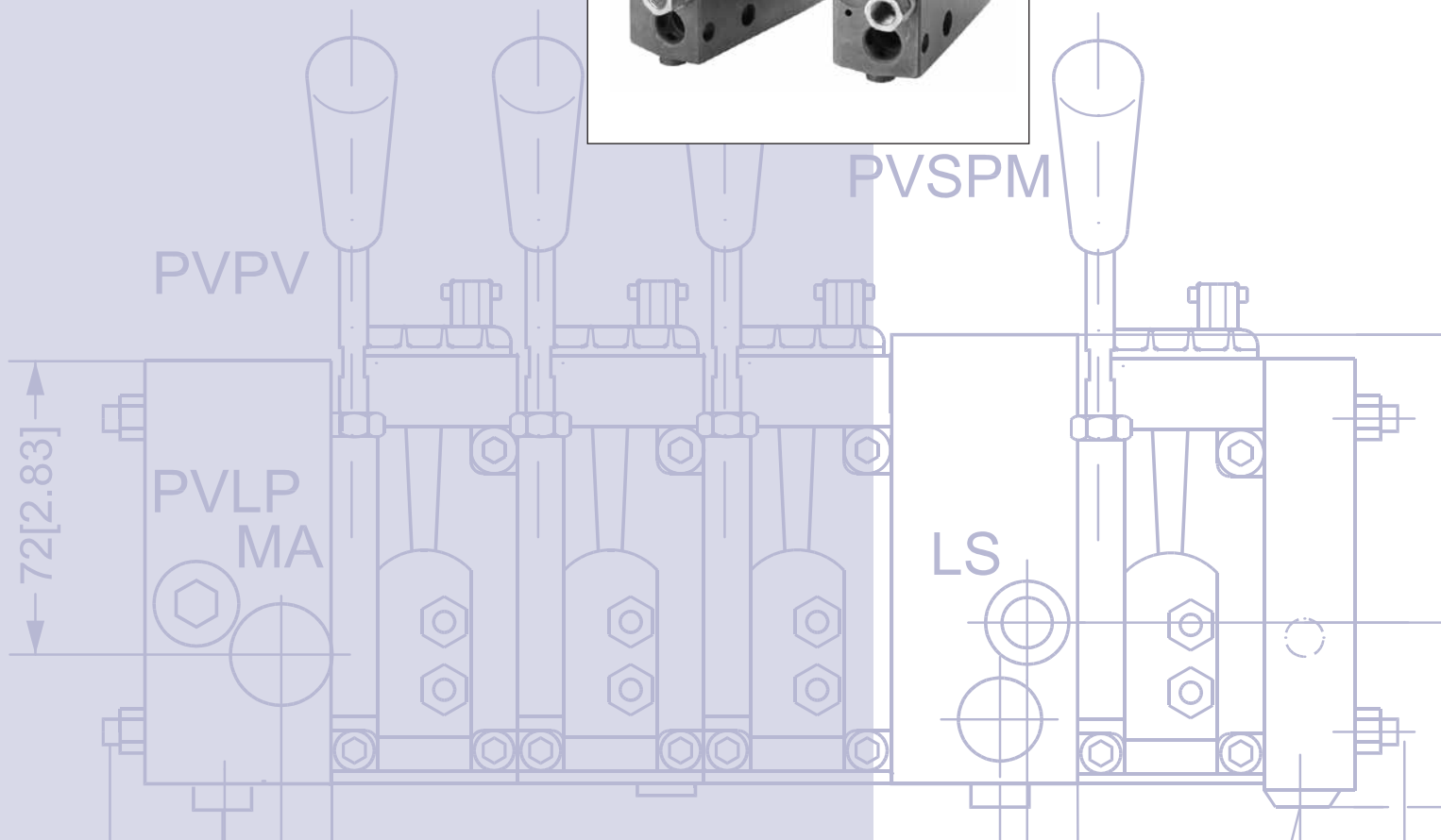


Technical
Information



Revision History

Table of Revisions

Date	Page	Changed	Rev
Jul 2007	All	First edition	AA
Jan 2010	7-8, 12	Handle and Japan location changed	AB
Dec 2010	12	New back cover	AC
Mar 2012	All	The table on change p.3, front & back cover, title, layout.	AD

Contents

Introduction	3
Version and code numbers	3
Function.....	4
Priority modul type PVSP/M	4
Code number and diagram	5
Diagram PVSPM	6
Characteristics of PVSP/PVSPM.....	6
Dimensions.....	7-8
Stay bolt set PVAS.....	7-8
Specification for PVG 32 European-version	9
Specification for PVG 32 US version	10

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Front cover illustrations: F300933, F300934, F300935, F300936 and 157-434.

