV4201010HA	YLWPV4201025HA	YLWPV4201040HA	YLWPV4201065HA	YLWPV4201100HA	YLWPV4201130HA
	YLWPV4201005ABHA	YLWPV4201010ABHA	YLWPV4201025ABHA	YLWPV4201040ABHA	YLWPV4201065ABHA	YLWPV4201100ABHA	YLWPV4201130ABHA
		YLWPV4201010FD	YLWPV4201025FD	YLWPV4201040FD	YLWPV4201065FD	YLWPV4201100FD	
		YLWPV4201010ABFD	YLWPV4201025ABFD	YLWPV4201040ABFD	YLWPV4201065ABFD	YLWPV4201100ABFD	

YLWPV42 02 ※ ※ ※

01 Spool circuit ※ ※ ※ Spool flow **AB** Shuttle valve **FD** Friction detent **HA** Hydraulic actuation

YLWPV4202 ※ ※ ※ ※



Flow	5 (L/min)	10 (L/min)	25 (L/min)	40 (L/min)	65 (L/min)	100 (L/min)	130 (L/min)
Code	YLWPV4202005	YLWPV4202010	YLWPV4202025	YLWPV4202040	YLWPV4202065	YLWPV4202100	YLWPV4202130
	YLWPV4202005AB	YLWPV4202010AB	YLWPV4202025AB	YLWPV4202040AB	YLWPV4202065AB	YLWPV4202100AB	YLWPV4202130AB
	YLWPV4202005HA	YLWPV4202010HA	YLWPV4202025HA	YLWPV4202040HA	YLWPV4202065HA	YLWPV4202100HA	YLWPV4202130HA
	YLWPV4202005ABHA	YLWPV4202010ABHA	YLWPV4202025ABHA	YLWPV4202040ABHA	YLWPV4202065ABHA	YLWPV4202100ABHA	YLWPV4202130ABHA
		YLWPV4202010FD	YLWPV4202025FD	YLWPV4202040FD	YLWPV4202065FD	YLWPV4202100FD	
		YLWPV4202010ABFD	YLWPV4202025ABFD	YLWPV4202040ABFD	YLWPV4202065ABFD	YLWPV4202100ABFD	

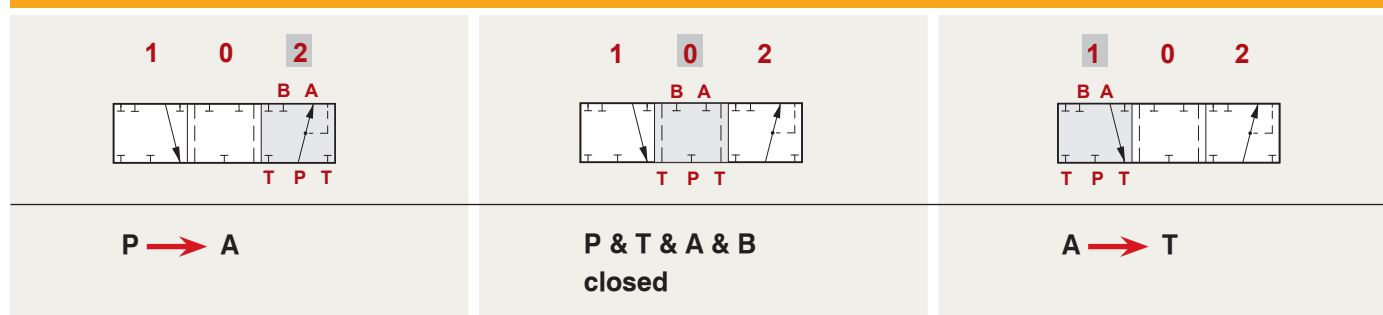
PV-4 Flow Control Spools

Proportional Valve

YLWPV42 03 ※ ※ ※

01 Spool circuit ※ ※ ※ Spool flow **AB** Shuttle valve **FD** Friction detent **HA** Hydraulic actuation

YLWPV4203 ※ ※ ※ ※

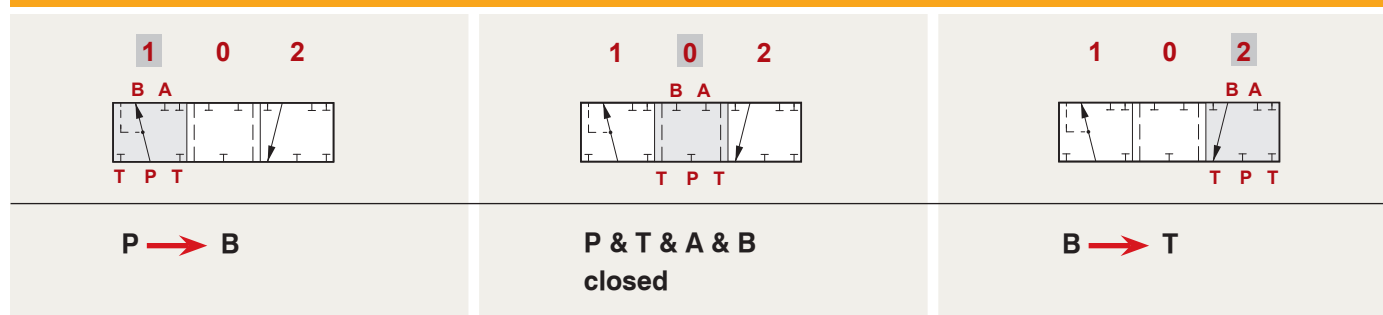


Flow (L/min)	10 (L/min)	25 (L/min)	40 (L/min)	65 (L/min)	100 (L/min)
Code	YLWPV4203010	YLWPV4203025	YLWPV4203040	YLWPV4203065	YLWPV4203100

YLWPV42 04 ※ ※ ※

01 Spool circuit ※ ※ ※ Spool flow **AB** Shuttle valve **FD** Friction detent **HA** Hydraulic actuation

YLWPV4204 ※ ※ ※ ※



Flow (L/min)	10 (L/min)	25 (L/min)	40 (L/min)	65 (L/min)	100 (L/min)
Code	YLWPV4204010	YLWPV4204025	YLWPV4204040	YLWPV4204065	YLWPV4204100

