

One piece flange clamps system with ISO6162-1, SAE J518C code 61,3000 PSI

SAE Flange Clamps



One-piece Flange clamp system
ISO 6162-1, SAE J518C code 61 3000 PSI

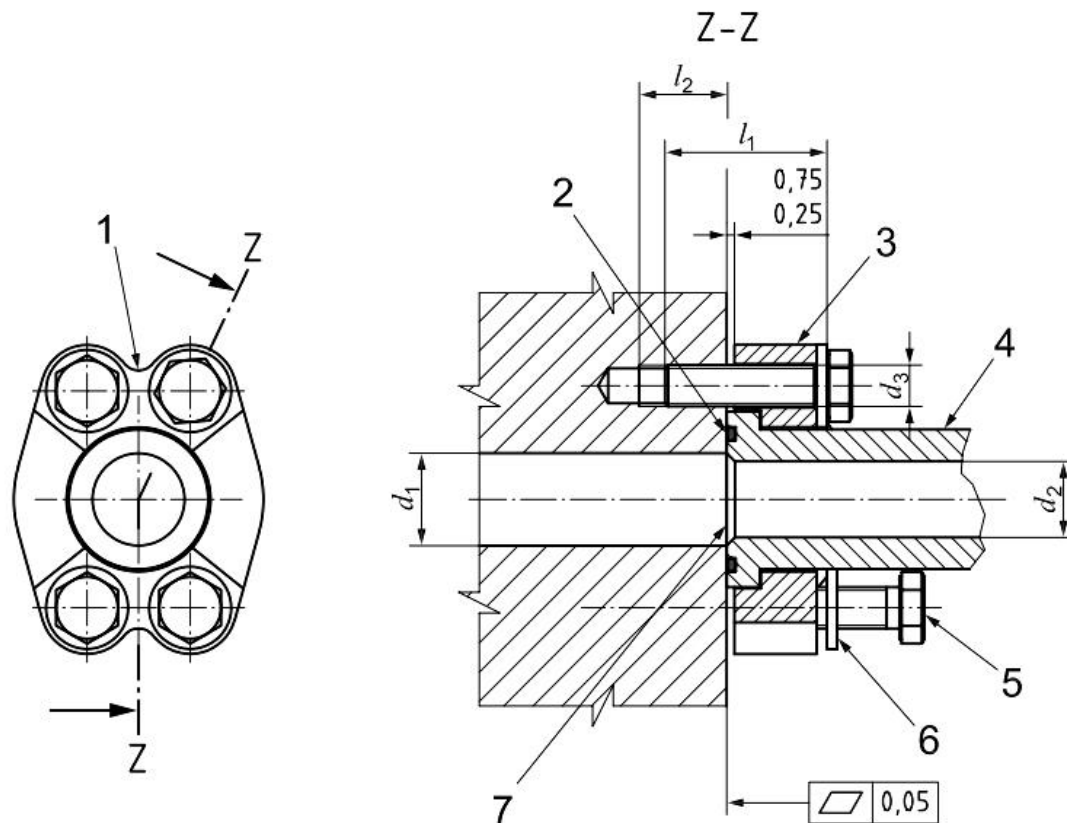
SAE Flange Clamps: one-piece flange clamp system

Introduction of hydraulic fluid power- flange connections with one-piece flange clamps and metric or inch screws:

1. Working pressure of SAE code 61 series flange clamps is 3000 PSI, 3,5 MPa (35 bar) to 35 MPa (350 bar).
2. SAE Flange clamps dimensions is according to ISO 6162-1:2012. ISO Nominal Size: DN 13; DN 19; DN 25; DN 32; DN 38; DN 51; DN 64; DN 76; DN 89; DN 102; DN 127; Inch size: 1/2"; 3/4"; 1"; 1 1/4"; 1 1/2"; 2"; 2 1/2"; 3".
3. Material of SAE one-piece flange clamp is made of carbon steel C45 with properties in the following condition:
For nominal flange size DN 13:
 - minimum yield strength: 220 MPa
 - minimum elongation at fracture: 3 %and for all other nominal flange sizes:
 - minimum yield strength: 415 MPa
 - minimum elongation at fracture: 3 %
4. The external surface Corrosion protection of all carbon steel SAE flange clamps, shall be protected with an appropriate coating to pass a minimum 72-h salt spray test in accordance with ISO 9227.
5. Test requirement for pressure/temperature: Flange type connections conforming to this part of ISO 6162 shall be subjected to the burst and cyclic endurance tests specified in ISO 19879 to verify that they meet the specified pressure/temperature requirements.
It shall be suitable for use at the working pressures given in Tables 2 when used at temperatures between -40 ° C and +120 ° C. Flange connections conforming to this part of ISO 6162 shall not be assembled at temperatures lower than -20 ° C.
6. Designation of one piece flange clamps connections
One-piece flange clamp of size DN 25: Clamp ISO 6162-1, FC×25



