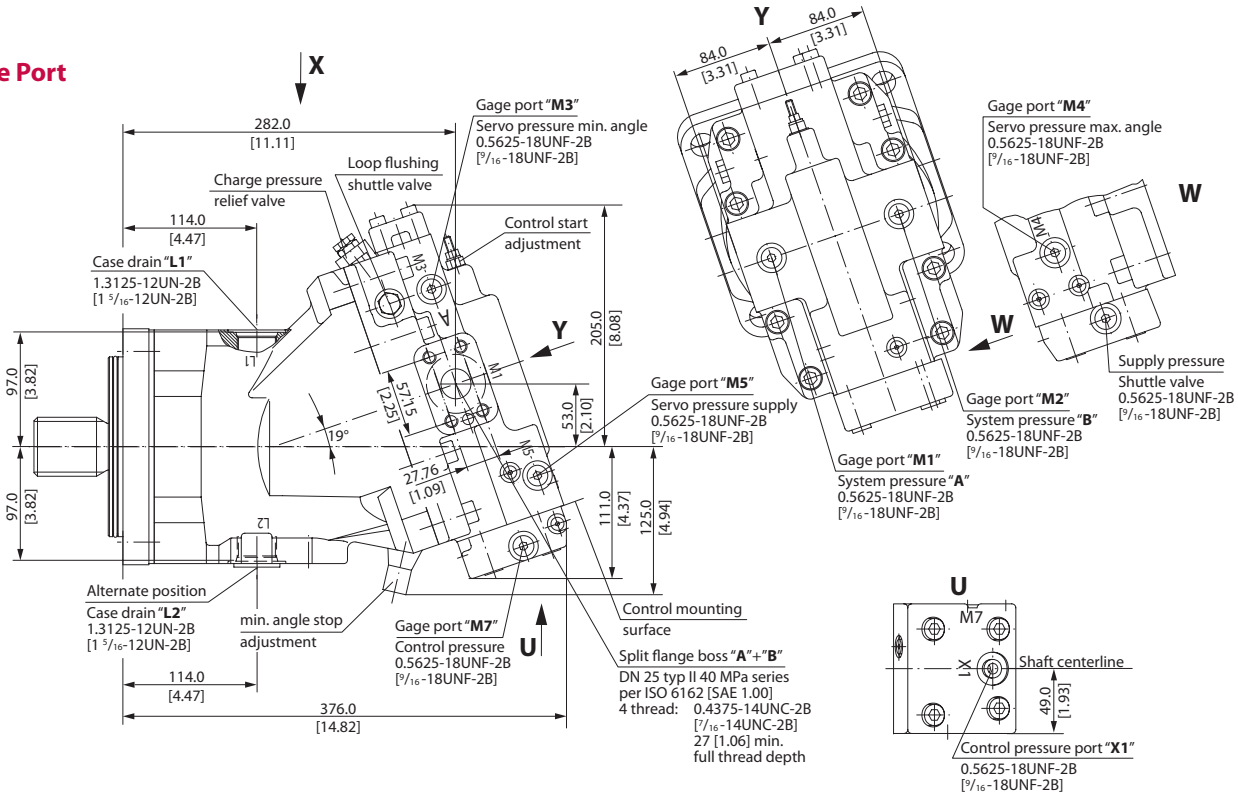


SAE Flange Design
 per ISO 3019/1

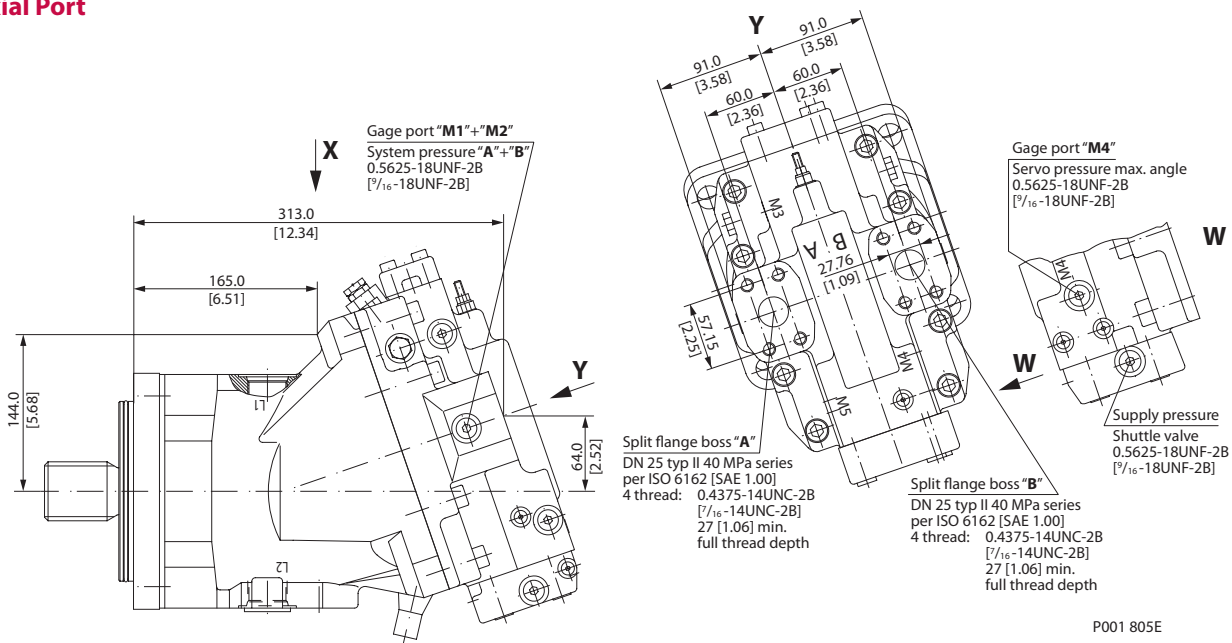
51V160 Proportional and Two-Position Control, HZB1