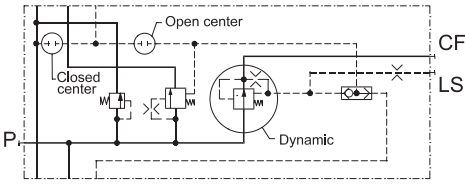
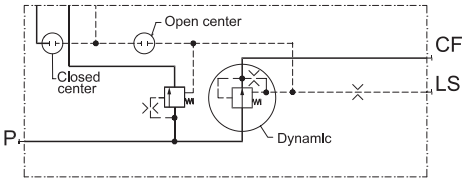
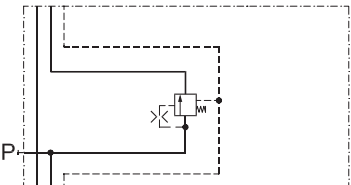
Introduction

With the introduction of PVSP, Sauer-Danfoss can now supply modules with integrated priority function.

The new modules offer the following advantages:

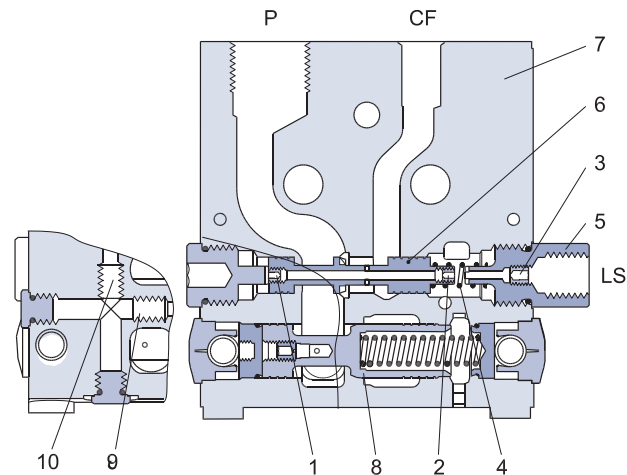
- Integrated priority function for the OSP steering unit and/or the working hydraulics, PVB.
- Compatible with open-centre or closed-centre PVP pump side modules with flows up to 160 l/min.

- Version and Code Numbers**
- PVSPM modules 157B6707, 157B6727 and 157B6709 to be installed as Mid-Inlet.
 - PVSP modules 157B6708, 157B6728, 157B6808 and 157B6828 to be installed as the valve group end module instead of the PVS end plate.

Symbol	Description	Code number	
		CF = G $\frac{1}{2}$ P = G 1	CF = [7/8 - 14] P = [1 5/16 - 12 UN]
 157-383.12	PVSPM module giving priority to OSP + PVB Prepared for PVLP 63 shock valve. Max. pump pressure = 350 bar [5076 psi] Max. pump flow = 160 l/min. [42 US gal/min] CF flow OSP = 60 l/min [12 US gal/min] CF flow PVB = 100 l/min [26.4 US gal/min]	157B6707 (Open center)	—
		157B6727 (Closed center)	—
 157-371.12	PVSP module giving priority to OSP Max. pump pressure = 350 bar [5076 psi] Max. pump flow = 160 l/min [42 US gal/min] CF flow OSP = 60 l/min [12 US gal/min]	157B6708 (Open center)	157B6808 (Open center)
		157B6728 (Closed center)	157B6828 (Closed center)
 157-382.12	PVSPM module giving priority to PVB Max. pump pressure = 350 bar [5076 psi] Max. pump flow = 160 l/min. [42 US gal/min] CF flow PVB = 100 l/min [26.4 US gal/min]	157B6709 (Open/ Closed center)	—

Compensator spool and shockvalve has to be specified separately see example [page 9](#).

