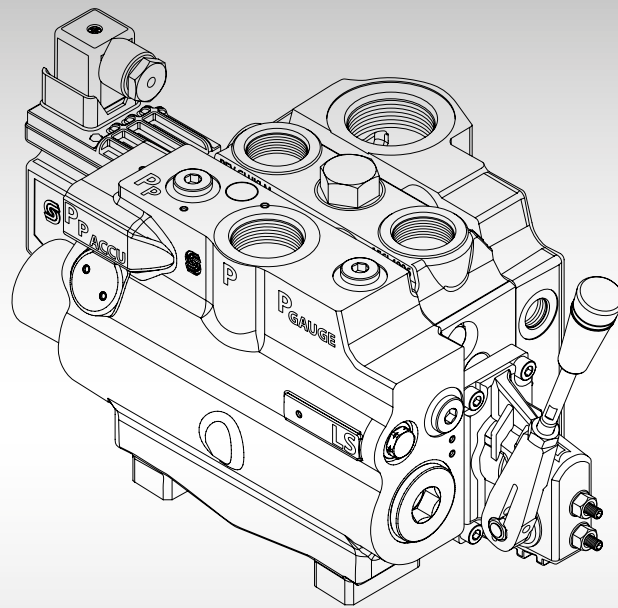




Service and Parts Manual

Proportional Valves

PVG 100

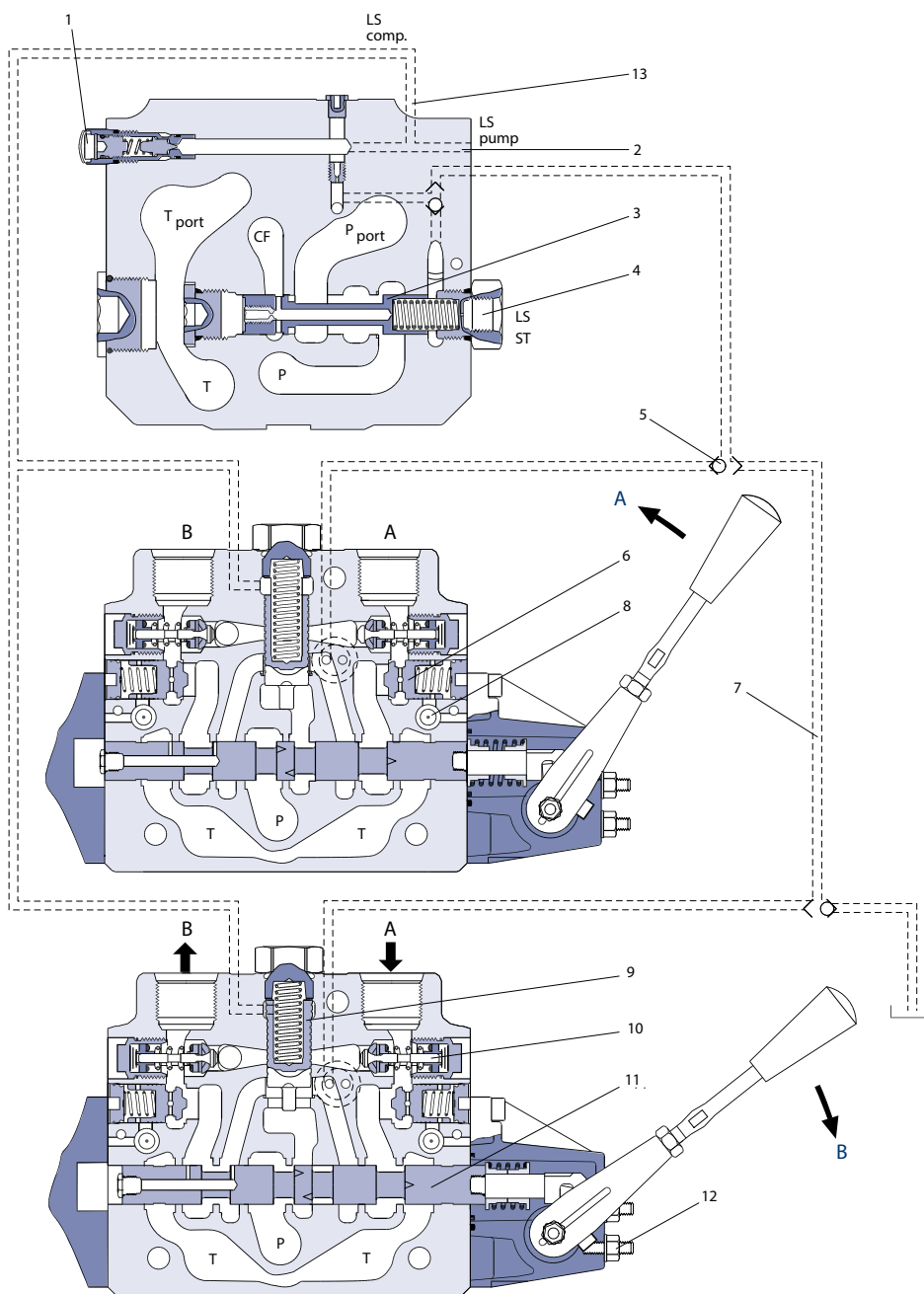



Contents

Function	PVG 100 sectional drawing.....	3
Installation	Installation and plug orientation.....	4
	Installation and identification.....	5
	Maximum flow setting	6-7
	Connections	8
	Tightening torques	8
	Installation of lever	9
	Pressure setting, PVP	9
	Adjustment of PVE	10
	Installation and technical data for PVPP	11
	Pilot drain connection	11
	PVMR disassembly	12
	PVMR/F assembly	13
	Tightening torques and widths across flats.....	13
	Main spool assembly for PVMR	14
	Float spool assembly for PVMF.....	15
Service parts	PVPF, open center pump side module	16-17
	PVPE, VPPD and Pilot Shut Off.....	18-19
	PVPV - closed center pump side module.....	20-21
	PVPV - closed center pump side module with integrated priority function.....	22-23
	PVB, PVBZ, PVLA, and PVLP.....	24-25
	PVSI, PVT, and PVTI	26-27
	PVAS assembly kit for PVP with PVSI/PVT.....	28-29
	PVAS assembly kit for PVP with PVTI.....	30-31
	PVBS, main spool.....	32-33
	PVM, mechanical activation	34-35
	PVM, PVMD, PVH, PVMR, and PVMF cover.....	36-37
	Electrical activation with Hirschmann connector	38-39
	Electrical activation with AMP connector	40-41
	Seal kits for PVG 100.....	42

Function

PVG 100
sectional drawing



P106 002E

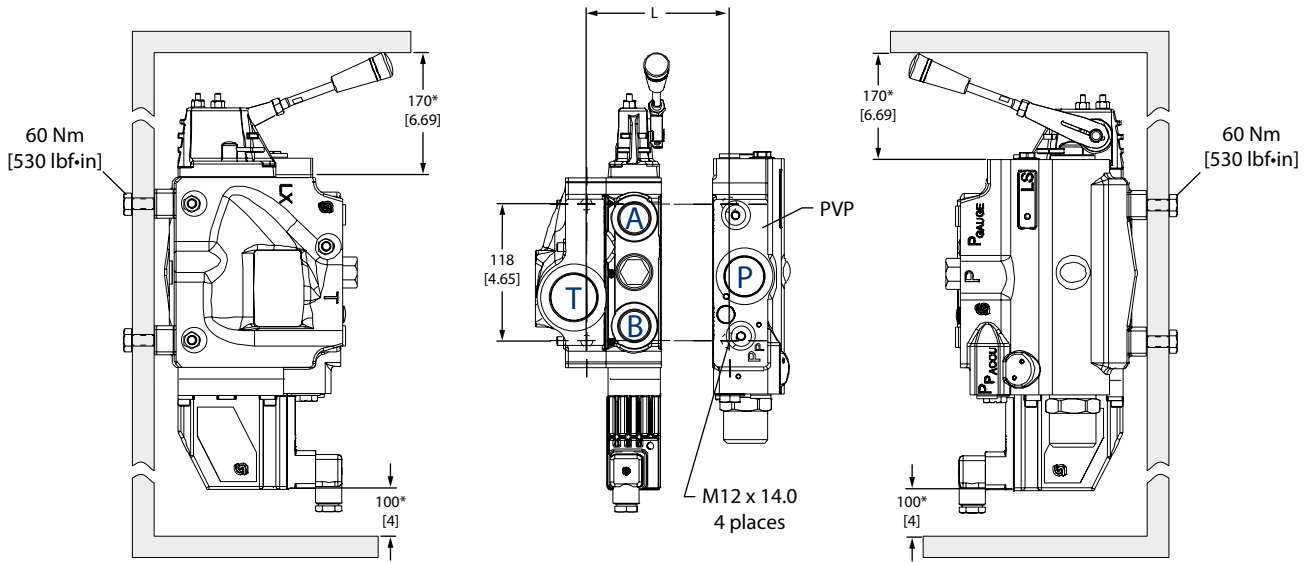
- | | |
|------------------------------------|---|
| 1. LS relief valve | 8. Logic cartridge for POC |
| 2. LS connection | 9. Pressure compensator |
| 3. Priority spool for CF | 10. Shock and suction valve, PVLP |
| 4. LS connection for steering unit | 11. Main spool, PVBS |
| 5. Shuttle valve | 12. Max. oil flow adjustment screws for ports A and B |
| 6. Pilot operated check valve, POC | 13. LS comp (LS signal sent back to compensators) |
| 7. LS line | |



Installation

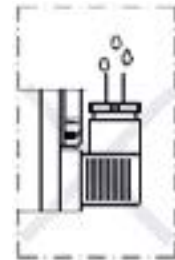
Installation and plug orientation

Module of PVB	1	2	3	4	5	6	7	8
L mm	80.0	128.0	176.0	224.0	272.0	320.0	368.0	416.0
L in	3.15	5.04	6.93	8.82	10.71	12.60	14.49	16.38