mm
 [in]

Side Port



Axial Port

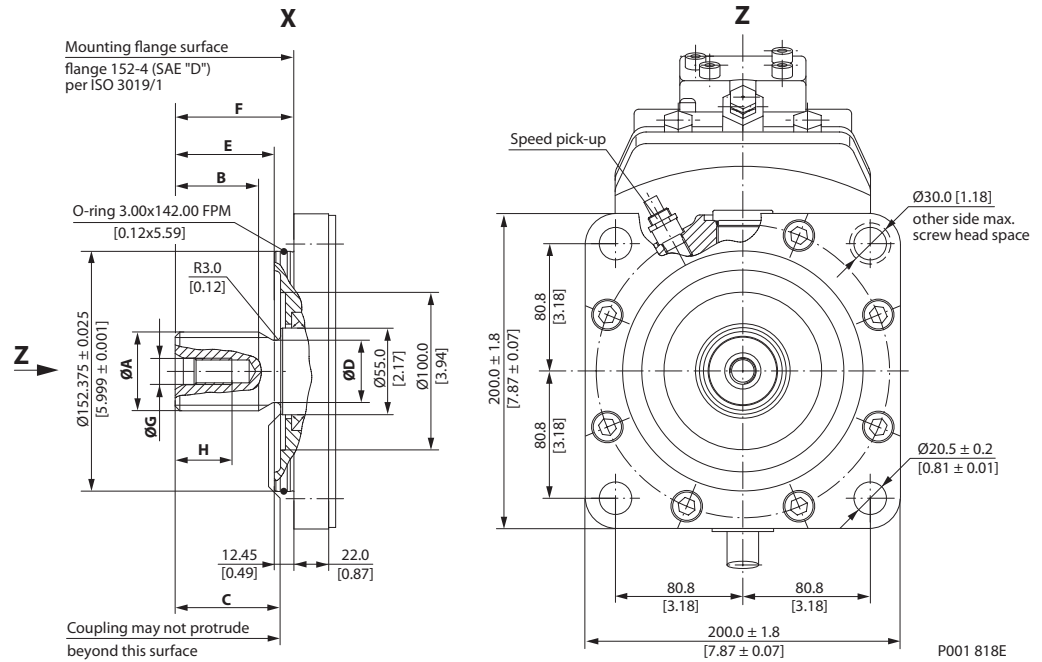


P001 805E

SAE Flange Design
 per ISO 3019/1
 (continued)

Shaft Options – 51V160

mm
 [in]