Priority Modul Type
PVSP/M



157-385.11

- | | |
|--|--|
| 1. PP orifice | 6. Compensator spool for CF-connection |
| 2. Dynamic orifice | 7. PVSP housing |
| 3. LS orifice for steering unit | 8. Priority spool |
| 4. Spring for compensator spool | 9. Plug, open-centre |
| 5. Connection for LS-signal from steering unit | 10. Plug, closed-centre |

Priority module PVSP contains a P-connection (for the pump) and a CF-connection (control flow). Accordingly, the standard pump connections in PVP and PVPVM must therefore always be provided with a steel plug.

The PVSP module can give priority to an OSP steering unit (or other valves) and/or a PVB 32 module.

The excessive flow is passed on through EF (excess flow) to non-prioritised PVB 32 basic modules.

If priority is solely given to the OSP steering unit (157B6708, 157B6728, 157B6808 or 157B6828), the PVSP module fills in the place of end plate PVS(I). When specifying valve groups of this nature, you are therefore not to give in any code number for PVS into field 11 in the specification form [see example on page 10](#).

In valve groups that must give priority to PVB 32 (max. one PVB), PVSPM must be mounted as Mid-Inlet (157B6707, 157B6727 and 157B6709). The PVB module that is given priority must be turned a 180° and installed on the right of PVSP see orientation of ports on [pages 7 and 8](#).

If an OSP steering unit and a PVB working function are given priority at the same time (PVSPM, 157B6707 and 157B6727), it is necessary to ensure that the OSP will always have an adequate pump flow available.

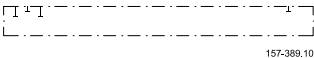
In prioritised PVB-modules, always remember to dismantle the LS shuttle valve (see example on page 6). And together with prioritised PVB modules, always use endplate 157B2018/157B2008 (without O-rings).

In open-centre systems, prioritised PVB-modules and steering units must always embody an integrated relief valve to avoid that an unintended, high pressure builds-up.

In closed-centre systems, the system relief valve in PVP opens at a higher pressure (max. 20 bar) on the prioritised functions. It is therefore recommended to use PVB and OSP with integrated relief valve.

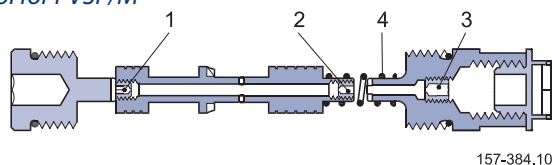
Code Numbers of Other Components

End plate PVSI

 157-389.10	without active elements	BSP	157B2018
	without sealing elements	SAE	157B2008

PVSP module 157B6709 contains no compensator as it solely gives priority to PVB 32. Accordingly, you are not to give in any code number into field 13.

Compensator spool for PVSP/M



European version, dynamic LS

Code no.	PP internal pos. 1	Dynamic orifice pos. 2	LS orifice pos. 3	Spring pos. 4
157B7900	Ø 0.6 mm	Ø 0.9 mm	Ø 1.2 mm	7 bar
157B7902	Ø 0.6 mm	Ø 1.2 mm	-	7 bar
157B7903	Ø 0.6 mm	Ø 1.0 mm	Ø 1.2 mm	10 bar
157B7904	Ø 0.6 mm	Ø 0.9 mm	Ø 1.2 mm	10 bar
157B7905	Ø 0.6 mm	Ø 1.0 mm	-	7 bar