* Room for dismantling

P106 000E



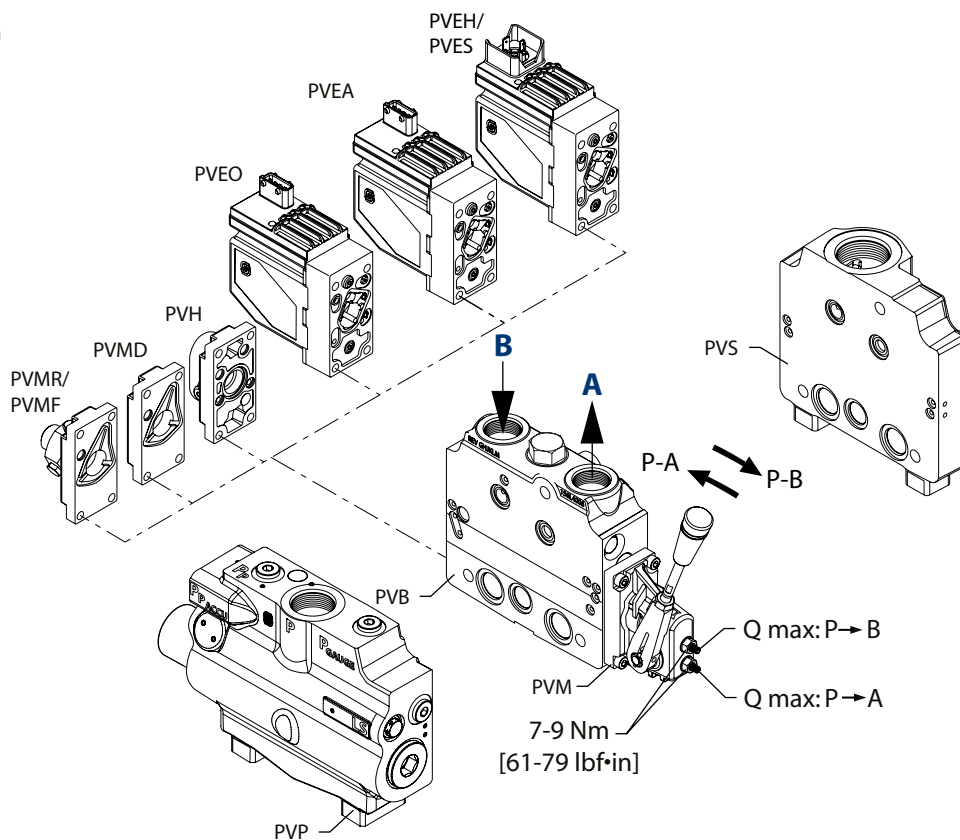
DIN mounting orientation



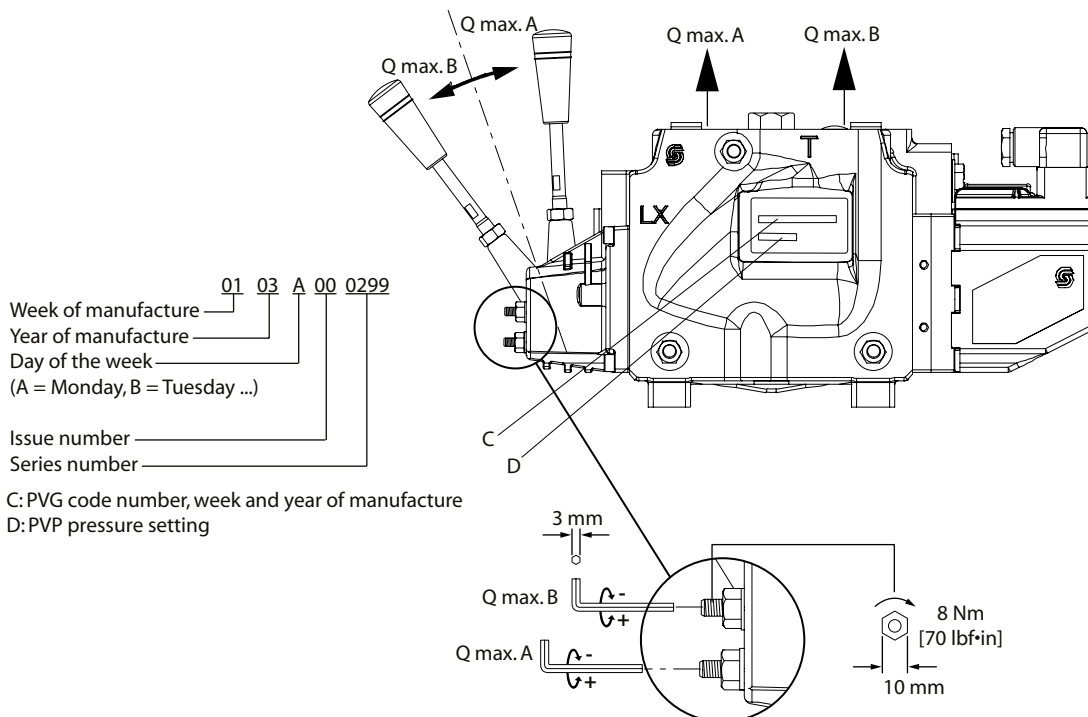
Installation and Identification

Standard, oil flow direction and setting of max flow

PVM to the right of PVP



Identification



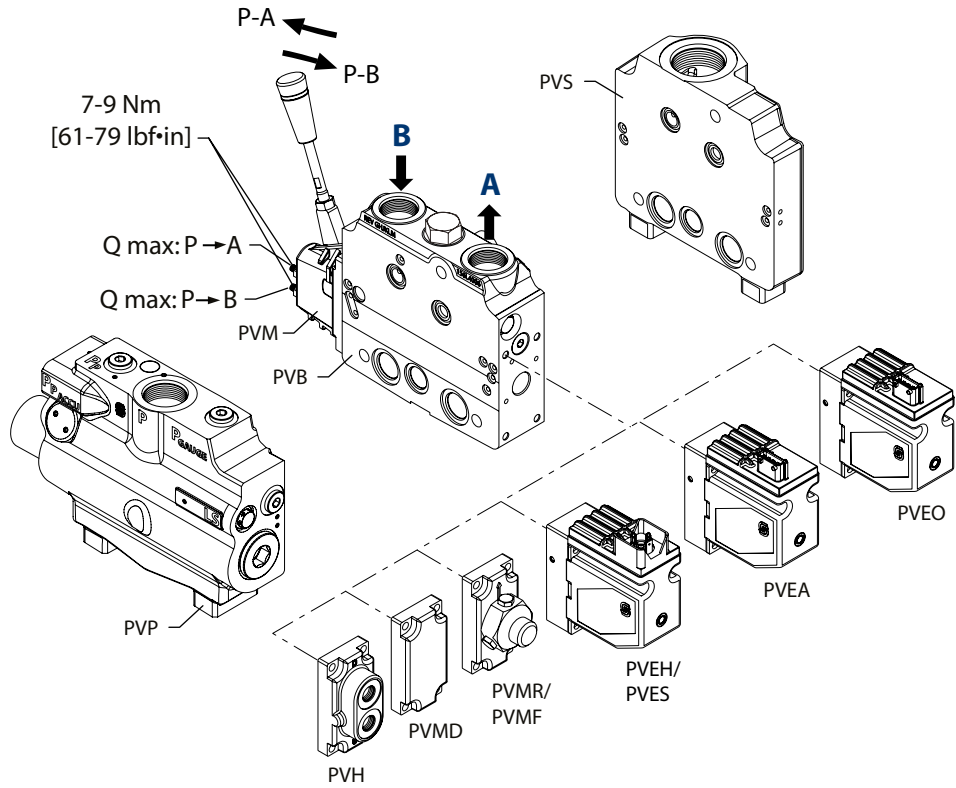
E101 279E



Installation

Option, oil flow direction and setting of max flow

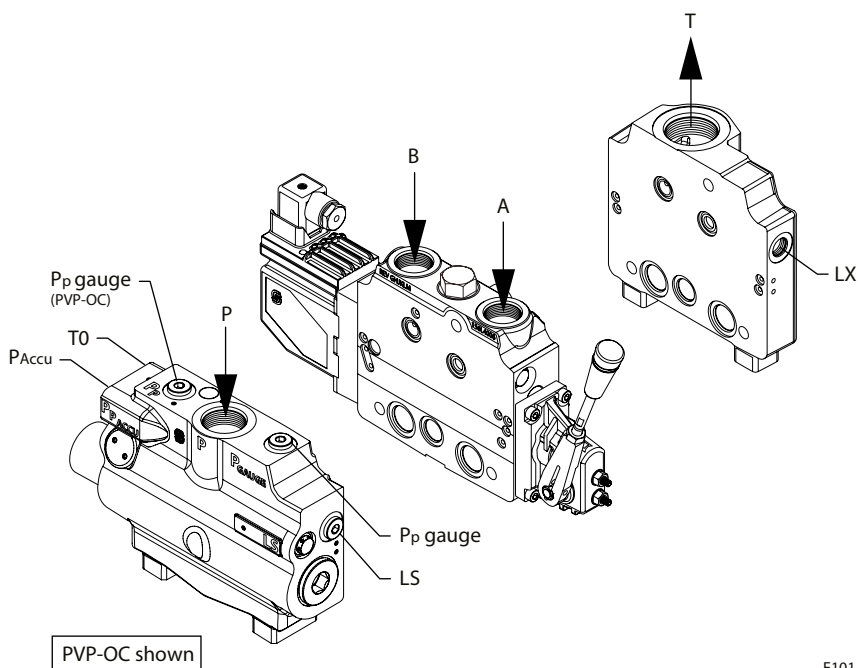
PVM to the left of PVP



E101 284E

Installation

**Connections, pump side
module, PVP
end plate, PVS**



E101 285E

Tightening torque

Maximum tightening torque

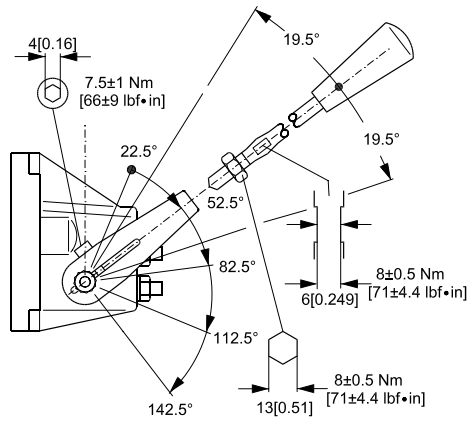
Connection	P		A/B	LS, LX, T0 Gauge: P, Pp, Pp Accum.	T	
	G 3/4	G 1			G 1	G 1 1/4
BSPP port connection	G 3/4	G 1	G 3/4	G 1/4	G 1	G 1 1/4
With steel washer	210 Nm 1850 lbf-in	330 Nm 2920 lbf-in	210 Nm 1850 lbf-in	40 Nm 350 lbf-in	330 Nm 2920 lbf-in	540 Nm 4780 lbf-in
With copper washer	50 Nm 445 lbf-in	70 Nm 620 lbf-in	50 Nm 445 lbf-in	20 Nm 180 lbf-in	70 Nm 620 lbf-in	100 Nm 885 lbf-in
With aluminum washer	110 Nm 970 lbf-in	150 Nm 1330 lbf-in	110 Nm 970 lbf-in	30 Nm 270 lbf-in	150 Nm 1330 lbf-in	240 Nm 2125 lbf-in
With cutting edge	210 Nm 1850 lbf-in	330 Nm 2920 lbf-in	210 Nm 1850 lbf-in	40 Nm 350 lbf-in	330 Nm 2920 lbf-in	540 Nm 4780 lbf-in
UNF port connection	1 1/16 in-12	1 5/16 in-12	1 1/16 in-12	9/16 in-18	1 5/16 in-12	1 5/8 in-12
With O-ring	120 Nm 1040 lbf-in	160 Nm 1420 lbf-in	120 Nm 1040 lbf-in	40 Nm 350 lbf-in	160 Nm 1420 lbf-in	320 Nm 2830 lbf-in



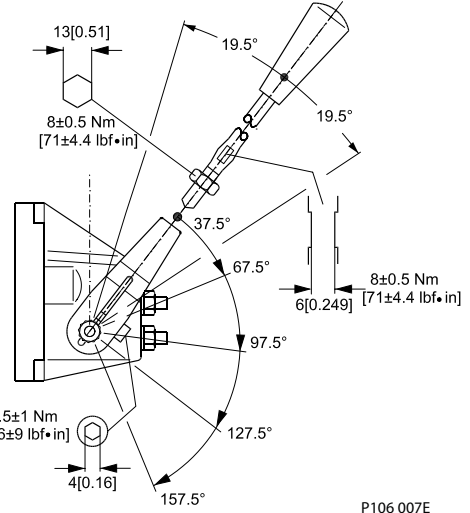
Installation

Installation of lever

Base with an angle of 22.5°

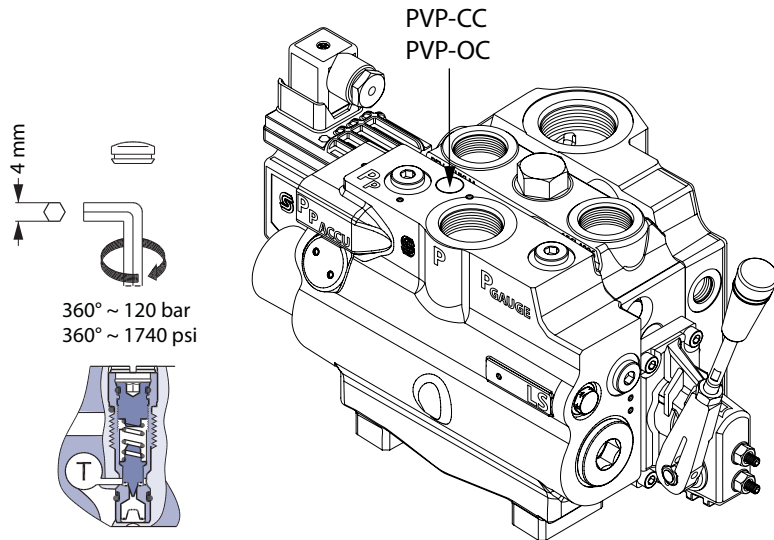


Base with an angle of 37.5°



P106 007E

Pressure setting, PVP



P106 008E



Installation

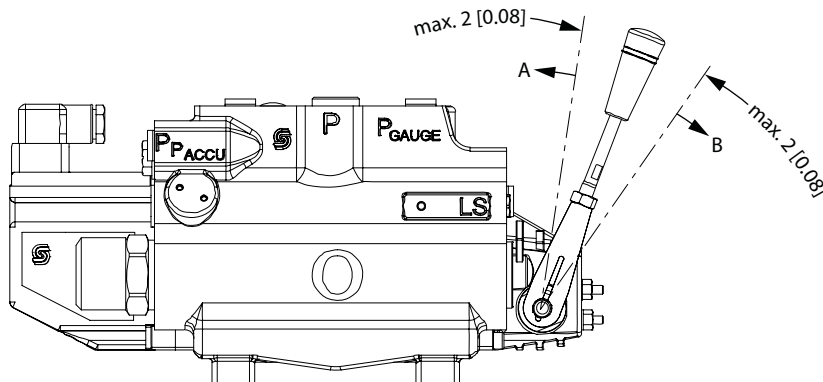
PVEH/PVEM/PVES

Check maximum lever travel in neutral position.

1. Make sure the system is supplied with hydraulic power.
2. Connect supply voltage (UDC) (Signal voltage 0.5 x UDC), or cut off the signal voltage (US) on pin 2.