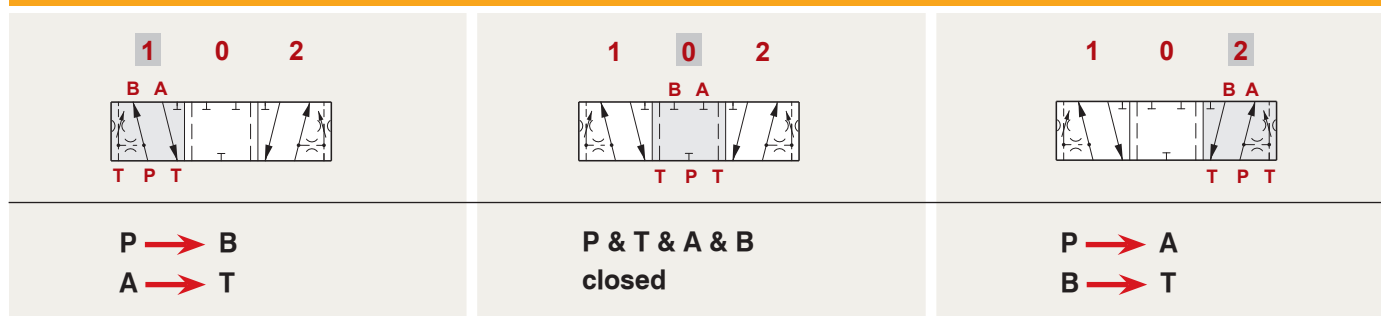
PV-4 Pressure Control Spools

Proportional Valve

YLWPV42 C19 ※ ※ ※

01 Spool circuit ※※※ Spool flow **AB** Shuttle valve **FD** Friction detent **HA** Hydraulic actuation

YLWPV42C19 ※※※※※

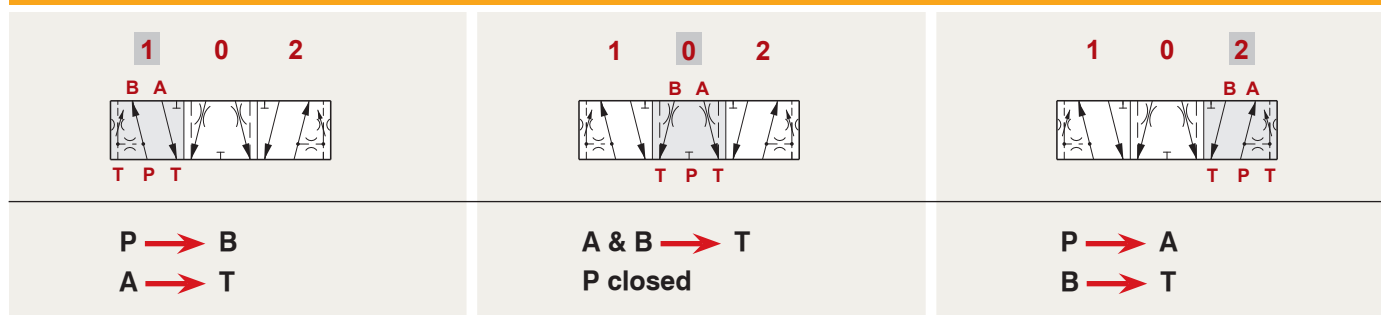


Flow	5 (L/min)	10 (L/min)	25 (L/min)	40 (L/min)	65 (L/min)	100 (L/min)
Code	YLWPV42C19005	YLWPV42C19010	YLWPV42C19025	YLWPV42C19040	YLWPV42C19065	
	YLWPV42C19005AB	YLWPV42C19010AB	YLWPV42C19025AB	YLWPV42C19040AB	YLWPV42C19065AB	

YLWPV42 C20 ※ ※ ※

01 Spool circuit ※※※ Spool flow **AB** Shuttle valve **FD** Friction detent **HA** Hydraulic actuation

YLWPV42C20 ※※※※※



Flow	5 (L/min)	10 (L/min)	25 (L/min)	40 (L/min)	65 (L/min)	100 (L/min)
Code	YLWPV42C20005	YLWPV42C20010	YLWPV42C20025	YLWPV42C20040	YLWPV42C20065	
	YLWPV42C20005AB	YLWPV42C20010AB	YLWPV42C20025AB	YLWPV42C20040AB	YLWPV42C20065AB	YLWPV42C20100AB