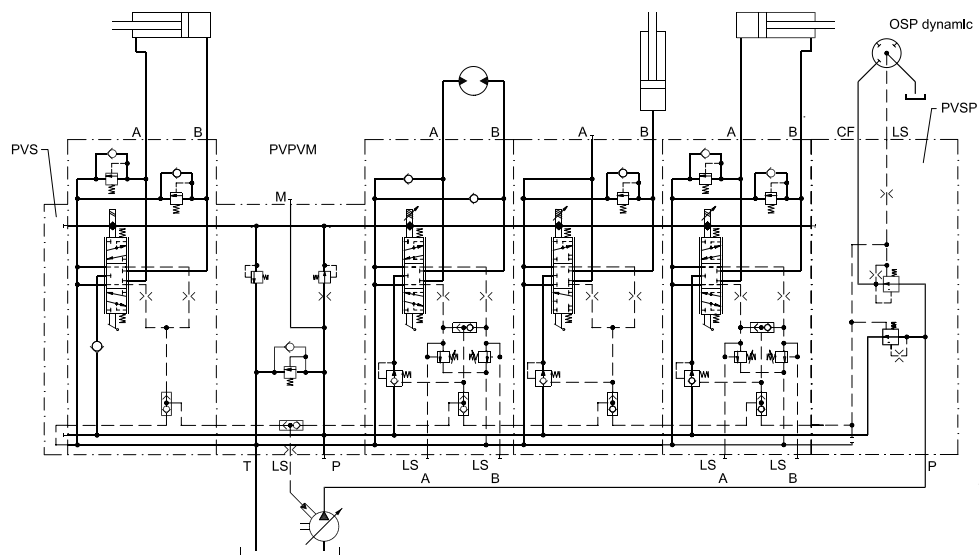
LS: G 1/4

US version, dynamic LS

Code no.	PP internal pos. 1	Dynamic orifice pos. 2	LS orifice pos. 3	Spring pos. 4
157B7950	Ø 0.024 in	Ø 0.035 in	Ø 0.047 in	101.5 psi

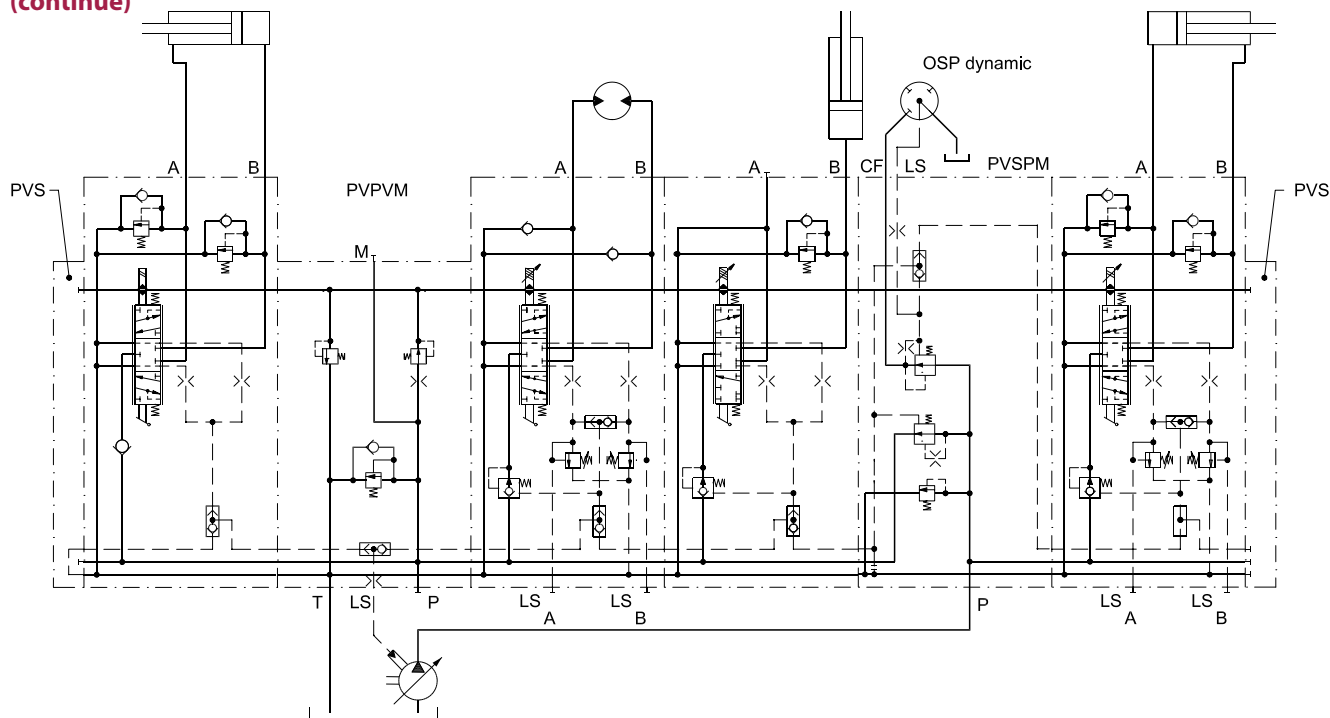
LS: [9/16 -18 UNF]

Diagram PVSP



When specifying a PVG 32 valve group that contains a PVSP module, give in the code number into the field following the last PVB-module *in this case in field 6*. Give in the code number of the compensator spool into field 13 *see example on page 10*. For choice of stay bolt set PVAS, *see page 7*.

