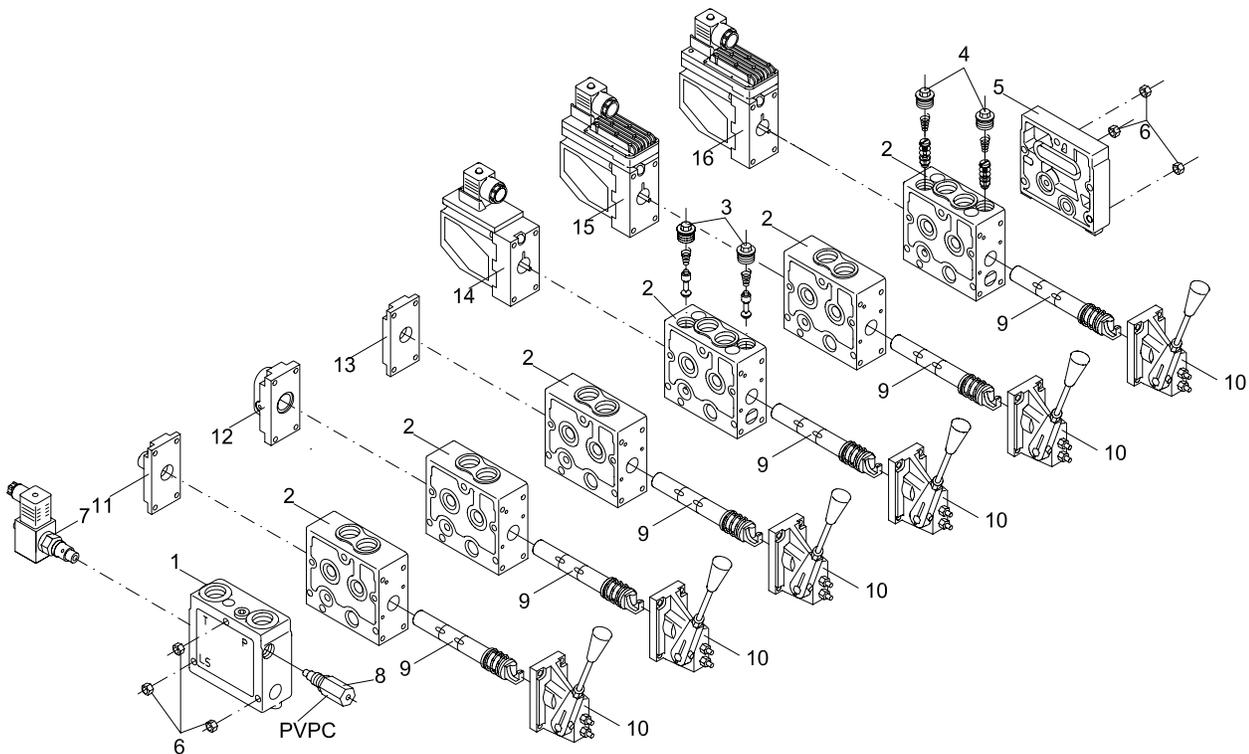


SURVEY

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157-111.10

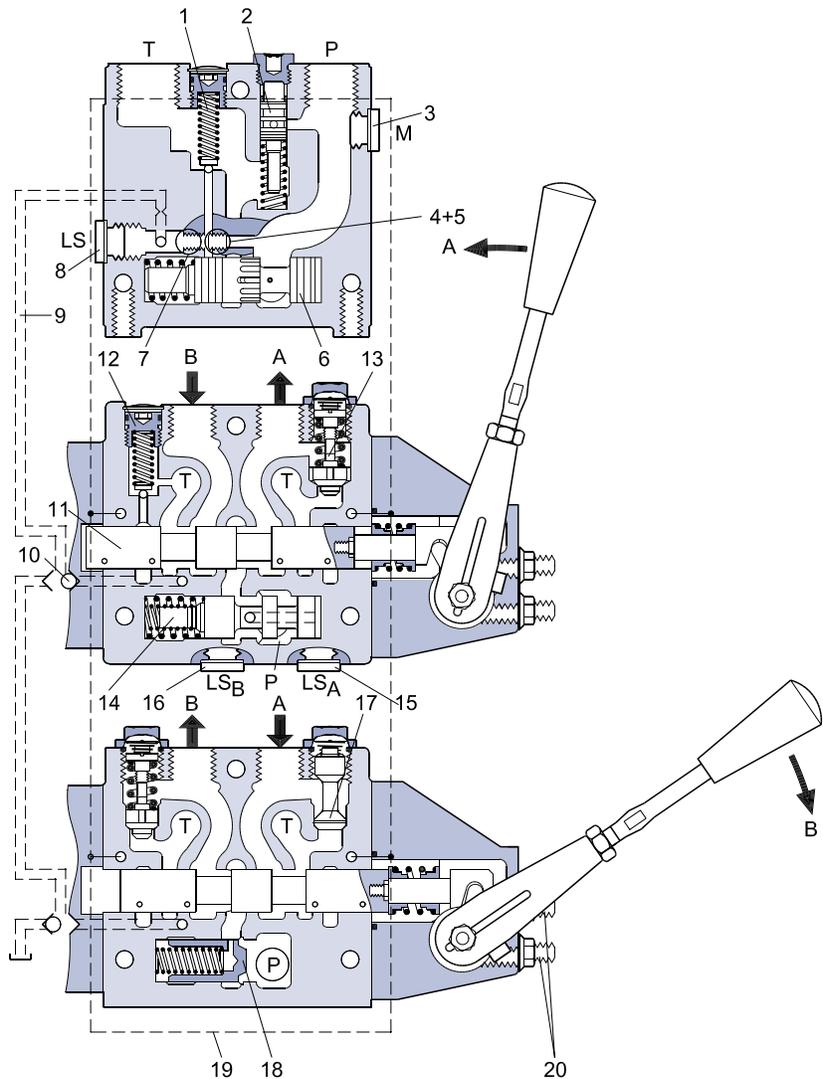
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Frontpage: P300006.TIF, P300007.TIF, P300010.TIF, F72269.TIF, Drawing 157-195.ai

PVG 32
SECTIONAL DRAWING

- | | |
|--|--|
| 1. Pressure relief valve | 11. Main spool |
| 2. Pressure reduction valve for pilot supply | 12. LS-pressure relief valve |
| 3. Pressure gauge connection | 13. Shock and suction valve, PVLP |
| 4. Plug, open center | 14. Pressure compensator |
| 5. Orifice, closed center | 15. LS-connection, port A |
| 6. Pressure adjustment spool | 16. LS-connection, port B |
| 7. Plug, closed center | 17. Anti cavitation valve, PVLA |
| 8. LS-connection | 18. Load drop check valve |
| 9. LS-signal | 19. Pilot supply for PVE |
| 10. Shuttle valve | 20. Max. oil flow adjustment screws for port A and B |



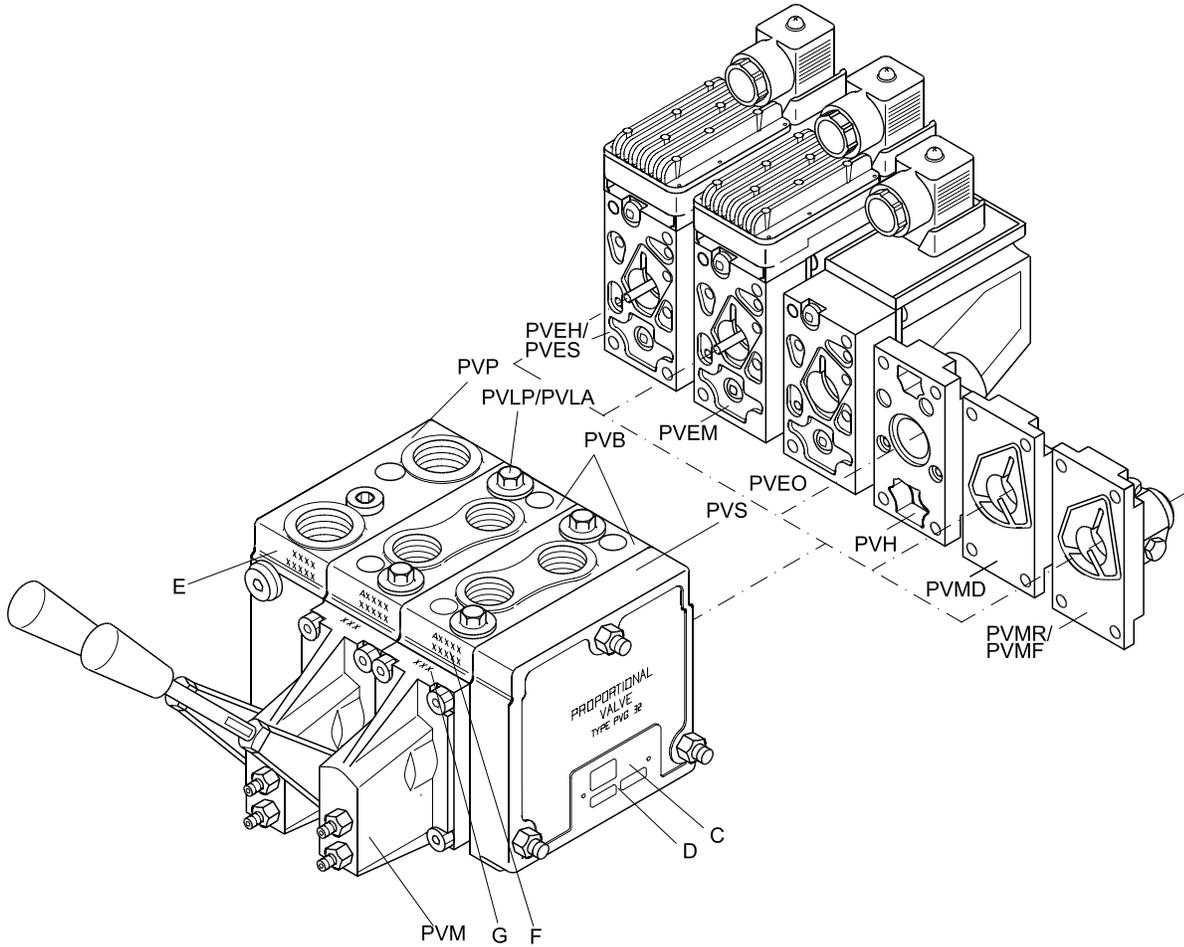
157-104.10

COST-FREE REPAIRS

We would point out that cost-free repairs as mentioned in Sauer-Danfoss General Conditions of Sale, are carried out only at Sauer-Danfoss or at service shops authorized by Sauer-Danfoss.

**STANDARD
INSTALLATION:
PVM TO THE RIGHT
OF PVP**

01 3 A 0 0299
 Week of manufacture ————|
 Year of manufacture ————|
 Day of the week ————|
 (A = Monday, B = Tuesday ...)
 Issue number ————|
 Series number ————|

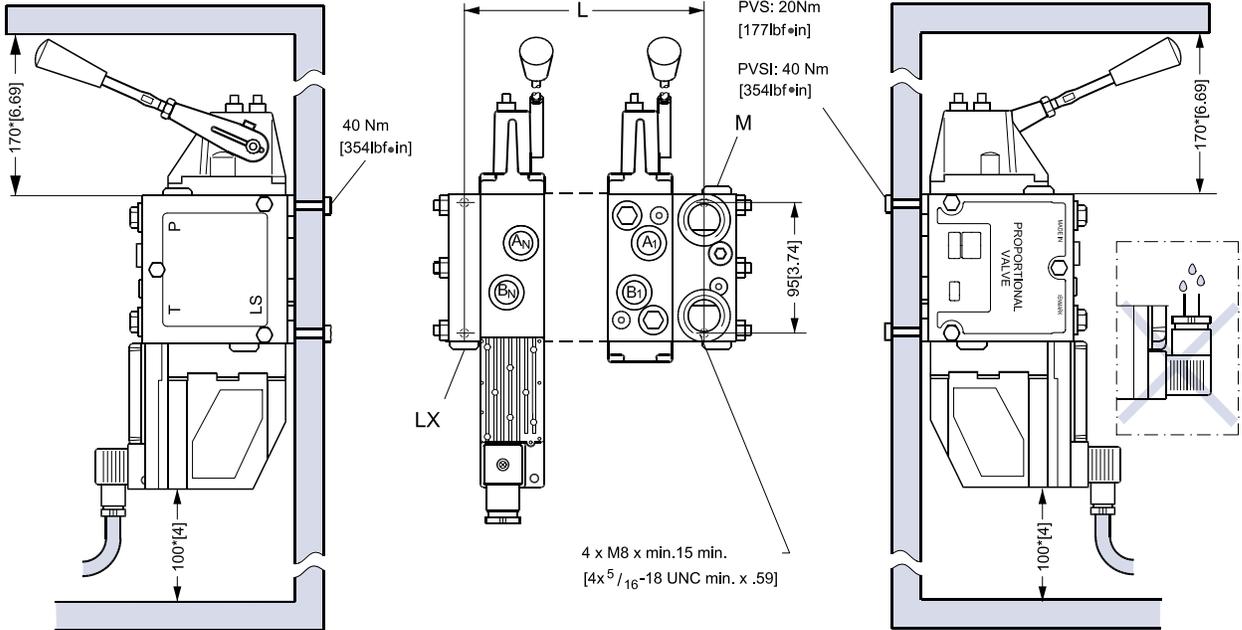


157-69.10.10

- C: PVG-Number, week and year of installation
- D: PVP-pressure setting
- E: PVP-Number, Week , year and day manufacturing, issue and series No.
- F: PVB-A-Port, Number, Week , year and day manufacturing, issue and series No.

INSTALLATION AND PLUG ORIENTATION

Modul of PVB	1	2	3	4	5	6	7	8	9	10
L mm	82	130	178	226	274	322	370	418	466	514
L in	3.23	5.12	7.01	8.90	10.79	12.68	14.57	16.46	18.35	20.24

