

FLANGES CARBON STEEL



866-FLANGES | 513.527.4444 | Fax 513.527.4449
sales@anchorfluidpower.com | anchorfluidpower.com

SAE J518 Split/Captive Flanges

For SAE Flanged Head Connection

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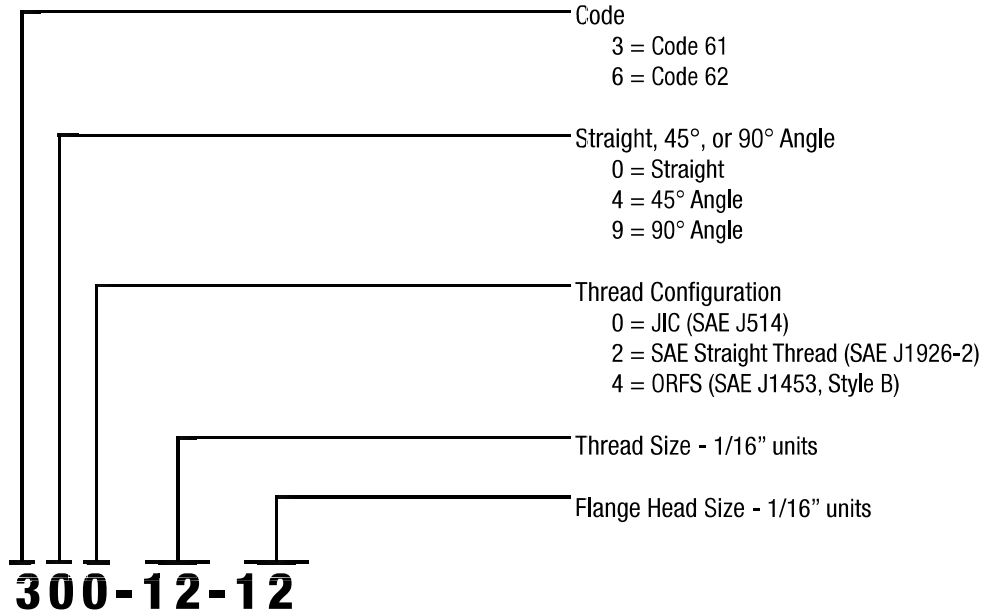
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Ordering System

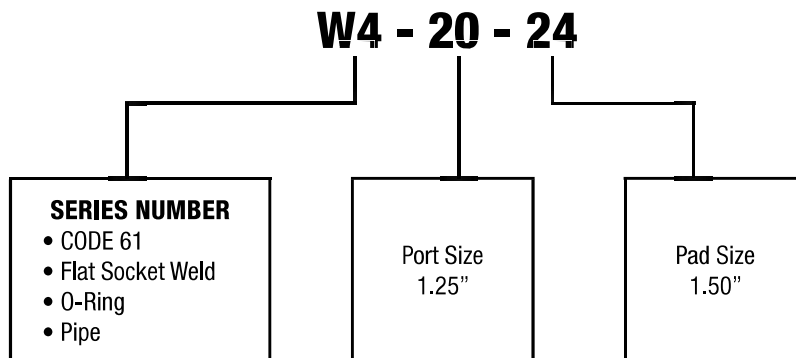
SPLIT FLANGE ADAPTERS



For additional jump sizes, please consult factory.

FLANGES

Our basic part numbering system is simple to use. The explanation of our part numbering system is detailed below. The series number provides the greatest amount of information pertaining to the flange product. The port size and pad size simply refer to size only, with all sizes based on 1/16 of an inch.



NOTE #1 – All items available with mounting kit by simply adding suffix letter "U".

NOTE #2 – All items available in stainless steel material by simply adding the suffix letters "SS".

NOTE #3 – All items available with metric mounting holes simply by adding the appropriate suffix (IE: M10, M12, etc.).

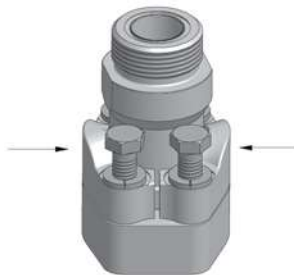


General Information

SPLIT FLANGE CLAMP

Clean the sealing surfaces and make certain they are free from nicks, scratches and burrs. Foreign material prevents a proper seal.

Lubricate the o-ring and ensure that it is properly installed as to prevent damage during installation.



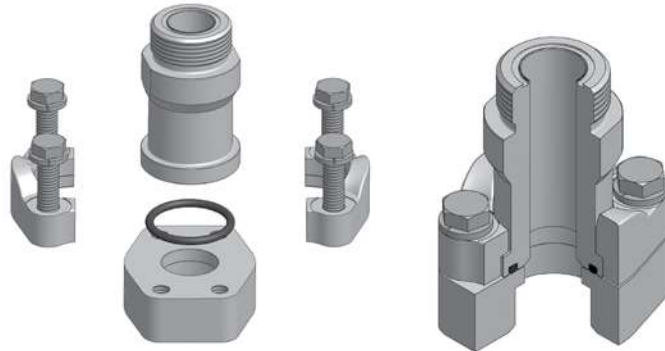
Push the flange clamps towards the flange head and screw fasteners into flange pad. Continue to screw the fasteners until their heads just meet the split flange surface.



Torque the fasteners in diagonal sequence, in small increments, until final torque level is achieved. Torque values for flange connections listed above. Notice that the torque values vary according to size and fastener type.

Anchor Fluid Power split flange connections are manufactured according to SAE J518-1 and -2, as well as ISO 6162-1 and -2. These standards control dimensions, tolerances and plating. Please note that the above pressure rating chart refers to the flange connection. Adapting the flange to other connections, such as braze tube, welded pipe, or threaded ports / stud ends, could reduce maximum working pressure.

Please consult with Anchor Fluid Power for pressure rating specific to your connection requirement.



PRESSURE RATINGS OF SAE FLANGES

CODE 61 SAE J518-1 / ISO 6162-1					
DASH SIZE	INCH SIZE	MAX WORKING PRESSURE		GRADE 8 AND EQUIVALENT FASTENER TORQUE VALUE	
		PSI	MPA	SOCKET HEAD UNC (LB-FT)	HEX HEAD UNC (LB-FT)
-8	1/2"	5000	35	24	18
-12	3/4"	5000	35	44	33
-16	1"	4600	32	44	33
-20	1 1/4"	4000	28	68	52
-24	1 1/2"	3000	21	111	80
-32	2"	3000	21	111	80
-40	2 1/2"	2500	17.5	111	80
-48	3"	2300	16	218	160
-56	3 1/2"	500	3.5	218	160
-64	4"	500	3.5	218	160
-80	5"	500	3.5	218	160

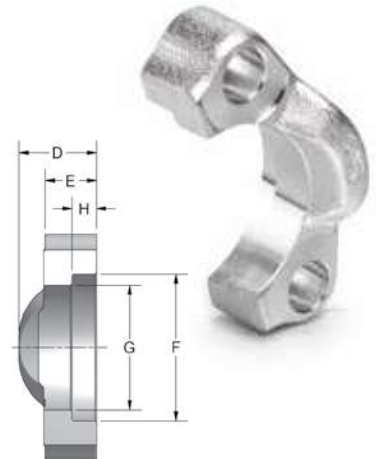
CODE 62 SAE J518-2 / ISO 6162-2					
DASH SIZE	INCH SIZE	MAX WORKING PRESSURE		GRADE 8 AND EQUIVALENT FASTENER TORQUE VALUE	
		PSI	MPA	SOCKET HEAD UNC (LB-FT)	HEX HEAD UNC (LB-FT)
-8	1/2"	6000	40	24	18
-12	3/4"	6000	40	44	33
-16	1"	6000	40	68	52
-20	1 1/4"	6000	40	111	80
-24	1 1/2"	6000	40	218	160
-32	2"	6000	40	332	281
-40	2 1/2"	6000	40	N/A	605
-48	3"	6000	40	N/A	1280

**All max working pressures listed above are specific to the SAE J518/ISO 6162 bolt pattern. Features within the 4-Bolt flange and the connection opposite the 4-Bolt flange can de-rate the maximum working pressure.

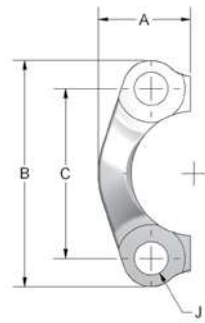
NOTE - All carbon steel torque values are based on AFP supplied socket head and hex head fasteners. Use of alternate fasteners can affect torque value. Consult factory for additional information.

J518 Split & Captive Flange

CODE 61 SPLIT FLANGE													
*PART NO.	**KIT PART NO.	FLANGE SIZE	A	B	C	D	E	F	G	H	J	MOUNTING HARDWARE	
												O-RING	HHCS
8SF-2	8SF0	.50	.86	2.12	1.500	.75	.50	1.219	.955	.245	.344	210	5/16-18X1.25
12SF-2	12SF0	.75	.98	2.56	1.875	.88	.56	1.531	1.265	.245	.406	214	3/8-16X1.25
16SF-2	16SF0	1.00	1.11	2.75	2.062	.94	.62	1.781	1.515	.295	.406	219	3/8-16X1.25
20SF-2	20SF0	1.25	1.39	3.12	2.312	.88	.56	2.031	1.720	.295	.469	222	7/16-14X1.50
24SF-2	24SF0	1.50	1.58	3.69	2.750	1.00	.62	2.406	2.000	.295	.531	225	1/2-13X1.50
32SF-2	32SF0	2.00	1.86	4.00	3.062	1.03	.62	2.844	2.470	.355	.531	228	1/2-13X1.50
40SF-2	40SF0	2.50	2.09	4.50	3.500	1.50	.75	3.344	2.950	.355	.531	232	1/2-13X1.75
48SF-2	48SF0	3.00	2.53	5.31	4.188	1.62	.88	4.031	3.580	.355	.656	237	5/8-11X1.75
56SF-2	56SF0	3.50	2.70	6.00	4.750	1.12	.88	4.531	4.030	.422	.656	241	5/8-11X2.00
64SF-2	64SF0	4.00	2.95	6.38	5.125	1.38	1.00	5.031	4.530	.422	.656	245	5/8-11X2.00



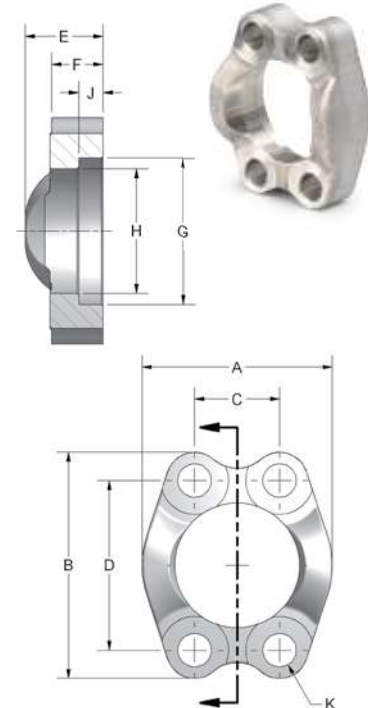
CODE 62 SPLIT FLANGE													
*PART NO.	**KIT PART NO.	FLANGE SIZE	A	B	C	D	E	F	G	H	J	MOUNTING HARDWARE	
												O-RING	HHCS
8SFX-2	8SFX0	.50	.89	2.22	1.594	.88	.62	1.281	.970	.285	.344	210	5/16-18X1.25
12SFX-2	12SFX0	.75	1.14	2.81	2.000	1.12	.75	1.656	1.280	.325	.406	214	3/8-16X1.50
16SFX-2	16SFX0	1.00	1.33	3.19	2.250	1.31	.94	1.906	1.530	.355	.469	219	7/16-14X1.75
20SFX-2	20SFX0	1.25	1.48	3.75	2.625	1.50	1.06	2.156	1.750	.385	.531	222	1/2-13X1.75
24SFX-2	24SFX0	1.50	1.83	4.44	3.125	1.69	1.19	2.531	2.030	.475	.656	225	5/8-11X2.25
32SFX-2	32SFX0	2.00	2.20	5.25	3.812	2.06	1.44	3.156	2.660	.475	.781	228	3/4-10X2.75



*Anchor part # includes: (1) split flange half only

**Kit part # includes: (2) split flange halves, (4) hex head screws with lockwashers, (1) Buna N O-Ring

Split flange halves are silver trivalent plated



CODE 61 CAPTIVE FLANGE													
DRILLED PART NO.	TAPPED PART NO.	FLANGE SIZE	A	B	C	D	E	F	G	H	J	K	K UNC-2B
8SFW	8SFTW	.50	1.81	2.12	.688	1.500	.75	.50	1.219	.955	.245	.344	5/16-18
12SFW	12SFTW	.75	2.06	2.56	.875	1.875	.88	.56	1.531	1.265	.245	.406	3/8-16
16SFW	16SFTW	1.00	2.31	2.75	1.031	2.062	.94	.62	1.781	1.515	.295	.406	3/8-16
20SFW	20SFTW	1.25	2.88	3.12	1.188	2.312	.88	.56	2.031	1.720	.295	.469	7/16-14
24SFW	24SFTW	1.50	3.25	3.69	1.406	2.750	1.00	.62	2.406	2.000	.295	.531	1/2-13
32SFW	32SFTW	2.00	3.81	4.00	1.688	3.062	1.03	.62	2.844	2.470	.355	.531	1/2-13
40SFW	40SFTW	2.50	4.28	4.50	2.000	3.500	1.50	.75	3.344	2.950	.355	.531	1/2-13
48SFW	48SFTW	3.00	5.16	5.31	2.438	4.188	1.62	.88	4.031	3.580	.355	.656	5/8-11
56SFW	56SFTW	3.50	5.50	6.00	2.750	4.750	1.12	.88	4.531	4.030	.422	.656	5/8-11
64SFW	64SFTW	4.00	6.00	6.38	3.062	5.125	1.38	1.00	5.031	4.530	.422	.656	5/8-11

CODE 62 CAPTIVE FLANGE													
DRILLED PART NO.	TAPPED PART NO.	FLANGE SIZE	A	B	C	D	E	F	G	H	J	K	K UNC-2B
8SFXW	8SFXTW	.50	1.86	2.22	.718	1.594	.88	.62	1.281	.970	.285	.344	5/16-18
12SFXW	12SFXTW	.75	2.38	2.81	.937	2.000	1.12	.75	1.656	1.280	.325	.406	3/8-16
16SFXW	16SFXTW	1.00	2.75	3.19	1.093	2.250	1.31	.94	1.906	1.530	.355	.469	7/16-14
20SFXW	20SFXTW	1.25	3.06	3.75	1.250	2.625	1.50	1.06	2.156	1.750	.385	.531	1/2-13
24SFXW	24SFXTW	1.50	3.75	4.44	1.437	3.125	1.69	1.19	2.531	2.030	.475	.656	5/8-11
32SFXW	32SFXTW	2.00	4.50	5.25	1.750	3.812	2.06	1.44	3.156	2.660	.475	.781	3/4-10

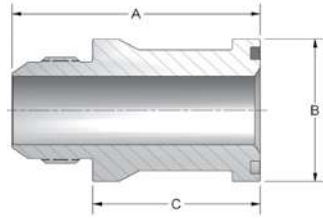


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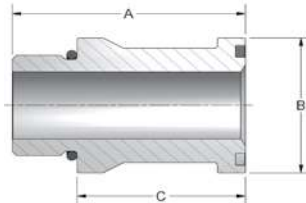
Split Flange Adapters

JIC THREAD



CODE 61 JIC THREAD						
PART NO.	TUBE O.D.	FLANGE SIZE	A	B	C	THREAD
300-8-8	1/2	1/2	2.60	1.188	1.94	3/4-16
300-8-12	1/2	3/4	2.75	1.500	2.09	3/4-16
300-12-12	3/4	3/4	2.75	1.500	1.89	1 1/16-12
300-16-12	1	3/4	2.75	1.500	1.84	1 5/16-12
300-12-16	3/4	1	2.80	1.750	1.94	1 1/16-12
300-16-16	1	1	2.80	1.750	1.89	1 5/16-12
300-20-16	1 1/4	1	2.80	1.750	1.84	1 5/8-12
300-12-20	3/4	1 1/4	2.80	2.000	1.94	1 1/16-12
300-16-20	1	1 1/4	2.80	2.000	1.89	1 5/16-12
300-20-20	1 1/4	1 1/4	2.80	2.000	1.84	1 5/8-12
300-24-20	1 1/2	1 1/4	3.40	2.000	2.32	1 7/8-12
300-16-24	1	1 1/2	3.33	2.380	2.42	1 5/16-12
300-20-24	1 1/4	1 1/2	3.38	2.375	2.42	1 5/8-12
300-24-24	1 1/2	1 1/2	3.50	2.375	2.42	1 7/8-12
300-32-24	2	1 1/2	4.20	2.375	2.87	2 1/2-12
300-20-32	1 1/4	2	3.60	2.810	2.64	1 5/8-12
300-24-32	1 1/2	2	3.73	2.812	2.64	1 7/8-12
300-32-32	2	2	3.98	2.812	2.64	2 1/2-12
300-32-40	2	2 1/2	3.98	3.312	2.64	2 1/2-12

CODE 62 JIC THREAD						
PART NO.	TUBE O.D.	FLANGE SIZE	A	B	C	THREAD
600-8-8	1/2	1/2	2.61	1.250	1.95	3/4-16
600-12-12	3/4	3/4	2.75	1.625	1.89	1 1/16-12
600-16-12	1	3/4	2.75	1.625	1.84	1 5/16-12
600-20-12	1 1/4	3/4	3.05	1.625	2.09	1 5/8-12
600-12-16	3/4	1	2.80	1.875	1.94	1 1/16-12
600-16-16	1	1	2.80	1.875	1.89	1 5/16-12
600-20-16	1 1/4	1	2.80	1.875	1.84	1 5/8-12
600-16-20	1	1 1/4	3.05	2.125	2.14	1 5/16-12
600-20-20	1 1/4	1 1/4	3.05	2.125	2.09	1 5/8-12
600-24-20	1 1/2	1 1/4	3.30	2.125	2.22	1 7/8-12
600-16-24	1	1 1/2	3.33	2.500	2.42	1 5/16-12
600-20-24	1 1/4	1 1/2	3.50	2.500	2.54	1 5/8-12
600-24-24	1 1/2	1 1/2	3.50	2.500	2.42	1 7/8-12
600-32-24	2	1 1/2	4.94	2.500	3.61	2 1/2-12
600-24-32	1 1/2	2	3.98	3.125	2.89	1 7/8-12
600-32-32	2	2	4.23	3.125	2.89	2 1/2-12



SAE STRAIGHT THREAD

CODE 61 SAE STRAIGHT THREAD						
PART NO.	TUBE O.D.	FLANGE SIZE	A	B	C	THREAD
302-8-8	1/2	1/2	2.49	1.188	1.94	3/4-16
302-12-12	3/4	3/4	2.61	1.500	1.89	1 1/16-12
302-16-12	1	3/4	2.88	1.500	2.16	1 5/16-12
302-12-16	3/4	1	2.74	1.750	2.02	1 1/16-12
302-16-16	1	1	2.61	1.750	1.89	1 5/16-12
302-20-16	1 1/4	1	3.13	1.750	2.41	1 5/8-12
302-16-20	1	1 1/4	2.74	2.000	2.02	1 5/16-12
302-20-20	1 1/4	1 1/4	3.13	2.000	2.41	1 5/8-12
302-24-20	1 1/2	1 1/4	3.43	2.000	2.71	1 7/8-12
302-16-24	1	1 1/2	3.30	2.380	2.58	1 5/16-12
302-20-24	1 1/4	1 1/2	3.30	2.375	2.58	1 5/8-12
302-24-24	1 1/2	1 1/2	3.14	2.375	2.42	1 7/8-12
302-24-32	1 1/2	2	3.79	2.812	3.07	1 7/8-12
302-32-32	2	2	3.63	2.812	2.91	2 1/2-12
302-40-40	2 1/2	2 1/2	4.23	3.310	3.08	3-12
302-48-48	3	3	4.50	4.000	3.36	3 1/2-12
302-64-64	4	4	4.14	5.000	2.89	4 1/2-12

CODE 62 SAE STRAIGHT THREAD						
PART NO.	TUBE O.D.	FLANGE SIZE	A	B	C	THREAD
602-8-8	1/2	1/2	2.50	1.250	1.95	3/4-16
602-12-12	3/4	3/4	2.62	1.625	1.89	1 1/16-12
602-16-12	1	3/4	2.88	1.625	2.15	1 5/16-12
602-12-16	3/4	1	2.75	1.875	2.02	1 1/16-12
602-16-16	1	1	2.62	1.875	1.89	1 5/16-12
602-20-16	1 1/4	1	3.44	1.875	2.71	1 5/8-12
602-16-20	1	1 1/4	3.12	2.125	2.39	1 5/16-12
602-20-20	1 1/4	1 1/4	3.00	2.125	2.27	1 5/8-12
602-24-20	1 1/2	1 1/4	3.44	2.125	2.71	1 7/8-12
602-20-24	1 1/4	1 1/2	3.31	2.500	2.58	1 5/8-12
602-24-24	1 1/2	1 1/2	3.19	2.500	2.46	1 7/8-12
602-24-32	1 1/2	2	3.90	3.125	3.17	1 7/8-12
602-32-32	2	2	3.75	3.125	3.02	2 1/2-12

FLOW NEEDLE
& CHECK VALVES

HYDRAULIC
BALL VALVES

WELD
COUPLINGS

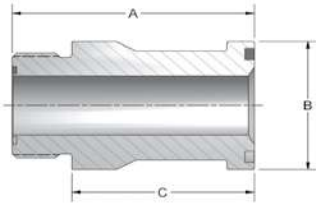
HPU SUCTION &
RETURN CONNECTIONS

FLANGES
CARBON STEEL

FLANGES
STAINLESS STEEL

FLANGES - CARBON STEEL

Threaded

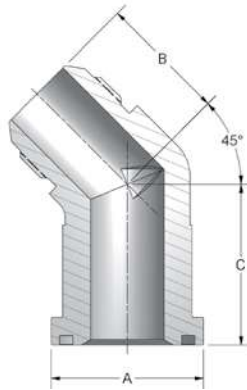


ORFS THREAD

CODE 61 ORFS THREAD						
PART NO.	TUBE O.D.	FLANGE SIZE	A	B	C	THREAD
304-12-12	3/4	3/4	2.75	1.500	2.08	1 3/16-12
304-16-12	1	3/4	2.75	1.500	2.06	1 7/16-12
304-12-16	3/4	1	2.80	1.750	2.13	1 3/16-12
304-16-16	1	1	2.80	1.750	2.11	1 7/16-12
304-20-16	1 1/4	1	2.80	1.750	2.11	1 11/16-12
304-16-20	1	1 1/4	2.80	2.000	2.11	1 7/16-12
304-20-20	1 1/4	1 1/4	2.80	2.000	2.11	1 11/16-12
304-24-20	1 1/2	1 1/4	3.20	2.000	2.51	2-12
304-20-24	1 1/4	1 1/2	3.50	2.375	2.81	1 11/16-12
304-24-24	1 1/2	1 1/2	3.50	2.375	2.81	2-12
304-24-32	1 1/2	2	3.33	2.812	2.64	2-12