Diagram PVSPM
(continue)



157-428.12

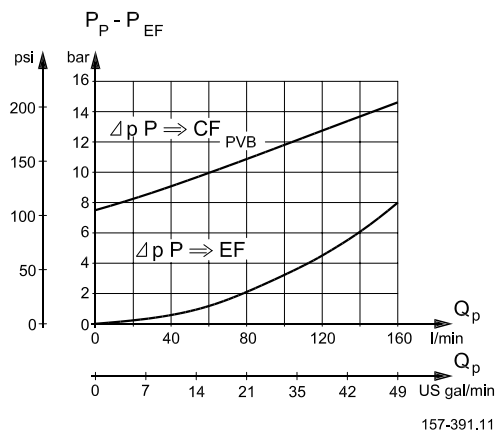
Give in the code number of PVSPM into field 5.

For PVSPM, select a PVS endplate without O-rings, code 157B2018/157B2008 *see example on page 9*.

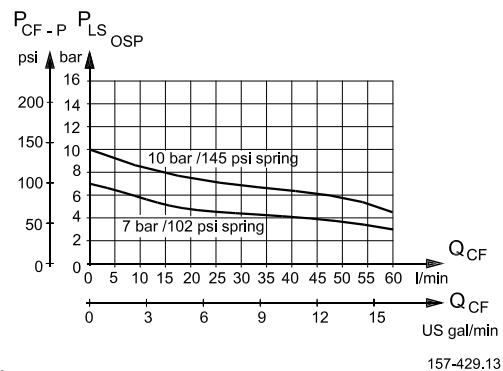
For choice of stay bolt set PVAS, *see page 8*.

Characteristics of PVSP/
PVSPM

Pressure drop in PVSP/M



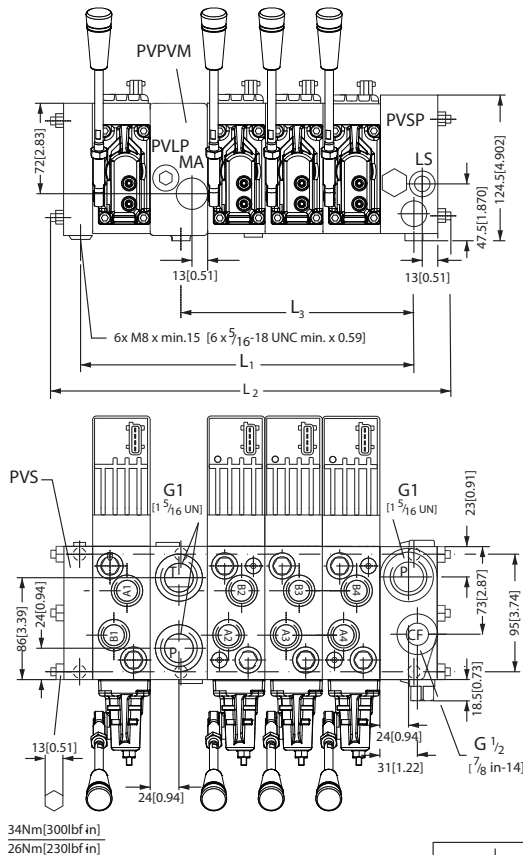
CF-flow for OSP as a function of the pressure drop from CF-port to the steering unit OSP



