

WCB-Flow Products

AN SPX BRAND

Fittings & Clamps



SPX®

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High Quality For Superior Weldability and Fit Up

- WCB-Flow Products quality means dependable concentricity and dimensional correctness. WCB-Flow Products fittings 'fit' and weldability is assured.

Commitment to Quality and Excellence in Manufacturing and Customer Service

- As a major supplier of Stainless Steel Fittings, Valves, Pumps and Process Equipment, WCB-Flow Products has established a record of precision engineering and quality manufacturing.
- WCB-Flow Products has a long-standing reputation for *excellence* in Technical and Customer Service.



We're Close

- Technical and Customer Services are based in our Buffalo, New York facility, where we maintain large inventories of the fittings you need.

We're More Responsive

- Standard parts have expedited delivery though 7:00 p.m. EST, Monday-Thursday, 6:00 p.m EST Friday
- No extra fees for overnight fittings shipments.
- Our Customer Service and Applications Engineers are available to answer your questions.

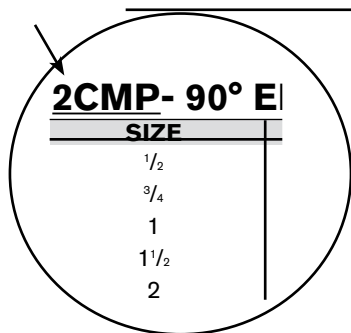
To specify the part completely, start with the description and select the additional options as shown below. Be sure to denote the material and polish combination. See the example below.

MODEL NUMBER EXAMPLE

① ② ③ ④
 2CMP -7 2.0" 316L

①

DESCRIPTION



②

POLISH COMBINATIONS

- 7** POLISHED I.D. AND O.D.
 INSIDE DIAMETER IS MECHANICALLY POLISHED TO 32RA OR 180 GRIT FINISH. OUTSIDE DIAMETER IS MECHANICALLY POLISHED WITH POLISH MARKS BLENDED.
- 3** POLISHED I.D. AND UNPOLISHED O.D.
 OUTSIDE DIAMETER IS MILL OR TUMBLED FINISH.
- 1** UNPOLISHED I.D. AND UNPOLISHED O.D.
 BOTH I.D. AND O.D. ARE MILL OR TUMBLED FINISH.

③

SIZE

1/2"	3"
3/4"	4"
1"	6"
1 1/2"	8"
2"	10"
2 1/2"	12"

④

MATERIAL*
 T304 STAINLESS STEEL
 T316L STAINLESS STEEL

*ALL FRACTIONAL FITTINGS ARE T316L STAINLESS STEEL.

NOTES THE DIMENSION TABLES

All Dimensions are in inches.

Wall Thickness: Fittings 1/2"-3.0" sizes are manufactured with 16 gauge (0.065") wall thickness. The 4.0" tube size are manufactured with 14 gauge (0.083") wall thickness. The 6.0" & 8.0" tube size are manufactured with 12 gauge (0.109") wall thickness.

INDUSTRY CROSS REFERENCE GUIDE

WCB-Flow Products	Andron	VNE	TOPLINE	Alfa Laval (Tri-Clover)	Swagelok	DIXON (BRADFORD)
CLAMP ELBOWS, TEES, AND CROSSES						
2CMP	AC2SX	EG2C	2CMP	B2CMP	JC2	B2CMP
2FMP-14	AC2F14	EG2FPR	2FMP-14	2FMP-14	JC2-14	B2FMP-14
2FMP-15	AC2F15	EG2FTR	2FMP-15	2FMP-15	JC2-15	B2FM-15
2FMP-31		EG2C-31PR	2FMP-31	2FMP-31	JC2-31	---
2CMP-31MP	AC2C31	EG2C-31	SCMP-31MP	2CMP-31MP	JC2-J31	---
2E31MP		EG231-FPR	2E31MP	2E-31MP	2E-JC31	---
2KMP	AC2KSX	EG2K	2KMP	B2KMP	JC2K	---
7MP	AC7	EG7	7MP	B7MP	JC7	B7MP
7MPS			7MPS	B7MPS	JC7S	---
9MP	AC9	EG9	PMP	B9MP	JC9	B9MP
CLAMPS						
13MHHM-7						
PW13MHHM		13MHHM-H	13MHHM	13MHHM	JC13HD	13MHHM-DP
P13MHHM	AC13H	13MHHM	13LAH	A13MHHM	AJC13HC	13MHHM
P13MHHS			13MHHS	13MHHS	AJC13HS	13MHHM-3P
13MHP	AC13HP	13MHP	13MHP	13MHP	AJC13HP	13MHP
K13LH		EG13	13MHLA	13MHLA		13MHLA
A13MO						13MO
CLAMP FERRULES, CAPS, AND ADAPTERS						
L14AM7	AC14A	EG14AM7	L14AM7	L14AM	JC14AM7	L14AM7
14MPHR	AC14AHR	EG14RT	14MPHR	14MPHR	JC14AHR	14MPHR
14MPHT	AC14AHT	EG14HT	14MPHT	14MPHT	JC14AHT	14MPHT
14RMP		EG14RT	14RMP	14RMP	JC14EX	14RMP
14WMP	AC14X	EG2CS	14WMP	14WMPS	JC14X	14WMP
14MPW	AC14H	EG14W	14MPW	14MPW	JC14H	14MPW
14WLMP	AC14WL	EG14WL	14WLMP	14WLMP	JC14	14WLMP
16AMP	AC16	EG16A	16AMP	16AMP	JC16	16AMP
17MP-14		EG17PR	17MP-14	17MP-14	JC17-14	17MP-14
17MP-15		EG17TR	17MP-15	17MP-15	JC17-15	17MP-15
21MP	AC21	EG21	21MP	21MP	JC21	21MP
22MP	AC22	EG22	22MP	22MP	JC22	22MP
23BMP	AC23B	EG23B	23BMP	23BMP	JC23B	23BMP
31K				31WMP	JC14XR	---

WCB-Flow Products	Andron	VNE	TOPLINE	Alfa Laval (Tri-Clover)	Swagelok	DIXON (BRADFORD)
CLAMP REDUCERS						
31-14MP	AC31	EG31CC	31-14MP	B31-14MP	JC31	B31-14MP
31PMP		EG31PC	31PMP	31PMP	J14-C31	B14-C31
31MPP		EG31CP	31MPP	31MPP	JC31-14	B31-14
31TMP		EG31TC	31TMP	31TMP	J15-C31	B15-C31
31MPT		EG31CT	31MPT	31MPT	JC31-15	B31-15
32-14MP	AC32	EG32CC	32-14MP	B32-14MP	JC32	G32-14MP
32PMP		EG32PC	32PMP	32PMP	J14-C32	B14-C32
32MPP		EG32CP	32MPP	32MPP	JC32-14	B32-14
32TMP		EG32TC	32TMP	32TMP	J15-C32	B15-C32
32MPT		EG32CT	32MPT	32MPT	JC32-15	B32-15
BEVEL SEAT ELBOWS, TEES & CROSSES						
2C	2C	2C	2C	2C	2C	B2C
2E	2E	2E	2E	2E	2E	B2E
2F	2F	2F	2F	2F	2F	B2F
2F-31	2F-31	2F-31	2F-31	2F-31	2F-31	---
2F-32	2F-32	2F-32	2F-32	2F-32	2F-32	---
2K	2K	2K	2K	2K	2K	B2K
2P	2P	2P	2P	2P	2P	B2P
7	7	7	7	7	7	B7
7A	7A	7A	7A	7A	7A	B7A
7B	7B	7B	7B	7B	7B	B7B
9	9	9	9	9	9	B9
9A	9A	9A	9A	9A	9A	B9A
BEVEL SEAT NUTS FERRULES, CAPS & ADAPTERS						
13H	13H	13H	13H	13H	13H	13H
14A	14A	14A	---	L14A7	14A	14A
14AHR	14AHR	14AHR	14AHR	14AHR	14AHR	14MAHR
14AHT	14AHT	14AHT	14AHT	14AHT	14AHT	14MAHT
14PRF	14WF	14RP	---	14PRF	14WF	14PRF
15A	15A	EG15A7	---	L15A7	15A	15A
15AHR	15AHR	15AHR	15AHR	15AHR	15AHR	15MAHR
15AHT	15AHT	15AHT	15AHT	15AHT	15AHT	15AHT
15TRF	15WF	15TR	---	15TRF	15WF	15TRF
16A	16A	16A	16A	16A	16A	16A
23B	23B	23B	23B	23B	23B	23B
21	21	21	21	21	21	B21
22	22	22	22	22	22	B22
21F	---	14-19	14-19	14-19	14-19	B14-19
22F	---	14-18	14-18	14-18	14-18	---

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Fittings and Clamps

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BEVEL SEAT REDUCERS						
31TP	31TP	31TP	31TP	31TP	31TP	B31TP
31TT	31TT	31TT	31TT	31TT	31TT	B31TT
31-14F	31-14F	31-14F	31-14F	31-14F	31-14F	B31-14F
31-15F	31-15F	31-15F	31-15F	31-15F	31-15F	B31-15F
32-14F	32-14F	32-14F	32-14F	32-14F	32-14F	B32-14F
32-15F	32-15F	32-15F	32-15F	32-15F	32-15F	B32-15F
31-19F	31-19F	---	31-19F	31-19F	31-19F	---
31-18F	31-18F	---	31-18F	31-18F	31-18F	---
SANITARY WELD ELBOWS						
2CW	A2S	E2S	L2S	L2S	J2S	B2S
2TW	A2C	E2T	---	L2C	J2C	B2T
2CKW	AC2C	E2C	---	L2CM	J2CM	B2CM
2FW	A2F	E2F	L2F	L2F	J2F	B2FP
2KW	A2KS	E2KS	L2KS	L2KS	J2KS	B2KS
2KT	A2K	E2KT	L2K	---	J2K	B2KT
2KP	A2P	EK2P	L2P	---	J2P	B2KP
2WU	A2WU	E2WU	L2WU	2WUL	J2WU	B2WUL
SANITARY WELD TEES & CROSSES						
7W	A7W	E7WWW	L7WWW	B7WWW	J7W	B7WWW
7WWT	---	E7WWT	L7WWT	---	J7WWT	B7WWT
7WWK	---	E7WWC	L7WWM	B7WWM	J7WWM	B7WWM
7WTW	---	E7WTW	L7WTW	---	J7WTW	B7WTW
7WKW	---	E7WCW	L7WTW	---	J7WMW	B7WMW
7WTT	---	E7WTT	L7WTT	---	J7WTT	B7WTT
7WKK	---	E7WCC	L7WMM	---	J7WMM	B7WMM
7TTW	---	E7TTW	L7TTW	---	J7TTW	B7TTW
7MMW	---	E7CCW	L7MMW	---	J7MMW	B7MMW
7WR	A7WR	E7RWWW	L7RW	B7RWWW	J7WR	B7WR
9W	A9W	E9WWWW	L9WWWW	B9WWWW	J9W	B9WWW
SANITARY WELD REDUCERS						
31W	A31W	E31WW	L31	L31	J31	B31W
31P	---	E31PW	L31P	L31P	J31P	B31P
31KW	---	E31CW	L31MP	L31M	J31M	B31M
32W	A32W	E32WW	L32	L32	J32	B32W
32P	---	E32PW	L32P	L32P	J32P	B32P
32KW	---	E32CW	L32PMP	L32M	L32M	B32M
TUBE O.D. WELD FITTINGS (UNPOLISHED)						
B2WC	A2SX	V2WC	2WCL	2WCL	J2SX	B2WCL
B2WK	A2KSX	V2WK	2WK	2WK	J2KSX	B2WK
B2WU	A2WU	---	2WUL	2WUL	J2WU	B2WUL
B7W	A7W	V7W	7W	B7WWW	J7W	
B7WR	A7WR	V7WR	7WR	B7RWWW	J7WR	---
B9W	A9W	V9W	9W	B9WWWW	J9W	---
B9WR	A9WR	---	9WR	---	J9WR	---
B19W	A19W	19WB	19WB	19WB	J19W	B19WB
B28WA	A28WA	E28WA	---	28WA	J28WA	B28WA
B31W	A31W	V31W	31W	L31	J31W	B31W

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TUBE HANGERS						
K24FCF	---	---	---	A24FCF	---	---
TH	A24H	E24	SP24G	B24FCF	J24FCF	B24RG
26CB	---	---	---	---	---	---
THP	A24HP	---	---	D24FCF	J24PVC	B24P8
I-LINE FITTINGS						
2CI	---	EC2I	---	HDI-2C	---	B2CI
2FI	---	E2FI	---	HDI-2F	---	B2FI
2EI	---	E2EI	---	HDI-2E	---	B2EI
2KI	---	E2KI	---	HDI-2K	---	B2KI
2PI	---	E2PI	---	HDI-2P	---	B2PI
7I	---	E7I	---	HDI-7	---	B7I
7AI	---	E7AI	---	---	---	B7AI
7BI	---	E7BI	---	---	---	B7BI
9I	---	E9I	---	---	---	B9I
13IS	---	E13IS	13IS	HDI-13-UD	13IS	13IL
13I	---	---	---	---	---	---
13IU	---	---	---	---	---	---
14WI	AY14WI	E14WI	14WI	HDI-14W	14WI	14WI
15WI	AY15WI	E15WI	15WI	HDI-15W	15WI	15WI
14WLI	AY14WLI	E14WLI	14WLI	---	---	14WLI
15WLI	AY15WLI	E15WLI	15WLI	---	---	15WLI
17-14I-15I	---	E17-14I-15I	---	---	---	17-14I-15I
17-15I-15I	---	E17-15I-15I	---	---	---	17-15I-15I
17-14I-14I	---	E17-14I-14I	---	---	---	17-14I-14I
17-14I-14MP	---	E17-14I-14MP	---	---	---	17-14I-14MP
17-14I-15I	---	E17-14I-15I	---	---	---	17-14I-15I
17-15I-14	---	E17-15I-14	---	---	---	17-15I-14
17-15I-15I	---	E17-15I-15I	---	---	---	17-15I-15I
17-15I-14MP	---	E17-15I-14MP	---	---	---	17-15I-14MP
16AI-14I	AY16AI-14I	E16AI-14I	16AI-14I	HDI-16A-14	16AI-14I	16-AI-14I
16AI-15I	AY16AI-15I	E16AI-15I	16AI-15I	HDI-16A-15	16AI-15I	16AI-15I
B31I-14FI	---	E31I-14I	---	HDI-31-14F	---	B31I-14I
B31I-15FI	---	E31I-15I	---	HDI-31-15F	---	B31I-15I
B32I-14FI	---	E32I-14I	---	HDI-32-14F	---	B32I-14I
B32-15FI	---	E32I-15I	---	HDI-32-15F	---	B32I-15I
B32I-15FI	---	E32I-15I	---	HDI-32-15F	---	B32I-15I

S-LINE FITTINGS

WCB-Flow Products S-Line versatile fittings were originally designed for both COP (clean-out of-place) and CIP (clean-in-place) applications.

The WCB-Flow Products S-Line union is leak proof and free of crevices and also consist of two matching ferrules, a gasket, and a clamp. Utilizing these unions into a process piping system will ensure easy assembly and disassembly of process lines and equipment. The union is compact, which makes possible closer nesting of lines and more efficient use of production space.

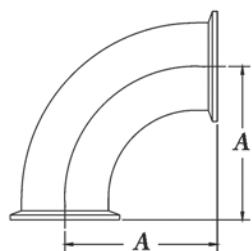
S-Line Fittings are available with a variety of I.D. and O.D. polishes or unpolished, in T304 or T316L Stainless Steel and in half-inch through 12" sizes.

- Available in 1/2" through 12"
- Fittings are made of T304 & T316L stainless steel.
- Finishes are available in any standard combination.
- ID polish is 32Ra and Unpolished
- OD polish is 32Ra and Unpolished
- Electropolished S-Line Fittings are offered.
- Gaskets are available in Buna, EPDM, Teflon®, FKM, and Silicone as a standard.
- Meets 3A and FDA requirements.



