

PV-4 Series

Proportional Valves

For Mobile and Industrial hydraulic applications.

Max. flow: 140 l/min

Max. pressure: 350 bar



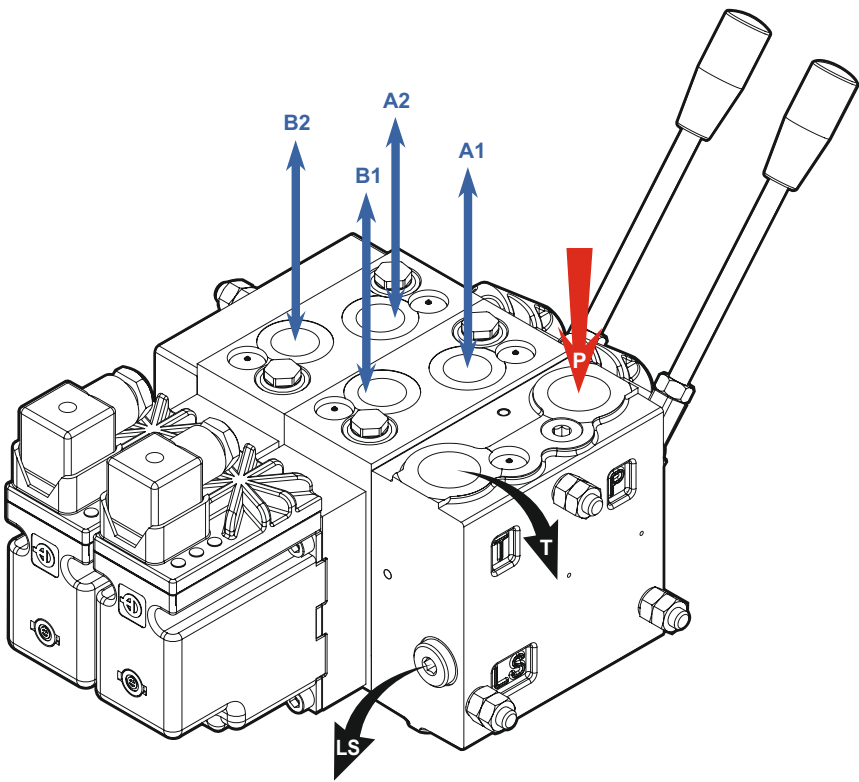
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Specifications

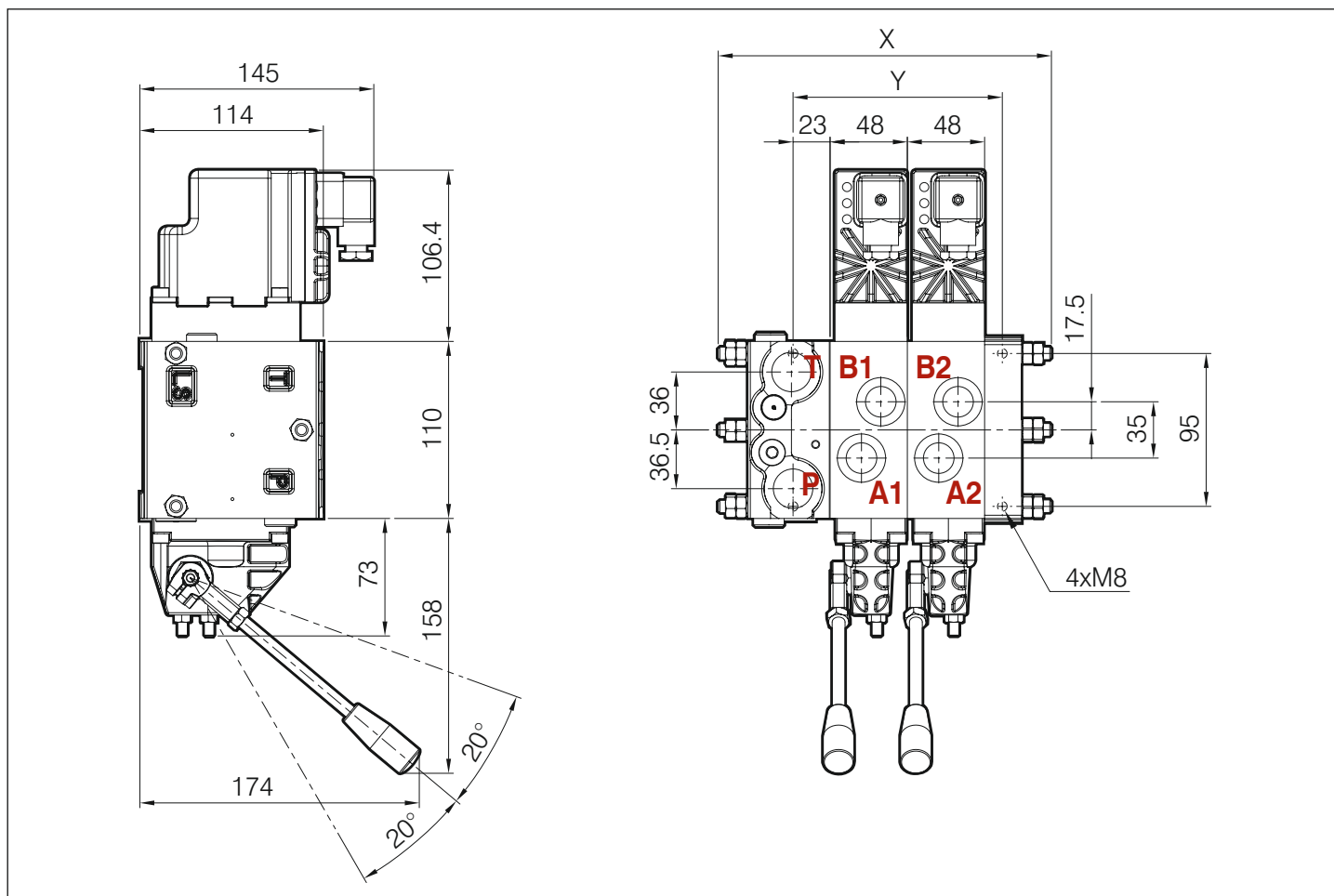


Oil Flow rated	P	140 L/min
Max. pressure	P	350 bar
	A/B	350 bar
	T	40 bar
Max. Internal leakage (Pressure 100 Bar Oil temperature 50°C)	A/B	18 cm ³ /min
Oil temperature		from -20°C~90°C
Oil viscosity	Operating range	from 15 mm ² /s ~ 75 mm ² /s
	Min.	12 mm ² /s
	Max.	400 mm ² /s
Ambient temperature range		from -30°C~60°C
Max. contamination		23/19/16 (ISO 4406)
Filtration		10 μm

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



Unit Dimensions



Standard Threads

Port	Inlet P	A and B ports	Outlet T
BSP	G1/2, G3/4	G1/2	G3/4
UN-UNF	7/8-14 UNF (SAE10), 1" 1/16-12 UN (SAE12)	7/8-14 UNF (SAE10)	1" 1/16-12UN (SAE12)

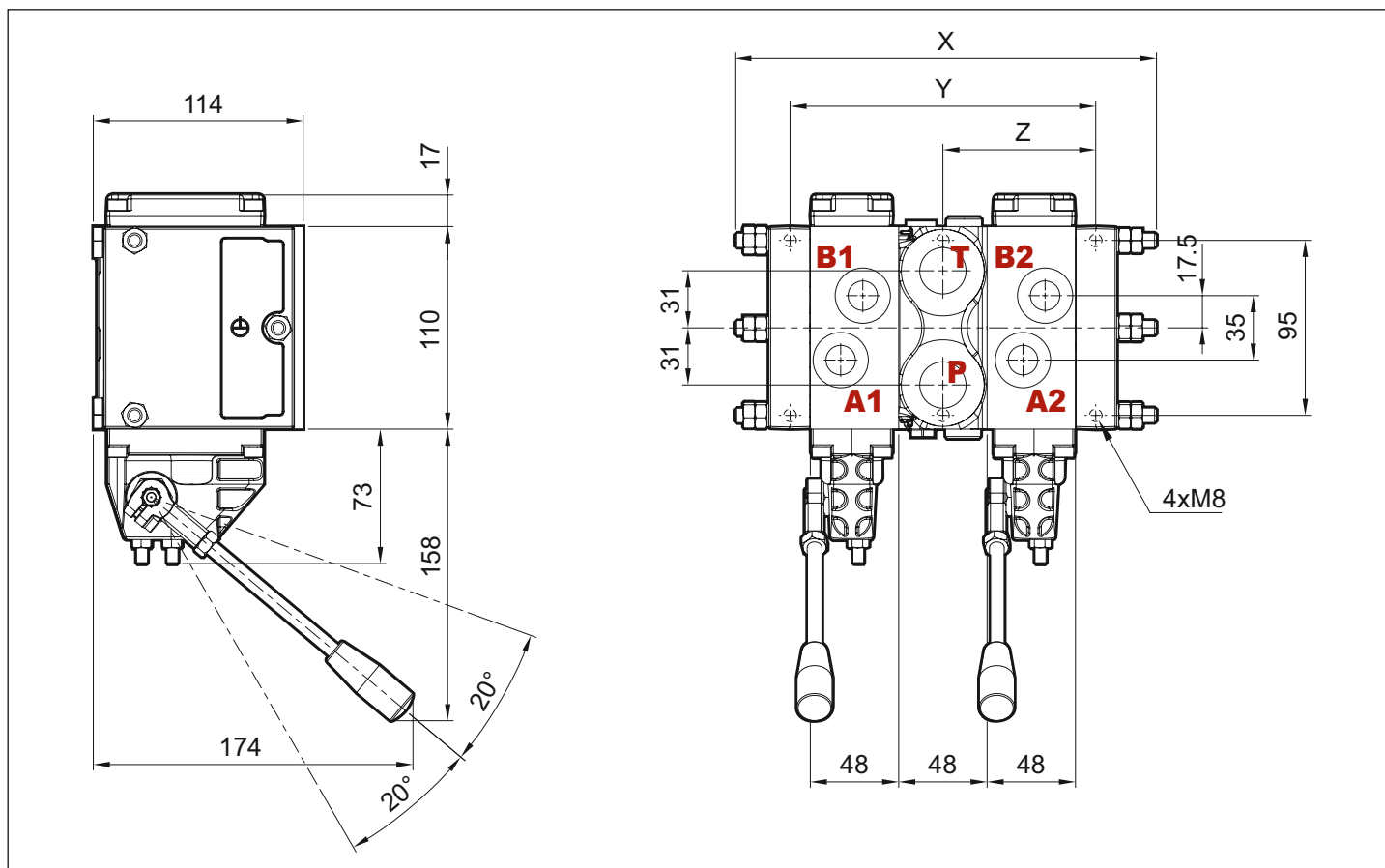
G1/2: G4, G3/4: G6
SAE10: E10, SAE12: E12

Standard Dimensions

Type	X mm	Y mm
PV4/1S	159	82
PV4/2S	207	130
PV4/3S	256	178
PV4/4S	305	226
PV4/5S	354	274
PV4/6S	403	322
PV4/7S	452	370
PV4/8S	501	418
PV4/9S	545	466
PV4/10S	594	514



Unit Dimensions



Standard Threads

Port	Inlet P	A and B ports	Outlet T
BSP	G1	G1/2	G1
UN-UNF	1" 5/16-12 UN (SAE16)	7/8-14 UNF (SAE10)	1" 5/16-12UN (SAE16)

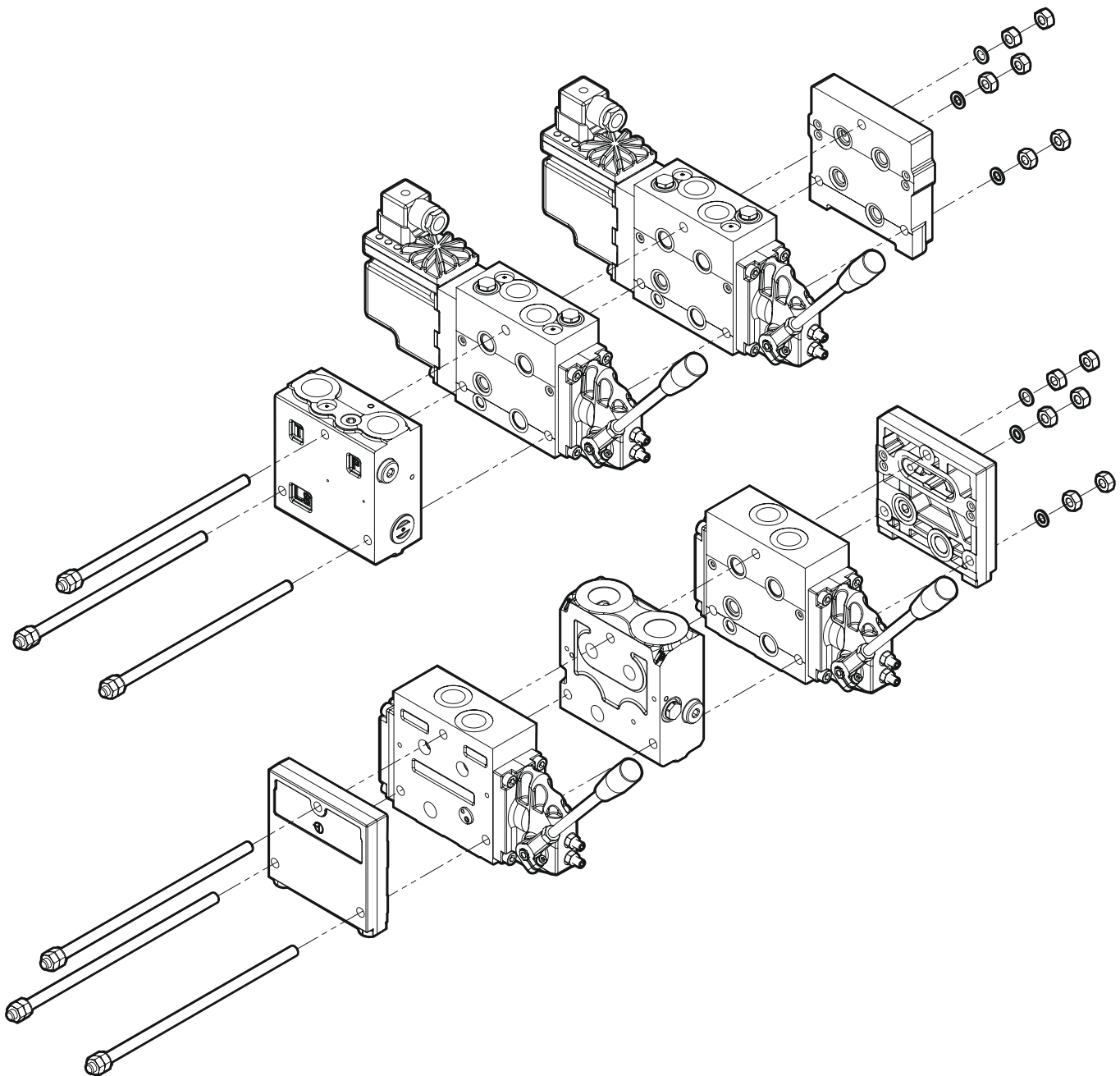
G1/2: G4, G1: G8
SAE10: E10, SAE16: E16

Standard Dimensions

Type	X mm	Y mm	Z mm
PV4/1S	181	116	83
PV4/2S	229	166	131
PV4/3S	278	214	179
PV4/4S	327	262	227
PV4/5S	376	310	275
PV4/6S	425	358	323
PV4/7S	474	406	371
PV4/8S	523	454	419
PV4/9S	567	502	467
PV4/10S	616	550	515