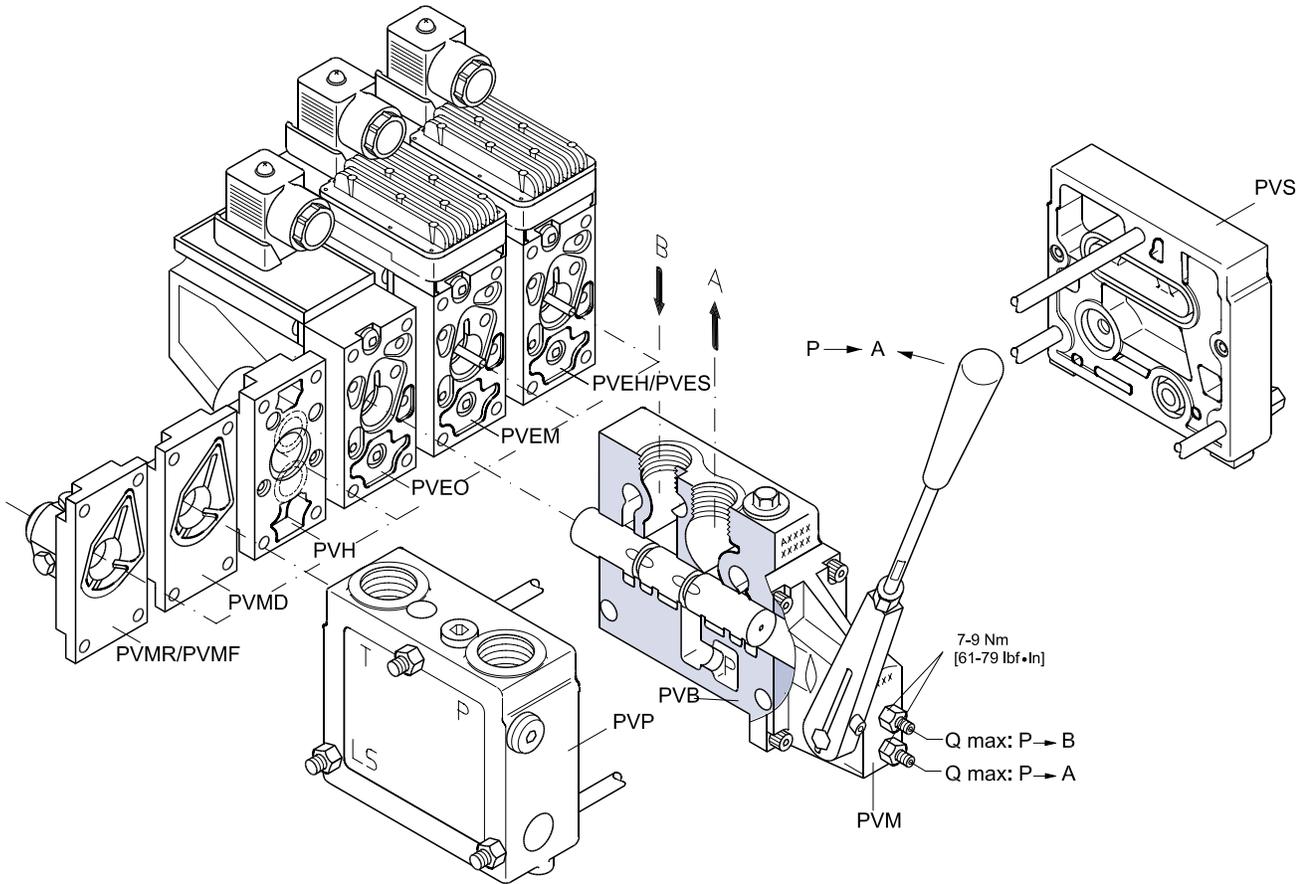


157-63.10

* Room for dismantling

**STANDARD,
OIL FLOW DIRECTION
AND SETTING OF MAX.
FLOW**

**PVM TO THE RIGH OF
PVP**



157-285.10

**STANDARD,
OIL FLOW DIRECTION
AND SETTING OF MAX.
FLOW**

**PVM TO THE RIGHTH OF
PVP**

Electrical connection

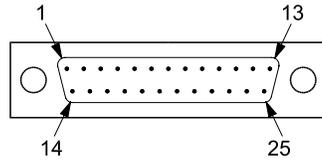
Proportional activation

U_{DC}	11 - 15 V ==		22 - 30 V ==	
Pin	1 (U+)	2 (U _s)	1 (U+)	2 (U _s)
Q:P → A	U_{DC}	$(0.5 \rightarrow 0.25) \times U_{DC}$	U_{DC}	$(0.5 \rightarrow 0.25) \times U_{DC}$
Q:P → B	U_{DC}	$(0.5 \rightarrow 0.75) \times U_{DC}$	U_{DC}	$(0.5 \rightarrow 0.75) \times U_{DC}$
Neutral	U_{DC}	$0.5 \times U_{DC}$	U_{DC}	$0.5 \times U_{DC}$

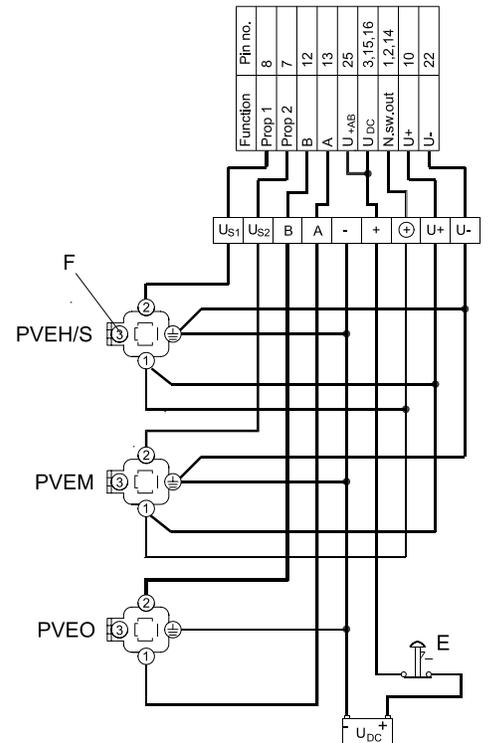
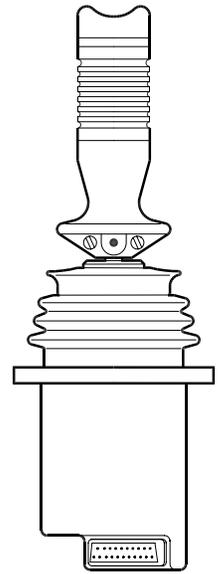
On/off activation

U_{DC}	11 - 15 V ==		22 - 30 V ==	
Pin	1	2	1	2
Q:P → A	U_{DC}	0	U_{DC}	0
Q:P → B	U_{DC}	U_{DC}	U_{DC}	U_{DC}
Neutral	0	0	0	0

**25 Pin SUB-D connector
with M3 screws (MIL-DTL-24308)**



162B78.10

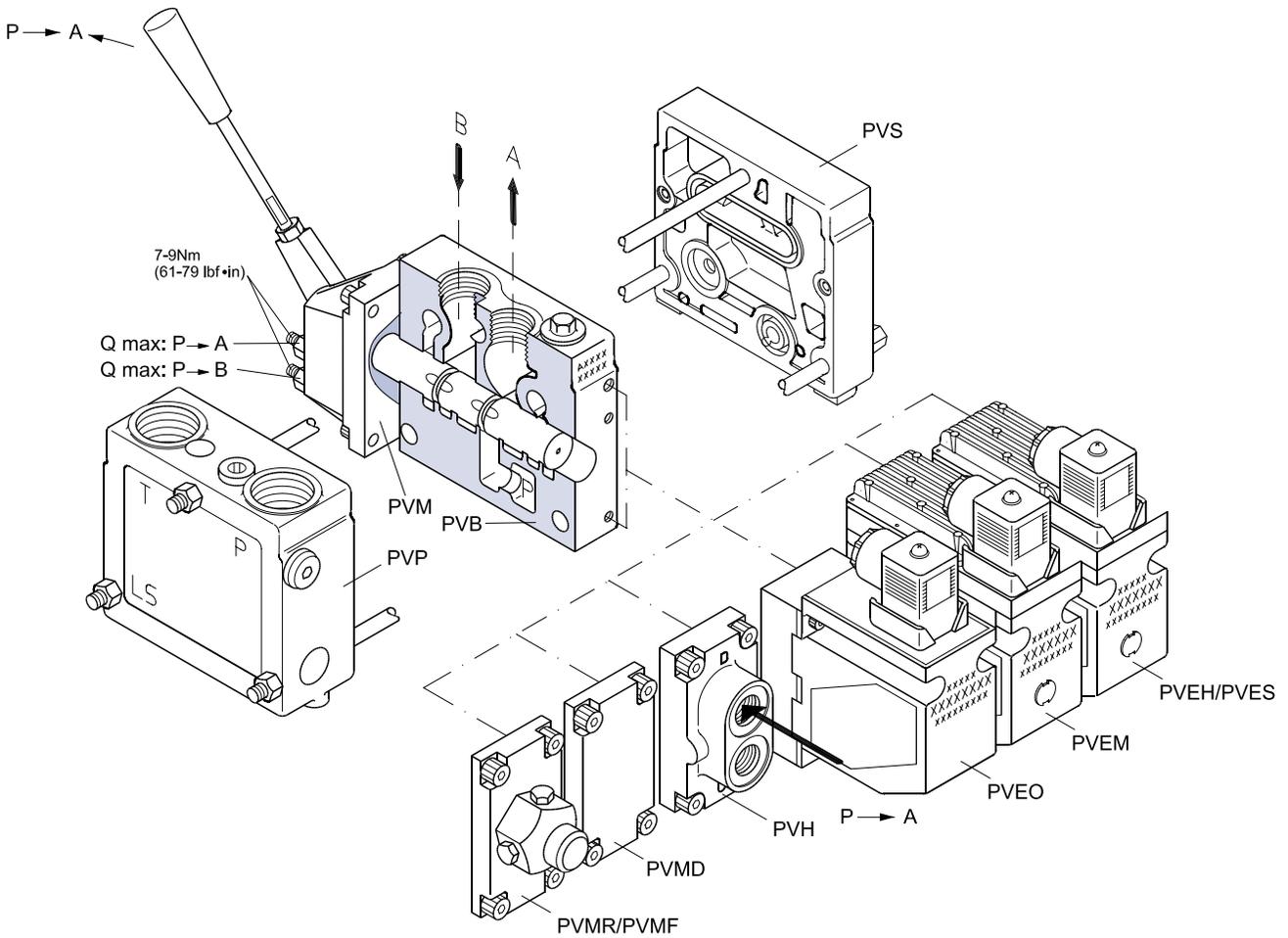


F: Branch circuit for fault indication
E: Emergency circuit breaker

155B539.10

**OPTION,
OIL FLOW DIRECTION
AND SETTING OF MAX
FLOW**

PVM TO THE LEFT OF PVP



157-70.10

**OPTION,
OIL FLOW DIRECTION
AND SETTING OF MAX
FLOW**

PVM TO THE LEFT OF PVP

Electrical connection

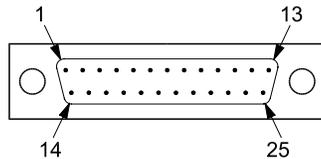
Proportional activation

U_{DC}	11 - 15 V ==		22 - 30 V ==	
Pin	1 (U+)	2 (U _s)	1 (U+)	2 (U _s)
Q:P → A	U_{DC}	$(0.5 \rightarrow 0.75) \times U_{DC}$	U_{DC}	$(0.5 \rightarrow 0.75) \times U_{DC}$
Q:P → B	U_{DC}	$(0.5 \rightarrow 0.25) \times U_{DC}$	U_{DC}	$(0.5 \rightarrow 0.25) \times U_{DC}$
Neutral	U_{DC}	$0.5 \times U_{DC}$	U_{DC}	$0.5 \times U_{DC}$

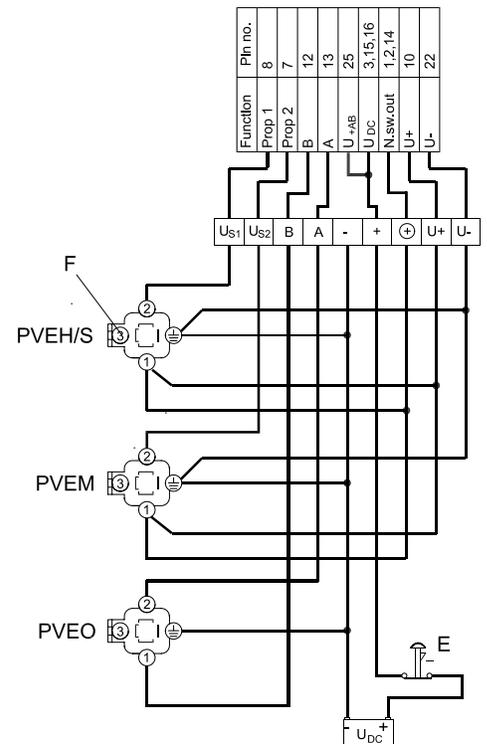
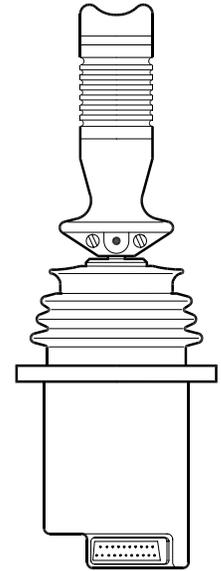
On/off activation

U_{DC}	11 - 15 V ==		22 - 30 V ==	
Pin	1	2	1	2
Q:P → A	U_{DC}	0	U_{DC}	0
Q:P → B	U_{DC}	U_{DC}	U_{DC}	U_{DC}
Neutral	0	0	0	0

25 Pin SUB-D connector
with M3 screws (MIL-DTL-24308)



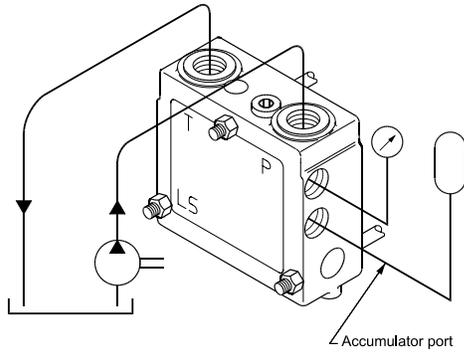
162B78.10



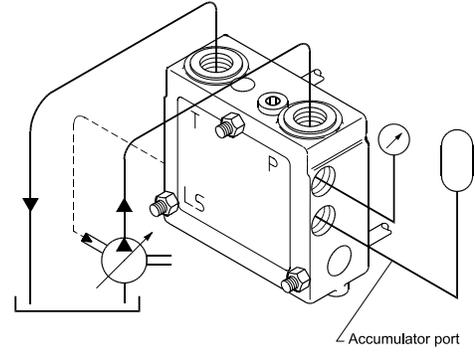
F: Branch circuit for fault indication
E: Emergency circuit breaker

155B568.10

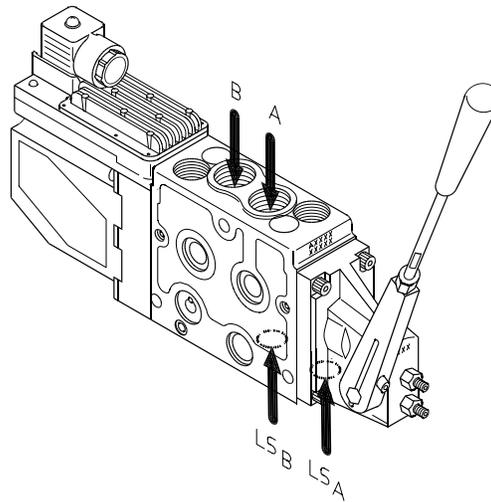
**CONNECTIONS,
PUMP SIDE MODULE, PVP**



157-81.10



157-66.10

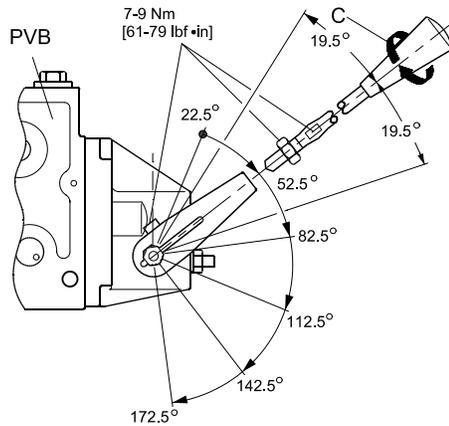


157-65.10

Max. tightening torque	Connection							
	P		A/B	T	LS, M, LSA, LSB, PVH, Accumulator	LX		
	BSP.F					PVS	PVSI	
Screwed connection	G 1/2	G 3/4	G 1/2	G 3/4	G 1/4	G 1/8	G 1/4	
With steel washer	130 Nm (1150 lbf-in)	210 Nm (1850 lbf-in)	130 Nm (1150 lbf-in)	210 Nm (1850 lbf-in)	40 Nm (350 lbf-in)	17 Nm (150 lbf-in)	40 Nm (350 lbf-in)	
With cooper washer	30 Nm (270 lbf-in)	50 Nm (445 lbf-in)	30 Nm (270 lbf-in)	50 Nm (445 lbf-in)	20 Nm (180 lbf-in)	15 Nm (135 lbf-in)	20 Nm (180 lbf-in)	
With aluminium washer	70 Nm (620 lbf-in)	110 Nm (970 lbf-in)	70 Nm (620 lbf-in)	110 Nm (970 lbf-in)	30 Nm (270 lbf-in)	15 Nm (135 lbf-in)	30 Nm (270 lbf-in)	
With cutting edge	130 Nm (1150 lbf-in)	210 Nm (1850 lbf-in)	130 Nm (1150 lbf-in)	210 Nm (1850 lbf-in)	40 Nm (350 lbf-in)	17 Nm (150 lbf-in)	40 Nm (350 lbf-in)	
Screwed connection	UNF							
	7/8 in-14	1 1/16 in-12	7/8 in-14	1 1/16 in-12	1/2 in-20	3/8 in-24	1/2 in-20	
O-ring	90 Nm (800 in-lbs)	120 Nm (1060 in-lbs)	90 Nm (800 in-lbs)	120 Nm (1060 in-lbs)	30 Nm (270 in-lbs)	10 Nm (90 in-lbs)	30 Nm (270 in-lbs)	