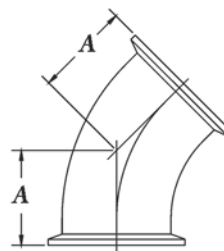
S-LINE ELBOWS

NOTE: ALL 1/2" & 3/4" AVAILABLE IN T316L ONLY. ALL DIMENSIONS ARE IN INCHES.



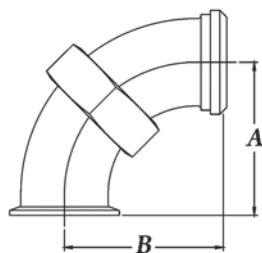
2CMP 90° ELL

SIZE	A
1/2	1 1/4
3/4	1 5/8
1	2
1 1/2	2 3/4
2	3 1/2
2 1/2	4 1/4
3	5
4	6 5/8
6	10 1/2
8	12 7/8



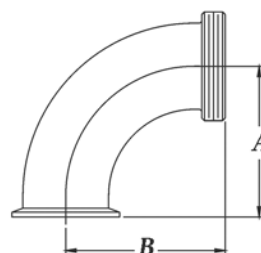
2KMP 45° ELL

SIZE	A
1/2	25/32
3/4	31/32
1	1 1/8
1 1/2	1 7/16
2	1 3/4
2 1/2	2 1/16
3	2 3/8
4	3 1/8
6	5 1/4
8	9 5/8



2FMP-14 90° ELL

SIZE	A	B
1	2	2 3/16
1 1/2	2 3/4	2 31/32
2	3 1/2	3 23/32
2 1/2	4 1/4	4 19/32
3	5	5 13/32
4	6 5/8	7 7/32

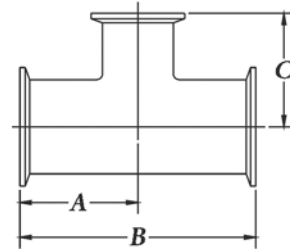
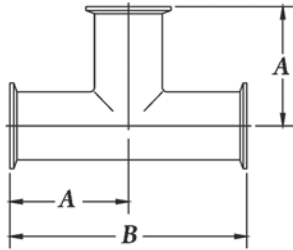


2FMP-15 90° ELL

SIZE	A	B
1	2	2 3/16
1 1/2	2 3/4	2 31/32
2	3 1/2	3 23/32
2 1/2	4 1/4	4 19/32
3	5	5 13/32
4	6 5/8	7 7/32

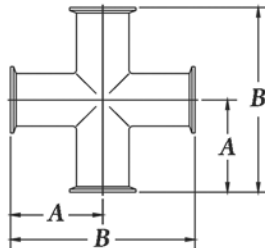
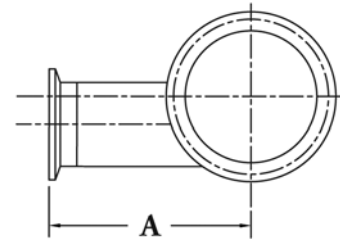
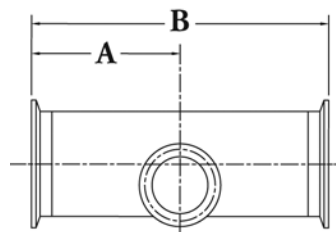
S-LINE TEES & CROSSES

NOTE: ALL 1/2" & 3/4" AVAILABLE IN T316L ONLY. ALL DIMENSIONS ARE IN INCHES.



7MP TEE

SIZE	A	B
1/2	1 1/4	2 1/2
3/4	2 3/8	4 3/4
1	2 3/8	4 3/4
1 1/2	2 3/4	5 1/2
2	3 1/2	7
2 1/2	3 1/2	7
3	3 3/4	7 1/2
4	4 1/2	9
6	6 1/2	13
8	9 7/8	19 3/4

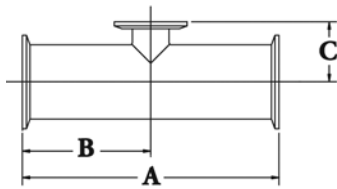


9MP CROSS

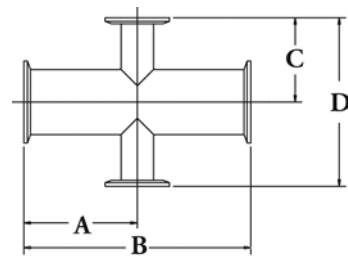
SIZE	A	B
1/2	1 1/4	2 1/2
3/4	2 3/8	4 3/4
1	2 3/8	4 3/4
1 1/2	2 3/4	5 1/2
2	3 1/2	7
2 1/2	3 1/2	7
3	3 3/4	7 1/2
4	4 1/2	9
6	6 1/2	13

7ERP & 7RMP REDUCING TEE

SIZE	A	B	C
3/4 X 1/2	2 5/8	5 1/4	2 5/8
1 X 1/2	2 5/8	5 1/4	2 5/8
1 X 3/4	2 5/8	5 1/4	2 5/8
1 1/2 X 1/2	2 7/8	5 3/4	2 7/8
1 1/2 X 3/4	2 7/8	5 3/4	2 7/8
1 1/2 X 1	2 5/32	4 5/16	1 7/8
2 X 1/2	2 9/16	5 1/8	2 1/8
2 X 3/4	2 9/16	5 1/8	2 1/8
2 X 1	2 9/16	5 1/8	2 1/8
2 X 1 1/2	2 9/16	5 1/8	2 13/32
2 1/2 X 1/2	2 27/32	5 11/16	2 3/8
2 1/2 X 3/4	2 27/32	5 11/16	2 3/8
2 1/2 X 1	2 27/32	5 11/16	2 3/8
2 1/2 X 1 1/2	2 27/32	5 11/16	2 21/32
2 1/2 X 2	2 27/32	5 11/16	2 13/16
3 X 3/4	3 3/32	6 3/16	2 5/8
3 X 1	3 3/32	6 3/16	2 5/8
3 X 1 1/2	3 3/32	6 3/16	2 29/32
3 X 2	3 1/16	6 3/16	3 3/32
3 X 2 1/2	3 3/32	6 3/16	3 3/32
4 X 1	4 1/16	8 1/8	3 1/8
4 X 1 1/2	4 1/16	8 1/8	3 13/32
4 X 2	4 1/16	8 1/8	3 19/32
4 X 2 1/2	4 1/16	8 1/8	3 19/32
4 X 3	4 1/16	8 1/8	3 19/32
6 X 3	5 7/8	11 3/4	5 1/4
6 X 4	5 7/8	11 3/4	5 1/2


7RMPS TEE SHORT OUTLET

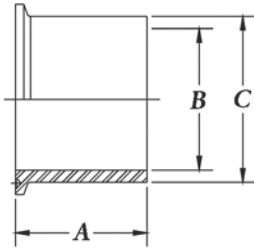
SIZE	A	B	C
$\frac{3}{4} \times \frac{1}{2}$	$5\frac{1}{4}$	$2\frac{5}{8}$	$1\frac{5}{16}$
$1 \times \frac{1}{2}$	$5\frac{1}{4}$	$2\frac{5}{8}$	$1\frac{1}{16}$
$1 \times \frac{3}{4}$	$5\frac{1}{4}$	$2\frac{5}{8}$	$1\frac{1}{16}$
$1\frac{1}{2} \times \frac{1}{2}$	$5\frac{3}{4}$	$2\frac{7}{8}$	$1\frac{5}{16}$
$1\frac{1}{2} \times \frac{3}{4}$	$5\frac{3}{4}$	$2\frac{7}{8}$	$1\frac{5}{16}$
$1\frac{1}{2} \times 1$	$4\frac{3}{8}$	$2\frac{3}{16}$	$1\frac{5}{16}$
$2 \times \frac{1}{2}$	$5\frac{1}{8}$	$2\frac{9}{16}$	$1\frac{9}{16}$
$2 \times \frac{3}{4}$	$5\frac{1}{8}$	$2\frac{9}{16}$	$1\frac{9}{16}$
2×1	$5\frac{1}{8}$	$2\frac{9}{16}$	$1\frac{9}{16}$
$2 \times 1\frac{1}{2}$	$5\frac{1}{8}$	$2\frac{9}{16}$	$1\frac{9}{16}$
$2\frac{1}{2} \times \frac{1}{2}$	$5\frac{11}{16}$	$2\frac{27}{32}$	$1\frac{13}{16}$
$2\frac{3}{4} \times \frac{3}{4}$	$5\frac{11}{16}$	$2\frac{27}{32}$	$1\frac{13}{16}$
$2\frac{1}{2} \times 1$	$5\frac{11}{16}$	$2\frac{27}{32}$	$1\frac{13}{16}$
$2\frac{1}{2} \times 1\frac{1}{2}$	$5\frac{11}{16}$	$2\frac{27}{32}$	$1\frac{13}{16}$
$2\frac{1}{2} \times 2$	$5\frac{11}{16}$	$2\frac{27}{32}$	$1\frac{13}{16}$
$3 \times \frac{1}{2}$	$6\frac{3}{16}$	$3\frac{3}{32}$	$2\frac{1}{16}$
$3 \times \frac{3}{4}$	$6\frac{3}{16}$	$3\frac{3}{32}$	$2\frac{1}{16}$
3×1	$6\frac{3}{16}$	$3\frac{3}{32}$	$2\frac{1}{16}$
$3 \times 1\frac{1}{2}$	$6\frac{3}{16}$	$3\frac{3}{32}$	$2\frac{1}{16}$
3×2	$6\frac{3}{16}$	$3\frac{3}{32}$	$2\frac{1}{16}$
$3 \times 2\frac{1}{2}$	$6\frac{3}{16}$	$3\frac{3}{32}$	$2\frac{1}{16}$
$4 \times \frac{1}{2}$	$8\frac{1}{8}$	$4\frac{1}{16}$	$2\frac{9}{16}$
$4 \times \frac{3}{4}$	$8\frac{1}{8}$	$4\frac{1}{16}$	$2\frac{9}{16}$
4×1	$8\frac{1}{8}$	$4\frac{1}{16}$	$2\frac{9}{16}$
$4 \times 1\frac{1}{2}$	$8\frac{1}{8}$	$4\frac{1}{16}$	$2\frac{9}{16}$
4×2	$8\frac{1}{8}$	$4\frac{1}{16}$	$2\frac{9}{16}$
$4 \times 2\frac{1}{2}$	$8\frac{1}{8}$	$4\frac{1}{16}$	$2\frac{9}{16}$
4×3	$8\frac{1}{8}$	$4\frac{1}{16}$	$2\frac{9}{16}$
6×4	$11\frac{3}{4}$	$5\frac{7}{8}$	$3\frac{11}{16}$


9RMP REDUCING CROSS

SIZE	A	B	C	D
$\frac{3}{4} \times \frac{1}{2}$	$2\frac{5}{8}$	$5\frac{1}{4}$	$2\frac{5}{8}$	$2\frac{5}{8}$
$1 \times \frac{1}{2}$	$2\frac{5}{8}$	$5\frac{1}{4}$	$2\frac{5}{8}$	$2\frac{5}{8}$
$1 \times \frac{3}{4}$	$2\frac{5}{8}$	$5\frac{1}{4}$	$2\frac{5}{8}$	$2\frac{5}{8}$
$1\frac{1}{2} \times \frac{1}{2}$	$2\frac{7}{8}$	$5\frac{3}{4}$	$2\frac{7}{8}$	$2\frac{7}{8}$
$1\frac{1}{2} \times \frac{3}{4}$	$2\frac{7}{8}$	$5\frac{3}{4}$	$2\frac{7}{8}$	$2\frac{7}{8}$
$1\frac{1}{2} \times 1$	$2\frac{5}{32}$	$4\frac{5}{16}$	$2\frac{5}{32}$	$1\frac{7}{8}$
2×1	$2\frac{9}{16}$	$5\frac{1}{8}$	$2\frac{9}{32}$	$2\frac{1}{8}$
$2 \times 1\frac{1}{2}$	$2\frac{9}{16}$	$5\frac{1}{8}$	$2\frac{9}{32}$	$2\frac{13}{32}$
$2\frac{1}{2} \times 1$	$2\frac{27}{32}$	$4\frac{3}{4}$	$2\frac{5}{6}$	$2\frac{3}{4}$
$2\frac{1}{2} \times 1\frac{1}{2}$	$2\frac{27}{32}$	$5\frac{11}{16}$	$2\frac{5}{6}$	$2\frac{21}{32}$
$2\frac{1}{2} \times 2$	$2\frac{27}{32}$	$5\frac{11}{16}$	$2\frac{5}{6}$	$2\frac{13}{16}$
3×1	$3\frac{3}{32}$	$6\frac{3}{16}$	$3\frac{1}{11}$	$2\frac{5}{8}$
$3 \times 1\frac{1}{2}$	$3\frac{3}{32}$	$6\frac{3}{16}$	$3\frac{1}{11}$	$2\frac{29}{32}$
3×2	$3\frac{3}{32}$	$6\frac{3}{16}$	$3\frac{1}{11}$	$3\frac{1}{16}$
$3 \times 2\frac{1}{2}$	$3\frac{3}{32}$	$6\frac{3}{16}$	$3\frac{1}{11}$	$3\frac{3}{32}$
4×1	$4\frac{1}{16}$	$8\frac{1}{8}$	$4\frac{1}{16}$	$3\frac{1}{8}$
$4 \times 1\frac{1}{2}$	$4\frac{1}{16}$	$8\frac{1}{8}$	$4\frac{1}{16}$	$3\frac{13}{32}$
4×2	$4\frac{1}{16}$	$8\frac{1}{8}$	$4\frac{1}{16}$	$3\frac{9}{16}$
$4 \times 2\frac{1}{2}$	$4\frac{1}{16}$	$8\frac{1}{8}$	$4\frac{1}{16}$	$3\frac{19}{32}$
4×3	$4\frac{1}{16}$	$8\frac{1}{8}$	$4\frac{1}{16}$	$3\frac{19}{32}$
6×3	$5\frac{7}{8}$	$11\frac{3}{4}$	$5\frac{7}{8}$	$5\frac{1}{4}$
6×4	$5\frac{7}{8}$	$11\frac{3}{4}$	$5\frac{7}{8}$	$5\frac{1}{2}$

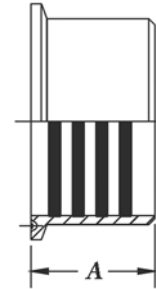
S-LINE FERRULES

NOTE: AVAILABLE IN NO. 7 POLISH ONLY. ALL DIMENSIONS ARE IN INCHES.