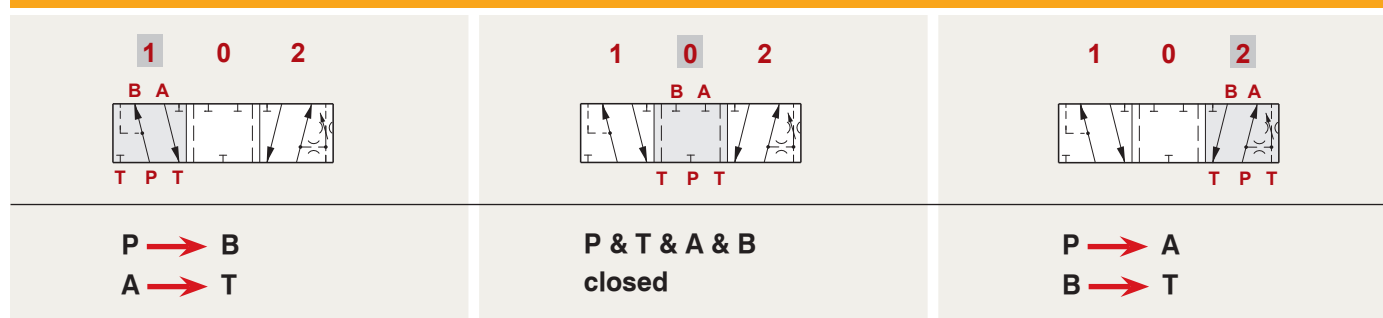
PV-4 Pressure Control Spools

Proportional Valve

YLWPV42 A21 ※ ※ ※

01 Spool circuit ※ ※ ※ Spool flow **AB** Shuttle valve **FD** Friction detent **HA** Hydraulic actuation

YLWPV42A21 ※ ※ ※ ※

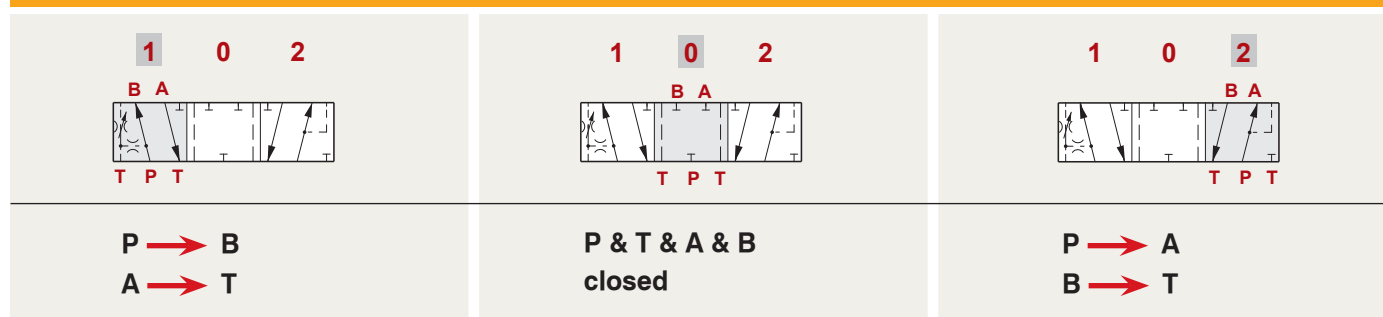


Flow	5 (L/min)	10 (L/min)	25 (L/min)	40 (L/min)	65 (L/min)	100 (L/min)
Code		YLWPV42A21010	YLWPV42A21025	YLWPV42A21040	YLWPV42A21065	YLWPV42A21100
			YLWPV42A21025AB	YLWPV42A21040A	YLWPV42A21065AB	YLWPV42A21100AB

YLWPV42 B21 ※ ※ ※

01 Spool circuit ※ ※ ※ Spool flow **AB** Shuttle valve **FD** Friction detent **HA** Hydraulic actuation

YLWPV42B21 ※ ※ ※ ※



Flow	5 (L/min)	10 (L/min)	25 (L/min)	40 (L/min)	65 (L/min)	100 (L/min)
Code		YLWPV42B21010	YLWPV42B21025	YLWPV42B21040	YLWPV42B21065	YLWPV42B21100
		YLWPV42B21010AB	YLWPV42B21025AB	YLWPV42B21040AB	YLWPV42B21065AB	YLWPV42B21100AB

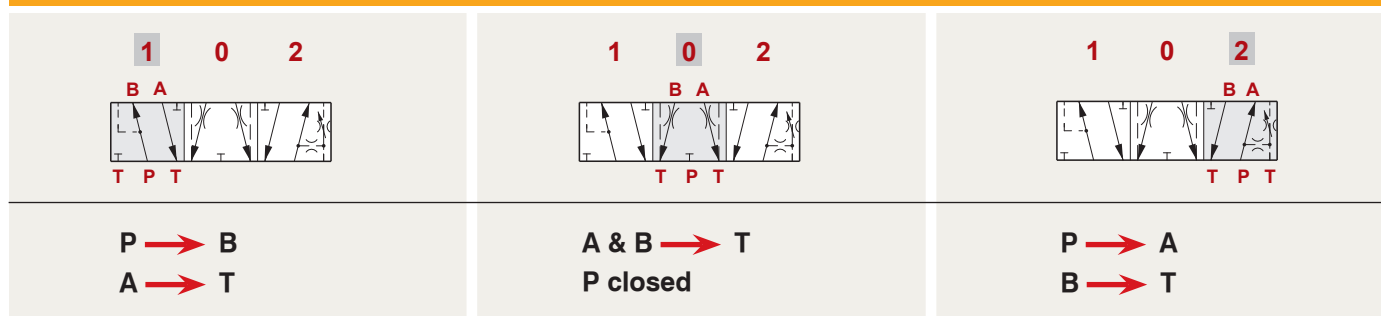
PV-4 Pressure Control Spools

Proportional Valve

YLWPV42 A22 ※※※

01 Spool circuit ※※※ Spool flow **AB** Shuttle valve **FD** Friction detent **HA** Hydraulic actuation

YLWPV42A22 ※※※※

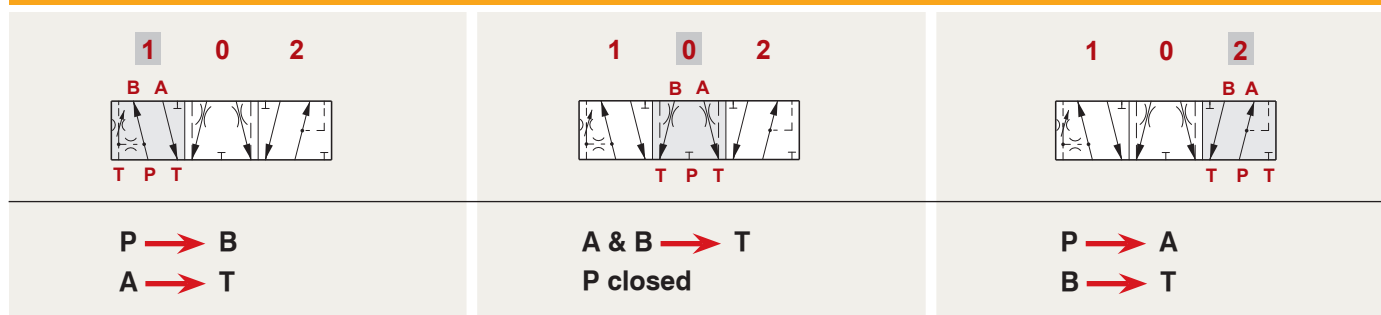


Flow	5 (L/min)	10 (L/min)	25 (L/min)	40 (L/min)	65 (L/min)	100 (L/min)
Code			YLWPV42A22025	YLWPV42A22040	YLWPV42A22065	YLWPV42A22100
			YLWPV42A22025AB	YLWPV42A22040AB	YLWPV42A22065AB	YLWPV42A22100AB

YLWPV42 B22 ※※※

01 Spool circuit ※※※ Spool flow **AB** Shuttle valve **FD** Friction detent **HA** Hydraulic actuation

YLWPV42B22 ※※※※



Flow	5 (L/min)	10 (L/min)	25 (L/min)	40 (L/min)	65 (L/min)	100 (L/min)
Code		YLWPV42B22010	YLWPV42B22025	YLWPV42B22040	YLWPV42B22065	YLWPV42B22100
			YLWPV42B22025AB	YLWPV42B22040AB	YLWPV42B22065AB	YLWPV42B22100AB