CODE 62 ORFS THREAD						
PART NO.	TUBE O.D.	FLANGE SIZE	A	B	C	THREAD
604-8-8	1/2	1/2	2.58	1.250	2.08	13/16-16
604-12-12	3/4	3/4	2.75	1.625	2.08	1 3/16-12
604-16-12	1	3/4	2.75	1.625	2.06	1 7/16-12
604-12-16	3/4	1	2.80	1.875	2.13	1 3/16-12
604-16-16	1	1	2.80	1.875	2.11	1 7/16-12
604-20-16	1 1/4	1	3.20	1.875	2.51	1 11/16-12
604-16-20	1	1 1/4	3.05	2.125	2.36	1 7/16-12
604-20-20	1 1/4	1 1/4	3.05	2.125	2.36	1 11/16-12
604-24-20	1 1/2	1 1/4	3.30	2.125	2.61	2-12
604-20-24	1 1/4	1 1/2	3.50	2.500	2.81	1 11/16-12
604-24-24	1 1/2	1 1/2	3.50	2.500	2.81	2-12
604-24-32	1 1/2	2	3.58	3.125	2.89	2-12

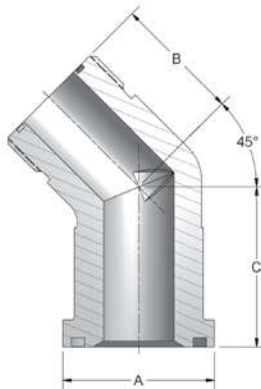
45° JIC THREAD



CODE 61 45° JIC THREAD						
PART NO.	TUBE O.D.	FLANGE SIZE	A	B	C	THREAD
340-12-12	3/4	3/4	1.500	1.28	1.58	1 1/16-12
340-16-16	1	1	1.750	1.47	1.85	1 5/16-12
340-20-20	1 1/4	1 1/4	2.000	1.59	2.04	1 5/8-12
340-24-24	1 1/2	1 1/2	2.375	1.78	2.38	1 7/8-12
340-32-32	2	2	2.812	2.22	3.00	2 1/2-12

CODE 62 45° JIC THREAD						
PART NO.	TUBE O.D.	FLANGE SIZE	A	B	C	THREAD
640-12-12	3/4	3/4	1.625	1.28	1.58	1 1/16-12
640-16-16	1	1	1.875	1.47	1.85	1 5/16-12
640-20-20	1 1/4	1 1/4	2.125	1.59	2.04	1 5/8-12
640-24-24	1 1/2	1 1/2	2.500	1.78	2.38	1 7/8-12
640-32-32	2	2	3.13	2.22	3.00	2 1/2-12

45° ORFS THREAD

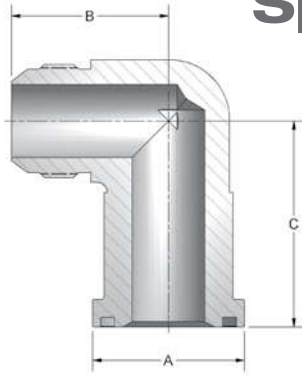


CODE 61 45° ORFS THREAD						
PART NO.	TUBE O.D.	FLANGE SIZE	A	B	C	THREAD
344-12-12	3/4	3/4	1.500	1.28	1.58	1 3/16-12
344-16-16	1	1	1.750	1.47	1.85	1 7/16-12
344-20-20	1 1/4	1 1/4	2.000	1.59	2.04	1 11/16-12
344-24-24	1 1/2	1 1/2	2.375	1.78	2.38	2-12

CODE 62 45° ORFS THREAD						
PART NO.	TUBE O.D.	FLANGE SIZE	A	B	C	THREAD
644-12-12	3/4	3/4	1.625	1.28	1.58	1 3/16-12
644-16-16	1	1	1.875	1.47	1.85	1 7/16-12
644-20-20	1 1/4	1 1/4	2.125	1.59	2.04	1 11/16-12
644-24-24	1 1/2	1 1/2	2.500	1.78	2.38	2-12



Split Flange Adapters

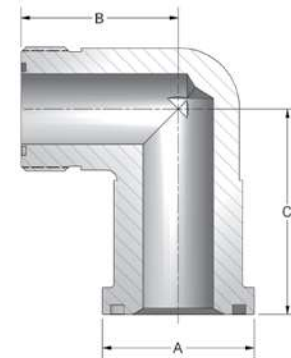


90° JIC THREAD

CODE 61 90° JIC THREAD						
PART NO.	TUBE O.D.	FLANGE SIZE	A	B	C	THREAD
390-8-8	1/2	1/2	1.19	1.46	2.13	3/4-16
390-8-12	1/2	3/4	1.500	1.66	2.13	3/4-16
390-12-12	3/4	3/4	1.500	1.66	2.13	1 1/16-12
390-16-12	1	3/4	1.500	1.66	2.13	1 5/16-12
390-12-16	3/4	1	1.750	1.81	2.37	1 1/16-12
390-16-16	1	1	1.750	1.81	2.37	1 5/16-12
390-20-16	1 1/4	1	1.750	1.81	2.37	1 5/8-12
390-12-20	3/4	1 1/4	2.000	2.06	2.62	1 1/16-12
390-16-20	1	1 1/4	2.000	2.06	2.62	1 5/16-12
390-20-20	1 1/4	1 1/4	2.000	2.06	2.62	1 5/8-12
390-24-20	1 1/2	1 1/4	2.000	2.06	2.62	1 7/8-12
390-12-24	3/4	1 1/2	2.375	2.33	3.15	1 1/16-12
390-16-24	1	1 1/2	2.375	2.33	3.15	1 5/16-12
390-20-24	1 1/4	1 1/2	2.375	2.33	3.15	1 5/8-12
390-24-24	1 1/2	1 1/2	2.375	2.33	3.15	1 7/8-12
390-32-24	2	1 1/2	2.375	2.58	3.15	2 1/2-12
390-24-32	1 1/2	2	2.812	3.06	4.25	1 7/8-12
390-32-32	2	2	2.812	3.06	4.25	2 1/2-12
390-32-40	2	2 1/2	3.312	3.06	4.25	2 1/2-12

CODE 62 90° JIC THREAD						
PART NO.	TUBE O.D.	FLANGE SIZE	A	B	C	THREAD
690-8-8	1/2	1/2	1.250	1.46	2.13	3/4-16
690-12-12	3/4	3/4	1.625	1.66	2.13	1 1/16-12
690-16-12	1	3/4	1.625	1.66	2.13	1 5/16-12
690-12-16	3/4	1	1.875	1.81	2.37	1 1/16-12
690-16-16	1	1	1.875	1.81	2.37	1 5/16-12
690-20-16	1 1/4	1	1.875	1.81	2.37	1 5/8-12
690-16-20	1	1 1/4	2.125	2.06	2.76	1 5/16-12
690-20-20	1 1/4	1 1/4	2.125	2.06	2.76	1 5/8-12
690-24-20	1 1/2	1 1/4	2.125	2.19	2.76	1 7/8-12
690-20-24	1 1/4	1 1/2	2.500	2.33	3.15	1 5/8-12
690-24-24	1 1/2	1 1/2	2.500	2.33	3.15	1 7/8-12
690-32-24	2	1 1/2	2.500	3.06	4.25	2 1/2-12
690-24-32	1 1/2	2	3.125	3.06	4.25	1 7/8-12
690-32-32	2	2	3.125	3.06	4.25	2 1/2-12

90° ORFS THREAD

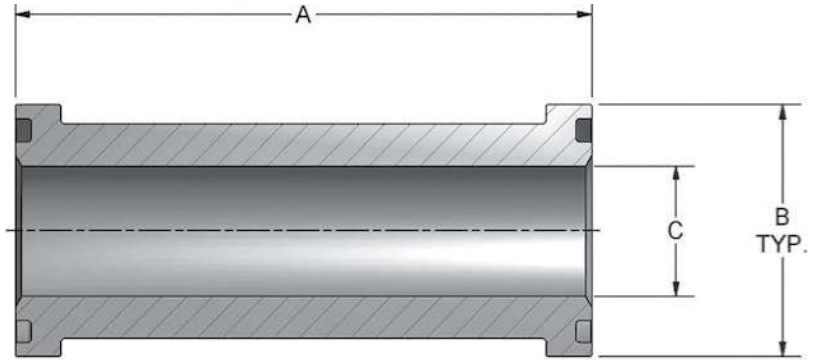


CODE 61 90° ORFS THREAD						
PART NO.	TUBE O.D.	FLANGE SIZE	A	B	C	THREAD
394-12-12	3/4	3/4	1.500	1.66	2.13	1 3/16-12
394-16-12	1	3/4	1.500	1.66	2.13	1 7/16-12
394-12-16	3/4	1	1.750	1.81	2.37	1 3/16-12
394-16-16	1	1	1.750	1.81	2.37	1 7/16-12
394-20-16	1 1/4	1	1.750	1.81	2.37	1 11/16-12
394-16-20	1	1 1/4	2.000	2.06	2.62	1 7/16-12
394-20-20	1 1/4	1 1/4	2.000	2.06	2.62	1 11/16-12
394-24-20	1 1/2	1 1/4	2.000	2.06	2.62	2-12
394-20-24	1 1/4	1 1/2	2.375	2.33	3.15	1 11/16-12
394-24-24	1 1/2	1 1/2	2.375	2.33	3.15	2-12
394-24-32	1 1/2	2	2.812	3.06	4.25	2-12

CODE 62 90° ORFS THREAD						
PART NO.	TUBE O.D.	FLANGE SIZE	A	B	C	THREAD
694-12-8	3/4	1/2	1.250	1.66	2.13	1 3/16-12
694-12-12	3/4	3/4	1.625	1.66	2.13	1 3/16-12
694-16-12	1	3/4	1.625	1.66	2.13	1 7/16-12
694-12-16	3/4	1	1.875	1.81	2.37	1 3/16-12
694-16-16	1	1	1.875	1.81	2.37	1 7/16-12
694-20-16	1 1/4	1	1.875	1.81	2.37	1 11/16-12
694-16-20	1	1 1/4	2.125	2.06	2.76	1 7/16-12
694-20-20	1 1/4	1 1/4	2.125	2.06	2.76	1 11/16-12
694-24-20	1 1/2	1 1/4	2.125	2.06	2.76	2-12
694-20-24	1 1/4	1 1/2	2.500	2.33	3.15	1 11/16-12
694-24-24	1 1/2	1 1/2	2.500	2.33	3.15	2-12
694-24-32	1 1/2	2	3.125	3.06	4.25	2-12

Flange Head X Flange Head

- Used to connect two flat faced flanges
- One-piece forged carbon steel construction with Silver Trivalent plating



CODE 61 FLANGE HEAD X FLANGE HEAD				
PART NO.	FLANGE SIZE	A	B	C
301-8-8	0.50	4.00	1.188	0.406
301-12-12	0.75	4.00	1.500	0.656
301-16-16	1.00	4.00	1.750	0.906
301-20-20	1.25	4.00	2.000	1.125
301-24-24	1.50	4.00	2.375	1.375
301-32-32	2.00	4.00	2.812	1.875
301-40-40	2.50	6.00	3.312	2.375
301-48-48	3.00	6.00	4.000	2.875
301-56-56	3.50	6.00	4.500	3.375
301-64-64	4.00	6.00	5.000	3.875

CODE 62 FLANGE HEAD X FLANGE HEAD				
PART NO.	FLANGE SIZE	A	B	C
601-8-8	0.50	4.00	1.250	0.406
601-12-12	0.75	4.00	1.625	0.656
601-16-16	1.00	6.00	1.875	0.810
601-20-20	1.25	6.00	2.125	1.010
601-24-24	1.50	6.00	2.500	1.250
601-32-32	2.00	8.00	3.125	1.750

*Stainless steel and custom lengths available upon request



Butt Weld Flange Head

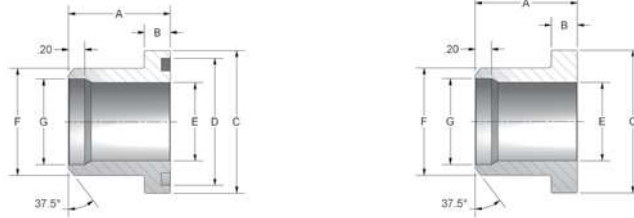


Figure 2

CODE 61 BUTT WELD TO FLANGE HEAD FOR SCHEDULE 40 PIPE										
PART NO. O-RING FIG. 1	PART NO. FLAT FACE FIG. 2	PIPE SIZE	CLAMP SIZE	A	B	C	D	E	F	G
8P-8BWSF-40	8P-8BWSFN-40	.50	.50	1.06	.265	1.188	1.000	.548	.840	.624
12P-12BWSF-40	12P-12BWSFN-40	.75	.75	1.06	.265	1.500	1.250	.744	1.050	.826
16P-16BWSF-40	16P-16BWSFN-40	1.00	1.00	1.25	.315	1.750	1.560	.959	1.315	1.051
20P-20BWSF-40	20P-20BWSFN-40	1.25	1.25	1.44	.315	2.000	1.750	1.280	1.660	1.382
24P-24BWSF-40	24P-24BWSFN-40	1.50	1.50	1.75	.315	2.375	2.115	1.502	1.900	1.612
32P-32BWSF-40	32P-32BWSFN-40	2.00	2.00	2.00	.375	2.812	2.490	1.941	2.375	2.069
40P-40BWSF-40	40P-40BWSFN-40	2.50	2.50	2.31	.375	3.312	2.995	2.325	2.875	2.471
48P-48BWSF-40	48P-48BWSFN-40	3.00	3.00	2.31	.375	4.000	3.615	2.902	3.500	3.070
64P-64BWSF-40	64P-64BWSFN-40	4.00	4.00	1.90	.442	5.000	4.595	3.828	4.500	4.028

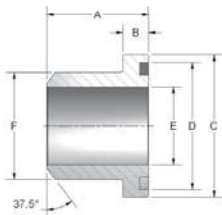


Figure 1

CODE 61 BUTT WELD TO FLANGE HEAD FOR SCHEDULE 80 PIPE										
PART NO. O-RING FIG. 1	PART NO. FLAT FACE FIG. 2	PIPE SIZE	CLAMP SIZE	A	B	C	D	E	F	
8P-8BWSF-80	8P-8BWSFN-80	.50	.50	1.06	.265	1.188	1.000	.548	.840	
12P-12BWSF-80	12P-12BWSFN-80	.75	.75	1.06	.265	1.500	1.250	.744	1.050	
16P-16BWSF-80	16P-16BWSFN-80	1.00	1.00	1.25	.315	1.750	1.560	.959	1.315	
20P-20BWSF-80	20P-20BWSFN-80	1.25	1.25	1.44	.315	2.000	1.750	1.280	1.660	
24P-24BWSF-80	24P-24BWSFN-80	1.50	1.50	1.75	.315	2.375	2.115	1.502	1.900	
32P-32BWSF-80	32P-32BWSFN-80	2.00	2.00	2.00	.375	2.812	2.490	1.941	2.375	
40P-40BWSF-80	40P-40BWSFN-80	2.50	2.50	2.31	.375	3.312	2.995	2.325	2.875	
48P-48BWSF-80	48P-48BWSFN-80	3.00	3.00	2.31	.375	4.000	3.615	2.902	3.500	

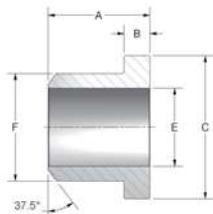


Figure 2

CODE 61 BUTT WELD TO FLANGE HEAD FOR SCHEDULE 160 PIPE										
PART NO. O-RING FIG. 1	PART NO. FLAT FACE FIG. 2	PIPE SIZE	CLAMP SIZE	A	B	C	D	E	F	
8P-8BWSF-160	8P-8BWSFN-160	.50	.50	1.06	.265	1.188	1.000	.464	.840	
12P-12BWSF-160	12P-12BWSFN-160	.75	.75	1.06	.265	1.500	1.250	.612	1.050	
16P-16BWSF-160	16P-16BWSFN-160	1.00	1.00	1.25	.315	1.750	1.560	.815	1.315	
20P-20BWSF-160	20P-20BWSFN-160	1.25	1.25	1.44	.315	2.000	1.750	1.160	1.660	
24P-24BWSF-160	24P-24BWSFN-160	1.50	1.50	1.75	.315	2.375	2.115	1.338	1.900	
32P-32BWSF-160	32P-32BWSFN-160	2.00	2.00	2.00	.375	2.812	2.490	1.687	2.375	
40P-40BWSF-160	40P-40BWSFN-160	2.50	2.50	2.31	.375	3.312	2.995	2.125	2.875	
48P-40BWSF-160	48P-40BWSFN-160	3.00	3.00	2.31	.375	4.000	3.615	2.624	3.500	

Butt Weld Flange Head

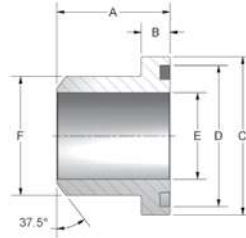


Figure 1

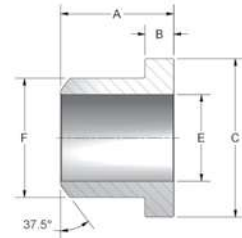


Figure 2

CODE 62 BUTT WELD TO FLANGE HEAD FOR SCHEDULE 80 PIPE									
PART NO. O-RING FIG. 1	PART NO. FLAT FACE FIG. 2	PIPE SIZE	CLAMP SIZE	A	B	C	D	E	F
8P-8BWSFX-80	8P-8BWSFXN-80	.50	.50	1.10	.305	1.250	1.000	.548	.840
12P-12BWSFX-80	12P-12BWSFXN-80	.75	.75	1.42	.345	1.625	1.250	.744	1.050
16P-16BWSFX-80	16P-16BWSFXN-80	1.00	1.00	1.61	.375	1.875	1.560	.959	1.315
20P-20BWSFX-80	20P-20BWSFXN-80	1.25	1.25	1.73	.405	2.125	1.750	1.280	1.660
24P-24BWSFX-80	24P-24BWSFXN-80	1.50	1.50	2.17	.495	2.500	2.115	1.502	1.900
32P-32BWSFX-80	32P-32BWSFXN-80	2.00	2.00	2.48	.495	3.125	2.490	1.941	2.375

CODE 62 BUTT WELD TO FLANGE HEAD FOR SCHEDULE 160 PIPE									
PART NO. O-RING FIG. 1	PART NO. FLAT FACE FIG. 2	PIPE SIZE	CLAMP SIZE	A	B	C	D	E	F
8P-8BWSFX-160	8P-8BWSFXN-160	.50	.50	1.10	.305	1.250	1.000	.464	.840
12P-12BWSFX-160	12P-12BWSFXN-160	.75	.75	1.42	.345	1.625	1.250	.612	1.050
16P-16BWSFX-160	16P-16BWSFXN-160	1.00	1.00	1.61	.375	1.875	1.560	.815	1.315
20P-20BWSFX-160	20P-20BWSFXN-160	1.25	1.25	1.73	.405	2.125	1.750	1.160	1.660
24P-24BWSFX-160	24P-24BWSFXN-160	1.50	1.50	2.17	.495	2.500	2.115	1.338	1.900
32P-32BWSFX-160	32P-32BWSFXN-160	2.00	2.00	2.48	.495	3.125	2.490	1.687	2.375

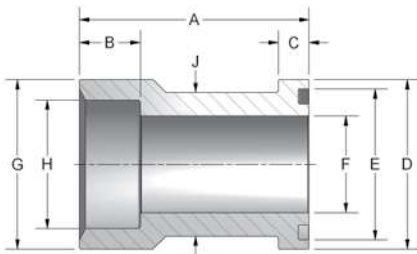
CODE 62 BUTT WELD TO FLANGE HEAD FOR SCHEDULE XXS PIPE									
PART NO. O-RING FIG. 1	PART NO. FLAT FACE FIG. 2	PIPE SIZE	CLAMP SIZE	A	B	C	D	E	F
8P-8BWSFX-XXS	8P-8BWSFXN-XXS	.50	.50	1.10	.305	1.250	1.000	.252	.840
12P-12BWSFX-XXS	12P-12BWSFXN-XXS	.75	.75	1.42	.345	1.625	1.250	.434	1.050
16P-16BWSFX-XXS	16P-16BWSFXN-XXS	1.00	1.00	1.61	.375	1.875	1.560	.599	1.315
20P-20BWSFX-XXS	20P-20BWSFXN-XXS	1.25	1.25	1.73	.405	2.125	1.750	.896	1.660
24P-24BWSFX-XXS	24P-24BWSFXN-XXS	1.50	1.50	2.17	.495	2.500	2.115	1.100	1.900
32P-32BWSFX-XXS	32P-32BWSFXN-XXS	2.00	2.00	2.48	.495	3.125	2.490	1.503	2.375