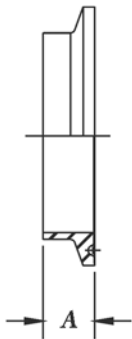
**14MPW WELDING FERRULE
TANK SPUD (HEAVY)**

SIZE	A	B	C
1	1 ⁵ / ₈	⁷ / ₈	1 ⁵ / ₃₂
1 ¹ / ₂	1 ⁵ / ₈	1 ³ / ₈	1 ¹¹ / ₆₄
2	1 ³ / ₄	1 ⁷ / ₈	2 ³ / ₁₆
2 ¹ / ₂	1 ³ / ₄	2 ³ / ₈	2 ⁴⁵ / ₆₄
3	1 ¹³ / ₁₆	2 ⁷ / ₈	3 ⁷ / ₃₂
4	2 ¹ / ₈	3 ⁵³ / ₆₄	4 ¹ / ₄



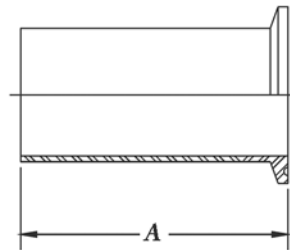
14RMP FERRULE ROLL-ON

SIZE	A
1	³ / ₄
1 ¹ / ₂	1 ¹ / ₈
2	1 ⁵ / ₁₆
2 ¹ / ₂	1 ³ / ₈
3	1 ⁷ / ₁₆
4	1 ¹ / ₂



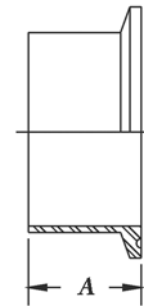
**14WMP SHORT WELDING
FERRULE**

SIZE	A
¹ / ₂	¹ / ₂
³ / ₄	¹ / ₂
1	¹ / ₂
1 ¹ / ₂	¹ / ₂
2	¹ / ₂
2 ¹ / ₂	¹ / ₂
3	¹ / ₂
4	⁵ / ₈
6	⁷ / ₈
8	⁷ / ₈
10	⁷ / ₈
12	⁷ / ₈



**14WLMP BUTT WELDING
FERRULE**

SIZE	A
1	3
1 ¹ / ₂	3
2	3
2 ¹ / ₂	3
3	4
4	4
6	6
8	6
10	6
12	6

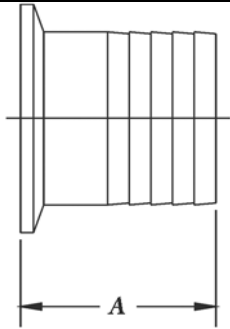


**L14AM7 WELDING FERRULE
TANK SPUD (LIGHT)**

SIZE	A
¹ / ₂	1 ¹ / ₈
³ / ₄	1 ¹ / ₈
1	1 ¹ / ₈
1 ¹ / ₂	1 ¹ / ₈
2	1 ¹ / ₈
2 ¹ / ₂	1 ¹ / ₈
3	1 ¹ / ₈
4	1 ¹ / ₈
6	1 ¹ / ₂
8	1 ¹ / ₂
10	1 ¹ / ₂
12	1 ¹ / ₂

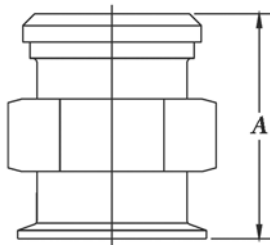
S-LINE ADAPTERS

NOTE: AVAILABLE IN NO. 7 POLISH ONLY. ALL DIMENSIONS ARE IN INCHES.



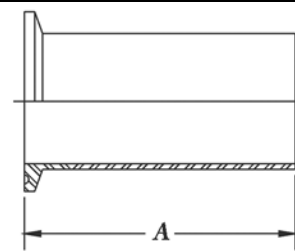
14MPHR RUBBER HOSE ADAPTER

SIZE	A
1/2 X 1/4	1 1/2
1/2 X 3/8	1 1/2
1/2	1 1/2
3/4 X 1/4	1 1/2
3/4 X 3/8	1 1/2
3/4 X 1/2	1 1/2
3/4	1 1/2
1 X 1/2	1 1/2
1 X 3/4	1 1/2
1	1 11/16
1 1/2 X 1/2	1 1/2
1 1/2 X 3/4	1 1/2
1 1/2 X 1	1 11/16
1 1/2	1 11/16
2	2 5/16
2 X 1/8	2 1/2
2 X 1/4	2 1/2
2 X 3/8	2 1/2
2 1/2	2 11/32
3	3 3/32
4	3 13/32
6	4
8	4



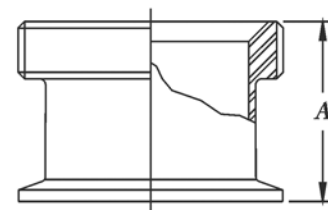
17MP-14 BEVEL TO S-LINE ADAPTER

SIZE	A
1	3
1 1/2	3
2	3
2 1/2	3 1/2
3	3 3/4
4	4



14MPHT TYGON HOSE ADAPTER

SIZE	A
1/2	1 3/4
3/4	1 3/4
1	4 1/2
1 1/2	4 1/2
2	4 1/2
2 1/2	4 1/2
3	4 1/2
4	4 5/8
6	4 1/2
8	4 1/2

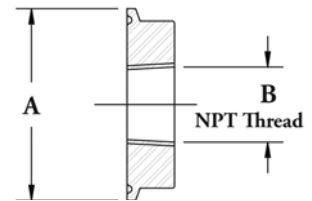
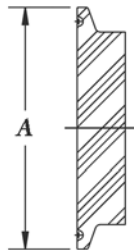
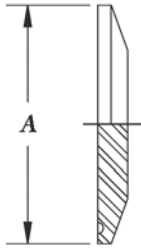


17MP-15 BEVEL FERRULE TO S-LINE ADAPTER

SIZE	A
1	1 11/16
1 1/2	1 23/32
2	1 23/32
2 1/2	1 27/32
3	1 29/32
4	2 11/32

S-LINE CAPS

NOTE: AVAILABLE IN NO. 7 POLISH ONLY. ALL DIMENSIONS ARE IN INCHES.



16AMP SOLID END CAP

SIZE	A
1/2 X 3/4	1
1	2
1 1/2	2
2	2 17/32
2 1/2	3 1/16
3	3 9/16
4	4 11/16
6	6 9/16
8	8 9/16
10	10 9/16
12	12 9/16

16AMP-SG SIGHT GLASS

SIZE	A
1 1/2	2
2	2 17/2
2 1/2	3 1/16
3	3 9/16
4	4 11/16

23BMP CAP (THERMOMETER)

SIZE	A	B
1	2	1/2-14
1 1/2	2	3/4-14
2	2 17/32	3/4-14
2 1/2	3 1/16	3/4-14
3	3 9/16	3/4-14
4	4 11/16	3/4-14

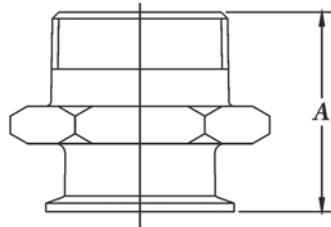
Note: The 23BMP Cap can also be used as a substitute for reducing #22MP i.e. - 1 x 1/2, 1 1/2 x 3/4 through 4 x 3/4. *Other threads are available.

S-LINE ADAPTERS

NOTE: ALL 1/2" & 3/4" AVAILABLE IN T316L ONLY. ALL DIMENSIONS ARE IN INCHES.

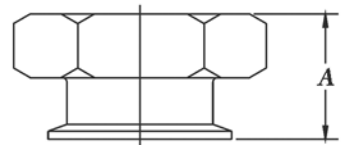
21MP ADAPTER S-LINE X MNPT

SIZE	A
1/2 X 1/8	2
1/2 X 1/4	2
1/2 X 3/8	2
1/2 X 3/4	2
1/2	2
3/4 X 3/8	2
3/4 X 1/4	2
3/4 X 3/8	2
3/4 X 1/2	2
3/4	2 1/8
1 X 1/2	2
1 X 3/4	2 1/8
1	2 1/4
1 1/2 X 1/2	2
1 1/2 X 3/4	2 1/8
1 1/2 X 1	2 1/4
1 1/2	2 7/16
2 X 1/2	2
2 X 3/4	2 1/2
2 X 1	2 7/16
2 X 1 1/2	2 7/16
2	2 21/32
2 1/2	3 9/32
2 1/2 X 2	2 21/32
3	3 1/2
4	3 13/16



22MP ADAPTER S-LINE X FNP

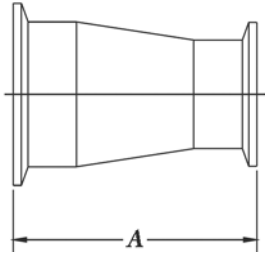
SIZE	A
1/2 X 1/8	1 1/4
1/2 X 1/4	1 1/2
1/2 X 3/8	1 1/2
1/2 X 3/4	1 5/8
1/2	1 1/2
3/4 X 7/8	1 1/4
3/4 X 1/4	1 1/2
3/4 X 3/8	1 1/2
3/4 X 1/2	1 1/2
3/4	1 5/8
1 X 1/2	2
1 X 3/4	2 1/8
1	1 5/8
1 1/2 X 1/2	2
1 1/2 X 3/4	1 5/8
1 1/2 X 1	1 5/8
1 1/2	1 5/8
2 X 1/2	2
2 X 3/4	2 1/2
2 X 1	1 5/8
2 X 1 1/2	1 5/8
2	1 23/32
2 1/2	2 3/32
2 1/2 X 2	1 21/32
3	2 3/16
4	2 5/8



SEE ALSO: 23BMP CAP

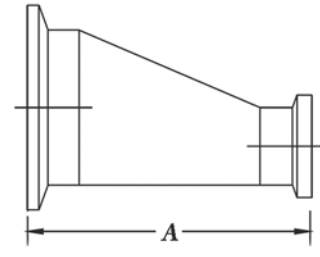
S-LINE REDUCERS

NOTE: ALL 1/2" & 3/4" AVAILABLE IN T316L ONLY. ALL DIMENSIONS ARE IN INCHES.



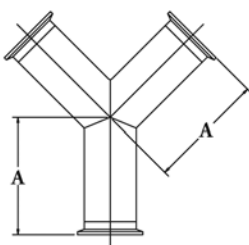
31-14MP CONCENTRIC REDUCER

SIZE	A
3/4 X 1/2	2
1 X 1/2	3 ³ / ₈
1 X 3/4	3 ³ / ₈
1 1/2 X 1/2	3 ³ / ₄
1 1/2 X 3/4	3 ³ / ₈
1 1/2 X 1	3 ³ / ₈
2 X 1	3 ³ / ₈
2 X 1 1/2	3 ³ / ₈
2 1/2 X 1 1/2	3 ³ / ₈
2 1/2 X 2	3 ³ / ₈
3 X 1 1/2	4 ⁵ / ₈
3 X 2	4 ⁵ / ₈
3 X 2 1/2	4 ⁵ / ₈
4 X 2	4 ³ / ₄
4 X 2 1/2	4 ³ / ₄
4 X 3	4 ³ / ₄
6 X 3	10 ³ / ₈
6 X 4	10 ¹ / ₂
8 X 6	12 ³ / ₄



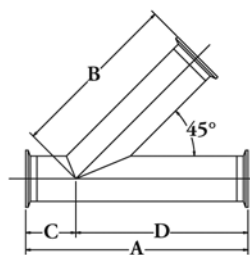
32-14MP ECCENTRIC REDUCER

SIZE	A
3/4 X 1/2	2
1 X 1/2	3
1 X 3/4	2
1 1/2 X 1/2	5
1 1/2 X 3/4	4
1 1/2 X 1	3
2 X 1	5
2 X 1 1/2	3
2 1/2 X 1 1/2	5
2 1/2 X 2	3
3 X 1 1/2	7
3 X 2	5
3 X 2 1/2	3
4 X 2	9 ¹ / ₈
4 X 2 1/2	7 ¹ / ₈
4 X 3	5 ¹ / ₈
6 X 3	10 ³ / ₈
6 X 4	10 ¹ / ₂



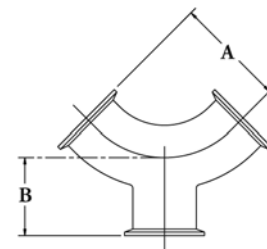
28BMP TRUE Y

SIZE	A
1/2	2 1/2
3/4	2 1/2
1	3 1/2
1 1/2	3 1/2
2	4 1/2
2 1/2	5 1/2
3	6 1/2
4	8 ⁵ / ₈
6	8 ³ / ₄



28AMP Y-BRANCH 45°

SIZE	A	B	C	D
1	7	5 1/2	1 1/2	5 1/2
1 1/2	8 ³ / ₈	6 ¹¹ / ₁₆	1 ¹¹ / ₁₆	6 ¹¹ / ₁₆
2	9 ³ / ₄	7 ⁵ / ₈	2 1/8	7 ⁵ / ₈
2 1/2	11	9	2	9
3	11 ³ / ₄	9 ³ / ₈	2 ³ / ₈	9 ³ / ₈
4	14	11 ⁵ / ₁₆	2 ¹¹ / ₁₆	11 ⁵ / ₁₆



28IMP INSPECTION ELBOW

SIZE	A	B
1	2 ⁷ / ₃₂	2
1 1/2	2 ⁹ / ₁₆	2 ³ / ₄
2	3 ¹ / ₄	3 ¹ / ₂
2 1/2	3 ³ / ₈	4 ¹ / ₄
3	4	5
4	5 ¹ / ₈	6 ⁵ / ₁₆

S-LINE CLAMPS



PRESSURE RATINGS: CLAMP vs. UNION

WHICH IS THE CRITICAL VALUE TO APPLY?

Some manufacturers display pressure ratings of their clamp. But the clamp alone is not the critical value to apply.

The Clamped UNION is the critical element for evaluating pipeline pressure capacity.

The Gasket is the weakest part of the UNION. Clamps alone will always be rated to higher pressure and yet will not reflect the true pressure capacity of the piping system.

Be certain your pressure ratings are for the UNION - not just the clamp.

EXAMPLE: 13MHP HIGH PRESSURE CLAMP

	MAXIMUM PRESSURE OF THE UNION @ 70 F	MAXIMUM PRESSURE OF THE CLAMP @ 70 F
1 1/2"	1,220 PSI	1,500 PSI
2"	900 PSI	1,000 PSI
2 1/2"	720 PSI	1,000 PSI
3"	600 PSI	1,000 PSI
4"	570 PSI	1,000 PSI

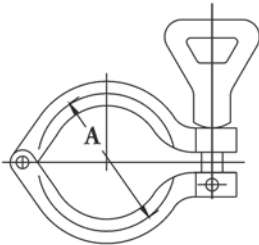
} THE DIFFERENCE: 280 PSI-430 PSI IN
OVERSTATED PRESSURE CAPACITY!

A clamped union consists of: Two Ferrules, One Gasket, and One Clamp

For safe, correct design, evaluate your selections using the pressure ratings of the clamped union and choose WCB-Flow Products clamps for quality and dependability.

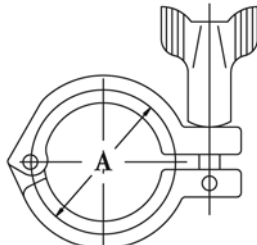
S-LINE HEAVY DUTY CLAMPS

SINGLE PIN HIGH POLISH



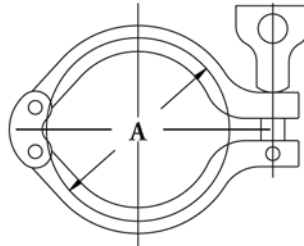
13MHM
1/2" - 12"
T304 & T316

SINGLE PIN TUMBLED POLISH



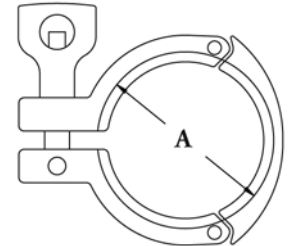
P13MHM
1/2" - 6"
T304

**DOUBLE PIN MAKE
TUMBLED POLISH**



PW13MHM
1" - 4"
T304

**3-SEGMENT
TUMBLED POLISH**



P13MHHS
1" - 4"
T304

SIZE	A
1/2 & 3/4	1.109
1	2.122
1 1/2	2.122
2	2.654
2 1/2	3.185
3	3.717
4	4.820
6	6.695
8	8.695
10	10.695
12	12.695

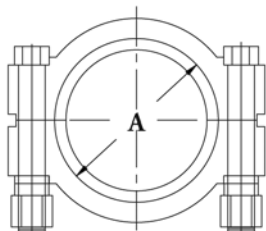
*Also available in 1" to 6" Schedule
5 Pipe Sizes.

PRESSURE RATINGS OF THE UNION

SIZE	MAXIMUM PRESSURE AT 70°F	MAXIMUM PRESSURE AT 250°F
1/2 & 3/4	1,500 PSI	1,200 PSI
1 & 1 1/2	500 PSI	250 PSI
2	450 PSI	250 PSI
2 1/2	400 PSI	200 PSI
3	350 PSI	150 PSI
4	200 PSI	125 PSI
6	150 PSI	75 PSI
8	100 PSI	50 PSI
10	75 PSI	40 PSI

Note: For pressure not listed contact factory.
See Fittings Price List and Ordering Information on page 4 for
additional clamp offerings.