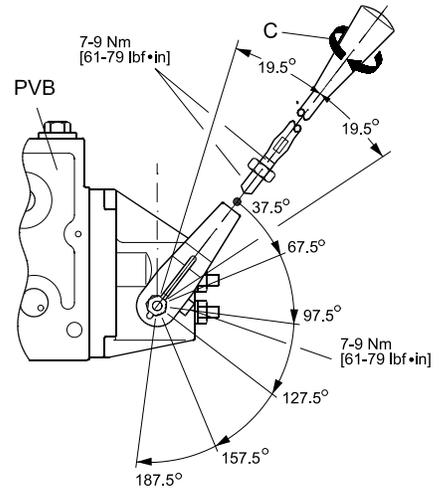
INSTALLATION OF LEVER Screw the lever completely home

Base with an angle of 22.5°



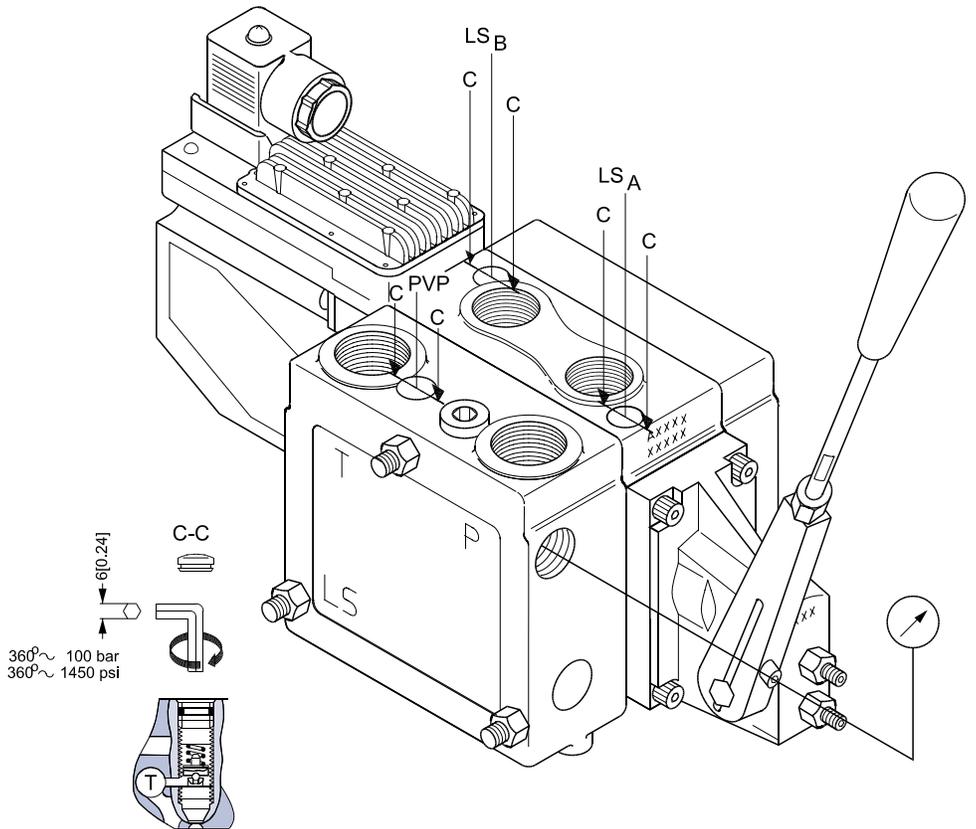
157-75.10

Base with an angle of 37.5°



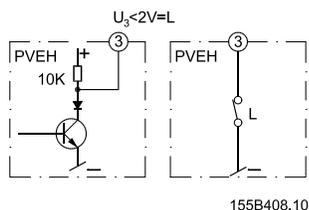
157-64.10

PRESSURE SETTING
PVP, LS_A, LS_B



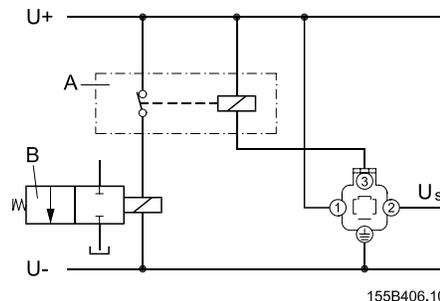
157-67.10

PVE FAULT MONITORING

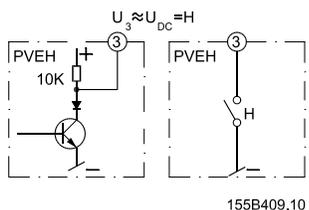


Green

Normal

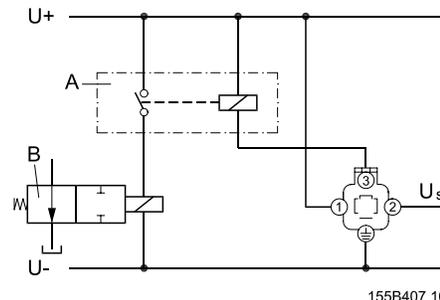


A: External relay
B: Solenoid valve



Red

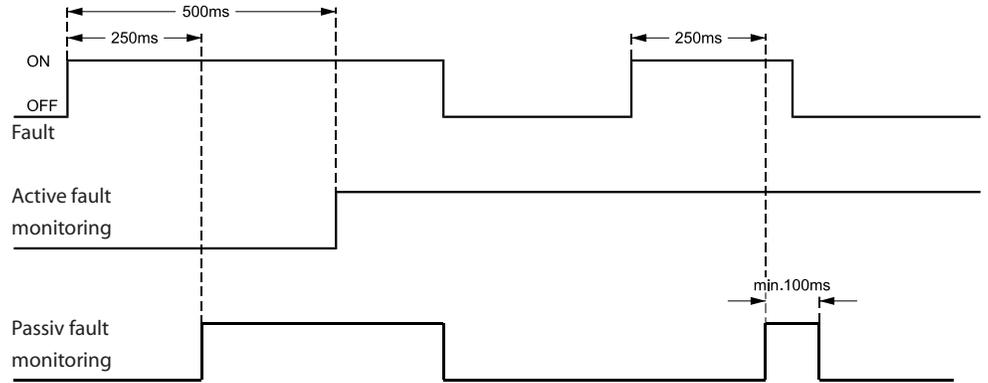
Fault



A: External relay
B: Solenoid valve

PVE FAULT MONITORING

Reaction time



155B492.10

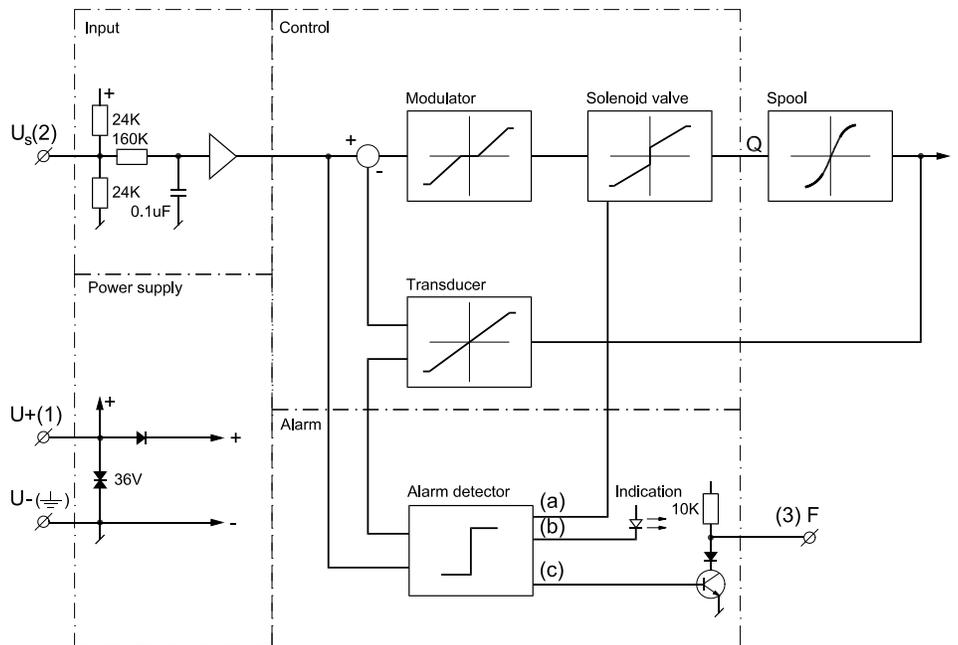
BLOCK DIAGRAM

Active

- (a): Cut-off of solenoid valves
- (b): Control signal for LED
- (c): Control signal for alarm output

Passive

- (a): Does not exist
- (b): Control signal for LED
- (c): Control signal for alarm output



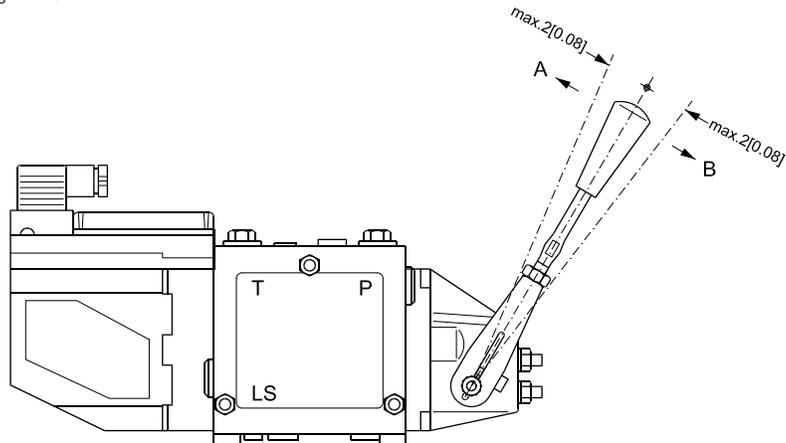
157-275.10

PVEH / PVEM / PVES

**ADJUSTMENT OF PVE
WHEN MAX. LEVER
TRAVEL IS EXCEEDED
(PVE IS FACTORY-
PRESET)**

Check max. lever travel in neutral position

1. Make sure the system is supplied with hydraulic power
2. Connect supply voltage (U_{DC}) (Signal voltage = $0,5 \times U_{DC}$), or cut off the signal voltage (U_s) on pin 2.



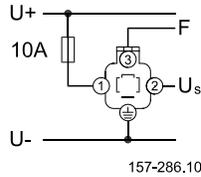
157-163.10

Lever travel exceeded in	PVG 32	Direction of rotation for adjustment of position transducer
Direction A	<p>157-164.10.10</p>	<p>157-166.10 .10</p>
Direction B	<p>157-164.10.20</p>	<p>157-166.10.20</p>

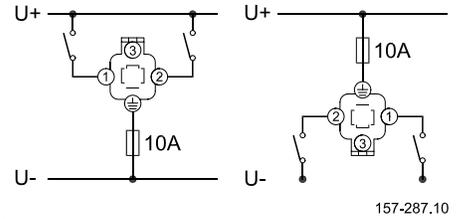
Turn of transducer	Movement of lever
$\frac{1}{4}$	1.5 mm [0.06 in]
$\frac{1}{2}$	3.0 mm [0.12 in]
$\frac{3}{4}$	4.5 mm [0.18 in]

EX INSTALLATION

PVEH

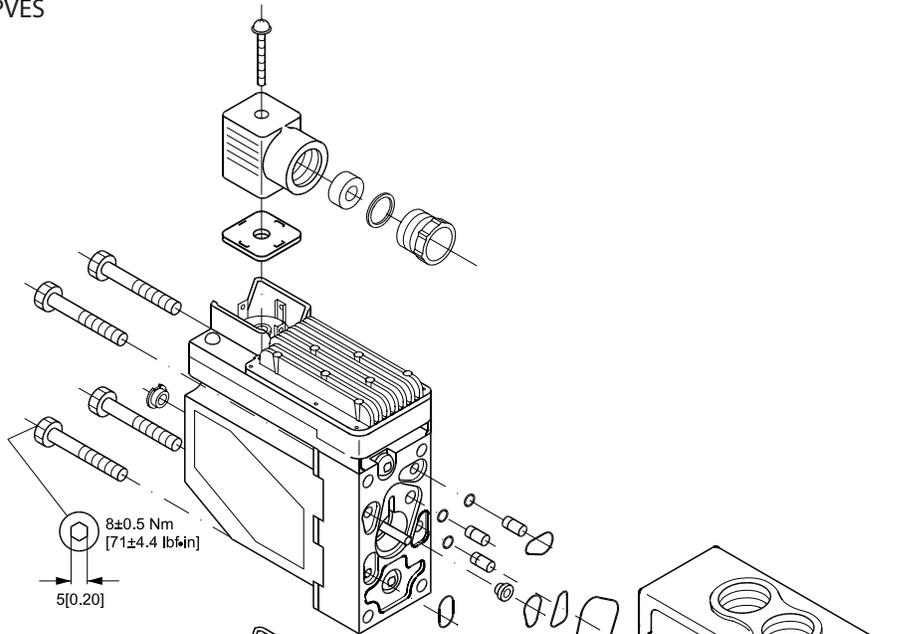


PVEO

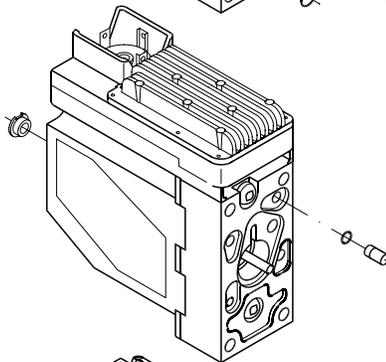


INSTALLATION OF PVE

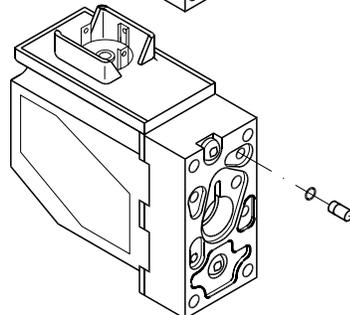
PVEH/PVES



PVEM

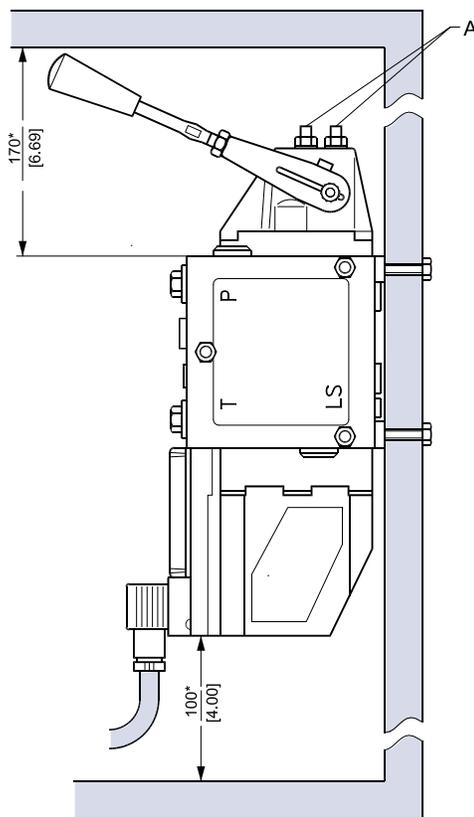


PVEO



BLEEDING

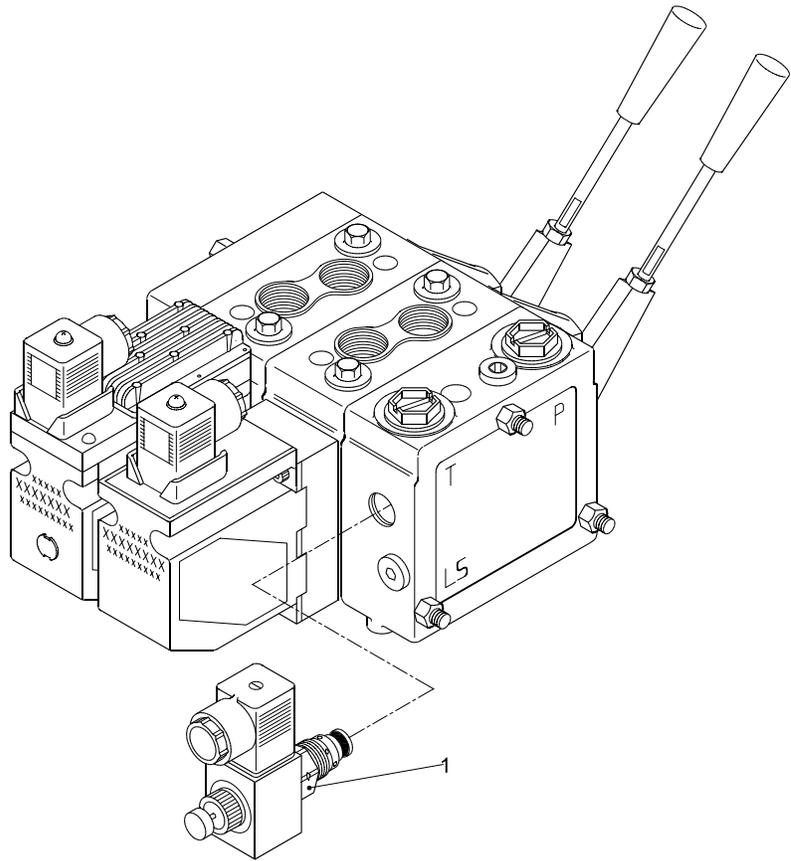
(If the group is installed vertically, it is recommended to bleed it at the adjusting screws A)