Dimensions

Valve group with PVPVM + PVSP Specification see page 10

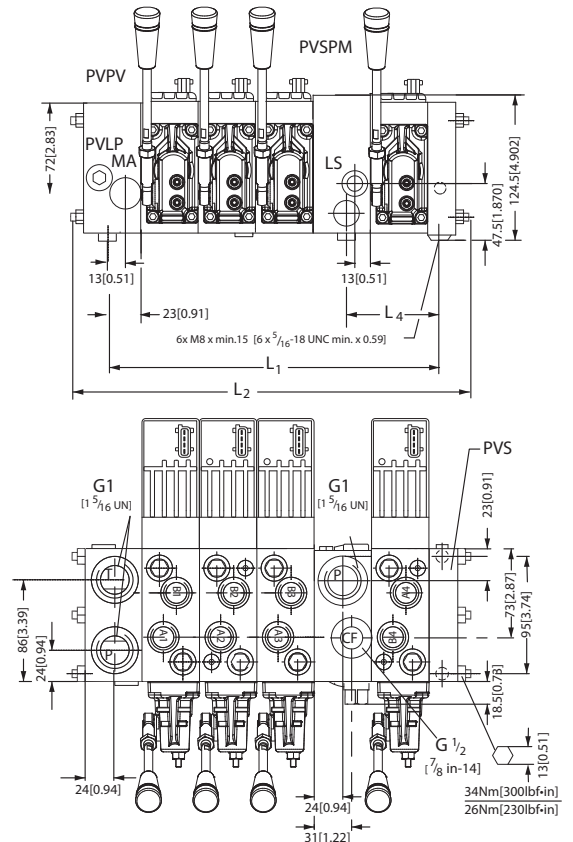
Valve group with PVPV + PVSPM



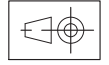
PVSP: LS = G 1/4 [9/16-18 UNF]



V310128.A



PVSP: LS : G 1/4 [9/16-18 UNF]



V310129.A

Stay Bolt Set PVAS

For pump pressures higher than 320 bar [4640 psi] (however, no more than max. 350 bar [5076 psi]) use PVAS 157B8041 – 157B8050

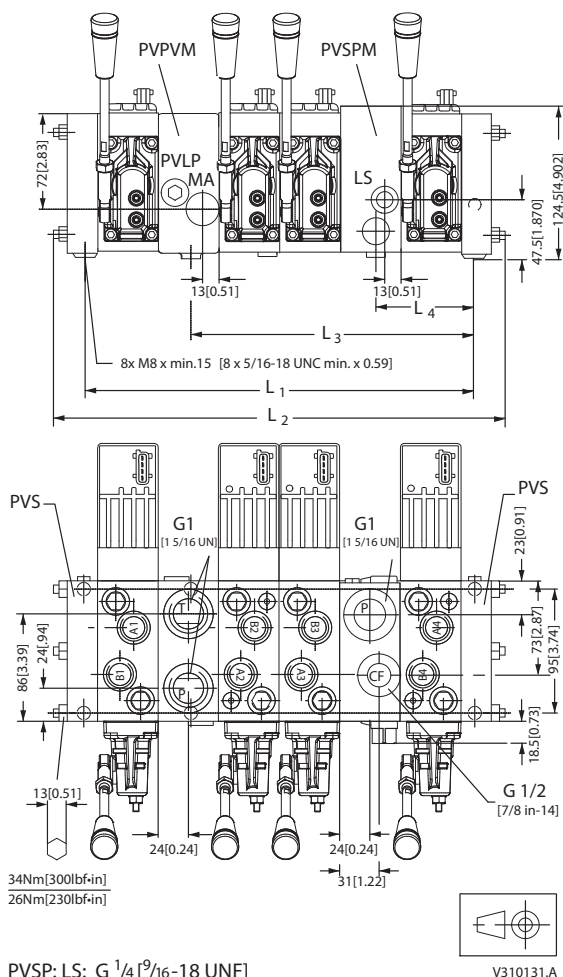
In valve groups containing the above combination of modules, use PVAS stay bolt sets as specified in the survey.

Qty, basic module	L1 mm [in]	L2 mm [in]	L3 mm [in]	L4 mm [in]	Code No.	Weight kg [lb]
0	82 [3.22]	140 [5.51]	48 [1.89]	35 [1.37]	157B8001	0.15 [0.3]
1	130 [5.12]	189 [7.44]	96 [3.78]	83 [3.27]	157B8002	0.25 [0.5]
2	178 [7.01]	238 [9.37]	144 [5.67]	131 [5.16]	157B8003	0.30 [0.7]
3	226 [8.90]	287 [11.30]	192 [7.56]	179 [7.05]	157B8004	0.40 [0.9]
4	274 [10.79]	336 [13.23]	240 [9.45]	227 [8.94]	157B8025	0.45 [1.0]
5	322 [12.68]	385 [15.16]	288 [11.34]	275 [10.83]	157B8006	0.50 [1.1]
6	370 [14.57]	434 [17.09]	336 [13.23]	323 [12.72]	157B8007	0.60 [1.3]
7	418 [16.46]	483 [19.02]	384 [15.12]	371 [14.61]	157B8008	0.65 [1.4]
8	466 [18.35]	532 [20.95]	432 [17.01]	419 [16.50]	157B8009	0.70 [1.5]
9	514 [20.24]	581 [22.87]	480 [18.90]	467 [18.38]	157B8010	0.80 [1.8]