S- LINE CLAMPS



13MHP HIGH PRESSURE CLAMP

Strong, cast 304SS clamp with SS hex screws and silicone bronze nuts to prevent galling.

T304 & T316 available 1/2 - 4

SIZE	A
1/2 & 3/4	1.051
1 & 1 1/2	2.064
2	2.595
2 1/2	3.130
3	3.659
4	4.762
6	6.695

FOR PRESSURE RATINGS SEE BELOW

13MHP PRESSURE RATINGS OF THE UNION

SIZE	MAXIMUM PRESSURE AT 70°F	MAXIMUM PRESSURE AT 250°F
1/2 & 3/4	1,500 PSI	1,200 PSI
1 1/2	1,220 PSI	1,100 PSI
2	900 PSI	830 PSI
2 1/2	720 PSI	660 PSI
3	600 PSI	550 PSI
4	570 PSI	525 PSI
6	300 PSI	200 PSI

Note: Pressure ratings are based on the following parameters: Nominal wall thickness (.065 1.5"-3", .083 4"), use of elastomer type gasket*, weld ferrules, properly aligned and assembled joints (nuts torqued to 20 ft. lb.) and the absence of water hammer or shock loads.

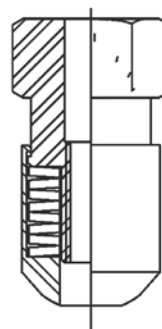
Remember, use the Clamped Union pressure rating above for safe, correct pipeline design. Pressure ratings of the clamp alone are generally higher yet do not take into account the full clamped assembly with gasket.

PTFE gaskets are not recommended for use with 13MHP clamps.

Consult factory for Solid PTFE and PTFE Envelope Gasket information.

Higher pressure ratings for the clamp alone are available upon request.

S-LINE LIVE LOAD NUT



13MHHMLL LIVE LOADED CLAMP NUT

Maintains a constant tightening force on clamped unions. Used especially with **Teflon (PTFE)** gaskets.

Teflon (PTFE) is chemically inert and so preferred in many applications. However, when a connection using a **Teflon (PTFE)** gasket is heated up and then cooled, it will leak. The metal expands when it is heated, which compresses the gasket. When the system is cooled, the metal contracts, but the **Teflon (PTFE)** does not return to its original size (no memory) and the connection leaks.

The "**Live Loaded**" nut fits on standard S-Line clamps (5/16" - 18 thread). This nut consists of a two-piece outer housing, in which is contained a quantity of specially constructed springs. When the nut is tightened to **50 inch pounds** on the clamp, the springs in the nut are compressed.

As the product line is heated and cooled, the spring pressure maintains a constant force on the clamp to keep the gasket sealed between the two ferrules.

The "**Live Loaded**" nut can be purchased as a separate item to retrofit existing clamps.

ORDERING INFORMATION: CLAMPS

WHEN ORDERING PLEASE SPECIFY

MODEL*	SIZE	DESCRIPTION
13MHHM		
13MHP		
*PW13MHHM		BLANK: O.D. TUBING
P13MHHM		
P13MHHS		SCH5: PIPE SIZES (WHERE AVAILABLE)

The above format is used for all WCB-FP clamps.

Note: 13MHHMLL Live Loaded Clamp Nuts are sold separately from clamps.

*Please refer to the price pages for Puriti Clamp Information.

S- LINE GASKETS

WCB-Flow Products Sanitary S-Line Gaskets are available in many basic designs in a variety of materials that are non-toxic and resistant to contact media. Information on general service characteristics of gasket materials will be furnished upon request.

40MP Standard-Molded, one-piece o-ring gaskets are economical and meet the FDA requirements for use in food products (21CFR 177.2600).



PART DESCRIPTION

MATERIAL

SIZES AVAILABLE

40MP-U	BUNA (HYCAR)	
40MP-X	SILICONE	
40MP-E	EPDM**	1/2" - 12" TUBE OR
PIPE		
40MP-G	SOLID PTFE (TEFLON - SEE BELOW) (FOR ALL PARTS)	
40MP-Y	FKM (FLUOREL)	

40MPF Flanged-Molded o-ring gaskets with a special rim that snaps on and stays in position. Available from stock, 1-12". **Not for use with 13MHP clamps.**



PART DESCRIPTION

MATERIAL

SIZES AVAILABLE

40MPF-U	BUNA (HYCAR)	
40MPF-SFY	FKM (FLUOREL)	1/2" - 12" TUBE OR
PIPE		
40MPF-E	EPDM**	(FOR ALL PARTS)
40MPF-X	SILICONE	

40MP-GR Envelope gasket has a PTFE* outer shell sandwiching an elastomer rubber insert.



PART DESCRIPTION

MATERIAL

SIZES AVAILABLE

40MP-GR	PTFE* OUTER JACKET ENVELOPE WITH:	
	NO SUFFIX = BUNA INSERT	
	SUFFIX "V" = VITON INSERT	1/2" - 12" TUBE OR
PIPE		
	SUFFIX "E" = EPDM INSERT	(FOR ALL PARTS)
	SUFFIX "WV" = WHITE FKM	

* (PTFE) Poly Tetra Fluoro Ethylene, (13MHHMLL Live Loaded Clamp nuts recommended)

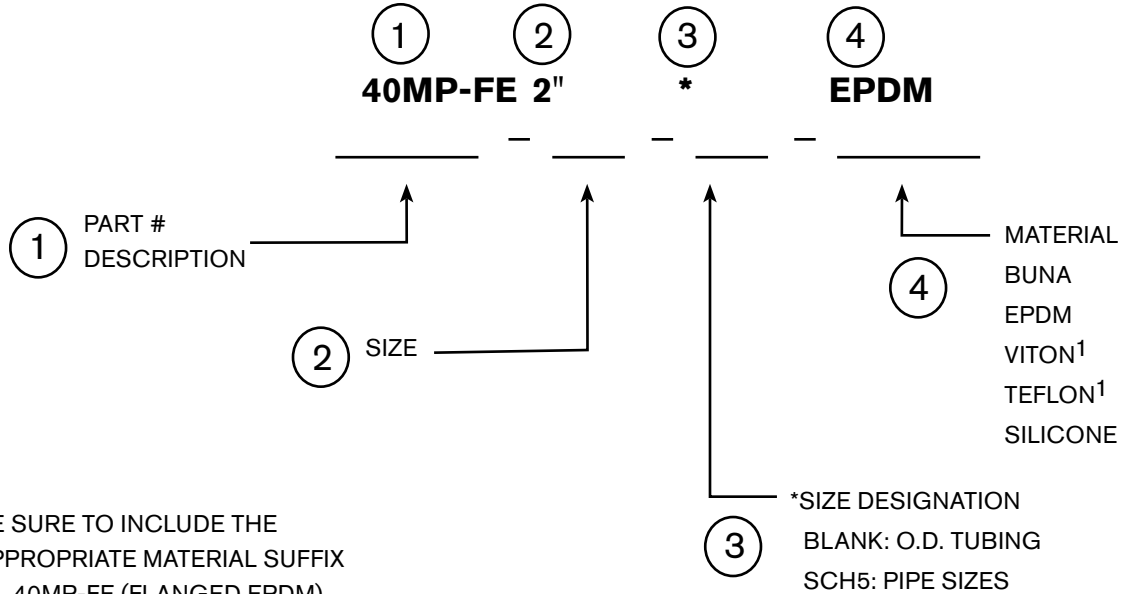
**Ethylene Propylene Diene Monomer

¹VITON and TEFLON are trademarks of the E.I. DuPont DeNemaurs Company

ORDERING INFORMATION: S-LINE GASKETS

When ordering please specify

MODEL NUMBER EXAMPLE



SPECIAL NOTE CONCERNING THE LIMITED USE OF PTFE GASKETS:

Pressure Service Ratings shown on pages 18 & 19 for S-Line Clamps Do Not Apply to connections utilizing PTFE material gaskets. As PTFE material by nature is virtually incompressible and tends to "cold flow" under normal operating conditions. PTFE gaskets, have significant lower holding pressures when used with any standard clamp. Unreinforced PTFE is not recommended for use at temperatures above 200°F (93°C).

To avoid possible leakage problems, please contact WCB-Flow Products before considering the use of PTFE material. Please refer to our 13MHHMLL - LIVE LOADED CLAMP NUT which is designed to maintain a constant force on the clamp to prevent leakage as the line is heated and cooled.

NOTE: PTFE gaskets are not recommended for use with 13MHP Clamps.

SANITARY WELD FITTINGS

WCB-Flow Products Sanitary Weld fittings are in use around the world in dairies, distilleries, breweries, food processing plants and cosmetics—wherever product purity and corrosion resistance are important. These fittings are also utilized in process piping systems where COP is not required or where CIP can be accomplished.

Weld fittings also are available in 1/2" and 3/4" tube O.D. sizes in 316SS as shown in our BPE Fittings Data Sheet DS-1601.

ASME BPE fittings are also available to use with the latest automatic welding equipment.

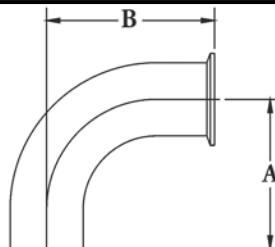
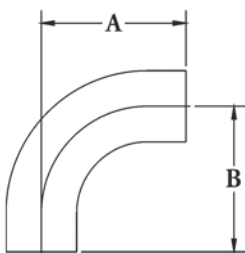
These fittings can be welded manually or with automatic machines. Weld fittings are utilized to eliminate unnecessary joints and dead leg zones for product to become entrapped.

- Available in 1/2" through 12"
- Fittings are made of T304 & T316L stainless steel.
- Finishes are available in any standard combination.
- ID polish is 32 Ra
- OD polish is 32 Ra
- Electropolished weld fittings are available upon request.
- Meets 3A and FDA requirements.



SANITARY WELD ELBOWS

FOR 1/2" & 3/4" SIZE FITTINGS, SEE THE DS-1601 BPE FITTINGS DATA SHEET. ALL DIMENSIONS ARE IN INCHES.



2CW 90° TUBE BEND

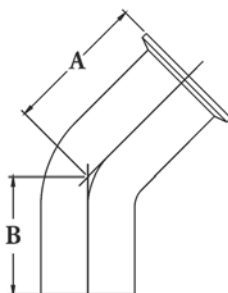
SIZE	A
1	2 ¹ / ₁₆
1 1/2	2 ¹⁵ / ₁₆
2	4 ¹ / ₁₆
2 1/2	5 ³ / ₁₆
3	6 ⁵ / ₁₆
4	8 ⁵ / ₁₆
6	8 ³ / ₄

2CKW 90° ELL

SIZE	A	B
1	2 ¹ / ₁₆	2 ⁹ / ₁₆
1 1/2	2 ¹⁵ / ₁₆	3 ⁷ / ₁₆
2	4 ¹ / ₁₆	4 ⁹ / ₁₆
2 1/2	5 ³ / ₁₆	5 ¹¹ / ₁₆
3	6 ⁵ / ₁₆	6 ¹³ / ₁₆
4	8 ⁵ / ₁₆	8 ¹⁵ / ₁₆

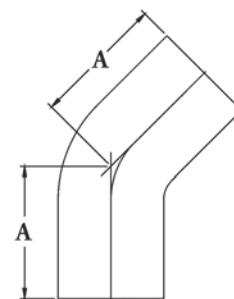
2KKW 45° ELL

SIZE	A	B
1	1 ¹¹ / ₁₆	1 ³ / ₁₆
1 1/2	2 ¹ / ₈	1 ⁵ / ₈
2	2 ¹³ / ₁₆	2 ⁵ / ₁₆
2 1/2	3 ¹ / ₂	3
3	4 ³ / ₁₆	3 ¹¹ / ₁₆
4	5 ⁷ / ₁₆	4 ¹³ / ₁₆



2KW 45° TUBE BEND

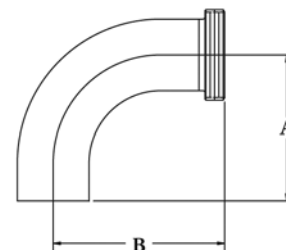
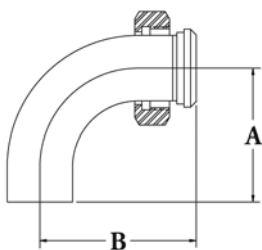
SIZE	A
1	1 ³ / ₁₆
1 1/2	1 ⁵ / ₈
2	2 ⁵ / ₁₆
2 1/2	3
3	3 ¹¹ / ₁₆
4	4 ¹³ / ₁₆
6	7 ¹ / ₂



SANITARY WELD SWEEP ELBOWS

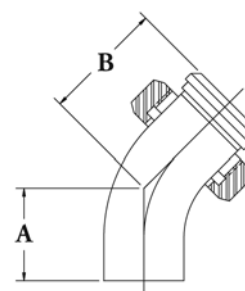
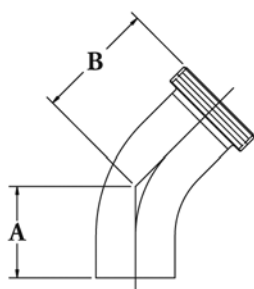
**2FW & 2TW
90° SWEEP ELBOW**

SIZE	A	B
1	2 ¹ / ₁₆	2 ³ / ₄
1 1/2	2 ¹⁵ / ₁₆	3 ⁵ / ₈
2	4 ¹ / ₁₆	4 ²⁵ / ₃₂
2 1/2	5 ³ / ₁₆	6 ¹ / ₃₂
3	6 ⁵ / ₁₆	7 ¹ / ₄
4	8 ⁵ / ₁₆	9 ¹⁷ / ₃₂



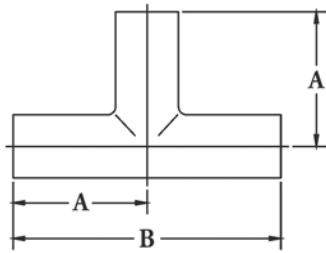
**2KT & 2KP
45° SWEEP ELBOW**

SIZE	A	B
1	1 ³ / ₁₆	1 ⁷ / ₈
1 1/2	1 ⁵ / ₈	2 ⁵ / ₁₆
2	2 ⁵ / ₁₆	3 ¹ / ₃₂
2 1/2	3	3 ²⁷ / ₃₂
3	3 ¹¹ / ₁₆	4 ⁵ / ₈
4	4 ¹³ / ₁₆	6 ¹ / ₃₂



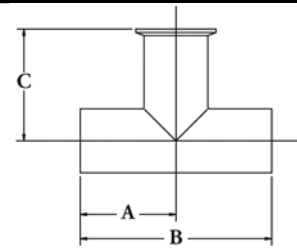
SANITARY WELD TEES, CROSSES & LATERALS

FOR 1/2" & 3/4" SIZE FITTINGS, SEE THE DS-1601 BPE FITTINGS DATA SHEET. ALL DIMENSIONS ARE IN INCHES.