157-273.10

* Room for dismantling

**INSTALLATION
AND TECHNICAL DATA
FOR PVPX**



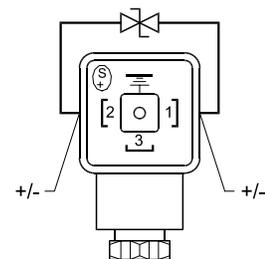
157-200.10

Position	Across flats	Max. tightening torque
1	24 mm [0.94 in]	45 Nm [400 lbf-in]

Max. operation pressure	350 bar [5076 bar]		
Max. coil surface temperature	155°C [311°F]		
Rated voltage	12 V \equiv	24 V \equiv	
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%		

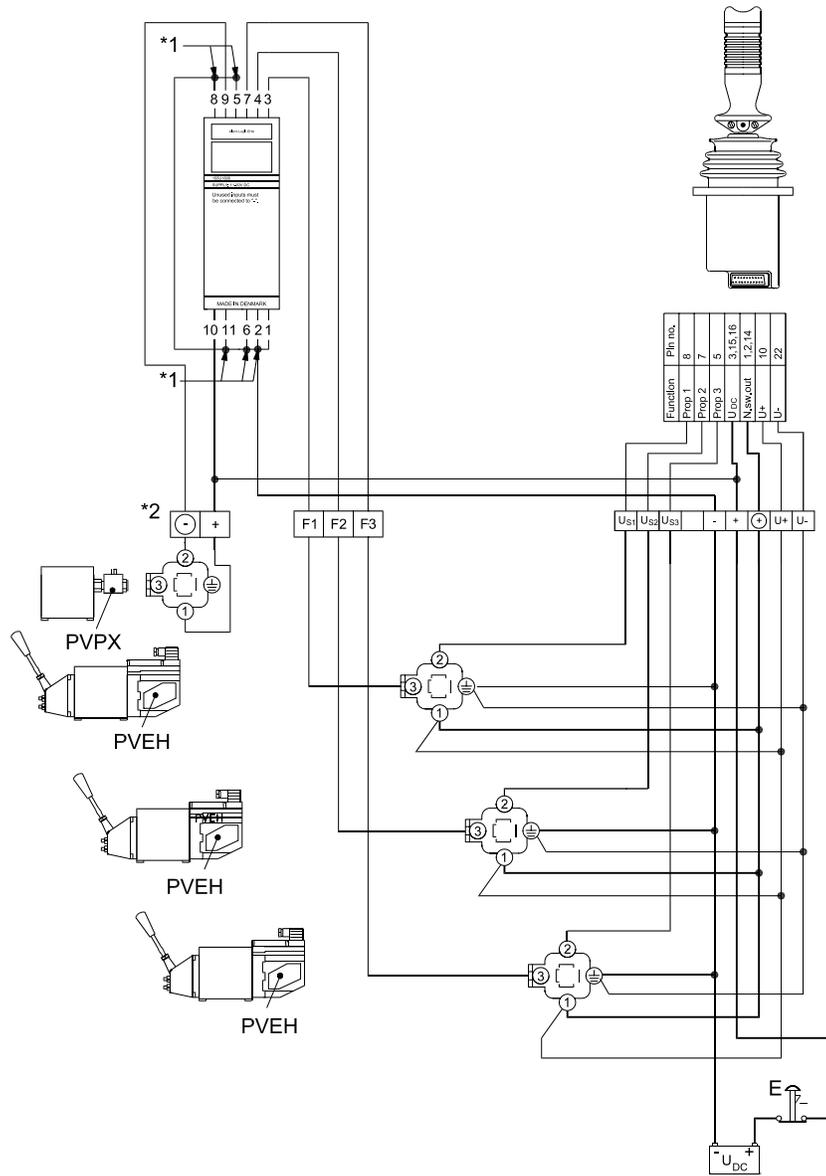
CONNECTION PVPX

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



157-201.10

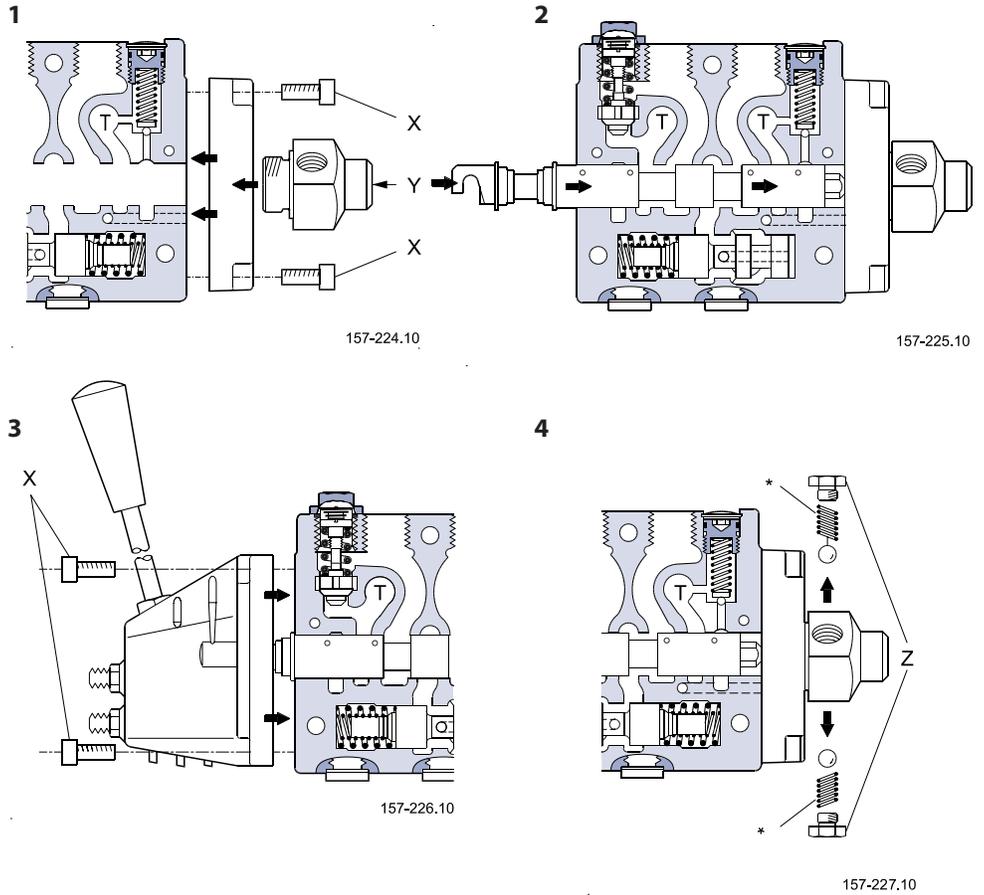
**WIRING EXAMPLE FOR
PVPX AND ALARM LOGIC
EHA**



157-414.10

PVG 32 with normally open PVPX, PVRE remote control lever and EHA electronic alarm logic

ASSEMBLY FOR PVMR / F



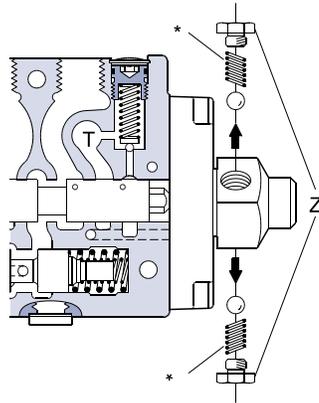
TIGHTENING TORQUES AND WIDTHS ACROSS FLATS

*	Spring identification
PVMF	Painted blue
PVMR	Non-painted

	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]