Female Flange Head Adapter



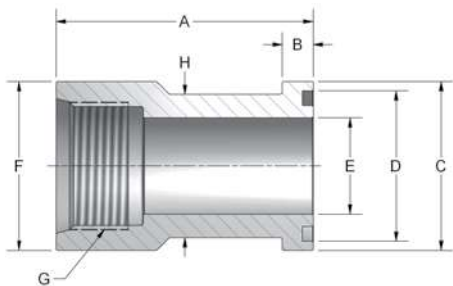
CODE 61 SOCKET WELD TO FLANGE HEAD FOR PIPE											
PART NO.	PIPE SIZE	CLAMP SIZE	A	B	C	D	E	F	G	H	J
8P-8WSF	.50	.50	2.34	.56	.265	1.187	1.000	.500	1.25	.855	.924
12P-12WSF	.75	.75	2.34	.56	.265	1.500	1.250	.750	1.50	1.062	1.234
16P-16WSF	1.00	1.00	2.38	.63	.315	1.750	1.560	1.000	1.75	1.328	1.484
20P-20WSF	1.25	1.25	2.62	.68	.315	2.000	1.750	1.250	2.00	1.672	1.684
24P-24WSF	1.50	1.50	2.88	.76	.315	2.375	2.115	1.500	2.38	1.922	1.964
32P-32WSF	2.00	2.00	3.00	.88	.375	2.812	2.490	2.000	2.81	2.406	2.434
40P-40WSF	2.50	2.50	3.06	1.00	.375	3.312	2.995	2.500	3.31	2.906	2.920
48P-48WSF	3.00	3.00	3.88	1.25	.375	4.000	3.615	2.875	4.00	3.547	3.534



CODE 62 SOCKET WELD TO FLANGE HEAD FOR PIPE											
PART NO.	PIPE SIZE	CLAMP SIZE	A	B	C	D	E	F	G	H	J
W53-12-12	.75	.75	2.75	.630	.345	1.625	1.250	.750	1.750	1.062	1.234
W53-16-16	1.00	1.00	3.06	.630	.375	1.875	1.560	1.000	2.000	1.328	1.484
W53-20-20	1.25	1.25	3.31	.690	.405	2.125	1.750	1.125	2.312	1.672	1.704
W53-24-24	1.50	1.50	3.93	.750	.495	2.500	2.115	1.375	2.750	1.922	1.984
W53-32-32	2.00	2.00	4.06	.880	.495	3.125	2.490	1.875	3.125	2.406	2.604



CODE 61 NPTF THREAD TO FLANGE HEAD										
PART NO.	PIPE SIZE	CLAMP SIZE	A	B	C	D	E	F	G	H
12F-12FO	.75	.75	2.47	.265	1.500	1.250	.75	1.50	.75	1.234
16F-16FO	1.00	1.00	2.66	.315	1.750	1.560	1.00	1.75	1.00	1.484
20F-20FO	1.25	1.25	2.84	.315	2.000	1.750	1.25	2.00	1.25	1.684
24F-24FO	1.50	1.50	3.00	.315	2.375	2.115	1.50	2.38	1.50	1.964
32F-32FO	2.00	2.00	3.00	.375	2.812	2.490	2.00	2.81	2.00	2.434



CODE 61 SAE THREAD TO FLANGE HEAD										
PART NO.	TUBE SIZE	CLAMP SIZE	A	B	C	D	E	F	G	H
12S-12FO	.75	.75	2.47	.265	1.500	1.250	.75	1.50	1 1/16-12	1.234
16S-16FO	1.00	1.00	2.66	.315	1.750	1.560	1.00	1.75	1 5/16-12	1.484
20S-20FO	1.25	1.25	2.84	.315	2.000	1.750	1.25	2.00	1 5/8-12	1.684
24S-24FO	1.50	1.50	3.00	.315	2.375	2.115	1.50	2.38	1 7/8-12	1.964
32S-32FO	2.00	2.00	3.00	.375	2.812	2.490	2.00	2.81	2 1/2-12	2.434

Tube Flange Head Fitting

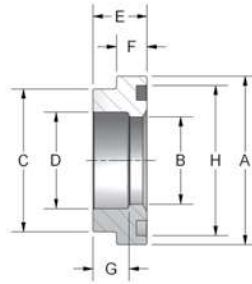


Figure 1

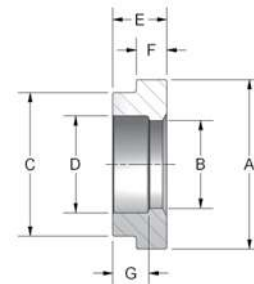


Figure 2

*For sizes not listed, please consult factory.

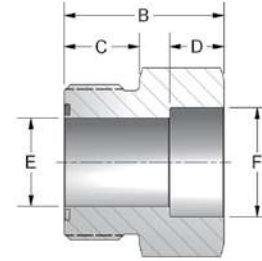
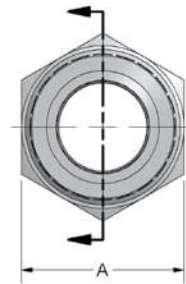
CODE 61 TUBE FLANGE HEAD FITTING											
PART NO. O-RING FIG. 1	PART NO. FLAT FACE FIG. 2	TUBE SIZE	FLANGE SIZE	A	B	C	D	E	F	G	H
8T-8SF	8T-8SFN	.50	.50	1.188	.406	.924	.502	.50	.265	.312	1.000
10T-8SF	10T-8SFN	.63	.50	1.188	.500	.924	.627	.50	.265	.312	1.000
12T-12SF	12T-12SFN	.75	.75	1.500	.656	1.234	.752	.56	.265	.375	1.250
16T-12SF	16T-12SFN	1.00	.75	1.500	.750	1.234	1.002	.56	.265	.375	1.250
16T-16SF	16T-16SFN	1.00	1.00	1.750	.906	1.484	1.002	.56	.315	.375	1.560
20T-16SF	20T-16SFN	1.25	1.00	1.750	1.000	1.484	1.252	.56	.315	.375	1.560
20T-20SF	20T-20SFN	1.25	1.25	2.000	1.125	1.684	1.252	.56	.315	.375	1.750
24T-20SF	24T-20SFN	1.50	1.25	2.000	1.250	1.684	1.502	.56	.315	.375	1.750
24T-24SF	24T-24SFN	1.50	1.50	2.375	1.375	1.964	1.502	.62	.315	.438	2.115
28T-24SF	28T-24SFN	1.75	1.50	2.375	1.500	1.964	1.752	.62	.315	.438	2.115
32T-32SF	32T-32SFN	2.00	2.00	2.812	1.875	2.434	2.002	.62	.375	.500	2.490
36T-32SF	36T-32SFN	2.25	2.00	2.812	2.000	2.434	2.252	.62	.375	.437	2.490
40T-40SF	40T-40SFN	2.50	2.50	3.312	2.375	2.904	2.502	.68	.375	.562	2.995
44T-40SF	44T-40SFN	2.75	2.50	3.312	2.500	2.904	2.752	.68	.375	.500	2.995
48T-48SF	48T-48SFN	3.00	3.00	4.000	2.875	3.534	3.002	.75	.375	.562	3.615
56T-56SF	56T-56SFN	3.50	3.50	4.500	3.380	3.980	3.502	.88	.440	.750	4.100
64T-64SF	64T-64SFN	4.00	4.00	5.000	3.880	4.480	4.040	1.00	.440	.810	4.600
80T-80SF	80T-80SFN	5.00	5.00	6.000	4.880	5.480	5.002	1.13	.440	.940	5.600

CODE 62 TUBE FLANGE HEAD FITTING											
PART NO. O-RING FIG. 1	PART NO. FLAT FACE FIG. 2	TUBE SIZE	FLANGE SIZE	A	B	C	D	E	F	G	H
12T-12SFX	12T-12SFXN	.75	.75	1.625	.656	1.234	.752	.69	.345	.500	1.250
16T-12SFX	16T-12SFXN	1.00	.75	1.625	.750	1.234	1.002	.69	.345	.500	1.250
16T-16SFX	16T-16SFXN	1.00	1.00	1.875	.810	1.484	1.002	.81	.375	.625	1.560
20T-16SFX	20T-16SFXN	1.25	1.00	1.875	1.000	1.484	1.252	.81	.375	.625	1.560
20T-20SFX	20T-20SFXN	1.25	1.25	2.125	1.010	1.704	1.252	1.00	.405	.812	1.750
24T-20SFX	24T-20SFXN	1.50	1.25	2.125	1.250	1.704	1.502	1.00	.405	.812	1.750
24T-24SFX	24T-24SFXN	1.50	1.50	2.500	1.250	1.984	1.502	1.19	.495	1.000	2.115
28T-24SFX	28T-24SFXN	1.75	1.50	2.500	1.500	1.984	1.757	1.19	.495	1.000	2.115
32T-32SFX	32T-32SFXN	2.00	2.00	3.125	1.750	2.604	2.002	1.50	.495	1.375	2.490
36T-32SFX	36T-32SFXN	2.25	2.00	3.125	2.000	2.604	2.252	1.50	.495	1.312	2.490



Braze-On Tube Fittings

- AISI 1020 Carbon Steel Material
- Natural Finish
- O-Ring groove per SAE J1453
- O-Ring not included

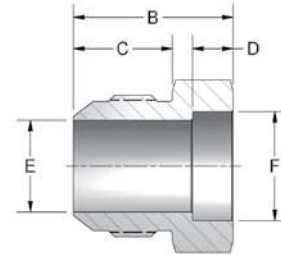


BRAZE-ON TUBE FITTINGS								
PART NO.	TUBE SIZE	ORFS THREAD SIZE	A	B	C	D	E	F
1453-04-04	1/4"	9/16"-18	.625	.780	.394	.250	.177	.252
1453-05-04	5/16"	9/16"-18	.625	.780	.394	.250	.177	.315
1453-06-04	3/8"	9/16"-18	.750	.780	.394	.250	.177	.377
1453-06-06	3/8"	11/16"-16	.750	.830	.264	.250	.256	.377
1453-08-06	1/2"	11/16"-16	.875	.950	.264	.375	.256	.502
1453-08-08	1/2"	13/16"-16	.875	1.010	.378	.375	.374	.502
1453-10-08	5/8"	13/16"-16	.937	1.060	.378	.375	.374	.627
1453-12-08	3/4"	13/16"-16	1.125	1.040	.378	.375	.374	.752
1453-14-08	7/8"	13/16"-16	1.250	1.09	.378	.375	.374	.877
1453-10-10	5/8"	1"-14	1.062	1.120	.610	.375	.492	.627
1453-12-10	3/4"	1"-14	1.125	1.150	.610	.375	.492	.752
1453-16-10	1"	1"-14	1.375	1.340	.610	.500	.492	1.002
1453-12-12	3/4"	1-3/16"-12	1.250	1.210	.670	.375	.609	.752
1453-14-12	7/8"	1-3/16"-12	1.250	1.210	.670	.375	.609	.877
1453-16-12	1"	1-3/16"-12	1.500	1.450	.670	.500	.609	1.002
1453-16-16	1"	1-7/16"-12	1.500	1.470	.689	.500	.807	1.002
1453-20-16	1-1/4"	1-7/16"-12	1.750	1.470	.689	.500	.807	1.252
1453-20-20	1-1/4"	1-11/16"-12	1.750	1.470	.689	.500	1.024	1.252
1453-24-20	1-1/2"	1-11/16"-12	2.000	1.470	.689	.500	1.024	1.502
1453-24-24	1-1/2"	2"-12	2.125	1.470	.689	.500	1.260	1.502
1453-28-24	1-3/4"	2"-12	2.125	1.470	.689	.531	1.260	1.752

JIC Braze-On Fittings



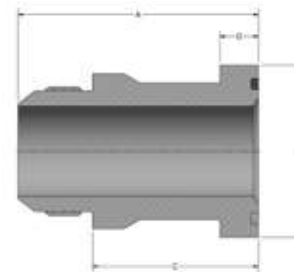
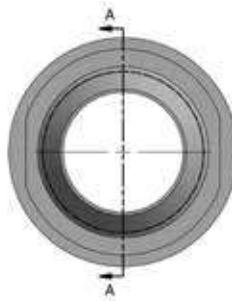
- AISI 1020 Carbon Steel Material
- Natural Finish
- 37° Male JIC per SAE J514



JIC BRAZE-ON								
PART NO.	TUBE SIZE	JIC THREAD SIZE	A	B	C	D	E	F
51437-6-6	3/8"	9/16"-18	.625	.906	.556	.250	.297	.377
51437-8-8	1/2"	3/4"-16	.813	1.063	.657	.250	.391	.502
51437-12-12	3/4"	1 1/16"-12	1.125	1.344	.864	.312	.609	.752

CAT-Style Split Flange Adapters

- For use with CAT-Style Split Flanges



CAT-STYLE JIC THREAD								
PART NO.	TUBE O.D.	FLANGE SIZE	A	B	C	D	THREAD	O-RING
609-12-12	3/4"	3/4"	2.750	1.625	1.890	0.560	1 1/16-12"	214
609-16-16	1"	1"	2.800	1.875	1.890	0.560	1 5/16-12"	219
609-20-20	1 1/4"	1 1/4"	3.050	2.125	2.090	0.560	1 5/8-12"	222
609-24-24	1 1/2"	1 1/2"	3.500	2.500	2.420	0.560	1 7/8-12"	225

* Additional sizes and configurations available upon request

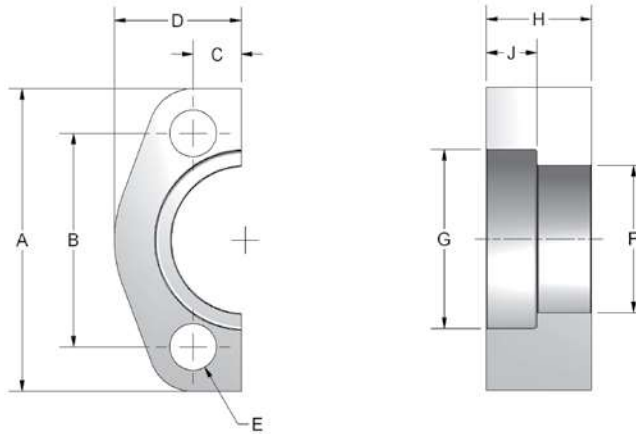


CAT-Style Split Flanges



Fits Caterpillar Flange Head ends only

* CAT-Style Flange Plugs also available.
Consult factory for details.



PTX SERIES SPLIT FLANGES												
PART NO.	**KIT PART NO.	FLANGE SIZE	A	B	C	D	E	F	G	H	J	MOUNTING HARDWARE
												HHCS
12PTX-2	12PTX0	.75	2.950	2.000	.446	1.210	.406	1.270	1.632	1.102	.530	3/8-16X1.75
16PTX-2	16PTX0	1.00	3.190	2.250	.507	1.335	.469	1.550	1.884	1.102	.530	7/16-14X1.75
20PTX-2	20PTX0	1.25	3.750	2.625	.585	1.490	.531	1.705	2.134	1.102	.530	1/2-13X2.00
24PTX-2	24PTX0	1.50	4.440	3.125	.679	1.335	.656	2.080	2.509	1.258	.530	5/8-11X2.50
32PTX-2	32PTX0	2.00	5.240	3.812	.834	2.205	.827	2.640	3.130	1.457	.530	3/4-10X2.75

**When ordering this part # you will receive:(2) split flange halves, (4) hex head bolts and lockwashers. NO O-RING INCLUDED.

Flange Plug

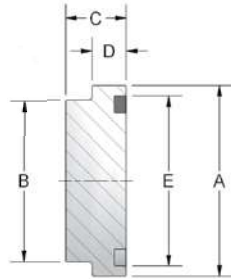


Figure 1

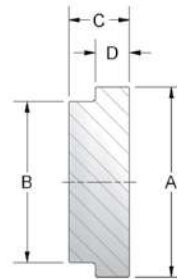
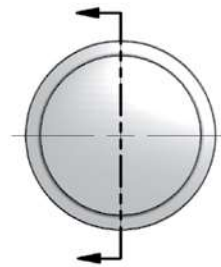


Figure 2

CODE 61 FLANGE PLUG							
PART NO. O-RING FIG. 1	PART NO. FLAT FACE FIG. 2	FLANGE SIZE	A	B	C	D	E
8FOP	8FP	.50	1.188	.924	.50	.265	1.000
12FOP	12FP	.75	1.500	1.234	.56	.265	1.250
16FOP	16FP	1.00	1.750	1.484	.56	.315	1.560
20FOP	20FP	1.25	2.000	1.684	.56	.315	1.750
24FOP	24FP	1.50	2.375	1.964	.62	.315	2.115
32FOP	32FP	2.00	2.810	2.434	.62	.375	2.490
40FOP	40FP	2.50	3.312	2.904	.68	.375	2.995
48FOP	48FP	3.00	4.000	3.534	.75	.375	3.615

CODE 62 FLANGE PLUG							
PART NO. O-RING FIG. 1	PART NO. FLAT FACE FIG. 2	FLANGE SIZE	A	B	C	D	E
12FOPX	12FPX	.75	1.625	1.234	.690	.345	1.250
16FOPX	16FPX	1.00	1.875	1.484	.810	.375	1.560
20FOPX	20FPX	1.25	2.125	1.704	1.000	.405	1.750
24FOPX	24FPX	1.50	2.500	1.984	1.190	.495	2.115
32FOPX	32FPX	2.00	3.125	2.604	1.500	.495	2.490

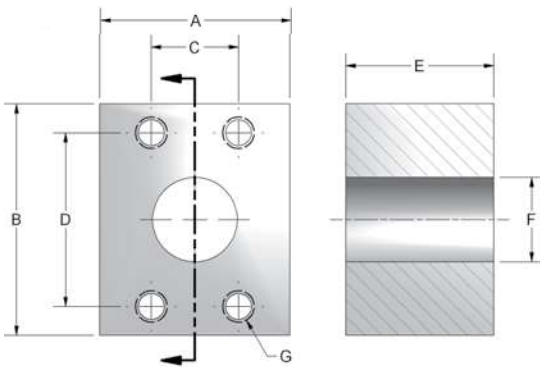


Connector Block & Plate



Used to connect two o-ring flanges

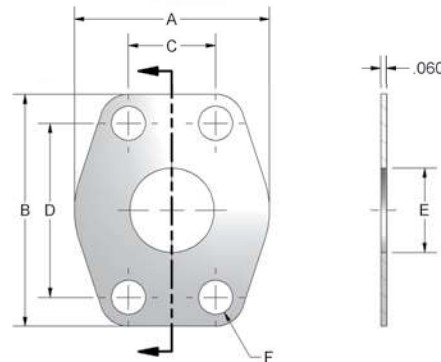
CODE 61 CONNECTOR BLOCK								
PART NO.	PAD SIZE	A	B	C	D	E	F	G UNC-2B
ACB 8-8	.50	2.00	2.12	.688	1.500	1.75	.502	5/16-18
ACB 12-12	.75	2.00	2.62	.875	1.875	1.75	.752	3/8-16
ACB 16-16	1.00	2.25	2.75	1.031	2.062	1.75	1.002	3/8-16
ACB 20-20	1.25	3.00	3.19	1.188	2.312	2.125	1.252	7/16-14
ACB 24-24	1.50	3.50	3.75	1.406	2.750	2.125	1.502	1/2-13
ACB 32-32	2.00	3.88	4.00	1.688	3.062	2.125	1.942	1/2-13
ACB 40-40	2.50	4.38	4.50	2.000	3.500	2.375	2.442	1/2-13



CODE 62 CONNECTOR BLOCK								
PART NO.	PAD SIZE	A	B	C	D	E	F	G UNC-2B
ACBX 8-8	.50	2.00	2.22	.718	1.594	1.75	.502	5/16-18
ACBX 12-12	.75	2.50	2.81	.937	2.000	2.00	.752	3/8-16
ACBX 16-16	1.00	2.75	3.19	1.093	2.250	2.00	1.002	7/16-14
ACBX 20-20	1.25	3.00	3.75	1.250	2.625	2.00	1.252	1/2-13
ACBX 24-24	1.50	3.88	4.50	1.437	3.125	2.50	1.502	5/8-11
ACBX 32-32	2.00	4.50	5.25	1.750	3.812	2.95	1.942	3/4-10

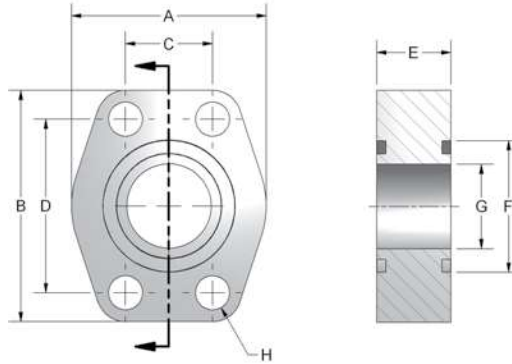
CODE 61 CONNECTOR PLATE							
PART NO.	PAD SIZE	A	B	C	D	E	F
8 CP	.50	1.81	2.12	.688	1.500	.50	.344
12 CP	.75	2.06	2.56	.875	1.875	.75	.406
16 CP	1.00	2.31	2.75	1.031	2.062	1.00	.406
20 CP	1.25	2.88	3.12	1.188	2.312	1.25	.469
24 CP	1.50	3.25	3.69	1.406	2.750	1.50	.531
32 CP	2.00	3.81	4.00	1.688	3.062	2.00	.531
40 CP	2.50	4.12	4.44	2.000	3.500	2.50	.531
48 CP	3.00	5.16	5.31	2.438	4.188	3.00	.656

CODE 62 CONNECTOR PLATE							
PART NO.	PAD SIZE	A	B	C	D	E	F
12 CPX	.75	2.38	2.81	.937	2.000	.750	.406
16 CPX	1.00	2.75	3.19	1.093	2.250	1.000	.469
20 CPX	1.25	3.06	3.75	1.250	2.625	1.250	.531
24 CPX	1.50	3.75	4.44	1.437	3.125	1.500	.656
32 CPX	2.00	4.50	5.25	1.750	3.812	2.000	.781



Double O-Ring Union

Used to connect two flat faced flanges

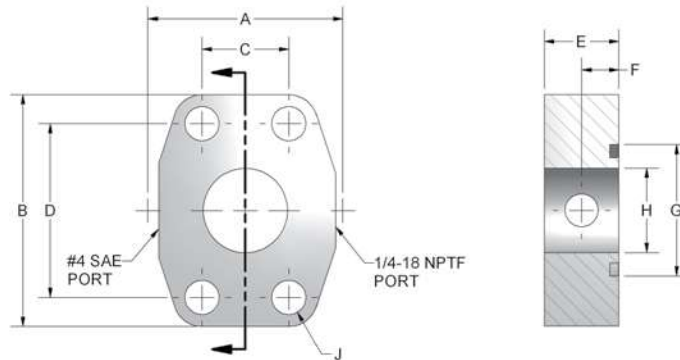


CODE 61 DOUBLE O-RING SPACER									
PART NO.	PAD SIZE	A	B	C	D	E	F	G	H
ADOS-8-8	.50	1.813	2.125	.688	1.50	.75	1.000	.502	.344
ADOS-12-12	.75	2.063	2.563	.875	1.875	.75	1.250	.752	.406
ADOS-16-16	1.00	2.313	2.750	1.031	2.063	.88	1.560	1.002	.406
ADOS-20-20	1.25	2.875	3.125	1.188	2.313	.94	1.750	1.252	.469
ADOS-24-24	1.50	3.250	3.688	1.406	2.750	1.19	2.115	1.502	.531
ADOS-32-32	2.00	3.813	4.000	1.688	3.063	1.44	2.490	2.002	.531
ADOS-40-40	2.50	4.281	4.500	2.000	3.500	1.82	2.995	2.502	.531
ADOS-48-48	3.00	5.156	5.313	2.438	4.188	2.19	3.615	3.002	.656
ADOS-56-56	3.50	5.500	6.000	2.750	4.750	1.44	4.095	3.502	.656
ADOS-64-64	4.00	6.00	6.38	3.062	5.125	1.44	4.595	4.002	.656