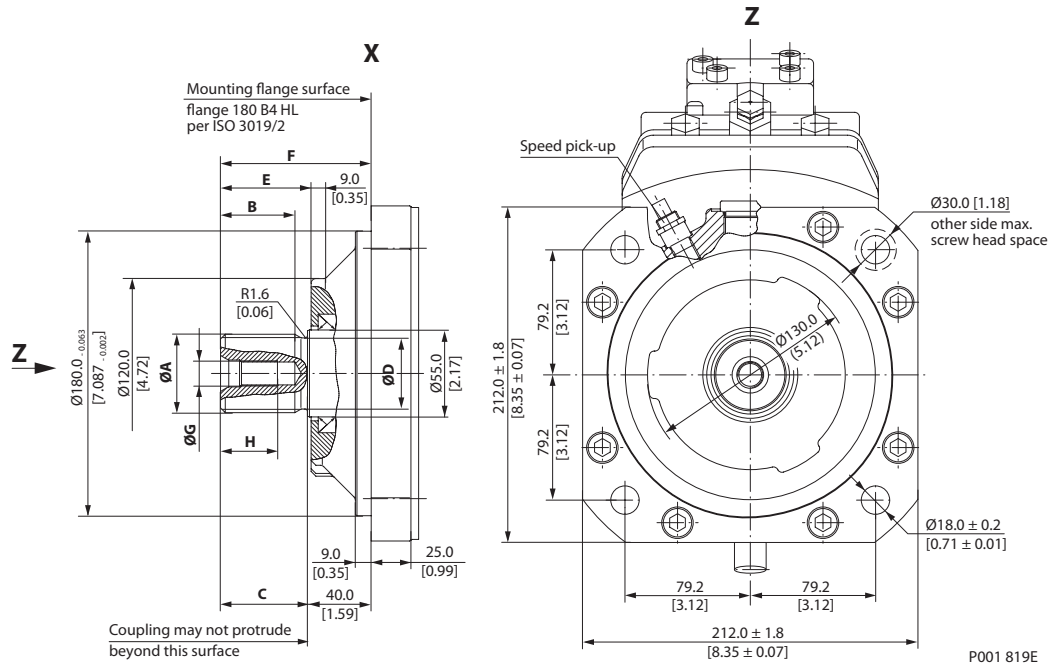
Shaft Spline Data					
Shaft option	F1		F2		C8
Dimension	mm	[in]	mm	[in]	mm [in]
Number of teeth	13		15		27
Pitch	8/16		8/16		16/32
Pressure angle	30°				
Spline	ANSI B92.1-1970 class 5 flat root side fit				
Pitch dia	41.275	[1.625]	47.625	[1.875]	42.862 [1.688]
A	43.64	[1.72]	49.99	[1.97]	43.96 [1.73]
B	55.00	[2.17]	53.00	[2.09]	55.00 [2.17]
C	67.00±0.5	[2.64]	67.00±0.5	[2.64]	67.00±0.5 [2.64]
D	36.00	[1.42]	42.20	[1.66]	39.60 [1.56]
E	70.00±1.1	[2.76]	70.00±1.1	[2.76]	70.00±1.1 [2.76]
F	75.40±0.7	[2.97]	75.40±0.7	[2.97]	75.40±0.7 [2.97]
G	0.625-11UNC-2B [5/8-11UNC-2B] allowed torque in thread max. 200 Nm [1770 lbf·in]				
H	36.00	[1.42]	36.00	[1.42]	36.00 [1.42]

Flow into port **A** results in **CW** rotation of output shaft.
 Flow into port **B** results in **CCW** rotation of output shaft.
 Shaft rotation is determined by viewing from shaft end.
 Ports with O-ring seal and inch threads shall be in accordance with ISO 11926/1.
 Splite flange boss A and B per ISO 6162 is identical with high pressure series SAE J518 code 62 (6000 psi).
 Contact your Sauer-Danfoss representative for specific installation drawings.

DIN Flange Design
 per ISO 3019/2
 (continued)

Shaft Options – 51D160

mm
 [in]



P001 819E

Shaft Spline Data				
Shaft option	D4		D5	
Dimension	mm	[in]	mm	[in]
Number of teeth	21		24	
Spline	W45x2x30x21x9g side fit DIN 5480		W50x2x30x24x9g side fit DIN 5480	
Pitch dia	42.000	[1.654]	48.000	[1.890]
A	44.60	[1.76]	49.60	[1.95]
B	42.00	[1.65]	47.00	[1.85]
C	50.00±0.5	[1.97]	55.00±0.5	[2.17]
D	40.00	[1.57]	45.00	[1.77]
E	52.30±1.1	[2.06]	57.30±1.1	[2.26]
F	90.30±0.6	[3.56]	95.30±0.6	[3.75]
G	M12x1.75 allowed torque in thread max. 115 Nm [1018 lbf·in]			
H	30.00	[1.18]	30.00	[1.18]