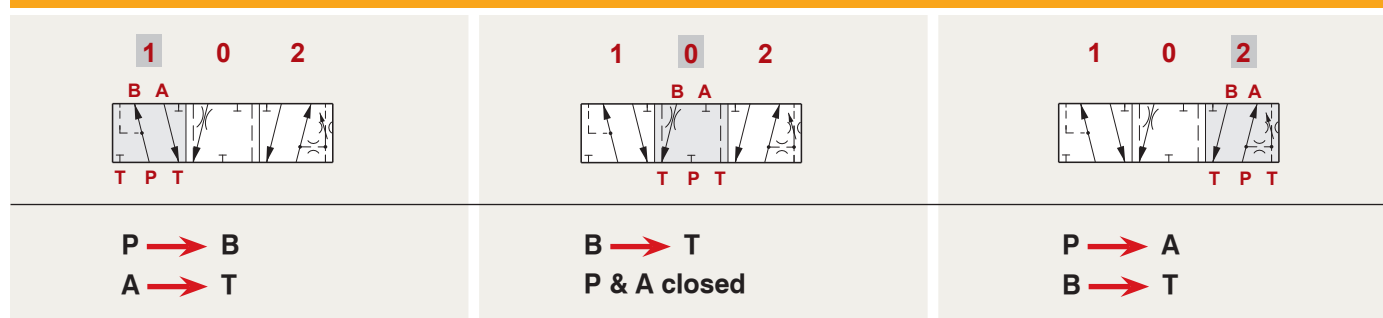
PV-4 Pressure Control Spools

Proportional Valve

YLWPV42 A23 ※ ※ ※

01 Spool circuit ※※※ Spool flow **AB** Shuttle valve **FD** Friction detent **HA** Hydraulic actuation

YLWPV42A23 ※※※※※

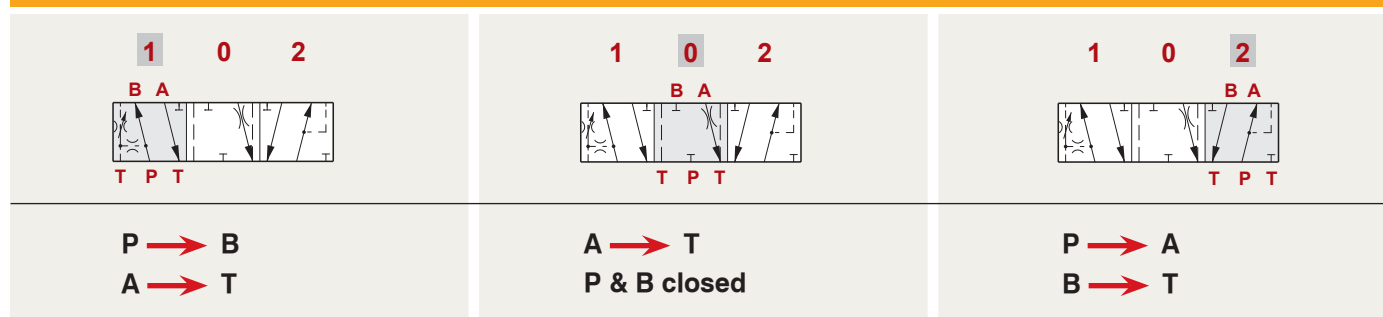


Flow	5 (L/min)	10 (L/min)	25 (L/min)	40 (L/min)	65 (L/min)	100 (L/min)
Code			YLWPV42A23025	YLWPV42A23040	YLWPV42A23065	
			YLWPV42A23025AB	YLWPV42A23040AB	YLWPV42A23065AB	

YLWPV42 B23 ※ ※ ※

01 Spool circuit ※※※ Spool flow **AB** Shuttle valve **FD** Friction detent **HA** Hydraulic actuation

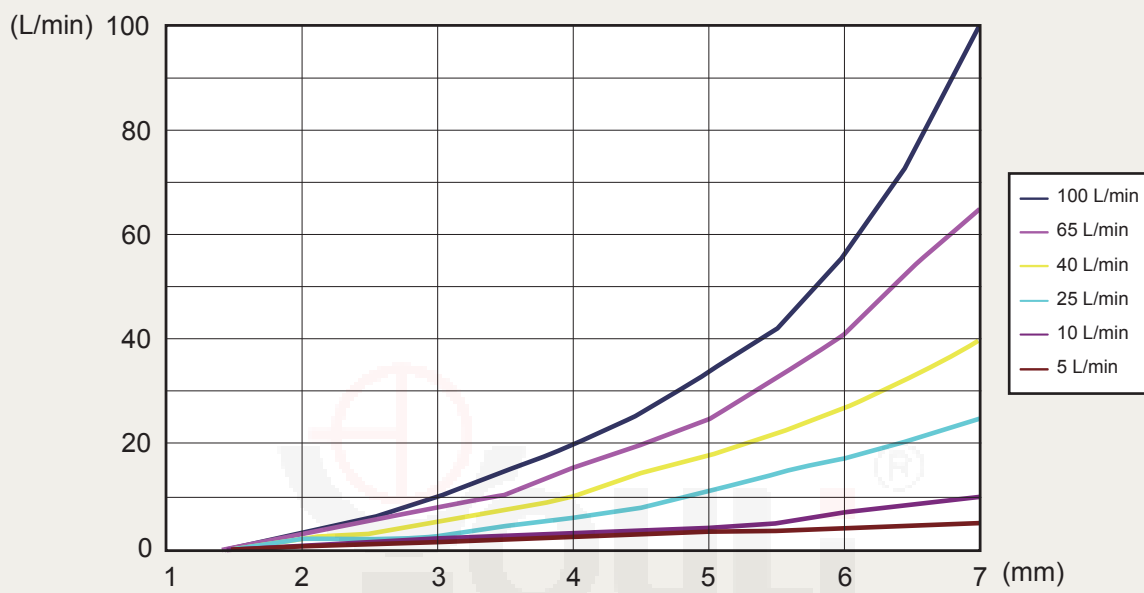
YLWPV42B23 ※※※※※



Flow	5 (L/min)	10 (L/min)	25 (L/min)	40 (L/min)	65 (L/min)	100 (L/min)
Code				YLWPV42B23040	YLWPV42B23065	
		YLWPV42B23010AB	YLWPV42B23025AB	YLWPV42B23040AB	YLWPV42B23065AB	

