

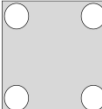


**RFS HYDRAULICS**  
CREATING OPPORTUNITIES



# SQUARE FLANGES

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**Specifications**

JIS B2291 - Socket Welding Pipe Flanges to be used for Pressures of 210 kgf/cm<sup>2</sup>

JIS F7806 - Socket Welding Pipe Flanges to be used for Pressures of 280 kgf/cm<sup>2</sup> and 350 kgf/cm<sup>2</sup>

**Material Specifications:**

SF440A Hydraulic Steel

SS316 Stainless Steel

**Size Range:**

SF440A Hydraulic Steel : 1/4" – 6" NB

SS316 Stainless Steel : 3/8" – 3" NB

**Working Pressure:**

SHA/SHB 210kgf/cm<sup>2</sup>

SSA/SSB 210kgf/cm<sup>2</sup>

KA/KB 280kgf/cm<sup>2</sup>, 350kgf/cm<sup>2</sup>

**Flange Series:**

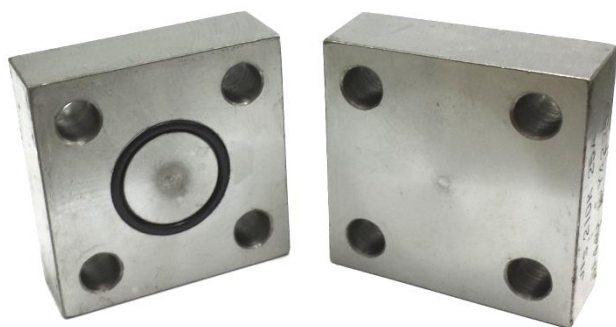
SHA/SHB Square Flange using Hexagon Hex Bolts (Larger Flange Body)

SSA/SSB Square Flange using Socket Cap Screws (Smaller Flange Body)

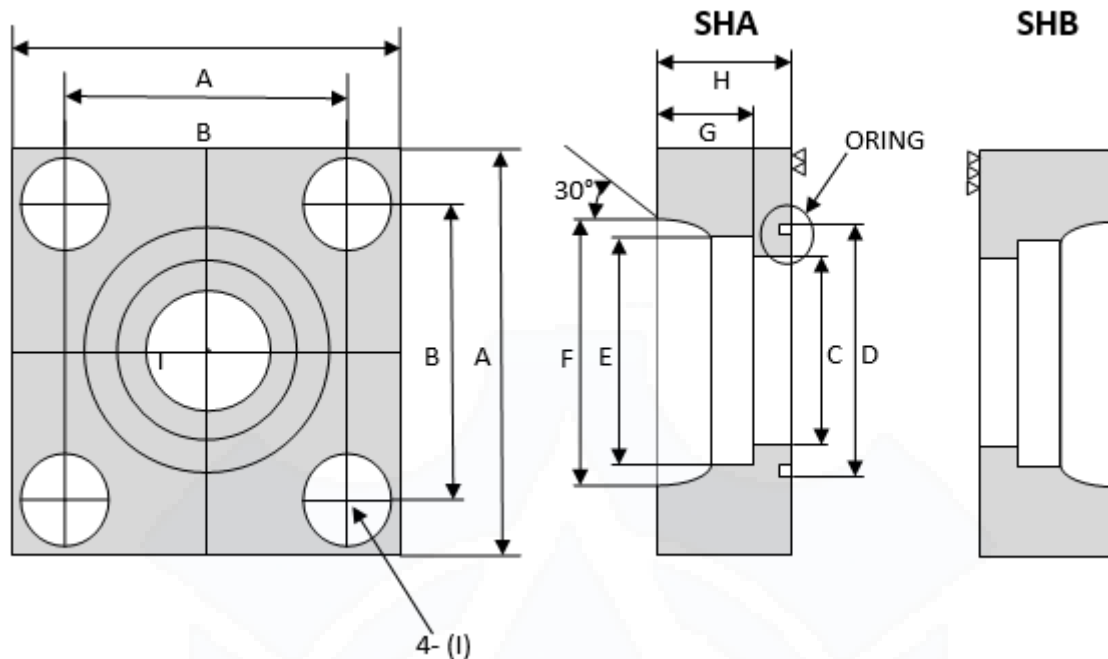
KA/KB Square Flange using Hexagon Hex Bolts

**Flange Screws:**

Metric screws according to DIN 912-8.8 (Standard)