CODE 62 DOUBLE O-RING SPACER									
PART NO. O-RING	PAD SIZE	A	B	C	D	E	F	G	H
ADOSX-8-8	.500	1.94	2.30	.718	1.594	1.25	1.000	.502	.344
ADOSX-12-12	.750	2.50	2.95	.937	2.000	1.25	1.250	.752	.406
ADOSX-16-16	1.00	2.75	3.19	1.093	2.250	1.50	1.560	1.002	.492
ADOSX-20-20	1.25	3.06	3.75	1.250	2.625	1.43	1.750	1.252	.531
ADOSX-24-24	1.50	3.75	4.44	1.437	3.125	1.82	2.115	1.502	.656
ADOSX-32-32	2.00	4.50	5.25	1.750	3.812	1.82	2.490	2.002	.781
ADOSX-40-40	2.50	5.87	6.87	2.311	4.874	1.93	2.995	2.502	.906
ADOSX-48-48	3.00	7.00	8.50	2.811	6.000	2.69	3.615	3.002	1.156



Gage Port Spacer



Includes O-ring and plugs for both ports

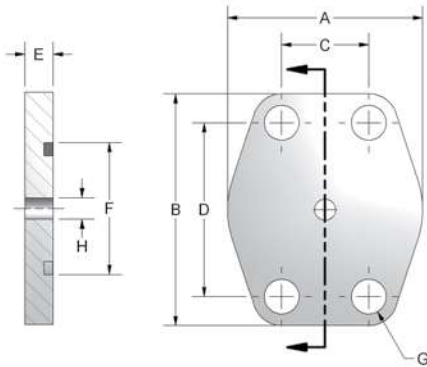
CODE 61 GAGE PORT O-RING SPACER										
PART NO.	PAD SIZE	A	B	C	D	E	F	G	H	J
AS-8-GP	.50	1.82	2.16	.688	1.500	1.25	.62	1.000	.502	.344
AS-12-GP	.75	2.06	2.69	.875	1.875	1.25	.62	1.250	.752	.406
AS-16-GP	1.00	2.31	2.75	1.031	2.062	.88	.44	1.560	1.002	.406
AS-20-GP	1.25	2.87	3.12	1.188	2.312	.94	.47	1.750	1.252	.469
AS-24-GP	1.50	3.25	3.68	1.406	2.750	1.19	.59	2.115	1.502	.531
AS-32-GP	2.00	3.81	4.00	1.688	3.062	1.38	.69	2.490	2.002	.531
AS-40-GP	2.50	4.28	4.50	2.000	3.500	1.75	.88	2.995	2.502	.531
AS-48-GP	3.00	5.15	5.31	2.438	4.188	2.12	1.06	3.615	3.002	.656
AS-56-GP	3.50	5.50	6.00	2.750	4.750	1.44	.720	4.095	3.502	.656
AS-64-GP	4.00	6.00	6.38	3.062	5.125	1.50	.750	4.595	4.002	.656

CODE 62 GAGE PORT O-RING SPACER										
PART NO.	PAD SIZE	A	B	C	D	E	F	G	H	J
ASX-8-GP	.50	1.94	2.30	.718	1.594	1.25	.62	1.000	.502	.344
ASX-12-GP	.75	2.50	2.95	.937	2.000	1.25	.62	1.250	.752	.406
ASX-16-GP	1.00	2.75	3.19	1.093	2.250	1.50	.75	1.560	1.002	.492
ASX-20-GP	1.25	3.06	3.75	1.250	2.625	1.50	.75	1.750	1.252	.531
ASX-24-GP	1.50	3.75	4.44	1.437	3.125	1.75	.88	2.115	1.502	.656
ASX-32-GP	2.00	4.50	5.25	1.750	3.812	1.75	.88	2.490	2.002	.781
ASX-40-GP	2.50	5.87	6.87	2.311	4.874	2.06	1.03	2.995	2.502	.906
ASX-48-GP	3.00	7.00	8.50	2.811	6.000	2.62	1.31	3.615	3.002	1.156

Orifice Plate



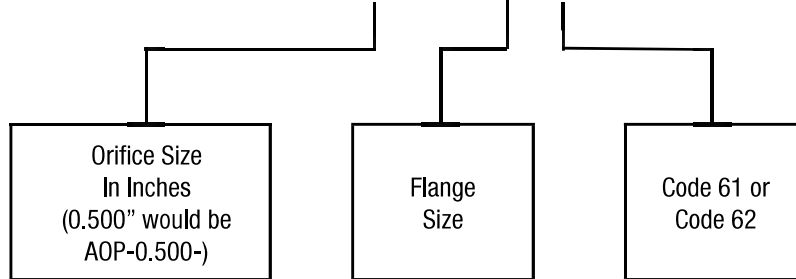
CODE 61 ORIFICE PLATE									
PART NO.	PAD SIZE	A	B	C	D	E	F	G	H DIA.
AOP-___-0861	.50	1.81	2.12	.688	1.500	.33	1.000	.344	CUSTOMER SPECIFIED
AOP-___-1261	.75	2.06	2.56	.875	1.875	.33	1.250	.413	
AOP-___-1661	1.00	2.31	2.75	1.031	2.063	.33	1.560	.413	
AOP-___-2061	1.25	2.88	3.12	1.188	2.313	.33	1.750	.469	
AOP-___-2461	1.50	3.25	3.69	1.406	2.750	.33	2.115	.531	
AOP-___-3261	2.00	3.81	4.00	1.688	3.063	.33	2.490	.531	
AOP-___-4061	2.50	4.28	4.50	2.000	3.500	.33	2.995	.531	
AOP-___-4861	3.00	5.16	5.31	2.438	4.188	.33	3.615	.656	
AOP-___-5661	3.50	5.50	6.00	2.750	4.750	.33	4.095	.656	
AOP-___-6461	4.00	6.00	6.38	3.062	5.125	.33	4.595	.656	



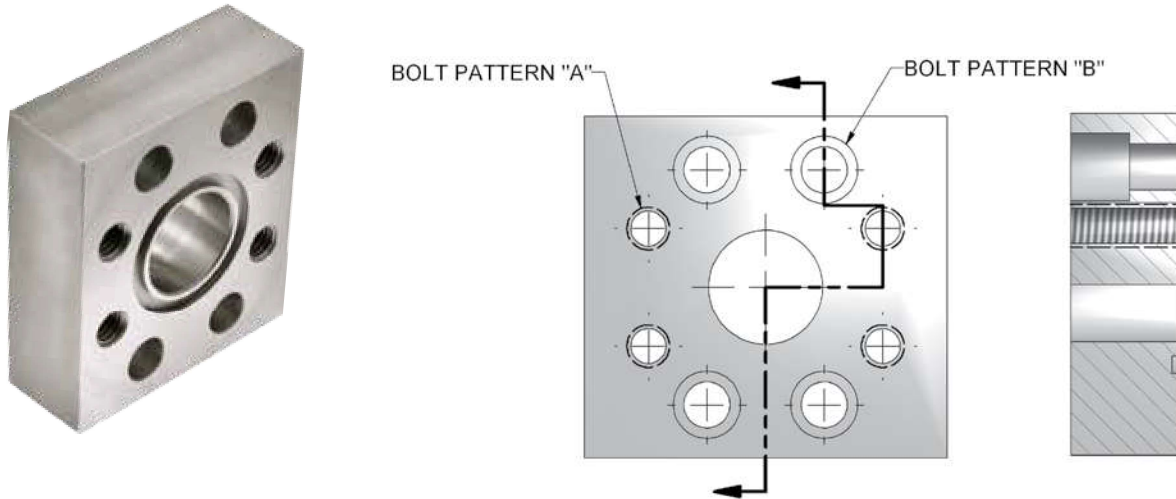
CODE 62 ORIFICE PLATE									
PART NO.	PAD SIZE	A	B	C	D	E	F	G	H DIA.
AOPX-___-0862	.50	1.94	2.19	.718	1.594	.33	1.000	.354	CUSTOMER SPECIFIED
AOPX-___-1262	.75	2.50	2.81	.937	2.000	.33	1.250	.433	
AOPX-___-1662	1.00	2.75	3.19	1.093	2.250	.33	1.560	.531	
AOPX-___-2062	1.25	3.06	3.75	1.250	2.625	.33	1.750	.610	
AOPX-___-2462	1.50	3.75	4.44	1.437	3.125	.33	2.115	.689	
AOPX-___-3262	2.00	4.50	5.25	1.750	3.812	.33	2.490	.866	

ORDERING INFORMATION

AOP - 0.500 - 32 61



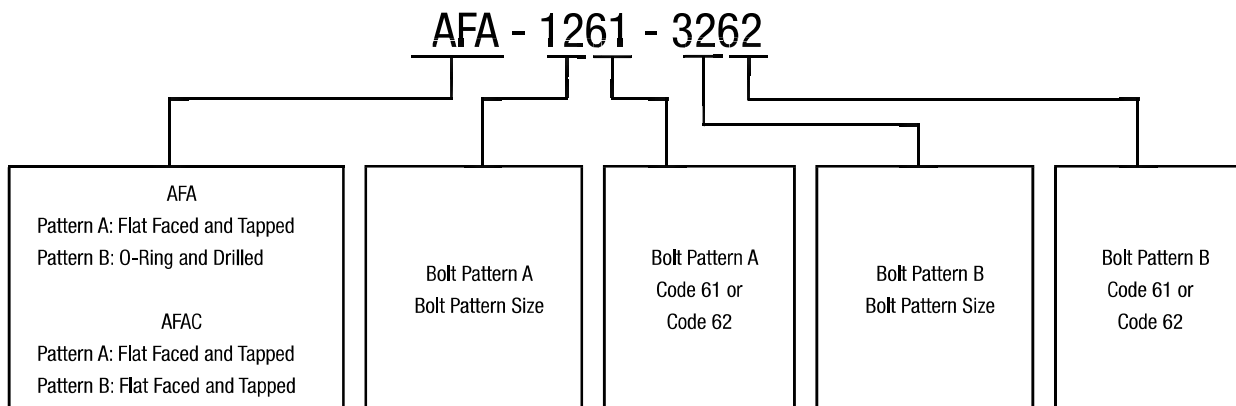
Bolt Pattern Adapters



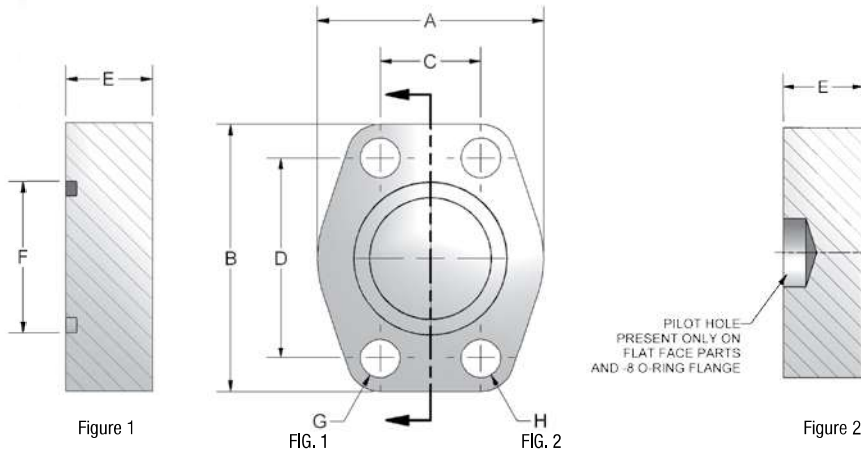
Outer envelope shape may vary due to size configuration.

Mounting kit available on o-ring grooved flanges by simply adding suffix letter 'U' to part number.

ORDERING INFORMATION



Blanking



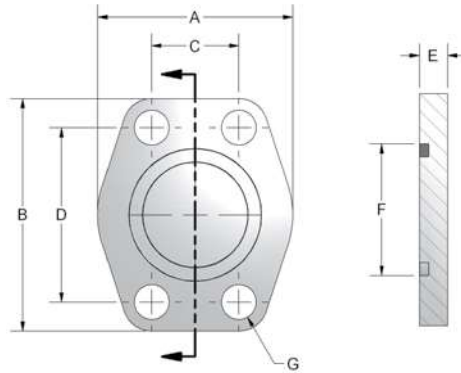
CODE 61 BLANKING												
PART NO. O-RING FIG. 1	PART NO. FLAT FACE FIG. 2	PAD SIZE	A	B	C	D	E	F	G	H UNC-2B	MOUNTING HARDWARE	
											O-RING	SHCS
W36-8-8	W37-8-8	.50	1.813	2.125	.688	1.50	.75	1.000	.344	5/16-18	210	5/16-18X1.50
W36-12-12	W37-12-12	.75	2.063	2.563	.875	1.875	.75	1.250	.406	3/8-16	214	3/8-16X1.50
W36-16-16	W37-16-16	1.00	2.313	2.750	1.031	2.063	.88	1.560	.406	3/8-16	219	3/8-16X1.75
W36-20-20	W37-20-20	1.25	2.875	3.125	1.188	2.313	.94	1.750	.469	7/16-14	222	7/16-14X1.75
W36-24-24	W37-24-24	1.50	3.250	3.688	1.406	2.750	1.19	2.115	.531	1/2-13	225	1/2-13X2.25
W36-32-32	W37-32-32	2.00	3.813	4.000	1.688	3.063	1.44	2.490	.531	1/2-13	228	1/2-13X2.50
W36-40-40	W37-40-40	2.50	4.281	4.500	2.000	3.500	1.82	2.995	.531	1/2-13	232	1/2-13X2.75
W36-48-48	W37-48-48	3.00	5.156	5.313	2.438	4.188	2.19	3.615	.656	5/8-11	237	5/8-11X3.50
W36-56-56	W37-56-56	3.50	5.500	6.000	2.750	4.750	1.44	4.095	.656	5/8-11	241	5/8-11X2.75
W36-64-64	W37-64-64	4.00	6.00	6.38	3.062	5.125	1.44	4.595	.656	5/8-11	245	5/8-11X2.75
W36-80-80	W37-80-80	5.00	7.12	7.25	3.625	6.000	1.75	5.595	.656	5/8-11	253	5/8-11X3.00

CODE 62 BLANKING												
PART NO. O-RING FIG. 1	PART NO. FLAT FACE FIG. 2	PAD SIZE	A	B	C	D	E	F	G	H UNC-2B	MOUNTING HARDWARE	
											O-RING	SHCS
W38-8-8	W39-8-8	.500	1.94	2.30	.718	1.594	1.25	1.000	.344	5/16-18	210	5/16-18X2.00
W38-12-12	W39-12-12	.750	2.50	2.95	.937	2.000	1.25	1.250	.406	3/8-16	214	3/8-16X2.00
W38-16-16	W39-16-16	1.00	2.75	3.19	1.093	2.250	1.50	1.560	.492	7/16-14	219	7/16-14X2.50
W38-20-20	W39-20-20	1.25	3.06	3.75	1.250	2.625	1.43	1.750	.531	1/2-13	222	1/2-13X2.50
W38-24-24	W39-24-24	1.50	3.75	4.44	1.437	3.125	1.82	2.115	.656	5/8-11	225	5/8-11X3.00
W38-32-32	W39-32-32	2.00	4.50	5.25	1.750	3.812	1.82	2.490	.781	3/4-10	228	3/4-10X3.00
W38-40-40	W39-40-40	2.50	5.87	6.87	2.311	4.874	1.93	2.995	.906	7/8-9	232	7/8-9X3.50
W38-48-48	W39-48-48	3.00	7.00	8.50	2.811	6.000	2.69	3.615	1.190	1 1/8-7	237	1 1/8-7X4.50

Mounting kit available on o-ring grooved flanges by simply adding suffix letter 'U' to part number.



Zero PSI Shipping Plate



Anchor Fluid Power has developed a low cost solution to leaky, gasketless port covers. Forged steel shipping plates are 0.33" thick, silver trivalent plated for resistance to oxidation, and incorporate an o-ring groove on one side for "Zero Pressure" applications. The opposite side has a machined flat-face for capping off hose ends.

Applications Include: Cylinder Port Covers, Pump Port Covers, Stub-Out Header Line Covers, Maintenance Work and Great for Painting Protection

CODE 61 SHIPPING PLATE											
PART NO.	**KIT PART NO.	PAD SIZE	A	B	C	D	E	F	G	MOUNTING HARDWARE	
										O-RING	HHCS
SP-8	SP-8U	.50	1.81	2.12	.688	1.500	.33	1.000	.344	210	5/16-18X.75
SP-12	SP-12U	.75	2.06	2.56	.875	1.875	.33	1.250	.413	214	3/8-16X.75
SP-16	SP-16U	1.00	2.31	2.75	1.031	2.063	.33	1.560	.413	219	3/8-16X.75
SP-20	SP-20U	1.25	2.88	3.12	1.188	2.313	.33	1.750	.469	222	7/16-14X.75
SP-24	SP-24U	1.50	3.25	3.69	1.406	2.750	.33	2.115	.531	225	1/2-13X.75
SP-32	SP-32U	2.00	3.81	4.00	1.688	3.063	.33	2.490	.531	228	1/2-13X.75
SP-40	SP-40U	2.50	4.28	4.50	2.000	3.500	.33	2.995	.531	232	1/2-13X.75
SP-48	SP-48U	3.00	5.16	5.31	2.438	4.188	.33	3.615	.656	237	5/8-11X1.00
SP-56	SP-56U	3.50	5.50	6.00	2.750	4.750	.33	4.095	.656	241	5/8-11X1.00
SP-64	SP-64U	4.00	6.00	6.38	3.062	5.125	.33	4.595	.656	245	5/8-11X1.00

CODE 62 SHIPPING PLATE											
PART NO.	**KIT PART NO.	PAD SIZE	A	B	C	D	E	F	G	MOUNTING HARDWARE	
										O-RING	HHCS
SPX-8	SPX-8U	.50	1.94	2.19	.718	1.594	.33	1.000	.354	210	5/16-18X.75
SPX-12	SPX-12U	.75	2.50	2.81	.937	2.000	.33	1.250	.433	214	3/8-16X.75
SPX-16	SPX-16U	1.00	2.75	3.19	1.093	2.250	.33	1.560	.531	219	7/16-14X.75
SPX-20	SPX-20U	1.25	3.06	3.75	1.250	2.625	.33	1.750	.610	222	1/2-13X.75
SPX-24	SPX-24U	1.50	3.75	4.44	1.437	3.125	.33	2.115	.689	225	5/8-11X1.00
SPX-32	SPX-32U	2.00	4.50	5.25	1.750	3.812	.33	2.490	.866	228	3/4-10X1.00
SPX-40	SPX-40U	2.50	5.87	6.87	2.311	4.874	.33	2.995	0.984	232	7/8-9X1.00
SPX-48	SPX-48U	3.00	7.00	8.50	2.811	6.00	.33	3.615	1.19	237	1 1/8-7X1.00

**When ordering this part # you will receive:(1) shipping plate, (4) hex head bolts, and (1) Buna N O-Ring

NOT FOR USE ON DYNAMIC OR PRESSURIZED APPLICATIONS

NPTF Thread

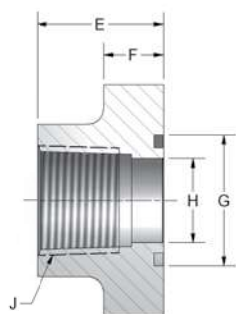


Figure 1

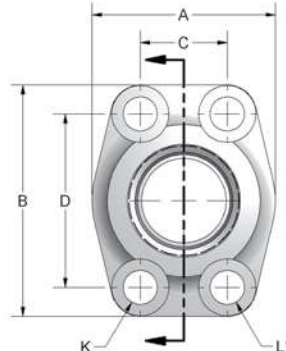


FIG. 1

FIG. 2

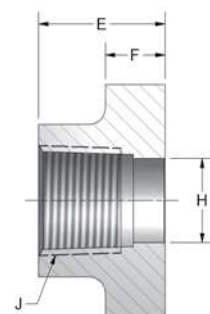


Figure 2

*No Spotface

CODE 61 NPTF THREAD																
PART NO. O-RING FIG. 1	PART NO. FLAT FACE FIG. 2	PORT SIZE	PAD SIZE	A	B	C	D	E	F	G	H	J	K	L UNC-2B	MOUNTING HARDWARE	
															O-RING	SHCS
W43-8-8	W104-8-8	.50	.50	1.81	2.13	.688	1.500	1.42	.63	1.000	.502	1/2-14	.344	5/16-18	210	5/16-18X1.25
W43-12-12	W104-12-12	.75	.75	1.97	2.56	.875	1.875	1.42	.71	1.250	.752	3/4-14	.406	3/8-16	214	3/8-16X1.50
W43-16-16	W104-16-16	1.00	1.00	2.17	2.75	1.031	2.062	1.50	.71	1.560	1.002	1-11.5	.406	3/8-16	219	3/8-16X1.50
W43-20-20	W104-20-20	1.25	1.25	2.68	3.12	1.188	2.312	1.61	.83	1.750	1.252	1 1/4-11.5	.469	7/16-14	222	7/16-14X1.75
W43-24-24	W104-24-24	1.50	1.50	3.07	3.66	1.406	2.750	1.77	.98	2.115	1.502	1 1/2-11.5	.531	1/2-13	225	1/2-13X1.75
W43-32-32	W104-32-32	2.00	2.00	3.54	4.00	1.688	3.062	1.77	.98	2.490	2.002	2-11.5	.531	1/2-13	228	1/2-13X1.75
W43-40-40	W104-40-40	2.50	2.50	4.09	4.49	2.000	3.500	1.97	.98	2.995	2.502	2 1/2-8	.531	1/2-13	232	1/2-13X1.75
W43-48-48	W104-48-48	3.00	3.00	4.88	5.28	2.438	4.188	1.97	1.06	3.615	3.002	3-8	.656	5/8-11	237	5/8-11X2.00
W43-56-56	W104-56-56	3.50	3.50	5.35	5.98	2.750	4.750	2.19	1.06	4.095	3.500	3 1/2-8	.656	5/8-11	241	5/8-11X2.00
W43-64-64	W104-64-64	4.00	4.00	5.75	6.38	3.062	5.125	2.19	1.06	4.595	3.940	4-8	.656	5/8-11	245	5/8-11X2.00

CODE 62 NPTF THREAD																
PART NO. O-RING FIG. 1	PART NO. FLAT FACE FIG. 2	PORT SIZE	PAD SIZE	A	B	C	D	E	F	G	H	J	K	L UNC-2B	MOUNTING HARDWARE	
															O-RING	SHCS
W44-8-8	W45-8-8	.50	.50	1.81	2.21	.718	1.594	1.42	.63	1.000	.502	1/2-14	.344	5/6-18	210	5/16-18X1.25
W44-12-12	W45-12-12	.75	.75	2.17	2.80	.937	2.000	1.38	.83	1.250	.752	3/4-14	.406	3/8-16	214	3/8-16X1.50
W44-16-16	W45-16-16	1.00	1.00	2.56	3.19	1.093	2.250	1.65	.98	1.560	1.002	1-11.5	.492	7/16-14	219	7/16-14X1.75
W44-20-20	W45-20-20	1.25	1.25	3.07	3.75	1.250	2.625	1.77	1.06	1.750	1.252	1 1/4-11.5	.531	1/2-13	222	1/2-13X1.75
W44-24-24	W45-24-24	1.50	1.50	3.70	4.41	1.437	3.125	1.97	1.18	2.115	1.502	1 1/2-11.5	.656	5/8-11	225	5/8-11X2.25
W44-32-32	W45-32-32	2.00	2.00	4.50	5.28	1.750	3.812	2.56	1.46	2.490	2.002	2-11.5	.781	3/4-10	228	3/4-10X2.75

Mounting kit available on o-ring grooved flanges by simply adding suffix letter 'U' to part number.