Assembled flange connection with one-piece flange clamp (FC or FCM)



Dimensions, torques and maximum working pressures for one-piece flange assemblies for use with inch screws

Dimensions in millimetres unless noted

Nominal size DN	d_1	d_2	O-ring size code ^a	Flat washer ^b (recommended)	Type 2 – inch screws of grade 8 in accordance with SAE J429				Maximum working pressure	Minimum burst pressure
	+0 -1,5	max.			d_3 Screw thread ^c UNC	l_1 Screw length ^d nom.	l_2 Min. full thread	Screw torque ^e (N·m) +10 % -0		
13	13,0	13,0	210	M8	5/16-18	32	20	32	35 (350)	140 (1 400)
19	19,2	19,2	214	M10	3/8-16	32	22	60	35 (350)	140 (1 400)
25	25,6	25,6	219	M10	3/8-16	32	22	60	32 (320)	128 (1 280)
32	32,0	32,0	222	7/16 ^b	7/16-14	38	25	92	28 (280)	112 (1 120)
38	38,2	38,2	225	M12	1/2-13	38	27	150	21 (210)	84 (840)
51	51,0	51,0	228	M12	1/2-13	38	27	150	21 (210)	84 (840)
64	63,5	63,5	232	M12	1/2-13	44	27	150	17,5 (175)	70 (700)
76	76,2	76,2	237	M16	5/8-11	44	30	295	16 (160)	64 (640)
89	89,0	89,0	241	M16	5/8-11	51	30	295	3,5 (35)	14 (140)
102	101,6	101,6	245	M16	5/8-11	51	30	295	3,5 (35)	14 (140)
127	127,0	127,0	253	M16	5/8-11	57	30	295	3,5 (35)	14 (140)

WARNING — It is important that all screws be lightly torqued before applying the final recommended torque values to avoid breaking the split flange clamps or one-piece flange clamps during installation (see Annex A for assembly guidelines).

^a O-ring size code in accordance with ISO 3601-1; see Annex B for reference dimensions.

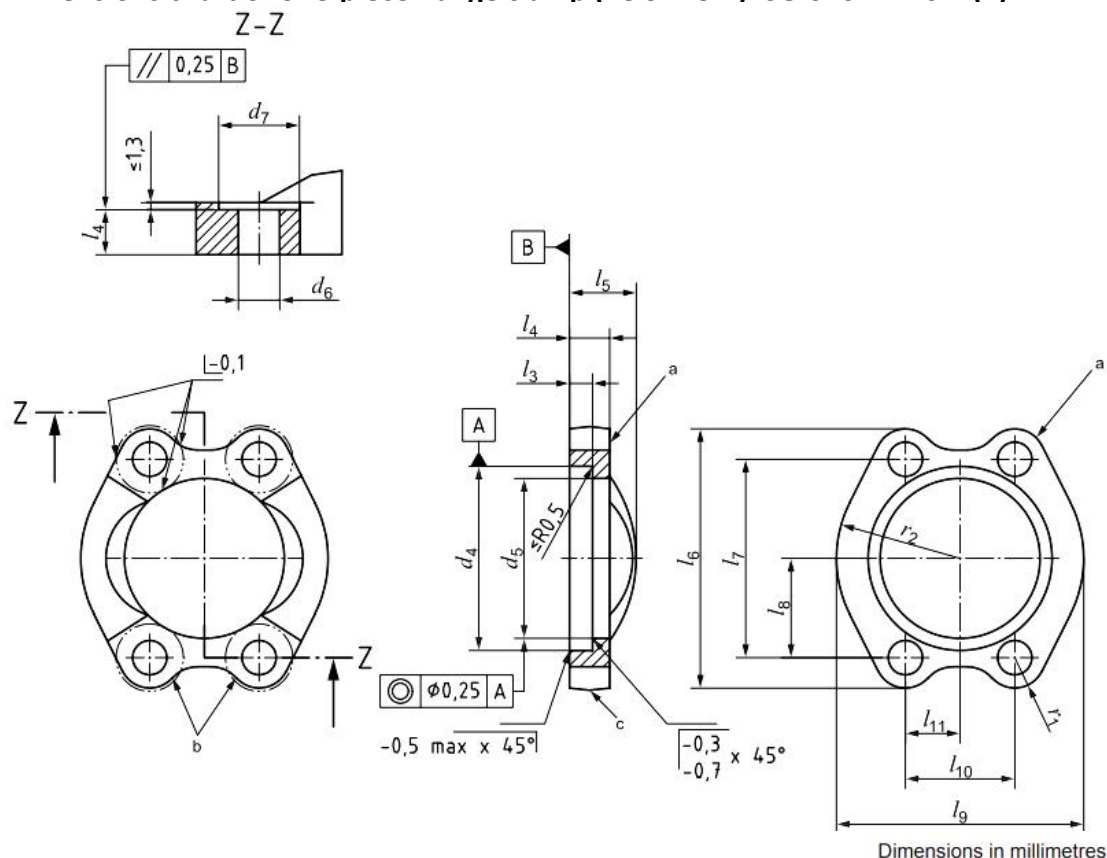
^b ANSI/ASME B18.22.1 Type B narrow washers of HV 300 quality material for the corresponding screw size in this table may be substituted for all sizes except for DN 32, where a washer conforming to ISO 7089 might cause interference.