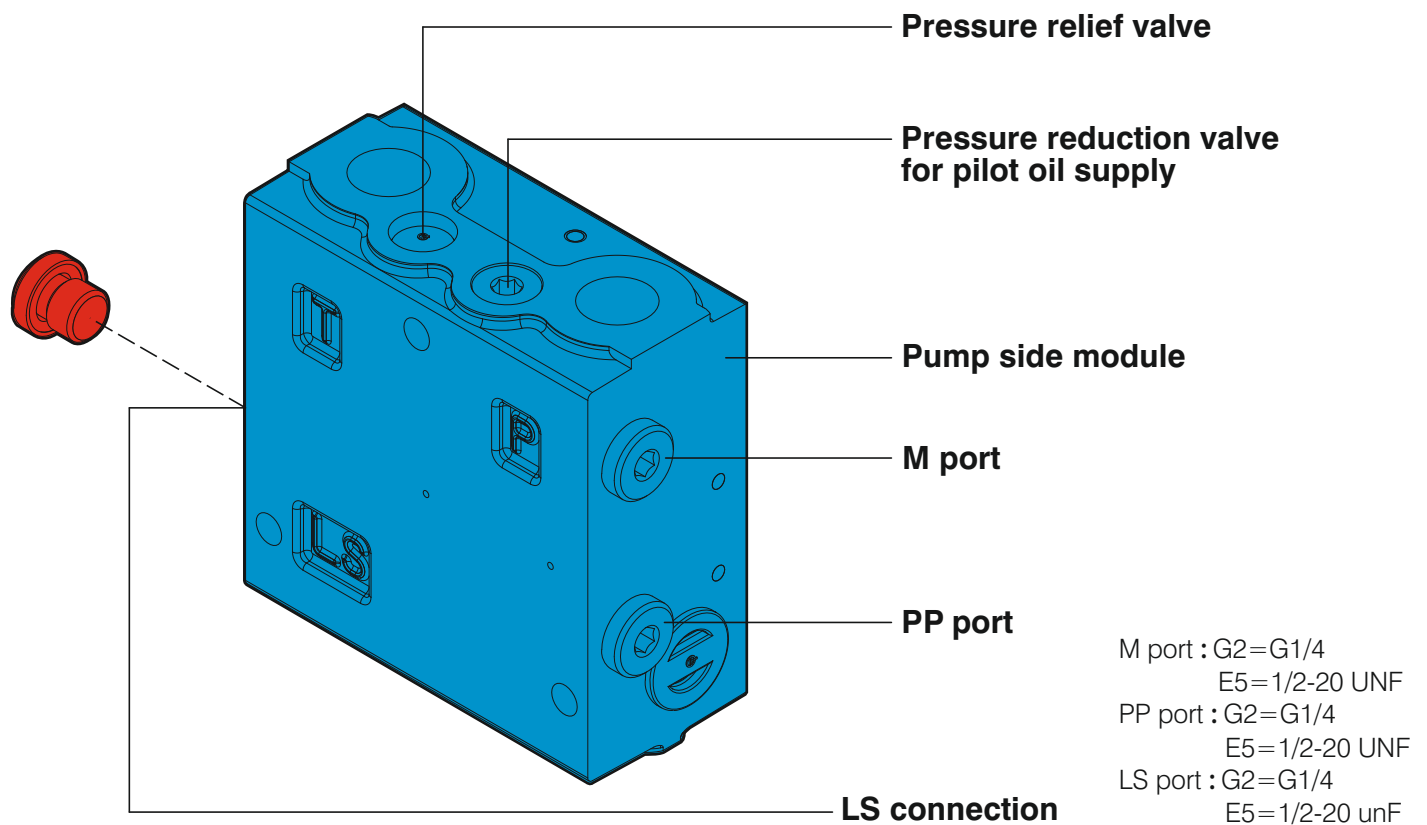
- PV-4 / *** / G646

PV-4 : Series Code
 *** : Reference code
 G646 : Thread code



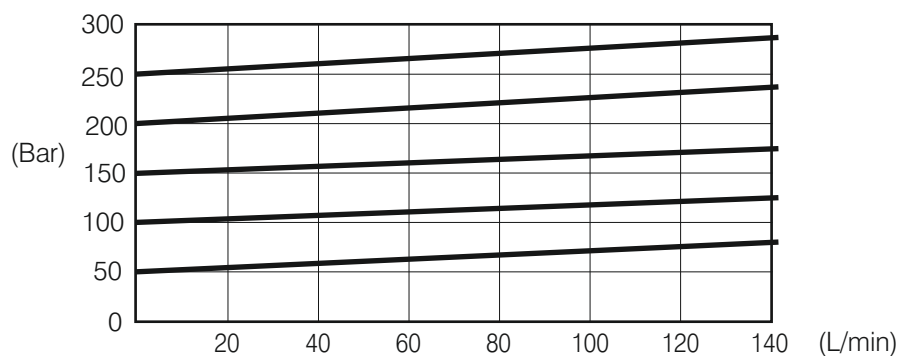


Pump Side module



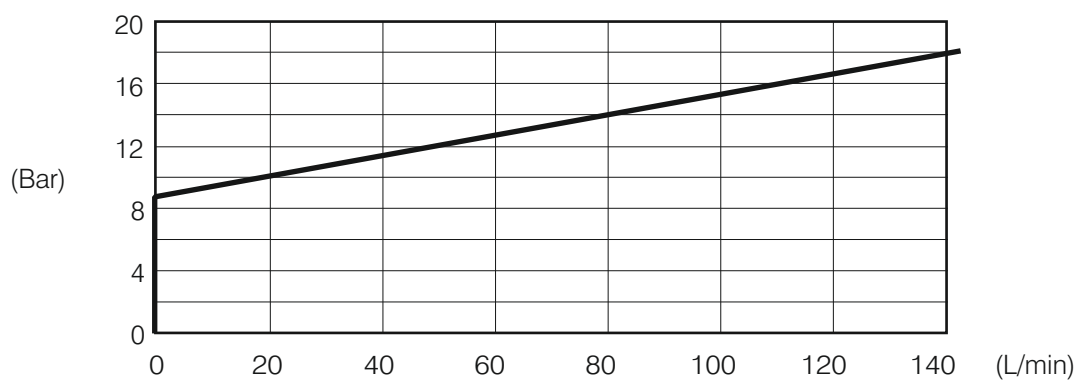
Parameter Analysis

Pressure relief Valve Characteristic



Initial Data

Pressure Flow Characteristics



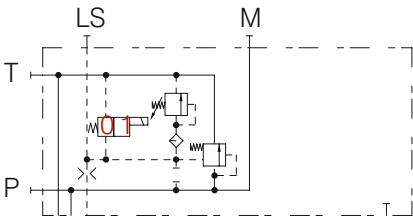
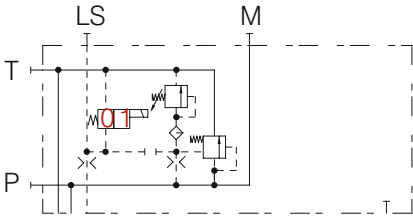
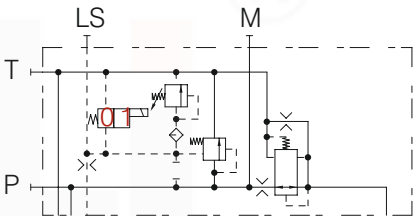
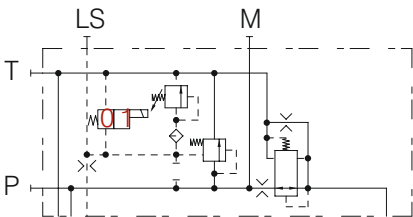
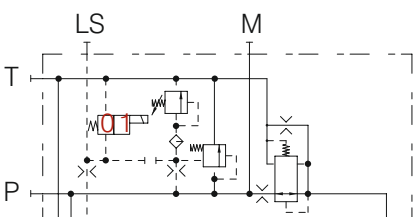


Pump Side Module Options

PV4P0101		
For mechanically actuated valves. open center pump side module for pumps with fixed displacement.	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		
For mechanically actuated valves. Closed center pump side module for pumps with variable displacement.	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		
open center pump side module for pumps with fixed displacement. With pilot oil supply for electrically actuated valves.	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	
PV4P0102h		
open center pump side module for pumps with fixed displacement. With pilot oil supply for electrically actuated valves. (H: For higher pressure)	PV4P0102H-G4 P port: G1/2 PV4P0102H-E10 P port: 7/8-14UNF PV4P0102H-G6 P port: G3/4 PV4P0102H-E12 P port: 1-1/16UN	
PV4P0202		
Closed center pump side module for pumps with variable displacement. With pilot oil supply for electrically actuated valves.	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	
PV4P0202h		
Closed center pump side module for pumps with variable displacement. With pilot oil supply for electrically actuated valves. (H: For higher pressure)	PV4P0202H-G4 P port: G1/2 PV4P0202H-E10 P port: 7/8-14UNF PV4P0202H-G6 P port: G3/4 PV4P0202H-E12 P port: 1-1/16UN	



Pump Side Module Options

PV4P0103			
For mechanically actuated valves. Connection for LS unloading valves. open center pump side module for pumps with fixed displacement.	PV4P0103-G4	P port: G1/2	
	PV4P0103-E10	P port: 7/8-14UNF	
	PV4P0103-G6	P port: G3/4	
	PV4P0103-E12	P port: 1-1/16UN	
PV4P0203			
For mechanically actuated valves. Connection for LS unloading valves. Closed center pump side module for pumps with variable displacement.	PV4P0203-G4	P port: G1/2	
	PV4P0203-E10	P port: 7/8-14UNF	
	PV4P0203-G6	P port: G3/4	
	PV4P0203-E12	P port: 1-1/16UN	
PV4P0104			
Connection for electrical LS unloading valves. open center pump side module for pumps with fixed displacement. With pilot oil supply for electrically actuated valves.	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	
PV4P0104h			
Connection for electrical LS unloading valve. open center pump side module for pumps with fixed displacement. With pilot oil supply for electrically actuated valves. (H: For higher pressure)	PV4P0104H-G4	P port: G1/2	
	PV4P0104H-E10	P port: 7/8-14UNF	
	PV4P0104H-G6	P port: G3/4	
	PV4P0104H-E12	P port: 1-1/16UN	
PV4P0204			
Connection for electrical LS unloading valves. Closed center pump side module for pumps with variable displacement. With pilot oil supply for electrically actuated valves.	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	



Pump Side Module Options

PV4P0204h		
Close center pump side module for pumps with variable displacement. With pilot oil supply for electrically actuated valves. (H: For higher pressure) Connection for electrical LS unloading valve.	PV4P0204H-G4 P port: G1/2 PV4P0204H-E10 P port: 7/8-14UNF PV4P0204H-G6 P port: G3/4 PV4P0204H-E12 P port: 1-1/16UN	
PV4P0105		
With pilot oil supply for electrically actuated and connection for pilot oil pressure. open center pump side module for pumps with fixed displacement.	PV4P0105-G4 P port: G1/2 PV4P0105-E10 P port: 7/8-14UNF PV4P0105-G6 P port: G3/4 PV4P0105-E12 P port: 1-1/16UN	
PV4P0105h		
open center pump side module for pumps with fixed displacement. With pilot oil supply for electrically actuated and connection for pilot oil pressure. (H: For higher pressure)	PV4P0105H-G4 P port: G1/2 PV4P0105H-E10 P port: 7/8-14UNF PV4P0105H-G6 P port: G3/4 PV4P0105H-E12 P port: 1-1/16UN	
PV4P0205		
With pilot oil supply for electrically actuated and connection for pilot oil pressure. Closed center pump side module for pumps with variable displacement.	PV4P0205-G4 P port: G1/2 PV4P0205-E10 P port: 7/8-14UNF PV4P0205-G6 P port: G3/4 PV4P0205-E12 P port: 1-1/16UN	
PV4P0205h		
Close center pump side module for pumps with variable displacement. With pilot oil supply for electrically actuated and connection for pilot oil pressure. (H: For higher pressure)	PV4P0205H-G4 P port: G1/2 PV4P0205H-E10 P port: 7/8-14UNF PV4P0205H-G6 P port: G3/4 PV4P0205H-E12 P port: 1-1/16UN	



Pump Side Module Options

PV4P0106H

open center pump side module for pumps with fixed displacement.

With pilot oil supply for hydraulic actuated and connection for pilot oil pressure. (H: For higher pressure)

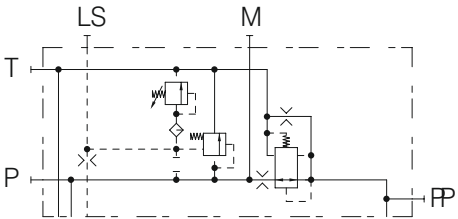
Can connect with hydraulic pilot linear operation type JhP.

PV4P0106H-G4 P port: G1/2

PV4P0106H-E10 P port: 7/8-14UNF

PV4P0106H-G6 P port: G3/4

PV4P0106H-E12 P port: 1-1/16UN



PV4P0206H

Close center pump side module for pumps with variable displacement.

With pilot oil supply for hydraulic actuated and connection for pilot oil pressure. (H: For higher pressure)

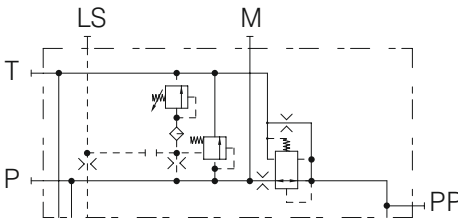
Can connect with hydraulic pilot linear operation type JhP.