**Square Flanges**

**O-ring and Flat Square Blind Flanges**

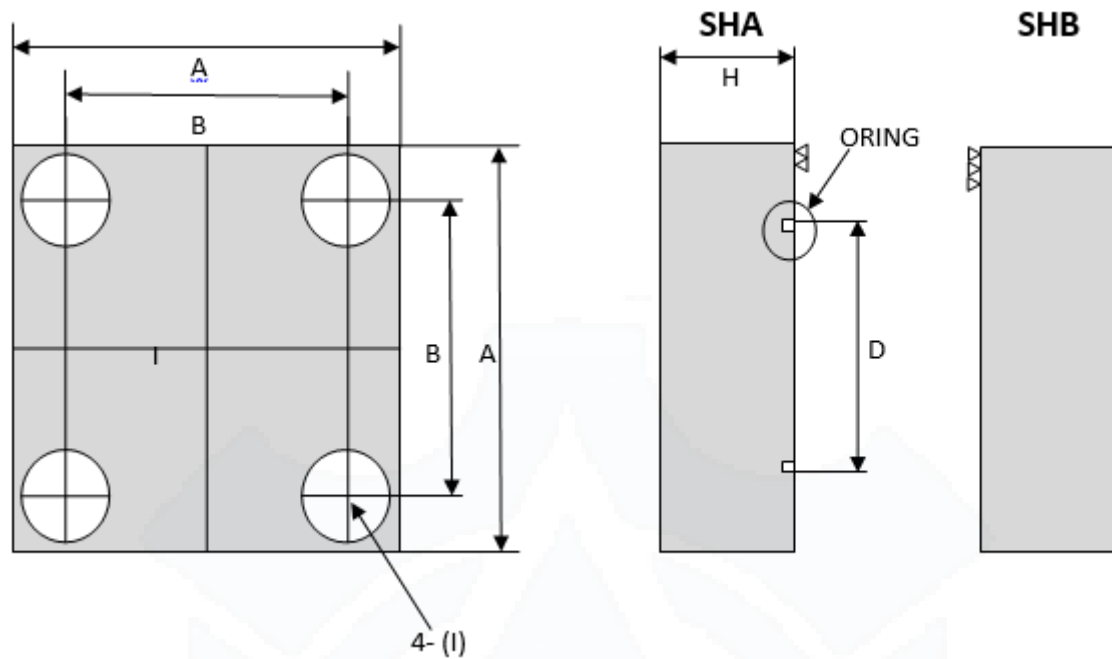
**SHAB**
**SSAB**

**WELD IN SQUARE FLANGES (210 KGF/CM<sup>2</sup> SHA/SHB)**

**SHA/SHB (210 KGF/CM<sup>2</sup>)**

SIZE	ORING	PART NUMBER	DIMENSIONS									BOLT LENGTH (MINIMUM)	WEIGHT
			A	B	C	D	E	F	G	H	I		
8	G25	FL-SQ-H-SHAB-04	63	40	8.0	30	14.3	24	11	22	11	M10 x 55	1.30 KGS
10	G25	FL-SQ-H-SHAB-06	63	40	11.5	30	17.8	28	11	22	11	M10 x 55	1.30 KGS
15	G25	FL-SQ-H-SHAB-08	63	40	16.0	30	22.2	32	11	22	11	M10 x 55	1.40 KGS
20	G30	FL-SQ-H-SHAB-12	68	45	20.0	35	27.7	38	12	22	11	M10 x 55	1.50 KGS
25	G35	FL-SQ-H-SHAB-16	80	53	25.0	40	34.5	45	14	28	13	M12 x 70	2.60 KGS
32	G40	FL-SQ-H-SHAB-20	90	63	31.5	45	43.2	56	16	28	13	M12 x 70	3.15 KGS
40	G50	FL-SQ-H-SHAB-24	100	70	37.5	55	49.1	63	18	36	18	M16 x 90	5.10 KGS
50	G60	FL-SQ-H-SHAB-32	112	80	47.5	65	61.1	75	20	36	18	M16 x 90	5.90 KGS
65	G75	FL-SQ-H-SHAB-40	140	100	60.0	80	77.1	95	22	45	22	M20 x 110	11.40 KGS
80	G85	FL-SQ-H-SHAB-48	155	112	71.0	90	90.0	108	25	45	24	M22 x 120	14.10 KGS
100	G105	FL-SQ-H-SHAB-64	190	140	87.3	110	115.4	135	28	60	27	M24 x 140	25.50 KGS
125	G130	FL-SQ-H-SHAB-80	230	168	120.8	135	141.2	164	30	65	32	M30 x 170	41.00 KGS
150	G155	FL-SQ-H-SHAB-96	270	195	128.8	165	166.9	193	35	80	39	M36 x 190	68.50 KGS

**Designation For Order**

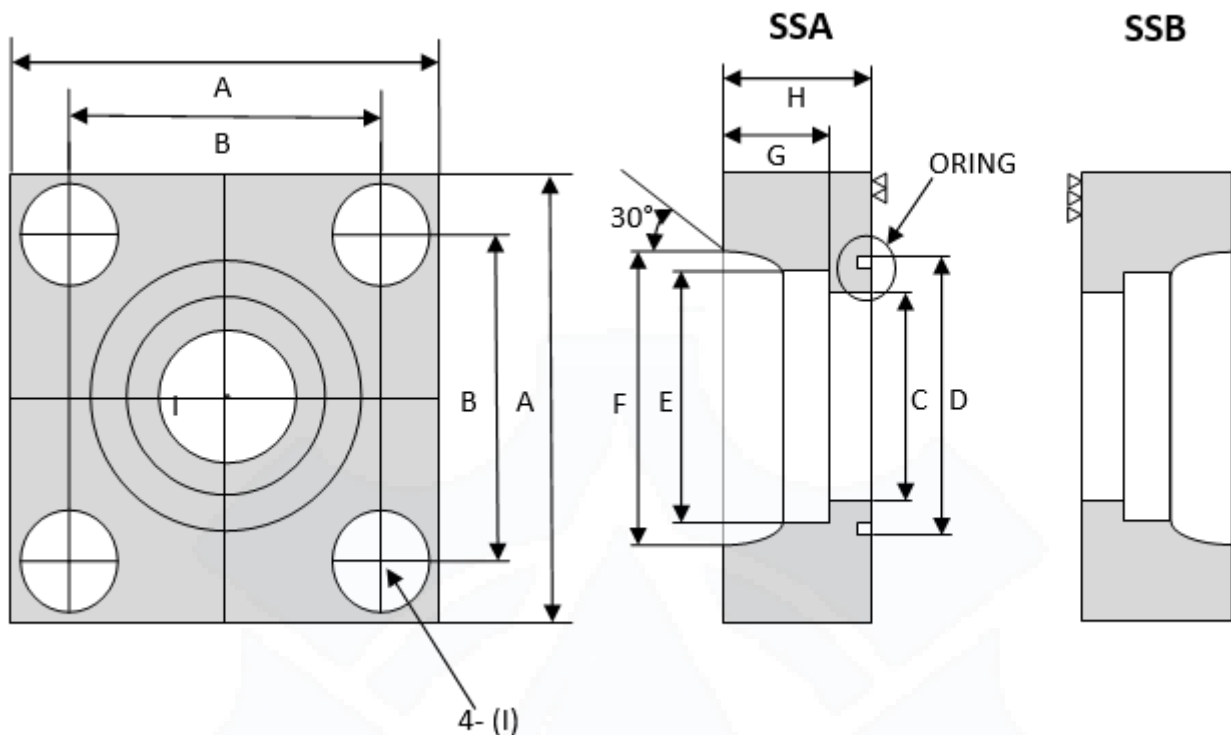
Double Flanges, SHAB (Flat side & O-ring side)		Counter-Flanges, SHA (O-ring side)		Flanges, SHB (Flat side)	
SF440A	FL-SQ-H...SHAB..	SF440A	FL-SQ-H...SHA..	SF440A	FL-SQ-H...SHB..
SS316	FL-SQ-S...SHAB..	SS316	FL-SQ-S...SHA..	SS316	FL-SQ-S...SHB..