SAE Thread

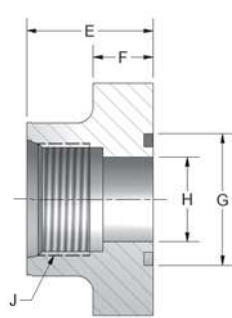


Figure 1

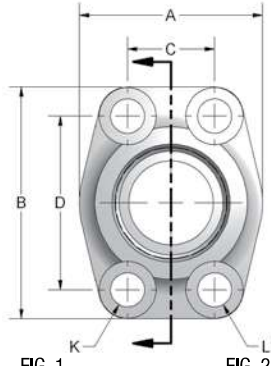


FIG. 1

FIG. 2

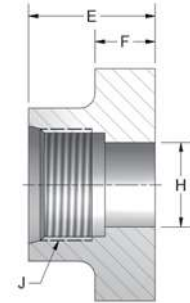


Figure 2

*No Spotface

CODE 61 SAE STRAIGHT THREAD																
PART NO. O-RING FIG. 1	PART NO. FLAT FACE FIG. 2	PORT SIZE	PAD SIZE	A	B	C	D	E	F	G	H	J	K	L UNC-2B	MOUNTING HARDWARE	
															O-RING	SHCS
W46-8-8	W106-8-8	.50	.50	1.81	2.13	.688	1.500	1.42	.63	1.000	.502	3/4-16	.344	5/16-18	210	5/16-18X1.25
W46-12-12	W106-12-12	.75	.75	1.97	2.56	.875	1.875	1.42	.71	1.250	.752	1 1/16-12	.406	3/8-16	214	3/8-16X1.50
W46-16-16	W106-16-16	1.00	1.00	2.17	2.75	1.031	2.062	1.50	.71	1.560	1.002	1 5/16-12	.406	3/8-16	219	3/8-16X1.50
W46-20-20	W106-20-20	1.25	1.25	2.68	3.12	1.188	2.312	1.61	.83	1.750	1.252	1 5/8-12	.469	7/16-14	222	7/16-14X1.75
W46-24-24	W106-24-24	1.50	1.50	3.07	3.66	1.406	2.750	1.77	.98	2.115	1.502	1 7/8-12	.531	1/2-13	225	1/2-13X1.75
*W46-32-32	W106-32-32	2.00	2.00	3.54	4.00	1.688	3.062	1.77	.98	2.490	2.002	2 1/2-12	.531	1/2-13	228	1/2-13X1.75
**W46-40-40	W106-40-40	2.50	2.50	4.09	4.49	2.000	3.500	1.97	.98	3.000	2.500	3-12	.530	1/2-13	232	1/2-13X1.75
**W46-48-48	W106-48-48	3.00	3.00	4.88	5.28	2.440	4.190	1.97	1.06	3.620	3.000	3 1/2-12	.660	5/8-11	237	5/8-11X2.00
**W46-64-64	W106-64-64	4.00	4.00	5.74	6.38	3.060	5.130	2.19	1.06	4.600	4.000	4 1/2-12	.660	5/8-11	245	5/8-11X2.00

*1000 PSI max for W46-32-32

**Consult Factory For Working Pressure

CODE 62 SAE STRAIGHT THREAD																
PART NO. O-RING FIG. 1	PART NO. FLAT FACE FIG. 2	PORT SIZE	PAD SIZE	A	B	C	D	E	F	G	H	J	K	L UNC-2B	MOUNTING HARDWARE	
															O-RING	SHCS
W48-8-8	W49-8-8	.50	.50	1.81	2.21	.718	1.594	1.42	.63	1.000	.502	3/4-16	.344	5/16-18	210	5/16-18X1.25
W48-12-12	W49-12-12	.75	.75	2.17	2.80	.937	2.000	1.38	.83	1.250	.752	1 1/16-12	.406	3/8-16	214	3/8-16X1.50
W48-16-16	W49-16-16	1.00	1.00	2.56	3.19	1.093	2.250	1.65	.98	1.560	1.002	1 5/16-12	.492	7/16-14	219	7/16-14X1.75
W48-20-20	W49-20-20	1.25	1.25	3.07	3.75	1.250	2.625	1.77	1.06	1.750	1.252	1 5/8-12	.531	1/2-13	222	1/2-13X1.75
W48-24-24	W49-24-24	1.50	1.50	3.70	4.41	1.437	3.125	1.97	1.18	2.115	1.502	1 7/8-12	.656	5/8-11	225	5/8-11X2.25
W48-32-32	W49-32-32	2.00	2.00	4.50	5.28	1.750	3.812	2.56	1.46	2.490	2.002	2 1/2-12	.781	3/4-10	228	3/4-10X2.75

FLANGES - CARBON STEEL

BSPP Thread

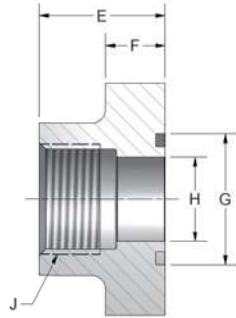


Figure 1

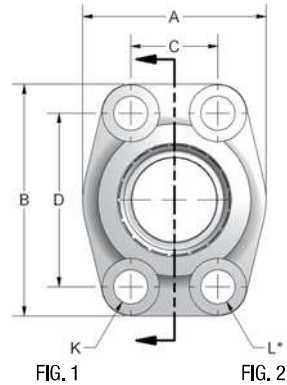


FIG. 1

FIG. 2

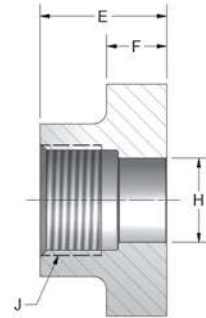


Figure 2

*No Spotface

CODE 61 BSPP THREAD

PART NO. O-RING FIG. 1	PART NO. FLAT FACE FIG. 2	PORT SIZE	PAD SIZE	A	B	C	D	E	F	G	H	J BSPP	K	L UNC-2B	MOUNTING HARDWARE	
															O-RING	SHCS
W192-8-8	W193-8-8	.50	.50	1.81	2.13	.688	1.500	1.42	.63	1.000	.502	.50-14	.344	5/16-18	210	5/16-18X1.25
W192-12-12	W193-12-12	.75	.75	1.97	2.56	.875	1.875	1.42	.71	1.250	.752	.75-14	.406	3/8-16	214	3/8-16X1.50
W192-16-16	W193-16-16	1.00	1.00	2.17	2.75	1.031	2.062	1.50	.71	1.560	1.002	1.00-11	.406	3/8-16	219	3/8-16X1.50
W192-20-20	W193-20-20	1.25	1.25	2.68	3.12	1.188	2.312	1.61	.83	1.750	1.252	1.25-11	.469	7/16-14	222	7/16-14X1.75
W192-24-24	W193-24-24	1.50	1.50	3.07	3.66	1.406	2.750	1.77	.98	2.115	1.502	1.50-11	.531	1/2-13	225	1/2-13X1.75
W192-32-32	W193-32-32	2.00	2.00	3.54	4.00	1.688	3.062	1.77	.98	2.490	2.002	2.00-11	.531	1/2-13	228	1/2-13X1.75

CODE 62 BSPP THREAD

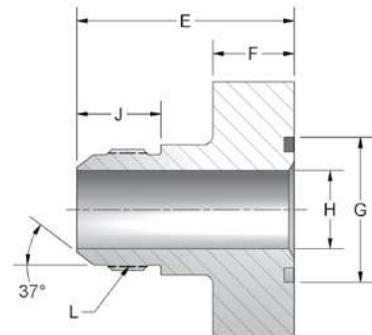
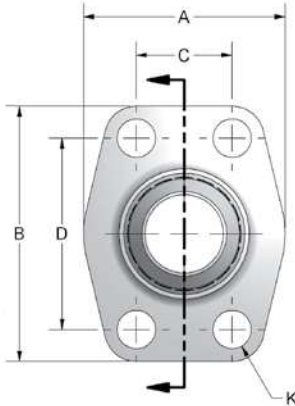
PART NO. O-RING FIG. 1	PART NO. FLAT FACE FIG. 2	PORT SIZE	PAD SIZE	A	B	C	D	E	F	G	H	J BSPP	K	L UNC-2B	MOUNTING HARDWARE	
															O-RING	SHCS
W194-8-8	W195-8-8	.50	.50	1.81	2.21	.718	1.594	1.42	.63	1.000	.502	.50-14	.344	5/16-18	210	5/16-18X1.25
W194-12-12	W195-12-12	.75	.75	2.17	2.80	.937	2.000	1.38	.83	1.250	.752	.75-14	.406	3/8-16	214	3/8-16X1.50
W194-16-16	W195-16-16	1.00	1.00	2.56	3.19	1.093	2.250	1.65	.98	1.560	1.002	1.00-11	.492	7/16-14	219	7/16-14X1.75
W194-20-20	W195-20-20	1.25	1.25	3.07	3.75	1.250	2.625	1.77	1.06	1.750	1.252	1.25-11	.531	1/2-13	222	1/2-13X1.50
W194-24-24	W195-24-24	1.50	1.50	3.70	4.41	1.437	3.125	1.97	1.18	2.115	1.502	1.50-11	.656	5/8-11	225	5/8-11X2.25
W194-32-32	W195-32-32	2.00	2.00	4.50	5.28	1.750	3.812	2.56	1.46	2.490	2.002	2.00-11	.781	3/4-10	228	3/4-10X2.75

Mounting kit available on o-ring grooved flanges by simply adding suffix letter 'U' to part number.



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JIC Thread



4-Bolt Flange hole pattern per SAE J518. Male JIC Thread per SAE J514.

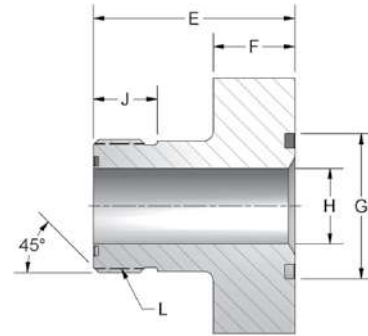
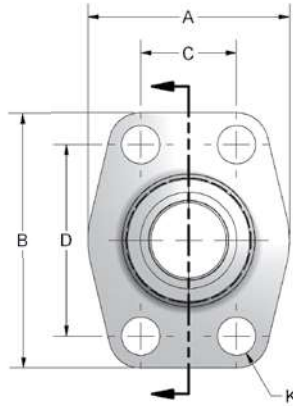
CODE 61 MALE JIC														
PART NO.	PAD SIZE	A	B	C	D	E	F	G	H	J	K	L	MOUNTING HARDWARE	
													O-RING	SHCS
W300-8-8	.50	1.81	2.13	.688	1.500	2.00	.88	1.000	.391	.657	.344	3/4-16	210	5/16-18X1.50
W300-12-12	.75	1.97	2.56	.875	1.875	2.29	.88	1.250	.609	.864	.413	1 1/16-12	214	3/8-16X1.50
W300-16-16	1.00	2.17	2.75	1.031	2.062	2.35	.88	1.560	.844	.911	.413	1 5/16-12	219	3/8-16X1.50
W300-20-20	1.25	2.68	3.12	1.188	2.312	2.49	.88	1.750	1.078	.958	.469	1 5/8-12	222	7/16-14X1.75
W300-24-24	1.50	3.07	3.66	1.406	2.750	2.81	.98	2.115	1.312	1.083	.531	1 7/8-12	225	1/2-13X1.75

CODE 62 MALE JIC														
PART NO.	PAD SIZE	A	B	C	D	E	F	G	H	J	K	L	MOUNTING HARDWARE	
													O-RING	SHCS
W600-8-8	.50	1.81	2.21	.719	1.594	1.75	.88	1.000	.391	.657	.344	3/4-16	210	5/16-18X1.50
W600-12-12	.75	2.17	2.80	.937	2.000	2.31	.88	1.250	.609	.864	.413	1-1/16-12	214	3/8-16X1.50
W600-16-16	1.00	2.56	3.19	1.093	2.250	2.62	.98	1.560	.844	.911	.492	1-5/16-12	219	7/16-14X1.75
W600-20-20	1.25	3.07	3.75	1.250	2.625	2.81	1.06	1.750	1.078	.958	.531	1-5/8-12	222	1/2-13X1.75
W600-24-24	1.50	3.70	4.41	1.437	3.125	3.25	1.18	2.115	1.312	1.083	.656	1-7/8-12	225	5/8-11X2.25

Mounting kit available on o-ring grooved flanges by simply adding suffix letter 'U' to part number.

FLANGES - CARBON STEEL

ORFS Thread



4-Bolt Flange hole thread per SAE J518. Male ORFS Thread per SAE J1453-1.

CODE 61 MALE ORFS														
PART NO.	PAD SIZE	A	B	C	D	E	F	G	H	J	K	L	MOUNTING HARDWARE	
													O-RING	SHCS
W304-8-8	.50	1.81	2.13	.688	1.500	1.75	.88	1.000	.374	.512	.344	13/16-16	210	5/16-18X1.50
W304-12-12	.75	1.97	2.56	.875	1.875	2.00	.88	1.250	.611	.670	.413	1 3/16-12	214	3/8-16X1.50
W304-16-16	1.00	2.17	2.75	1.031	2.062	2.00	.88	1.560	.807	.689	.413	1 7/16-12	219	3/8-16X1.50
W304-20-20	1.25	2.68	3.12	1.188	2.312	2.25	.88	1.750	1.024	.689	.469	1 11/16-12	222	7/16-14X1.75
W304-24-24	1.50	3.07	3.66	1.406	2.750	2.50	.98	2.115	1.260	.689	.531	2-12	225	1/2-13X2.00

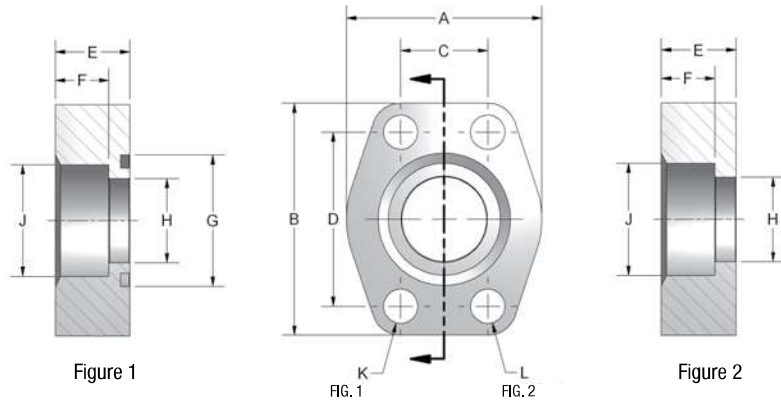
CODE 62 MALE ORFS														
PART NO.	PAD SIZE	A	B	C	D	E	F	G	H	J	K	L	MOUNTING HARDWARE	
													O-RING	SHCS
W604-8-8	.50	1.81	2.21	.719	1.594	1.75	.88	1.000	.374	.512	.344	13/16-16	210	5/16-18X1.50
W604-12-12	.75	2.17	2.80	.937	2.000	2.25	.88	1.250	.611	.670	.413	1 3/16-12	214	3/8-16X1.50
W604-16-16	1.00	2.56	3.19	1.093	2.250	2.50	.98	1.560	.807	.689	.492	1 7/16-12	219	7/16-14X1.75
W604-20-20	1.25	3.07	3.75	1.250	2.625	2.62	1.06	1.750	1.024	.689	.531	1 11/16-12	222	1/2-13X1.75
W604-24-24	1.50	3.70	4.41	1.437	3.125	2.88	1.18	2.115	1.260	.689	.656	2-12	225	5/8-11X2.25

Mounting kit available on o-ring grooved flanges by simply adding suffix letter 'U' to part number.



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Flat Socket Weld Pipe



Mounting kit available on o-ring grooved flanges by simply adding suffix letter 'U' to part number.

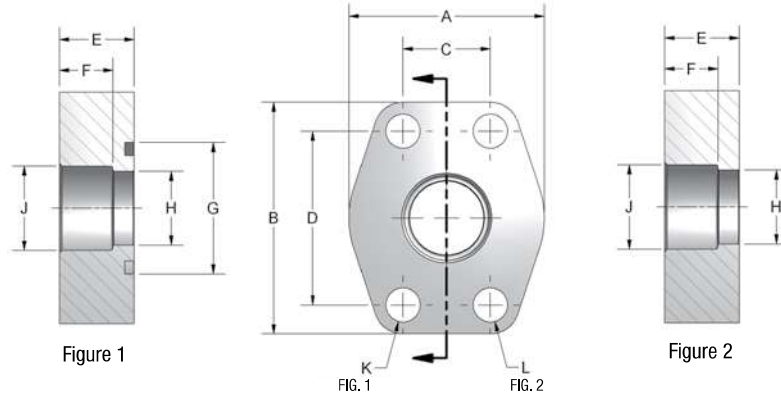
CODE 61 FLAT SOCKET WELD - PIPE																
PART NO. O-RING FIG. 1	PART NO. FLAT FACE FIG. 2	PIPE SIZE	PAD SIZE	A	B	C	D	E	F	G	H	J	K	L	MOUNTING HARDWARE	
															O-RING	SHCS
W4-8-8	W61-8-8	.50	.50	1.813	2.125	.688	1.500	.750	.560	1.000	.502	.855	.344	5/16-18	210	5/16-18X1.50
W4-12-12	W61-12-12	.75	.75	2.063	2.563	.875	1.875	.750	.560	1.250	.752	1.062	.406	3/8-16	214	3/8-16X1.50
W4-16-16	W61-16-16	1.00	1.00	2.313	2.75	1.031	2.063	.880	.630	1.560	1.002	1.328	.406	3/8-16	219	3/8-16X1.75
W4-20-20	W61-20-20	1.25	1.25	2.875	3.125	1.188	2.313	.940	.690	1.750	1.252	1.672	.469	7/16-14	222	7/16-14X1.75
W4-24-24	W61-24-24	1.50	1.50	3.25	3.688	1.406	2.75	1.190	.750	2.115	1.502	1.922	.531	1/2-13	225	1/2-13X2.25
W4-32-32	W61-32-32	2.00	2.00	3.813	4.00	1.688	3.063	1.380	.875	2.490	2.002	2.406	.531	1/2-13	228	1/2-13X2.50
W4-40-40	W61-40-40	2.50	2.50	4.281	4.50	2.000	3.500	1.750	1.00	2.995	2.502	2.906	.531	1/2-13	232	1/2-13X2.75
W4-48-48	W61-48-48	3.00	3.00	5.156	5.313	2.438	4.188	2.120	1.250	3.615	3.002	3.547	.656	5/8-11	237	5/8-11X3.50

CODE 62 FLAT SOCKET WELD - PIPE																
PART NO. O-RING FIG. 1	PART NO. FLAT FACE FIG. 2	PIPE SIZE	PAD SIZE	A	B	C	D	E	F	G	H	J	K	L	MOUNTING HARDWARE	
															O-RING	SHCS
W59-8-8	W60-8-8	.50	.50	1.94	2.30	.718	1.594	1.25	.560	1.000	.502	.855	.344	5/16-18	210	5/16-18X2.00
W59-12-12	W60-12-12	.75	.75	2.50	2.95	.937	2.000	1.250	.560	1.250	.752	1.062	.406	3/8-16	214	3/8-16X2.00
W59-16-16	W60-16-16	1.00	1.00	2.75	3.19	1.093	2.250	1.500	.630	1.560	1.002	1.328	.492	7/16-14	219	7/16-14X2.50
W59-20-20	W60-20-20	1.25	1.25	3.06	3.75	1.250	2.625	1.500	.690	1.750	1.252	1.672	.531	1/2-13	222	1/2-13X2.50
W59-24-24	W60-24-24	1.50	1.50	3.75	4.44	1.437	3.125	1.750	.750	2.115	1.502	1.922	.656	5/8-11	225	5/8-11X3.00
W59-32-32	W60-32-32	2.00	2.00	4.50	5.25	1.750	3.812	1.750	.875	2.490	2.002	2.406	.781	3/4-10	228	3/4-10X3.00
W59-40-40	W60-40-40	2.50	2.50	5.87	6.87	2.311	4.874	2.060	1.000	2.995	2.502	2.906	.906	7/8-9	232	**7/8-9X3.50
W59-48-48	W60-48-48	3.00	3.00	7.00	8.50	2.811	6.000	2.620	1.250	3.615	3.002	3.547	1.190	1-1/8-7	237	**1 1/8-7X4.50