Dimensions

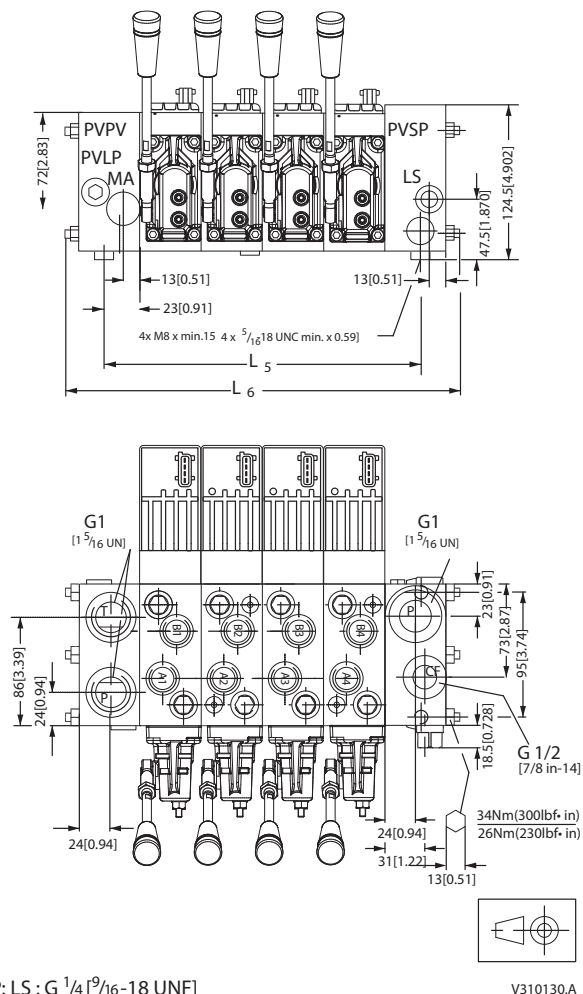
Valve group with PVPVM + PVSPM

Specification see page 9



PVSP: LS: G 1/4 [9/16-18 UNF]

Valve group with PVPV + PVSP



PVSP: LS: G 1/4 [9/16-18 UNF]

Stay Bolt Set PVAS

PVAS 157B8022 – 157B8030 are intended for pump pressures up to 350 bar (5076 psi)
In valve groups containing the above combination of modules, use PVAS stay bolt sets as specified in the survey.

Qty, basic Module	L1 mm [in]	L2 mm [in]	L3 mm [in]	L4 mm [in]	L5 mm [in]	L6 mm [in]	Code no.		Weight	
							PVSPM	PVSP	PVSP kg [lb]	PVSPM kg [lb]
1	166 [6.54]	213 [8.38]	131 [5.16]	83 [3.27]	95 [3.74]	--	157B8022	157B8021	0.30 [0.70]	--
2	214 [8.43]	262 [10.31]	179 [7.05]	131 [5.16]	143 [5.63]	213 [8.39]	157B8023	157B8022	0.35 [0.77]	0.30 [0.70]
3	262 [10.32]	311 [12.24]	227 [8.94]	179 [7.05]	191 [7.52]	262 [10.31]	157B8024	157B8023	0.45 [1.00]	0.35 [0.77]
4	310 [12.20]	360 [14.17]	275 [10.82]	227 [8.94]	239 [9.41]	311 [12.24]	157B8025	157B8024	0.50 [1.10]	0.45 [1.00]
5	358 [14.10]	409 [16.10]	323 [12.72]	275 [10.83]	287 [11.30]	360 [14.17]	157B8026	157B8025	0.55 [1.20]	0.50 [1.10]
6	406 [15.98]	458 [18.03]	371 [14.61]	323 [12.72]	335 [13.19]	409 [16.10]	157B8027	157B8026	0.65 [1.40]	0.55 [1.20]
7	454 [17.87]	507 [29.96]	419 [16.50]	371 [14.61]	383 [15.09]	458 [18.03]	157B8028	157B8027	0.70 [1.50]	0.65 [1.40]
8	502 [19.76]	551 [21.69]	467 [18.38]	419 [16.50]	431 [16.97]	507 [19.96]	157B8029	157B8028	0.75 [1.60]	0.70 [1.50]
9	550 [21.65]	600 [23.62]	515 [20.27]	467 [18.38]	479 [18.86]	551 [21.70]	157B8030	157B8029	0.85 [1.90]	0.75 [1.60]