Adjustment of PVE when max. lever travel is exceeded

(PVE is factory-preset)



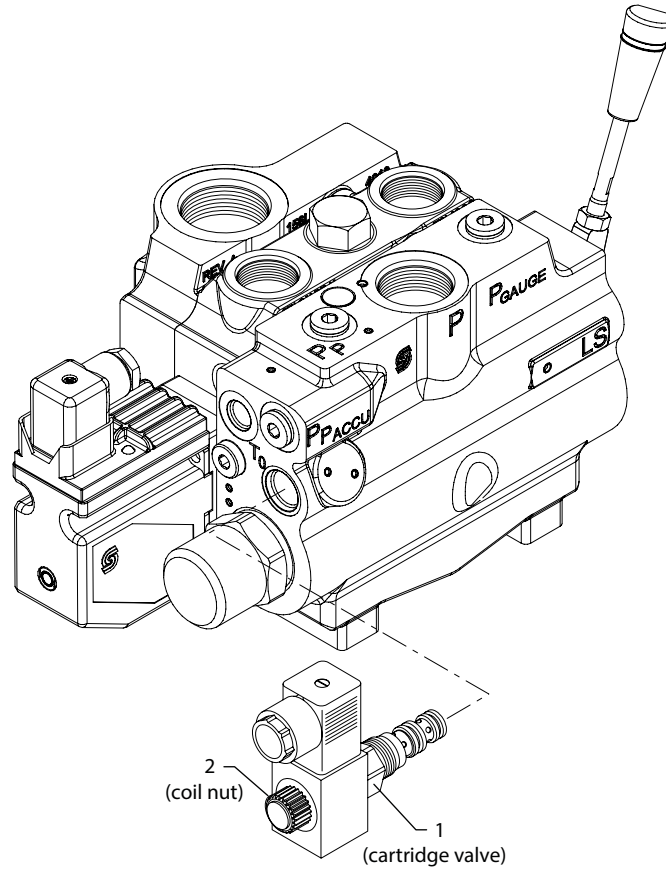
Lever travel exceeded in	PVG 100	Direction of rotation for adjustment of position transducer
Direction A		
Direction B		

Turn of transducer	Movement of lever
1/4	1.5 mm [0.06 in]
1/2	3.0 mm [0.12 in]
3/4	4.5 mm [0.18 in]



Installation

Installation and technical data for pvpp (solenoid operated pilot drain)

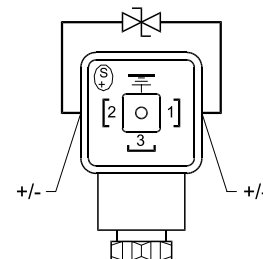


Position	Across flats	Max. tightening torque	
1	24 mm [0.94 in]	45 Nm [400 lbf·in]	
2	20 mm [0.79 in]	5 Nm [44 lbf·in]	

Max. operation pressure	350 bar [5076 bar]		
Max. coil surface temperature	155°C [311°F]		
Rated voltage	12 V =		24 V =
Current consumption	22°C (71,6°F) coil temperature	1.55 A	0.78 A
	110°C (230°F) coil temperature	1.00 A	0.50 A
Power consumption	22°C (71,6°F) coil temperature	19 W	19 W
	110°C (230°F) coil temperature	12 W	12 W
Max. permissible deviation from rated supply voltage	±10%		

PVPP connection

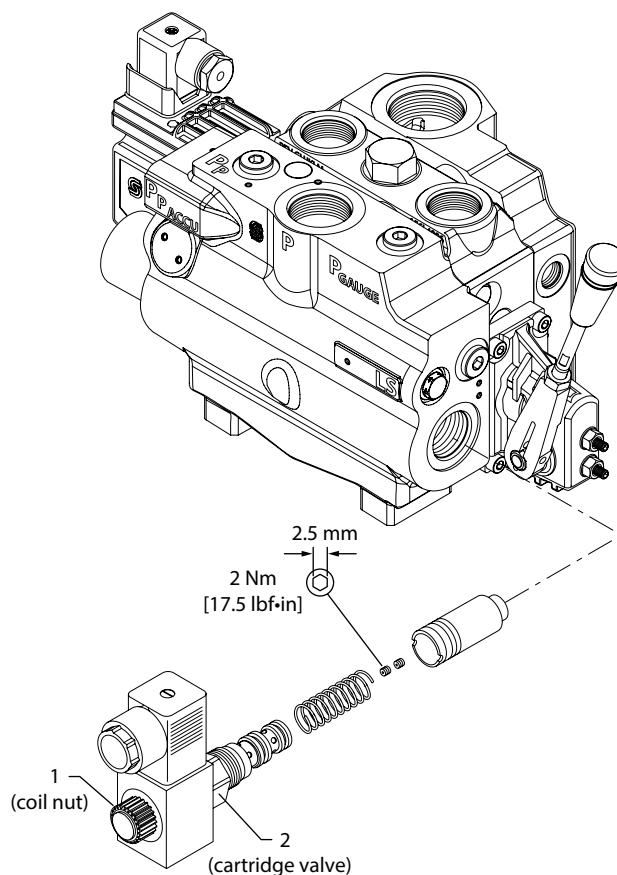
When installing the wire remember to connect the built-in diode to the plug pins.



P106 004E

Installation

Installation and technical data for PVPE (solenoid relief valve)

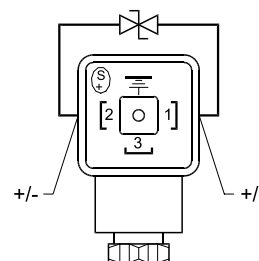


Position	Across flats	Max. tightening torque
1	22 mm [0.87 in]	5 Nm [45 lbf-in]
2	36 mm [1.42 in]	85 Nm [750 lbf-in]

Max. operation pressure	350 bar [5076 bar]		
Max. coil surface temperature	155°C [311°F]		
Rated voltage	12 V ==	24 V ==	
Current consumption	22°C (71,6°F) coil temperature	1.55 A	0.78 A
	110°C (230°F) coil temperature	1.00 A	0.50 A
Power consumption	22°C (71,6°F) coil temperature	19 W	19 W
	110°C (230°F) coil temperature	12 W	12 W
Max. permissible deviation from rated supply voltage	±10%		

PVPE connection

When installing the wire remember to connect the built-in diode to the plug pins.



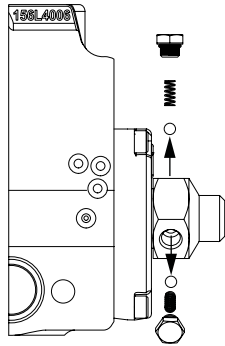
P106 288E



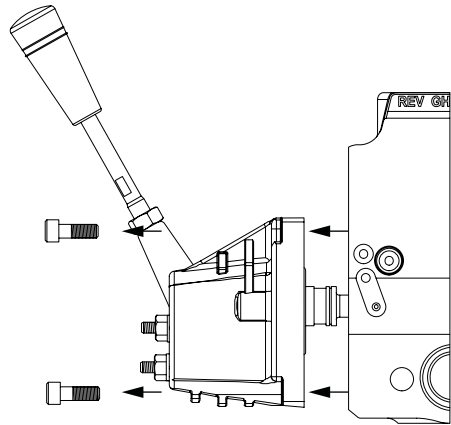
Installation

PVMR disassembly

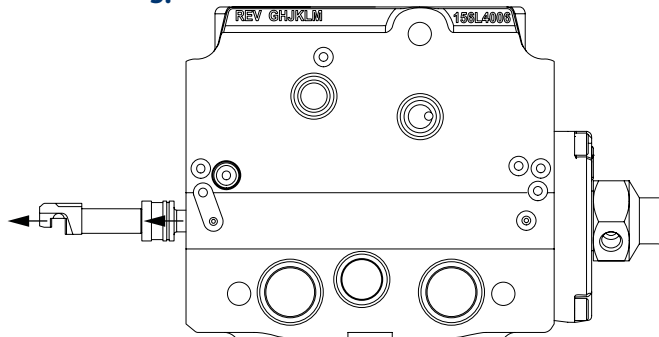
1.



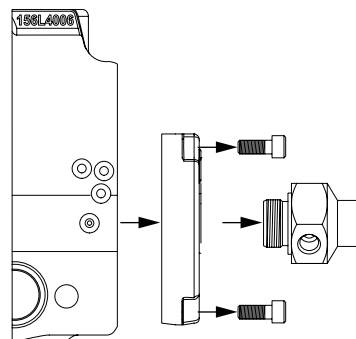
2.



3.



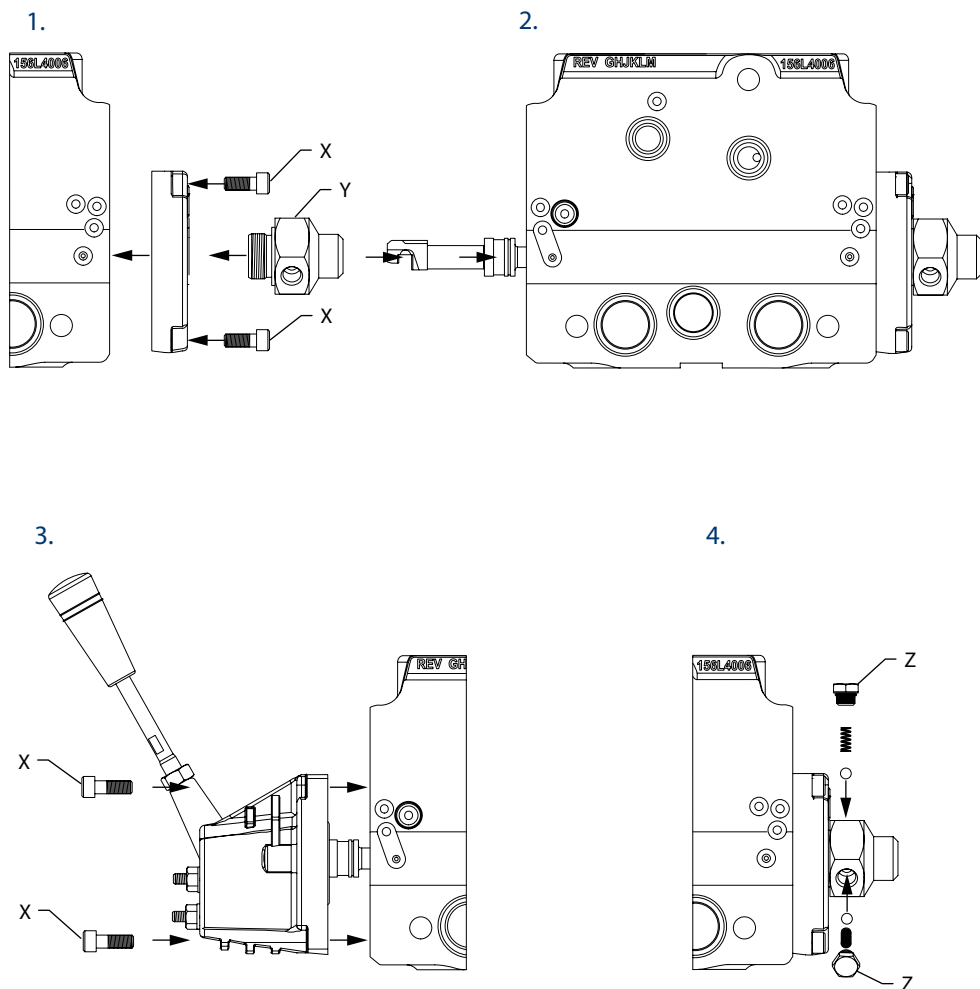
4.





Installation

PVMR/F assembly



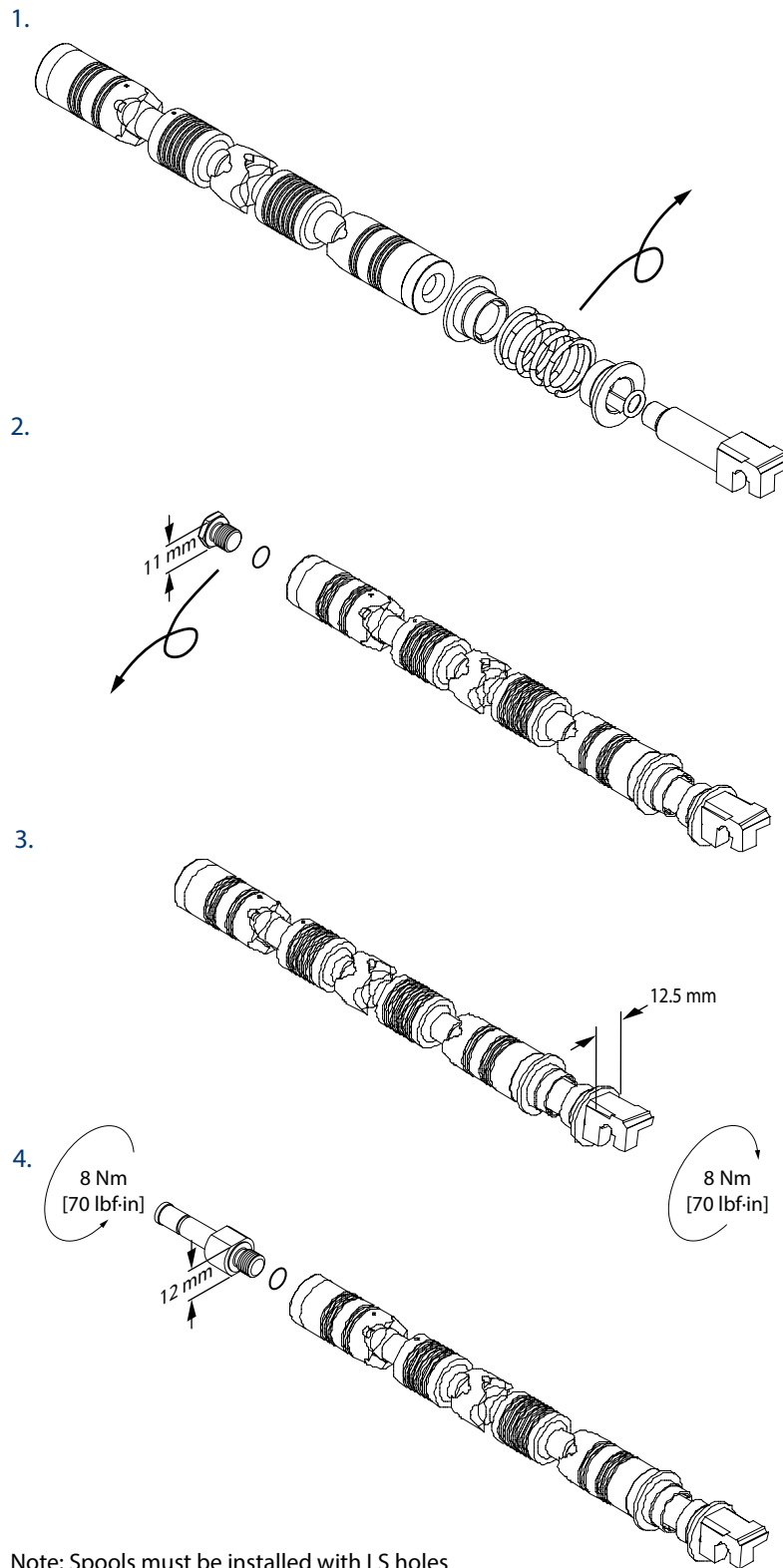
Tightening torques and widths across flats