**HHCS

CODE 61 FLAT SOCKET WELD - PIPE - ALL SIZES 500 PSI																
PART NO. O-RING FIG. 1	PART NO. FLAT FACE FIG. 2	PIPE SIZE	PAD SIZE	A	B	C	D	E	F	G	H	J	K	L UNC-2B	MOUNTING HARDWARE	
															O-RING	SHCS
W72-48-48	W91-48-48	3.00	3.00	5.12	5.31	2.438	4.188	1.380	1.120	3.615	3.002	3.547	.656	5/8-11	237	5/8-11X2.50
W72-56-56	W91-56-56	3.50	3.50	5.50	6.00	2.750	4.750	1.440	1.190	4.095	3.502	4.047	.656	5/8-11	241	5/8-11X2.75
W72-64-64	W91-64-64	4.00	4.00	6.00	6.38	3.062	5.125	1.500	1.250	4.595	4.002	4.578	.656	5/8-11	245	5/8-11X2.75
W72-80-80	W91-80-80	5.00	5.00	7.12	7.25	3.625	6.000	1.750	1.380	5.595	5.002	5.641	.656	5/8-11	253	5/8-11X3.00

Flat Socket Weld Tube



CODE 61 FLAT SOCKET WELD - TUBE																
PART NO. O-RING FIG. 1	PART NO. FLAT FACE FIG. 2	TUBE SIZE	PAD SIZE	A	B	C	D	E	F	G	H	J	K	L	MOUNTING HARDWARE	
															O-RING	SHCS
W6-12-12	W62-12-12	.75	.75	2.060	2.560	.875	1.875	.750	.560	1.250	.625	.752	.406	3/8-16	214	3/8-16X1.50
W6-16-12	W62-16-12	1.00	.75	2.060	2.560	.875	1.875	.750	.560	1.250	.750	1.002	.406	3/8-16	214	3/8-16X1.50
W6-16-16	W62-16-16	1.00	1.00	2.310	2.750	1.031	2.062	.880	.630	1.560	.875	1.002	.406	3/8-16	219	3/8-16X1.75
W6-20-16	W62-20-16	1.25	1.00	2.310	2.750	1.031	2.062	.880	.630	1.560	1.000	1.252	.406	3/8-16	219	3/8-16X1.75
W6-20-20	W62-20-20	1.25	1.25	2.880	3.120	1.188	2.312	.940	.690	1.750	1.125	1.252	.469	7/16-14	222	7/16-14X1.75
W6-24-20	W62-24-20	1.50	1.25	2.880	3.120	1.188	2.312	.940	.690	1.750	1.250	1.502	.469	7/16-14	222	7/16-14X1.75
W6-24-24	W62-24-24	1.50	1.50	3.250	3.690	1.406	2.750	1.190	.750	2.115	1.375	1.502	.531	1/2-13	225	1/2-13X2.25
W6-28-24	W62-28-24	1.75	1.50	3.250	3.690	1.406	2.750	1.190	.750	2.115	1.500	1.752	.531	1/2-13	225	1/2-13X2.25
W6-32-32	W62-32-32	2.00	2.00	3.810	4.000	1.688	3.062	1.380	.875	2.490	1.875	2.002	.531	1/2-13	228	1/2-13X2.50
W6-36-32	W62-36-32	2.25	2.00	3.810	4.000	1.688	3.062	1.380	.875	2.490	2.000	2.252	.531	1/2-13	228	1/2-13X2.50

CODE 62 FLAT SOCKET WELD - TUBE																
PART NO. O-RING FIG. 1	PART NO. FLAT FACE FIG. 2	TUBE SIZE	PAD SIZE	A	B	C	D	E	F	G	H	J	K	L	MOUNTING HARDWARE	
															O-RING	SHCS
W58-12-12	W63-12-12	.75	.75	2.50	2.95	.937	2.000	1.250	.560	1.250	.625	.752	.406	3/8-16	214	3/8-16X2.00
W58-16-12	W63-16-12	1.00	.75	2.50	2.95	.937	2.000	1.250	.560	1.250	.750	1.002	.406	3/8-16	214	3/8-16X2.00
W58-16-16	W63-16-16	1.00	1.00	2.75	3.19	1.093	2.250	1.500	.630	1.560	.875	1.002	.492	7/16-14	219	7/16-14X2.50
W58-20-16	W63-20-16	1.25	1.00	2.75	3.19	1.093	2.250	1.500	.630	1.560	1.000	1.252	.492	7/16-14	219	7/16-14X2.50
W58-20-20	W63-20-20	1.25	1.25	3.06	3.75	1.250	2.625	1.500	.690	1.750	1.125	1.252	.531	1/2-13	222	1/2-13X2.50
W58-24-20	W63-24-20	1.50	1.25	3.06	3.75	1.250	2.625	1.500	.690	1.750	1.250	1.502	.531	1/2-13	222	1/2-13X2.50
W58-24-24	W63-24-24	1.50	1.50	3.75	4.44	1.437	3.125	1.750	.750	2.115	1.375	1.502	.656	5/8-11	225	5/8-11X3.00
W58-28-24	W63-28-24	1.75	1.50	3.75	4.44	1.437	3.125	1.750	.750	2.115	1.500	1.752	.656	5/8-11	225	5/8-11X3.00
W58-32-32	W63-32-32	2.00	2.00	4.50	5.25	1.750	3.812	1.750	.875	2.490	1.875	2.002	.781	3/4-10	228	3/4-10X3.00
W58-36-32	W63-36-32	2.25	2.00	4.50	5.25	1.750	3.812	1.750	.875	2.490	2.000	2.252	.781	3/4-10	228	3/4-10X3.00

Mounting kit available on o-ring grooved flanges by simply adding suffix letter 'U' to part number.



Deep Socket Weld Pipe

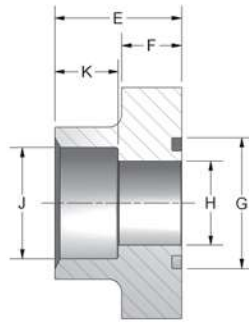


Figure 1

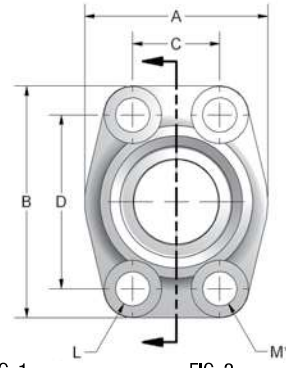


FIG. 1

FIG. 2

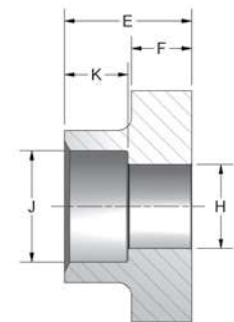


Figure 2

*No Spotface

CODE 61 DEEP SOCKET WELD - PIPE

PART NO. O-RING FIG. 1	PART NO. FLAT FACE FIG. 2	PIPE SIZE	PAD SIZE	A	B	C	D	E	F	G	H	J	K	L	M UNC-2B	MOUNTING HARDWARE	
																O-RING	SHCS
W31-8-8	W3-8-8	.50	.50	1.81	2.13	.688	1.500	1.42	.63	1.000	.502	.855	.75	.344	5/16-18	210	5/16-18X1.25
W31-12-12	W3-12-12	.75	.75	1.97	2.56	.875	1.875	1.42	.71	1.250	.752	1.062	.75	.406	3/8-16	214	3/8-16X1.50
W31-16-16	W3-16-16	1.00	1.00	2.17	2.75	1.031	2.062	1.50	.71	1.560	1.002	1.328	.75	.406	3/8-16	219	3/8-16X1.50
W31-20-20	W3-20-20	1.25	1.25	2.68	3.12	1.188	2.312	1.61	.83	1.750	1.252	1.672	.87	.469	7/16-14	222	7/16-14X1.75
W31-24-24	W3-24-24	1.50	1.50	3.07	3.66	1.406	2.750	1.77	.98	2.115	1.502	1.922	.94	.531	1/2-13	225	1/2-13X1.75
W31-32-32	W3-32-32	2.00	2.00	3.54	4.00	1.688	3.062	1.77	.98	2.490	2.002	2.406	1.02	.531	1/2-13	228	1/2-13X1.75
W31-40-40	W3-40-40	2.50	2.50	4.09	4.49	2.000	3.500	1.97	.98	2.995	2.502	2.908	1.18	.531	1/2-13	232	1/2-13X1.75
W31-48-48	W3-48-48	3.00	3.00	4.88	5.28	2.438	4.188	1.97	1.06	3.615	3.002	3.547	1.34	.656	5/8-11	237	5/8-11X2.00

CODE 62 DEEP SOCKET WELD - PIPE

PART NO. O-RING FIG. 1	PART NO. FLAT FACE FIG. 2	PIPE SIZE	PAD SIZE	A	B	C	D	E	F	G	H	J	K	L	M UNC-2B	MOUNTING HARDWARE	
																O-RING	SHCS
W81-8-8	W80-8-8	.50	.50	1.81	2.21	.718	1.594	1.42	.63	1.000	.502	.855	.75	.344	5/16-18	210	5/16-18X1.25
W81-12-12	W80-12-12	.75	.75	2.17	2.80	.937	2.000	1.38	.83	1.250	.752	1.062	.87	.406	3/8-16	214	3/8-16X1.50
W81-16-16	W80-16-16	1.00	1.00	2.56	3.19	1.093	2.250	1.65	.98	1.560	1.002	1.328	.87	.492	7/16-14	219	7/16-14X1.75
W81-20-20	W80-20-20	1.25	1.25	3.07	3.75	1.250	2.625	1.77	1.06	1.750	1.252	1.672	.98	.531	1/2-13	222	1/2-13X1.75
W81-24-24	W80-24-24	1.50	1.50	3.70	4.41	1.437	3.125	1.97	1.18	2.115	1.502	1.922	1.10	.656	5/8-11	225	5/8-11X2.25
W81-32-32	W80-32-32	2.00	2.00	4.50	5.28	1.750	3.812	2.56	1.46	2.490	2.002	2.406	.94	.781	3/4-10	228	3/4-10X2.75

Mounting kit available on o-ring grooved flanges by simply adding suffix letter 'U' to part number.

Deep Socket Weld Tube

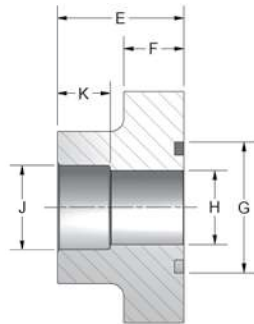


Figure 1

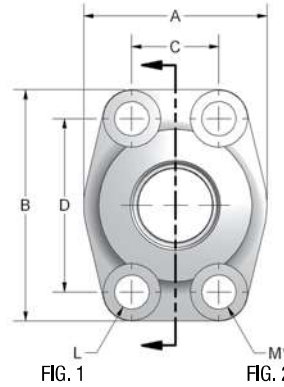


FIG. 1

FIG. 2

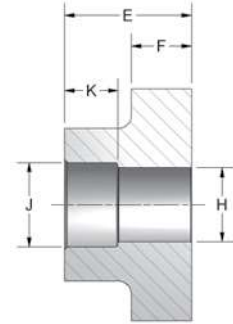


Figure 2

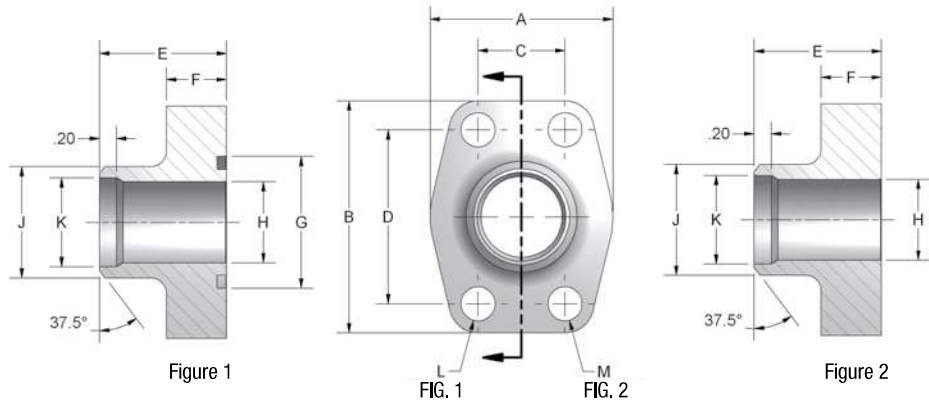
*No Spotface

CODE 61 DEEP SOCKET WELD - TUBE																	
PART NO. O-RING FIG. 1	PART NO. FLAT FACE FIG. 2	TUBE SIZE	PAD SIZE	A	B	C	D	E	F	G	H	J	K	L	M UNC-2B	MOUNTING HARDWARE	
																O-RING	SHCS
W51-12-12	W5-12-12	.75	.75	1.97	2.56	.875	1.875	1.42	.71	1.250	.625	.752	.560	.406	3/8-16	214	3/8-16X1.50
W51-16-12	W5-16-12	1.00	.75	1.97	2.56	.875	1.875	1.42	.71	1.250	.750	1.002	.560	.406	3/8-16	214	3/8-16X1.50
W51-16-16	W5-16-16	1.00	1.00	2.17	2.75	1.031	2.062	1.50	.71	1.560	.875	1.002	.630	.406	3/8-16	219	3/8-16X1.50
W51-20-16	W5-20-16	1.25	1.00	2.17	2.75	1.031	2.062	1.50	.71	1.560	1.000	1.252	.630	.406	3/8-16	219	3/8-16X1.50
W51-20-20	W5-20-20	1.25	1.25	2.68	3.12	1.188	2.312	1.61	.83	1.750	1.125	1.252	.690	.469	7/16-14	222	7/16-14X1.75
W51-24-20	W5-24-20	1.50	1.25	2.68	3.12	1.188	2.312	1.61	.83	1.750	1.250	1.502	.690	.469	7/16-14	222	7/16-14X1.75
W51-24-24	W5-24-24	1.50	1.50	3.07	3.66	1.406	2.750	1.77	.98	2.115	1.375	1.502	.750	.531	1/2-13	225	1/2-13X1.75
W51-28-24	W5-28-24	1.75	1.50	3.07	3.66	1.406	2.750	1.77	.98	2.115	1.500	1.752	.750	.531	1/2-13	225	1/2-13X1.75
W51-32-32	W5-32-32	2.00	2.00	3.54	4.00	1.688	3.062	1.77	.98	2.490	1.875	2.002	.870	.531	1/2-13	228	1/2-13X1.75
W51-36-32	W5-36-32	2.25	2.00	3.54	4.00	1.688	3.062	1.77	.98	2.490	2.000	2.252	.870	.531	1/2-13	228	1/2-13X1.75
W51-40-40	W5-40-40	2.50	2.50	4.09	4.49	2.000	3.500	1.97	.98	2.995	2.375	2.502	1.000	.531	1/2-13	232	1/2-13X1.75
W51-44-40	W5-44-40	2.75	2.50	4.09	4.49	2.000	3.500	1.97	.98	2.995	2.500	2.752	1.000	.531	1/2-13	232	1/2-13X1.75

Mounting kit available on o-ring grooved flanges by simply adding suffix letter 'U' to part number.



Butt Weld Pipe



CODE 61 BUTT WELD - SCHEDULE 40 PIPE

PART NO. O-RING FIG. 1	PART NO. FLAT FACE FIG. 2	PIPE SIZE	PAD SIZE	A	B	C	D	E	F	G	H	J	K	L	M UNC-2B	MOUNTING HARDWARE	
																O-RING	SHCS
W35-8	W34-8	.50	.50	1.81	2.13	.688	1.500	1.42	.63	1.000	.548	.840	.624	.344	5/16-18	210	5/16-18X1.25
W35-12	W34-12	.75	.75	1.97	2.56	.875	1.875	1.42	.71	1.250	.744	1.050	.846	.406	3/8-16	214	3/8-16X1.50
W35-16	W34-16	1.00	1.00	2.17	2.75	1.031	2.062	1.50	.71	1.560	.959	1.315	1.051	.406	3/8-16	219	3/8-16X1.50
W35-20	W34-20	1.25	1.25	2.68	3.12	1.188	2.312	1.61	.83	1.750	1.280	1.660	1.382	.469	7/16-14	222	7/16-14X1.75
W35-24	W34-24	1.50	1.50	3.07	3.66	1.406	2.750	1.73	.98	2.115	1.502	1.900	1.612	.531	1/2-13	225	1/2-13X1.75
W35-32	W34-32	2.00	2.00	3.54	4.00	1.688	3.062	1.77	.98	2.490	1.941	2.375	2.069	.531	1/2-13	228	1/2-13X1.75
W35-40	W34-40	2.50	2.50	4.09	4.49	2.000	3.500	1.97	.98	2.995	2.325	2.875	2.471	.531	1/2-13	232	1/2-13X1.75
W35-48	W34-48	3.00	3.00	4.88	5.28	2.438	4.188	1.97	1.06	3.615	2.902	3.500	3.070	.656	5/8-11	237	5/8-11X2.00

CODE 61 BUTT WELD - SCHEDULE 80 PIPE

PART NO. O-RING FIG. 1	PART NO. FLAT FACE FIG. 2	PIPE SIZE	PAD SIZE	A	B	C	D	E	F	G	H	J	L	M UNC-2B	MOUNTING HARDWARE	
															O-RING	SHCS
W24-8	W23-8	.50	.50	1.81	2.13	.688	1.500	1.42	.63	1.000	.548	.840	.344	5/16-18	210	5/16-18X1.25
W24-12	W23-12	.75	.75	1.97	2.56	.875	1.875	1.42	.71	1.250	.744	1.050	.406	3/8-16	214	3/8-16X1.50
W24-16	W23-16	1.00	1.00	2.17	2.75	1.031	2.062	1.50	.71	1.560	.959	1.315	.406	3/8-16	219	3/8-16X1.50
W24-20	W23-20	1.25	1.25	2.68	3.12	1.188	2.312	1.61	.83	1.750	1.280	1.660	.469	7/16-14	222	7/16-14X1.75
W24-24	W23-24	1.50	1.50	3.07	3.66	1.406	2.750	1.73	.98	2.115	1.502	1.900	.531	1/2-13	225	1/2-13X1.75
W24-32	W23-32	2.00	2.00	3.54	4.00	1.688	3.062	1.77	.98	2.490	1.941	2.375	.531	1/2-13	228	1/2-13X1.75
W24-40	W23-40	2.50	2.50	4.09	4.49	2.000	3.500	1.97	.98	2.995	2.325	2.875	.531	1/2-13	232	1/2-13X1.75
W24-48	W23-48	3.00	3.00	4.88	5.28	2.438	4.188	1.97	1.06	3.615	2.902	3.500	.656	5/8-11	237	5/8-11X2.00

CODE 61 BUTT WELD - SCHEDULE 160 PIPE

PART NO. O-RING FIG. 1	PART NO. FLAT FACE FIG. 2	PIPE SIZE	PAD SIZE	A	B	C	D	E	F	G	H	J	L	M UNC-2B	MOUNTING HARDWARE	
															O-RING	SHCS
W27-8	W25-8	.50	.50	1.81	2.13	.688	1.500	1.42	.63	1.000	.466	.840	.344	5/16-18	210	5/16-18X1.25
W27-12	W25-12	.75	.75	1.97	2.56	.875	1.875	1.42	.71	1.250	.614	1.050	.406	3/8-16	214	3/8-16X1.50
W27-16	W25-16	1.00	1.00	2.17	2.75	1.031	2.062	1.50	.71	1.560	.817	1.315	.406	3/8-16	219	3/8-16X1.50
W27-20	W25-20	1.25	1.25	2.68	3.12	1.188	2.132	1.61	.83	1.750	1.162	1.660	.469	7/16-14	222	7/16-14X1.75
W27-24	W25-24	1.50	1.50	3.07	3.66	1.406	2.750	1.73	.98	2.115	1.340	1.900	.531	1/2-13	225	1/2-13X1.75
W27-32	W25-32	2.00	2.00	3.54	4.00	1.688	3.062	1.77	.98	2.490	1.689	2.375	.531	1/2-13	228	1/2-13X1.75
W27-40	W25-40	2.50	2.50	4.09	4.49	2.000	3.500	1.97	.98	2.995	2.127	2.875	.531	1/2-13	232	1/2-13X1.75
W27-48	W25-48	3.00	3.00	4.88	5.28	2.438	4.188	1.97	1.06	3.615	2.626	3.500	.656	5/8-11	237	5/8-11X2.00

*NOTE: Also available in sizes 3 1/2", 4", and 5". Consult factory for specifications.
Mounting kit available on o-ring grooved flanges by simply adding suffix letter 'U' to part number.