**BLIND SQUARE FLANGES (210 KGF/CM<sup>2</sup> SHA/SHB)**

**SHA/SHB (210 KGF/CM<sup>2</sup>)**

SIZE	ORING	PART NUMBER (ORING SIDE)	PART NUMBER (FLAT SIDE)	DIMENSIONS						
				A	B	D	H	I	BOLT LENGTH (MINIMUM)	WEIGHT
8	G25	FL-SQ-H-SHA-BL-04	FL-SQ-H-SHB-BL-04	63	40	30	22	11	M10 x 55	1.30 KGS
10	G25	FL-SQ-H-SHA-BL-06	FL-SQ-H-SHB-BL-06	63	40	30	22	11	M10 x 55	1.30 KGS
15	G25	FL-SQ-H-SHA-BL-08	FL-SQ-H-SHB-BL-08	63	40	30	22	11	M10 x 55	1.40 KGS
20	G30	FL-SQ-H-SHA-BL-12	FL-SQ-H-SHB-BL-12	68	45	35	22	11	M10 x 55	1.50 KGS
25	G35	FL-SQ-H-SHA-BL-16	FL-SQ-H-SHB-BL-16	80	53	40	28	13	M12 x 70	2.60 KGS
32	G40	FL-SQ-H-SHA-BL-20	FL-SQ-H-SHB-BL-20	90	63	45	28	13	M12 x 70	3.15 KGS
40	G50	FL-SQ-H-SHA-BL-24	FL-SQ-H-SHB-BL-24	100	70	55	36	18	M16 x 90	5.10 KGS
50	G60	FL-SQ-H-SHA-BL-32	FL-SQ-H-SHB-BL-32	112	80	65	36	18	M16 x 90	5.90 KGS
65	G75	FL-SQ-H-SHA-BL-40	FL-SQ-H-SHB-BL-40	140	100	80	45	22	M20 x 110	11.40 KGS
80	G85	FL-SQ-H-SHA-BL-48	FL-SQ-H-SHB-BL-48	155	112	90	45	24	M22 x 120	14.10 KGS
100	G105	FL-SQ-H-SHA-BL-64	FL-SQ-H-SHB-BL-64	190	140	110	60	27	M24 x 140	25.50 KGS
125	G130	FL-SQ-H-SHA-BL-80	FL-SQ-H-SHB-BL-80	230	168	135	65	32	M30 x 170	41.00 KGS
150	G155	FL-SQ-H-SHA-BL-96	FL-SQ-H-SHB-BL-96	270	195	165	80	39	M36 x 190	68.50 KGS

**Designation For Order**

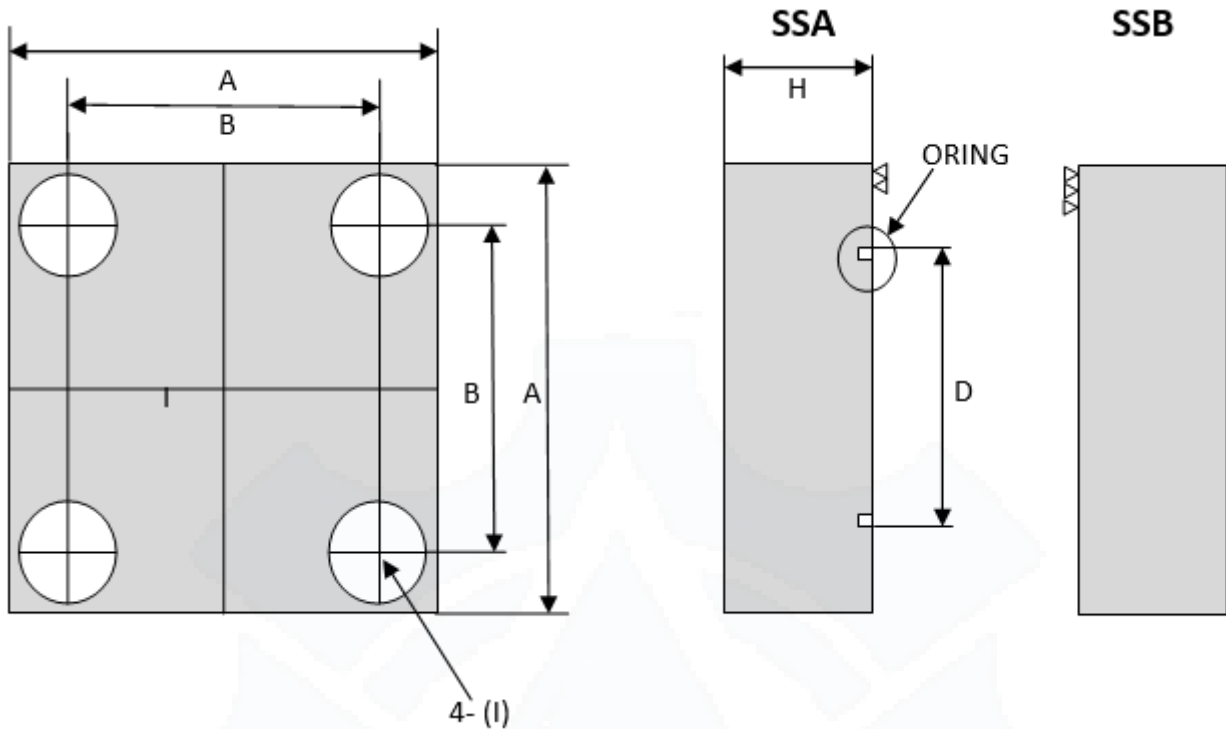
Counter-Flanges, SHA		Flanges, SHB	
(O-ring side)		(Flat side)	
SF440A	SF440A	FL-SQ-H...SHB-BL..	FL-SQ-H...SHA..
SS316	SS316	FL-SQ-S...SHB-BL..	FL-SQ-S...SHA..