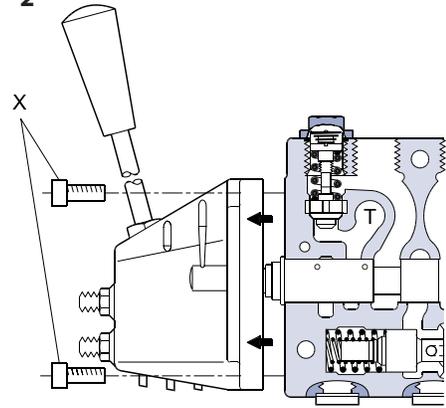
**DISMANTLING FOR
PVMR / F**

1



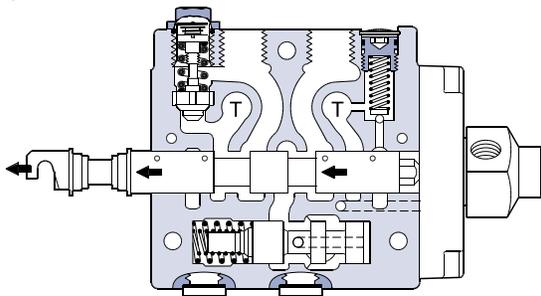
157-228.10

2



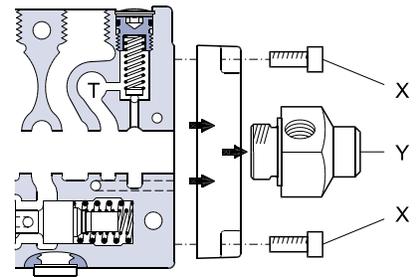
157-229.10

3



157-230.10

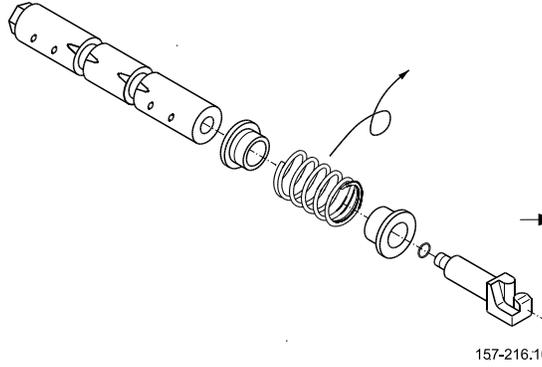
4



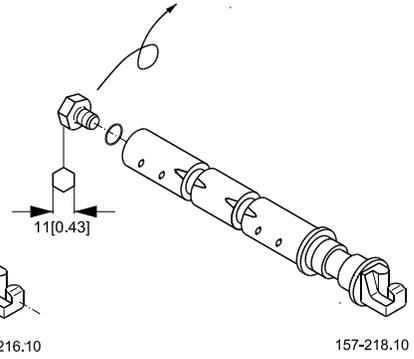
157-231.10

**STANDARD MAIN SPOOL
→ MAIN SPOOL
FOR PVMR**

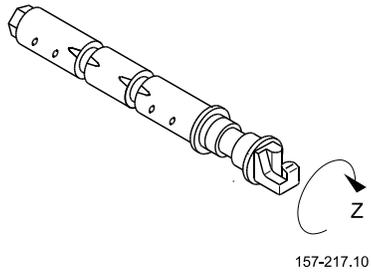
1



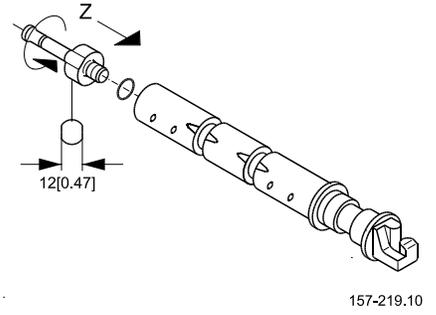
2



3



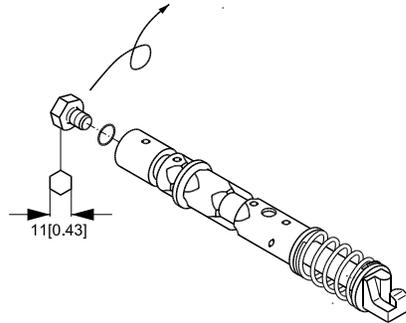
4



Z	8 ± 1 Nm [70 ± 9 lbf·in]
---	-----------------------------

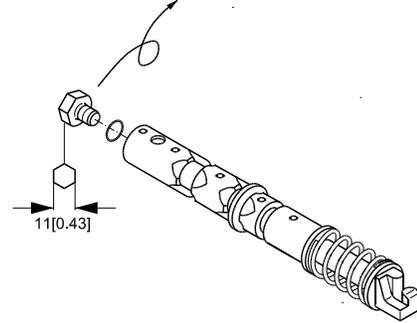
**STANDARD FLOAT
POSITION SPOOL →
FLOAT POSITION SPOOL
FOR PVMF**

P → B → F

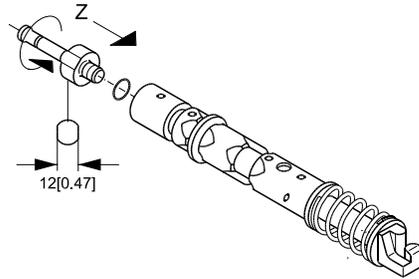


157-234.10

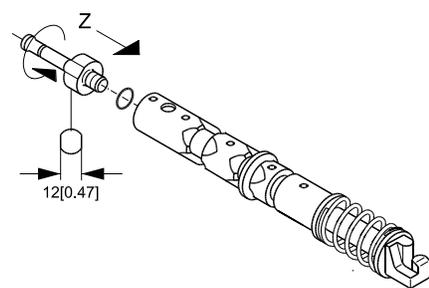
P → A → F



157-220.10



157-233.10



157-221.10

Z	8 ± 1 Nm [70 ± 9 lbf-in]
---	-----------------------------

Z	8 ± 1 Nm [70 ± 9 lbf-in]
---	-----------------------------



PVG 32 Proportional Valve
Service Parts Manual
Notes

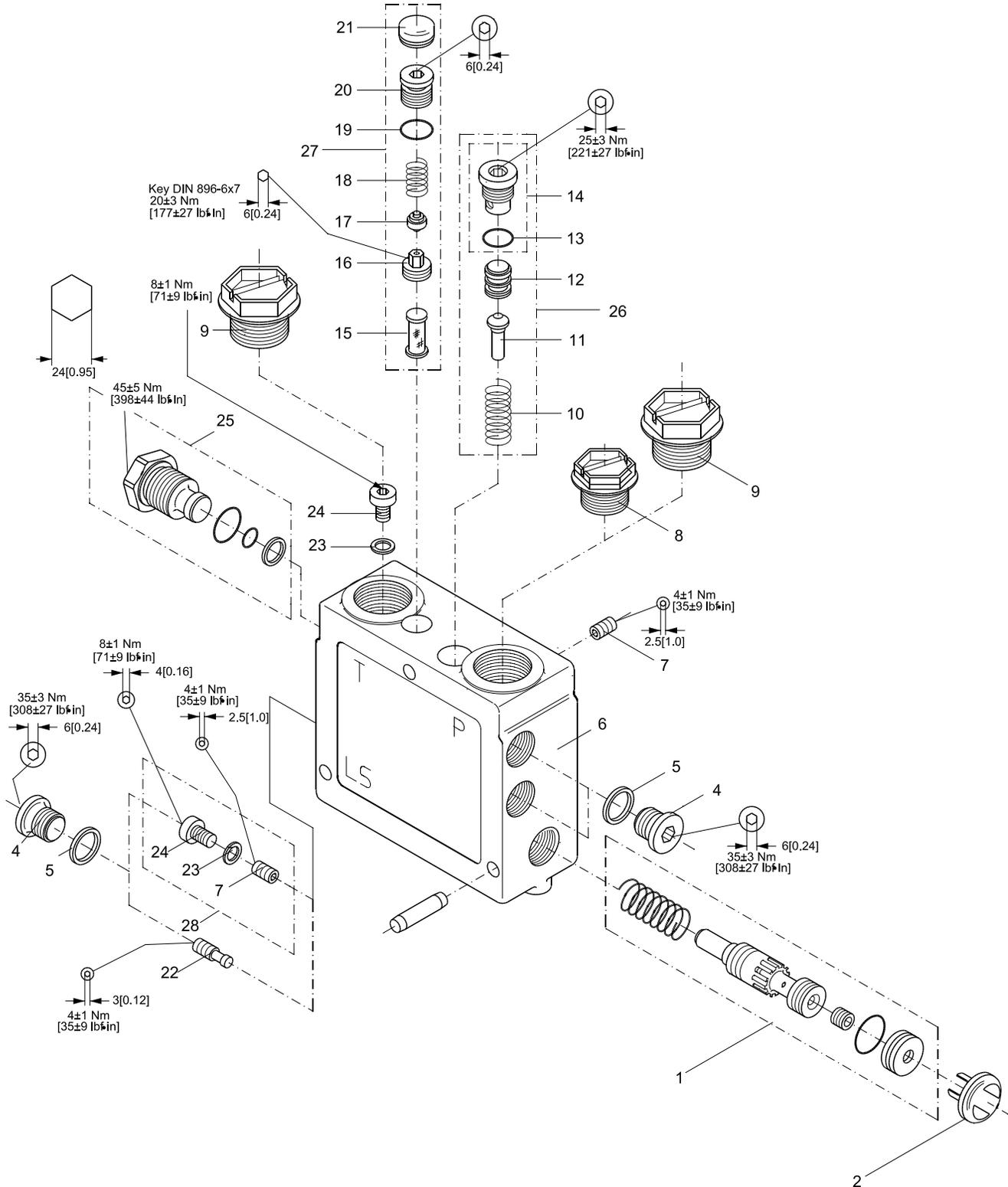
NOTES

PVP, PUMP SIDE MODULE

Type			Code No.						
			G - thread	UNF -thread					
PVP Open center	P-port <	= G 1/2	Excl. pilot supply for PVE	157B5000	157B5200				
		= 7/8-14 UNF		157B5100					
PVP Open center	P-port <	= G 3/4		Excl. pilot supply for PVE. With facilities for PVPX	157B5001	157B5300			
		= 1 1/16-12 UNF			157B5101				
PVP Closed center	P-port <	= G 1/2			Incl. pilot supply for PVE	157B5010	157B5210		
		= 7/8-14 UNF				157B5110			
PVP Closed center	P-port <	= G 3/4				Incl. pilot supply for PVE	157B5011	157B5310	
		= 1 1/16-12 UNF					157B5111		
PVP Open center	P-port =	= G 3/4					Incl. pilot supply for PVE	157B5102	-
		= G 3/4						157B5103	
PVP Closed center	P-port =	= G 3/4	Incl. pilot supply for PVE					157B5010	157B5210
		= G 3/4						157B5110	
PVP Open center	P-port <	= G 3/4		Incl. pilot supply for PVE				157B5011	157B5310
		= 1 1/16-12 UNF						157B5111	
PVP Closed center	P-port <	= G 1/2			Incl. pilot supply for PVE			157B5011	157B5211
		= 7/8-14 UNF						157B5111	
PVP Closed center	P-port <	= G 3/4				Incl. pilot supply for PVE		157B5111	157B5311
		= 1 1/16-12 UNF						157B5311	

Item	Description	Code No.																	
1	Inlet compensator, assy	-	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
2	Plastic plug	155L5370	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
4	Plug	G 1/4 - thread	155L6388	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2
		1/2-20 UNF - thread	155L6406	2	2	2	2				2	2	2	2	2	2	2	2	2
5*	Washer 13.5 × 17.5 × 1.5 [0.53 × 0.69 × 0.06 in]	G / UNF - thread	684X2120	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2
6	Housing	-	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
7	Orifice Ø1.0 × M6 [0.04 in × M6]	155L5389	2	2	1	1	1	2	2	2	2	2	2	2	2	2	2	2	2
8	Plastic plug	G 1/2 - thread	633X0074		1		1						1						1
		7/8 -14 UNF - thread	633X0017		1		1							1					
9	Plastic plug	G 3/4 - thread	633X0071	2	1	2	1						2	1	2	1			
		1 1/16 - 12 UNF-thread	633X7027	2	1	2	1							2	1	2	1		
10	Spring	155L5217	1	1	1	1													
	Spring	155L5396																	
11	Cone	155L5376	1	1	1	1													
12	Spool	155L5377	1	1	1	1													
13*	O-ring Ø11.0 × 2.0 [0.43 × 0.08 in]	633B1818	1	1	1	1													
14	Plug (incl. item 12)	155L5150	1	1	1	1													
15	Filter	155L5365	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
16	Seat	155L6425	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
17	Thrust pad	155L6393	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
18	Spring	155L6370	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
19*	O-ring Ø9.0 × 2.0 [0.35 × 0.08 in]	633B1816	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
20	Adjusting screw	155L6387	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
21*	Plastic plug	155L6377	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
22	Plug M6; L = 19 [0.75 in] Open center only	155L5153																	1
23*	Bonded seal 6.7 × 10 × 1.0 [0.26 × 0.39 × 0.04 in]	633B9008	1	1						1	2	1	1						
24	Screw M6; L = 8 [0.31 in]	681X1506	1	1						1	2	1	1						
25	PVPX plug (see page 40)	157B5601																	
26	Pilot supply	155L5157	1	1	1	1													
27	Relief valve	155L6153	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
28	Conversion kit open center → closed center	155L5152								1	1		1						1
*	Set of seals (see page 50)	157B5999	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1

PVP, PUMP SIDE MODULE

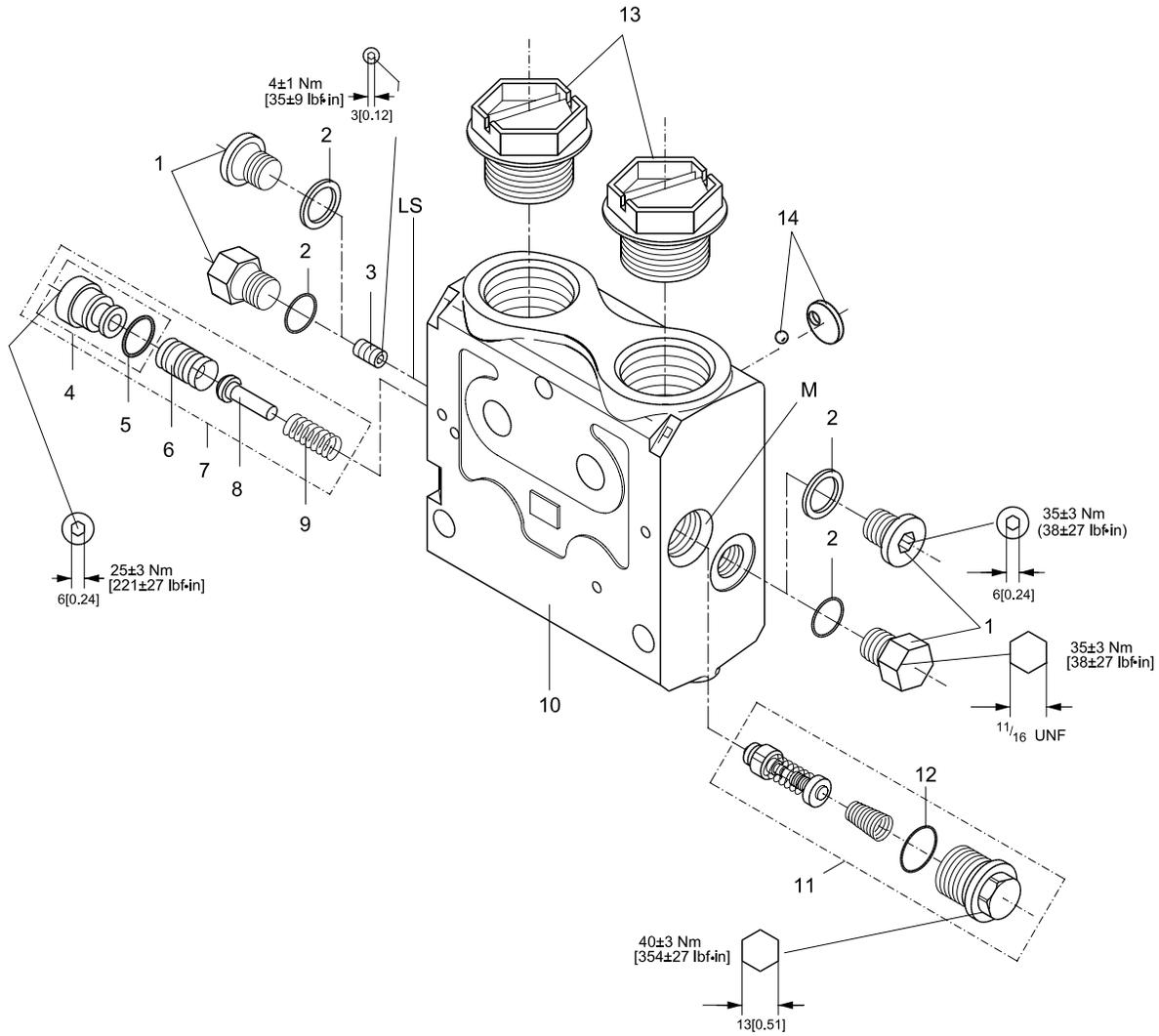


PVP, PUMP SIDE MODULE

Type			Code No.	
			G - thread	UNF -thread
PVP Open center	P-port < = G 1/2 = 7/8-14 UNF	Incl. pilot supply for PVE and facilities for PVPX	157B5012	157B5212
PVP Open center	P-port < = G 3/4 = 1 1/16-12 UNF		157B5112	157B5312
PVP Closed center	P-port < = G 1/2 = 7/8-14 UNF		157B5013	157B5213
PVP Closed center	P-port < = G 3/4 = 1 1/16-12 UNF		157B5113	157B5313
PVP Open center	P-port = G 3/4	Incl. pilot supply for PVE and external Pp	157B5180	
PVP Closed center	P-port = G 3/4		157B5181	
PVP Open center	P-port = G 3/4	Incl. pilot supply for hydraulic activation and external Pp	157B5190	
PVP Closed center	P-port = G 3/4		157B5191	

Item	Description	Code No.																		
1	Inlet compensator, assy	-	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
2	Plastic plug	155L5370	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
4	Plug	G 1/4 - thread	155L6388	3	3	3	3	2	2	2	2	2	2	2	2	2	2	2	2	2
		1/2-20 UNF - thread	155L6406					2	2	2	2	2	2	2	2	2	2	2	2	2
5*	Washer 13.5 × 17.5 × 1.5 [0.53 × 0.69 × 0.06 in]	G / UNF - thread	684X2120	3	3	3	3	2	2	2	2	2	2	2	2	2	2	2	2	2
6	Housing	-	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
7	Orifice Ø1.0 × M6 [0.04 in × M6]	155L5389	2	1	2	1	2	2	1	1	1	1	1	1	1	1	1	1	1	1
8	Plastic plug	G 1/2 - thread	633X0074																	
		7/8 -14 UNF - thread	633X0017																	
9	Plastic plug	G 3/4 - thread	633X0071	2	2	2	2	2	2	1	2	1	2	1	2	1	2	1	2	1
		1 1/16 - 12 UNF-thread	633X7027																	
10	Spring	155L5217																		
	Spring	155L5396	1	1																
11	Cone	155L5376	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
12	Spool	155L5377	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
13*	O-ring Ø11.0 × 2.0 [0.43 × 2.0 in]	633B1818	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
14	Plug (incl. item 12)	155L5150	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
15	Filter	155L5365	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
16	Seat	155L6425	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
17	Thrust pad	155L6393	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
18	Spring	155L6370	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
19*	O-ring Ø9.0 × 2.0 [0.35 × 2.0 in]	633B1816	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
20	Adjusting screw	155L6387	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
21*	Plastic plug	155L6377	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
22	Plug M6; L = 19 [0.75 in]	Open center only	155L5153																	
23*	Bonded seal 6.7 × 10 × 1.0 [0.26 × 0.39 × 0.04 in]	633B9008	1																	
24	Screw M6; L = 8 [0.31 in]	681X1506	1																	
25	PVPX plug (see page 40)	157B5601																		
26	Pilot supply	155L5157	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
27	Relief valve	155L6153	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
28	Conversion kit open center → closed center	155L5152																		
*	Set of seals (see page 50)	157B5999	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1

**PVPV/M,
PUMP SIDE MODULE
CLOSED CENTER**



157-328.10

**PVPV/M,
PUMP SIDE MODULE
CLOSED CENTER**

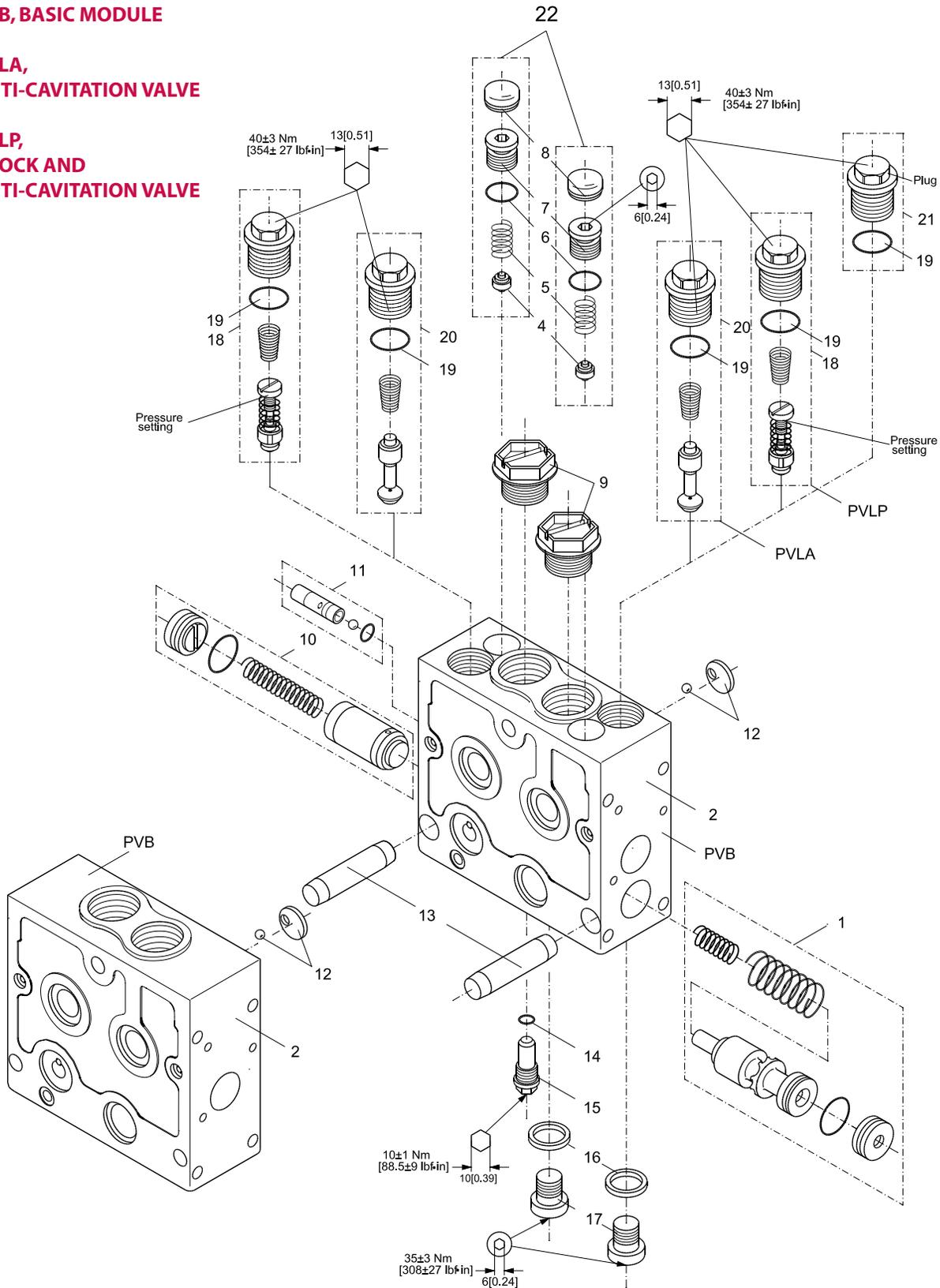
Type		Code No.		
		G - thread	UNF -thread	
PVPV Closed center	P/T-port = G 1	Incl. pilot supply for PVE	157B5938	-
	= 1 5/16 UN		-	157B5911
PVPVM Closed center	P/T-port = G 1	Incl. pilot supply for PVE and PVLP 63	157B5937	-
	= 1 5/16 UN		-	157B5912
PVPV Closed center	P/T-port = G 1	Incl. pilot supply for PVE and PVLP 63	157B5941	-
	= 1 5/16 UN		-	157B5913
PVPVM Closed center	P/T-port = G 1	Incl. pilot supply for PVE and PVLP 63	157B5940	-
	= 1 5/16 UN		-	157B5914