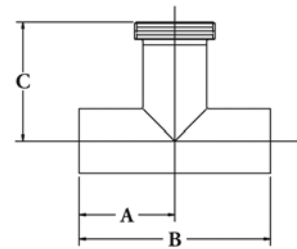
7W

SIZE	A	B
1	1 ¹ / ₈	2 ¹ / ₄
1 ¹ / ₂	1 ²¹ / ₃₂	3 ⁵ / ₁₆
2	2 ¹ / ₁₆	4 ¹ / ₈
2 ¹ / ₂	2 ¹¹ / ₃₂	4 ¹¹ / ₁₆
3	2 ¹⁹ / ₃₂	5 ³ / ₁₆
4	3 ⁷ / ₁₆	6 ⁷ / ₈
6	5	10



**7WWK TEE WITH
S-LINE BRANCH CLAMP**

SIZE	A	B	C
1	1 ¹ / ₈	2 ¹ / ₄	1 ⁵ / ₈
1 ¹ / ₂	1 ²¹ / ₃₂	3 ⁵ / ₁₆	2 ⁵ / ₃₂
2	2 ¹ / ₁₆	4 ¹ / ₈	2 ⁹ / ₁₆
2 ¹ / ₂	2 ¹¹ / ₃₂	4 ¹¹ / ₁₆	2 ²⁷ / ₃₂
3	2 ¹⁹ / ₃₂	5 ³ / ₁₆	3 ³ / ₃₂
4	3 ⁷ / ₁₆	6 ⁷ / ₈	4 ¹ / ₁₆

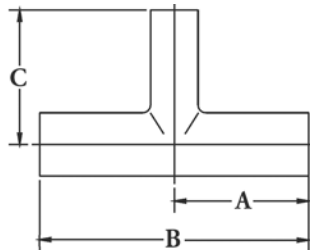


**7WWT TEE WITH
BRANCH THREADED**

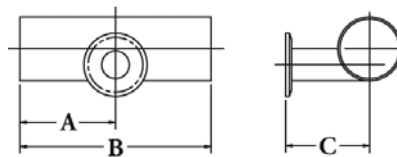
SIZE	A	B	C
1	1 ¹ / ₈	2 ¹ / ₄	1 ¹³ / ₁₆
1 ¹ / ₂	1 ²¹ / ₃₂	3 ⁵ / ₁₆	2 ³ / ₈
2	2 ¹ / ₁₆	4 ¹ / ₈	2 ²⁵ / ₃₂
2 ¹ / ₂	2 ¹¹ / ₃₂	4 ¹¹ / ₁₆	3 ³ / ₁₆
3	2 ¹⁹ / ₃₂	5 ³ / ₁₆	3 ¹ / ₂
4	3 ⁷ / ₁₆	6 ⁷ / ₈	4 ²¹ / ₁₆

7WR, 7ERWWK, 9RWWWW

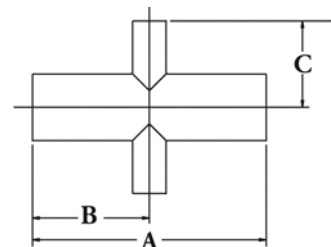
SIZE	A	B	C
1 ¹ / ₂ X 1	1 ²¹ / ₃₂	3 ⁵ / ₁₆	1 ³ / ₈
2 X 1	2 ¹ / ₁₆	4 ¹ / ₈	1 ⁵ / ₈
2 X 1 ¹ / ₂	2 ¹ / ₁₆	4 ¹ / ₈	1 ²⁹ / ₃₂
2 ¹ / ₂ X 1	2 ¹¹ / ₃₂	4 ¹¹ / ₁₆	1 ⁷ / ₈
2 ¹ / ₂ X 1 ¹ / ₂	2 ¹¹ / ₃₂	4 ¹¹ / ₁₆	2 ⁵ / ₃₂
2 ¹ / ₂ X 2	2 ¹¹ / ₃₂	4 ¹¹ / ₁₆	2 ⁵ / ₁₆
3 X 1	2 ¹⁹ / ₃₂	5 ³ / ₁₆	2 ¹ / ₈
3 X 1 ¹ / ₂	2 ¹⁹ / ₃₂	5 ³ / ₁₆	2 ¹³ / ₃₂
3 X 2	2 ¹⁹ / ₃₂	5 ³ / ₁₆	2 ⁹ / ₁₆
3 X 2 ¹ / ₂	2 ¹⁹ / ₃₂	5 ³ / ₁₆	2 ¹⁹ / ₃₂
4 X 1	3 ⁷ / ₁₆	6 ⁷ / ₈	2 ⁵ / ₈
4 X 1 ¹ / ₂	3 ⁷ / ₁₆	6 ⁷ / ₈	2 ²⁹ / ₃₂
4 X 2	3 ⁷ / ₁₆	6 ⁷ / ₈	3 ¹ / ₁₆
4 X 2 ¹ / ₂	3 ⁷ / ₁₆	6 ⁷ / ₈	3 ³ / ₃₂
4 X 3	3 ⁷ / ₁₆	6 ⁷ / ₈	3 ³ / ₃₂
6 X 3	5	10	4 ³ / ₄
6 X 4	5	10	4 ⁷ / ₈



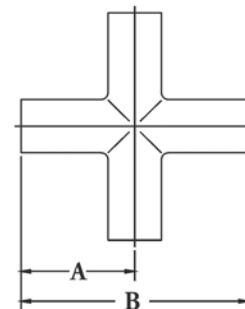
7WR



7ERWWK



9RWWWW



9W CROSS

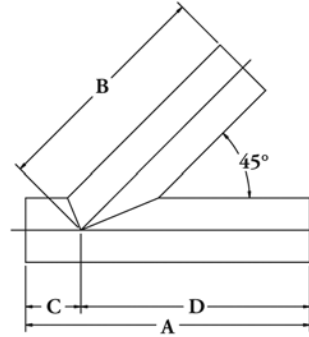
SIZE	A	B
1	1 ¹ / ₈	2 ¹ / ₄
1 ¹ / ₂	1 ²¹ / ₃₂	3 ⁵ / ₁₆
2	2 ¹ / ₁₆	4 ¹ / ₈
2 ¹ / ₂	2 ¹¹ / ₃₂	4 ¹¹ / ₁₆
3	2 ¹⁹ / ₃₂	5 ³ / ₁₆
4	3 ⁷ / ₁₆	6 ⁷ / ₈
6	5	10

SANITARY WELD TEES, CROSSES & LATERALS

FOR 1/2" & 3/4" SIZE FITTINGS, SEE THE DS-1601 BPE FITTINGS DATA SHEET. ALL DIMENSIONS ARE IN INCHES.

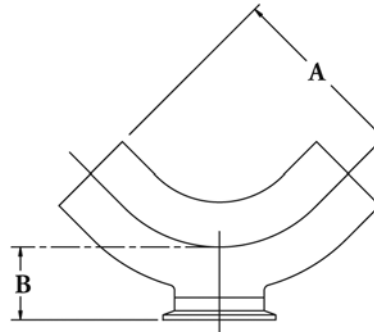
28AWWW 45° LATERAL

SIZE	A	B	C	D
1	3 ⁵ / ₈	3 ¹³ / ₁₆	1 ¹ / ₂	3 ¹ / ₈
1 ¹ / ₂	4 ³ / ₈	4 ⁹ / ₁₆	7 ⁷ / ₈	3 ¹ / ₂
2	5 ¹ / ₈	5	1 ¹ / ₈	4
2 ¹ / ₂	6 ⁵ / ₈	6 ³ / ₈	1 ⁵ / ₈	5
3	8 ¹ / ₂	7 ³ / ₄	2	6 ¹ / ₂
4	10 ¹ / ₂	9 ³ / ₈	2 ³ / ₈	8 ¹ / ₈



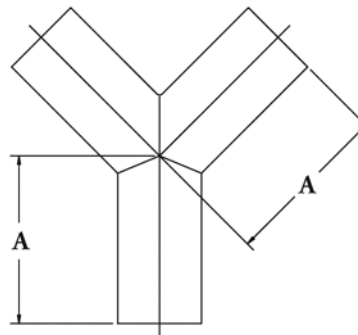
28IWWK INSPECTION ELBOW

SIZE	A	B
1	1 ¹ / ₁₆	1 ¹ / ₈
1 ¹ / ₂	2 ¹⁵ / ₁₆	1 ³ / ₈
2	4 ¹ / ₁₆	1 ⁵ / ₈
2 ¹ / ₂	5 ³ / ₁₆	1 ⁷ / ₈
3	6 ⁵ / ₁₆	2 ¹ / ₈
4	5 ⁵ / ₁₆	2 ³ / ₄



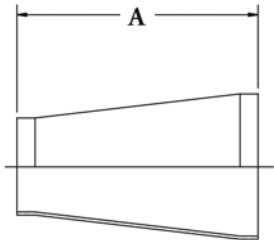
28BWWW TRUE WYE

SIZE	A
1	3
1 ¹ / ₂	3
2	4
2 ¹ / ₂	5
3	6
4	8
6	8



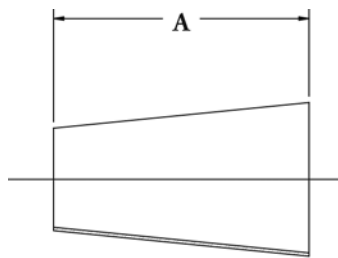
SANITARY WELD REDUCERS

FOR 1/2" & 3/4" SIZE FITTINGS, SEE THE DS-1601 BPE FITTINGS DATA SHEET. ALL DIMENSIONS ARE IN INCHES.



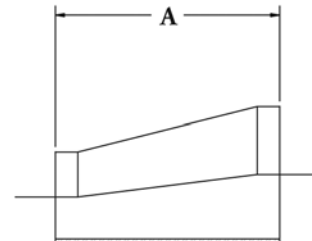
31W CONCENTRIC REDUCER

SIZE	A
1 1/2 X 1	2 3/8
2 X 1	2 3/8
2 X 1 1/2	2 3/8
2 1/2 X 1	2 3/8
2 1/2 X 1 1/2	2 3/8
2 1/2 X 2	2 3/8
3 X 1	5 1/4
3 X 1 1/2	3 5/8
3 X 2	3 5/8
3 X 2 1/2	3 5/8
4 X 2	3 5/8
4 X 2 1/2	3 5/8
4 X 3	3 5/8
6 X 3	9
6 X 4	9



31WC CONCENTRIC REDUCER

SIZE	A
1 1/2 X 1	2
2 X 1	4
2 X 1 1/2	2
2 1/2 X 1	6
2 1/2 X 1 1/2	4
2 1/2 X 2	2
3 X 1	8
3 X 1 1/2	6
3 X 2	4
3 X 2 1/2	2
4 X 1	12
4 X 1 1/2	10
4 X 2	8
4 X 2 1/2	6
4 X 3	4
6 X 3	6
6 X 4	4

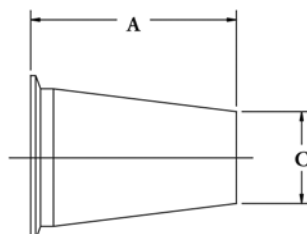


32W ECCENTRIC REDUCER

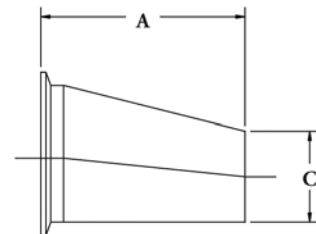
SIZE	A
1 1/2 X 1	2
2 X 1	4
2 X 1 1/2	2
2 1/2 X 1	6
2 1/2 X 1 1/2	4
2 1/2 X 2	2
3 X 1	8
3 X 1 1/2	6
3 X 2	4
3 X 2 1/2	2
4 X 1	12
4 X 1 1/2	10
4 X 2	8
4 X 2 1/2	6
4 X 3	4
6 X 3	9
6 X 4	9

**31K, 32K, 31P, 32P
CONCENTRIC REDUCER**

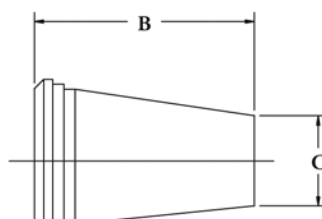
SIZE	A	B	C
1 1/2 X 1	2 1/2	2.69	1
2 X 1	4 1/2	4.72	1
2 X 1 1/2	2 1/2	2.72	1.5
2 1/2 X 1	6 1/2	6.84	1
2 1/2 X 1 1/2	4 1/2	4.84	1.5
2 1/2 X 2	2 1/2	2.84	2
3 X 1	8 1/2	8.94	1
3 X 1 1/2	6 1/2	6.94	1.5
3 X 2	4 1/2	4.94	2
3 X 2 1/2	2 1/2	2.94	2.5
4 X 1	12 5/8	13.22	1
4 X 1 1/2	10 5/8	11.22	1.5
4 X 2	8 5/8	9.22	2
4 X 2 1/2	6 5/8	7.22	2.5
4 X 3	4 5/8	5.22	3



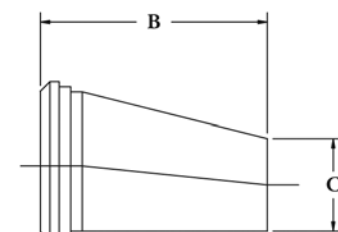
31K



32K



31P



32P

TUBE O.D. WELD FITTINGS

Tube OD weld fittings are utilized in a wide variety of industrial and non-sanitary applications where corrosive environments are more of a concern than sanitation. Utilizing these fittings ensures a permanent, rigid, and chemical resistance process system.

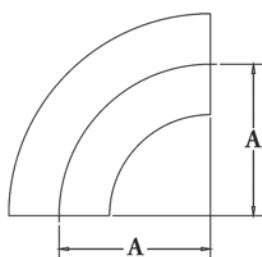
WCB-Flow Products Tube O.D. Butt-Weld Fittings are ideal for reliable, on-site fabrication of stainless steel process lines not requiring sanitary polish. Alternate finishes available upon request.

- Available in 1/2" through 12"
- Fittings are made of T304 & T316L stainless steel.
- Unpolished tumble finish



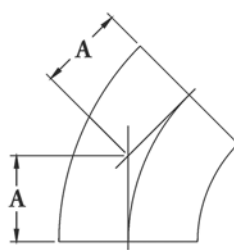
TUBE O.D. WELD ELBOWS

ALL DIMENSIONS ARE IN INCHES.



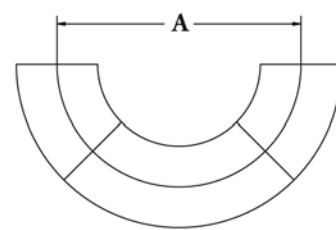
B2WC 90° ELBOW

SIZE	A
1/2	3/4
3/4	1 1/8
1	1 1/2
1 1/2	2 1/4
2	3
2 1/2	3 3/4
3	4 1/2
4	6
6	9



B2WK 45° ELBOW

SIZE	A
1/2	9/32
3/4	15/32
1	5/8
1 1/2	15/16
2	1 1/4
2 1/2	1 9/16
3	1 7/8
4	2 1/2
6	3 3/4

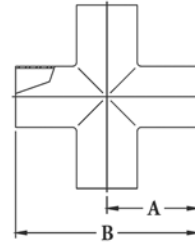
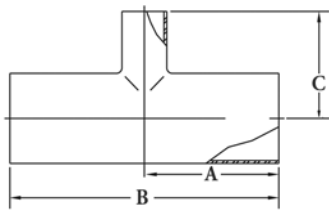
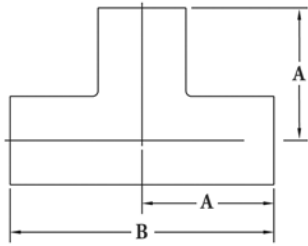


B2WU

SIZE	A
1/2	1 1/2
3/4	2 1/4
1	3
1 1/2	4 1/2
2	6
2 1/2	7 1/2
3	9
4	12
6	18

TUBE O.D. WELD TEES & CROSSES

ALL DIMENSIONS ARE IN INCHES.