**WELD IN SQUARE FLANGES (210 KGF/CM<sup>2</sup> SSA/SSB)**

**SSA/SSB (210 KGF/CM<sup>2</sup>)**

SIZE	ORING	PART NUMBER	DIMENSIONS									BOLT LENGTH (MINIMUM)	WEIGHT
			A	B	C	D	E	F	G	H	I		
10	G25	FL-SQ-H-SSAB-06	54	36	11.5	30	17.8	28	11	22	11	M10 x 40	1.00 KGS
15	G25	FL-SQ-H-SSAB-08	54	36	16.0	30	22.2	32	11	22	11	M10 x 40	1.00 KGS
20	G30	FL-SQ-H-SSAB-12	58	40	20.0	35	27.7	38	12	22	11	M10 x 40	1.20 KGS
25	G35	FL-SQ-H-SSAB-16	68	48	25.0	40	34.5	45	14	28	13	M12 x 50	1.60 KGS
32	G40	FL-SQ-H-SSAB-20	76	56	31.5	45	43.2	56	16	28	13	M12 x 50	2.00 KGS
40	G50	FL-SQ-H-SSAB-24	92	65	37.5	55	49.1	63	18	36	18	M16 x 65	3.80 KGS
50	G60	FL-SQ-H-SSAB-32	100	73	47.5	65	61.1	75	20	36	18	M16 x 65	4.00 KGS
65	G75	FL-SQ-H-SSAB-40	128	92	60.0	80	77.1	95	22	45	22	M20 x 85	8.20 KGS
80	G85	FL-SQ-H-SSAB-48	140	103	71.0	90	90.0	108	25	45	24	M22 x 85	9.40 KGS

**Designation For Order**

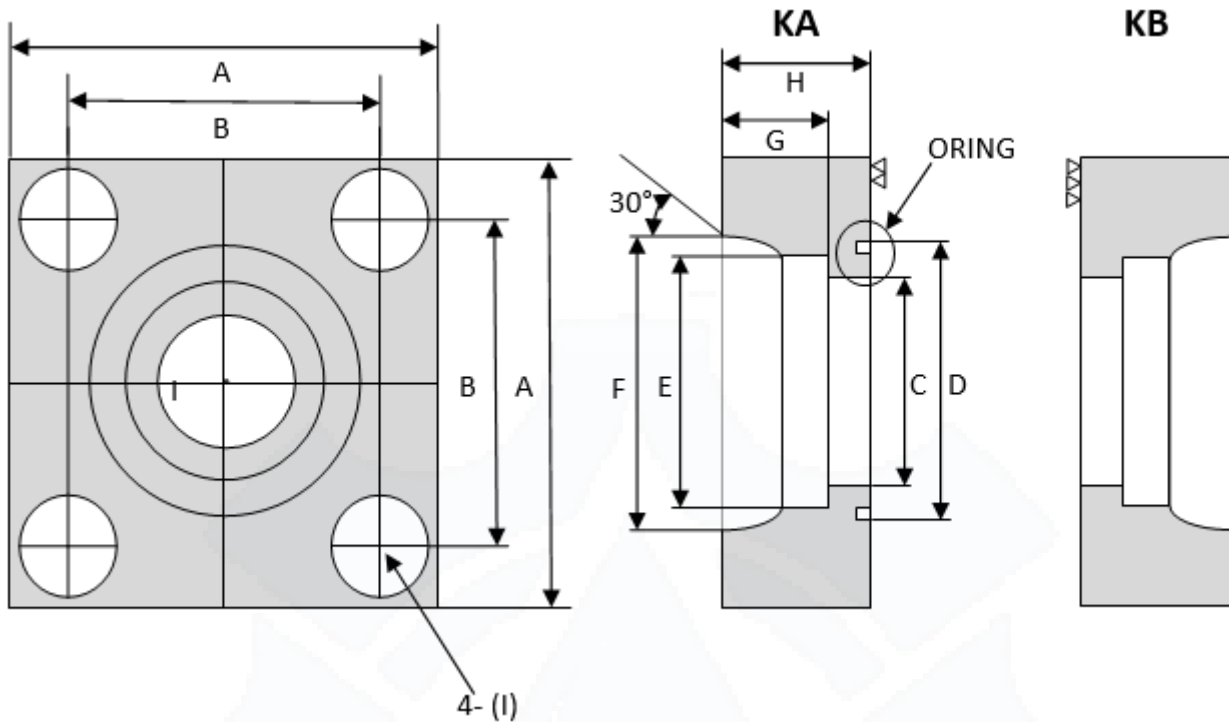
Double Flanges, SSAB (Flat side & Oring side)		Counter-Flanges, SSA (Oring side)		Flanges, SSB (Flat side)	
SF440A	FL-SQ-H...SSAB..	SF440A	FL-SQ-H...SSA..	SF440A	FL-SQ-H...SSB..
SS316	FL-SQ-S...SSAB..	SS316	FL-SQ-S...SSA..	SS316	FL-SQ-S...SSB..

**BLIND SQUARE FLANGES (210 KGF/CM<sup>2</sup> SSA/SSB)**

**SSA/SSB (210 KGF/CM<sup>2</sup>)**

SIZE	ORING	PART NUMBER (ORING SIDE)	PART NUMBER (FLAT SIDE)	DIMENSIONS						
				A	B	D	H	I	BOLT LENGTH (MINIMUM)	WEIGHT
10	G25	FL-SQ-H-SSA-BL-06	FL-SQ-H-SSB-BL-06	54	36	30	22	11	M10 x 40	1.00 KGS
15	G25	FL-SQ-H-SSA-BL-08	FL-SQ-H-SSB-BL-08	54	36	30	22	11	M10 x 40	1.00 KGS
20	G30	FL-SQ-H-SSA-BL-12	FL-SQ-H-SSB-BL-12	58	40	35	22	11	M10 x 40	1.20 KGS
25	G35	FL-SQ-H-SSA-BL-16	FL-SQ-H-SSB-BL-16	68	48	40	28	13	M12 x 50	1.60 KGS
32	G40	FL-SQ-H-SSA-BL-20	FL-SQ-H-SSB-BL-20	76	56	45	28	13	M12 x 50	2.00 KGS
40	G50	FL-SQ-H-SSA-BL-24	FL-SQ-H-SSB-BL-24	92	65	55	36	18	M16 x 65	3.80 KGS
50	G60	FL-SQ-H-SSA-BL-32	FL-SQ-H-SSB-BL-32	100	73	65	36	18	M16 x 65	4.00 KGS
65	G75	FL-SQ-H-SSA-BL-40	FL-SQ-H-SSB-BL-40	128	92	80	45	22	M20 x 85	8.20 KGS
80	G85	FL-SQ-H-SSA-BL-48	FL-SQ-H-SSB-BL-48	140	103	90	45	24	M22 x 85	9.40 KGS

**Designation For Order**

Counter-Flanges, SHA (O-ring side)		Flanges, SHB (Flat side)	
SF440A	SF440A	FL-SQ-H...SHB-BL..	FL-SQ-H...SHA..
SS316	SS316	FL-SQ-S...SHB-BL..	FL-SQ-S...SHA..