	X	Y	Z
Width across flats			
Tightening torque	8 ± 0.5 Nm [70 ± 4.5 lbf-in]	15 ± 2 Nm [135 ± 20 lbf-in]	4 ± 1 Nm [35 ± 9 lbf-in]



Installation

Standard main spool assembly for PVMR



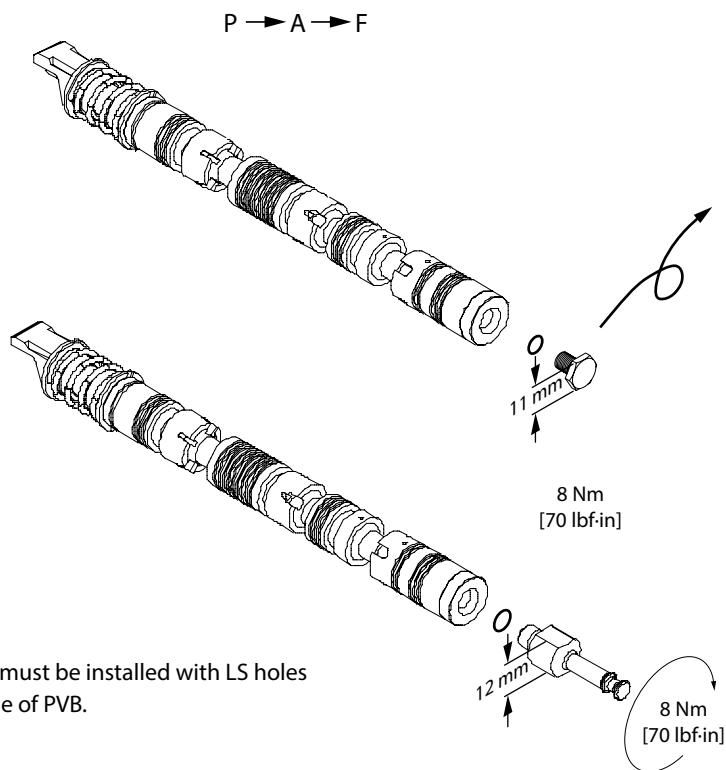
Note: Spools must be installed with LS holes on 'B' port side of PVB.

E101 291E



Installation

Standard float spool assembly for PVMF



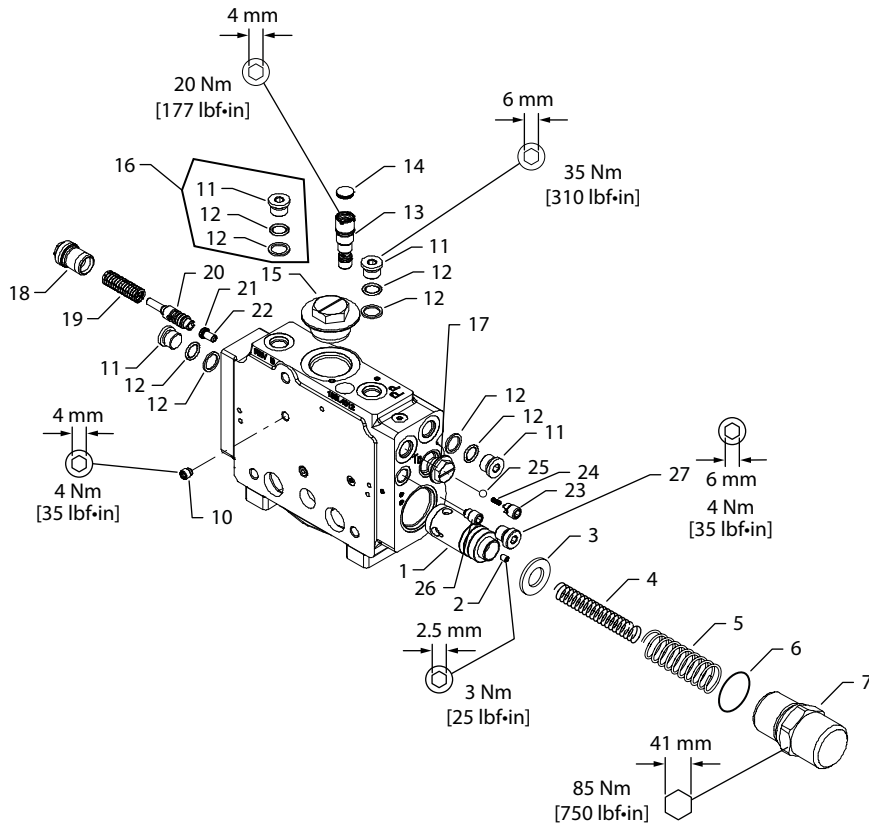
Note: Spools must be installed with LS holes on 'B' port side of PVB.

E101 290E



Service parts

PVPF, open center pump side module



E101 303E


Service parts

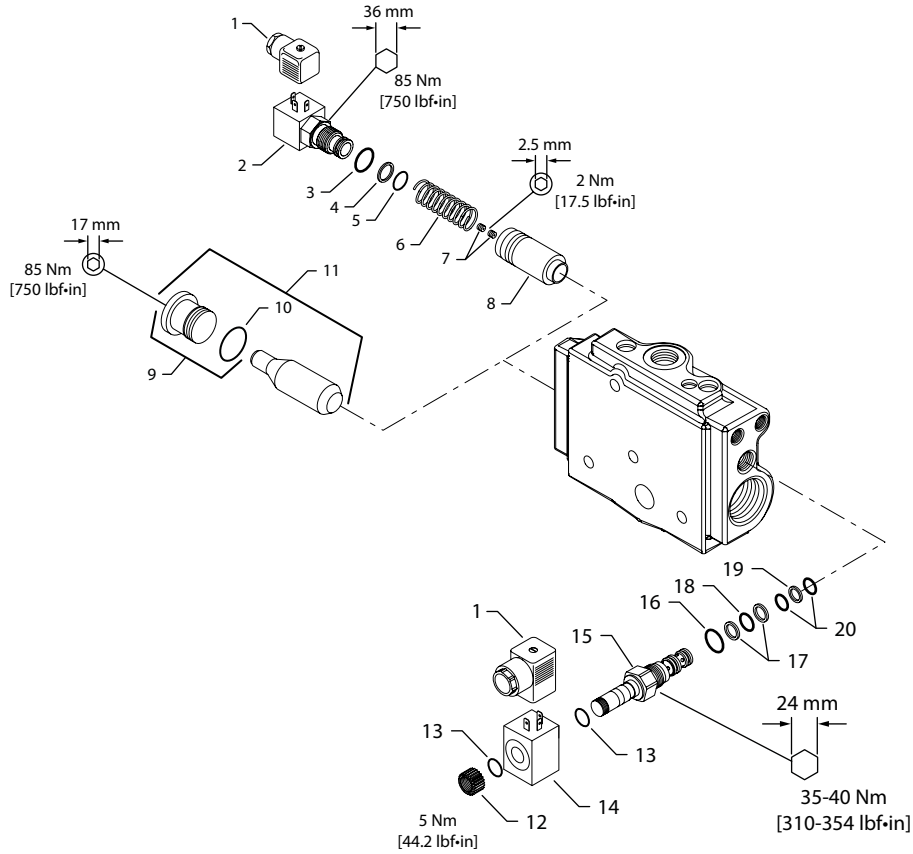
Type	Description		Code number	
			G1 thread	UNF thread
PVPF	Open center with pilot supply for electrical actuation and pilot gage port	12 bar spring	161B5110	161B5510
		20 bar spring	161B5112	161B5512
PVPF	Open center with pilot supply for electrical actuation, pilot gage port, and facility for pilot shut-off	12 bar spring	161B5140	161B5540
		20 bar spring	161B5142	161B5542

Item	Description	Code No.								
1	Spool, 12 bar			1	1				1	1
1	Spool, 20 bar		1	1			1	1		
2	Orifice, 0.7 dia, M5		1	1	1	1	1	1	1	1
3	Washer, 19.3 x 34.0 x 3.0 [0.76 x 1.34 x 0.12]		1	1	1	1	1	1	1	1
4	Spring, 12 bar				1	1			1	1
4	Spring, 20 bar		1	1			1	1		
5	Spring, 12 bar				1	1			1	1
5	Spring, 20 bar		1	1			1	1		
6	O-ring, 33.3 x 2.4 [1.31 x 0.09]		1	1	1	1	1	1	1	1
7	Plug		1	1	1	1	1	1	1	1
10	Orifice, 0.7 dia, M8 x 1		1	1	1	1	1	1	1	1
11	Plug, G 1/4 thread	631X2036		4		4		4		4
11	Plug, 9/16-18 UNF thread		4		4		4		4	
12	O-ring, 11.9 x 1.98 [0.47 x 0.08]		4		4		4		4	
12	Washer, 13.5 x 17.5 x 1.5 [0.53 x 0.69 x 0.06]			4		4		4		4
13	LS relief valve	155L6485	1	1	1	1	1	1	1	1
14	Plastic cap	155L6377	1	1	1	1	1	1	1	1
15	Plastic plug w/O-ring (1 5/16-12 UNF thread)	156H7047	1		1		1		1	
15	Plastic plug w/gasket (G1 thread)	633X0176		1		1		1		1
16	Plug assembly, w/O-ring (9/16-18 UNF thread)	30021-6A	4		4		4		4	
17	Plastic plug w/gasket (9/16-18 UNF thread)	156H7043	1		1		1		1	
17	Plastic plug w/gasket (G 1/4 thread)	633X0123		1		1		1		1
18	Cap plug assembly w/O-ring		1	1	1	1	1	1	1	1
19	Spring, PR		1	1	1	1	1	1	1	1
20	Spool, PR		1	1	1	1	1	1	1	1
21	Filter retainer (non-serviceable)		1	1	1	1	1	1	1	1
22	Filter, PR (non-serviceable)		1	1	1	1	1	1	1	1
23	Screw, pilot check valve (M10 x 1)		1	1	1	1				
24	Spring, pilot check valve		1	1	1	1				
25	Ball, pilot check valve (M6 steel)		1	1	1	1				
26	Orifice, 0.4 dia (M10 x 1)		1	1	1	1	1	1	1	1
27	Plug assembly, w/seal (M12 x 1.5)		1	1	1	1	1	1	1	1
	Seal kit (includes item 6 and 12)	11016012	1	1	1	1	1	1	1	1
	LS relief valve service tool	155L6494								



Service parts

PVPE, PVPD and pilot shut-off (PVPP)



E101 305E


Service parts
PVPE, PVPD and pilot shut-off (PVPP)

Type	Code No.		
PVPE	Extra electrical relief (PVPF only)	12 volt	155G5052
		24 volt	155G5054
PVPD	Accessory plug (PVPF only)		155G5041
PVPP	Electrical pilot shut-off valve (PVPV or PVPF)	12 volt	161B5052
		24 volt	161B5054

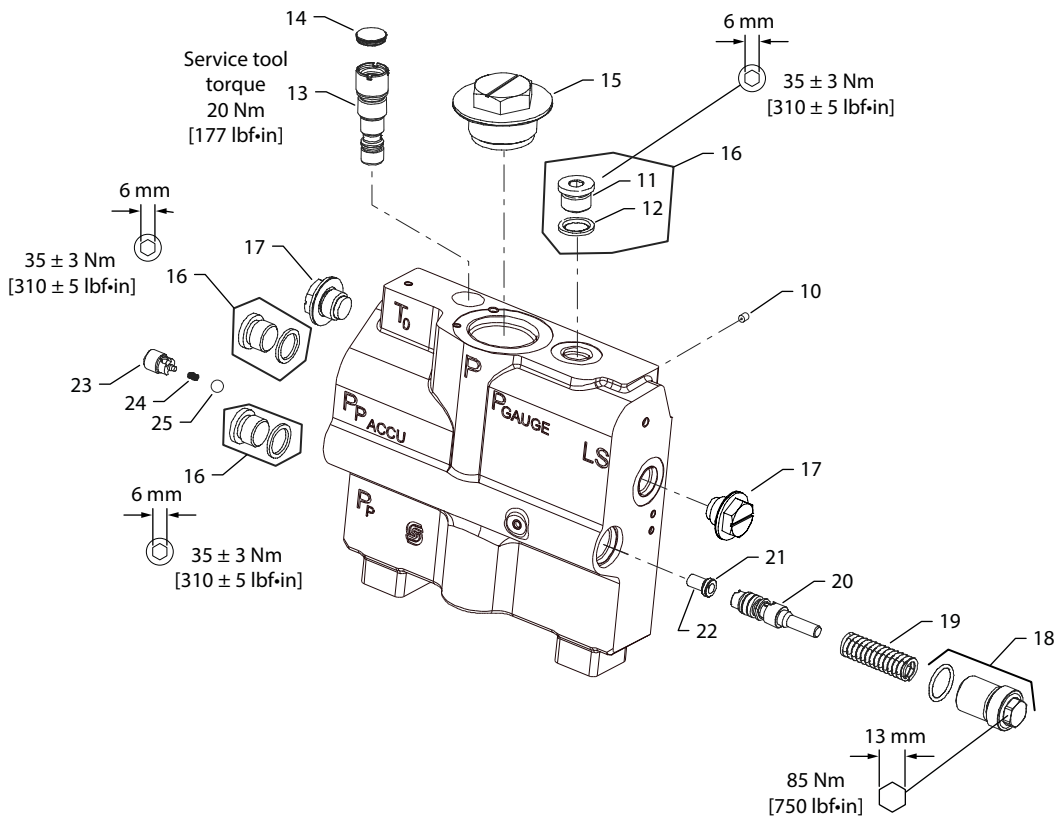
Item	Description	Code No.					
1	Electrical plug	155G5451	1	1		1	1
2	Electrical relief valve, 12 volt (item 3, 4, and 5 included)	155G5013					1
2	Electrical relief valve, 24 volt (item 3, 4, and 5 included)	155G5025				1	
3	O-ring, 29.82 x 2.62 [1.18 x 0.10]					1	1
4	Back-up ring 27.0 x 2.0 [1.06 x 0.08]					1	1
5	O-ring, 26.7 x 1.78 [1.05 x 0.07]					1	1
6	Spring					1	1
7	Orifice, M5 x 0.5 dia. [0.2 x 0.02]					2	2
8	Spool					1	1
9	Plug (item 10 included)					1	
10	O-ring, 30.3 x 2.4 [1.19 x 0.09]					1	
11	Insert (item 9 and 10 included)	155G5041				1	
12	Coil nut (item 13 included)	173800588	1	1			
13	O-ring, 6-065 viton, 75D, 12 x 2 [0.47 x 0.08]		2	2			
14	Coil, 12 volt, 22w DIN	171139819		1			
14	Coil, 24 volt, 22w, DIN	171140019	1				
15	Solenoid valve (item 12, 16, 17, 18, 19, and 20 included)	805339919	1	1			
16	O-ring, 16.4 x 2.2 [0.65 x 0.09](3-908)D		1	1			
17	Back-up ring, 8-014, 11.02 x 13.8 x 0.7 [0.43 x 0.54 x 0.03]		2	2			
18	O-ring, 2-014		1	1			
19	O-ring, 2-013		1	1			
20	Back-up ring, 8-013		2	2			
	PVPE seal kit (includes item 3, 4, and 5)	155G8527				1	1
	PVPP seal kit (includes item 10, 13, 16, 17, 18, 19, and 20)	35400321	1	1			