PV4P0206H-G4 P port: G1/2

PV4P0206H-E10 P port: 7/8-14UNF

PV4P0206H-G6 P port: G3/4

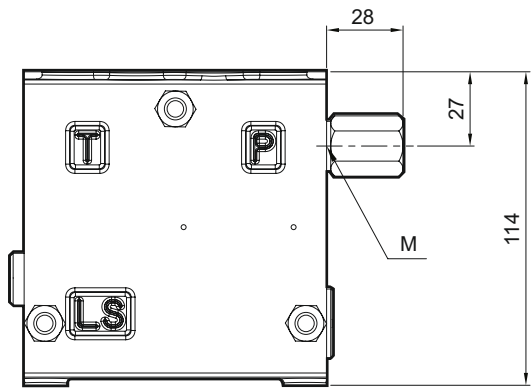
PV4P0206H-E12 P port: 1-1/16UN





Plug For External Pilot Oil Supply

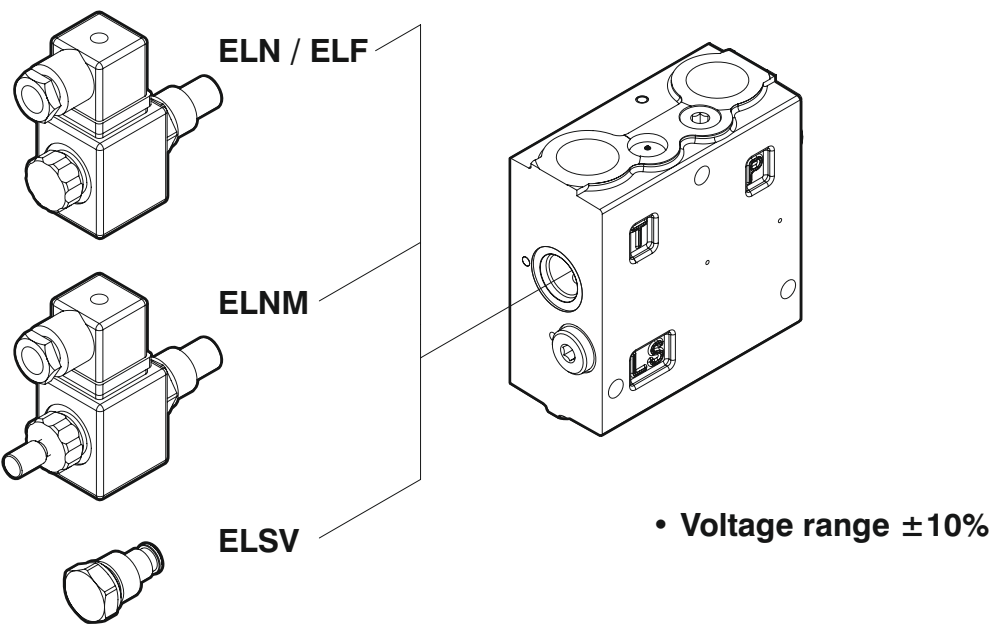
Dimensions

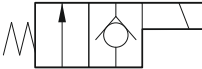
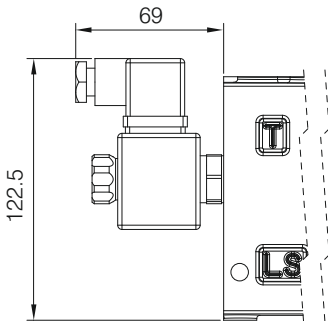
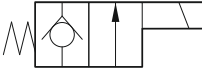
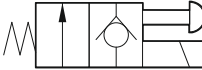
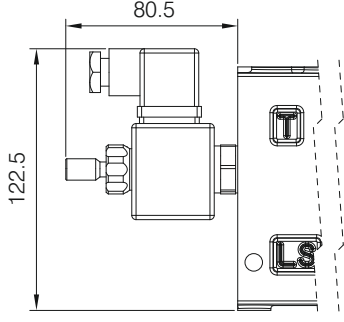
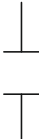
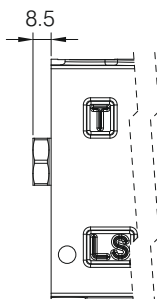


Code		Symbol
PoG	Thread Code : G1/4	Plug for external pilot oil supply, it's suitable for fixed displacement or variable displacement.
Poe	Thread Code : 1/2-20 UNF	
Code		Symbol
PCG	Thread Code : G1/4	Plug for external pilot oil supply with check valve. It's suitable for fixed displacement.
PCe	Thread Code : 1/2-20 UNF	
Application Circuit		
PV4-Po		PV4-PC
Used when a manual emergency pump is required. When main pump failure, using manual emergency pump with PV handle.		Without using the pump flow to control the solenoid valve. Used the hydraulic pressure drop to provide solenoid valve oil source.



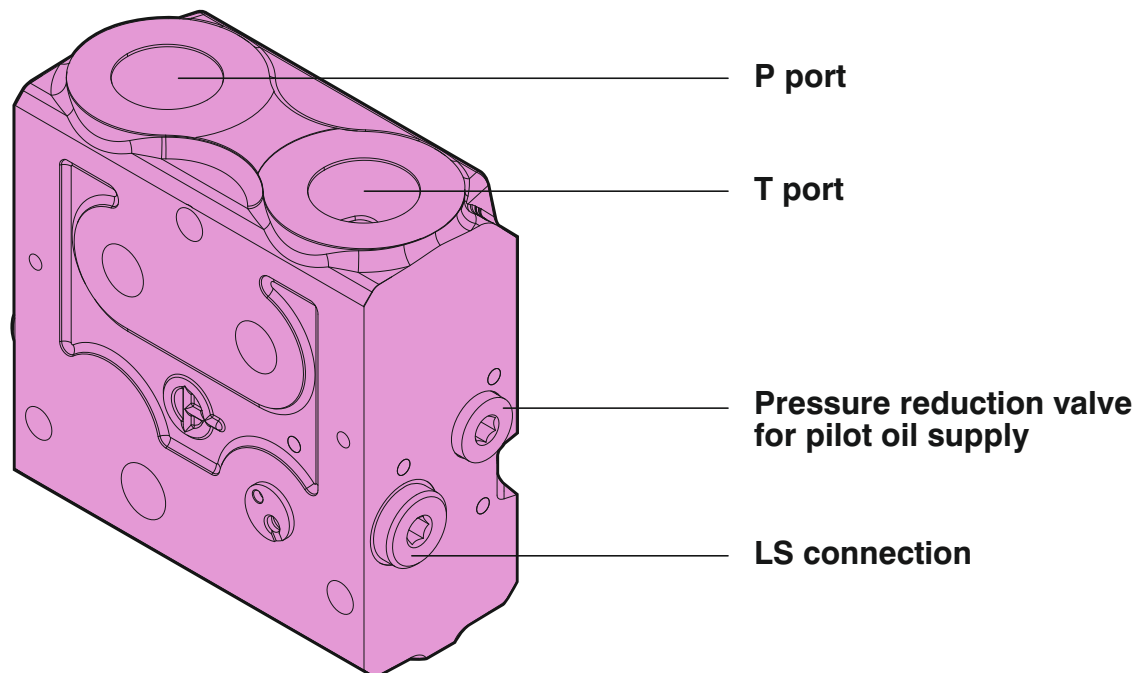
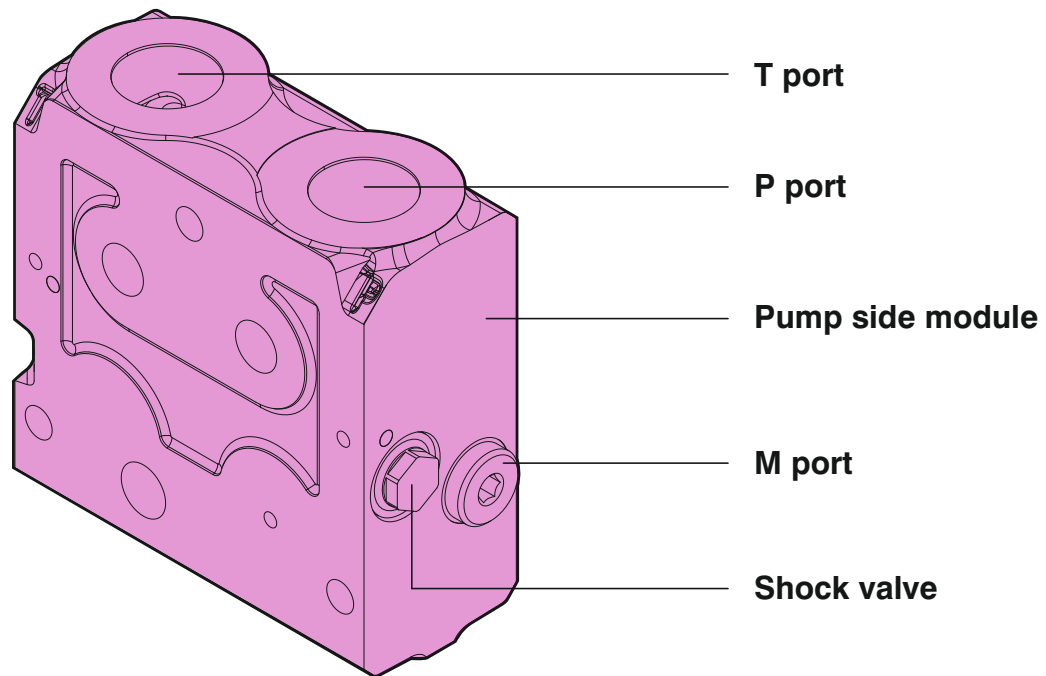
LS Solenoid Unloading Valve LS



Code	Symbol	dimension
ELN12 Rated Voltage : 12VDC Resistance : $7.5\Omega\pm7\%$	Normally Open (NO) 	
ELN24 Rated Voltage : 24VDC Resistance : $28.6\Omega\pm7\%$		
ELN12 Rated Voltage : 12VDC Resistance : $7.5\Omega\pm7\%$	Normally Closed (NC) 	
ELN24 Rated Voltage : 24VDC Resistance : $28.6\Omega\pm7\%$		
ELNM12 Rated Voltage : 12VDC Resistance : $7.5\Omega\pm7\%$	Emergency button for Normally Open (NO) 	
ELNM24 Rated Voltage : 24VDC Resistance : $28.6\Omega\pm7\%$		
ELSV	Plug 	



Pump Side Module_03



M port □: G2=G1/4
E5=1/2-20 unF

LS port □: G2=G1/4
E5=1/2-20 unF



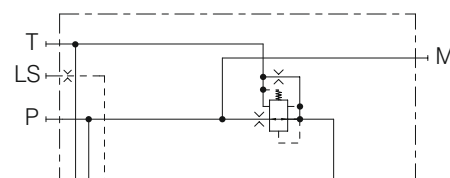
Pump Side Module 03 options

PV4P0301

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.

PV4P0301-G8 P, T port: G1
PV4P0301-E16 P, T port: 1-5/16UN



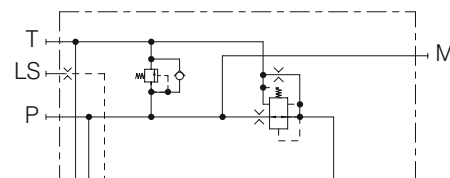
PV4P0302

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.

With u63 shock valve.

PV4P0302-G8 P, T port: G1
PV4P0302-E16 P, T port: 1-5/16UN

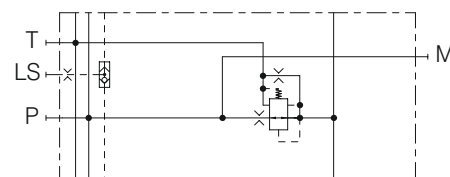


PV4P0303

The rated max spool oil flow 230 L/min.

Closed center pump side module for pumps with variable displacement, with pilot oil supply for electrical actuation (Mid inlet).

PV4P0303-G8 P, T port: G1
PV4P0303-E16 P, T port: 1-5/16UN



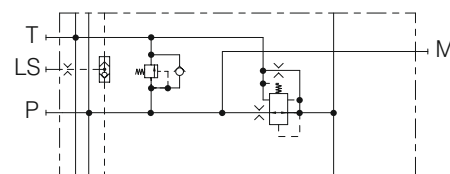
PV4P0304

The rated max spool oil flow 230 L/min.

Closed center pump side module for pumps with variable displacement, with pilot oil supply for electrical actuation (Mid inlet).

With u63 shock valve.

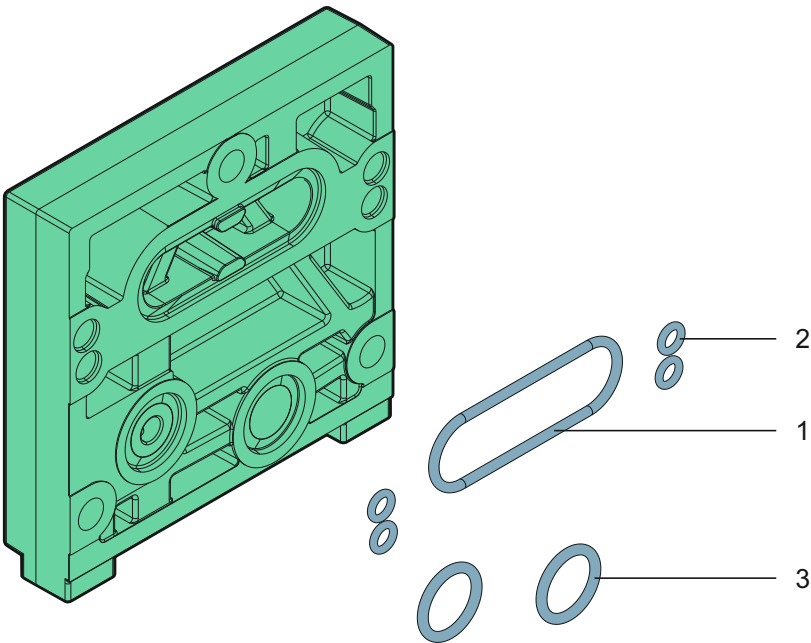
PV4P0304-G8 P, T port: G1
PV4P0304-E16 P, T port: 1-5/16UN



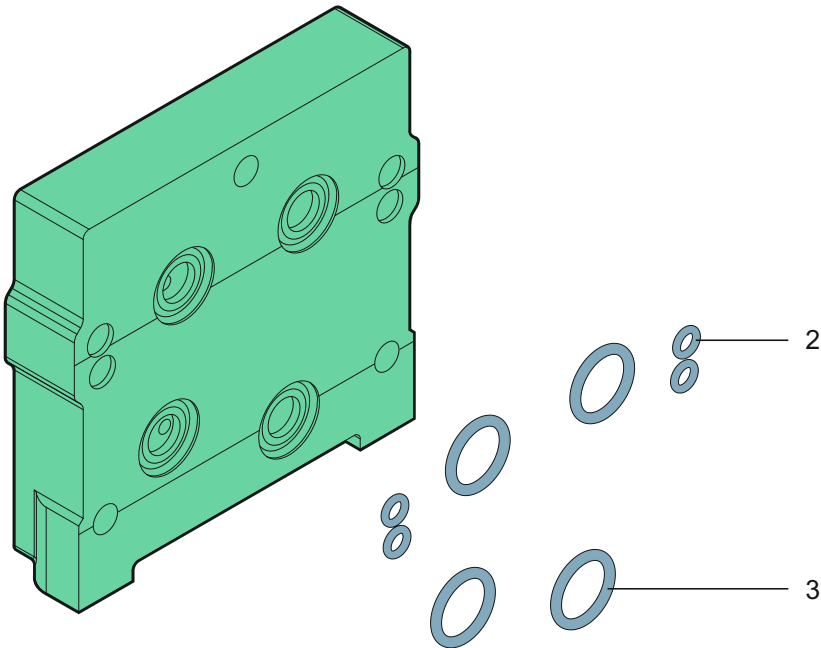


End Plate

Aluminum Casting:



iron Casting:



item	Code	Aluminum Casting	iron Casting
1	PVORN-001	1	
2	OR-00502	4	4
3	AS114	2	4



End Plate Options

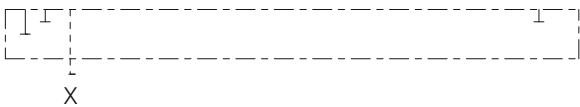
PV4C0101

Aluminum Casting, No connection.
Max. pressure: 300 bar (4351 psi).