Item	Description	Code No.									
1	Plug	G 1/4	155L6388		2		2		2		2
		9/16 - 18 UNF	631X2044	2		2		2		2	
2	Washer 13.5 × 17.5 × 1.5 [0.53 × 0.69 × 0.06 in] O-ring Ø11.89 × 1.98 [0.47 × 0.08 in]		684X2120		1		1		1		1
			-	1		1		1		1	
3	orifice Ø1.0 × M6 [0.04 in × M6]	155B8320	1	1	1	1	1	1	1	1	
4	Plug (incl. item 5)	155L5150	1	1	1	1	1	1	1	1	
5	O-ring	633B1818	1	1	1	1	1	1	1	1	
6	Spool	155L5377	1	1	1	1	1	1	1	1	
7	Pilot supply	155L5157	1	1	1	1	1	1	1	1	
8	Cone	155L5376	1	1	1	1	1	1	1	1	
9	Spring	155L5217	1	1	1	1	1	1	1	1	
10	Housing	-	1	1	1	1	1	1	1	1	
11	PVLP shockvalve	-	1	1	1	1					
12	O-ring Ø15.6 × 1.78 [0.61 × 0.07 in]	633B0293	1	1	1	1					
13	Plastic plug	G 1	633X0069		2		2		2		2
		1 5/16 - 12 UNF	633X0064	2		2		2		2	
14	Shuttle assy.	-	1	1			1	1			
*	Set of seals (see page 50)	157B5999	1	1	1	1	1	1	1	1	

PVB, BASIC MODULE

PVLA, ANTI-CAVITATION VALVE

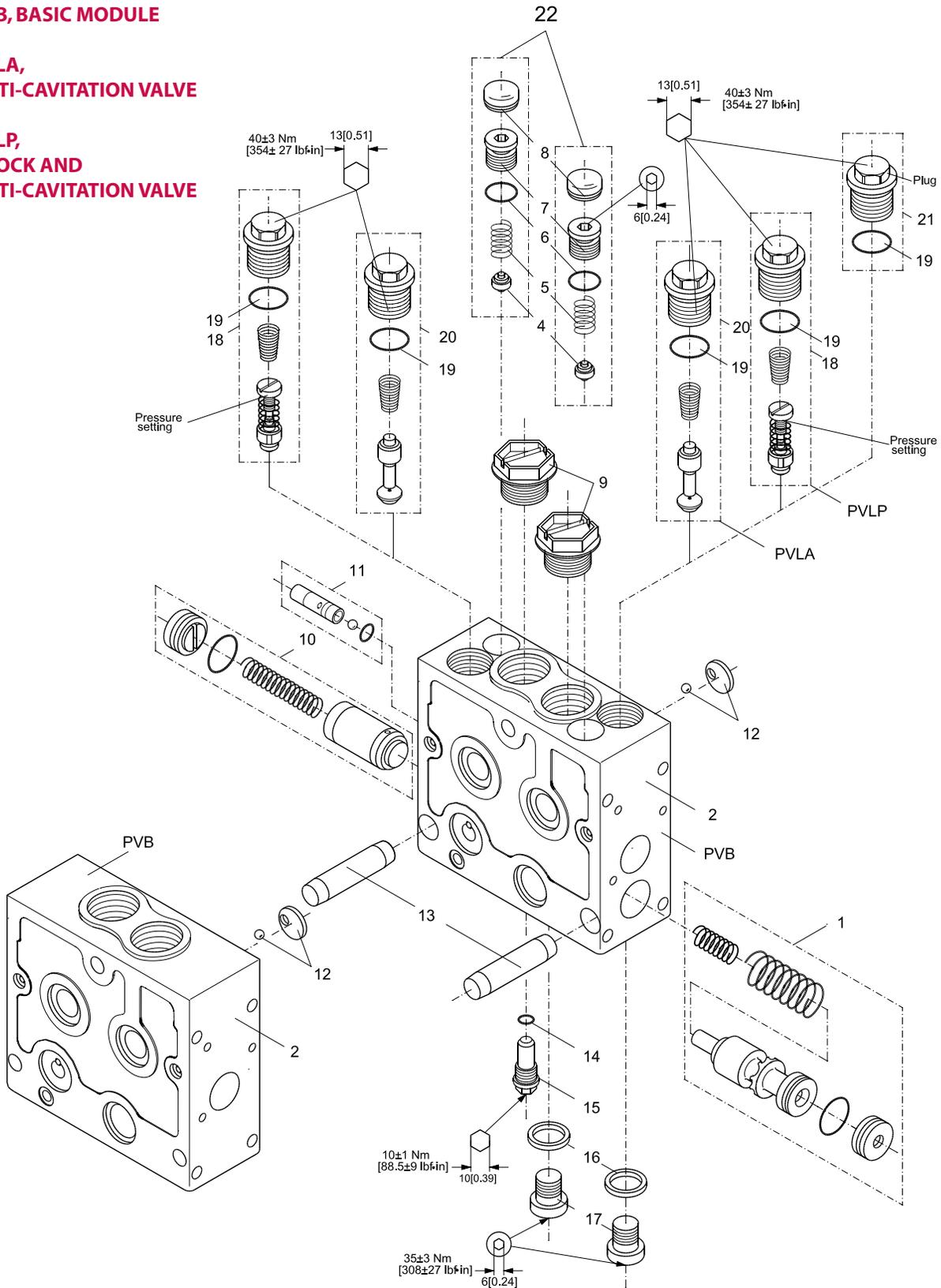
PVLP, SHOCK AND ANTI-CAVITATION VALVE



PVB, BASIC MODULE

**PVLA,
ANTI-CAVITATION VALVE**

**PVLP,
SHOCK AND
ANTI-CAVITATION VALVE**



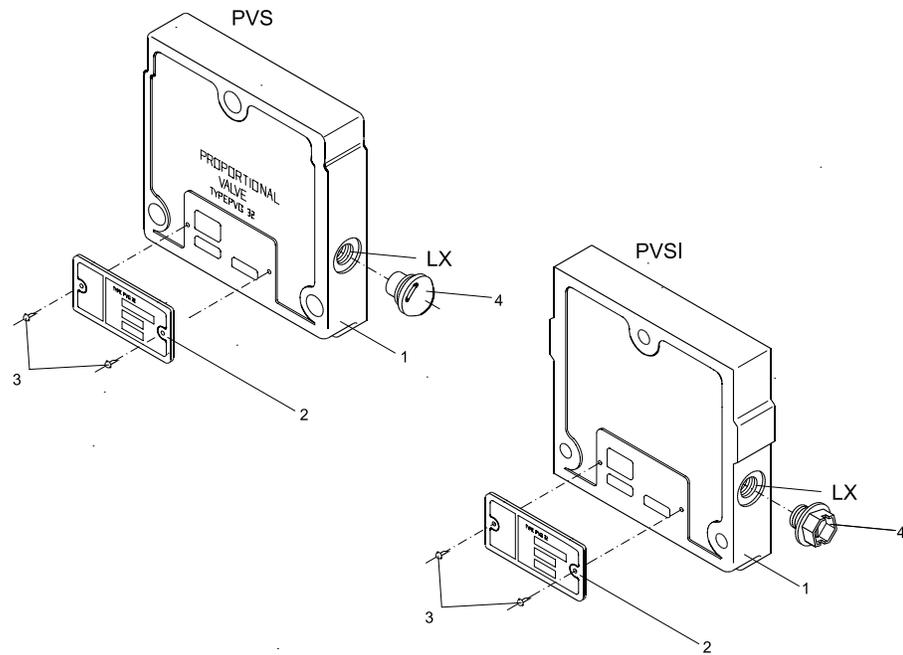
**PVLA,
ANTI-CAVITATION VALVE**

**PVLP,
SHOCK AND
ANTI-CAVITATION VALVE**

Type		Code No.
PVLP	Setting pressure 32, 50, 63, 100, 125, 140, 150, 160, 175, 190, 210, 230, 240, 250, 265, 280, 300, 320 and 350 bar	157B2...
PVLP	Setting pressure 464, 725, 914, 1450, 1813, 2030, 2175, 2320, 2538, 2755, 3045, 3335, 3480, 3625, 3843, 4061, 4351, 4641 and 5075 psi	157B2...
PVLA	Valve	157B2001
PVLA	Plug	157B2002

Item	Description	Code No.			
18	PVLP	-			1
19	O-ring $\varnothing 15.6 \times 1.78$ [0.61 \times 0.08 in]	633B0293	1	1	1
20	PVLA valve	-		1	
21	PVLA plug (incl. item 19)	155L2001	1		

PVS/PVS1, END PLATE



157-106.10

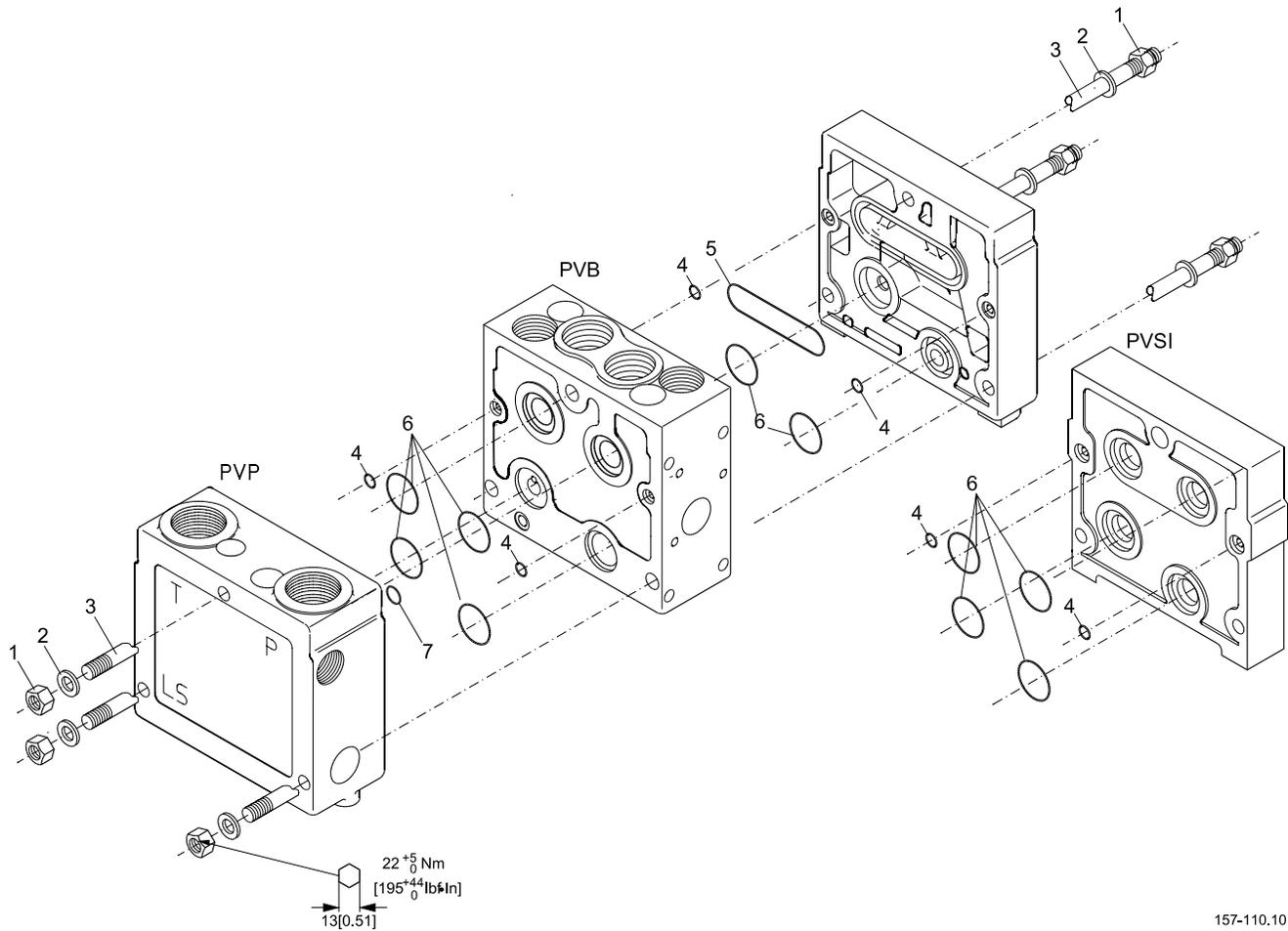
PVS/PVS1, END PLATE

Type	Code No.	
	G - thread	UNF -thread
PVS without connection	157B2000	157B2020
PVS with LX connection	157B2011	157B2021
PVS1 without connection	157B2014	157B2004
PVS1 with LX connection	157B2015	157B2005

Item	Description	Code No.					
1	End plate	-	1	1	1	1	
2*	Name plate (incl. item 3)	155L2150	1	1	1	1	
3*	Drive screw	681Z1011	1	1	1	1	
4	Plastic plug	G 1/8 thread	633X0068			1	
		3/8 -24 UNF thread	633X0067			1	
		G 1/4 thread	633X0028	1			
		1/2 -20 UNF thread	633X0063	1			

* Spare part. Only to be used by change of specification

**PVAS, ASSEMBLY KIT,
PVP**



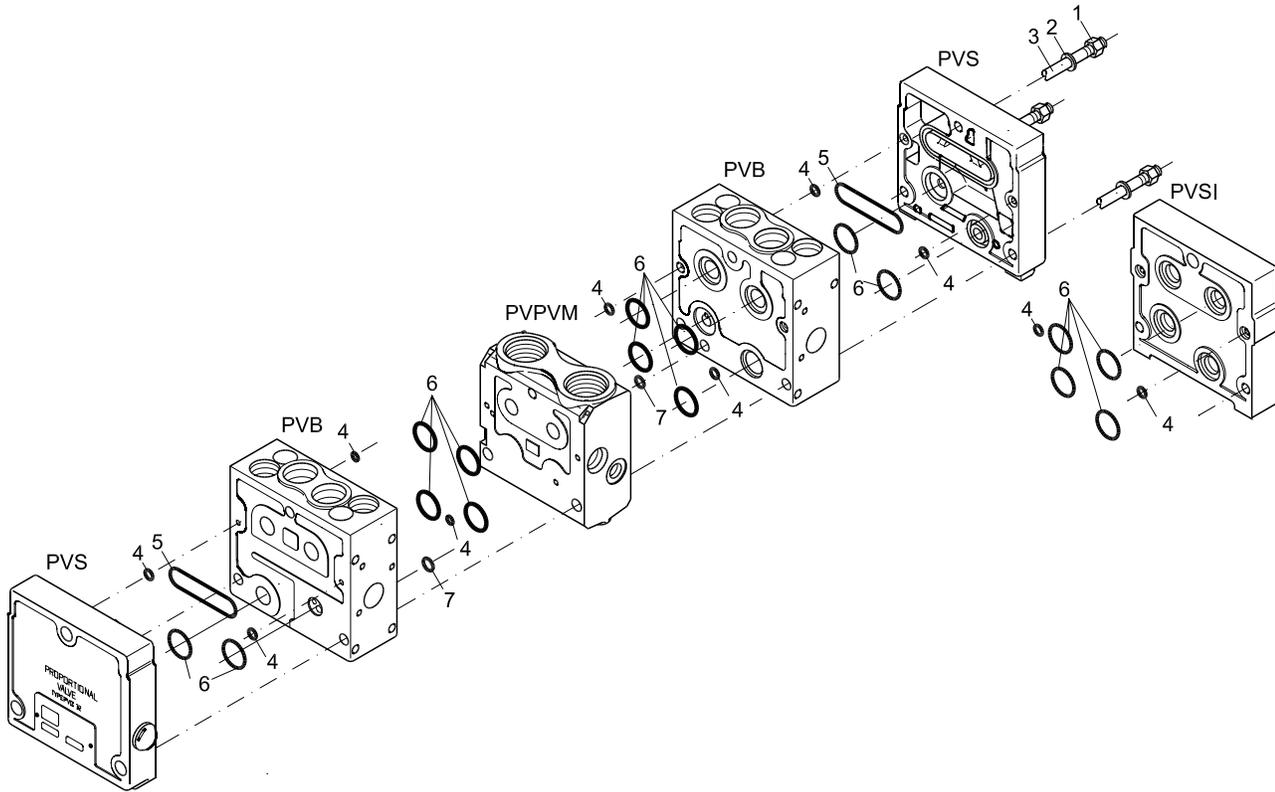
157-110.10

**PVAS, ASSEMBLY KIT,
PVP**

Type		Code No.
PVAS	for 1 PVB on PVGI	157B8000
PVAS	for 1 PVB basic module / for 2 PVB on PVGI	157B8001
PVAS	for 2 PVB basic module / for 3 PVB on PVGI	157B8002
PVAS	for 3 PVB basic module / for 4 PVB on PVGI	157B8003
PVAS	for 4 PVB basic module / for 5 PVB on PVGI	157B8004
PVAS	for 5 PVB basic module / for 6 PVB on PVGI	157B8005
PVAS	for 6 PVB basic module / for 7 PVB on PVGI	157B8006
PVAS	for 7 PVB basic module / for 8 PVB on PVGI	157B8007
PVAS	for 8 PVB basic module	157B8008
PVAS	for 9 PVB basic module	157B8009
PVAS	for 10 PVB basic module	157B8010