FLOW NEEDLE
& CHECK VALVES

HYDRAULIC
BALL VALVES

WELD
COUPLINGS

HPU SUCTION &
RETURN CONNECTIONS

FLANGES
CARBON STEEL

FLANGES
STAINLESS STEEL

Butt Weld Pipe

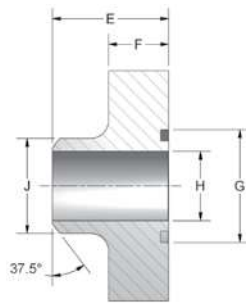


Figure 1

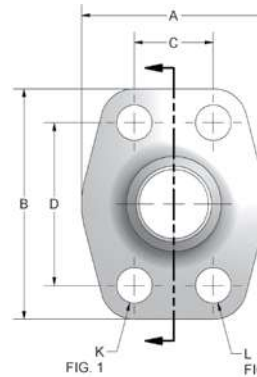


Figure 2

CODE 62 BUTT WELD - SCHEDULE 80 PIPE																
PART NO. O-RING FIG. 1	PART NO. FLAT FACE FIG. 2	PIPE SIZE	PAD SIZE	A	B	C	D	E	F	G	H	J	K	L UNC-2B	MOUNTING HARDWARE	
															O-RING	SHCS
W28-8	W26-8	.50	.50	1.81	2.21	.718	1.594	1.42	.63	1.000	.548	.840	.344	5/16-18	210	5/16-18X1.25
W28-12	W26-12	.75	.75	2.17	2.80	.937	2.000	1.38	.83	1.250	.744	1.050	.406	3/8-16	214	3/8-16X1.50
W28-16	W26-16	1.00	1.00	2.56	3.19	1.093	2.250	1.61	.83	1.560	.959	1.315	.492	7/16-14	219	7/16-14X1.75
W28-20	W26-20	1.25	1.25	3.07	3.75	1.250	2.625	1.73	.98	1.750	1.280	1.660	.531	1/2-13	222	1/2-13X1.75
W28-24	W26-24	1.50	1.50	3.70	4.41	1.437	3.125	2.17	1.18	2.115	1.502	1.900	.656	5/8-11	225	5/8-11X2.25
W28-32	W26-32	2.00	2.00	4.50	5.28	1.750	3.812	2.56	1.46	2.490	1.941	2.375	.781	3/4-10	228	3/4-10X3.00
W28-40	W26-40	2.50	2.50	5.00	6.88	2.311	4.874	2.37	1.50	2.995	2.325	2.875	.906	7/8-9	232	7/8-9X3.00
W28-48	W26-48	3.00	3.00	6.00	8.50	2.811	6.000	2.96	2.00	3.615	2.902	3.500	1.190	1 1/8-7	237	1 1/8-7X4.00

CODE 62 BUTT WELD - SCHEDULE 160 PIPE																
PART NO. O-RING FIG. 1	PART NO. FLAT FACE FIG. 2	PIPE SIZE	PAD SIZE	A	B	C	D	E	F	G	H	J	K	L UNC-2B	MOUNTING HARDWARE	
															O-RING	SHCS
W30-8	W29-8	.50	.50	1.81	2.21	.718	1.594	1.42	.63	1.000	.466	.840	.344	5/16-18	210	5/16-18X1.25
W30-12	W29-12	.75	.75	2.17	2.80	.937	2.000	1.38	.83	1.250	.614	1.050	.406	3/8-16	214	3/8-16X1.50
W30-16	W29-16	1.00	1.00	2.56	3.19	1.093	2.250	1.61	.83	1.560	.817	1.315	.492	7/16-14	219	7/16-14X1.75
W30-20	W29-20	1.25	1.25	3.07	3.75	1.250	2.625	1.73	.98	1.750	1.162	1.660	.531	1/2-13	222	1/2-13X1.75
W30-24	W29-24	1.50	1.50	3.70	4.41	1.437	3.125	2.17	1.18	2.115	1.340	1.900	.656	5/8-11	225	5/8-11X2.25
W30-32	W29-32	2.00	2.00	4.50	5.28	1.750	3.812	2.56	1.46	2.490	1.689	2.375	.781	3/4-10	228	3/4-10X3.00
W30-40	W29-40	2.50	2.50	5.00	6.88	2.311	4.874	2.37	1.50	2.995	2.127	2.875	.906	7/8-9	232	7/8-9X3.00
W30-48	W29-48	3.00	3.00	6.00	8.50	2.811	6.000	2.96	2.00	3.615	2.626	3.500	1.190	1 1/8-7	237	1 1/8-7X4.00

CODE 62 BUTT WELD - SCHEDULE XXS PIPE																
PART NO. O-RING FIG. 1	PART NO. FLAT FACE FIG. 2	PIPE SIZE	PAD SIZE	A	B	C	D	E	F	G	H	J	K	L UNC-2B	MOUNTING HARDWARE	
															O-RING	SHCS
W33-8	W32-8	.50	.50	1.81	2.21	.718	1.594	1.42	.63	1.000	.254	.840	.344	5/16-18	210	5/16-18X1.25
W33-12	W32-12	.75	.75	2.17	2.80	.937	2.000	1.38	.83	1.250	.436	1.050	.406	3/8-16	214	3/8-16X1.50
W33-16	W32-16	1.00	1.00	2.56	3.19	1.093	2.250	1.61	.83	1.560	.601	1.315	.492	7/16-14	219	7/16-14X1.75
W33-20	W32-20	1.25	1.25	3.07	3.75	1.250	2.625	1.73	.98	1.750	.898	1.660	.531	1/2-13	222	1/2-13X1.75
W33-24	W32-24	1.50	1.50	3.70	4.41	1.437	3.125	2.17	1.18	2.115	1.102	1.900	.656	5/8-11	225	5/8-11X2.25
W33-32	W32-32	2.00	2.00	4.50	5.28	1.750	3.812	2.56	1.46	2.490	1.505	2.375	.781	3/4-10	228	3/4-10X3.00
W33-40	W32-40	2.50	2.50	5.00	6.88	2.311	4.874	2.37	1.50	2.995	1.773	2.875	.906	7/8-9	232	7/8-9X3.00
W33-48	W32-48	3.00	3.00	6.00	8.50	2.811	6.000	2.96	2.00	3.615	2.302	3.500	1.190	1 1/8-7	237	1 1/8-7X4.00



Saddle Weld

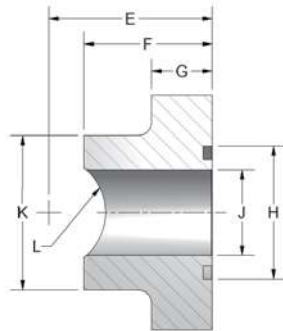


Figure 1

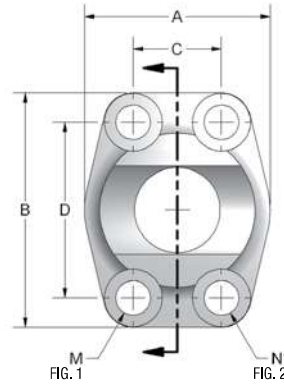


Figure 2

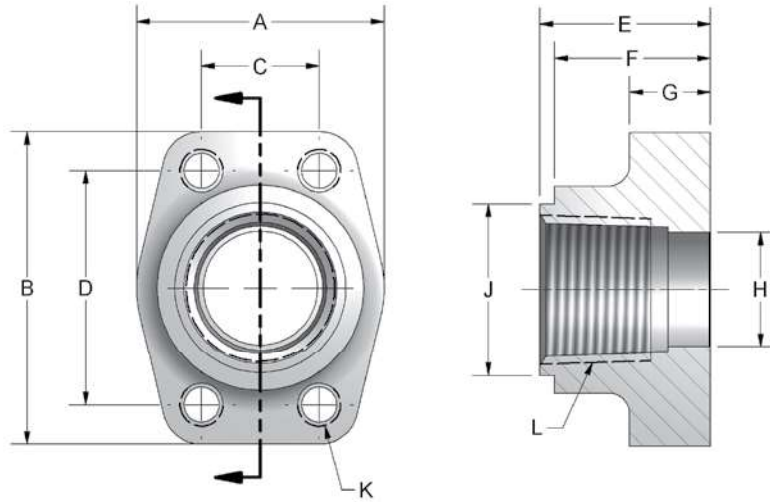
*No Spotface

CODE 61 SADDLE WELD - PIPE																		
PART NO. O-RING FIG. 1	PART NO. FLAT FACE FIG. 2	PIPE SIZE	PAD SIZE	A	B	C	D	E	F	G	H	J	K	L	M	N UNC-2B	MOUNTING HARDWARE	
																	O-RING	SHCS
W8-12-12	W7-12-12	.75	.75	1.97	2.56	.875	1.875	1.775	1.42	.71	1.250	.752	1.54	.532	.406	3/8-16	214	3/8-16X1.50
W8-16-16	W7-16-16	1.00	1.00	2.17	2.75	1.031	2.062	1.912	1.50	.71	1.560	1.002	1.81	.665	.406	3/8-16	219	3/8-16X1.50
W8-20-20	W7-20-20	1.25	1.25	2.68	3.12	1.188	2.312	2.146	1.61	.83	1.750	1.252	2.22	.837	.469	7/16-14	222	7/16-14X1.75
W8-24-24	W7-24-24	1.50	1.50	3.07	3.66	1.406	2.750	2.290	1.77	.98	2.115	1.502	2.50	.957	.531	1/2-13	225	1/2-13X1.75
W8-32-32	W7-32-32	2.00	2.00	3.54	4.00	1.688	3.062	2.340	1.77	.98	2.490	2.002	3.12	1.200	.531	1/2-13	228	1/2-13X1.75
W8-40-40	W7-40-40	2.50	2.50	4.09	4.49	2.000	3.500	2.660	1.97	.98	2.995	2.502	3.62	1.451	.531	1/2-13	232	1/2-13X1.75

CODE 61 SADDLE WELD - TUBE																		
PART NO. O-RING FIG. 1	PART NO. FLAT FACE FIG. 2	TUBE SIZE	PAD SIZE	A	B	C	D	E	F	G	H	J	K	L	M	N UNC-2B	MOUNTING HARDWARE	
																	O-RING	SHCS
W87-12-12	W69-12-12	.75	.75	1.97	2.56	.875	1.875	1.420	1.42	.71	1.250	.752	1.54	.382	.406	3/8-16	214	3/8-16X1.50
W87-16-12	W69-16-12	1.00	.75	1.97	2.56	.875	1.875	1.737	1.42	.71	1.250	.752	1.54	.507	.406	3/8-16	214	3/8-16X1.50
W87-16-16	W69-16-16	1.00	1.00	2.17	2.75	1.031	2.062	1.500	1.50	.71	1.560	1.002	1.81	.507	.406	3/8-16	219	3/8-16X1.50
W87-20-16	W69-20-16	1.25	1.00	2.17	2.75	1.031	2.062	1.858	1.50	.71	1.560	1.002	1.81	.632	.406	3/8-16	219	3/8-16X1.50
W87-20-20	W69-20-20	1.25	1.25	2.68	3.12	1.188	2.312	1.665	1.61	.83	1.750	1.252	2.22	.632	.469	7/16-14	222	7/16-14X1.75
W87-24-20	W69-24-20	1.50	1.25	2.68	3.12	1.188	2.312	2.022	1.61	.83	1.750	1.252	2.22	.757	.469	7/16-14	222	7/16-14X1.75
W87-28-24	W69-28-24	1.75	1.50	3.07	3.66	1.406	2.750	2.198	1.77	.98	2.115	1.502	2.50	.882	.531	1/2-13	225	1/2-13X1.75
W87-32-32	W69-32-32	2.00	2.00	3.54	4.00	1.688	3.062	2.262	1.77	.98	2.490	1.691	2.38	1.007	.531	1/2-13	228	1/2-13X1.75
W87-36-32	W69-36-32	2.25	2.00	3.54	4.00	1.688	3.062	2.247	1.77	.98	2.490	2.002	3.12	1.132	.531	1/2-13	228	1/2-13X1.75

Mounting kit available on o-ring grooved flanges by simply adding suffix letter 'U' to part number.

NPTF Tank Pilot



CODE 61 NPTF TANK PILOT													
PART NO.	PIPE SIZE	PAD SIZE	A	B	C	D	E	F	G	H	J	K UNC-2B	L NPTF
W22-12	.750	.750	1.97	2.56	.875	1.875	1.42	1.30	.71	.752	1.375	3/8-16	3/4-14
W22-16	1.00	1.00	2.17	2.75	1.031	2.062	1.50	1.37	.71	1.002	1.500	3/8-16	1-11.5
W22-20	1.25	1.25	2.68	3.12	1.188	2.312	1.61	1.49	.83	1.252	1.750	7/16-14	1 1/4-11.5
W22-24	1.50	1.50	3.07	3.66	1.406	2.750	1.77	1.64	.98	1.502	2.125	1/2-13	1 1/2-11.5
W22-32	2.00	2.00	3.54	4.00	1.688	3.062	1.77	1.65	.98	2.002	2.500	1/2-13	2-11.5
W22-40	2.50	2.50	4.09	4.49	2.000	3.500	1.97	1.85	.98	2.502	3.250	1/2-13	2 1/2-8
W22-48	3.00	3.00	4.88	5.28	2.438	4.188	1.97	1.85	1.06	3.002	3.625	5/8-11	3-8
W22-56	3.50	3.50	5.35	5.98	2.750	4.750	1.89	1.77	1.06	3.504	4.125	5/8-11	3 1/2-8
W22-64	4.00	4.00	5.75	6.38	3.062	5.125	1.89	1.77	1.06	3.898	4.625	5/8-11	4-8

Female NPTF thread added to facilitate pump suction line and return line applications.



Elbow Block

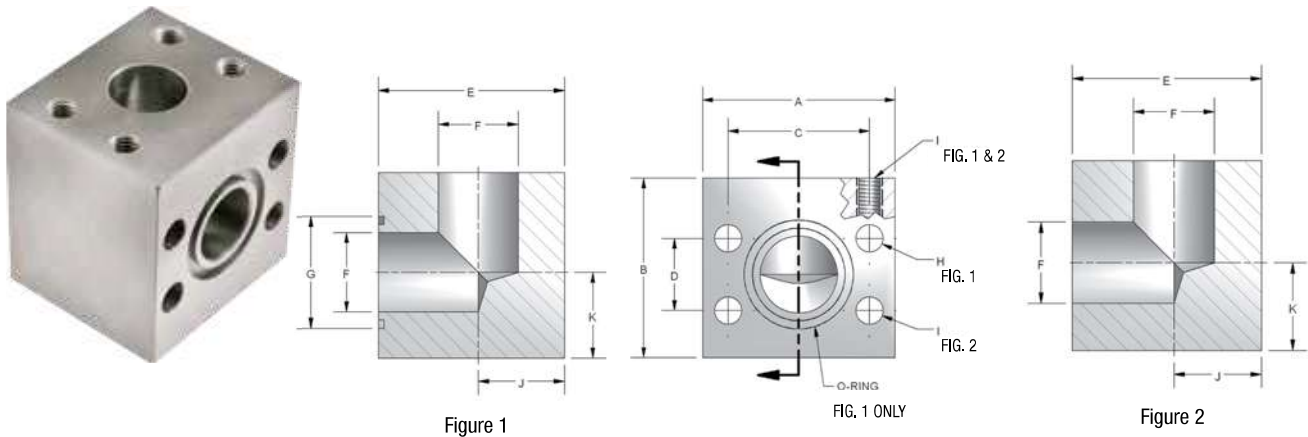


Figure 1

FIG. 1 ONLY

Figure 2

CODE 61 ELBOW BLOCK															
PART NO. O-RING FIG. 1	PART NO. FLAT FACE FIG. 2	PAD SIZE	A	B	C	D	E	F	G	H	I UNC-2B	J	K	MOUNTING HARDWARE	
														O-RING	SHCS
W14-12	W15-12	.75	2.62	2.47	1.875	.875	2.25	.75	1.250	.406	3/8-16	1.03	1.03	214	3/8-16X3.00
W14-16	W15-16	1.00	2.82	2.47	2.062	1.031	2.47	1.00	1.560	.406	3/8-16	1.16	1.09	219	3/8-16X3.25
W14-20	W15-20	1.25	3.19	2.97	2.312	1.188	2.97	1.25	1.750	.469	7/16-14	1.44	1.31	222	7/16-14X4.00
W14-24	W15-24	1.50	3.75	3.47	2.750	1.406	3.47	1.50	2.115	.531	1/2-13	1.62	1.62	225	1/2-13X4.50
W14-32	W15-32	2.00	4.00	3.97	3.062	1.688	3.97	2.00	2.490	.531	1/2-13	1.91	1.91	228	1/2-13X5.00

CODE 62 ELBOW BLOCK															
PART NO. O-RING FIG. 1	PART NO. FLAT FACE FIG. 2	PAD SIZE	A	B	C	D	E	F	G	H	I UNC-2B	J	K	MOUNTING HARDWARE	
														O-RING	SHCS
W12-12	W13-12	.75	2.82	2.47	2.000	.937	2.47	.750	1.250	.406	3/8-16	1.19	1.06	214	3/8-16X3.50
W12-16	W13-16	1.00	3.19	2.97	2.250	1.093	2.97	1.00	1.560	.469	7/16-14	1.38	1.38	219	7/16-14X4.00
W12-20	W13-20	1.25	3.75	3.47	2.625	1.250	3.47	1.25	1.750	.531	1/2-13	1.62	1.41	222	1/2-13X4.50
W12-24	W13-24	1.50	4.50	3.97	3.125	1.437	3.97	1.50	2.115	.656	5/8-11	1.88	1.75	225	5/8-11X5.00
W12-32	W13-32	2.00	5.25	4.97	3.812	1.75	4.97	2.00	2.490	.781	3/4-10	2.25	2.50	228	3/4-10X6.00

Mounting kit available on o-ring grooved flanges by simply adding suffix letter 'U' to part number.

Tee Junction Block

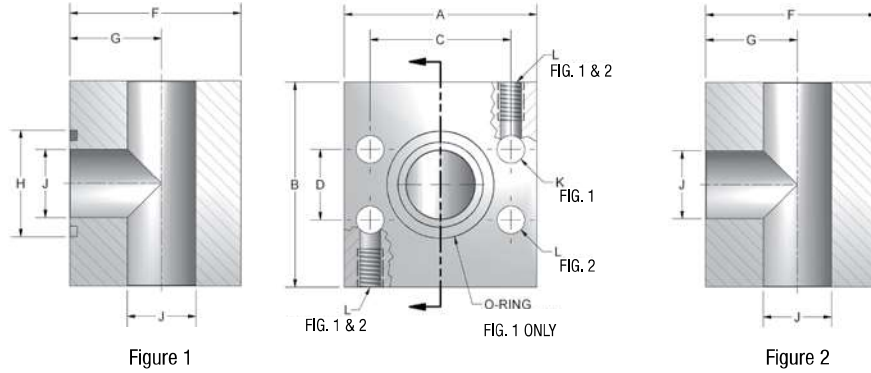


Figure 1

Figure 2

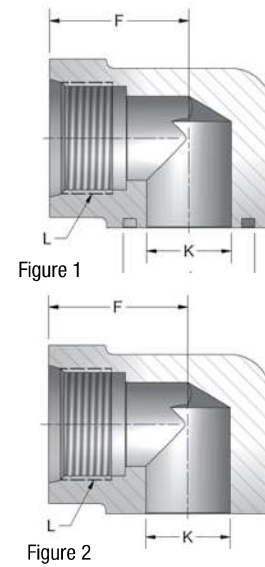
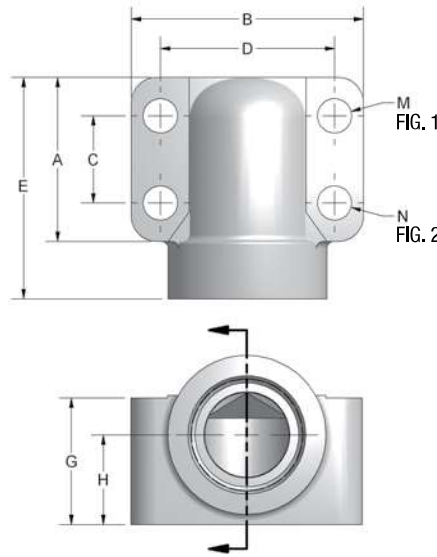
CODE 61 TEE JUNCTION BLOCK														
PART NO. O-RING FIG. 1	PART NO. FLAT FACE FIG. 2	PAD SIZE	A	B	C	D	F	G	H	J	K	L UNC-2B	MOUNTING HARDWARE	
													O-RING	SHCS
W17-12	W16-12	.75	2.62	2.75	1.875	.875	2.25	1.22	1.250	.75	.406	3/8-16	214	3/8-16X3.00
W17-16	W16-16	1.00	2.82	2.97	2.062	1.031	2.50	1.34	1.560	1.00	.406	3/8-16	219	3/8-16X3.25
W17-20	W16-20	1.25	3.19	3.47	2.312	1.188	3.00	1.56	1.750	1.25	.469	7/16-14	222	7/16-14X4.00
W17-24	W16-24	1.50	3.75	3.97	2.750	1.406	3.50	1.88	2.115	1.50	.531	1/2-13	225	1/2-13X4.50
W17-32	W16-32	2.00	4.00	4.25	3.062	1.688	3.97	2.09	2.490	2.00	.531	1/2-13	228	1/2-13X5.00

CODE 62 TEE JUNCTION BLOCK														
PART NO. O-RING FIG. 1	PART NO. FLAT FACE FIG. 2	PAD SIZE	A	B	C	D	F	G	H	J	K	L UNC-2B	MOUNTING HARDWARE	
													O-RING	SHCS
W19-12	W18-12	.75	2.81	2.97	2.00	.937	2.50	1.310	1.250	.750	.406	3/8-16	214	3/8-16X3.25
W19-16	W18-16	1.00	3.19	3.47	2.25	1.093	3.00	1.620	1.560	1.000	.492	7/16-14	219	7/16-14X4.00
W19-20	W18-20	1.25	3.75	3.97	2.625	1.250	3.50	1.880	1.750	1.250	.531	1/2-13	222	1/2-13X4.50
W19-24	W18-24	1.50	4.50	4.47	3.125	1.437	4.00	2.120	2.115	1.500	.656	5/8-11	225	5/8-11X5.00
W19-32	W18-32	2.00	5.25	4.97	3.812	1.750	4.97	2.750	2.490	1.940	.781	3/4-10	228	3/4-10X6.00

Mounting kit available on O-Ring grooved flanges by simply adding suffix letter 'U' to part number.