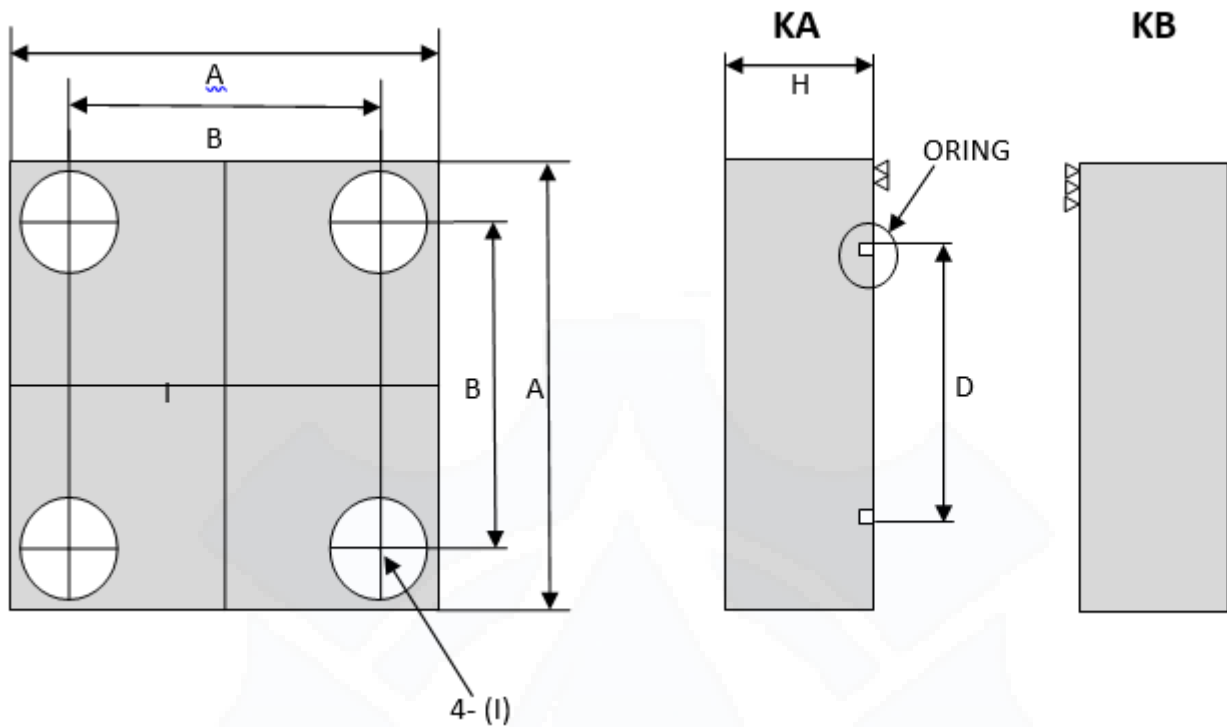
**WELD IN SQUARE FLANGES (280 KGF/CM<sup>2</sup> KA/KB)**

**KA/KB (280 KGF/CM<sup>2</sup>)**

SIZE	ORING	PART NUMBER	DIMENSIONS									BOLT LENGTH (MINIMUM)	WEIGHT
			A	B	C	D	E	F	G	H	I		
15	P20	FL-SQ-H-KAB-280-08	66	43	12.3	24	22.2	34	12	22	11.0	M10 x 55	1.26 KGS
20	G25	FL-SQ-H-KAB-280-12	72	48	16.2	30	27.7	40	12	25	11.0	M10 x 70	1.70 KGS
25	G30	FL-SQ-H-KAB-280-16	85	58	21.2	35	34.5	48	14	35	13.5	M12 x 90	3.28 KGS
32	G40	FL-SQ-H-KAB-280-20	98	68	29.9	45	43.2	60	18	35	17.5	M16 x 90	4.06 KGS
40	G45	FL-SQ-H-KAB-280-24	105	74	34.4	50	49.1	66	20	40	17.5	M16 x 100	5.32 KGS
50	G55	FL-SQ-H-KAB-280-32	130	90	43.1	60	61.1	79	20	50	22.0	M20 x 120	10.28 KGS
65	G70	FL-SQ-H-KAB-280-40	150	108	57.3	75	77.1	100	25	60	24.0	M22 x 140	15.90 KGS
80	G80	FL-SQ-H-KAB-280-48	170	120	66.9	85	90.0	114	25	65	26.0	M24 x 160	22.00 KGS

**Designation For Order**

Double Flanges, KAB (Flat side & O-ring side)		Counter-Flanges, KA (O-ring side)		Flanges, KB (Flat side)	
SF440A	FL-SQ-H...KAB..	SF440A	FL-SQ-H...KA..	SF440A	FL-SQ-H...KB..
SS316	FL-SQ-S...KAB..	SS316	FL-SQ-S...KA..	SS316	FL-SQ-S...KB..