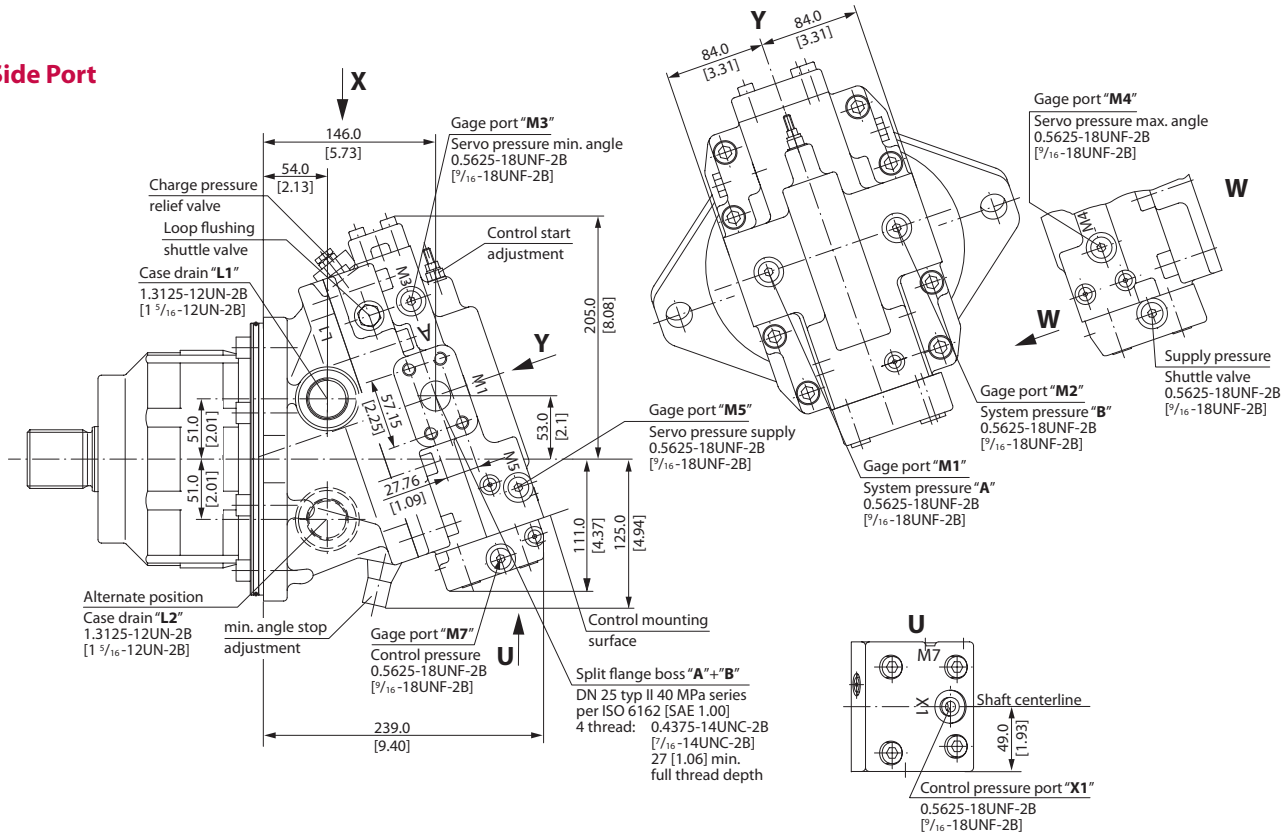
Flow into port **A** results in **CW** rotation of output shaft.
 Flow into port **B** results in **CCW** rotation of output shaft.
 Shaft rotation is determined by viewing from shaft end.
 Ports with O-ring seal and inch threads shall be in accordance with ISO 11926/1.
 Split flange boss A and B per ISO 6162 is identical with high pressure series SAE J518 code 62 (6000 psi).
 Contact your Sauer-Danfoss representative for specific installation drawings.