PV-4 Progressive oil flow characteristic for spool Proportional Valve

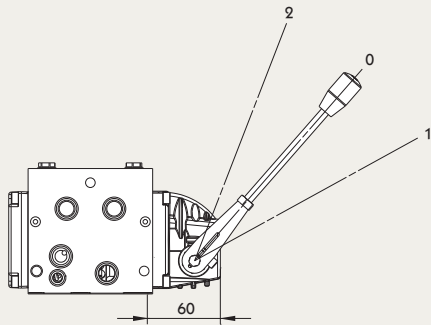
PV4



PV-4 A Side Options

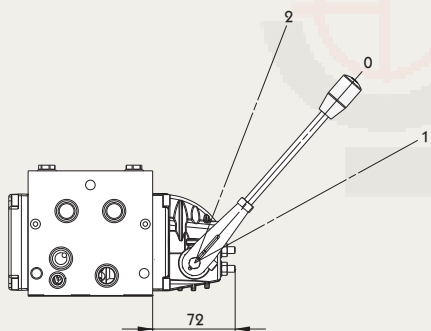
Proportional Valve

Type L



Standard lever, spring centered.

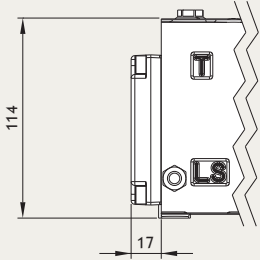
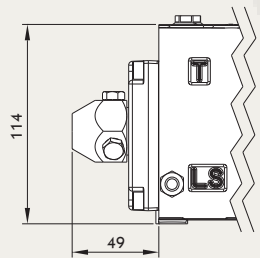

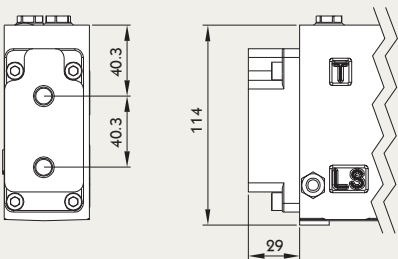

Type LM



Standard lever, spring centered; Individual oil flow adjustment to ports A and B.

PV-4 B Side Options

Proportional Valve

Type CO	Circuit	
		<p>Standard cover</p>
Type FD	Circuit	
		<p>Friction detent</p> <ul style="list-style-type: none"> • Not available for PV4V01~V03.
Type HA-G2	Circuit	Thread code G1/4 deep 12 mm
Type HA-E6		Thread code 9/16-18UNF deep 0.45 in
		<p>Cover for hydraulic actuation, to match HA spool, control range pressure 5~15 bar.</p> <ul style="list-style-type: none"> • This cover can connect with JHP1 & JHP2. Please refer to the page 33~35 for details.

PV-4 B Side Options

Proportional Valve

Type EPVO	
	<p>Function : The main spool is controlled by ON/OFF activated actuator. Reaction time from neutral position to max spool travel.</p>
	<p>Characteristics : Supply voltage range : 11V~30V, LED light sign can be chosen.</p>

Code	Description	Enclosure to IGC 529	
EPVO-H0100	ON/OFF activated actuator connectors, no LED lights.	Hirschmann connectors	IP 65
EPVO-H0101	ON/OFF activated actuator connectors, with LED lights.	Hirschmann connectors	IP 65

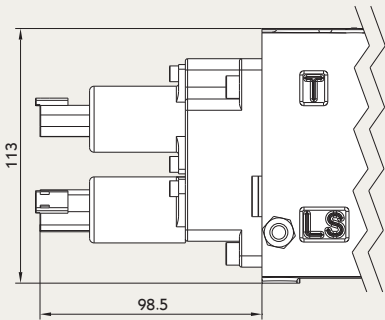
Parameter	Description	Parameter	Description
Supply voltage UDC	11V~30V	Pilot pressure	Min. : 10 BAR {305 PSI}
Max. ripple	5%		Max. : 15 BAR {636 PSI}
Ambient temperature recommended range	-30°C~60°C {-22°F~140°F}	Oil viscosity	Range: 12~75mm ² /S {65~350 SUS}
Oil temperature	Range: 30°C~60°C {86°F~140°F}		Min. : 4 mm ² /S {40 SUS}
	Min. : -30°C {-22°F}		Max. : 400 mm ² /S {2130 SUS}
	Max. : 90°C {194°F}	Filtering in the hydraulic system	Max. allowed degree of contamination (ISO 4406)

Hirschmann Connectors	Circuit	Function																
<table border="1"> <thead> <tr> <th>ON/OFF</th> <th>A (Pin 1)</th> <th>B (Pin 2)</th> <th>LED light sign</th> </tr> </thead> <tbody> <tr> <td>Neutral position 0</td> <td>0</td> <td>0</td> <td>0</td> </tr> <tr> <td>P → A</td> <td>UDC</td> <td>0</td> <td>BLUE</td> </tr> <tr> <td>P → B</td> <td>0</td> <td>UDC</td> <td>YELLOW</td> </tr> </tbody> </table>	ON/OFF	A (Pin 1)	B (Pin 2)	LED light sign	Neutral position 0	0	0	0	P → A	UDC	0	BLUE	P → B	0	UDC	YELLOW		
ON/OFF	A (Pin 1)	B (Pin 2)	LED light sign															
Neutral position 0	0	0	0															
P → A	UDC	0	BLUE															
P → B	0	UDC	YELLOW															

PV-4 B Side Options

Proportional Valve

Type EPVE



Function :

The main spool position is adjusted with the electrical proportional actuation, in this condition, the position corresponds to an electrical control signal. The control signal is converted into a hydraulic pressure signal that make the spool moved in the valve. This is done by means of two proportional pressure reducing valve. The electrical actuation can be controlled by both current amplifier card and a programmable micro-controller directly.