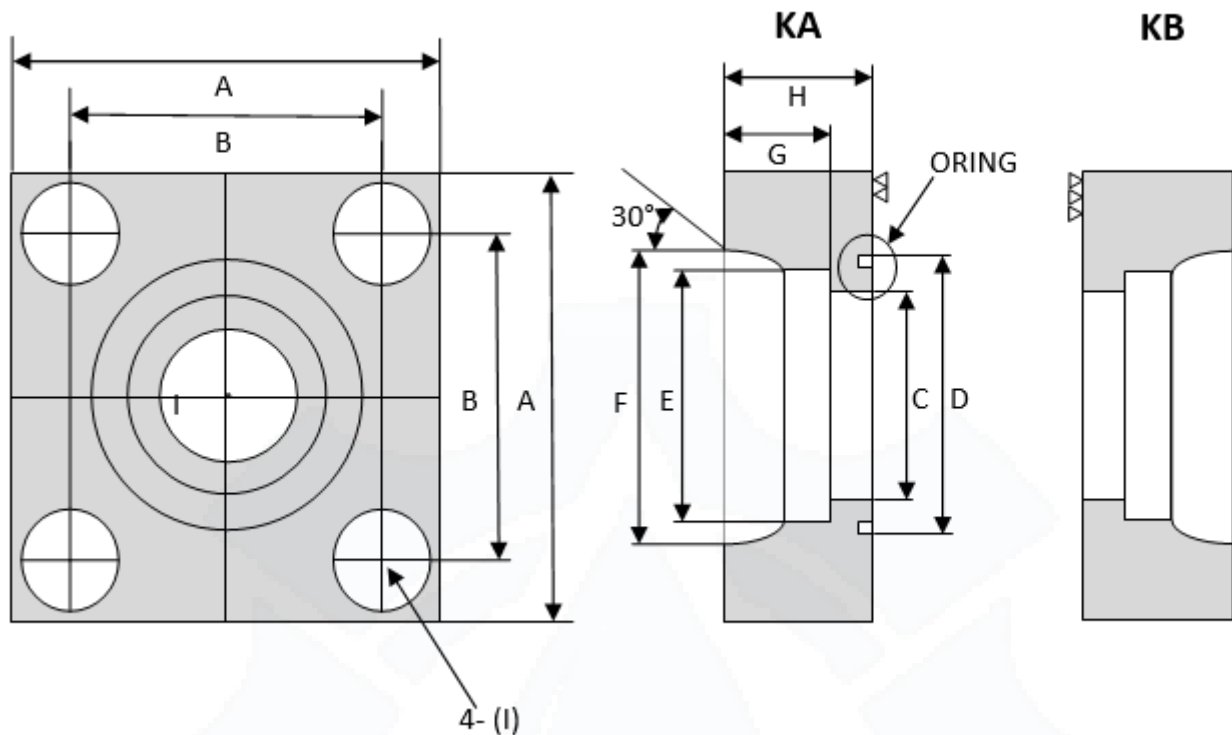


**BLIND SQUARE FLANGES (280 KGF/CM<sup>2</sup> KA/KB)**

**KA/KB (280 KGF/CM<sup>2</sup>)**

SIZE	ORING	PART NUMBER (ORING SIDE)	PART NUMBER (FLAT SIDE)	DIMENSIONS						
				A	B	D	H	I	BOLT LENGTH (MINIMUM)	WEIGHT
15	P20	FL-SQ-H-KA-BL-280-08	FL-SQ-H-KB-BL-280-08	66	43	24	22	11.0	M10 x 55	1.26 KGS
20	G25	FL-SQ-H-KA-BL-280-12	FL-SQ-H-KB-BL-280-12	72	48	30	25	11.0	M10 x 70	1.70 KGS
25	G30	FL-SQ-H-KA-BL-280-16	FL-SQ-H-KB-BL-280-16	85	58	35	35	13.5	M12 x 90	3.28 KGS
32	G40	FL-SQ-H-KA-BL-280-20	FL-SQ-H-KB-BL-280-20	98	68	45	35	17.5	M16 x 90	4.06 KGS
40	G45	FL-SQ-H-KA-BL-280-24	FL-SQ-H-KB-BL-280-24	105	74	50	40	17.5	M16 x 100	5.32 KGS
50	G55	FL-SQ-H-KA-BL-280-32	FL-SQ-H-KB-BL-280-32	130	90	60	50	22.0	M20 x 120	10.28 KGS
65	G70	FL-SQ-H-KA-BL-280-40	FL-SQ-H-KB-BL-280-40	150	108	75	60	24.0	M22 x 140	15.90 KGS
80	G80	FL-SQ-H-KA-BL-280-48	FL-SQ-H-KB-BL-280-48	170	120	85	65	26.0	M24 x 160	22.00 KGS

**Designation For Order**

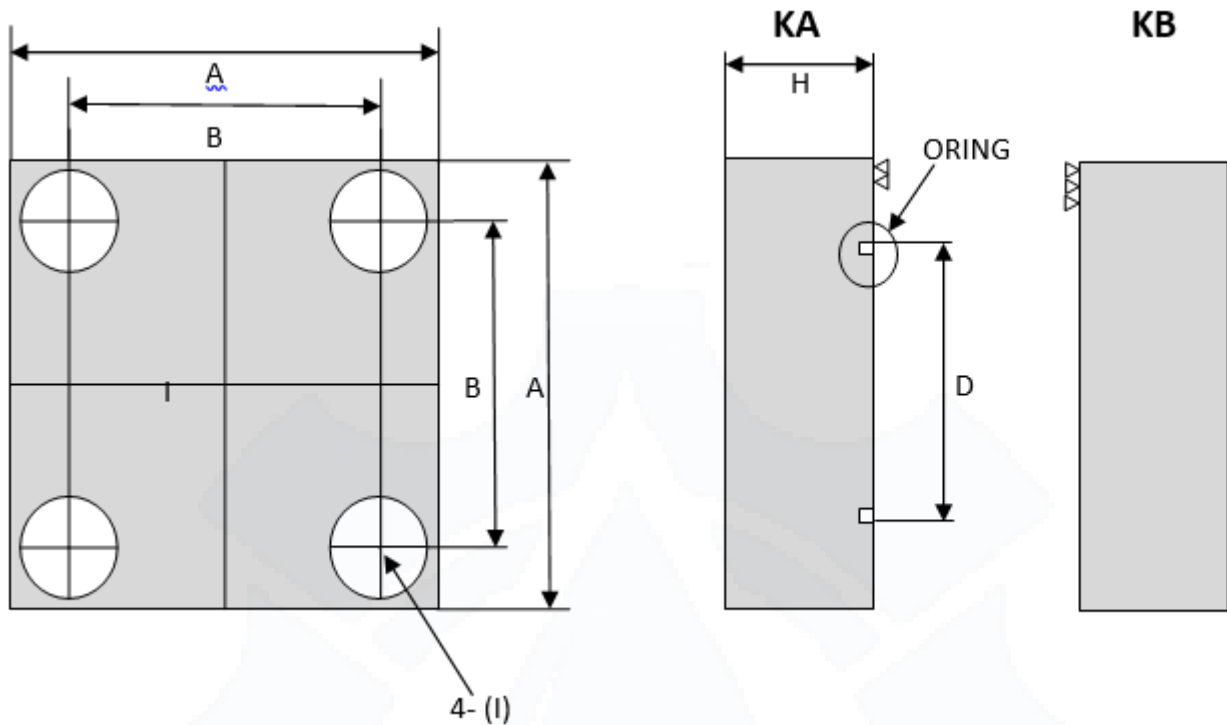
Counter-Flanges, KA (Oring side)		Flanges, KB (Flat side)	
SF440A	FL-SQ-H...KA-BL..	SF440A	FL-SQ-H...KB-BL..
SS316	FL-SQ-S...KA-BL..	SS316	FL-SQ-S...KB-BL..