Cartridge Flange

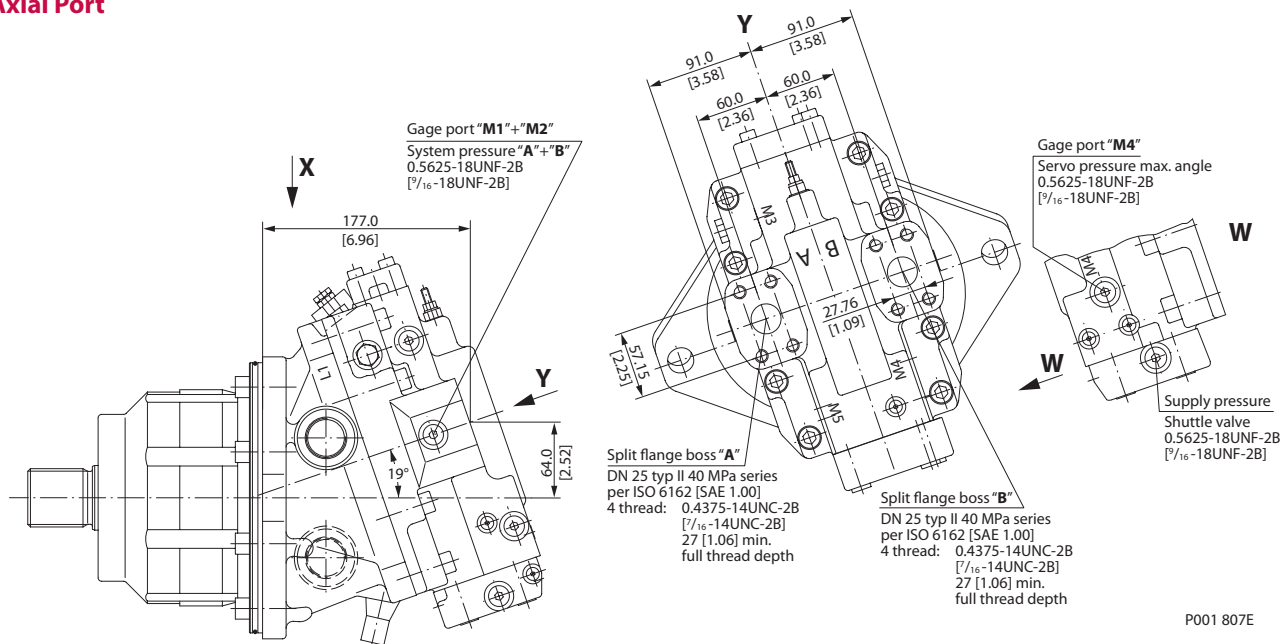
51C160 Proportional and Two-Position Control, HZB1

mm
[in]