E101 306E



Service parts

PVPV, closed center pump side module



E101 334E


Service parts
PVPV, closed center pump side module

Type	Description	Code number	
		G1 thread	UNF thread
PVPV	Closed center with pilot supply for electrical actuation and pilot gage port	161B5111	
			161B5511
	Closed center with pilot supply for hydraulic actuation and pilot gage port	11013069	
			11013070
	Closed center with pilot supply for electrical actuation, pilot gage port, and facility for pilot shut o☒	161B5141	
			161B5541
	Closed center with pilot supply for hydraulic actuation, pilot gage port, and facility for pilot shut o☒	11013075	
			11013076

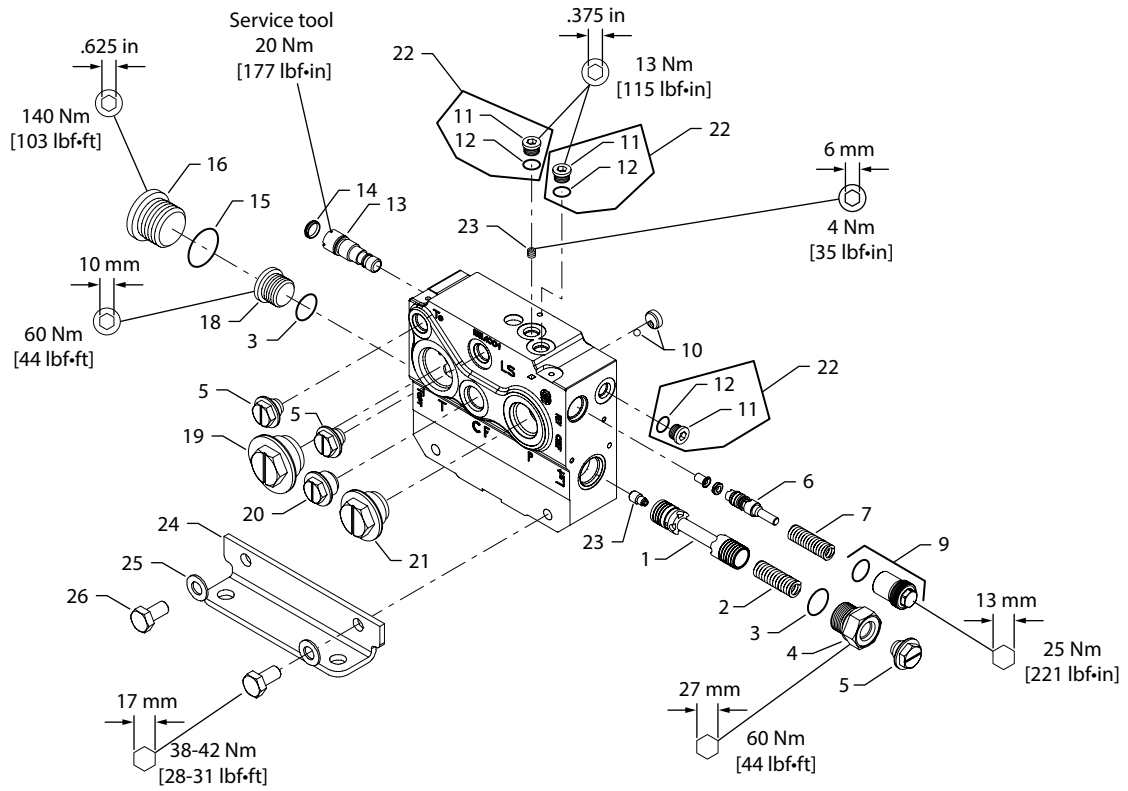
Item	Description	Code No.									
10	Orifice, 0.7 dia, M8 x 1		1	1	1	1	1	1	1	1	1
11	Plug, G 1/4 thread	631X2037		3		3		2		2	
11	Plug, 9/16-18 UNF thread		3		3		2		2		
12	Washer, 13.5 x 17.5 x 1.5 [0.53 x 0.69 x 0.06]			3		3		2		2	
12	O-ring, 11.9 x 1.98 [0.47 x 0.08]		3		3		2		2		
13	LS relief valve		1	1	1	1	1	1	1	1	1
14	Plastic cap	155L6377	1	1	1	1	1	1	1	1	1
15	Plastic plug w/O-ring (1 5/16-12 UNF thread)	156H7047	1		1		1		1		1
15	Plastic plug w/gasket (G1 thread)	633X0176		1		1		1		1	
16	Plug assembly, w/O-ring (9/16-18 UNF thread)	30021-6A	3		3		2		2		
17	Plastic plug w/gasket (9/16-18 UNF thread)	156H7043	2		2		2		2		
17	Plastic plug w/gasket (G 1/4 thread)			2		2		2		2	
18	Cap plug assembly w/O-ring	156H7051	1	1	1	1	1	1	1	1	1
19	Spring, PVE					1				1	
19	Spring, PVH		1	1			1		1		
20	Spool, PR		1	1	1	1	1	1	1	1	1
21	Filter retainer (non-serviceable)		1	1	1	1	1	1	1	1	1
22	Filter, PR (non-serviceable)		1	1	1	1	1	1	1	1	1
23	Screw, pilot check valve (M10 x 1)		1	1	1	1	1	1	1	1	1
24	Spring, pilot check valve		1	1	1	1	1	1	1	1	1
25	Ball, pilot check valve (M6 steel)		1	1	1	1	1	1	1	1	1
	Seal kit (includes item 12 and 18)	11016013									
	LS relief valve service tool	155L6494									

P106 299E



Service parts

PVPV - closed center pump side module




Service parts
PVPV - closed center pump side module with integrated priority function

Type	Description	Code number	
		P=G 3/4 thread T=G 1 thread	P=1 1/16 thread T=1 5/16 thread
PVPV	Closed center pump side module	161B5211	
			161B5611

Item	Description	Code No.		
1	Spool, priority valve		1	1
2	Spring, priority valve		1	1
3	O-ring, 19.30 x 2.20 [0.76 x 0.09]		2	2
4	Plug, priority valve, M22 x 1.5 (LSt: int. thread 9/16-18 UNF)		1	
4	Plug, priority valve, M22 x 1.5 (LSt: internal thread G 1/4)			1
5	Plastic plug w/gasket (9/16-18 UNF thread)	156H7043	3	
5	Plastic plug w/gasket (G 1/4 UNF thread)	633X0123		3
6	Spool, pressure reducer		1	1
7	Spring, pressure reducer		1	1
9	Cap plug assembly w/O-ring		1	1
10	Shuttle disk assembly		1	1
11	Plug, G 1/4 thread			3
11	Plug, 9/16-18 UNF thread		3	
12	Washer, 13.5 x 17.5 x 1.5 [0.53 x 0.69 x 0.06]			3
12	O-ring, 11.9 x 1.98 [0.47 x 0.08]		3	
13	LS relief valve	155L6485	1	1
14	Plastic cap	155L6377	1	1
15	O-ring, 29.72 x 2.95 [1.17 x 0.12] (3-916)		1	1
16	Plug, 1 5/16-12 UNF thread		1	1
18	Plug, M22 x 1.5 thread		1	1
19	Plastic plug w/gasket (1 5/16-12 UNF thread)	156H7047	1	
19	Plastic plug w/gasket (G1 thread)	633X0176		1
20	Plastic plug w/gasket (3/4-16 UNF thread)	156H7044	1	
20	Plastic plug w/gasket (G 1/2 thread)	633X0126		1
21	Plastic plug w/gasket (1 1/16-12 UNF thread)	156H7046	1	
21	Plastic plug w/gasket (G 3/4 thread)	633X0128		1
22	Plug assembly, w/O-ring (9/16-18 UNF thread)	30021-6A	3	
22	Plug assembly, w/o washer (G 1/4 thread)	631X2036		3
23	Orifice, 0.40 dia, M10 x 1		1	1
24	Mounting bracket		1	1
25	Washer		2	2
26	Screw, M10		2	2
	Seal kit (includes item 3, 9, 12, and 15)	11016014		
	LS relief valve service tool	155L6494	1	1

