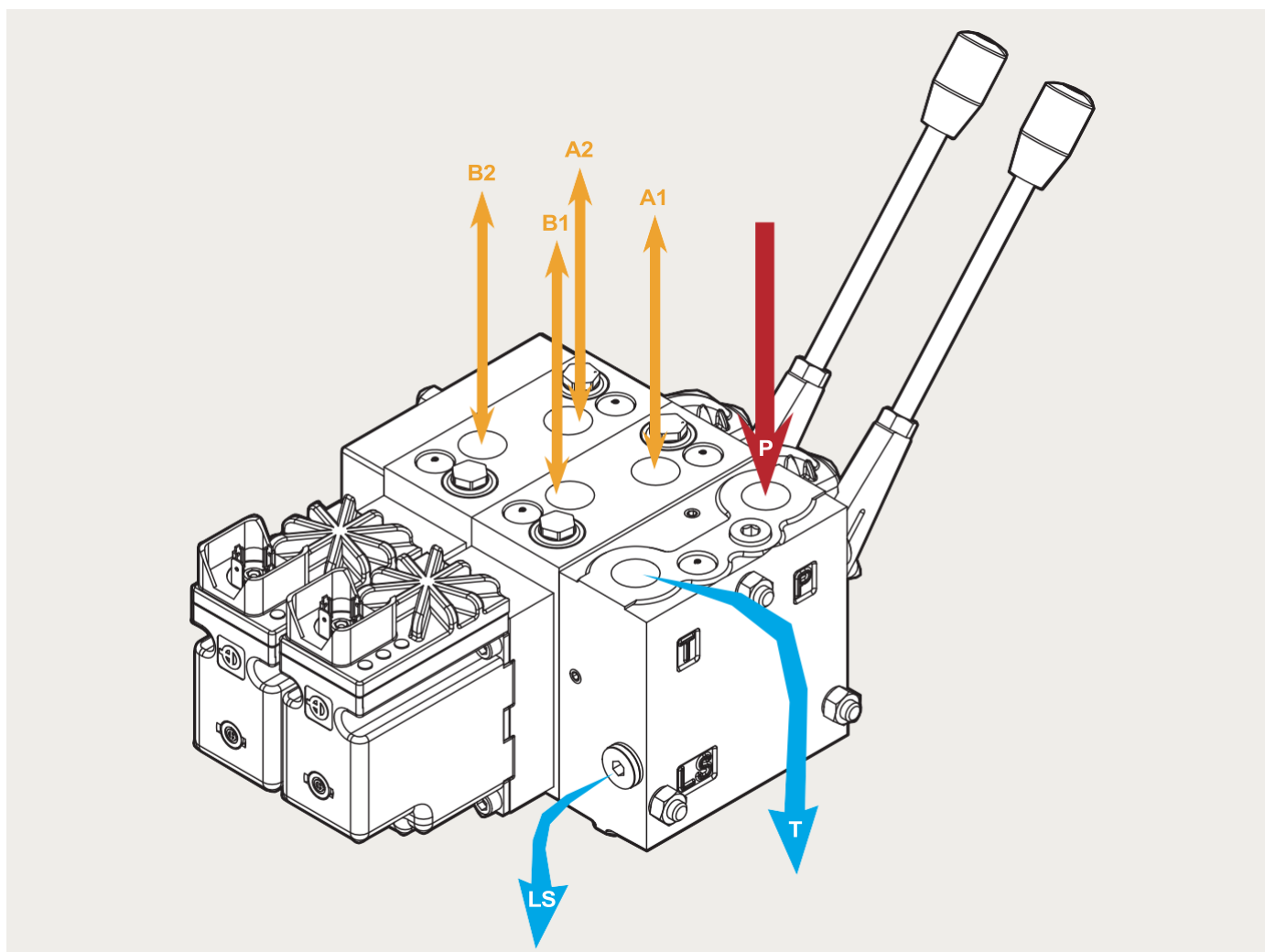


PV-4 Technical Data

Proportional Valve

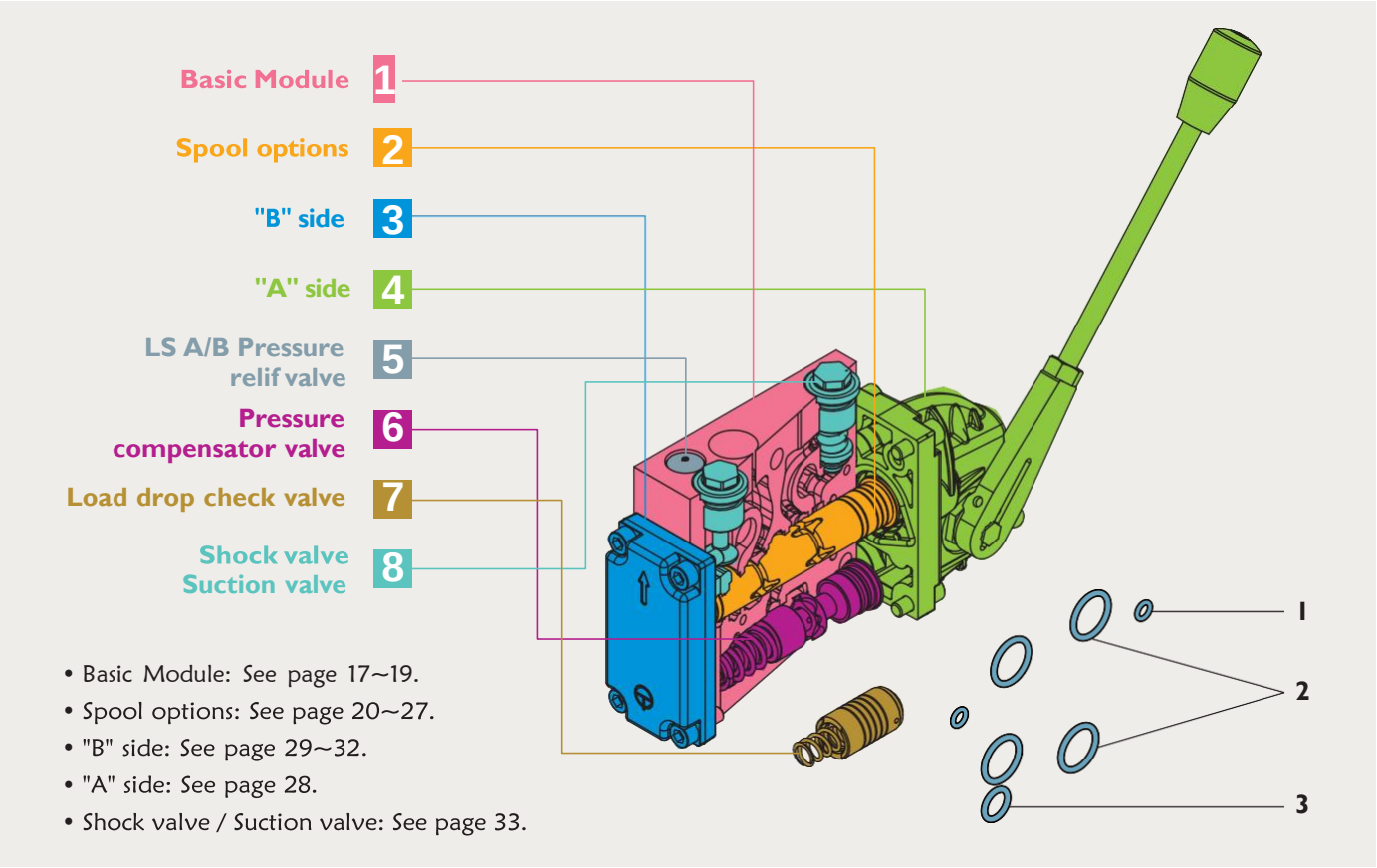


PV-4 Proportional Valve Data			
Max. pressure	P	350 bar	5075 psi
	A/B	350 bar	5075 psi
	T	40 bar	580 psi
Oil flow rated	P	140 L/min	37 gal/min
Oil Temperature (Inlet Temperature)		from -20 to 90°C	from -4 to 194°F
Oil Viscosity	Operating range	from 15 to 75 mm²/s	from 15 to 75 cst
	min	12 mm²/s	12 cst
	max.	400 mm²/s	400 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 Basic Modules