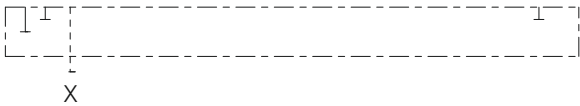
PV4C0102

Aluminum casting, LS G1/8 X port for external connection.
Max. pressure: 250 bar (3625 psi).



PV4C0103

Aluminum casting, LS 3/8-24 UNF X port for external connection
Max. pressure: 250 bar (3625 psi).



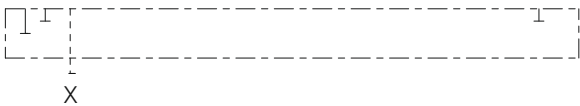
PV4C0201

Iron casting, No external connection.
Max. pressure: 350 bar (5075 psi).



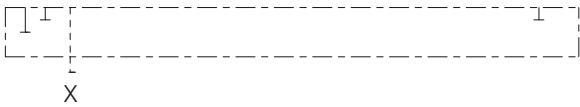
PV4C0202

Iron casting, LS G1/4 X port for external connection.
Max. pressure: 350 bar (5075 psi).



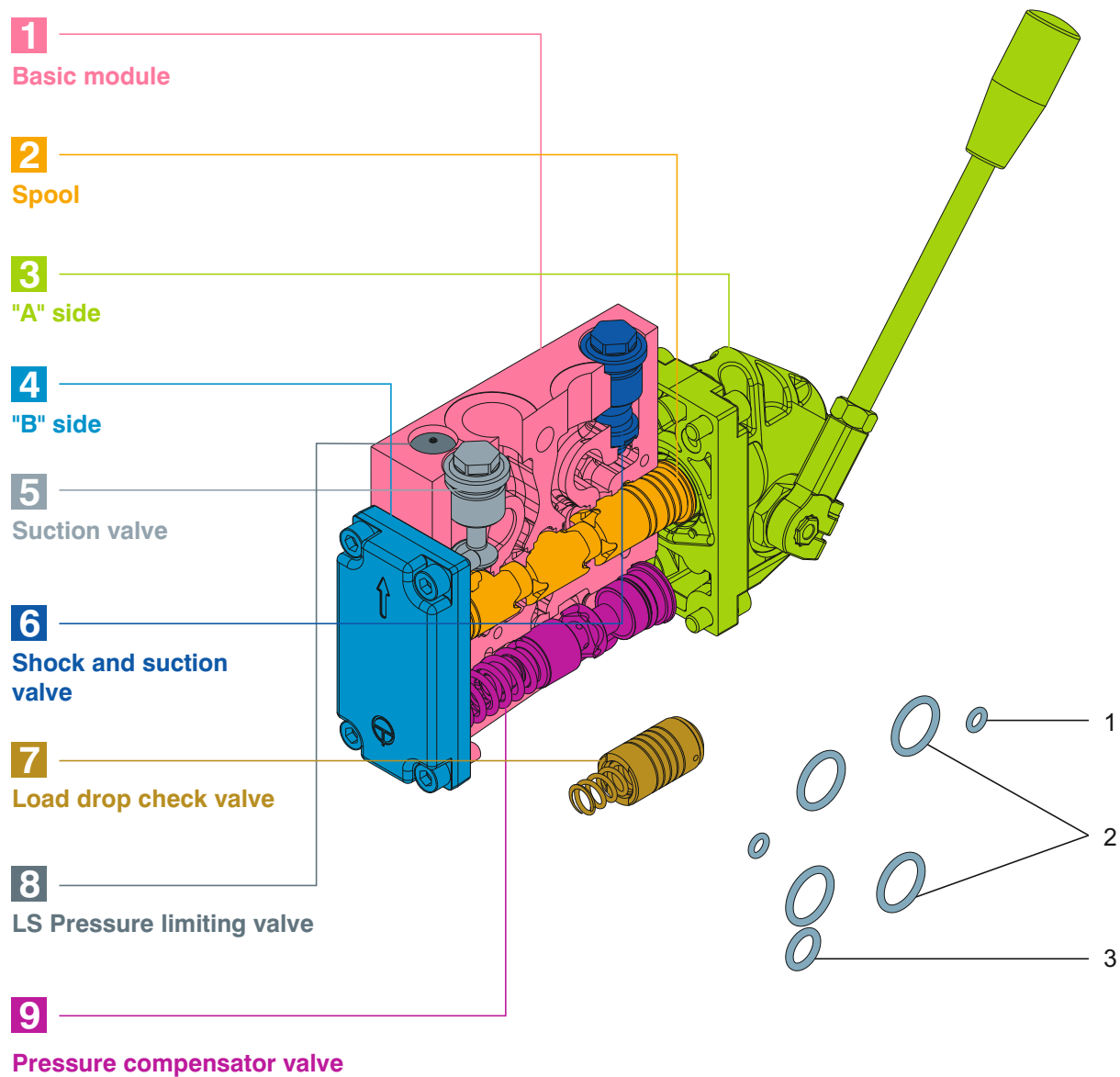
PV4C0203

Iron casting, LS 1/2-20 UNF X port for external connection.
Max. pressure: 350 bar (5075 psi).





Basic Module



Seal For Basic Module

item	Code	Q'Ty
1	OR-00502	2
2	P16	4
3	P10A	1

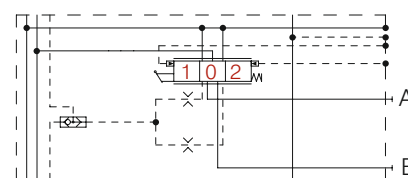


Basic Module Options

PV4V01

Without load drop check valve and pressure compensated valve.

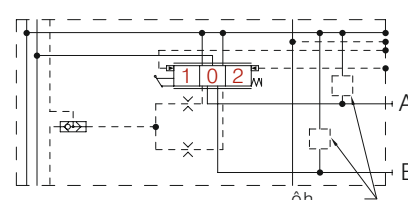
PV4V01-G4 AB port: G1/2
PV4V01-E10 AB port: 7/8-14UNF



PV4V01u

With ports for suction valve or shock and suction valve.
Without load drop check valve and pressure compensated valve.

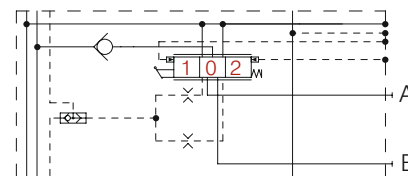
PV4V01U-G4 AB port: G1/2
PV4V01U-E10 AB port: 7/8-14UNF



PV4V02

With load drop check valve.

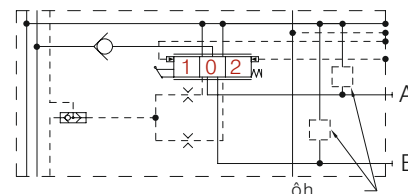
PV4V02-G4 AB port: G1/2
PV4V02-E10 AB port: 7/8-14UNF



PV4V02u

With ports for suction valve or shock and suction valve. With load drop check valve.

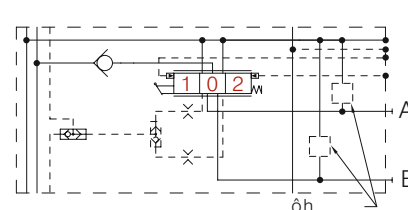
PV4V02U-G4 AB port: G1/2
PV4V02U-E10 AB port: 7/8-14UNF



PV4V03u

With ports for suction valve or shock and suction valve.
With load drop check valve, LS A/B shuttle valve.

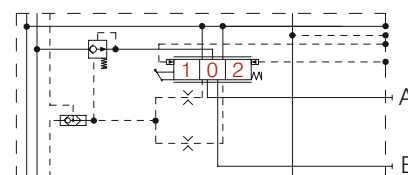
PV4V03U-G4 AB port: G1/2
PV4V03U-E10 AB port: 7/8-14UNF



PV4V04

With non-damped pressure compensated valve.

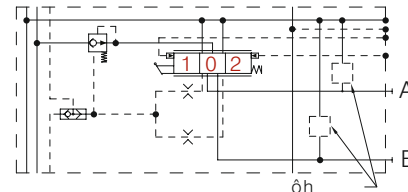
PV4V04-G4 AB port: G1/2
PV4V04-E10 AB port: 7/8-14UNF



PV4V04u

With ports for suction valve or shock and suction valve. With non-damped pressure compensated valve.

PV4V04U-G4 AB port: G1/2
PV4V04U-E10 AB port: 7/8-14UNF



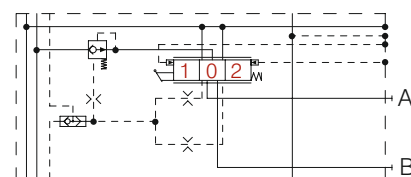


Basic Module Options

PV4V05

With damped pressure compensated valve.

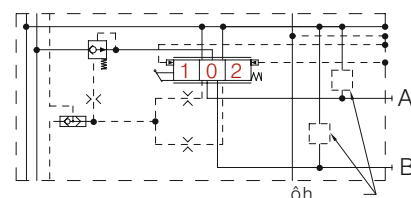
PV4V05-G4 AB port: G1/2
PV4V05-E10 AB port: 7/8-14UNF



PV4V05u

With ports for suction valve or shock and suction valve.
With damped pressure compensated valve.

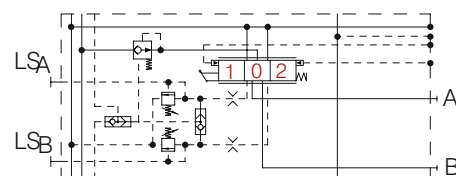
PV4V05U-G4 AB port: G1/2
PV4V05U-E10 AB port: 7/8-14UNF



PV4V06

Adjustable LS A/B pressure relief valve. With non-damped pressure compensated valve.

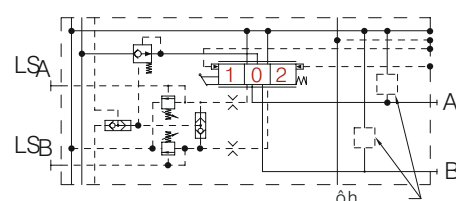
PV4V06-G4 AB port: G1/2
PV4V06-E10 AB port: 7/8-14UNF



PV4V06u

Adjustable LS A/B pressure relief valve. With non-damped pressure compensated valve
With ports for suction valve or shock and suction valve.

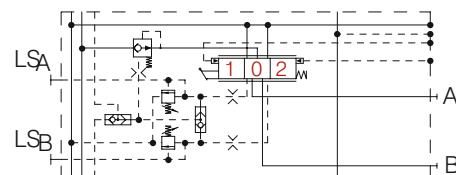
PV4V06U-G4 AB port: G1/2
PV4V06U-E10 AB port: 7/8-14UNF



PV4V07

Adjustable LS A/B pressure relief valve. With damped pressure compensated valve.

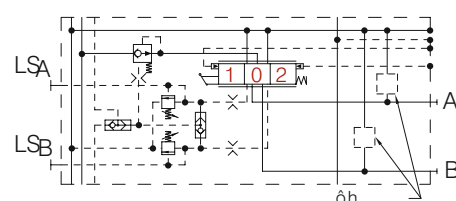
PV4V07-G4 AB port: G1/2
PV4V07-E10 AB port: 7/8-14UNF



PV4V07U

Adjustable LS A/B pressure relief valve. With damped pressure compensated valve.
With ports for suction valve or shock and suction valve.