E101 310E

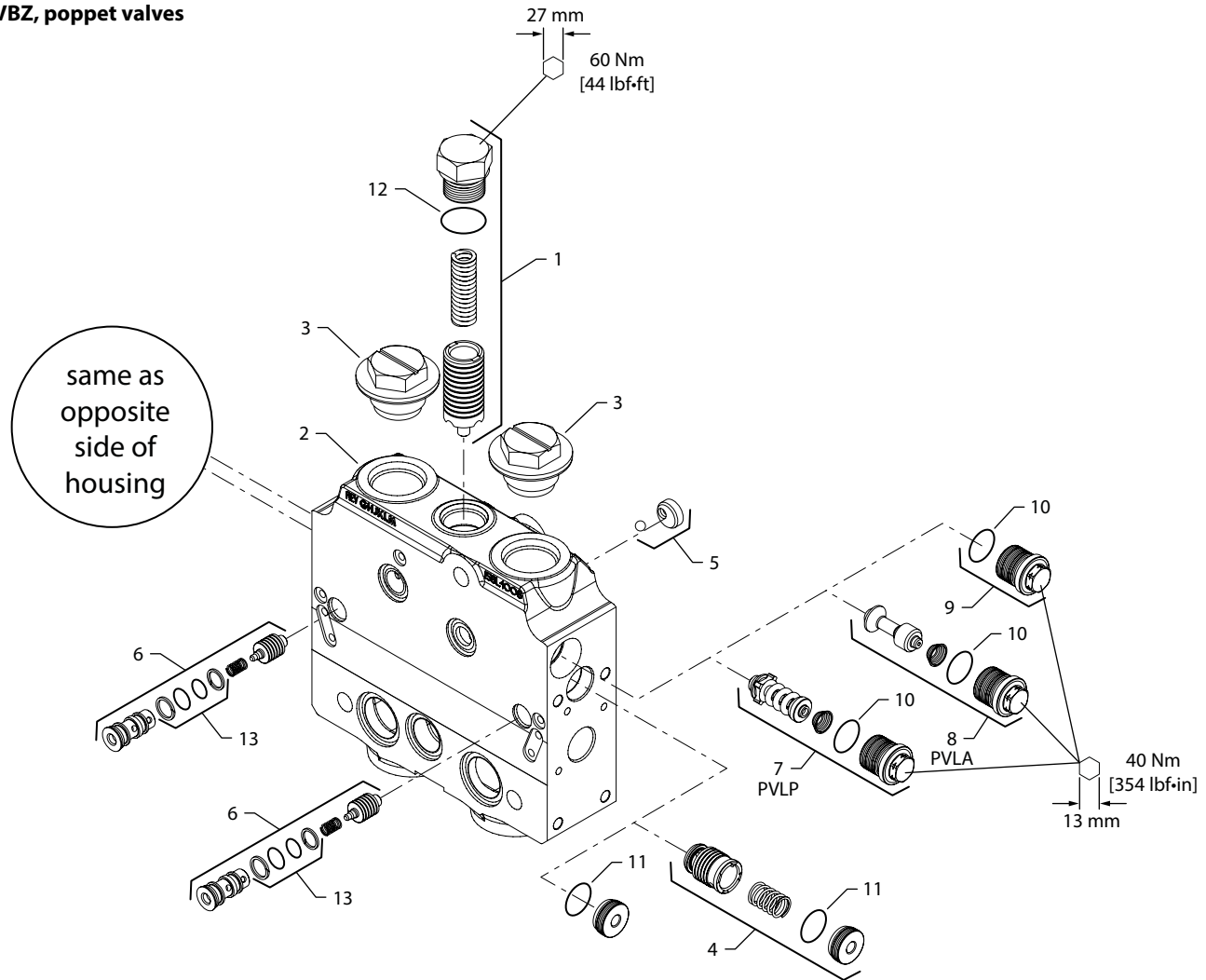


Service parts

PVB, basic module, PVLA, anti-cavitation valve

PVLP, shock and anti-cavitation valve

PVBZ, poppet valves

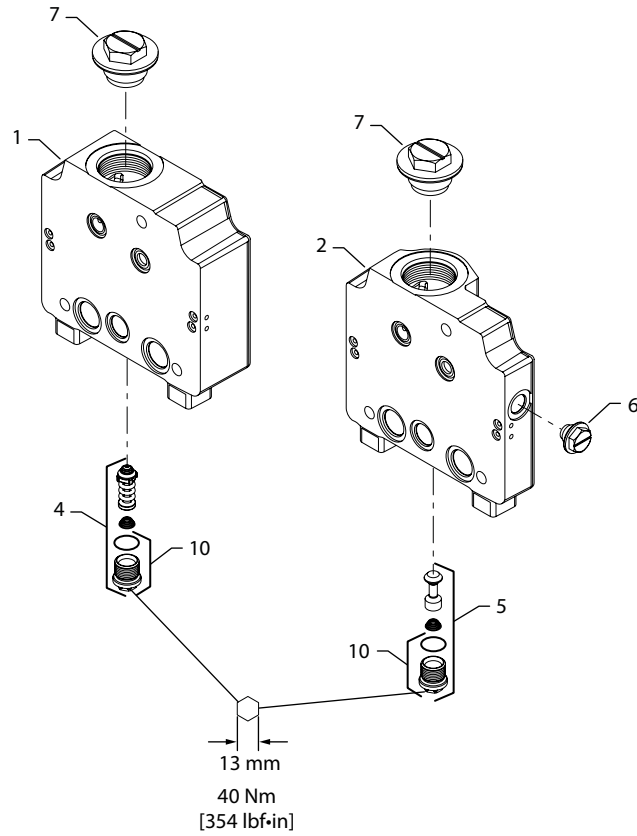


E101 311E



Service parts

PVT & PVT1 - end plate
PVT100 - tank module
PVTL 100/32 - interface
module




Service parts
PVT & PVTI - end plate
PVT100 - tank module
PVTL 100/32 - interface module

Type	Description	Code number	
		G 1 1/4 thread	1 5/8-12 thread
PVT	End plate with tank port and PVLP shock valve facility	161B2500	
			161B2520
PVT	End plate with tank port and LX port and PVLP shock valve facility	1612505	
			161B2525
PVTI	100/32 interface module with tank port and PVLP shock valve facility	161B2200	
			161B2220

Item	Description	Code No.						
1	PVTI 100/32 interface housing with tank port		1	1				
2	PVT 100 end plate housing with tank port				1	1	1	1
4	PVLP	see below	1	1	1	1	1	1
5	PVLA	157B2001	1	1	1	1	1	1
6	Shipping plug, 9/16 - 18	156H7043			1			
6	Shipping plug, G 1/4	633X0123				1		
7	Shipping plug, 1 5/8 - 12	1587058	1		1			1
7	Shipping plug, G 1 1/4	156H7057		1		1		1
10	Plug w/O-ring	157B2002	1	1	1	1	1	1

Description	Code No.	32 = 157B2032	150 = 157B2150	250 = 157B2250
PVLP	157B2 _ _ _	50 = 157B2050	160 = 157B2160	265 = 157B2265
	Pressure setting (bar)	63 = 157B2063	190 = 157B2190	280 = 157B2280
		100 = 157B2100	210 = 157B2210	300 = 157B2300
		125 = 157B2125	230 = 157B2230	320 = 157B2320
		140 = 157B2140	240 = 157B2240	350 = 157B2350


Service parts
**PVAS assembly kit for PVP
with PVT**

Type	Description	Code No.
PVAS	for 1 PVB basic module	161B8001
PVAS	for 2 PVB basic modules	161B8002
PVAS	for 3 PVB basic modules	161B8003
PVAS	for 4 PVB basic modules	161B8004
PVAS	for 5 PVB basic modules	161B8005
PVAS	for 6 PVB basic modules	161B8006
PVAS	for 7 PVB basic modules	161B8007
PVAS	for 8 PVB basic modules	161B8008

Item	Description	Code No.								
1	Nut, M10 x 1.5		3	3	3	3	3	3	3	
2	Washer		3	3	3	3	3	3	3	
3	Stay bolt, M10 x 111 mm [4.37 in]								3	
	Stay bolt, M10 x 159 mm [6.26 in]							3		
	Stay bolt, M10 x 207 mm [8.15 in]						3			
	Stay bolt, M10 x 255 mm [10.04 in]					3				
	Stay bolt, M10 x 303 mm [11.93 in]				3					
	Stay bolt, M10 x 351 mm [13.82 in]				3					
	Stay bolt, M10 x 399 mm [15.71 in]				3					
	Stay bolt, M10 x 447 mm [17.60 in]		3							
5	O-ring, 16.0 x 2.5 x [0.63 x 0.1]		18	16	14	12	10	8	6	4
6	O-ring, 5.0 x 2.0 [0.19 x 0.08]		29	26	23	20	17	14	11	8
7	O-ring, 24.0 x 3.0 [0.94 x 0.12]		18	16	14	12	10	8	6	4
8	O-ring, 20.0 x 3.0 [0.79 x 0.12]		9	8	7	6	5	4	3	2
9	O-ring, 14.0 x 2.0 [0.55 x 0.08]		16	14	12	10	8	6	4	2
	Seal kit (includes item 5, 6, 7, 8, and 9)	11003451								

E101 317E


Service parts
**PVAS assembly kit for PVP
with PVTI**

Type	Description	Code No.								
PVAS	for 1 PVB basic module	161B8021								
PVAS	for 2 PVB basic modules	161B8022								
PVAS	for 3 PVB basic modules	161B8023								
PVAS	for 4 PVB basic modules	161B8024								
PVAS	for 5 PVB basic modules	161B8025								
PVAS	for 6 PVB basic modules	161B8026								
PVAS	for 7 PVB basic modules	161B8027								
PVAS	for 8 PVB basic modules	161B8028								

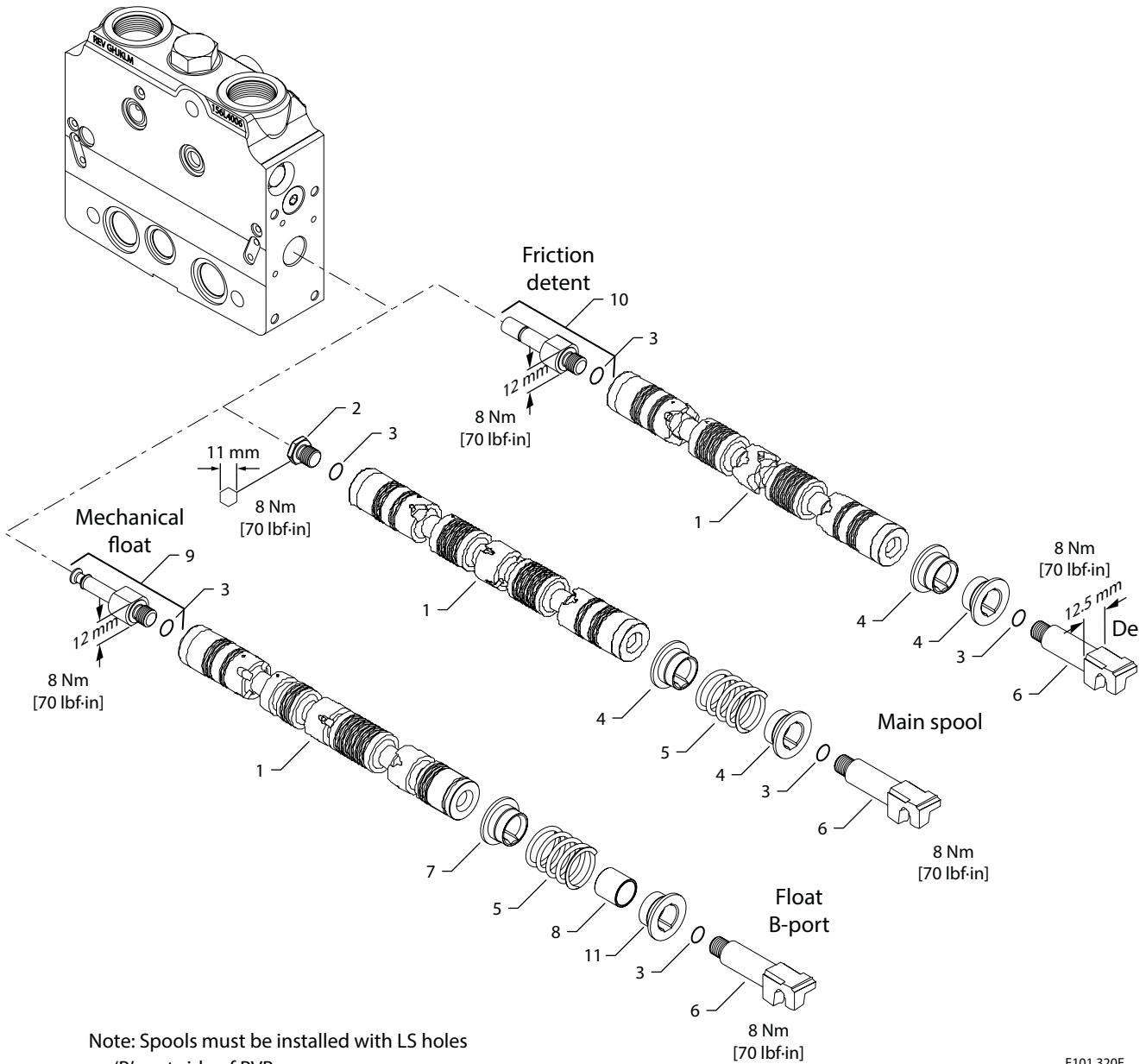
Item	Description	Code No.								
1	Nut, M10 x 1.5		3	3	3	3	3	3	3	3
2	Washer		3	3	3	3	3	3	3	3
3	Stay bolt, M10 x 111 mm [4.37 in]									3
	Stay bolt, M10 x 159 mm [6.26 in]									3
	Stay bolt, M10 x 207 mm [8.15 in]							3		
	Stay bolt, M10 x 255 mm [10.04 in]						3			
	Stay bolt, M10 x 303 mm [11.93 in]					3				
	Stay bolt, M10 x 351 mm [13.82 in]				3					
	Stay bolt, M10 x 399 mm [15.71 in]			3						
	Stay bolt, M10 x 447 mm [17.60 in]		3							
5	O-ring, 16.0 x 2.5 x [0.63 x 0.1]		18	16	14	12	10	8	6	4
6	O-ring, 5.0 x 2.0 [0.19 x 0.08]		29	26	23	20	17	14	11	8
7	O-ring, 24.0 x 3.0 [0.94 x 0.12]		18	16	14	12	10	8	6	4
8	O-ring, 20.0 x 3.0 [0.79 x 0.12]		9	8	7	6	5	4	3	2
9	O-ring, 14.0 x 2.0 [0.55 x 0.08]		16	14	12	10	8	6	4	2
	Seal kit (includes item 5, 6, 7, 8, and 9)	11003451								

E101 319E



Service parts

PVBS main spool



E101 320E


Service parts
PVBS main spool

Type	Description	Code No.
PVBS	Standard	
PVBS	Electric float position, B port	
PVBS	Mechanical float position, B port	
PVBS	Friction detent	

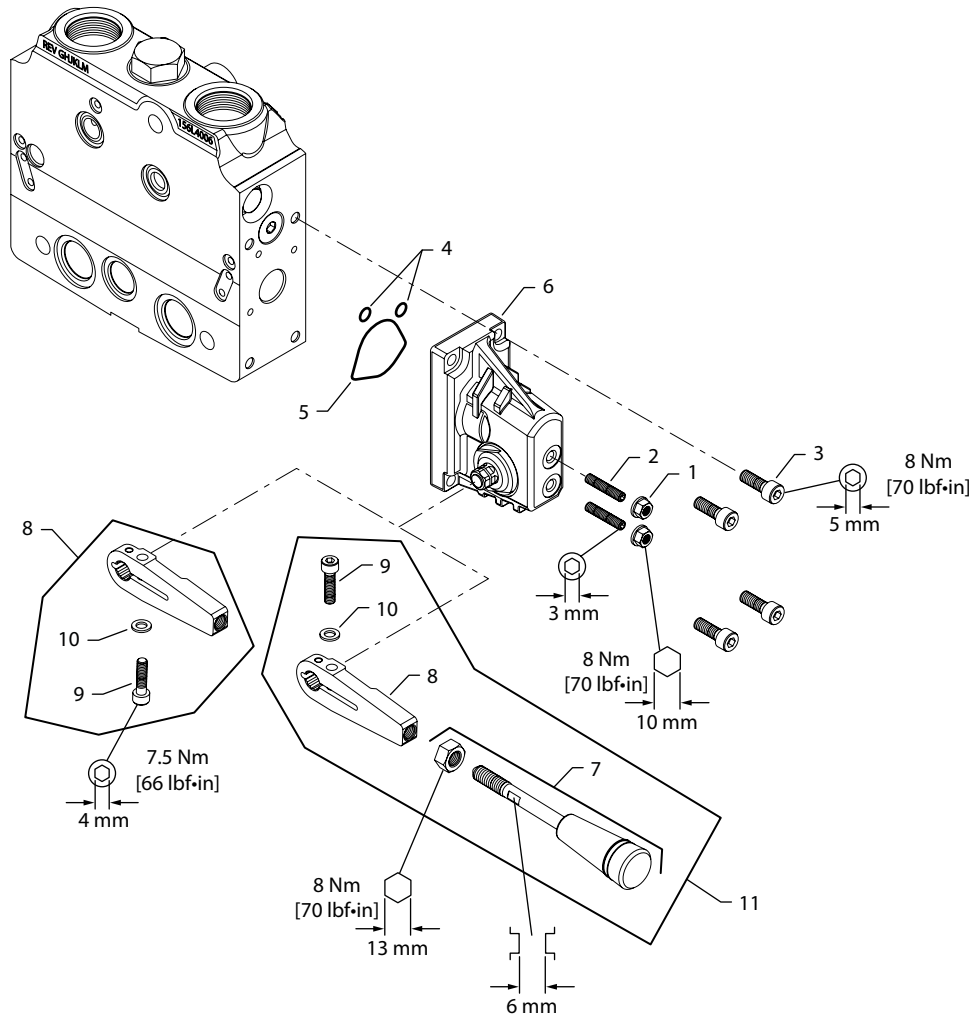
Item	Description	Code No.				
1	Main spool		1	1	1	1
2	Plug			1	1	
3	O-ring, 6.0 x 1.5 [0.24 x 0.06]		2	2	2	2
4	Spring stop, black		2			2
5	Spring			1	1	1
5	Spring, hydraulic actuation	155L7504				1
6	Tension rod		1	1	1	1
7	Spring stop (float position), gold			1	1	
8	Bushing (float position)			1	1	
9	Float position, B port (item 3 included)	155L9152		1		
10	Friction detent (item 3 included)	155L0390	1			
11	Spring stop (float position), silver			1	1	