Characteristics :

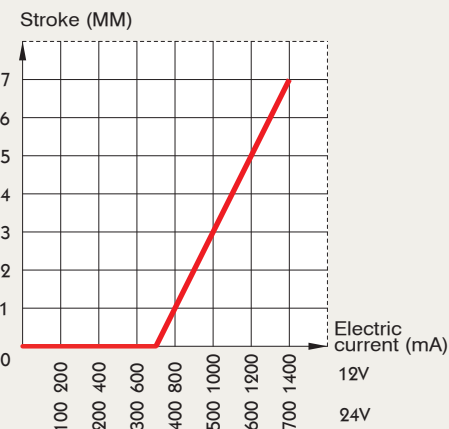
PWM voltage control signals, the power supply is 12V or 24V. It's necessary to use the EPVE in combination with 25 bar(362.6 psi) pilot pressure, and standard HA spools fitted for hydraulic actuation. Because of the 25 bar pilot pressure, it is impossible to combine EPVE and EPVO.

- To match HA spool.

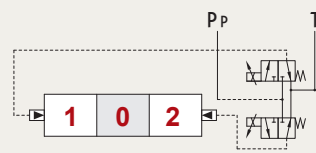
Code	Description	Enclosure to IGC 529	Deutch connectors	Plug-in components
EPVE-12D	proportion control, rated voltage 12V, connectors.	IP 65	DT06 2S	W2S
EPVE-24D	proportion control, rated voltage 12V, connectors.	IP 65	DT06 2S	W2S

Parameter	12V DC	24V DC	Parameter	12V DC	24V DC
Controller output current range	0~1500 mA	0~750 mA	Pilot pressure	Min. 21 bar {305 psi} › Max. 25 bar {636 psi}	
Pressure control range	5~15 bar {72.5~217.5 pis}		Oil viscosity	Range: 12~75 mm ² /s {65~350 SUS}	
Resistance	4.75Ω ±5%	20.8Ω ±5%		Min. : 4 mm ² /s {40 SUS}	
Ambient temperature recommended range	-30°C~80°C {-22°F~176°F}		Filtering in the hydraulic system	Max. : 400 mm ² /s {2130 SUS}	
Medium temperature	-20°C~80°C {-4°F~176°F}			Max. allowed degree of contamination (ISO 4406)	

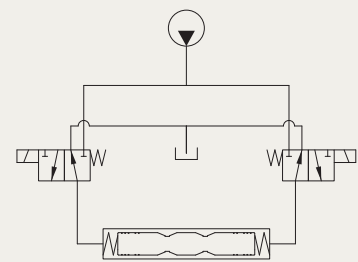
Spool stroke vs current stroke



Circuit

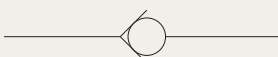


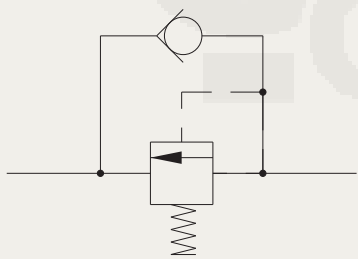
Function



PV-4 Suction valve options

Proportional Valve

Type DST	Plug
Type C	
	Suction valve

Type U	
	Shock and suction valve

Shock and suction valve options

Setting pressure		ITEM	Setting pressure		ITEM
bar	psi		bar	psi	
32	460	U32	190	2755	U190
50	725	U50	210	3045	U210
63	914	U60	230	3335	U230
80	1160	U80	240	3480	U240
100	1450	U100	250	3625	U250
125	1813	U125	265	2843	U265
140	2031	U140	280	4061	U280
150	2175	U150	300	4351	U300
160	2320	U160	320	4641	U320
175	2538	U175	350	5075	U350

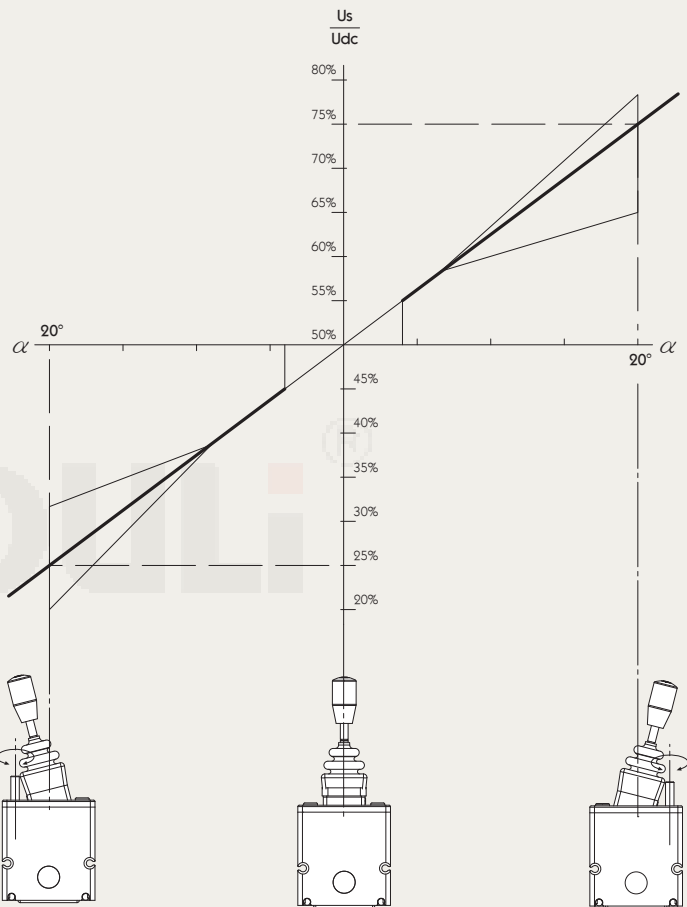
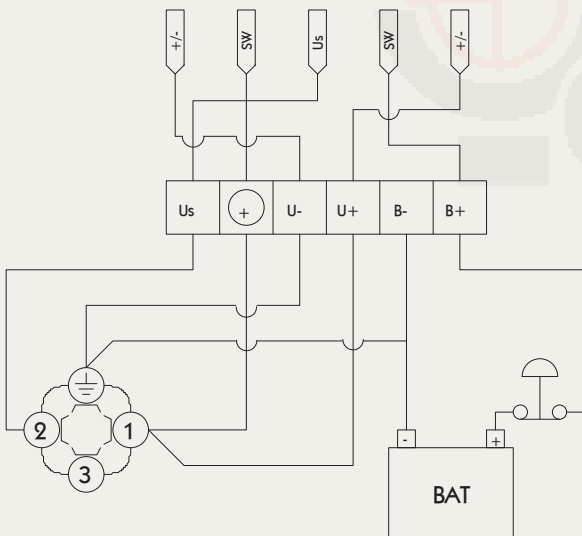
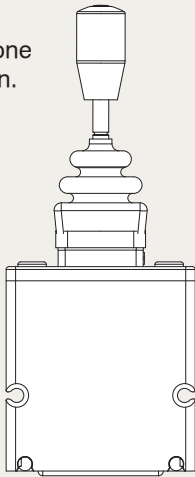
PV-4 Accessories

PVH proportional Lever

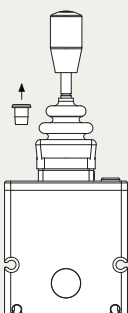
PVH-1

TYPE PVH

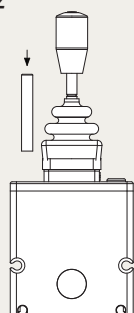
1. Single lever for one section operation.