**WELD IN SQUARE FLANGES (350 KGF/CM<sup>2</sup> KA/KB)**

**KAB (350 KGF/CM<sup>2</sup>)**

SIZE	ORING	PART NUMBER	DIMENSIONS									BOLT LENGTH (MINIMUM)	WEIGHT
			A	B	C	D	E	F	G	H	I		
15	P20	FL-SQ-H-KAB-350-08	68	45	12.3	24	22.2	37.5	12	28	11.0	M10 x 70	1.76 KGS
20	G25	FL-SQ-H-KAB-350-12	82	55	16.2	30	27.7	43.5	12	30	13.5	M12 x 80	2.68 KGS
25	G30	FL-SQ-H-KAB-350-16	95	65	21.2	35	34.5	53.0	14	35	17.5	M16 x 90	4.04 KGS
32	G35	FL-SQ-H-KAB-350-20	100	70	23.3	40	43.2	63.0	18	35	17.5	M16 x 90	4.32 KGS
40	G40	FL-SQ-H-KAB-350-24	105	75	28.2	45	49.1	70.0	20	42	17.5	M16 x 100	5.68 KGS
50	G50	FL-SQ-H-KAB-350-32	132	92	38.3	55	61.1	84.0	25	50	22.0	M20 x 120	10.60 KGS
65	G60	FL-SQ-H-KAB-350-40	160	112	48.3	65	77.1	105.0	30	60	26.0	M24 x 160	19.84 KGS
80	G70	FL-SQ-H-KAB-350-48	190	130	58.7	75	90.0	120.0	30	68	33.0	M30 x 170	29.60 KGS

**Designation For Order**

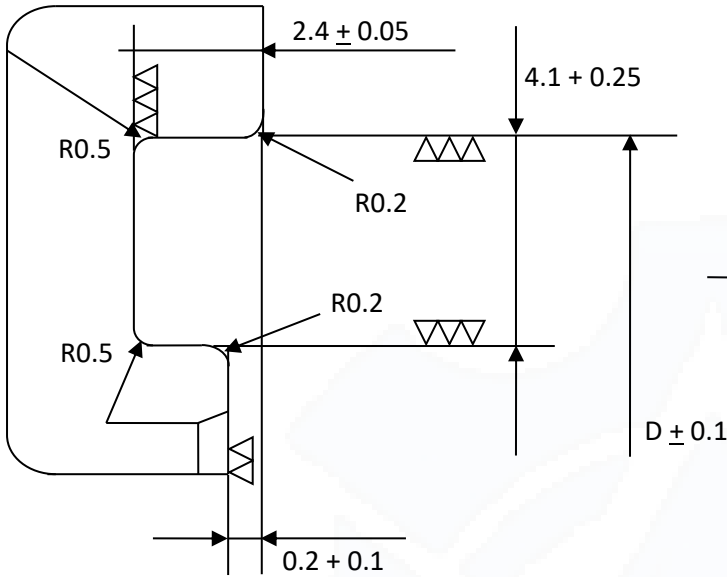
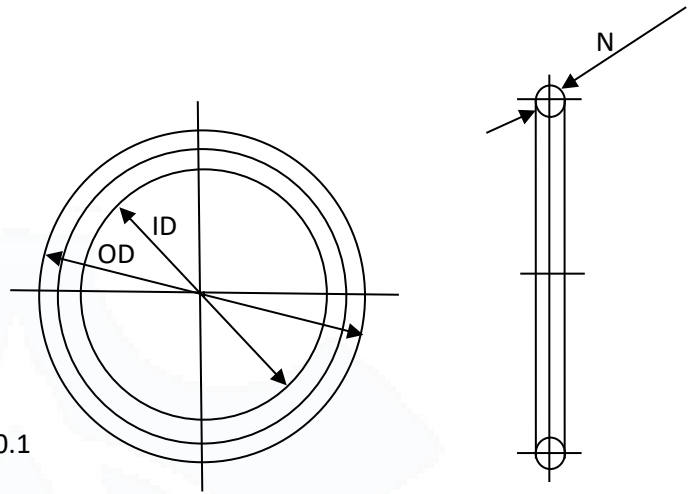
Double Flanges, KAB (Flat side & O-ring side)		Counter-Flanges, KA (O-ring side)		Flanges, KB (Flat side)	
SF440A	FL-SQ-H...KAB..	SF440A	FL-SQ-H...KA..	SF440A	FL-SQ-H...KB..
SS316	FL-SQ-S...KAB..	SS316	FL-SQ-S...KA..	SS316	FL-SQ-S...KB..