B7W

SIZE	A	B
1/2	3/4	1 1/2
3/4	1 7/8	3 3/4
1	1 7/8	3 3/4
1 1/2	2 1/4	4 1/2
2	3	6
2 1/2	3	6
3	3 1/4	6 1/2
4	3 7/8	7 3/4
6	5	10
8	9	18

B7WR

SIZE	A	C	B
3/4 X 1/2	1 7/8	1	2 3/4
1 X 1 1/2	1 7/8	1 1/2	2 3/4
1 X 3/4	1 7/8	2	2 3/4
1 1/2 X 3/4	2 1/4	2 1/4	4 1/2
1 1/2 X 1	2 1/4	2 1/8	4 1/2
2 X 1	3	2 3/8	6
2 X 1 1/2	3	2 1/2	6
2 1/2 X 1 1/2	3	2 3/4	6
2 1/2 X 2	3	3 1/4	6
3 X 1 1/2	3 1/4	3	6 1/2
3 X 2	3 1/4	3 1/2	6 1/2
3 X 2 1/2	3 1/4	3 1/4	6 1/2
4 X 2	3 7/8	4	7 3/4
4 X 2 1/2	3 7/8	3 3/4	7 3/4
4 X 3	3 7/8	3 3/4	7 3/4
6 X 3	5	4 3/4	10
6 X 4	5	4 7/8	10
6 X 2	5	4 3/4	10

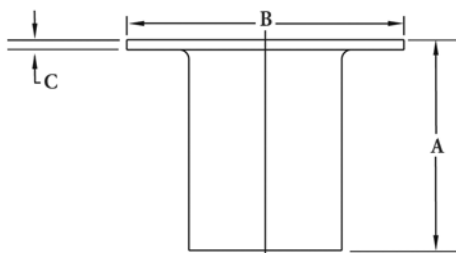
B9W

SIZE	A	B
1/2	3/4	1 1/2
3/4	1 7/8	3 3/4
1	1 7/8	3 3/4
1 1/2	2 1/4	4 1/2
2	3	6
2 1/2	3	6
3	3 1/4	6 1/2
4	3 7/8	7 3/4
6	5	10

TUBE O.D. LAP-JOINT CONNECTION

ALL DIMENSIONS ARE IN INCHES.

Lap-Joints utilize a weld-on, stub-end ferrule, and a back-up flange. Often used on vessels and heat-exchange equipment, lap-joints adapt tubing to flange connections.



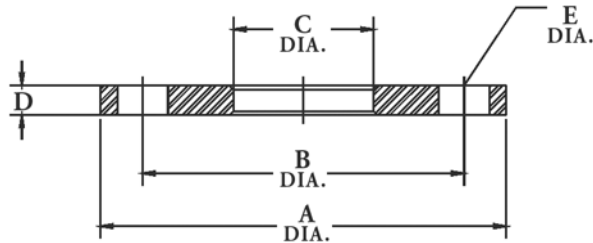
B14WA STUB END LAP-JOINT

O.D.	A	B	C
1/2	1 1/8	1 5/8	.098
3/4	1 3/8	1 11/16	.098
1	1 5/8	2	.130
1 1/2	1 3/4	2 7/8	.130
2	1 1/2	3 5/8	.130
2 1/2	2	4 1/8	.130
3	2 1/4	5	.166
4	2 5/8	6 3/16	.166
6	3	8 1/2	.218

To be used with B38W Tube O.D. Back up Flange, following page.

TUBE O.D. BACK UP FLANGES

NOTE: AVAILABLE IN NO. 1 POLISH ONLY. ALL DIMENSIONS ARE IN INCHES.



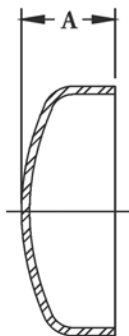
B38WA - 304 STAINLESS STEEL BACK-UP FLANGE

TUBE SIZE	OUTSIDE DIAMETER	BOLT CIRCLE	INSIDE DIAMETER	THICKNESS	BOLT HOLE DIAMETER	NO. OF BOLT HOLES
	A	B	C	D	E	
1/2	3 1/2	2 3/8	9/16	3/8	5/8	4
3/4	3 7/8	2 3/4	13/16	3/8	5/8	4
1	4 1/4	3 1/8	1 1/16	3/8	5/8	4
1 1/2	5	3 7/8	1 9/16	3/8	5/8	4
2	6	4 3/4	2 1/16	7/16	3/4	4
2 1/2	7	5 1/2	2 9/16	7/16	3/4	4
3	7 1/2	6	3 1/16	1/2	3/4	4
4	9	7 1/2	4 1/16	1/2	3/4	8
6	11	9 1/2	6 1/4	1/2	7/8	8

Use with the B14WA Stud-End Lap-Joint, see previous page.

TUBE O.D. WELD CAPS

ALL DIMENSIONS ARE IN INCHES.



B16W

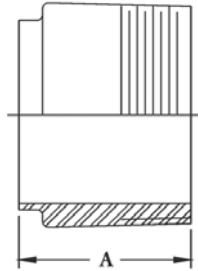
SIZE	A
1/2	1/4
3/4	5/16
1	3/8
1 1/2	9/16
2	3/4
2 1/2	1
3	1 1/4
4	1 1/2
6	2 1/4

TUBE O.D. WELD ADAPTERS

ALL DIMENSIONS ARE IN INCHES.

B19W MNPT TO WELD ADAPTER

SIZE	A
1/2	1 1/2
3/4	1 5/8
1	1 3/4
1 1/2	1 3/4
2	1 13/16
2 1/2	2 5/16
3	2 1/2
4	2 9/16
6	4

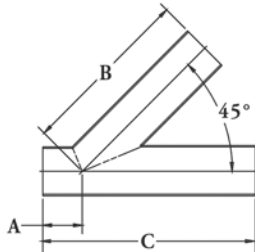


19WBF FNPT TO WELD ADAPTER

SIZE	A
1/2	1 1/4
3/4	1 1/4
1	1 3/8
1 1/2	1 13/32
2	1 7/16
2 1/2	1 3/4
3	1 7/8
4	1 15/16
6	4 7/32

TUBE O.D. WELD LATERALS

NOTE: ALL DIMENSIONS ARE IN INCHES. REDUCING, OTHER SIZES AND CONFIGURATIONS UPON REQUEST.

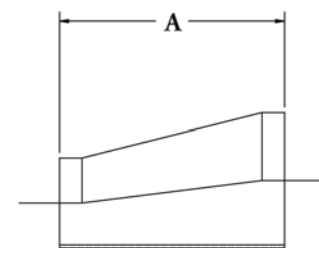
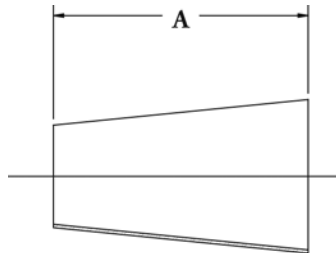
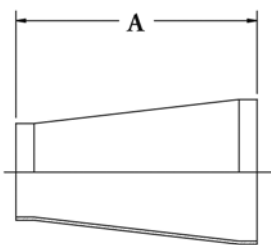


B28WA LATERAL 45°

SIZE	A	B	C
1/2	1	5	6
3/4	1	5	6
1	1	5	6
1 1/2	1 3/16	6 3/16	7 3/8
2	1 5/8	7 1/8	8 3/4
2 1/2	1 1/2	8 1/2	10
3	1 7/8	8 7/8	10 3/4
4	2 1/16	10 3/4	12 13/16

TUBE O.D. WELD REDUCERS

ALL DIMENSIONS ARE IN INCHES.



B31W CONCENTRIC REDUCER

O.D.	A
1 X 3/4	2 3/8
1 1/2 X 3/4	2 3/8
1 1/2 X 1	2 3/8
2 X 1	2 3/8
2 X 1 1/2	2 3/8
2 1/2 X 1 1/2	2 3/8
2 1/2 X 2	2 3/8
3 X 1 1/2	3 5/8
3 X 2	3 5/8
3 X 2 1/2	3 5/8
4 X 2	3 5/8
4 X 2 1/2	3 5/8
4 X 3	3 5/8
6 X 3	9
6 X 4	9

B31WC CONCENTRIC REDUCER

SIZE	A
1 1/2 X 1	2
2 X 1	4
2 X 1 1/2	2
2 1/2 X 1	6
2 1/2 X 1 1/2	4
2 1/2 X 2	2
3 X 1	8
3 X 1 1/2	6
3 X 2	4
3 X 2 1/2	2
4 X 1	12
4 X 1 1/2	10
4 X 2	8
4 X 2 1/2	6
4 X 3	4
6 X 3	5 1/2
6 X 4	5 1/2

B32W ECCENTRIC REDUCER

O.D.	A
1 X 3/4	1
1 1/2 X 3/4	3
1 1/2 X 1	2
2 X 1	4
2 X 1 1/2	2
2 1/2 X 1 1/2	4
2 1/2 X 2	2
3 X 1 1/2	6
3 X 2	4
3 X 2 1/2	2
4 X 2	8
4 X 2 1/2	6
4 X 3	4
6 X 3	9
6 X 4	9

NOTE: 4" and smaller available "no tangent" only.

I-LINE FITTINGS

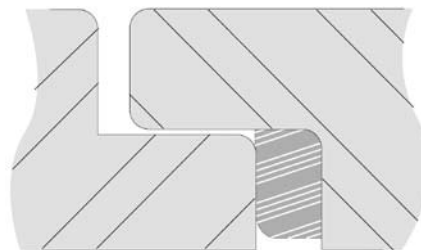
These are the original Cherry Burrell I-Line fittings and are made up of interlocking flat face ferrules, a flat gasket and a clamp. This interlocking, metal-to-metal design eliminates over compression by the clamp not allowing the gasket to be extruded into the product zone. I-Line fittings can withstand higher vibrations, temperatures and pressures than other available connections available.

- Available in 1" through 8"
- Fittings are made of T304 & T316L stainless steel.
- Finishes are available in any standard combination.
- ID polish is 32Ra
- OD polish is 32Ra
- Electropolished I-Line Fittings are available.
- Gaskets are available in Buna, EPDM, Teflon®, FKM, and Silicone as a standard.
- Meets 3A requirements



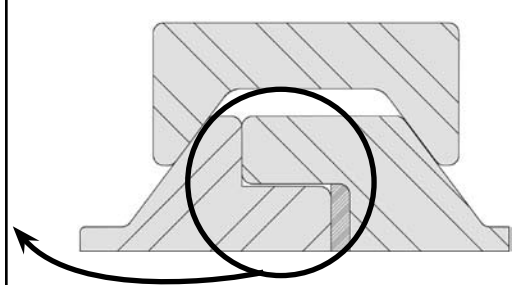
COMPRESSED

Gasket is compressed and fixed amount without hold up cavities.



DECOMPRESSED

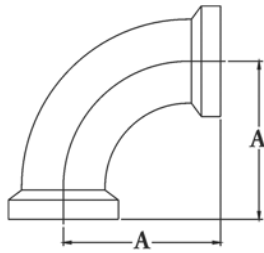
Metal-to-Metal stop controls gasket extrusion to the bore line. Eliminates liquid hold up and hard to clean pockets, while reducing pressure drop.



Greater metal cross section for a robust ferrule, resists damage due to handling. Ideal for heavy duty applicators and vibration resistance.

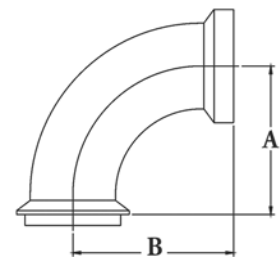
I-LINE ELBOWS

NOTE: ALL DIMENSIONS ARE IN INCHES.



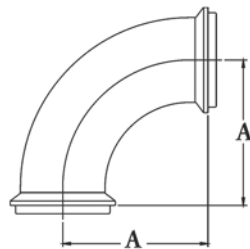
2CI 90° ELBOW BOTH ENDS FEMALE

SIZE	A
1	2
1½	2 ⁷ / ₈
2	3 ³ / ₄
2½	4 ²⁷ / ₃₂
3	5 ⁷ / ₈
4	8 ¹ / ₁₆
6	10 ¹ / ₈



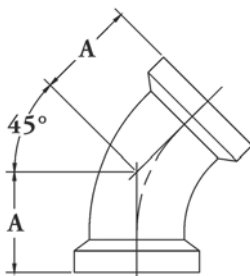
**2FI 90° ELBOW ONE END MALE
OTHER END FEMALE**

SIZE	B	A
1	2	1 ¹³ / ₁₆
1½	2 ⁷ / ₈	2 ¹¹ / ₁₆
2	3 ³ / ₄	3 ¹⁵ / ₃₂
2½	4 ²⁷ / ₃₂	4 ¹⁷ / ₃₂
3	5 ⁷ / ₈	5 ⁹ / ₁₆
4	8 ¹ / ₁₆	7 ³ / ₄
6	10 ¹ / ₈	9 ¹³ / ₁₆



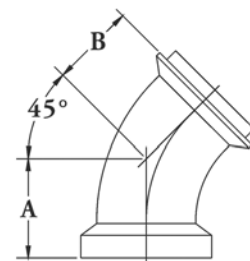
2EI 90° ELBOW BOTH ENDS MALE

SIZE	A
1	1 ¹³ / ₁₆
1½	2 ¹¹ / ₁₆
2	3 ¹⁵ / ₃₂
2½	4 ¹⁷ / ₃₂
3	5 ⁹ / ₁₆
4	7 ³ / ₄
6	9 ¹³ / ₁₆



**2KI 45° ELBOW
BOTH ENDS FEMALE**

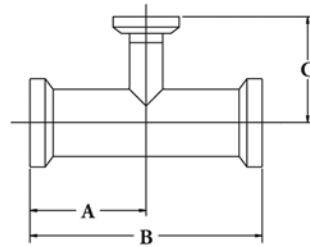
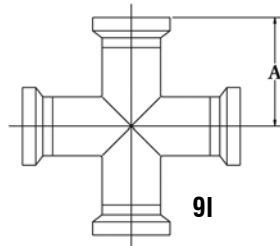
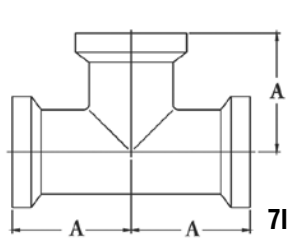
SIZE	A
1	1 ⁵ / ₁₆
1½	1 ²³ / ₃₂
2	2 ¹ / ₈
2½	2 ⁵ / ₈
3	3 ¹ / ₈
4	4 ¹ / ₄
6	4 ⁷ / ₈



**2PI 45° ELBOW ONE END MALE
OTHER END FEMALE**

SIZE	A	B
1	1 ⁵ / ₁₆	1 ¹ / ₈
1½	1 ²³ / ₃₂	1 ¹⁷ / ₃₂
2	2 ¹ / ₈	1 ⁷ / ₈
2½	2 ⁵ / ₈	2 ⁵ / ₁₆
3	3 ¹ / ₈	3 ¹ / ₈
4	4 ¹ / ₄	3 ¹⁵ / ₁₆
6	4 ⁷ / ₈	4 ⁹ / ₁₆

I-LINE TEES & CROSSES NOTE: ALL DIMENSIONS ARE IN INCHES.



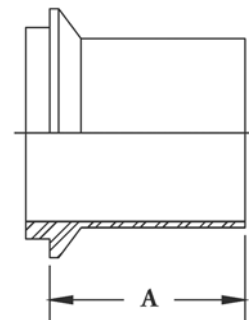
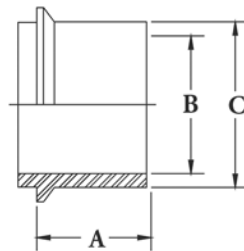
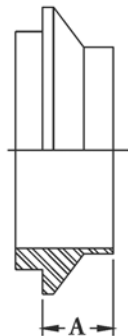
7I TEE & 9I CROSS ALL ENDS FEMALE

SIZE	A
1	$1^{13}/_{16}$
1 1/2	$2^{3}/_{8}$
2	$2^{25}/_{32}$
2 1/2	$3^{3}/_{16}$
3	$3^{1}/_{2}$
4	$4^{21}/_{32}$
6	$6^{3}/_{4}$

7RI REDUCING TEE ALL ENDS FEMALE

SIZE	A	B	C
1 1/2 X 1	$2^{9}/_{16}$	$5^{1}/_{8}$	$2^{29}/_{32}$
2 X 1	$3^{3}/_{32}$	$6^{3}/_{16}$	$3^{7}/_{32}$
2 X 1 1/2	$3^{3}/_{32}$	$6^{3}/_{16}$	$3^{17}/_{32}$
2 1/2 X 1 1/2	$3^{15}/_{32}$	$6^{15}/_{16}$	$3^{23}/_{32}$
2 1/2 X 2	$3^{15}/_{32}$	$6^{15}/_{16}$	$4^{9}/_{32}$
3 X 2	$3^{25}/_{32}$	$7^{9}/_{16}$	$4^{1}/_{16}$
3 X 2 1/2	$3^{25}/_{32}$	$7^{9}/_{16}$	$4^{13}/_{32}$
4 X 2 1/2	$4^{25}/_{32}$	$9^{9}/_{16}$	$4^{27}/_{32}$
4 X 3	$4^{25}/_{32}$	$9^{9}/_{16}$	$5^{1}/_{16}$

I-LINE FERRULES - MALE NOTE: ALL DIMENSIONS ARE IN INCHES.