E101 321E



Service parts

PVM, mechanical activation



E101 322E


Service parts
PVM, mechanical activation

Type	Description	Angle	Code No.
PVM	Adjustable	22.5°	157B3171
PVM	Adjustable	37.5°	157B3172
PVM	Adjustable, without lever and base	-	157B3173
PVM	Adjustable, without lever	37.5°	157B3174
PVM	Adjustable, without lever	22.5°	157B3175
PVM	Non-adjustable	22.5°	157B3191
PVM	Non-adjustable	37.5°	157B3192
PVM	Non-adjustable, without lever and base	-	157B3193
PVM	Non-adjustable, without lever	37.5°	157B3194
PVM	Non-adjustable, without lever	22.5°	157B3195

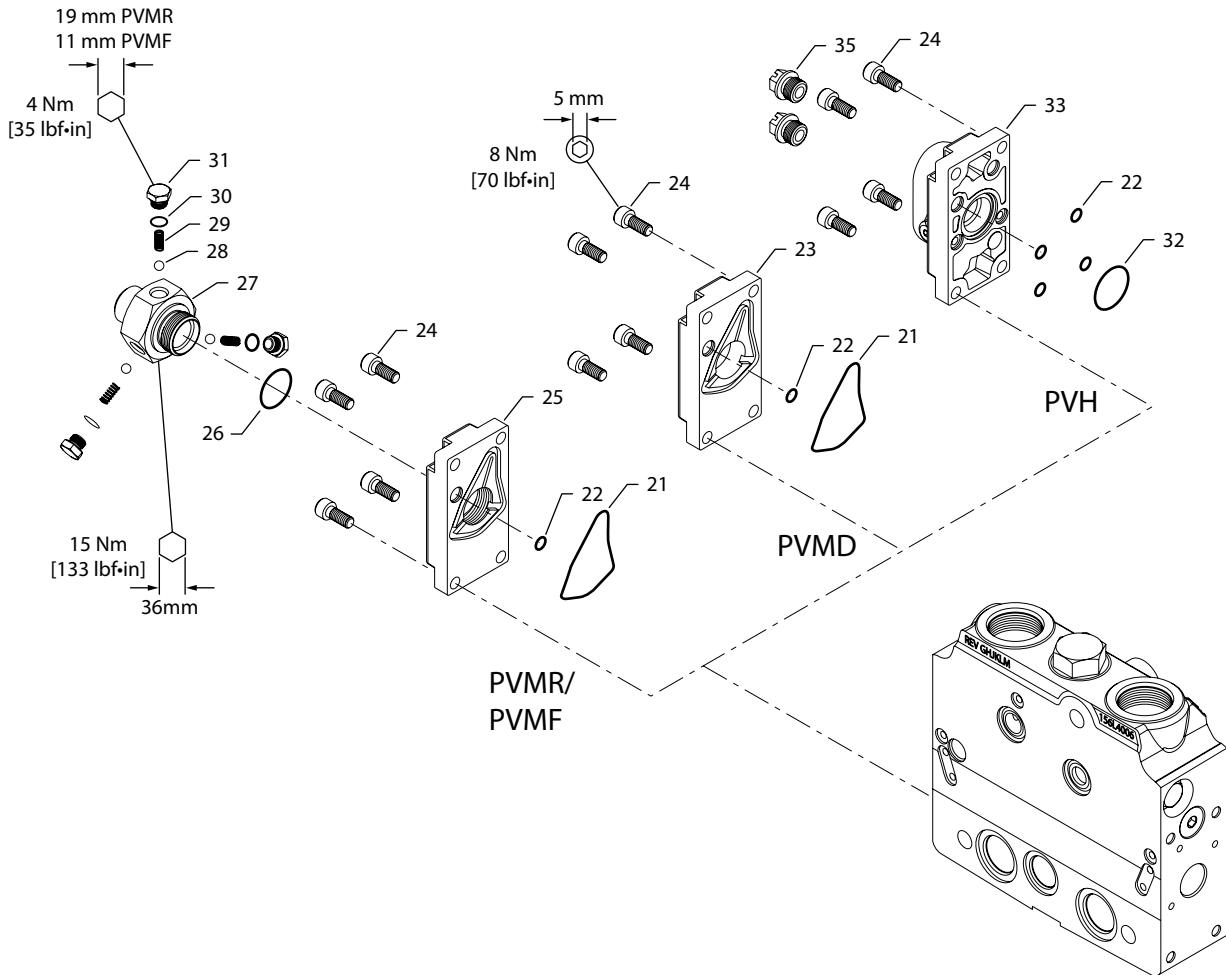
Item	Description	Code No.												
1	Seal nut	681X8270						2	2	2	2	2	2	2
2	Threaded pin	681X0323						2	2	2	2	2	2	2
3	Screw, M6 x 15 SHCS		4	4	4	4	4	4	4	4	4	4	4	4
4	O-ring, 5.0 x 2.0 [0.2 x 0.08]		2	2	2	2	2	2	2	2	2	2	2	2
5	Profile O-ring		1	1	1	1	1	1	1	1	1	1	1	1
6	Housing		1	1	1	1	1	1	1	1	1	1	1	1
7	Lever with nut					1	1						1	1
8	Base kit, 22.5°	155L3450	1				1	1						1
8	Base kit, 37.5°			1		1		1					1	
9	Screw, M5 x 25 SS SHCS		1	1		1	1	1	1				1	1
10	Washer		1	1		1	1	1	1				1	1
11	Base/lever kit, 22.5°	155L3154					1							1
11	Base/lever kit, 37.5°					1							1	
	Seal kit (includes item 4 and 5)	157B3999	1	1	1	1	1	1	1	1	1	1	1	1

E101 323E



Service parts

PVH, PVMD, PVMF, and PVMR covers



E101 324E


Service parts
**PVH, PVM, PVMD, PVMF,
and PVMR covers**

Type	Description	Code No.					
PVMD	Mechanical activated cover	157B0001					
PVH	Hydraulic activated cover, G 1/4 - thread	157B0008					
	Hydraulic activated cover, 9/16 - 18 UNF thread	157B0007					
PVMR	Mechanical detent	157B0015					
PVMF	Mechanical float	157B0005					

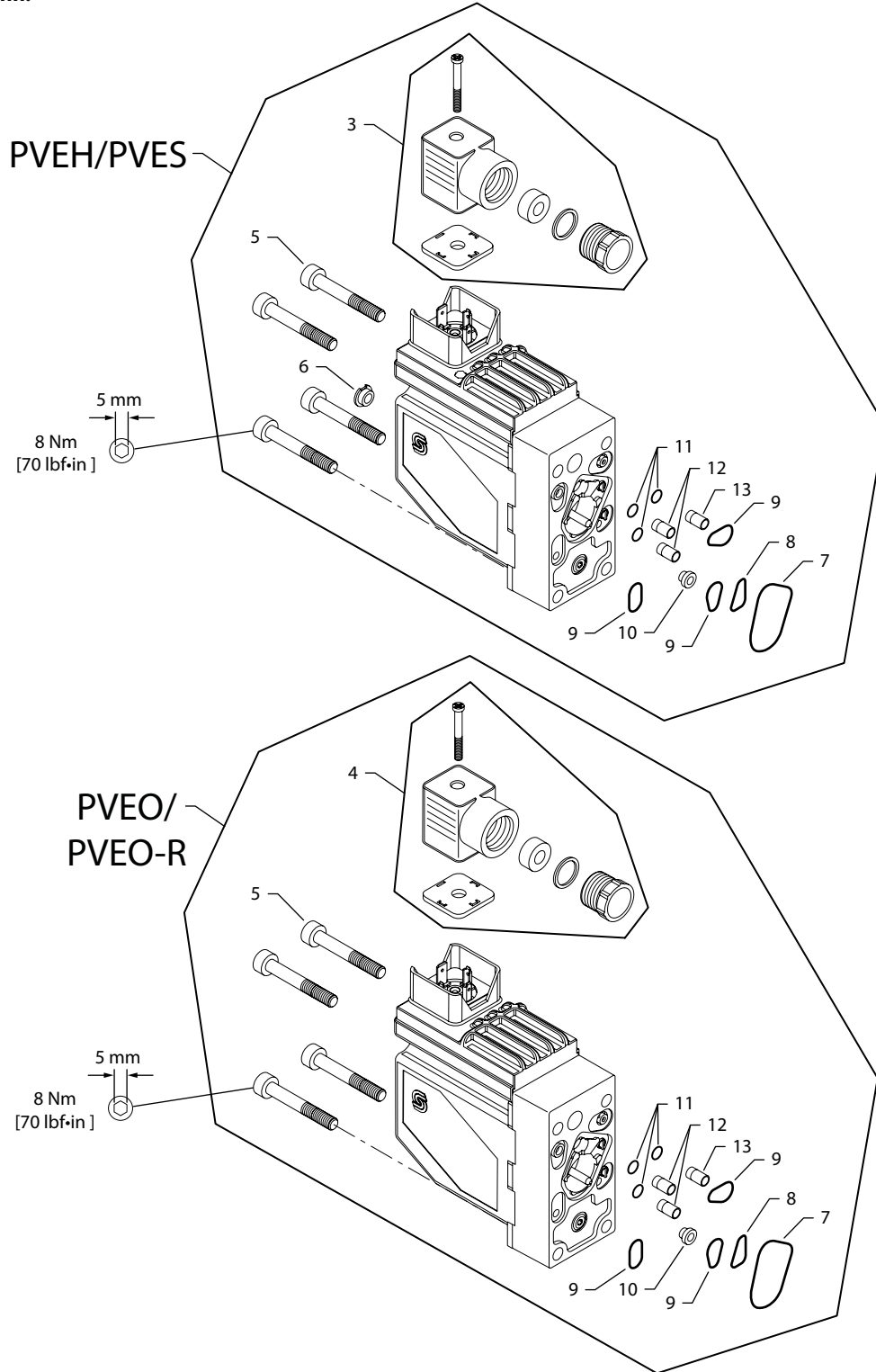
Item	Description	Code No.					
21	Profile O-ring		1	1			1
22	O-ring, 5.0 x 2.0 [0.2 x 0.08]		1	1	4	4	1
23	Cover						1
24	Screw, M6 x 15		4	4	4	4	4
25	Cover (PVMF/PVMR)		1				
26	O-ring, 19.3 x 2.4 [0.76 x 0.09] (PVMF/PVMR)		1	1			
27	Plug (PVMF)		1				
27	Plug (PVMR)			1			
28	Ball, 5 mm [0.5] (PVMF/PVMR)		3	3			
29	Spring (PVMR)			3			
29	Spring (PVMF)		3				
30	O-ring, 6.0 x 1.5 [0.24 x 0.59] (PVMF)		3				
30	O-ring, 14.0 x 2.0 [0.55 x 0.08] (PVMR)			3			
31	Plug (PVMF)		3				
31	Plug (PVMR)			3			
32	O-ring, 21.3 x 2.4 [0.84 x 0.09]				1	1	
33	Cover, G 1/4 - thread						1
33	Cover, 9/16 - 18 UNF thread				1		
35	Sealing plug, G 1/4 - thread						2
35	Sealing plug, 9/16 - 18 UNF thread				2		
	Seal kit (includes item 21, 22, 26, 30, and 32)	157B3999	1	1	1	1	1

E101 325E



Service parts

Electrical activation,
Hirschmann conn.