Side Port



Axial Port

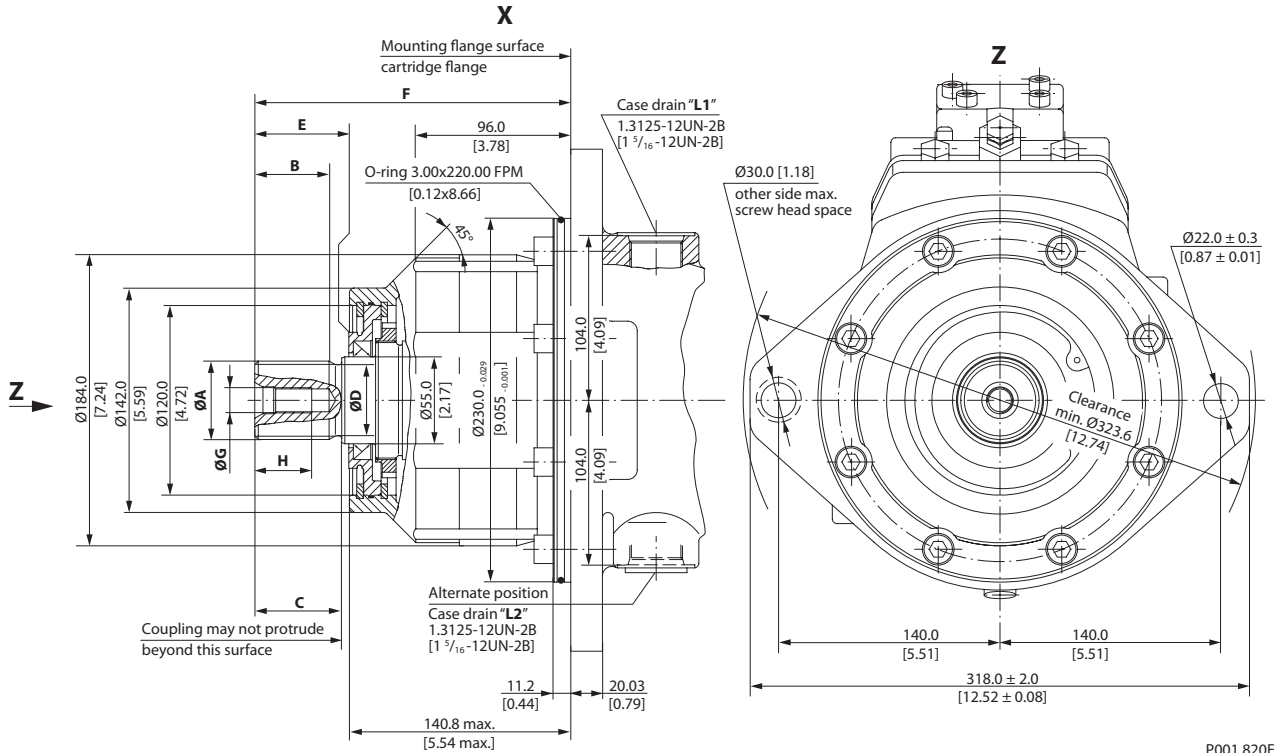


P001 807E

Cartridge Flange
 (continued)

Shaft Options – 51C160

mm
 [in]



P001 820E

Shaft Spline Data				
Shaft option	D4		D5	
Dimension	mm	[in]	mm	[in]
Number of teeth	21		24	
Spline	W45x2x30x21x9g side fit DIN 5480		W50x2x30x24x9g side fit DIN 5480	
Pitch dia	42.000	[1.654]	48.000	[1.890]
A	44.60	[1.76]	49.60	[1.95]
B	42.00	[1.65]	47.00	[1.85]
C	50.00±0.5	[1.97]	55.00±0.5	[2.17]
D	40.00	[1.57]	45.00	[1.77]
E	54.50±1.4	[2.15]	59.50±1.4	[2.34]
F	194.90±0.6	[7.67]	199.90±0.6	[7.87]
G	M12x1.75 allowed torque in thread max. 115 Nm [1018 lbf·in]			
H	30.00	[1.18]	30.00	[1.18]

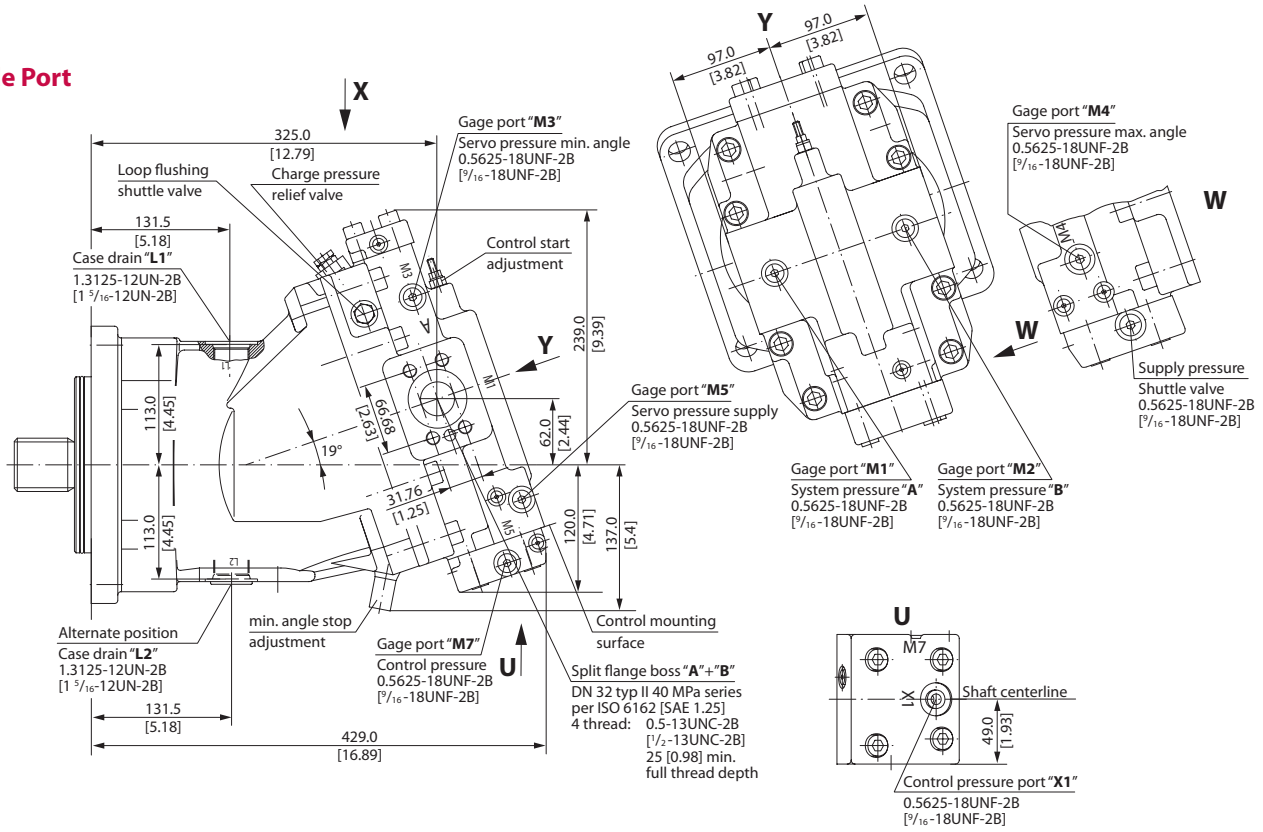
Flow into port **A** results in **CW** rotation of output shaft.
 Flow into port **B** results in **CCW** rotation of output shaft.
 Shaft rotation is determined by viewing from shaft end.
 Ports with O-ring seal and inch threads shall be in accordance with ISO 11926/1.
 Split flange boss A and B per ISO 6162 is identical with high pressure series SAE J518 code 62 (6000 psi).
 Contact your Sauer-Danfoss representative for specific installation drawings.