14WI-CB FERRULE, MALE, WELDING

SIZE	A
1	$1^{19}/_{32}$
1 1/2	$3^{3}/_{4}$
2	$2^{25}/_{32}$
2 1/2	$2^{27}/_{32}$
3	$2^{29}/_{32}$
4	$1^{11}/_{32}$
6	$1^{13}/_{16}$
8	$1^{13}/_{16}$

14WHI FERRULE, MALE, WELDING (HEAVY WALL)

SIZE	A	B	C
1	$1^{5}/_{16}$.870	$1^{1}/_{4}$
1 1/2	$1^{7}/_{16}$	1.370	$1^{11}/_{16}$
2	$1^{1}/_{2}$	1.870	$2^{1}/_{4}$
2 1/2	$1^{7}/_{16}$	2.370	$2^{3}/_{4}$
3	$1^{1}/_{2}$	2.870	$3^{5}/_{16}$
4	$1^{13}/_{16}$	3.834	$4^{1}/_{4}$
6	$6^{7}/_{8}$	5.787	$6^{53}/_{64}$
8	$8^{7}/_{8}$	7.787	$8^{53}/_{64}$

14WLI FERRULE, MALE, WELDING, LONG

SIZE	A
1	$1^{9}/_{16}$
1 1/2	$1^{27}/_{32}$
2	$2^{1}/_{16}$
2 1/2	$2^{3}/_{16}$
3	$2^{3}/_{8}$
4	$2^{11}/_{16}$
6	$3^{13}/_{16}$
8	$3^{13}/_{16}$

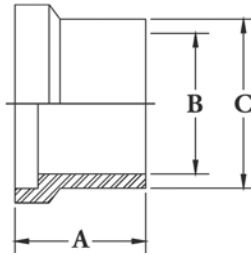
I-LINE FERRULES - FEMALE

NOTE: ALL DIMENSIONS ARE IN INCHES.



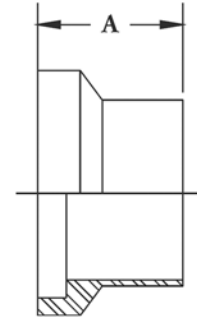
**15WI-CB FERRULE,
FEMALE, WELDING**

SIZE	A
1	$2\frac{5}{32}$
1½	$1\frac{5}{16}$
2	$1\frac{1}{32}$
2½	$1\frac{5}{32}$
3	$1\frac{7}{32}$
4	$1\frac{11}{32}$
6	$1\frac{1}{8}$
8	$1\frac{1}{8}$



**15WHI FERRULE, FEMALE,
WELDING (HEAVY WALL)**

SIZE	A	B	C
1	$1\frac{1}{2}$.870	$1\frac{1}{4}$
1½	$1\frac{5}{8}$	1.370	$1\frac{11}{16}$
2	$1\frac{3}{4}$	1.870	$2\frac{1}{4}$
2½	$1\frac{3}{4}$	2.370	$2\frac{3}{4}$
3	$1\frac{13}{16}$	2.870	$3\frac{5}{16}$
4	$2\frac{1}{8}$	3.834	$4\frac{1}{4}$
6	3	5.782	$6\frac{29}{32}$
8	3	7.782	$8\frac{29}{32}$



**15WLI FERRULE,
FEMALE, LONG**

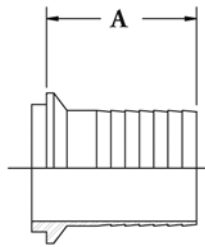
SIZE	A
TRUE 1	$1\frac{5}{8}$
1	$1\frac{3}{4}$
1½	$2\frac{1}{32}$
2	$2\frac{5}{16}$
2½	$2\frac{1}{2}$
3	$2\frac{11}{16}$
4	3
6	4
8	4

I-LINE ADAPTERS

NO. 7 POLISH ONLY. ALL DIMENSIONS ARE IN INCHES.

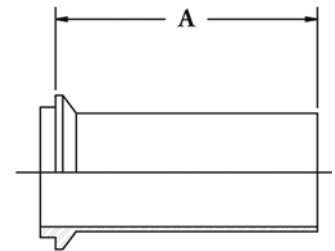
**14HRI MALE TO RUBBER HOSE
ADAPTER**

SIZE	A
1	$1\frac{11}{16}$
1½	$1\frac{5}{8}$
2	$2\frac{9}{32}$
2½	$2\frac{3}{8}$
3	$3\frac{3}{16}$
4	$3\frac{15}{32}$



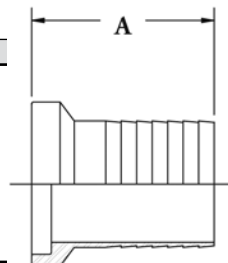
**14HTI MALE TO TYGON TUBE
ADAPTER**

SIZE	A
1	$4\frac{1}{16}$
1½	$4\frac{9}{32}$
2	$4\frac{1}{2}$
2½	$4\frac{13}{16}$
3	$5\frac{1}{16}$
4	$5\frac{3}{16}$



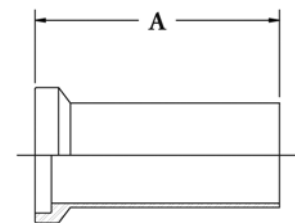
**15HRI FEMALE TO RUBBER
HOSE ADAPTER**

SIZE	A
1	$1\frac{7}{8}$
1½	$1\frac{13}{16}$
2	$2\frac{9}{16}$
2½	$2\frac{11}{16}$
3	$3\frac{1}{2}$
4	$3\frac{25}{32}$



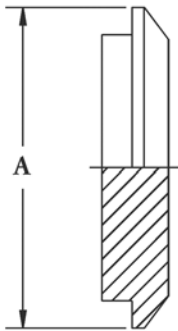
**15HTI FEMALE TO TYGON
TUBE ADAPTER**

SIZE	A
1	$4\frac{1}{4}$
1½	$4\frac{15}{32}$
2	$4\frac{3}{4}$
2½	$5\frac{1}{8}$
3	$5\frac{3}{8}$
4	$5\frac{1}{2}$



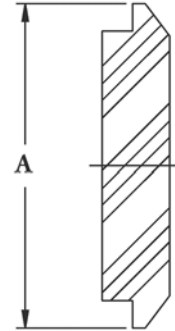
I-LINE CAPS

NOTE: ALL DIMENSIONS ARE IN INCHES.



16AI-14I CAP MALE

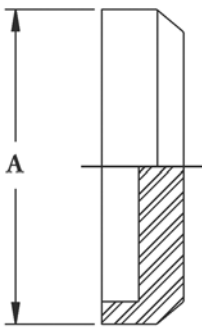
SIZE	A
1	2
1½	2
2	2⅝
2½	3⅝
3	3⅞
4	4⅞
6	7½
8	9½



16AI-14ISG SIGHT GLASS MALE

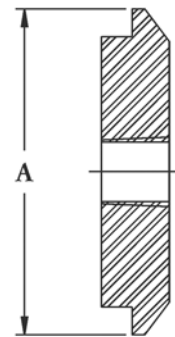
SIZE	A
1	2
1½	2
2	2⅝
2½	3⅝
3	3⅞
4	4⅞
6	7½
8	9½

*Acrylic, maximum temperature: 195°F



16AI-15I CAP FEMALE

SIZE	A
1	2
1½	2
2	2⅝
2½	3⅝
3	3⅞
4	4⅞
6	7½
8	9½



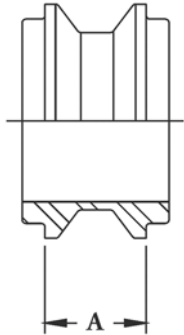
23BI THERMOMETER CAP MALE

SIZE	B*	A
1	½-14NPT	2
1½	¾-14NPT	2
2	¾-14NPT	2⅝
2½	¾-14NPT	3⅝
3	¾-14NPT	3⅞
4	¾-14NPT	4⅞

*Other taps are available

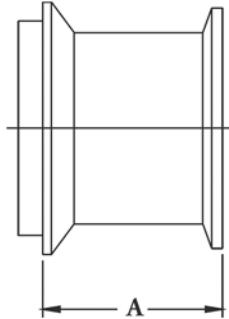
I-LINE ADAPTERS

NO. 7 POLISH ONLY. ALL DIMENSIONS ARE IN INCHES.



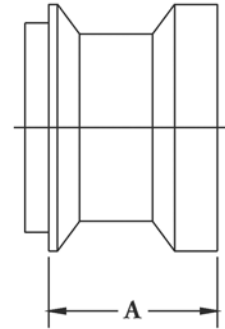
**17-14I-14I
ADAPTER MALE BY MALE**

SIZE	A
TRUE 1	1 1/2
1	1 3/16
1 1/2	1 1/2
2	1 9/16
2 1/2	1 11/16
3	1 13/16
4	2 1/16



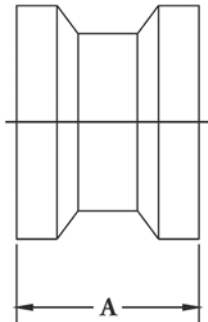
**17-14I-14MP ADAPTER MALE
BY S-LINE (L14AM).**

SIZE	A
1	1 3/32
1 1/2	1 27/32
2	1 7/8
2 1/2	1 15/16
3	2
4	2 1/8



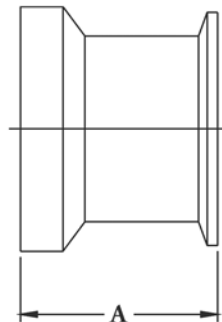
**17-14I-15I
ADAPTER MALE BY FEMALE**

SIZE	A
TRUE 1	1 5/8
1	1 11/32
1 1/2	1 21/32
2	1 13/16
2 1/2	1 31/32
3	2 3/32
4	2 11/32



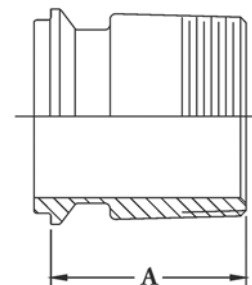
**17-15I-15I
ADAPTER FEMALE BY FEMALE**

SIZE	A
TRUE 1	1 3/4
1	1 9/16
1 1/2	1 7/8
2	2 1/16
2 1/2	2 5/16
3	2 7/16
4	2 11/16



**17-15I-14MP ADAPTER FEMALE
BY S-LINE (L14AM)**

SIZE	A
1	1 9/32
1 1/2	2 1/32
2	2 1/8
2 1/2	2 1/4
3	2 5/16
4	2 7/16

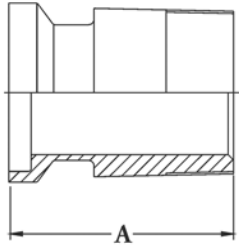


**21FI-14I
ADAPTER MALE BY MALE NPT**

SIZE	A
1 X 1/2	2 11/32
1 X 3/4	2 11/32
1 X 1	2 1/4
1 1/2 X 1 1/4	2 7/8
1 1/2 X 1 1/2	2 3/16
2 X 2	2 9/16
2 1/2 X 2 1/2	2 27/2
3 X 3	3 3/32
4 X 4	3 1/4

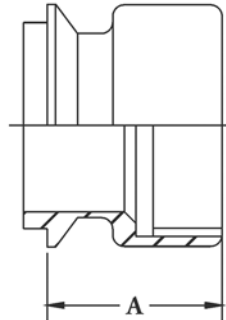
I-LINE ADAPTERS

NO. 7 POLISH ONLY. ALL DIMENSIONS ARE IN INCHES.



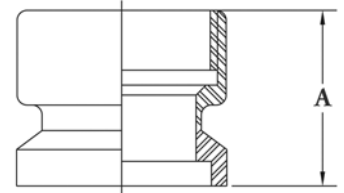
21I-15I
ADAPTER FEMALE BY MALE NPT

SIZE	A
1 X 1/2	2 ¹⁷ / ₃₂
1 X 3/4	2 ¹⁷ / ₃₂
1 X 1	2 ⁷ / ₁₆
1 1/2 X 1 1/4	3 ¹ / ₁₆
1 1/2 X 1 1/2	2 ³ / ₈
2 X 2	2 ⁹ / ₁₆
2 1/2 X 2 1/2	3 ⁵ / ₃₂
3 X 3	3 ¹³ / ₃₂
4 X 4	3 ⁹ / ₁₆



22FI-14I
ADAPTER MALE BY FEMALE NPT

SIZE	A
1 X 1/2	2 ¹⁵ / ₃₂
1 X 3/4	2 ¹⁹ / ₃₂
1 X 1	1 ⁷ / ₈
1 1/2 X 1 1/4	3 ¹ / ₄
1 1/2 X 1 1/2	1 ²⁷ / ₃₂
2 X 2	1 ²⁹ / ₃₂
2 1/2 X 2 1/2	2 ⁹ / ₃₂
3 X 3	2 ¹⁵ / ₃₂
4 X 4	2 ⁵ / ₈



22FI-15I
ADAPTER FEMALE BY FEMALE NPT

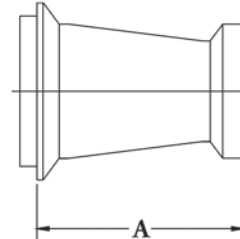
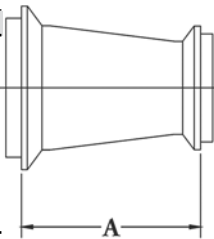
SIZE	A
1 X 1/2	2 ²¹ / ₃₂
1 X 3/4	2 ²⁵ / ₃₂
1 X 1	2 ¹ / ₁₆
1 1/2 X 1 1/4	3 ⁷ / ₁₆
1 1/2 X 1 1/2	2 ¹ / ₃₂
2 X 2	2 ³ / ₁₆
2 1/2 X 2 1/2	2 ¹⁹ / ₃₂
3 X 3	2 ²⁵ / ₃₂
4 X 4	2 ¹⁵ / ₃₂

I-LINE REDUCERS

NO. 7 POLISH ONLY. ALL DIMENSIONS ARE IN INCHES.