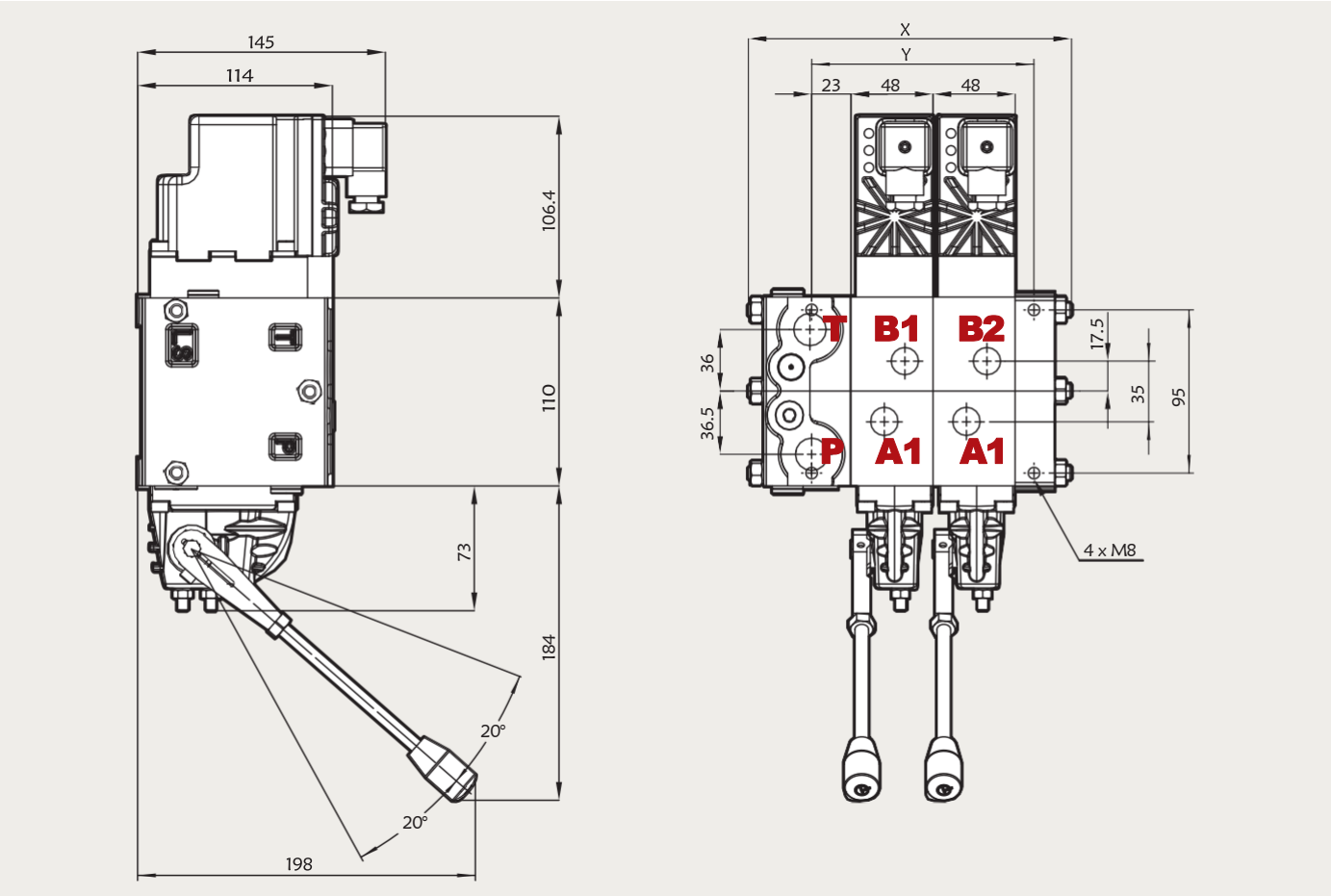
Proportional Valve



Seal For Basic Module		
ITEM	CODE	QTY
1	OR 5x2	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)