Threaded Elbow



FLOW NEEDLE
& CHECK VALVES

HYDRAULIC
BALL VALVES

WELD
COUPLINGS

HPU SUCTION &
RETURN CONNECTIONS

FLANGES
CARBON STEEL

FLANGES
STAINLESS STEEL

CODE 61 ELBOW SAE STRAIGHT THREAD

PART NO. O-RING FIG. 1	PART NO. FLAT FACE FIG. 2	PAD SIZE	A	B	C	D	E	F	G	H	J	K	L	M	N UNC-2B	MOUNTING HARDWARE	
																O-RING	SHCS
W164-12-12	W165-12-12	.75	1.69	2.56	.875	1.875	2.28	1.44	1.25	.875	1.250	.752	1-1/16-12	.406	3/8-16	214	3/8-16X2.00
W164-16-16	W165-16-16	1.00	1.94	2.75	1.031	2.062	2.62	1.66	1.50	1.062	1.560	1.002	1-5/16-12	.406	3/8-16	219	3/8-16X2.25
W164-20-20	W165-20-20	1.25	2.19	3.12	1.188	2.312	3.00	1.91	1.81	1.188	1.750	1.252	1-5/8-12	.469	7/16-14	222	7/16-14X2.75
W164-24-24	W165-24-24	1.50	2.56	3.69	1.406	2.750	3.33	2.05	2.00	1.312	2.115	1.502	1-7/8-12	.531	1/2-13	225	1/2-13X3.00
W164-32-32	W165-32-32	2.00	3.06	4.33	1.688	3.062	3.81	2.28	2.50	1.656	1.490	2.002	2-1/2-12	.531	1/2-13	228	1/2-13X3.50

CODE 61 ELBOW NPTF THREAD

PART NO. O-RING FIG. 1	PART NO. FLAT FACE FIG. 2	PAD SIZE	A	B	C	D	E	F	G	H	J	K	L	M	N UNC-2B	MOUNTING HARDWARE	
																O-RING	SHCS
W168-12-12	W170-12-12	.75	1.69	2.56	.875	1.875	2.28	1.44	1.25	.875	1.250	.752	.75	.406	3/8-16	214	3/8-16X2.00
W168-16-16	W170-16-16	1.00	1.94	2.75	1.031	2.062	2.62	1.66	1.50	1.062	1.560	1.002	1.00	.406	3/8-16	219	3/8-16X2.25
W168-20-20	W170-20-20	1.25	2.19	3.12	1.188	2.312	3.00	1.91	1.81	1.188	1.750	1.252	1.25	.469	7/16-14	222	7/16-14X2.75
W168-24-24	W170-24-24	1.50	2.56	3.69	1.406	2.750	3.33	2.05	2.00	1.312	2.115	1.502	1.50	.531	1/2-13	225	1/2-13X3.00
W168-32-32	W170-32-32	2.00	3.06	4.33	1.688	3.062	3.81	2.28	2.50	1.656	2.490	2.002	2.00	.531	1/2-13	228	1/2-13X3.50

CODE 62 ELBOW SAE STRAIGHT THREAD

PART NO. O-RING FIG. 1	PART NO. FLAT FACE FIG. 2	PAD SIZE	A	B	C	D	E	F	G	H	J	K	L	M	N UNC-2B	MOUNTING HARDWARE	
																O-RING	SHCS
W184-12-12	W185-12-12	.75	1.94	2.75	.937	2.000	2.62	1.66	1.50	1.062	1.250	.752	1-1/16-12	.406	3/8-16	214	3/8-16X2.25
W184-16-16	W185-16-16	1.00	2.19	3.12	1.093	2.250	3.00	1.91	1.81	1.188	1.560	1.002	1-5/16-12	.492	7/16-14	219	7/16-14X2.50
W184-20-20	W185-20-20	1.25	2.56	3.69	1.250	2.625	3.32	2.05	2.00	1.312	1.750	1.252	1-5/8-12	.531	1/2-13	222	1/2-13X3.00
W184-24-24	W185-24-24	1.50	3.06	4.33	1.437	3.125	3.81	2.28	2.50	1.656	2.115	1.502	1-7/8-12	.656	5/8-11	225	5/8-11X3.50

CODE 62 ELBOW NPTF THREAD

PART NO. O-RING FIG. 1	PART NO. FLAT FACE FIG. 2	PAD SIZE	A	B	C	D	E	F	G	H	J	K	L	M	N UNC-2B	MOUNTING HARDWARE	
																O-RING	SHCS
W188-12-12	W180-12-12	.75	1.94	2.75	.937	2.000	2.62	1.66	1.50	1.062	1.250	.752	.75	.406	3/8-16	214	3/8-16X2.25
W188-16-16	W180-16-16	1.00	2.19	3.12	1.093	2.250	3.00	1.91	1.81	1.188	1.560	1.002	1.00	.492	7/16-14	219	7/16-14X2.50
W188-20-20	W180-20-20	1.25	2.56	3.69	1.250	2.625	3.32	2.05	2.00	1.312	1.750	1.252	1.25	.531	1/2-13	222	1/2-13X3.00
W188-24-24	W180-24-24	1.50	3.06	4.33	1.437	3.125	3.81	2.28	2.50	1.656	2.115	1.502	1.50	.656	5/8-11	225	5/8-11X3.50

Mounting kit available on O-Ring grooved flanges by simply adding suffix letter 'U' to part number.

Socket Weld Pipe Elbow

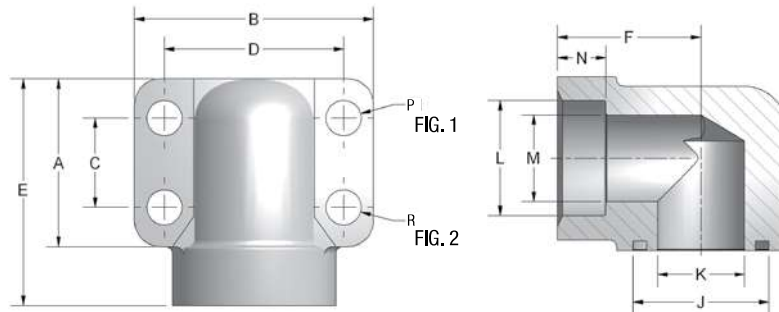


Figure 1

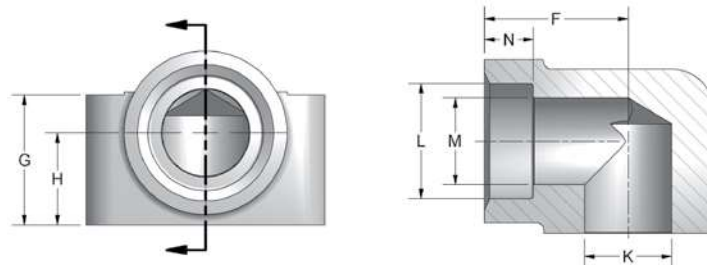


Figure 2

CODE 61 ELBOW SOCKET WELD - PIPE

PART NO. O-RING FIG. 1	PART NO. FLAT FACE FIG. 2	PAD SIZE	A	B	C	D	E	F	G	H	J	K	L	M	N	P	R UNC-2B	MOUNTING HARDWARE	
																		O-RING	SHCS
W176-12-12	W169-12-12	.75	1.69	2.56	.875	1.875	2.28	1.44	1.25	.875	1.250	.752	1.062	.75	.56	.406	3/8-16	214	3/8-16X2.00
W176-16-16	W169-16-16	1.00	1.94	2.75	1.031	2.062	2.62	1.66	1.50	1.062	1.560	1.002	1.328	1.00	.56	.406	3/8-16	219	3/8-16X2.25
W176-20-20	W169-20-20	1.25	2.19	3.12	1.188	2.312	3.00	1.91	1.81	1.188	1.750	1.252	1.672	1.25	.62	.469	7/16-14	222	7/16-14X2.75
W176-24-24	W169-24-24	1.50	2.56	3.69	1.406	2.750	3.33	2.05	2.00	1.312	2.115	1.502	1.922	1.50	.69	.531	1/2-13	225	1/2-13X3.00
W176-32-32	W169-32-32	2.00	3.06	4.33	1.688	3.062	3.81	2.28	2.50	1.656	2.490	2.002	2.406	2.00	.75	.531	1/2-13	228	1/2-13X3.50
W176-40-40	W169-40-40	2.50	3.56	5.00	2.000	3.500	4.66	2.88	2.78	1.900	2.995	2.502	2.906	2.50	.75	.531	1/2-13	232	1/2-13X5.00
W176-48-48	W169-48-48	3.00	4.00	5.50	2.438	4.188	5.00	3.00	3.35	2.400	3.615	3.002	3.547	3.00	.75	.656	5/8-11	237	5/8-11X6.00

CODE 62 ELBOW SOCKET WELD - PIPE

PART NO. O-RING FIG. 1	PART NO. FLAT FACE FIG. 2	PAD SIZE	A	B	C	D	E	F	G	H	J	K	L	M	N	P	R UNC-2B	MOUNTING HARDWARE	
																		O-RING	SHCS
W186-12-12	W189-12-12	.75	1.94	2.75	.937	2.000	2.62	1.66	1.50	1.062	1.250	.752	1.062	.75	.56	.406	3/8-16	214	3/8-16X2.25
W186-16-16	W189-16-16	1.00	2.19	3.12	1.093	2.250	3.00	1.91	1.81	1.188	1.560	1.002	1.328	1.00	.62	.492	7/16-14	219	7/16-14X2.50
W186-20-20	W189-20-20	1.25	2.56	3.69	1.250	2.625	3.32	2.05	2.00	1.312	1.750	1.252	1.672	1.25	.69	.531	1/2-13	222	1/2-13X3.00
W186-24-24	W189-24-24	1.50	3.06	4.33	1.437	3.125	3.81	2.28	2.50	1.656	2.115	1.502	1.922	1.50	.75	.656	5/8-11	225	5/8-11X3.50
W186-32-32	W189-32-32	2.00	3.56	5.00	1.750	3.812	4.66	2.88	2.69	1.900	2.490	2.002	2.406	2.00	.75	.781	3/4-10	228	3/4-10X4.50

Mounting kit available on o-ring grooved flanges by simply adding suffix letter 'U' to part number.



Socket Weld Tube Elbow

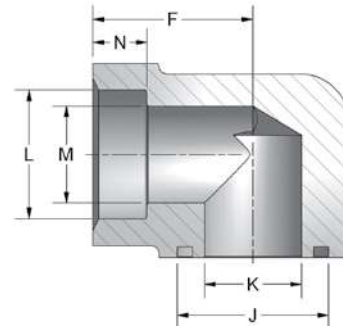
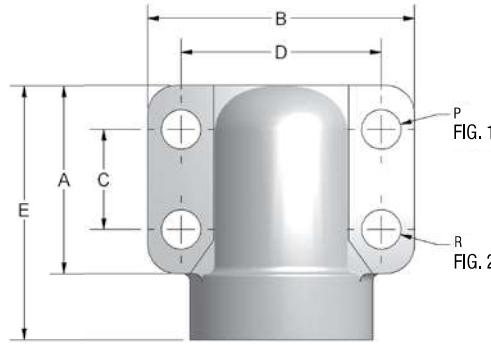


Figure 1

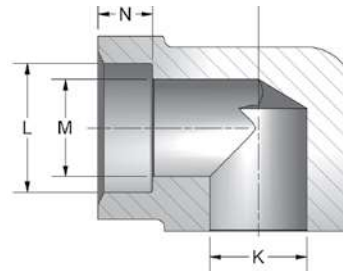
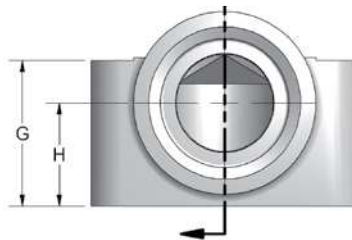


Figure 2

CODE 61 ELBOW SOCKET WELD - TUBE

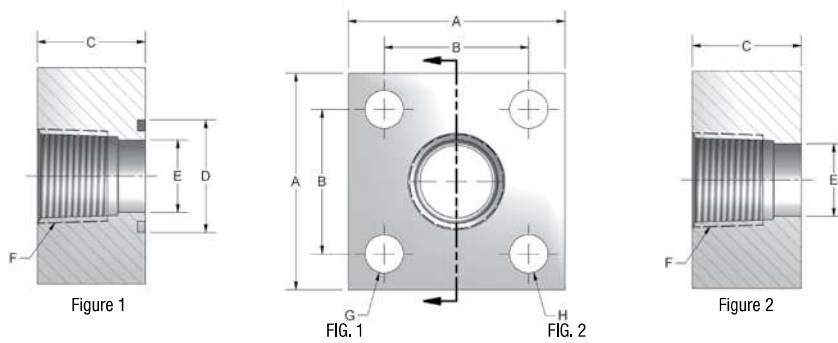
PART NO. O-RING FIG. 1	PART NO. FLAT FACE FIG. 2	PAD SIZE	A	B	C	D	E	F	G	H	J	K	L	M	N	P	R UNC-2B	MOUNTING HARDWARE	
																		O-RING	SHCS
W172-12-12	W177-12-12	.75	1.69	2.56	.875	1.875	2.28	1.44	1.25	.875	1.250	.752	.752	.625	.312	.406	3/8-16	214	3/8-16X2.00
W172-16-12	W177-16-12	.75	1.69	2.56	.875	1.875	2.28	1.44	1.25	.875	1.250	.752	1.002	.750	.438	.406	3/8-16	214	3/8-16X2.00
W172-16-16	W177-16-16	1.00	1.94	2.75	1.031	2.062	2.62	1.66	1.50	1.062	1.560	1.002	1.002	.875	.438	.406	3/8-16	219	3/8-16X2.25
W172-20-16	W177-20-16	1.00	1.94	2.75	1.031	2.062	2.62	1.66	1.50	1.062	1.560	1.002	1.252	1.000	.500	.406	3/8-16	219	3/8-16X2.25
W172-20-20	W177-20-20	1.25	2.19	3.12	1.188	2.312	3.00	1.91	1.81	1.188	1.750	1.252	1.252	1.125	.500	.469	7/16-14	222	7/16-14X2.75
W172-24-20	W177-24-20	1.25	2.19	3.12	1.188	2.312	3.00	1.91	1.81	1.188	1.750	1.252	1.502	1.250	.562	.469	7/16-14	222	7/16-14X2.75
W172-24-24	W177-24-24	1.50	2.56	3.69	1.406	2.750	3.33	2.05	2.00	1.312	2.115	1.502	1.502	1.375	.562	.531	1/2-13	225	1/2-13X3.00
W172-28-24	W177-28-24	1.50	2.56	3.69	1.406	2.750	3.33	2.05	2.00	1.312	2.115	1.502	1.752	1.500	.562	.531	1/2-13	225	1/2-13X3.00
W172-32-32	W177-32-32	2.00	3.06	4.33	1.688	3.062	3.81	2.28	2.50	1.656	2.490	2.002	2.002	1.875	.625	.531	1/2-13	228	1/2-13X3.50
W172-36-32	W177-36-32	2.00	3.06	4.33	1.688	3.062	3.81	2.28	2.50	1.656	2.490	2.002	2.252	2.000	.625	.531	1/2-13	228	1/2-13X3.50

CODE 62 ELBOW SOCKET WELD - TUBE

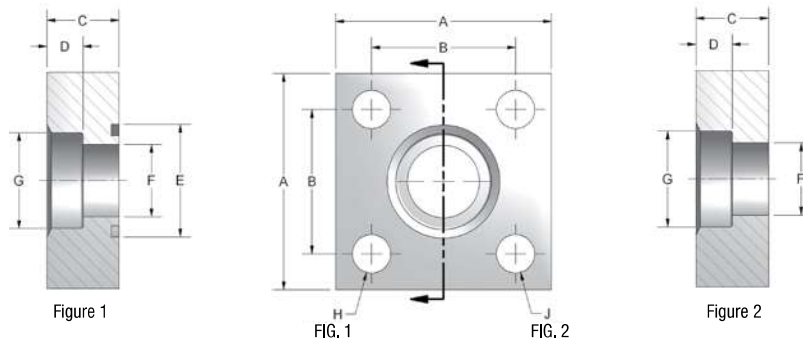
PART NO. O-RING FIG. 1	PART NO. FLAT FACE FIG. 2	PAD SIZE	A	B	C	D	E	F	G	H	J	K	L	M	N	P	R UNC-2B	MOUNTING HARDWARE	
																		O-RING	SHCS
W182-12-12	W187-12-12	.75	1.94	2.75	.937	2.000	2.62	1.66	1.50	1.062	1.250	.752	.752	.625	.56	.406	3/8-16	214	3/8-16X2.25
W182-16-12	W187-16-12	.75	1.94	2.75	.937	2.000	2.62	1.66	1.50	1.062	1.250	.752	1.002	.750	.62	.406	3/8-16	214	3/8-16X2.25
W182-16-16	W187-16-16	1.00	2.19	3.12	1.093	2.250	3.00	1.91	1.81	1.188	1.560	1.002	1.002	.875	.62	.492	7/16-14	219	7/16-14X2.50
W182-20-16	W187-20-16	1.00	2.19	3.12	1.093	2.250	3.00	1.91	1.81	1.188	1.560	1.002	1.252	1.000	.69	.492	7/16-14	219	7/16-14X2.50
W182-20-20	W187-20-20	1.25	2.56	3.69	1.250	2.625	3.32	2.05	2.00	1.312	1.750	1.252	1.252	1.125	.69	.531	1/2-13	222	1/2-13X3.00
W182-24-20	W187-24-20	1.25	2.56	3.69	1.250	2.625	3.32	2.05	2.00	1.312	1.750	1.252	1.502	1.250	.75	.531	1/2-13	222	1/2-13X3.00
W182-24-24	W187-24-24	1.50	3.06	4.33	1.437	3.125	3.81	2.28	2.50	1.656	2.115	1.502	1.502	1.375	.75	.656	5/8-11	225	5/8-11X3.50
W182-28-24	W187-28-24	1.50	3.06	4.33	1.437	3.125	3.81	2.28	2.50	1.656	2.115	1.502	1.752	1.500	.75	.656	5/8-11	225	5/8-11X3.50

Mounting kit available on o-ring grooved flanges by simply adding suffix letter 'U' to part number.

3000 Series Square Pattern



3000 SERIES SQUARE NPTF THREAD												
PART NO. O-RING FIG. 1	PART NO. FLAT FACE FIG. 2	PAD SIZE	A	B	C	D	E	F	G	H UNC-2B	MOUNTING HARDWARE	
											O-RING	SHCS
W65-12	W75-12	.75	2.25	1.438	1.25	1.250	.752	.75	.406	3/8-16	214	3/8-16X2.00
W65-16	W75-16	1.00	3.00	2.000	1.50	1.560	1.002	1.00	.531	1/2-13	219	1/2-13X2.25
W65-20	W75-20	1.25	3.00	2.000	1.50	1.750	1.252	1.25	.531	1/2-13	222	1/2-13X2.25
W65-24	W75-24	1.50	4.00	2.750	1.75	2.115	1.502	1.50	.656	5/8-11	225	5/8-11X2.75
W65-32	W75-32	2.00	4.00	2.750	1.75	2.490	2.002	2.00	.656	5/8-11	228	5/8-11X2.75
W65-40	W75-40	2.50	5.50	3.750	2.25	2.995	2.502	2.50	.906	7/8-9	232	7/8-9X3.50
W65-48	W75-48	3.00	5.50	3.750	2.25	3.615	3.002	3.00	.906	7/8-9	237	7/8-9X3.50



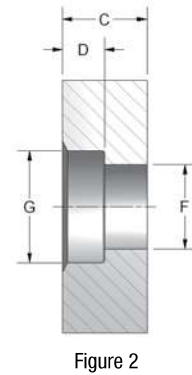
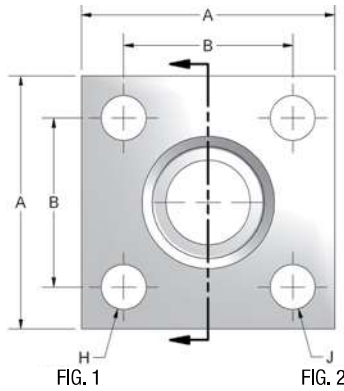
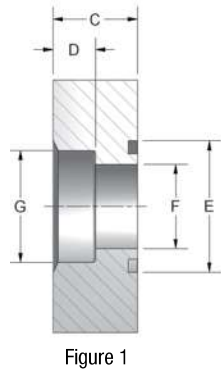
3000 SERIES SQUARE SOCKET WELD - PIPE													
PART NO. O-RING FIG. 1	PART NO. FLAT FACE FIG. 2	PAD SIZE	A	B	C	D	E	F	G	H	J UNC-2B	MOUNTING HARDWARE	
												O-RING	SHCS
W66-12	W76-12	.75	2.25	1.438	1.00	.50	1.250	.752	1.062	.406	3/8-16	214	3/8-16X1.75
W66-16	W76-16	1.00	3.00	2.000	1.00	.50	1.560	1.002	1.328	.531	1/2-13	219	1/2-13X1.75
W66-20	W76-20	1.25	3.00	2.000	1.00	.50	1.750	1.252	1.672	.531	1/2-13	222	1/2-13X1.75
W66-24	W76-24	1.50	4.00	2.750	1.25	.62	2.115	1.502	1.922	.656	5/8-11	225	5/8-11X2.25
W66-32	W76-32	2.00	4.00	2.750	1.25	.62	2.490	2.002	2.406	.656	5/8-11	228	5/8-11X2.25
W66-40	W76-40	2.50	5.50	3.750	1.50	.75	2.995	2.502	2.906	.906	7/8-9	232	7/8-9X2.75
W66-48	W76-48	3.00	5.50	3.750	1.50	.75	3.615	3.002	3.547	.906	7/8-9	237	7/8-9X2.75
W66-64	W76-64	4.00	7.00	5.000	2.00	.75	4.625	3.880	4.578	1.060	1-8	347	1-8X3.50

*HHCS provided on 7/8" size bolts and larger.

Mounting kit available on o-ring grooved flanges by simply adding suffix letter 'U' to part number.



6000 Series Square Pattern



6000 SERIES SQUARE SOCKET WELD - PIPE													
PART NO. O-RING FIG. 1	PART NO. FLAT FACE FIG. 2	PIPE SIZE	A	B	C	D	E	F	G	H	J UNC-2B	MOUNTING HARDWARE	
												O-RING	SHCS
W56-40	W57-40	2.50	5.50	3.750	1.75	.75	2.995	2.12	2.911	.94	7/8-9	232	7/8-9X3.50
W56-48	W57-48	3.00	6.75	4.750	2.00	.75	3.615	2.62	3.540	1.06	1-8	236	1-8X4.00
W56-56	W57-56	3.50	8.00	5.500	2.40	1.002	3.990	3.00	4.045	1.31	1 1/4-7	342	1 1/4X5.00
W56-64	W57-64	4.00	8.50	6.000	2.40	1.002	4.490	3.44	4.550	1.31	1 1/4-7	346	1 1/4X5.00
W56-80	W57-80	5.00	10.00	7.250	2.90	1.002	5.365	4.31	5.625	1.56	1 1/2-6	353	1 1/2X6.00

*HHCS provided on 7/8" size bolts and larger.

Mounting kit available on o-ring grooved flanges by simply adding suffix letter 'U' to part number.

FLOW NEEDLE
& CHECK VALVES

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BALL VALVES

WELD
COUPLINGS

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FLANGES
STAINLESS STEEL