**SAE Flange Design
 per ISO 3019/1**

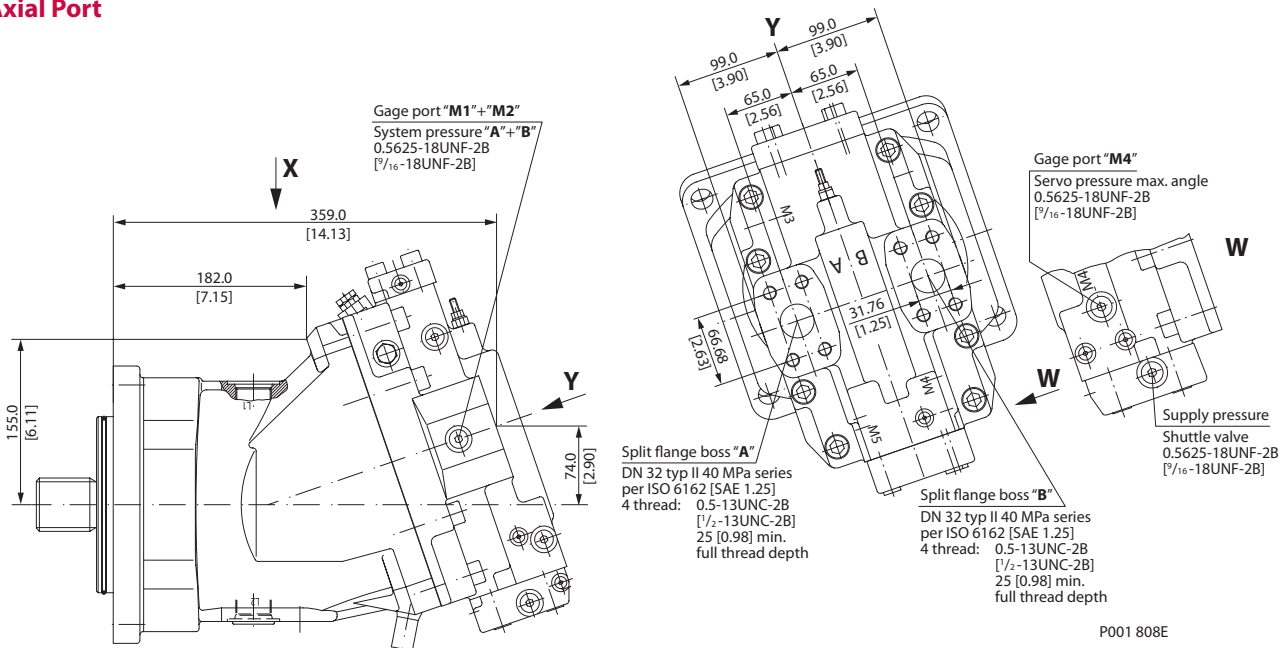
51V250 Proportional and Two-Position Control, HZB1

mm
 [in]