^c Coarse pitch thread in accordance with ISO 263 and ISO 725 (UNC-2A for screw threads, UNC-2B for port threads).

^d Screw lengths are calculated for steel; use of other materials can require different screw lengths.

^e These torque values are only a guide when using lubricated screws, calculated with a coefficient of friction of 0,17. Net tightening torque depends on many factors, including lubrication, coating and surface finish.

Dimensions chart of one-piece flange clamp (FC or FCM) ISO 6162-1:2012(E)



Nominal size	d_4	d_5	d_6	d_7	l_3	l_4	l_5	l_6	
DN	$\pm 0,25$	$\pm 0,25$	$\pm 0,15$	min	$\pm 0,15$	$\pm 0,5$	$\pm 0,8$	max	min
13	30,95	24,25	8,9	16,5	6,2	12,7	19	54,9	53,1
19	38,90	32,15	10,6	20,5	6,2	14,2	22,5	65,8	64,3
25	45,25	38,50	10,6	20,5	7,5	15,8	24	70,6	69,1
32	51,60	43,70	10,6 ^a	24,5	7,5	14,2 ^b	22,5 ^c	80,3	78,5
38	61,10	50,80	13,3	26	7,5	15,8	25,5	94,5	93,0
51	72,25	62,75	13,5	26	9,0	15,8	26	103,1	100,1
64	84,95	74,95	13,5	26	9,0	19,1	38	115,8	112,8
76	102,40	90,95	16,7	32,5	9,0	22,4	41	136,7	133,4
89	115,10	102,40	16,7	32,5	10,7	22,4	28,5	153,9	150,9
102	127,80	115,10	16,7	32,5	10,7	25,4	35	163,6	160,3
127	153,20	140,50	16,7	32,5	10,7	28,5	41	185,7	182,6