PV4V07U-G4 AB port: G1/2
PV4V07U-E10 AB port: 7/8-14UNF



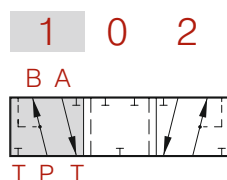


Flow Control Spools

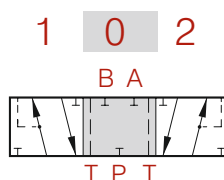
YLWPV42 01 ***

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

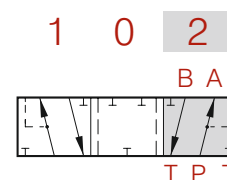
YLWPV42 01 *****



P → B
A → T



P & T & A & B
Closed



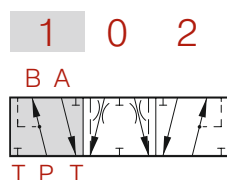
P → A
B → T

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	

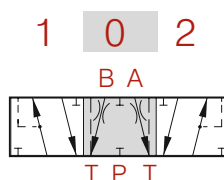
YLWPV42 02 ***

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

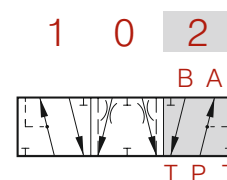
YLWPV42 02 *****



P → B
A → T



A & B → T
P Closed



P → A
B → T

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	

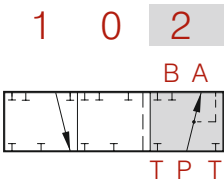


Flow Control Spools

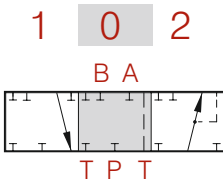
YLWPV42 03 ***

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

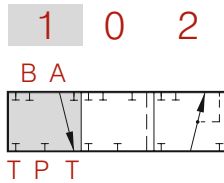
YLWPV42 03 *****



P → A



P & T & A & B
Closed



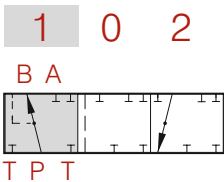
A → T

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

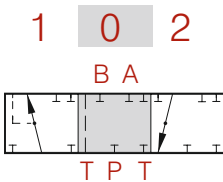
YLWPV42 04 ***

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

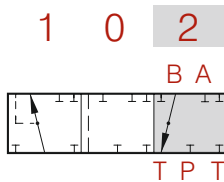
YLWPV42 04 *****



P → B



P & T & A & B
Closed



B → T

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

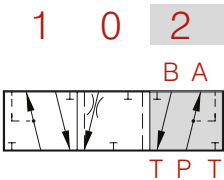


Flow Control Spools

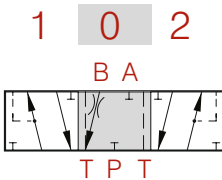
YLWPV42 05 ***

05 Spool circuit Spool flow AB Shuttle valve FD Friction detent HA Hydraulic actuation

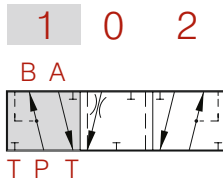
YLWPV42 05 *****



P → A
B → T



B → T
P Closed



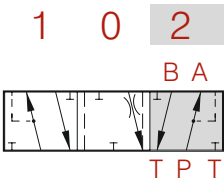
P → B
A → T

Flow	25 (L/min)	40 (L/min)	65 (L/min)	100 (L/min)	130 (L/min)
Code	YLWPV4205025	YLWPV4205040	YLWPV4205065	YLWPV4205100	YLWPV4205130
	YLWPV4205025AB	YLWPV4205040AB	YLWPV4205065AB	YLWPV4205100AB	

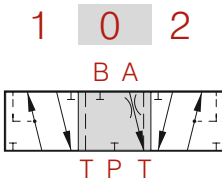
YLWPV42 06 ***

06 Spool circuit Spool flow AB Shuttle valve FD Friction detent HA Hydraulic actuation

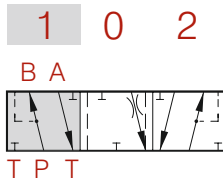
YLWPV42 06 *****



P → A
B → T



A → T
P Closed



P → B
A → T

Flow	25 (L/min)	40 (L/min)	65 (L/min)	100 (L/min)	130 (L/min)
Code	YLWPV4206025	YLWPV4206040	YLWPV4206065	YLWPV4206100	YLWPV4206130
	YLWPV4206025AB	YLWPV4206040AB	YLWPV4206065AB	YLWPV4206100AB	



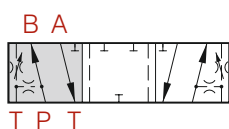
Pressure Control Spools

YLWPV42 C19 ***

C19 Spool circuit Spool flow AB Shuttle valve FD Friction detent HA Hydraulic actuation

YLWPV42 C19 *****

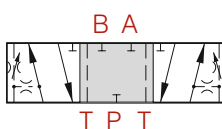
1 0 2



P → B

A → T

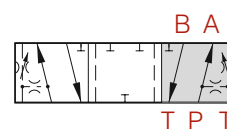
1 0 2



P & T & A & B

Closed

1 0 2



P → A

B → T

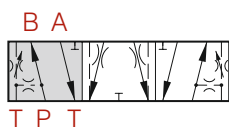
Flow	5 (L/min)	10 (L/min)	25 (L/min)	40 (L/min)	65 (L/min)	100 (L/min)
Code	YLWPV42C19005	YLWPV42C19010	YLWPV42C19025	YLWPV42C19040	YLWPV42C19065	
	YLWPV42C19005AB	YLWPV42C19010AB	YLWPV42C19025AB	YLWPV42C19040AB	YLWPV42C19065AB	

YLWPV42 C20 ***

C20 Spool circuit Spool flow AB Shuttle valve FD Friction detent HA Hydraulic actuation

YLWPV42 C20 *****

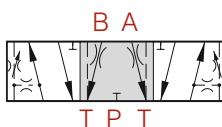
1 0 2



P → B

A → T

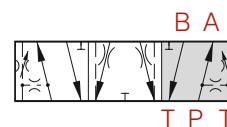
1 0 2



A & B → T

P Closed

1 0 2



P → A

B → T

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



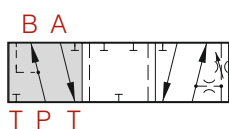
Pressure Control Spools

YLWPV42 A21 ***

A21 Spool circuit Spool flow AB Shuttle valve FD Friction detent HA Hydraulic actuation

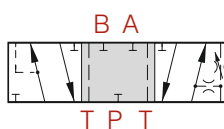
YLWPV42 A21 *****

1 0 2



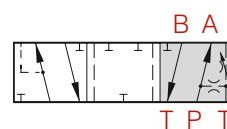
P → B
A → T

1 0 2



P & T & A & B
Closed

1 0 2



P → A
B → T

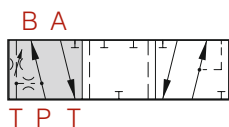
Flow	5 (L/min)	10 (L/min)	25 (L/min)	40 (L/min)	65 (L/min)	100 (L/min)
Code		YLWPV42A21010	YLWPV42A21025	YLWPV42A21040	YLWPV42A21065	YLWPV42A21100
			YLWPV42A21025AB	YLWPV42A21040AB	YLWPV42A21065AB	YLWPV42A21100AB

YLWPV42 B21 ***

B21 Spool circuit *** Spool flow AB Shuttle valve FD Friction detent HA Hydraulic actuation

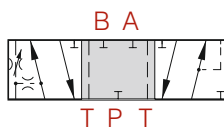
YLWPV42 B21 *****

1 0 2



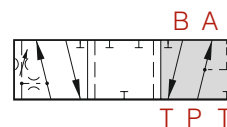
P → B
A → T

1 0 2



P & T & A & B
Closed

1 0 2



P → A
B → T

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
			YLWPV42B21025AB	YLWPV42B21040AB	YLWPV42B21065AB	YLWPV42B21100AB



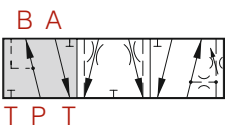
Pressure Control Spools

YLWPV42 A22 ***

A22 Spool circuit *** Spool flow AB Shuttle valve FD Friction detent HA Hydraulic actuation

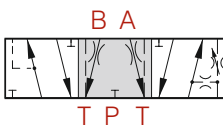
YLWPV42 A22 *****

1 0 2



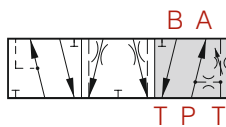
P → B
A → T

1 0 2



A & B → T
P Closed

1 0 2



P → A
B → T

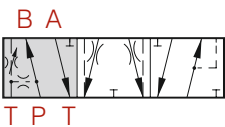
Flow	5 (L/min)	10 (L/min)	25 (L/min)	40 (L/min)	65 (L/min)	100 (L/min)
Code			YLWPV42A22025	YLWPV42A22040	YLWPV42A22065	YLWPV42A22100
			YLWPV42A22025AB	YLWPV42A22040AB	YLWPV42A22065AB	YLWPV42A22100AB

YLWPV42 B22 ***

B22 Spool circuit Spool flow AB Shuttle valve FD Friction detent HA Hydraulic actuation

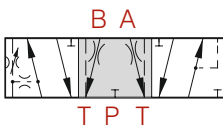
YLWPV42 B22 *****

1 0 2



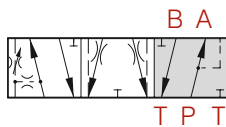
P → B
A → T

1 0 2



A & B → T
P Closed

1 0 2



P → A
B → T

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

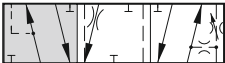
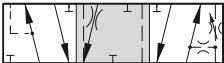
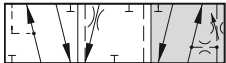


Pressure Control Spools

YLWPV42 A23 ***

A23 Spool circuit *** Spool flow AB Shuttle valve FD Friction detent HA Hydraulic actuation

YLWPV42 A23 *****

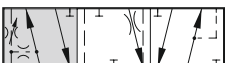
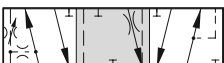
1 0 2 B A  T P T	1 0 2 B A  T P T	1 0 2 B A  T P T
P → B A → T	B → T P & A Closed	P → A B → T

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

YLWPV42 B23 ***

B23 Spool circuit *** Spool flow AB Shuttle valve FD Friction detent HA Hydraulic actuation

YLWPV42 B23 *****

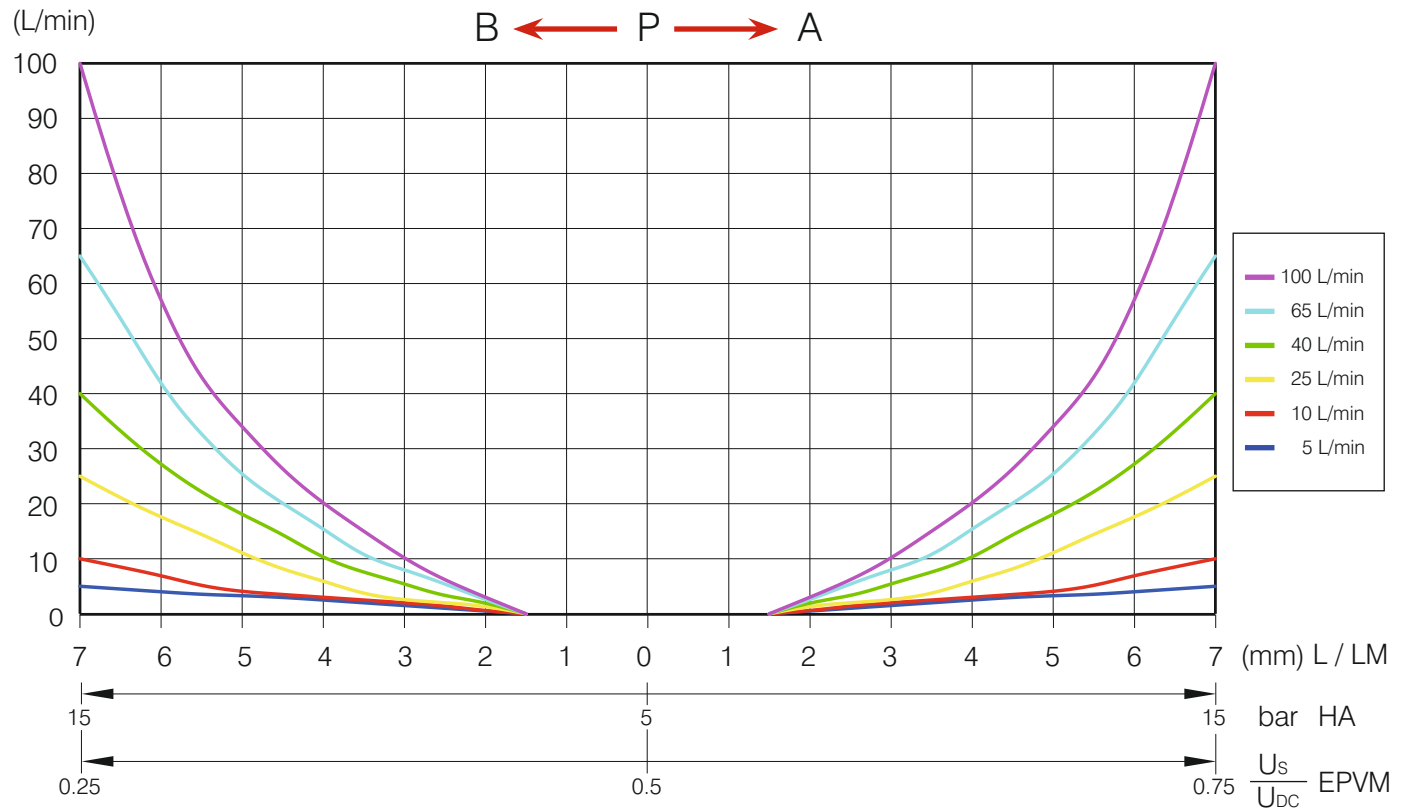
1 0 2 B A  T P T	1 0 2 B A  T P T	1 0 2 B A  T P T
P → B A → T	A → T P & B Closed	P → A B → T