Side Port



Axial Port

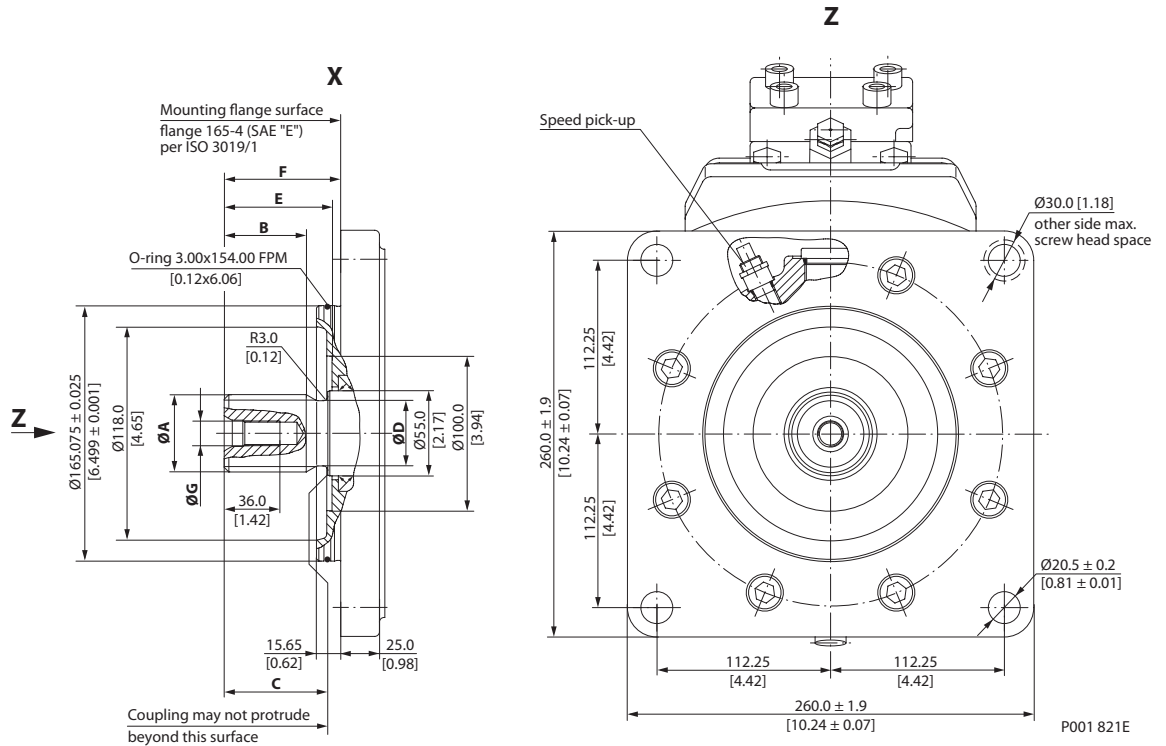


P001 808E

SAE Flange Design
 per ISO 3019/1
 (continued)

Shaft Options – 51V250

mm
 [in]



Shaft Spline Data			
Shaft option	F2		C8
Dimension	mm	[in]	mm [in]
Number of teeth	15		27
Pitch	8/16		16/32
Pressure angle	30°		
Spline	ANSI B92.1-1970 class 5 flat root side fit		
Pitch dia	47.625	[1.875]	42.862 [1.688]
A	49.99	[1.97]	43.96 [1.73]
B	53.00	[2.09]	55.00 [2.17]
C	67.00±0.5	[2.64]	67.00±0.5 [2.64]
D	42.20	[1.66]	39.60 [1.56]
E	70.00±1.1	[2.76]	70.00±1.1 [2.76]
F	75.40±0.7	[2.97]	75.40±0.7 [2.97]
G	0.625-11UNC-2B [5/8-11UNC-2B] allowed torque in thread max. 200 Nm [1770 lbf·in]		

Flow into port **A** results in **CW** rotation of output shaft.
 Flow into port **B** results in **CCW** rotation of output shaft.
 Shaft rotation is determined by viewing from shaft end.
 Ports with O-ring seal and inch threads shall be in accordance with ISO 11926/1.
 Splite flange boss A and B per ISO 6162 is identical with high pressure series SAE J518 code 62 (6000 psi).
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