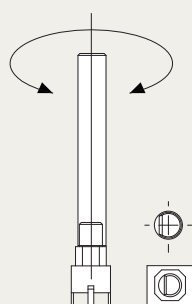
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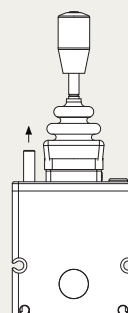
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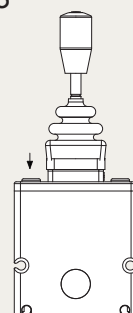
3



4



5

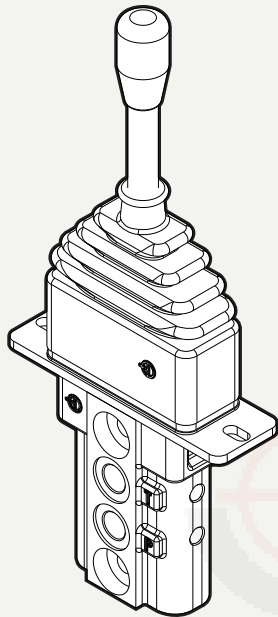


Note: Please make sure by traverse operating when adjusting.

PV-4 Accessories

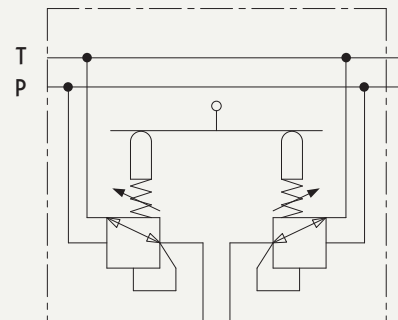
Hydraulic Pilot Linear Operation Type

Type JHP-1



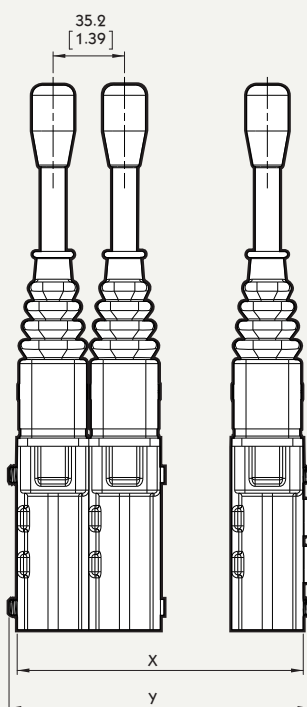
Circuit

Hydraulic scheme :

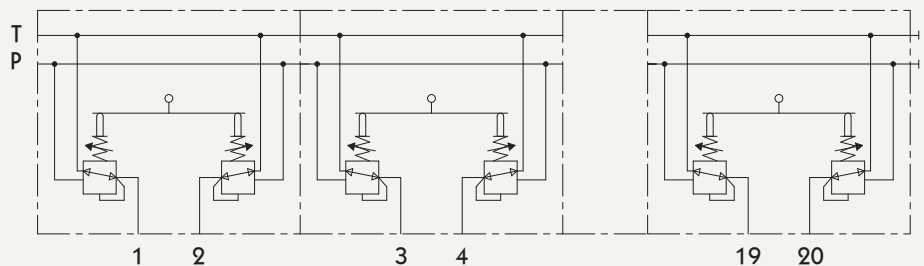


HYDRAULIC PILOT CONTROLLER
 OPTIONS: 8- 9-1. FD. LES
 AVAILABLE SECTIONS FROM 1 TO 10

Type JHP-1



Hydraulic circuit :



Standard threads :

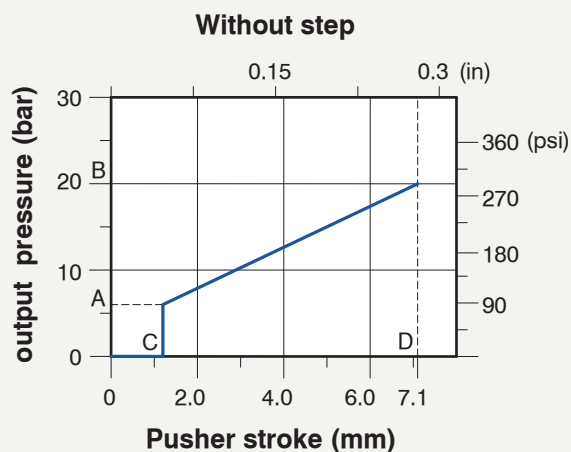
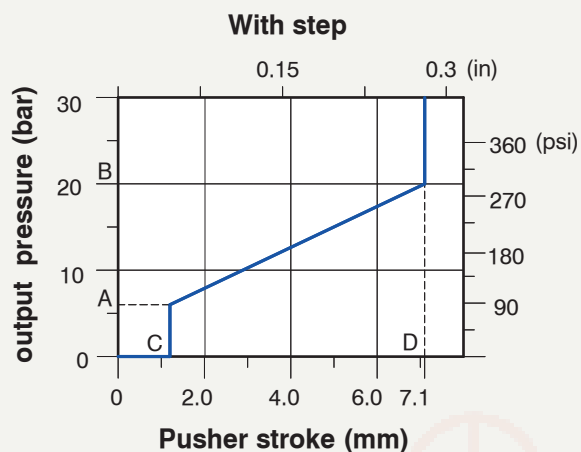
TYPE	X		Y	
	mm	in	mm	in
JHP1/2	70.4	2.77	74.1	2.92
JHP1/3	105.6	4.16	109.3	4.30
JHP1/4	140.8	5.54	144.5	5.69
JHP1/5	176	6.93	179.7	7.07
JHP1/6	211.2	8.31	214.9	8.46
JHP1/7	246.4	9.70	250.1	9.85
JHP1/8	281.6	11.09	285.3	12.62
JHP1/9	316.8	12.47	320.5	12.62
JHP1/10	352	13.86	355.7	14.00