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	



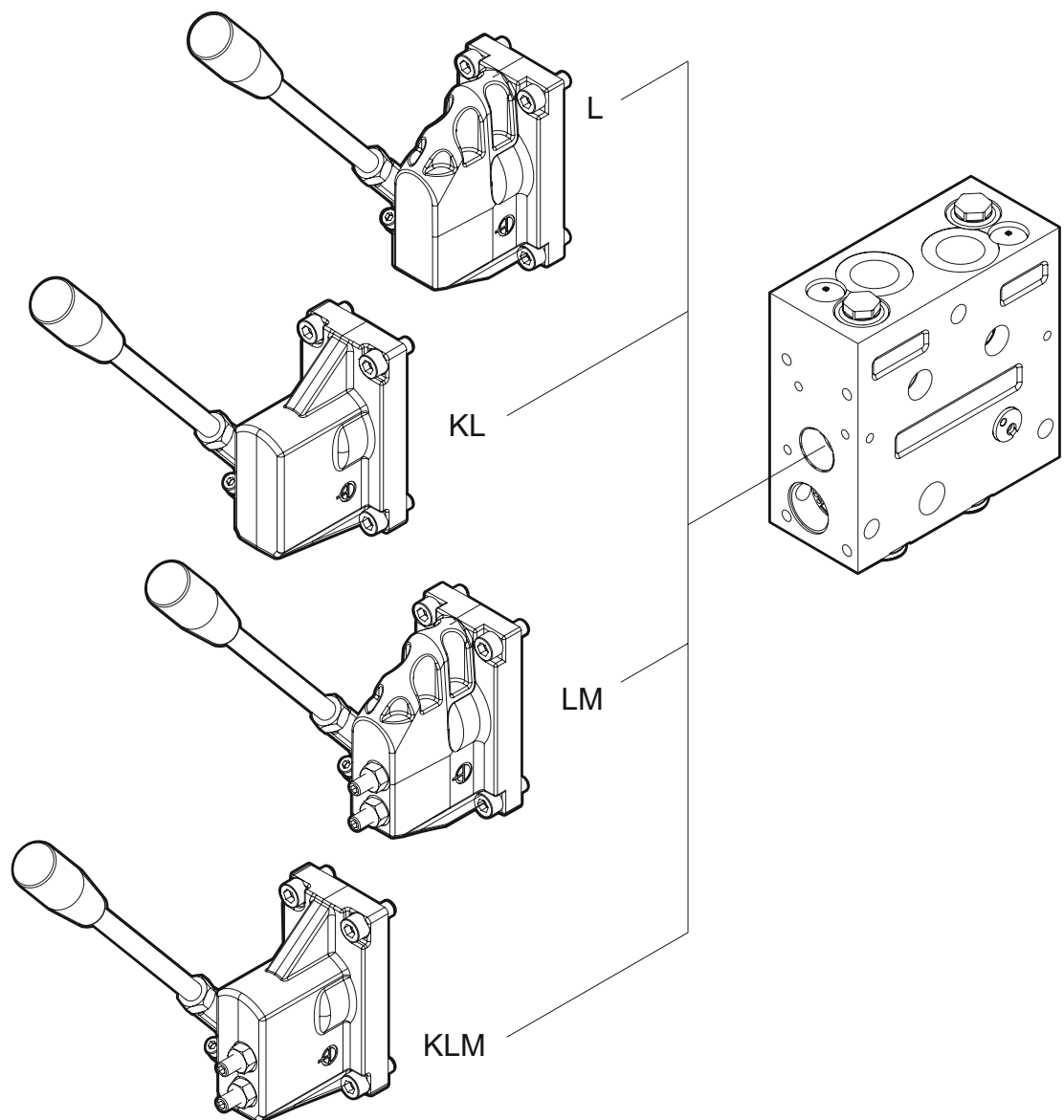
Progressive Oil Flow Characteristic For Spool

PV-4 Flow Curve





A Side Options



Code L	Circuit	Aluminum
Code KL		iron
Standard lever.		

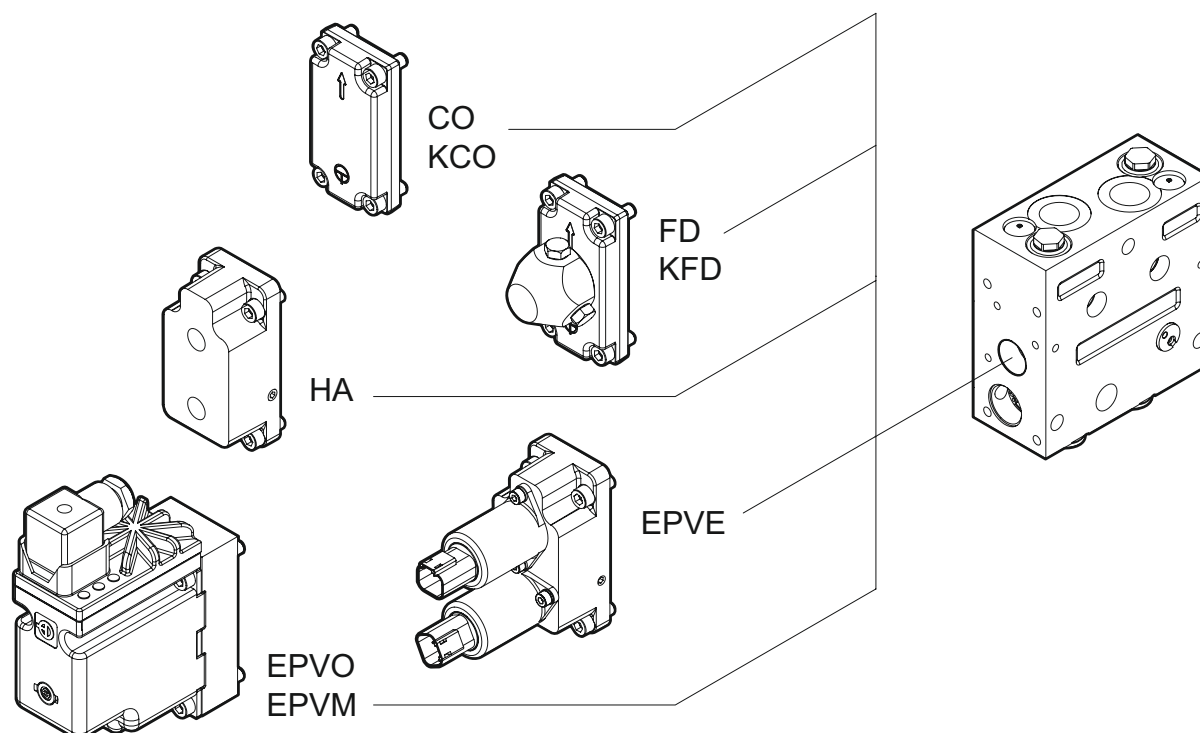


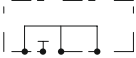
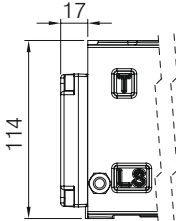
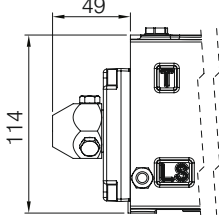
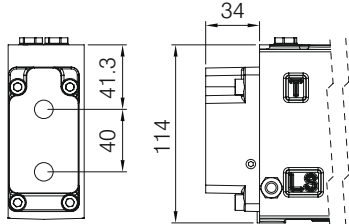
A Side Options

Code LM	Circuit	Aluminum
Code KLM		iron
Standard lever; individual oil flow adjustment to ports A and B.		
Code LN	Circuit	Aluminum
Code KLN		iron
With Standard lever box; without lever.		
Code LMN	Circuit	Aluminum
Code KLMN		iron
With standard lever box, without lever; With individual oil flow adjustment to ports A and B.		



B Side Options



Code CO	Symbol	Aluminum
Code KCO		iron
Standard cover.		
Code FD	Symbol	Aluminum
Code KFD		iron
Friction detent.		
Code HA-G2	Symbol	Thread Code : G1/4
Code HA-E6		Thread Code : 9/16-18 unF
Cover for hydraulic actuation to match hA spool. Control range: 5~15 Bar. This type can connect with JHP1 & JHP2.		



B Side Options

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 current amplifier card and a programmable micro-controller directly.

* Use with 25 bar pilot pressure, to match with HA spool, cannot combine to use EPVE with EPVO and EPVM.

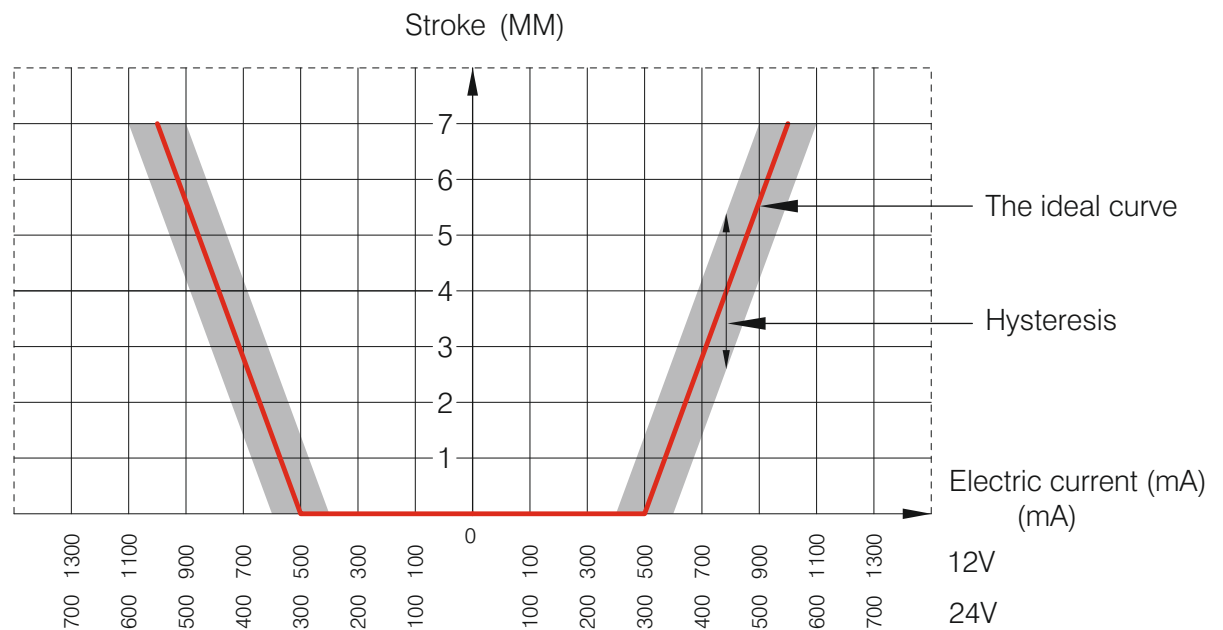
Code	description	Connector	Enclosure to IEC 529
EPVE-A1201	Proportional control, rated voltage 12V, standard type.	AMP	IP66
EPVE-A2401	Proportional control, rated voltage 24V, standard type.	AMP	IP66
EPVE-D1201	Proportional control, rated voltage 12V, standard type.	Deutsh	IP67
EPVE-D2401	Proportional control, rated voltage 24V, standard type.	Deutsh	IP67

Parameter	12V DC	24V DC
Controller output current range	0~1500 mA	0~750 mA
Resistance	4.72 $\Omega \pm 5\%$	20.8 $\Omega \pm 5\%$
Current consumption	24 mA (12V)	20 mA (24V)
Control type	Current control recommended: PWM 100 HZ	
Pilot pressure	Min. 21 bar { 305 psi } Max. 25 bar { 636 psi }	
Pressure control range	5~15 bar { 72.5~217.5 psi }	
Ambient temperature	-30°C~80°C { -22°F~176°F }	
Medium temperature	-20°C~80°C { -4°F~176°F }	
Oil Viscosity	Range: 12~75 mm ² /s { 65~350 SUS }	
	Min.: 4 mm ² /s { 40 SUS }	
	Max.: 400 mm ² /s { 2130 SUS }	
Filtering in the hydraulic system	Max. allowed degree of contamination (ISO 4406)	

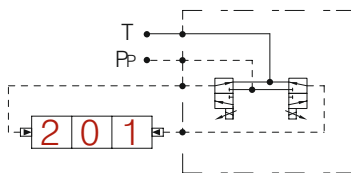


B Side Options - EPVE

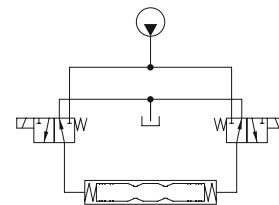
Performance Graphs



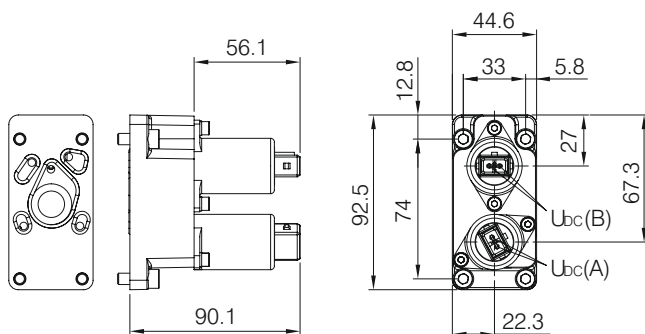
Circuit



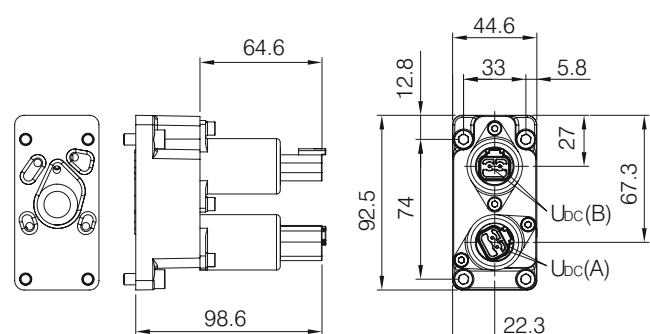
Function



Standard Type-AMP



Standard Type-deutsh

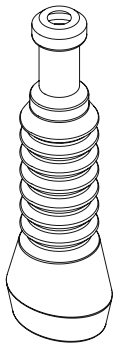




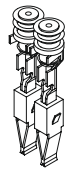
B Side Options - EPVE

AMP Connector Version AMP

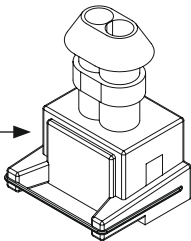
Description	QTY	AMP
Seal kit	1	880810-1



Description	QTY	AMP
Contacts	2	828905-1
Contacts	2	929930-3



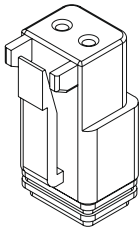
Description	QTY	AMP
Connector	1	282189-1



★ By Purchased (non-provided)

deutsch Connector Version deutsch

Description	QTY	AMP
Connector	1	W2S



★ By Purchased (non-provided)



B Side Options - EPVO

Function

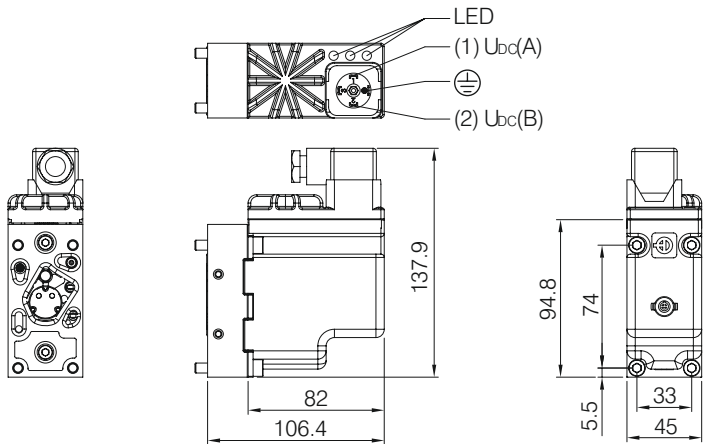
The main spool is controlled by ON/OFF modulated plug-in solenoid valve, reaction time from neutral position to max spool travel....Supply voltage range : 11~30V
Led signal indicator is optional.