E101 326E


Service parts
**Electrical activation,
Hirschmann conn.**

On/OFF actuation		Code No.
PVEO	On/OFF, 12 volt, Hirschmann connector	157B4216
	On/OFF, 24 volt, Hirschmann connector	157B4228
PVEO-R	On/OFF with ramp, 12 volt, Hirschmann connector	157B4217
	On/OFF with ramp, 24 volt, Hirschmann connector	157B4229

Proportional actuation		Code No.
PVEH	Standard, active fault monitoring, 11-32 volt, Hirschmann conn.	157B4032
	Standard, passive fault monitoring, 11-32 volt, Hirschmann conn.	157B4033
	Float, active fault monitoring, 11-32 volt, Hirschmann conn.	157B4332
PVES	0% hysteresis active fault monitoring, 11-32 volt, Hirschmann conn.	157B4832
	0% hysteresis passive fault monitoring, 11-32 volt, Hirschmann conn.	157B4832

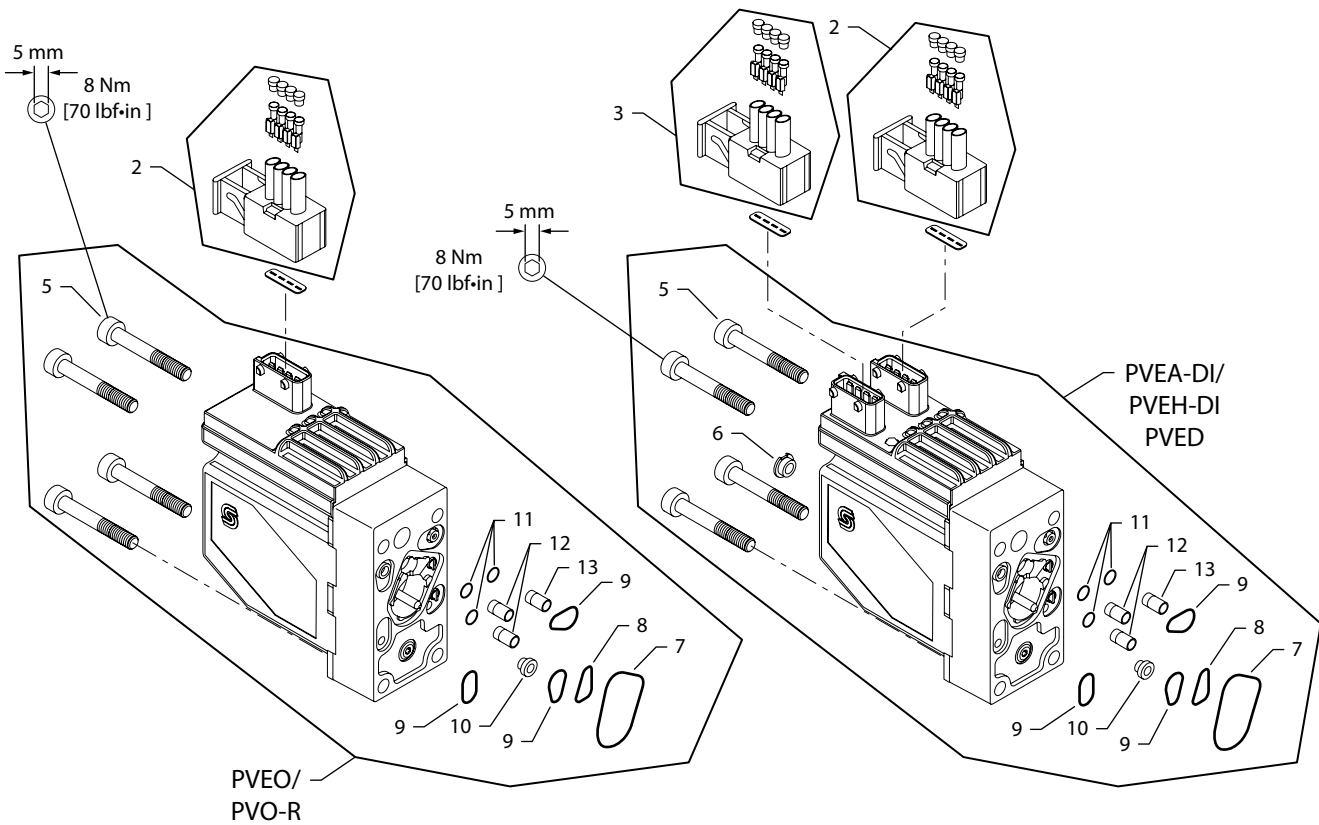
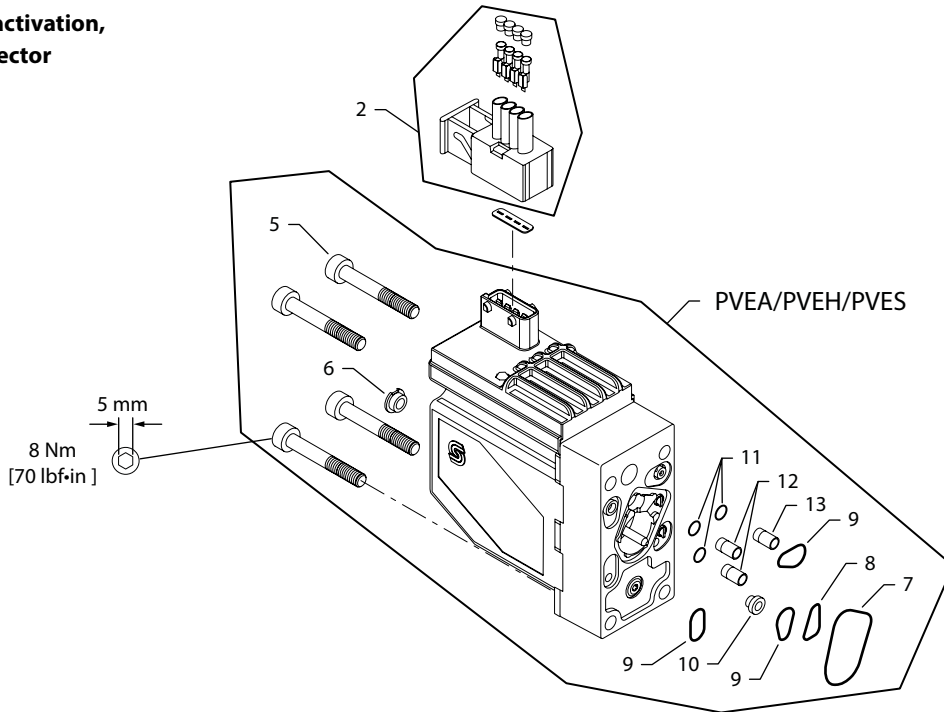
Item	Description	Code No.												
3	Electric plug, DIN 43650, gray, PG 11	984L3286	1	1	1	1	1							
4	Electric plug, Din 43650, black, PG 9	984L3156						1	1	1	1			
5	Screw, M6 x 33		4	4	4	4	4	4	4	4	4	4	4	4
6	Plug		1	1	1	1	1							
7*	O-ring, 30.0 x 2.5 [1.18 x 0.10]		1	1	1	1	1	1	1	1	1	1	1	1
8*	O-ring, 8.0 x 2.0 [.35 x 0.08]		1	1	1	1	1	1	1	1	1	1	1	1
9*	O-ring, 10.0 x 2.0 [0.39 x 0.08]		3	3	3	3	3	3	3	3	3	3	3	3
10*	Filter		1	1	1	1	1	1	1	1	1	1	1	1
11*	O-ring, 4.0 x 1.0 [0.16 x 0.04]		3	3	3	3	3	3	3	3	3	3	3	3
12	Check valve		2	2	2	2	2	2	2	2	2	2	2	2
13	Orifice, 1.0 mm [0.04]		1	1	1	1	1							
	Orifice, 0.8 mm [0.03]							1	1	1	1			
	Seal kit (includes item 7, 8, 9, 10, and 11)	157B4997	1	1	1	1	1	1	1	1	1	1	1	1

E101 327E



Service parts

Electrical activation,
AMP connector




Service parts
Electrical activation, AMP connector

On/OFF actuation		Code No.
PVEO	On/OFF, 12 volt, AMP connector	157B4901
	On/OFF, 24 volt, AMP connector	157B4902
PVEO-R	On/OFF with ramp, 12 volt, AMP connector	157B4903
	On/OFF with ramp, 24 volt, AMP connector	157B4904

Proportional actuation		Code No.
PVEA	Standard, active fault monitoring, 11-32 volt, AMP conn.	157B4734
	Standard, passive fault monitoring, 11-32 volt, AMP conn.	157B4735
PVEA-DI	Standard, active fault monitoring, 11-32 volt, AMP conn.	157B4736
	Standard, passive fault monitoring, 11-32 volt, AMP conn.	157B4737
PVEH	Standard, active fault monitoring, 11-32 volt, AMP conn.	157B4034
	Standard, passive fault monitoring, 11-32 volt, AMP conn.	157B4035
PVEH-DI	Standard, active fault monitoring, 11-32 volt, AMP conn.	157B4036
	Standard, passive fault monitoring, 11-32 volt, AMP conn.	157B4037
PVES	0% hysteresis active fault monitoring, 11-32 volt, AMP conn.	157B4834
	0% hysteresis passive fault monitoring, 11-32 volt, AMP conn.	157B4835
PVED	0% hyst., passive or active fault monitoring, 11-32 volt, AMP	157B4943

Item	Description	Code No.	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
2	AMP female connector, gray	157B4992	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
3	AMP female connector, black	157B4993	1			1	1			1	1			1				
5	Screw, M6 x 33		4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4
6	Plug		1	1	1	1	1	1	1	1	1	1	1					
7	O-ring, 30.0 x 2.5 [1.18 x 0.10]		1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
8	O-ring, 8.0 x 2.0 [.35 x 0.08]		1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
9	O-ring, 10.0 x 2.0 [0.39 x 0.08]		3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3
10	Filter		1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
11	O-ring, 4.0 x 1.0 [0.16 x 0.04]		3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3
12	Check valve		2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2
13	Orifice, 1.0 mm [0.04]		1	1	1	1	1	1	1	1	1	1	1					
	Orifice, 0.8 mm [0.03]														1	1	1	1
	Seal kit (includes item 7, 8, 9, 10, and 11)	157B4997	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1

**Seal kits****Seal kits for PVG 100**

Module	Code No.	Page No.
PVM / PVH / PVMD / PVMR / PVMF	157B3999	35, 37
PVEO/PVEA/PVEH/PVES/PVEH-DI/PVED	157B4997	39, 41
PVPPV/PVPPF/PVBP/PVT/PVTI (for each sealing face)	11003451	29, 31
PVPP	35400321	19
PVPE	155G8527	19

P106 300E



Notes



Products we offer:

- Bent Axis Motors
- Closed Circuit Axial Piston Pumps and Motors
- Displays
- Electrohydraulic Power Steering
- Electrohydraulics
- Hydraulic Power Steering
- Integrated Systems
- Joysticks and Control Handles
- Microcontrollers and Software
- Open Circuit Axial Piston Pumps
- Orbital Motors
- PLUS+1® GUIDE
- Proportional Valves
- Sensors
- Steering
- Transit Mixer Drives

Danfoss Power Solutions is a global manufacturer and supplier of high-quality hydraulic and electronic components. We specialize in providing state-of-the-art technology and solutions that excel in the harsh operating conditions of the mobile off-highway market. Building on our extensive applications expertise, we work closely with our customers to ensure exceptional performance for a broad range of off-highway vehicles.

We help OEMs around the world speed up system development, reduce costs and bring vehicles to market faster.

Danfoss – Your Strongest Partner in Mobile Hydraulics.

Go to www.powersolutions.danfoss.com for further product information.

Wherever off-highway vehicles are at work, so is Danfoss.

We offer expert worldwide support for our customers, ensuring the best possible solutions for outstanding performance. And with an extensive network of Global Service Partners, we also provide comprehensive global service for all of our components.

Please contact the Danfoss Power Solution representative nearest you.

Comatrol

www.comatrol.com

Schwarz Müller-Inverter

www.schwarzmueller-inverter.com

Turolla

www.turollaocg.com

Valmova

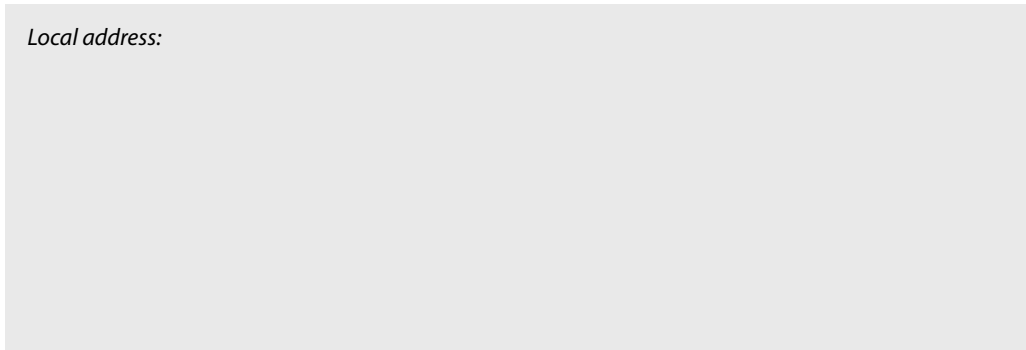
www.valmova.com

Hydro-Gear

www.hydro-gear.com

Daikin-Sauer-Danfoss

www.daikin-sauer-danfoss.com



Local address:

Danfoss Power Solutions US Company
2800 East 13th Street
Ames, IA 50010, USA
Phone: +1 515 239 6000

Danfoss Power Solutions GmbH & Co. OHG
Krokamp 35
D-24539 Neumünster, Germany
Phone: +49 4321 871 0

Danfoss Power Solutions ApS
Nordborgvej 81
DK-6430 Nordborg, Denmark
Phone: +45 7488 4444

Danfoss Power Solutions
Building #22, No. 1000 Jin Hai Rd
Jin Qiao, Pudong New District
Shanghai, China 201206
Phone: +86 21 3418 5200

Danfoss can accept no responsibility for possible errors in catalogues, brochures and other printed material. Danfoss reserves the right to alter its products without notice. This also applies to products already on order provided that such alterations can be made without subsequential changes being necessary in specifications already agreed. All trademarks in this material are property of the respective companies. Danfoss and the Danfoss logotype are trademarks of Danfoss A/S. All rights reserved.