Item	Description	Code No.																		
1	Nut 8,0	681X0526	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	3
2	Washer 8.1 × 15.2 × 1.5 [0.53 × 0.69 × 0.06 in]	684X2591	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	3
3	Stay bolt M8; L = 91 [3.58 in]	155L8350																		3
	Stay bolt M8; L = 140 [5.51 in]	155L8351																		3
	Stay bolt M8; L = 189 [7.44 in]	155L8352																	3	
	Stay bolt M8; L = 238 [9.37 in]	155L8353																	3	
	Stay bolt M8; L = 287 [11.30 in]	155L8354																	3	
	Stay bolt M8; L = 336 [13.24 in]	155L8355																	3	
	Stay bolt M8; L = 385 [15.16 in]	155L8356																	3	
	Stay bolt M8; L = 434 [17.09 in]	155L8357																	3	
	Stay bolt M8; L = 483 [19.02 in]	155L8358																	3	
	Stay bolt M8; L = 527 [20.75 in]	155L8359																	3	
	Stay bolt M8; L = 576 [22.68 in]	155L8360	3																	
4*	O-ring Ø5.0 × 2.0 [0.20 × 0.08 in]	633B1809	24	22	20	18	16	14	12	10	8	6	4							
5*	O-ring Ø44.0 × 2.5 [1.73 × 0.10 in]	155L2389	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
6*	O-ring Ø16.0 × 2.5 [0.63 × 0.10 in]	633B1817	48	44	40	36	32	28	24	20	16	12	8							
7*	O-ring Ø10.0 × 2.5 [0.39 × 0.10 in]	633B0120	10	9	8	8	7	6	5	4	3	2	1							
*	Set of seals (see page 50)	157B8999	1	1	1						1	1	1							

**PVAS, ASSEMBLY KIT
PVPV/M**



157-436.10

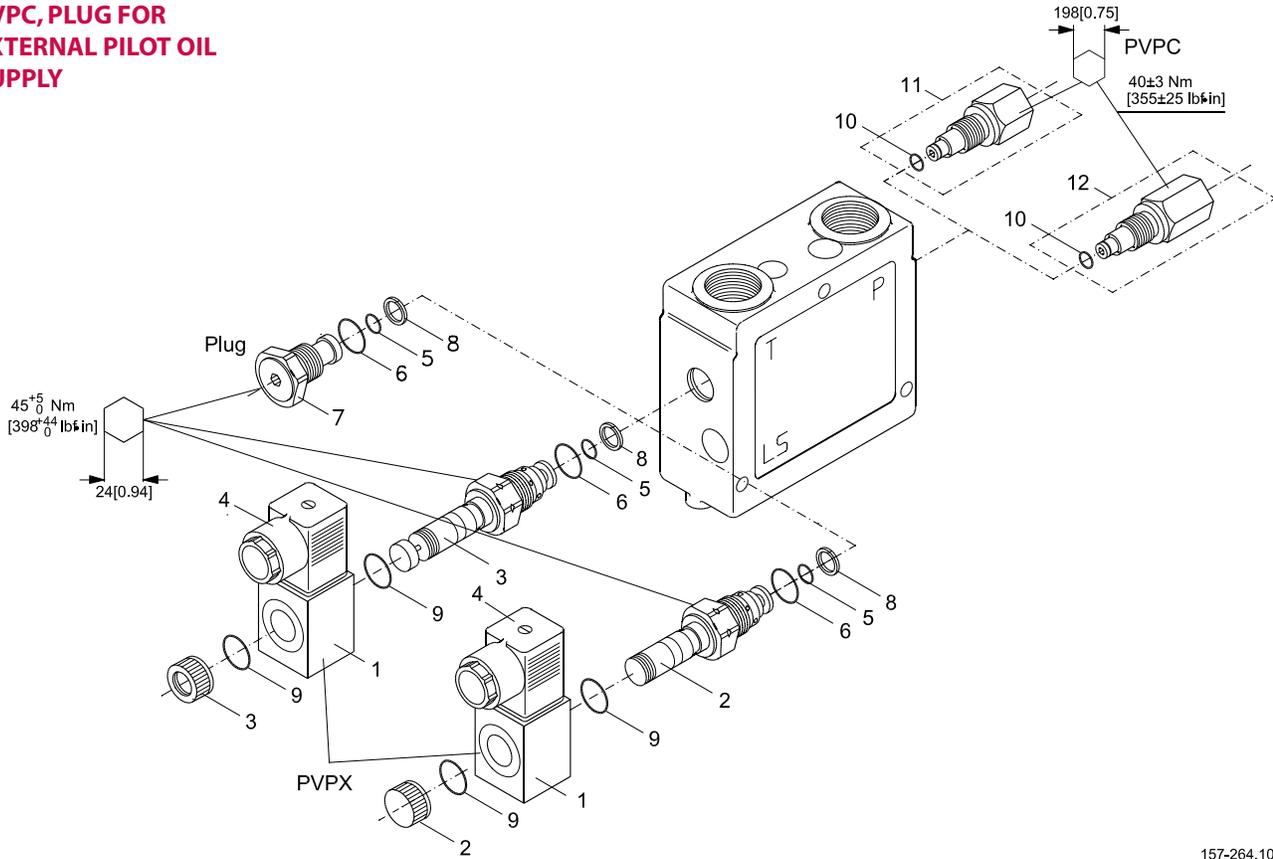
**PVAS, ASSEMBLY KIT
PVPV/M**

Type		Code No.
PVAS	for 1 PVB basic module	157B8021
PVAS	for 2 PVB basic module	157B8022
PVAS	for 3 PVB basic module	157B8023
PVAS	for 4 PVB basic module	157B8024
PVAS	for 5 PVB basic module	157B8025
PVAS	for 6 PVB basic module	157B8026
PVAS	for 7 PVB basic module	157B8027
PVAS	for 8 PVB basic module	157B8028
PVAS	for 9 PVB basic module	157B8029
PVAS	for 10 PVB basic module	157B8030

Item	Description	Code No.																
1	Nut	681X0526	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6
2	Washer 8.1 × 15.2 × 1.5 [0.53 × 0.69 × 0.06 in]	684X2591	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6
3	Stay bolt M8; L = 166 [6.54 in]	155L5196																3
	Stay bolt M8; L = 213 [8.39 in]	155L5186																3
	Stay bolt M8; L = 262 [10.31 in]	155L5187																3
	Stay bolt M8; L = 311 [12.20 in]	155L5188																3
	Stay bolt M8; L = 360 [14.17 in]	155L5189																3
	Stay bolt M8; L = 409 [16.10 in]	155L5190																3
	Stay bolt M8; L = 458 [17.95 in]	155L5191																3
	Stay bolt M8; L = 507 [19.96 in]	155L5192																3
	Stay bolt M8; L = 551 [22.00 in]	155L5193																3
	Stay bolt M8; L = 600 [23.62 in]	155L5194																3
4	O-ring Ø5.0 × 2.0 [0.20 × 0.08 in]	633B1809	24	22	20	18	16	14	12	10	8	4						
5	O-ring Ø44.0 × 2.5 [1.73 × 0.10 in]	155L2389	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2
6	O-ring Ø16.0 × 2.5 [0.63 × 0.10 in]	633B1817	48	44	40	36	32	28	24	20	16	12						
10	O-ring Ø10.0 × 2.5 [0.39 × 0.10 in]	633B0120	12	11	10	9	8	7	6	5	4	1						
1 *	Set of seals (see page 50)	157B8999	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1

**PVPX,
LS UNLOADING VALVE**

**PVPC, PLUG FOR
EXTERNAL PILOT OIL
SUPPLY**



157-264.10

**PVPX,
LS UNLOADING VALVE**

Type		Code No.	
		12 Volt	24 Volt
PVPX	Normally open	157B4236	157B4238
PVPX	Normally closed	157B4246	157B4248
PVPX	Normally open with manuel override	157B4256	157B4258
PVPX	Normally open with manuel override (26 Volt)		157B4260
	Plug	157B5601	

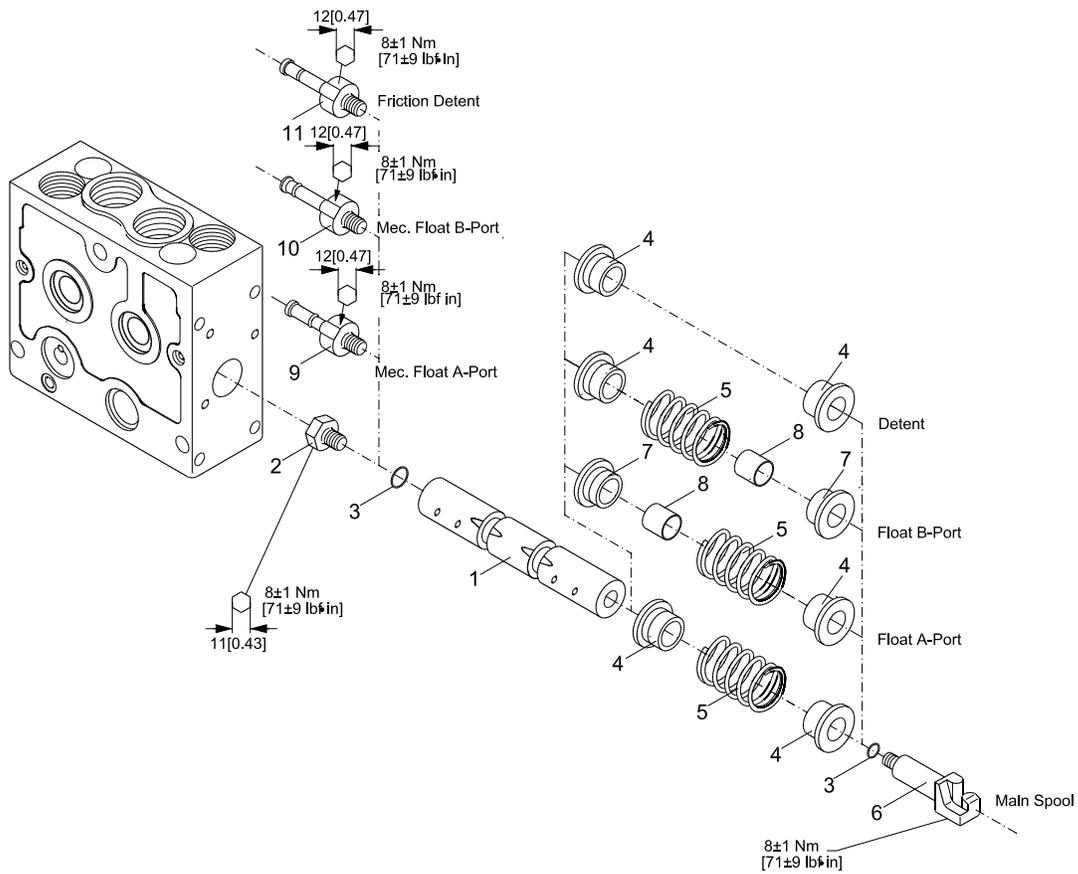
Item	Description	Code No.						
1	PVPX	Coil 12 Volt	155L4157			1	1	1
	PVPX	Coil 24 Volt	155L4158			1	1	1
	PVPX	Coil 12 Volt (before 1996 incl. item 9)	155L4155			1	1	1
	PVPX	Coil 24 Volt (before 1996 incl. item 9)	155L4156	1	1	1	1	1
	PVPX	Coil 26 Volt (incl. item 9)	155L4159	1				
2	PVPX (incl. 5, 6, 8, 9)	solenoid valve NO	986L9342					1
	PVPX (incl. 5, 6, 8, 9)	solenoid valve NC	986L9341				1	
3	PVPX (incl. 5, 6, 8, 9)	solenoid valve NO with manuel override	986L9343	1	1			
4	PVPX	el - plug	155G5451	1	1	1	1	1
5*	O-ring	9.25 × 1.78 [0.36 × 0.07 in]	633B1243	1	1	1	1	1
6*	O-ring	16.36 × 2.21 [0.64 × 0.08 in]	633B0046	1	1	1	1	1
7	PVPX	plug	-	1				
8*	Backup-ring	12.7 [0.50]	633B0117	1	1	1	1	1
9*	O-ring	∅13.0 × 1.0 [0.51 × 0.04 in]	633B0382					
*	Set of seals (see page 50)		157B4996					

**PVPC,
PLUG FOR EXTERNAL
PILOT OIL SUPPLY**

Type		Code No.	
		G 1/4 Thread	1/2-20 UNF-thread
PVPC	External pilot supply	157B5400	-
PVPC	External pilot supply incl. check valve	157B5600	157B5700

Item	Description	Code No.		
10	O-ring ∅5.0 × 1.0 [0.20 × 0.04 in]	633B1815	1	1
11	PVPC External pilot oil supply	G 1/4 - thread	-	1
12	PVPC External pilot oil supply incl. check valve	G 1/4 - thread	-	1
		1/2-20 UNF - thread	-	1