Code	description	Connector	enclosure to IEC 529
EPVO-H0100	ON/OFF activated actuator connectors, no LED lights.	Hirschmann	IP65
EPVO-H0101	ON/OFF activated actuator connectors, with LED lights.	Hirschmann	IP65

Parameter	description	Parameter	description
Supply voltage (UDC)	11V~30V	Pilot pressure	Min. 10 bar { 145 psi }
Max. ripple	5 %		Max. 15 bar { 217.5 psi }
Ambient Temperature	-30°C~60°C { -22°F~140°F }	Filtering in the hydraulic system	Max. allowed degree of contamination (ISO 4406)
Oil temperature	Range 30°C~60°C { 86°F~140°F }	Oil Viscosity	Range 12~75 mm²/s { 65~350 SUS }
	Min. -30°C { -22°F }		Min. 4 mm²/s { 40 SUS }
	Max. 90°C { 194°F }		Max. 400 mm²/s { 2130 SUS }
Input resistance	15 kΩ	Power consumption	8.5 W

Circuit	Function

Standard Type-hirschmann



ON OFF	Neutral position	P → A	P → B
A (Pin 1)	0	Ubc	0
B (Pin 2)	0	0	Ubc
LED indicator	0	Blue	Yellow



B Side Options - 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. Supply voltage 12V DC & 24V DC, and it can options with LED light or not

Code	description 描述	Connector	enclosure to IEC 529
EPVM-H0110	Proportional valve, Voltage 12 VDC Without LED light.	Hirschmann	IP65
EPVM-H0111	Proportional valve, Voltage 12 VDC With LED light.	Hirschmann	IP65
EPVM-H0120	Proportional valve, Voltage 24 VDC Without LED light.	Hirschmann	IP65
EPVM-H0121	Proportional valve, Voltage 24 VDC With LED light.	Hirschmann	IP65

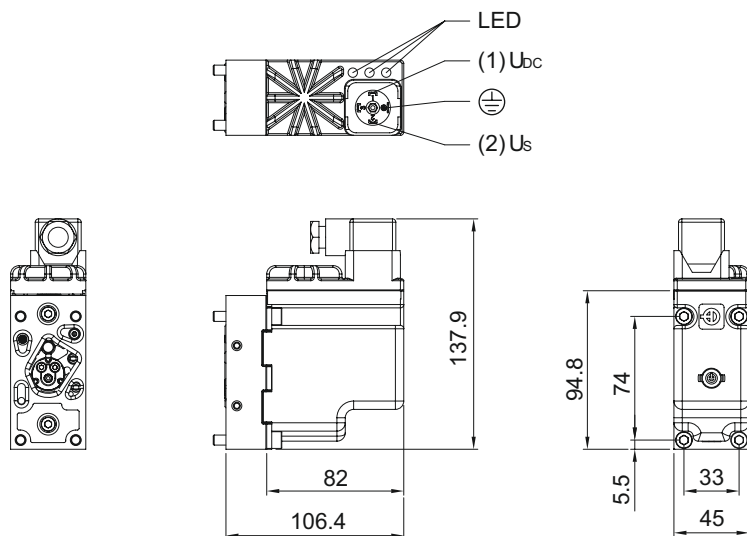
Parameter	description	12V dC	24V dC	Parameter	description
Supply voltage (UDC)	Rated	12V	24V	Ambient temperature	-30°C~60°C { -22°F~140°F }
	Range	11V~15V	22V~30V	Oil temperature	-30°C~90°C { -22°F~194°F }
	Max. ripple	5%		Oil viscosity	Range 12~75 mm²/s { 65~350 SUS }
Current consumption	Typical	760 mA	450 mA		Min. 4 mm²/s { 40 SUS }
Signal valtage (US)	Neutral	0.5 x U _{DC}			Max. 400 mm²/s { 2130 SUS }
	A port ↔ B port	0.25~0.75 x U _{DC}		Pilot oil pressure	10~15 bar { 145~217.5 psi }
Power consumption		10W	11W	Filtering in the hydraulic system	Max. allowed degree of contamination (ISO 4406)

Circuit	Function



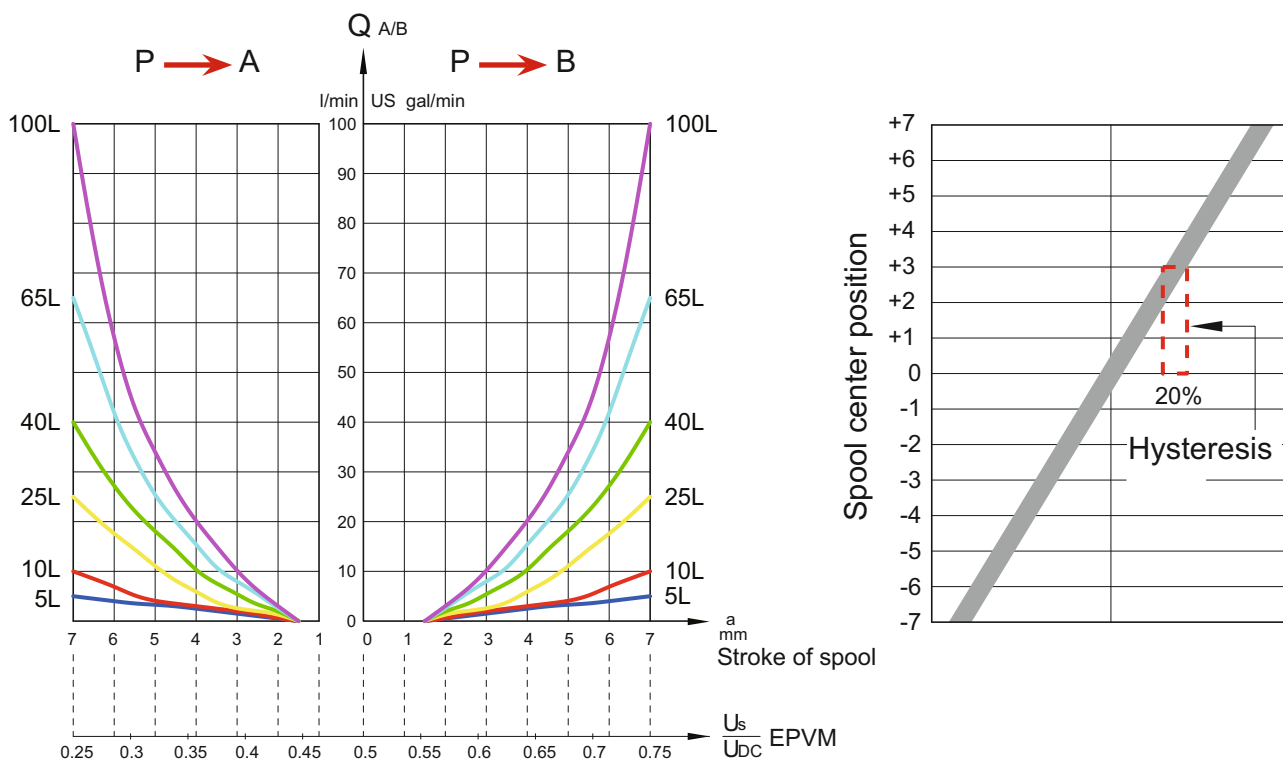
B Side Options - EPVM

Standard Type-hirschmann



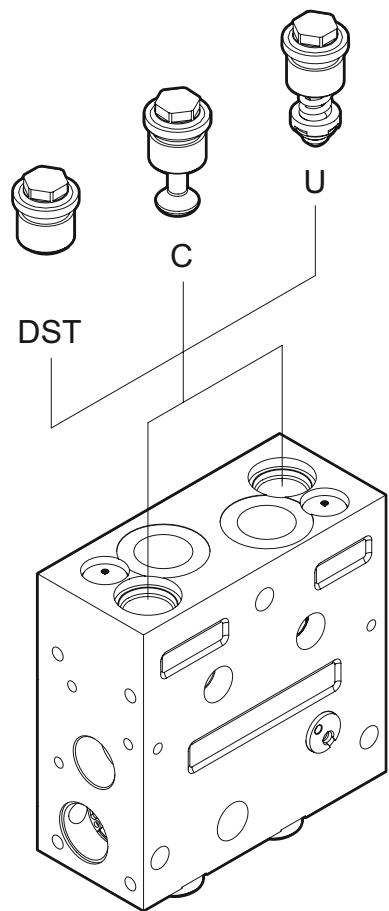
Function	Signal voltage (U_S)	LED indicator
Neutral position 0	U_S (Pin 2) $= 0.5 \times U_{DC}$	Green
$P \rightarrow A$	U_S (Pin 2) $= (0.5 \rightarrow 0.25) \times U_{DC}$	Blue
$P \rightarrow B$	U_S (Pin 2) $= (0.5 \rightarrow 0.75) \times U_{DC}$	Yellow

Control Curve





Suction Valve Options



Code DST	Code C	Code U



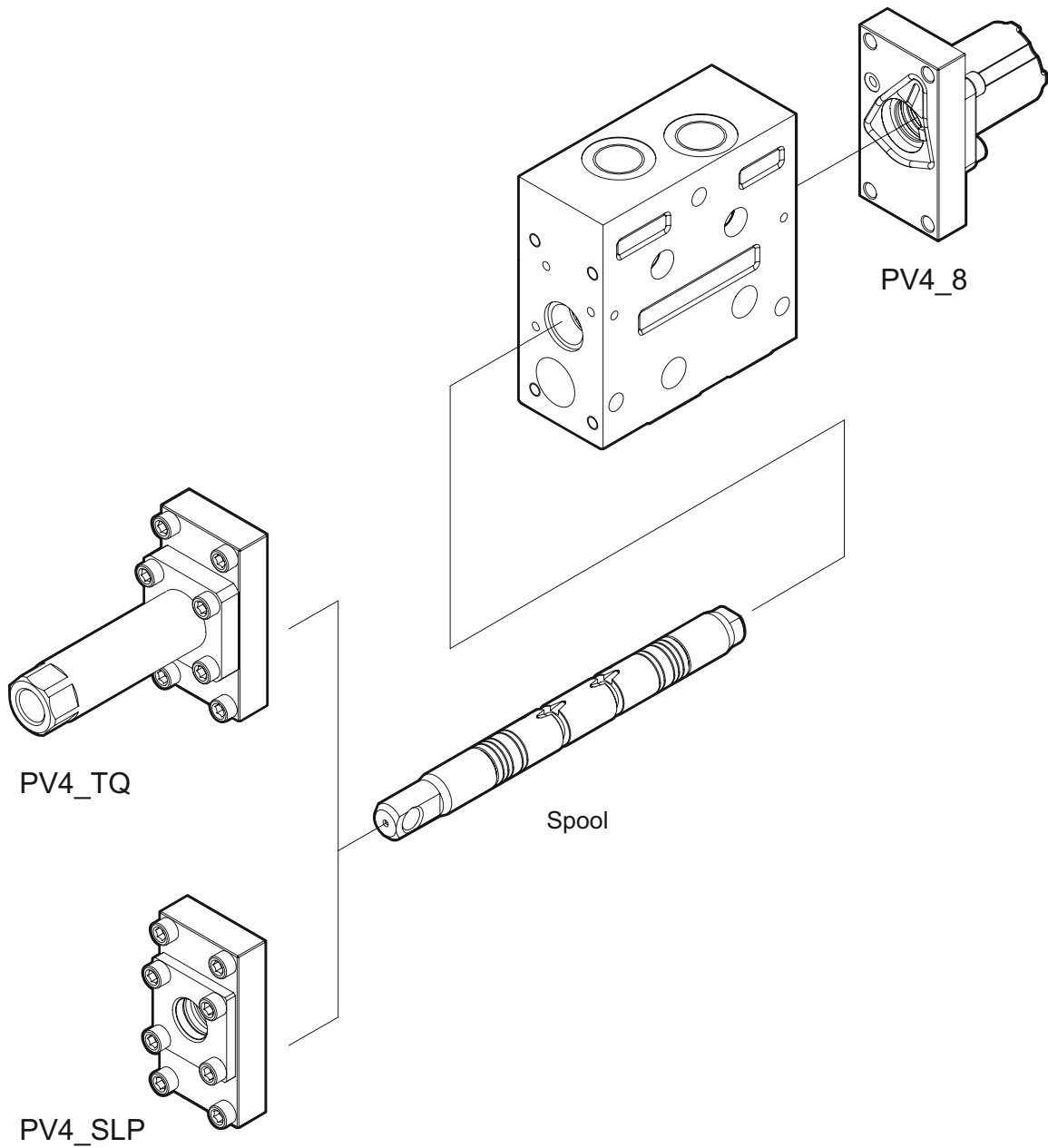
Suction Valve Options

Shock And Suction Valve Options

Code	Setting Pressure
	bar
U32	32
U50	50
U63	63
U80	80
U100	100
U125	125
U140	140
U150	150
U160	160
U175	175
U190	190
U210	210
U230	230
U240	240
U250	250
U265	265
U280	280
U300	300
U320	320
U350	350



External Control Series With Mechanical Actuation



External Control Series

A Side options A		
Code	SLP	Dust proof plate (Extrnal spool control)
	TQ	TQ connector (Cable control)
B Side options B		
Code	8	Standard cover (Spring centered)

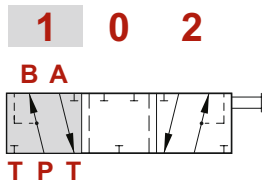


Flow Control Spools

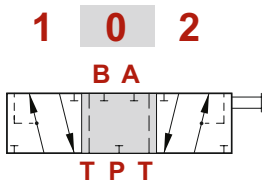
YLWPV42 01 ※※※※※

01 Spool circuit ※※※ Spool flow AB Shuttle valve TQ External control

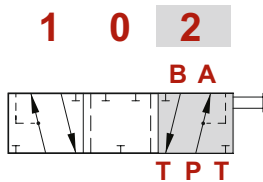
YLWPV42 01 ※※※



P → B
A → T



P & T & A & B
Closed



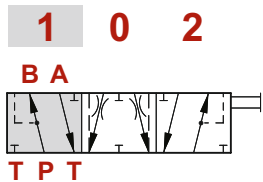
P → A
B → T

Flow	5 (L/min)	10 (L/min)	25 (L/min)	40 (L/min)	65 (L/min)	100 (L/min)	130 (L/min)
Code	YLWPV4201005TQ	YLWPV4201010TQ	YLWPV4201025TQ	YLWPV4201040TQ	YLWPV4201065TQ	YLWPV4201100TQ	YLWPV4201130TQ
	YLWPV4201005ABTQ	YLWPV4201010ABTQ	YLWPV4201025ABTQ	YLWPV4201040ABTQ	YLWPV4201065ABTQ	YLWPV4201100ABTQ	YLWPV4201130ABTQ