PVG No.	Customer	Application						Subsidiary/Dealer			
Function	A-Port	0	157B	2000	-	157B	-	B-port			
▽	▽	p =			bar	157B	-	▽			
	a 157B 3171	1	157B	6130		157B	7004	13	157B	4216	c
	b 157B 2100		LS _A	-	bar	LS _B	-		bar	157B	
	a 157B -	2	157B	5940		157B	-	13	157B	-	c
	b 157B 2210		LS _A	-	bar	LS _B	-		bar	157B	
	a 157B 3171	3	157B	6233		157B	7023	13	157B	4016	c
	b 157B 2001		LS _A	100	bar	LS _B	100		bar	157B	
	a 157B 3171	4	157B	6230		157B	7302	13	157B	4016	c
	b 157B 2002		LS _A	-	bar	LS _B	-		bar	157B	
	a 157B -	5	157B	6727		157B	7900	13	157B	-	c
	b 157B 2210		LS _A	-	bar	LS _B	-		bar	157B	
	a 157B 3171	6	157B	6233		157B	7021	13	157B	4116	c
	b 157B 2250		LS _A	220	bar	LS _B	220		bar	157B	
	a 157B -	7	157B	-		157B	-	13	157B	-	c
	b 157B -		LS _A	-	bar	LS _B	-		bar	157B	
	a 157B -	8	157B	-		157B	-	13	157B	-	c
	b 157B -		LS _A	-	bar	LS _B	-		bar	157B	
	a 157B -	9	157B	-		157B	-	13	157B	-	c
	b 157B -		LS _A	-	bar	LS _B	-		bar	157B	
	a 157B -	10	157B	-		157B	-	13	157B	-	c
	b 157B -		LS _A	-	bar	LS _B	-		bar	157B	
The example specification of a PVG 32 valve group (shown on page 8) with PVSPM, 157B6727, mounted.		11	157B	2018							
		12	157B	8005							
Filed in by								Date:			

The specification must be completed so that it covers the valve group seen from above.

PVG No.	Customer	Application						Subsidiary/Dealer
Function	A-Port	0	157B	2020	-	157B	-	B-port
▽	▽	p =			bar	157B	-	▽
	a 157B 3171	1	157B	6530		157B	7004	13 157B 4216 c
	b 157B 2100		LS _A	-	bar	LS _B	-	bar 157B 2100 b
	a 157B -	2	157B	5914		157B	-	13 157B - c
	b 157B 2100		LS _A	-	bar	LS _B	-	bar 157B - b
	a 157B 3171	3	157B	6630		157B	7023	13 157B 4016 c
	b 157B 2001		LS _A	1450	bar	LS _B	1450	bar 157B 2001 b
	a 157B 3171	4	157B	6633		157B	7302	13 157B 4016 c
	b 157B 2002		LS _A	-	bar	LS _B	-	bar 157B 2150 b
	a 157B 3171	5	157B	6633		157B	7021	13 157B 4116 c
	b 157B 2250		LS _A	190	bar	LS _B	190	bar 157B 2250 b
	a 157B -	6	157B	6808		157B	7950	13 157B - c
	b 157B -		LS _A	-	bar	LS _B	-	bar 157B - b
	a 157B -	7	157B	-		157B	-	13 157B - c
	b 157B -		LS _A	-	bar	LS _B	-	bar 157B - b
	a 157B -	8	157B	-		157B	-	13 157B - c
	b 157B -		LS _A	-	bar	LS _B	-	bar 157B - b
	a 157B -	9	157B	-		157B	-	13 157B - c
	b 157B -		LS _A	-	bar	LS _B	-	bar 157B - b
	a 157B -	10	157B	-		157B	-	13 157B - c
	b 157B -		LS _A	-	bar	LS _B	-	bar 157B - b
The above is an example specification of a PVG 32 valve group (shown on page 7) with PVSP, 157B6808, mounted.		11	157B	-				
		12	157B	8005				
Filed in by		Date:						

The specification must be completed so that it covers the valve group seen from above.



PVSP/M Priority Modules
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Notes



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