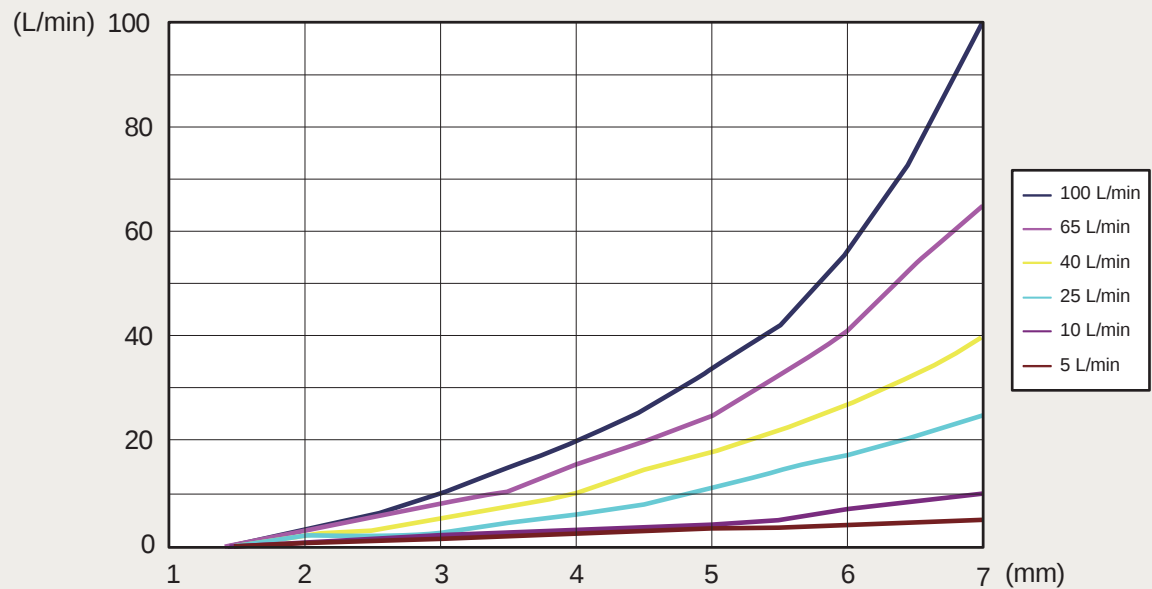
• G-1/2 : G4 G-3/4 : G6
 SAE10 : E10 SAE12 : E12

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 Progressive oil flow characteristic for spool

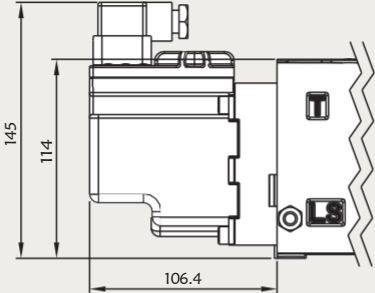
Proportional Valve

PV4



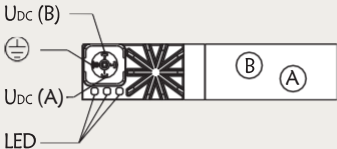
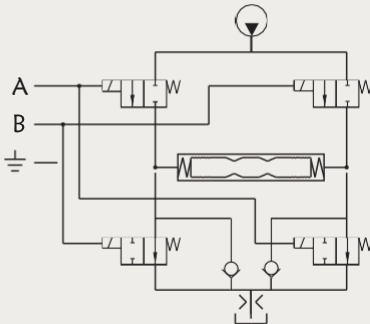
PV-4 B Side Options

Proportional Valve

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

Code	Description	Enclosure to IGC 529	
EPVO-H0100	ON/OFF activated actuator connectors, without LED lights.	Hirschmann connectors	IP 65
EPVO-H0101	ON/OFF activated actuator connectors, with LED lights.	Hirschmann connectors	IP 65

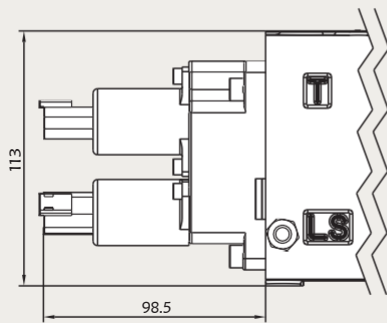
Parameter	Description	Parameter	Description
Supply voltage UDC	11V~30V	Pilot pressure	Min. : 10 BAR {305 PSI}
Max. ripple	5%		Max. : 15 BAR {636 PSI}
Ambient temperature recommended range	-30°C~60°C {-22°F~140°F}	Oil viscosity	Range: 12~75mm²/S {65~350 SUS}
Oil temperature	Range: 30°C~60°C {86°F~140°F}		Min. : 4 mm²/S {40 SUS}
	Min. : -30°C {-22°F}		Max. : 400 mm²/S {2130 SUS}
	Max. : 90°C {194°F}	Filtering in the hydraulic system	Max. allowed degree of contamination (ISO 4406)