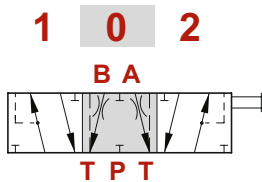
YLWPV42 02 ※※※※※

02 Spool circuit ※※※ Spool flow AB Shuttle valve TQ External control

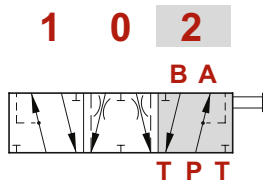
YLWPV42 02 ※※※



P → B
A → T



A & B → T
P Closed



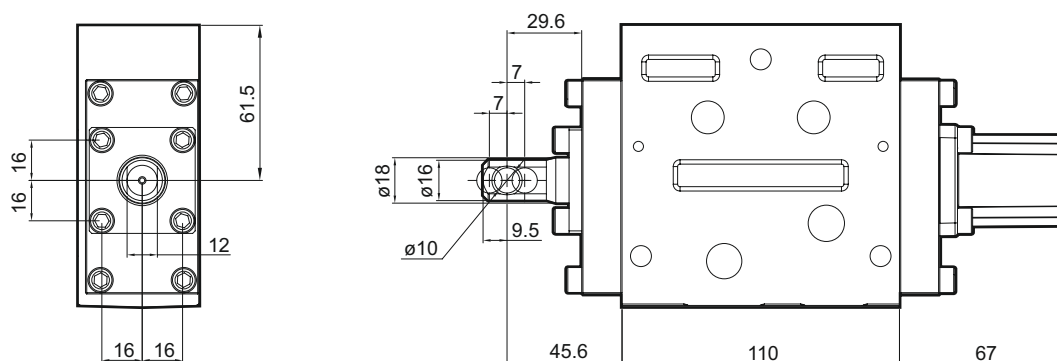
P → A
B → T

Flow	5 (L/min)	10 (L/min)	25 (L/min)	40 (L/min)	65 (L/min)	100 (L/min)	130 (L/min)
Code	YLWPV4202005TQ	YLWPV4202010TQ	YLWPV4202025TQ	YLWPV4202040TQ	YLWPV4202065TQ	YLWPV4202100TQ	YLWPV4202130TQ
	YLWPV4202005ABTQ	YLWPV4202010ABTQ	YLWPV4202025ABTQ	YLWPV4202040ABTQ	YLWPV4202065ABTQ	YLWPV4202100ABTQ	YLWPV4202130ABTQ

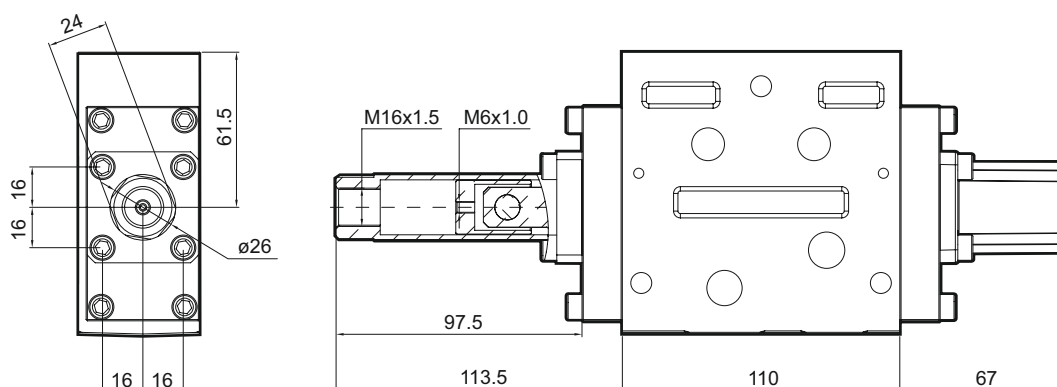


External Control Series With Mechanical Actuation

Type SLP



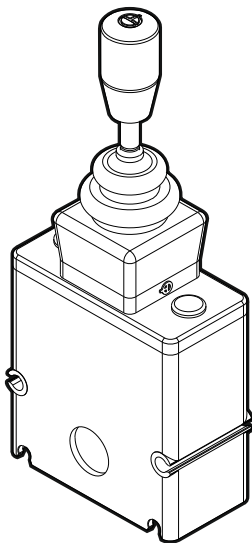
Type TQ





Accessories

PVh-1 Proportional Lever

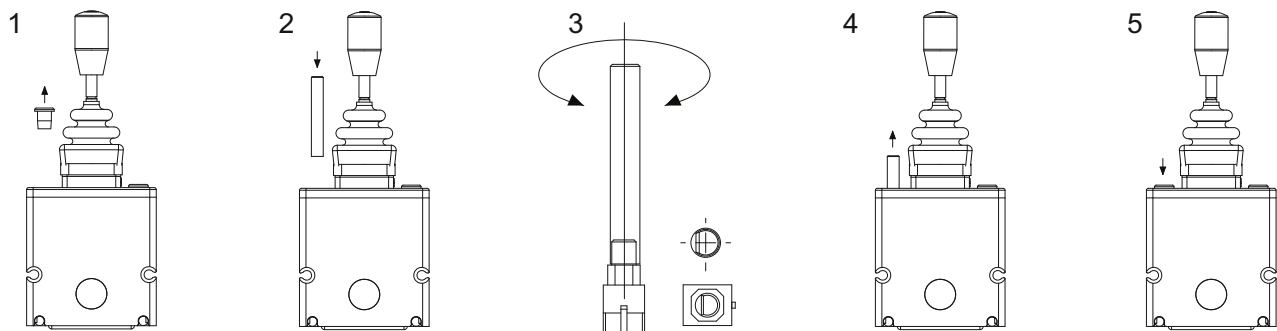
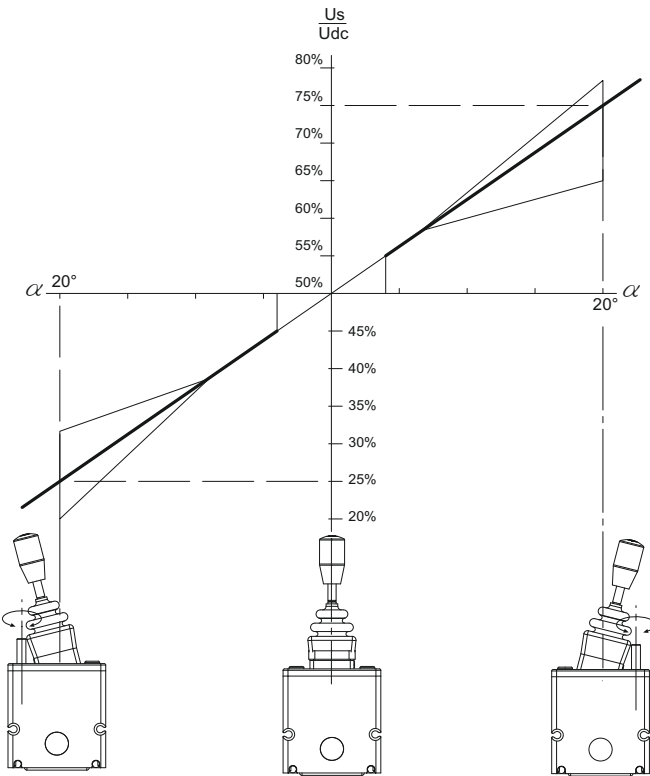
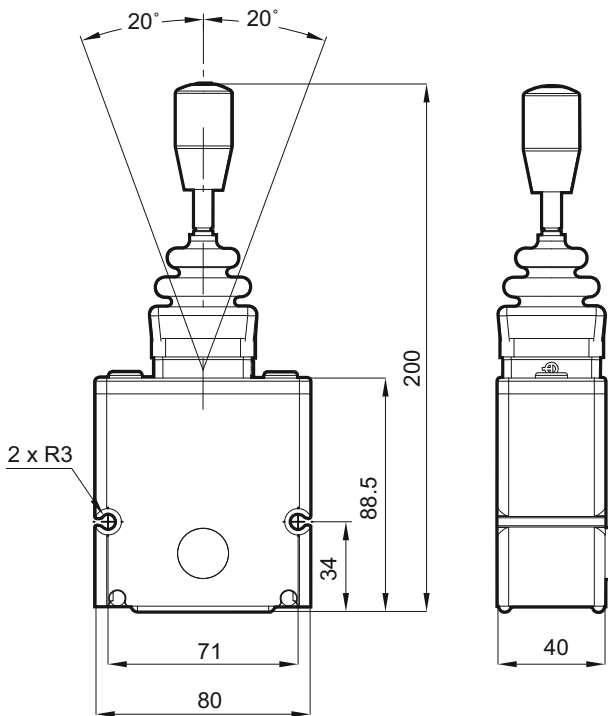


PVh-1
PVh : Type
1 : Single lever for one section operation

Description	Range	11~30 VDC
	Max. ripple	5 %
Current consumption	Max.	100 mA
Output voltage	Us	0.25~0.75 U _{DC}
Neutral valtage	Us	0.5 U _{DC}
Max. current of the power switch	ON/OFF	1A
Control angle	Single	20°

dimensions

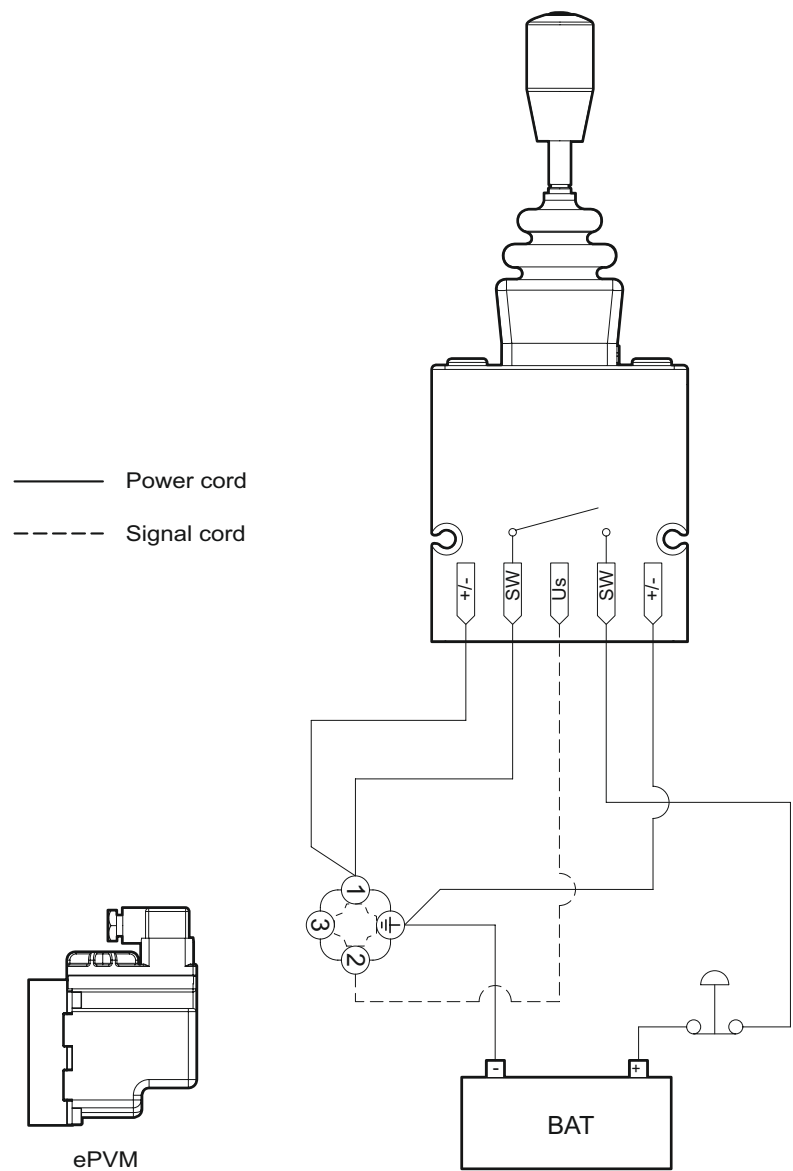
Characteristic Chart





Accessories

Wiring diagram



Assembly Torque Data

Thread Type-G		Thread Type-e	
Specification	n-m	Specification	n-m
		3/8"-24 UNF (SAE 3)	18
G2 (PF 1/4)	40	7/16"-20 UNF (SAE 4)	29
G3 (PF 3/8)	80	1/2"-20 UNF (SAE 5)	32
G4 (PF 1/2)	115	9/16"-18 UNF (SAE 6)	40
G6 (PF 3/4)	180	3/4"-16 UNF (SAE 8)	70
G8 (PF 1)	310	7/8"-14 UNF (SAE 10)	115
G10 (PF 1-1/4)	450	1-1/16"-12 UN (SAE 12)	185
		1-5/16"-12 UN (SAE 16)	270
		1-5/8"-12 UN (SAE 20)	340

Assembly torque data $\pm 10\%$ N-m.



Order Specifications

	Description of Function	P1:	P:				P2:
						Bar	
1		A:	LA: Bar	W:	W2:	B:	
			W1:	G:	LB: Bar		
2		A:	LA: Bar	W:	W2:	B:	
			W1:	G:	LB: Bar		
3		A:	LA: Bar	W:	W2:	B:	
			W1:	G:	LB: Bar		
4		A:	LA: Bar	W:	W2:	B:	
			W1:	G:	LB: Bar		
5		A:	LA: Bar	W:	W2:	B:	
			W1:	G:	LB: Bar		
6		A:	LA: Bar	W:	W2:	B:	
			W1:	G:	LB: Bar		
7		A:	LA: Bar	W:	W2:	B:	
			W1:	G:	LB: Bar		
8		A:	LA: Bar	W:	W2:	B:	
			W1:	G:	LB: Bar		
9		A:	LA: Bar	W:	W2:	B:	
			W1:	G:	LB: Bar		
10		A:	LA: Bar	W:	W2:	B:	
			W1:	G:	LB: Bar		
		M:	T:				

Specification sheet: **【P】** Pump side module **【P1】** Plug for external pilot oil supply **【P2】** LS Solenoid Unloading vavle
【A】 A side options **【B】** B side options **【W】** Basic moldules **【W1/W2】** Shock and suction valve
【LA/B】 LS A/B Pressure relief valve setting **【G】** Spool **【T】** End plate **【M】** Tie rod kit