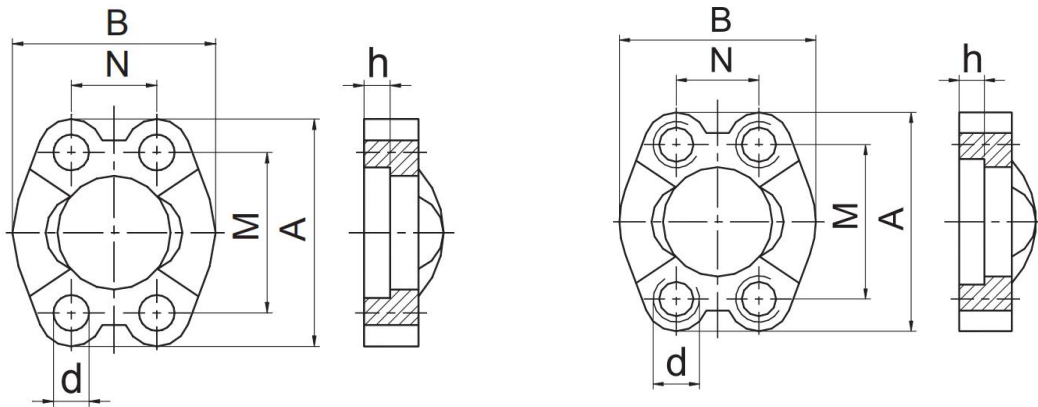
Nominal size	l_7	l_8	l_9	l_{10}	l_{11}	l_{12}	l_{13}	r_1	r_2
DN	$\pm 0,25$	$\pm 0,25$	$\pm 0,8$	$\pm 0,25$	$\pm 0,25$	$\pm 0,4$	$\pm 0,8$	ref	ref
13	38,1	19,05	46,0	17,5	8,75	7,9	21,8	8,0	23,0
19	47,6	23,80	52,3	22,2	11,10	10,2	24,9	8,5	26,0
25	52,4	26,20	58,7	26,2	13,10	12,2	28,2	8,5	29,5
32	58,7	29,35	73,2	30,2	15,10	14,2	35,3	10,5	36,5
38	69,9	34,95	82,6	35,7	17,85	17,0	40,1	12,0	41,5
51	77,8	38,90	96,8	42,9	21,45	20,6	47,2	12,0	48,5
64	88,9	44,45	108,7	50,8	25,40	24,4	53,1	12,5	54,5
76	106,4	53,20	131,1	61,9	30,95	30,0	64,3	14,0	65,5
89	120,7	60,35	139,7	69,9	34,95	34,0	68,6	15,5	70,0
102	130,2	65,10	152,4	77,8	38,90	37,8	74,9	15,5	76,0
127	152,4	76,20	180,9	92,1	46,05	45,2	89,4	15,5	90,5

^a For type 2 (inch), use $(12 \pm 0,25)$ mm.

^b 15,8 is also acceptable.

^c 24 is also acceptable.

L-SERIES SAE FLANGE CLAMP-CAPTIVE WITH 4-BLOT HOLES / THREAD HOLES



FL-xxW with holes

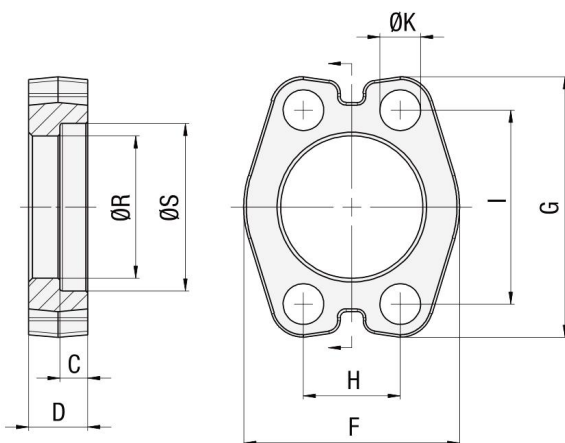
Parker no. FCC, Stauff no. BM

FL-xxWM with metric thread holes

Stauff SAE Flange Clamp Metric Holes no. BM-G
FL-xxWU with Inch screw UNF thread

PART NO.	FLANGE SIZE	BOL	DIMENSIONS						
			A	B	M	d	N	h	
FL-08W	1/2"	M8x25	54	46	38.1	9	17.5	6.2	
FL-12W	3/4"	M10x30	65.1	52	47.6	11	22.2	6.2	
FL-16W	1	M10x30	69.8	59	52.4	11	26.2	7.5	
FL-20W	1.1/4"	M10x30	79.4	73	58.7	11	30.2	7.5	
FL-24W	1.1/2"	M12x35	93.7	83	69.8	13.5	35.7	7.5	
FL-32W	2	M12x35	101.6	97	77.8	13.5	42.9	9	
FL-40W	2.1/4"	M12x40	114	108	89	13.5	50.8	9	
FL-48W	3	M16x50	135	130.6	106.4	16.7	62	9	

SAE Flange Clamp (Flat Style) FL-xxWF ie: FL-08WF.



Stauff part no. is BM-FL 3000 PSI series.



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