Hirschmann Connectors	Circuit	Function
		

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 :

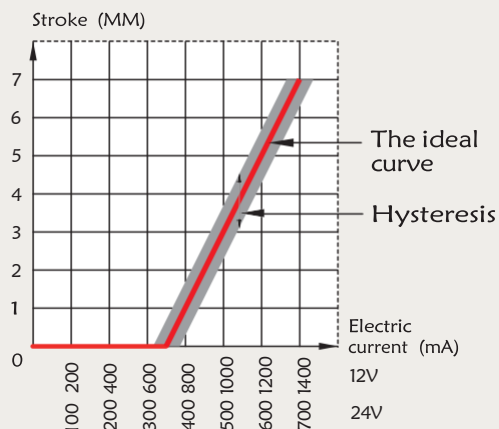
PWM voltage control signals, the power supply is 12V or 24V. It's necessary to use the EPVE in combination with 25 bar(362.6 psi) pilot pressure, and standard HA spools fitted for hydraulic actuation. Because of the 25 bar pilot pressure, it is impossible to combine EPVE and EPVO.

- To match HA spool.

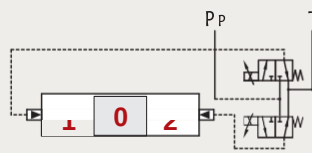
Code	Description	Enclosure to IGC 529	Deutsh connectors	Plug-in components
EPVE-12D	proportion control, rated voltage 12V, connectors.	IP 65	DT06 2S	W2S
EPVE-24D	proportion control, rated voltage 24V, connectors.	IP 65	DT06 2S	W2S

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 psi}		Oil viscosity	Range: 12~75 mm²/s {65~350 SUS}	
Resistance	4.75 Ω ±5%	20.8 Ω ±5%		Min. : 4 mm²/s {40 SUS}	
Ambient temperature recommended range	-30℃~80℃ {-22℉~176℉}			Max. : 400 mm²/s {2130 SUS}	
Medium temperature	-20℃~80℃ {-4℉~176℉}		Filtering in the hydraulic system	Max. allowed degree of contamination (ISO 4406)	

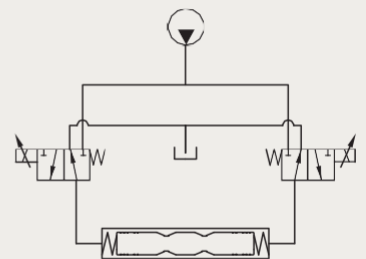
Spool stroke vs current stroke



Circuit



Function



PV4 B Side Options

Proportional Valve

Type EPVM

Function

Electronic control system was based on the deviation between the input signal and the feedback to control the solenoid valve. Thereby changing the pilot pressure drives the main spool and makes it in the right direction and speeds to meets the desired position.

Features

Supply voltage 12VDC & 24VDC and it can options with LED light or not.

Item	Description	Supply voltage (UDC)	Rate	12V	24V
EPVM-H0110	Proportional valve HIRSCHMANN connector; Voltage 12VDC Without LED light.	The current consumption	Range	11V~15V	22V~30V
EPVM-H0111	Proportional valve HIRSCHMANN connector; Voltage 12VDC With LED light.		Max ripple	5%	
EPVM-H0120	Proportional valve HIRSCHMANN connector; Voltage 24VDC Without LED light.	Signal voltage (Us)	Typical	760mA@12V	450mA@24V
EPVM-H0121	Proportional valve HIRSCHMANN connector; Voltage 24VDC With LED light.		Neutral	0.5 x Udc	
		Power consumption	A Port<-->B Port	0.25~0.75 x Udc	
Ambient temperature	-30 ~+60 ° (-22 ~140 °C)			10W	11W
Oil temperature	-30 ~+90 ° (-22 ~194 °C)	LED Signal	P -> A	Blue light	
Pilot pressure	10~15bar(305~636psi)		Neutral (Power)	Green light	
Grade of enclosure	Hirschmann connector IP65		P -> B	Yellow light	

Graphs of control

Function Chart

Circuit

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