PV-4 Accessories

Hydraulic Pilot Linear Operation Type

Type JHP-1

Pressure control curve



TYPE	Pressure				Stroke			
	A		B		C		D	
	bar	psi	bar	psi	mm	in	mm	in
01	5	72.5	19	275.5	1	0.04	7.1	0.28
02	6	87	25	362.5	1	0.04	7.1	0.28
03	8	116	42	609	0.7	0.028	7.1	0.28
04	1	14.5	9	130.5	1	0.04	7.1	0.28
05	2	29	20.5	297.3	1	0.04	7.1	0.28

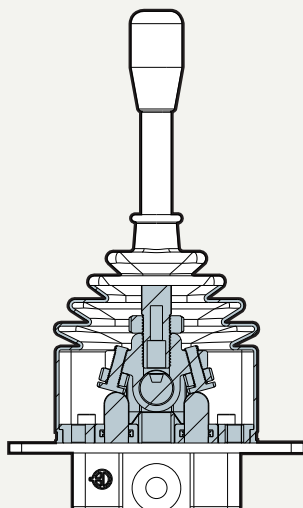
Return spring type	
A	da 17.4N a 25.9N
B	da 22.2N a 33N
C	da 25.6N a 65.3N
D	da 78.6N a 188.1N
E	da 109.4N a 219N

Type JHP-1

Control options

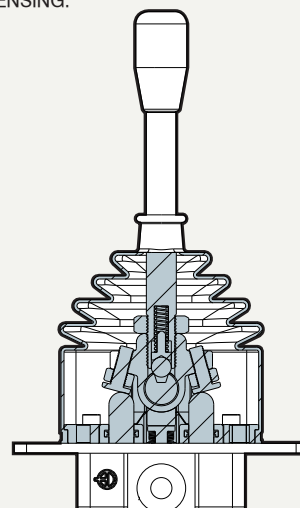
Type: 8

SPRING RETURN IN CENTER POSITION.



Type: FD

FRICTION DETENT, STOP IN ANY POSITION AND NEUTRAL SENSING.



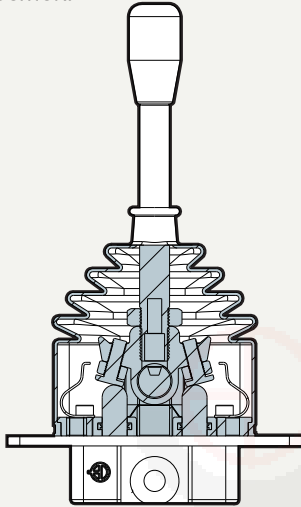
PV-4 Accessories

Hydraulic Pilot Linear Operation Type

Type JHP-1

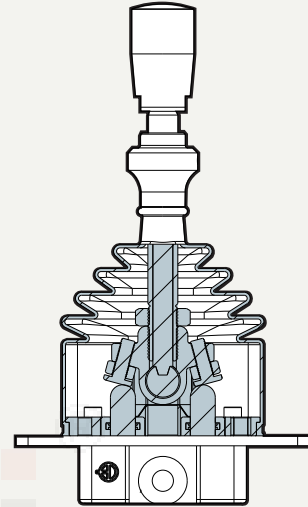
Type: 9-1

DETENT IN POSITION 1 AND 2, SPRING CENTERED TO NEUTRAL POSITION.



Type: LES

SAFETY LEVER, DETENT IN NEUTRAL POSITION.



EXAMPLE-Order Code:

JHP-1 / 1S - G2 / 8 - A 01 A

1
2
3
4
5
6
7

- 1 Valve type
- 2 No. of section
- 3 Thread type
- 4 Control options
- 5 Pressure control curve A or B
- 6 Pressure range 01~05 (see page 34)
- 7 Spring return type A~E (see page 34)

Flow	5~20 L/min	1.3~5.3 US gpm
Feeding pressure	30~100 bar	435~1450 psi
MAX. backpressure	3 bar	4.35 psi
Internal leakage at 30 bar/435 psi	10 ~ 18 cm ³ /min	0.61~1.1 in ³ /min
Fluid	mineral oil	
Fluid temperature	-10 ~ 80°C	-14 ~ 176°F
Ambient temperature	-40 ~ 60°C	-40 ~ 140°F

Standard threads

PORTS	BSP	UN-UNF	METRIC
Inlet P	G 1/4	7/16 - 20 (SAE 4)	M12 x 1.5
A and B ports	G 1/4	7/16 - 20 (SAE 4)	M12 x 1.5
Outlet port T	G 1/4	7/16 - 20 (SAE 4)	M12 x 1.5

PV-4 Other

PV Order Specification

	[A1]	[A]			[A2]
1	[B]	[C1]	[E]	[D2]	[G]
		[D1]	[F]	[C2]	
2	[B]	[C1]	[E]	[D2]	[G]
		[D1]	[F]	[C2]	
3	[B]	[C1]	[E]	[D2]	[G]
		[D1]	[F]	[C2]	
4	[B]	[C1]	[E]	[D2]	[G]
		[D1]	[F]	[C2]	
5	[B]	[C1]	[E]	[D2]	[G]
		[D1]	[F]	[C2]	
6	[B]	[C1]	[E]	[D2]	[G]
		[D1]	[F]	[C2]	
7	[B]	[C1]	[E]	[D2]	[G]
		[D1]	[F]	[C2]	
8	[B]	[C1]	[E]	[D2]	[G]
		[D1]	[F]	[C2]	
9	[B]	[C1]	[E]	[D2]	[G]
		[D1]	[F]	[C2]	
10	[B]	[C1]	[E]	[D2]	[G]
		[D1]	[F]	[C2]	
[I]		[H]			

Specification sheet: [A] Pump side module [A1] Plug for external pilot oil supply [A2] LS Solenoid Unloading vavle
 [B] A side options [C1/2] LS A/B Pressure relief valve [D1/2] Shock and suction valve
 [E] Basic moldules [F] Spool [G] B side options [H] End plate [I] Tie rod kit



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