**BLIND SQUARE FLANGES (350 KGF/CM<sup>2</sup> KA/KB)**

**KA/KB (350 KGF/CM<sup>2</sup>)**

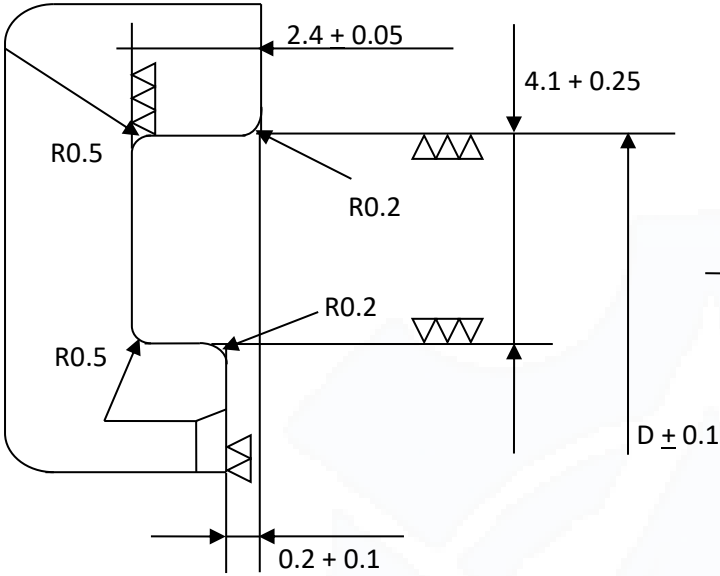
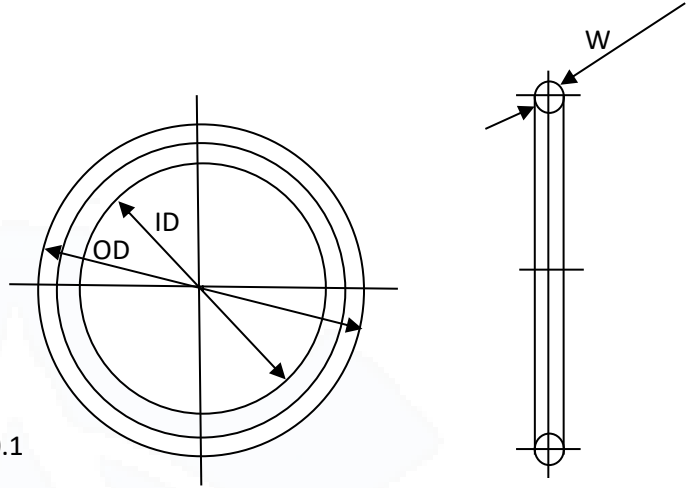
SIZE	ORING	PART NUMBER (ORING SIDE)	PART NUMBER (FLAT SIDE)	DIMENSIONS						
				A	B	D	H	I	BOLT LENGTH (MINIMUM)	WEIGHT
15	P20	FL-SQ-H-KA-BL-350-08	FL-SQ-H-KB-BL-350-08	68	45	24	28	11.0	M10 x 70	1.76 KGS
20	G25	FL-SQ-H-KA-BL-350-12	FL-SQ-H-KB-BL-350-12	82	55	30	30	13.5	M12 x 80	2.68 KGS
25	G30	FL-SQ-H-KA-BL-350-16	FL-SQ-H-KB-BL-350-16	95	65	35	35	17.5	M16 x 90	4.04 KGS
32	G35	FL-SQ-H-KA-BL-350-20	FL-SQ-H-KB-BL-350-20	100	70	40	35	17.5	M16 x 90	4.32 KGS
40	G40	FL-SQ-H-KA-BL-350-24	FL-SQ-H-KB-BL-350-24	105	75	45	42	17.5	M16 x 100	5.68 KGS
50	G50	FL-SQ-H-KA-BL-350-32	FL-SQ-H-KB-BL-350-32	132	92	55	50	22.0	M20 x 120	10.60 KGS
65	G60	FL-SQ-H-KA-BL-350-40	FL-SQ-H-KB-BL-350-40	160	112	65	60	26.0	M24 x 160	19.84 KGS
80	G70	FL-SQ-H-KA-BL-350-48	FL-SQ-H-KB-BL-350-48	190	130	75	68	33.0	M30 x 170	29.60 KGS

**Designation For Order**

Counter-Flanges, KA (O-ring side)		Flanges, KB (Flat side)	
SF440A	FL-SQ-H...KA-BL..	SF440A	FL-SQ-H...KB-BL..
SS316	FL-SQ-S...KA-BL..	SS316	FL-SQ-S...KB-BL..

**ORING GROOVE & ORING DIMENSION FOR 210 KGF/CM<sup>2</sup> SQUARE FLANGES**
**ORING GROOVE**

**ORING**

**SHAB & SSAB (210 KGF/CM<sup>2</sup>) ORING DIMENSION**

SIZE	INCH	PART NUMBER	DIMENSIONS		
			OD	ID	W
8	1/4"	G25	30.60	24.40	3.1
10	3/8"	G25	30.60	24.40	3.1
15	1/2"	G25	30.60	24.40	3.1
20	3/4"	G30	35.60	29.40	3.1
25	1"	G35	40.60	34.40	3.1
32	1 1/4"	G40	45.60	39.40	3.1
40	1 1/2"	G50	55.60	49.40	3.1
50	2"	G60	65.60	59.40	3.1
65	2 1/2"	G75	80.60	74.40	3.1
80	3"	G85	90.60	84.40	3.1
100	4"	G105	110.60	104.40	3.1
125	5"	G130	135.60	129.40	3.1
150	6"	G155	165.70	154.30	5.7

**ORING GROOVE & ORING DIMENSION FOR 280 KGF/CM<sup>2</sup>, 350 KGF/CM<sup>2</sup> SQUARE FLANGES**
**ORING GROOVE**

**ORING**

**KAB (280 KGF/CM<sup>2</sup>) ORING DIMENSION**

SIZE	INCH	PART NUMBER	DIMENSIONS		
			OD	ID	W
15	1/2"	P20	24.60	19.80	2.40
20	3/4"	G25	30.60	24.40	3.10
25	1"	G30	35.60	29.40	3.10
32	1 1/4"	G40	45.60	39.40	3.10
40	1 1/2"	G45	50.60	44.40	3.10
50	2"	G55	60.60	54.40	3.10
65	2 1/2"	G70	75.60	69.40	3.10
80	3"	G80	85.60	79.40	3.10

**KAB (350 KGF/CM<sup>2</sup>) ORING DIMENSION**

SIZE	INCH	PART NUMBER	DIMENSIONS		
			OD	ID	W
15	1/2"	P20	24.60	19.80	2.40
20	3/4"	G25	30.60	24.40	3.10
25	1"	G30	35.60	29.40	3.10
32	1 1/4"	G35	40.60	34.40	3.10
40	1 1/2"	G40	45.60	39.40	3.10
50	2"	G50	55.60	49.40	3.10
65	2 1/2"	G60	65.60	59.40	3.10
80	3"	G70	75.60	69.40	3.10

## **RFS Hydraulics**

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