PVBS, MAIN SPOOL



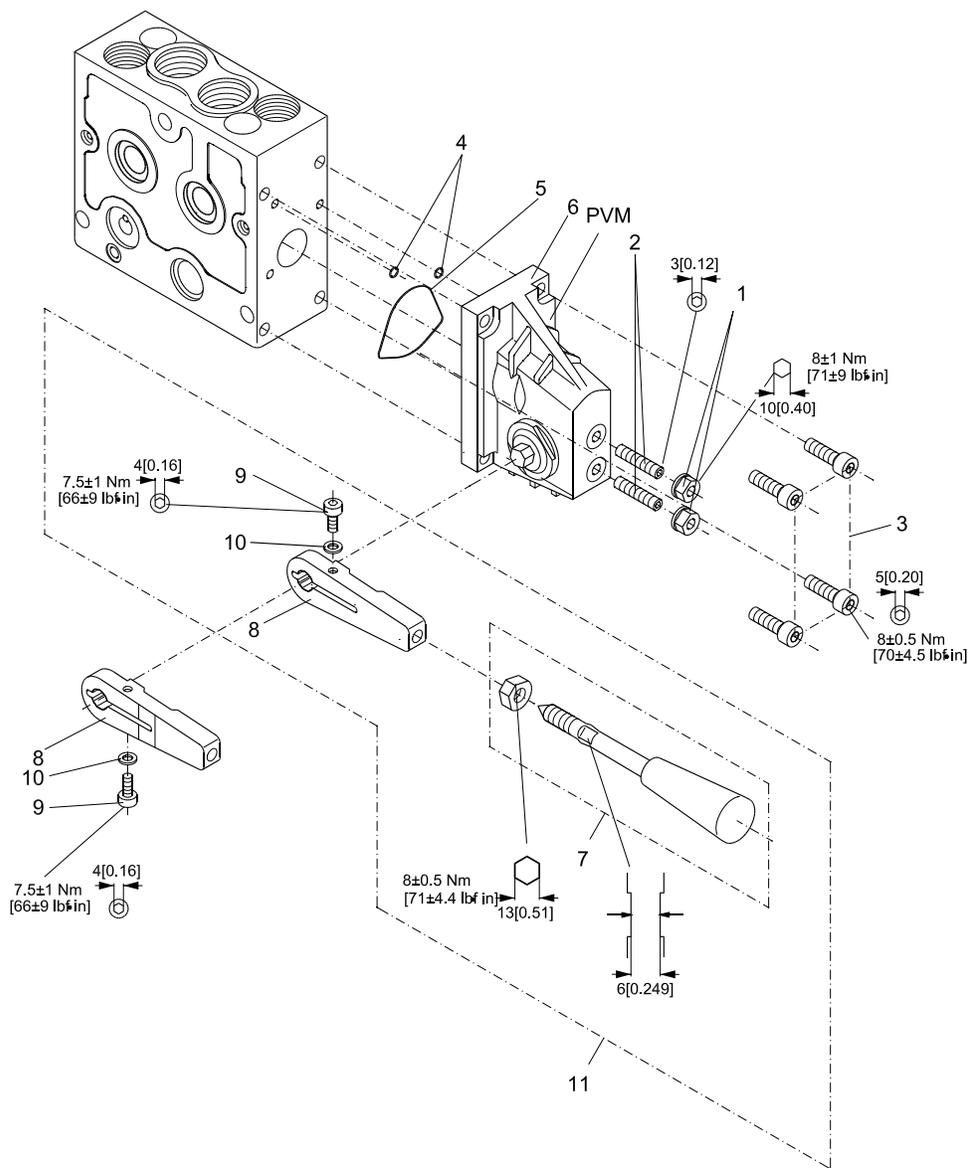
157-112.10

**PVBS,
MAIN SPOOL**

Type		Code No.
PVBS	Standard	-
PVBS	Elec. float position B-port	-
PVBS	Mec. float position A-port	-
PVBS	Mec. float position B-port	-
PVBS	Friction detent	-

Item	Description	Code No.					
1	Main spool	-	1	1	1	1	1
2	Plug	155L7500				1	1
3	O-ring $\varnothing 6.0 \times 1.5$ [0.24 \times 0.06 in]	633B1810	2	2	2	2	2
4	Spring stop	155L3356	2	1	1	1	2
5	Spring	155L3358		1	1	1	1
	Spring hydraulic actuation	155L7504					1
6	Tension rod	155L3351	1	1	1	1	1
7	Spring stop (float position)	155L7505		1	1	1	
8	Bushing (float position)	155L7506		1	1	1	
9	Float position A-port (incl. item 3)	155L9151			1		
10	Float position B-port (incl. item 3)	155L9152		1			
11	Friction detent (incl. item 3)	155L9150	1				

**PVM,
MECHANICAL
ACTIVATION**



157-293.10

**PVM, MECHANICAL
ACTIVATION**

Type	Angle	Code No.
PVM	22.5°	157B3171
PVM	37.5°	157B3172
PVM	-	157B3173
PVM	37.5°	157B3174
PVM	22.5°	157B3175

Item	Description	Code No.					
1	Seal nut	681X8270	2	2	2	2	2
2	Threaded pin	681X0323	2	2	2	2	2
3	Screw	681X1864	4	4	4	4	4
4*	O-ring $\varnothing 5.0 \times 2.0$ [0.2 \times 0.08 in]	633B1809	2	2	2	2	2
5*	Profile O-ring	155L3430	1	1	1	1	1
6	Housing		1	1	1	1	1
7	Lever	155L3151					1
8	Base	22.5°	155L3450	1			
		37.5°	155L3451		1		
9	Screw	681X9289	1	1		1	1
10	Washer	684X0075	1	1		1	1
11	Base and activation bar with knob and nut	155L3154					
*	Set of seals (see page 50)	157B3999	1	1	1	1	1

Type	Angle	Code No.
PVM	22.5°	157B3191
PVM	37.5°	157B3192
PVM	-	157B3193
PVM	37.5°	157B3194
PVM	22.5°	157B3195

Item	Description	Code No.					
3	Screw	681X1864	4	4	4	4	4
4*	O-ring $\varnothing 5.0 \times 2.0$ [0.20 \times 0.08 in]	633B1809	2	2	2	2	2
5*	Profile O-ring	155L3430	1	1	1	1	1
6	Housing		1	1	1	1	1
7	Lever	155L3151					1
8	Base	22.5°	155L3450	1			
		37.5°	155L3451		1		
9	Screw	681X9289	1	1		1	1
10	Washer	684X0075	1	1		1	1
11	Base and activation bar with knob and nut	155L3154					
*	Set of seals (see page 50)	157B3999	1	1	1	1	1

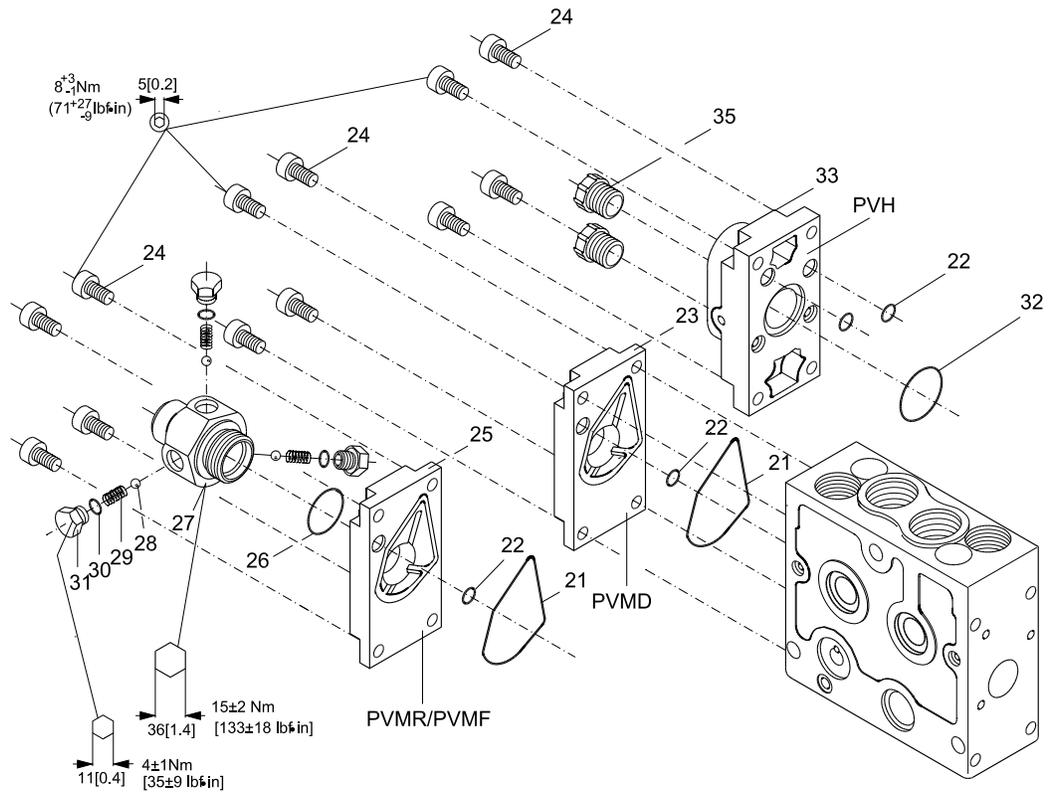
**PVM,
MECHANICAL
ACTIVATION**

**COVER FOR
PVMD, MECHANICAL
ACTIVATION**

**PVH, HYDRAULIC
ACTIVATION**

**PVMR, MECHANICAL
DETENT**

**PVMF, MECHANICAL
FLOAT**



157-265.10

**COVER FOR
PVMD, MECHANICAL
ACTIVATION**

**PVH, HYDRAULIC
ACTIVATION**

**PVMR, MECHANICAL
DETENT**

**PVMF, MECHANICAL
FLOAT**

Type		Code No.				
PVMD		157B0001				
PVH	(hydraulic activation)	G 1/4 - thread	157B0008			
		9/16 - 18 UNF	157B0007			
PVMR	(friction detent)	157B0004				
PVMF	(mechanical float position)	157B0005				

Item	Description	Code No.				
21*	Profile O-ring	155L0356	1	1		1
22*	O-ring Ø5.0 × 2.0 [0.2 × 0.08 in]	633B1809	1	1	4	1
23	Cover	155L0357				1
24	Screw M6; L = 15 [0.59 in]	681X1864	4	4	4	4
25	Cover	155L0358	1	1		
26*	O-ring Ø19.3 × 2.4 [0.76 × 0.09 in]	633B1136	1	1		
27	Plug	155L0352	1	1		
28	Ball Ø5 [0.5 in]	689X1006	3	3		
29	Spring	155L0354		3		
		155L0355		3		
30*	O-ring Ø6.0 × 1.5 [0.24 × 0.09 in]	633B1810	3	3		
31	Plug	155L0353	3	3		
32*	O-ring Ø21.3 × 2.4 [0.84 × 0.09 in]	633B1808				1
33	Cover	G - thread	155L0008			1
		UNF - thread	155L0007			1
35	Sealing plug	G - thread	633X0028			2
		UNF - thread	633X7023			2
*	Set of seals (see page 50)	157B3999	1	1	1	1

ELECTRICAL ACTIVATION

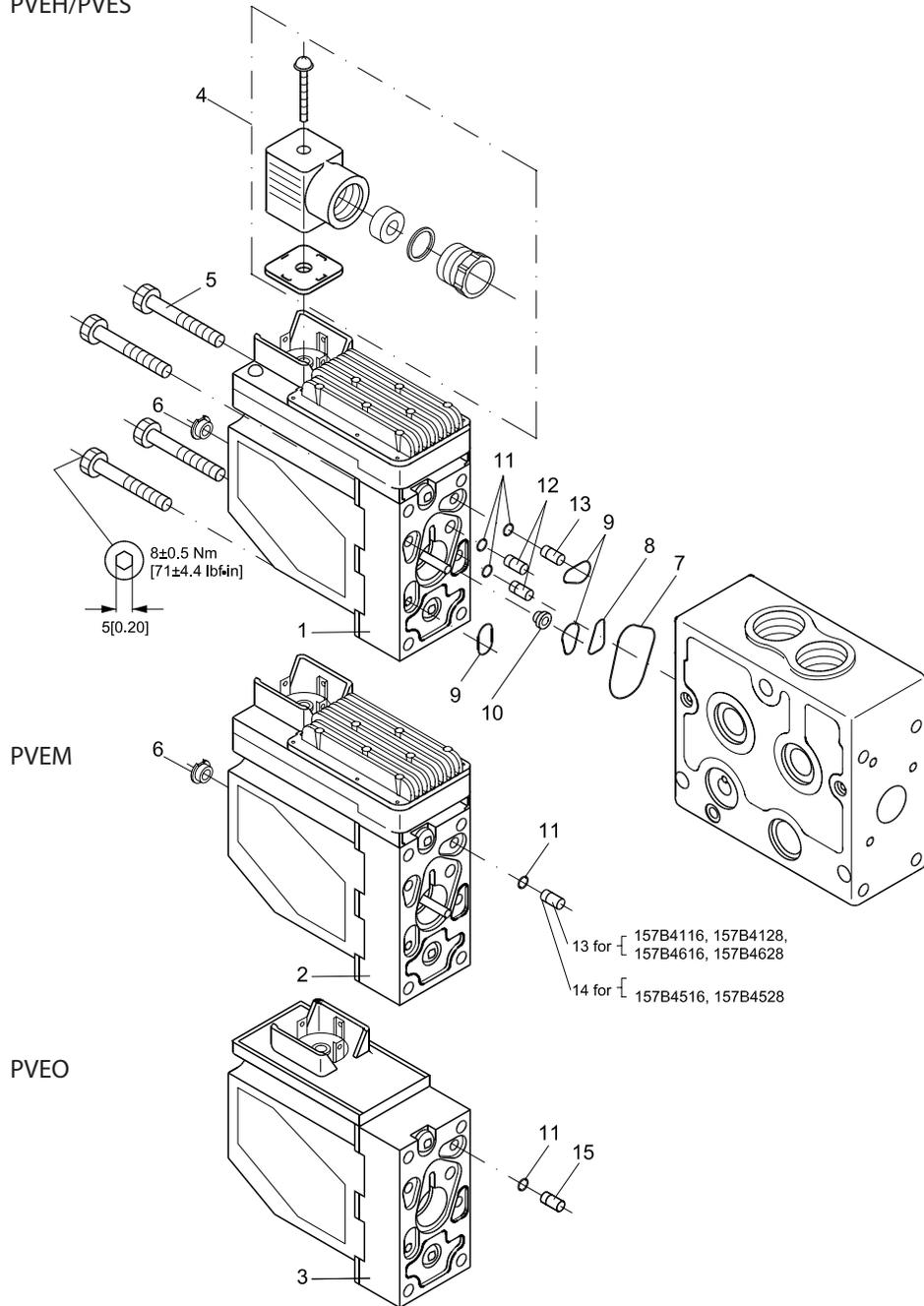
**PVES,
PROPORTIONAL SUPER**

**PVEH,
PROPORTIONAL HIGH**

**PVEM,
PROPORTIONAL MEDIUM**

PVEO, ON-OFF

PVEH/PVES



157-256.10.10

ELECTRICAL ACTIVATION

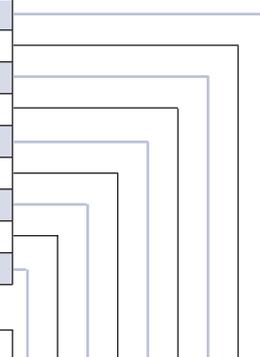
**PVES,
 PROPORTIONAL SUPER**

**PVEH,
 PROPORTIONAL HIGH**

**PVEM,
 PROPORTIONAL MEDIUM**

PVEO, ON-OFF

Type		Code No.	
		12 Volt	24 Volt
PVES	0% hysteresis (proportional)	157B4816	157B4828
PVEH	Standard (proportional)	157B4016	157B4028
	Passive fault monitoring (proportional)	157B4086	157B4088
	Float position (proportional)	157B4316	157B4328
PVEM	Standard (proportional)	157B4116	157B4128
	With Ø0.5 [0.02 in] orifice	157B4516	157B4528
	Fast version	157B4616	157B4628
	Float position (proportional)	157B4416	157B4428
PVEO	Standard (on - off)	157B4216	157B4228



Item	Description	Code No.																
1	PVES assembly	-																1
	PVEH assembly	-																1 1 1
2	PVEM assembly	-		1	1	1	1											
3	PVEO assembly	-	1															
4	El-plug, DIN 43650	white, PG 11	984L3286		1	1	1	1	1	1	1	1	1	1	1	1	1	1
		black, PG 9	984L3156	1														
5	Screw M6; L = 33 [1.30 in]	681X0143	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4
6	Plug	155U2779		1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
7*	O-ring Ø2.5 × 30.0 [0.10 × 1.18 in]	633B0241	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
8*	O-ring Ø2.0 × 8.0 [0.08 × 0.35 in]	633B1056	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
9*	O-ring Ø2.0 × 10.0 [0.08 × 0.39 in]	633B1461	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3
10	Filter	155G4710	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
11*	O-ring Ø1.0 × 4.0 [0.04 × 0.16 in]	633B0204	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3
12	Check valve	155U6780	2	2	3	3	2	2	2	2	2	2	2	2	2	2	2	2
13	Orifice Ø1.0 [0.04 in]	155U6618			1	1	1	1	1	1	1	1	1	1	1	1	1	1
14	Orifice Ø0.5 [0.02 in]	155U6616				1												
15	Orifice Ø0.8 [0.03 in]	155U6617	1															
*	Set of seals (see page 50)	157B4997	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1



PVG 32 Proportional Valve
Service Parts Manual
Notes

NOTES



OUR PRODUCTS

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