31I-14FI CONCENTRIC REDUCER
BOTH ENDS MALE

SIZE	A
1 1/2 X 1	3 ⁵ / ₁₆
2 X 1 1/2	3 ¹ / ₄
2 1/2 X 2	3 ³ / ₈
3 X 2	4 ¹¹ / ₁₆
3 X 2 1/2	4 ³ / ₄
4 X 3	4 ²⁹ / ₃₂

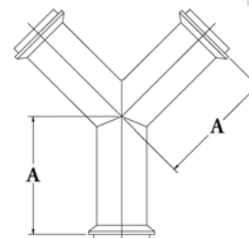
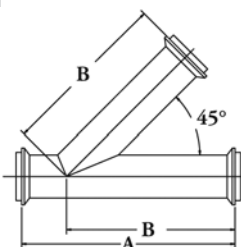


31I-15FI CONCENTRIC REDUCER
LARGE END MALE,
OTHER END FEMALE

SIZE	A
1 1/2 X 1	3 ¹ / ₈
2 X 1 1/2	3 ³ / ₃₂
2 1/2 X 2	3 ⁹ / ₃₂
3 X 2	5 ³ / ₈
3 X 2 1/2	3 ⁷ / ₁₆
4 X 3	5 ²¹ / ₃₂

28AI LATERAL ALL ENDS MALE

SIZE	A	B
1	7 ⁹ / ₁₆	5 ²³ / ₃₂
1 1/2	9 ¹ / ₄	7 ¹ / ₈
2	10 ¹¹ / ₁₆	8 ⁵ / ₃₂
2 1/2	12 ⁷ / ₁₆	9 ²¹ / ₃₂
3	13 ³ / ₁₆	10 ³ / ₃₂
4	15 ¹ / ₂	12 ³ / ₃₂
6	19 ¹ / ₈	15 ⁵ / ₈



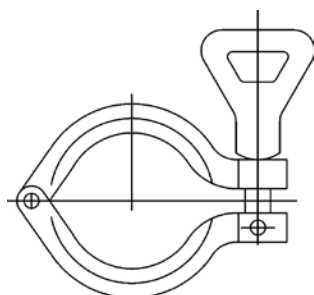
28BI TRUE Y ALL ENDS MALE

SIZE	A
1	3 ²⁵ / ₃₂
1 1/2	3 ¹⁵ / ₁₆
2	5 ¹ / ₃₂
2 1/2	5 ⁵ / ₃₂
3	7 ⁷ / ₃₂
4	9 ¹¹ / ₃₂
6	9 ¹ / ₈

I-LINE CLAMPS

RUGGED AND DEPENDABLE, DESIGNED FOR HEAVY DUTY APPLICATIONS AND BUILT TO LAST. MADE FROM CAST 304 STAINLESS STEEL IN THREE BASIC STYLES. SEE PAGE 03 FOR ORDERING INFORMATION.

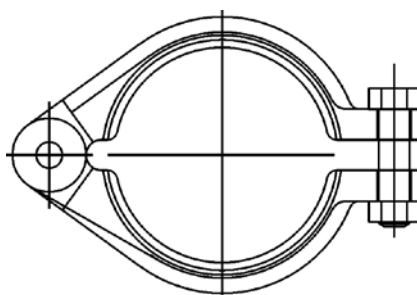
13IS



Wingnut Tightened Clamp

Available in 1"-4" sizes

13I

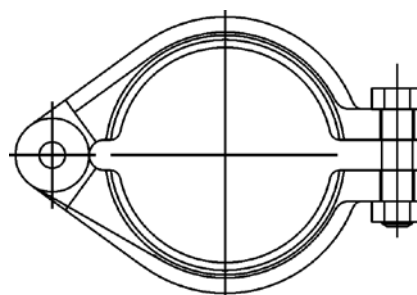


Bolted Clamp

Available in 1"-6"

(6" has two bolt connection)

13IU



Bolted, Unpolished Clamp

Available in 1"-8"

(6"-8" has two bolt connection)

PRESSURE RATINGS: I-LINE CLAMPED UNIONS

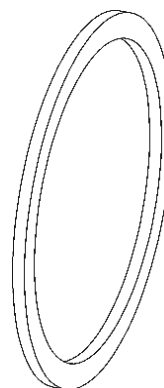
P.S.I. SERVICE RATING								
CLAMP \ TUBE O.D.	TEMP.	1"	1½"	2"	2½"	3"	4"	6"
HEAVY DUTY	@ 70°F	1220	1220	900	720	600	570	150
13I, 13IU & 13IS	@ 250°F	1100	1100	830	660	550	525	75

***6" AVAILABLE IN 13I AND 13IU ONLY.**

GASKETS

WCB-Flow Products Sanitary I-Line Gaskets are available in a variety of materials that are non-toxic and resistant to contact media. Information on general service characteristics of gasket materials will be furnished upon request.

Part Description	Material	Sizes Available
40IH	BUNA	1"-8"
40IV	VITON	1"-8"
40IE	EPDM	1"-8"
40IT	TEFLON	1"-8"
40IX	SILICONE	1"-8"

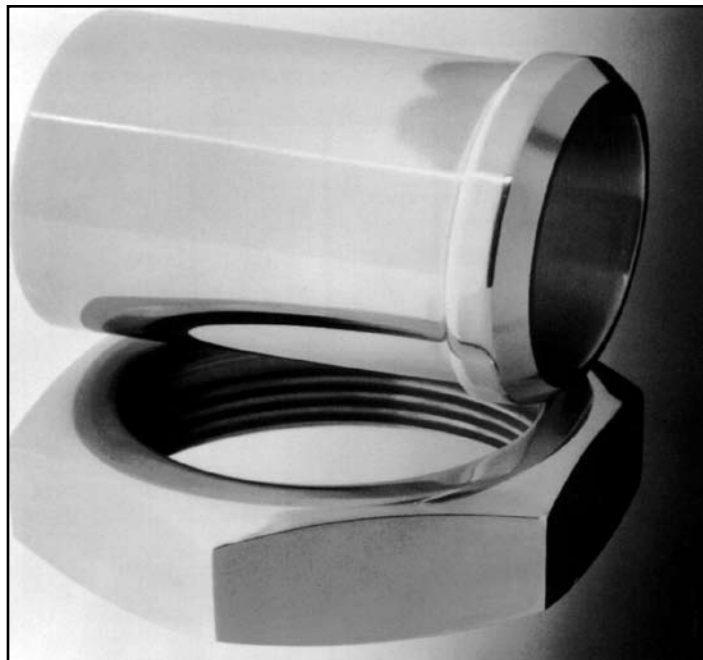


WCB-Flow Products I-line gaskets are specially designed to not extrude into the interior diameter of the tubing when the clamp is tightened.

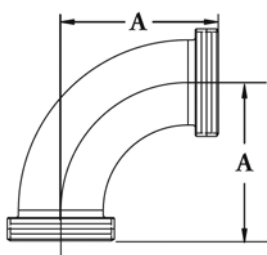
BEVEL SEAT FITTINGS

WCB-Flow Products Bevel Seat Fittings are precision engineered and manufactured from stainless steel. Bevel Seat connections are made up of a plain bevel ferrule mating to a threaded bevel ferrule with a threaded hex nut. These fittings are designed and manufactured to withstand daily disassembly, COP (clean-out-of-place), and reassembly of process lines and equipment. A gasket can be used to ensure a positive shutoff under higher pressures, however is not necessary in lower pressure applications.

- Available in 1" through 4"
- Fittings are made of T304 & T316L stainless steel.
- Finishes are available in any standard combination.
- ID polish is 32 Ra
- OD polish is 32 Ra
- Gaskets offered in Buna as a standard.
- Meets 3A requirements

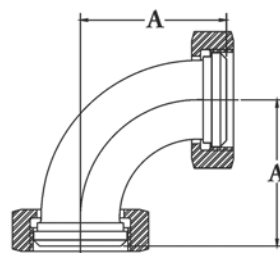


BEVEL SEAT ELBOWS ALL DIMENSIONS ARE IN INCHES, NO. 7 SANITARY FINISH.



2C 90° SWEEP ELL

SIZE	A
1	2
1½	2 ¹⁵ / ₁₆
2	3 ²³ / ₃₂
2½	4 ²⁷ / ₃₂
3	5 ²⁹ / ₃₂
4	8 ¹ / ₁₆

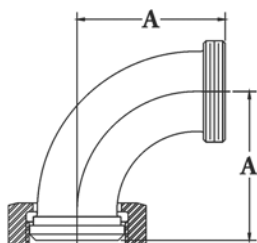


2E 90° SWEEP ELL

SIZE	A
1	2
1½	2 ¹⁵ / ₁₆
2	3 ²³ / ₃₂
2½	4 ²⁷ / ₃₂
3	5 ²⁹ / ₃₂
4	8 ¹ / ₁₆

BEVEL SEAT ELBOWS

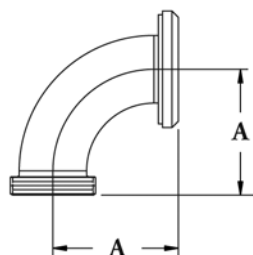
ALL DIMENSIONS ARE IN INCHES, NO. 7 SANITARY POLISH.



2F 90° SWEEP ELL

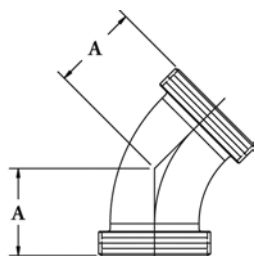
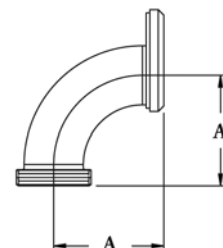
SIZE	A
1	2
1½	2 ¹⁵ / ₁₆
2	3 ²³ / ₃₂
2½	4 ²⁷ / ₃₂
3	5 ²⁹ / ₃₂
4	8 ¹ / ₁₆

2F-31 90 ° CONCENTRIC REDUCING ELBOW (NON-TAPERED)



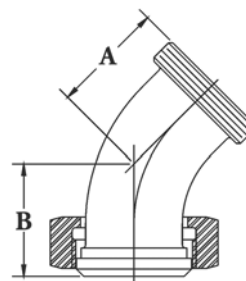
SIZE	A	B
1½ X 1	2 ¹ / ₁₆	2 ³ / ₁₆
2 X 1	2 ¹ / ₈	2 ³ / ₁₆
2 X 1½	2 ⁷ / ₈	2 ¹⁵ / ₁₆
2½ X 1½	2 ²⁹ / ₃₂	2 ¹⁵ / ₁₆
2½ X 2	3 ²¹ / ₃₂	3 ²³ / ₃₂
3 X 1	2 ¹⁷ / ₇₈	2 ³ / ₁₆
3 X 1½	2 ³¹ / ₃₂	2 ¹⁵ / ₁₆
3 X 2	3 ²³ / ₃₂	3 ²³ / ₃₂
3 X 2½	4 ¹⁵ / ₃₂	4 ¹⁹ / ₃₂
4 X 1	2 ⁵ / ₁₆	2 ³ / ₁₆
4 X 1½	3 ¹ / ₁₆	2 ¹⁵ / ₁₆
4 X 2	3 ¹³ / ₁₆	3 ²³ / ₃₂
4 X 2½	4 ⁹ / ₁₆	3 ³ / ₄
4 X 3	5 ⁵ / ₁₆	5 ⁷ / ₁₆

2F-32 90 ° ECCENTRIC REDUCING ELBOW (NON-TAPERED)



2K 45 ° ELBOW

SIZE	A
1	1 ⁵ / ₁₆
1½	1 ²³ / ₃₂
2	2 ¹ / ₈
2½	2 ⁵ / ₈
3	3 ¹ / ₈
4	4 ¹ / ₄



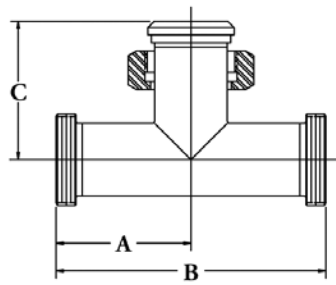
2P 45° ELL

SIZE	A	B
1	1 ⁵ / ₁₆	2 ¹ / ₈
1½	1 ²³ / ₃₂	2 ¹ / ₈
2	2 ¹ / ₈	2 ⁵ / ₁₆
2½	2 ⁵ / ₈	2 ⁹ / ₁₆
3	3 ¹ / ₈	2 ²⁹ / ₃₂
4	4 ¹ / ₄	3 ⁷ / ₈

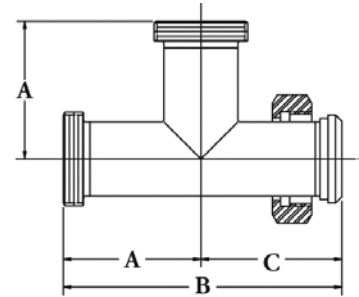
BEVEL SEAT TEES & CROSSES

7A & 7B TEE

SIZE	A	B	C
1	$1^{13}/_{16}$	$3^{5}/_{8}$	$2^{11}/_{16}$
1 $\frac{1}{2}$	$2^{11}/_{32}$	$4^{11}/_{16}$	$3^{13}/_{32}$
2	$2^{25}/_{32}$	$5^{9}/_{16}$	$3^{13}/_{16}$
2 $\frac{1}{2}$	$3^{3}/_{16}$	$6^{3}/_{8}$	$4^{1}/_{4}$
3	$3^{17}/_{32}$	$7^{1}/_{16}$	$4^{5}/_{8}$
4	$4^{21}/_{32}$	$9^{5}/_{16}$	$6^{1}/_{8}$



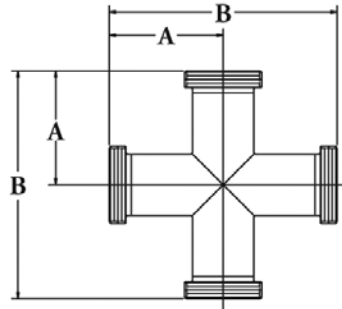
7A TEE



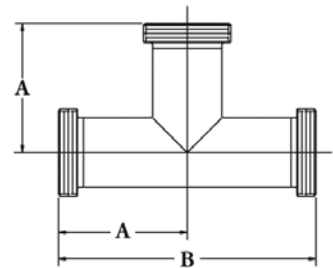
7B TEE

9 CROSS & 7 - TEE

SIZE	A	B
1	$1^{13}/_{16}$	$3^{5}/_{8}$
1 $\frac{1}{2}$	$2^{11}/_{32}$	$4^{11}/_{16}$
2	$2^{25}/_{32}$	$5^{9}/_{16}$
2 $\frac{1}{2}$	$3^{3}/_{16}$	$6^{3}/_{8}$
3	$3^{17}/_{32}$	$7^{1}/_{16}$
4	$4^{21}/_{32}$	$9^{5}/_{16}$



9 CROSS

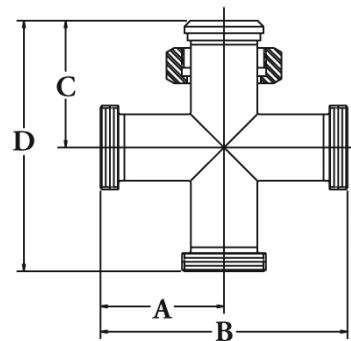


7 TEE

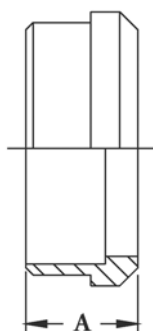
9A CROSS

SIZE	A	B	C	D
1	$1^{13}/_{16}$	$3^{5}/_{8}$	$2^{11}/_{16}$	$4^{1}/_{2}$
1 $\frac{1}{2}$	$2^{3}/_{8}$	$4^{3}/_{4}$	$3^{13}/_{32}$	$5^{25}/_{32}$
2	$2^{25}/_{32}$	$5^{9}/_{16}$	$3^{13}/_{16}$	$6^{19}/_{32}$
2 $\frac{1}{2}$	$3^{3}/_{16}$	$6^{3}/_{8}$	$4^{1}/_{4}$	$7^{7}/_{16}$
3	$3^{1}/_{2}$	7	$4^{5}/_{8}$	$8^{1}/_{8}$
4	$4^{21}/_{32}$	$9^{5}/_{16}$	$6^{1}/_{8}$	$10^{25}/_{32}$

Can be supplied with more than one end having a captive nut.



BEVEL SEAT FERRULES ALL DIMENSIONS ARE IN INCHES.



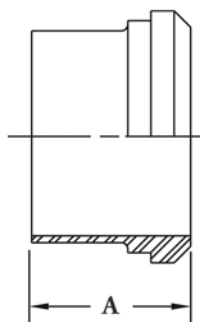
14 FERRULE PLAIN RECESSED

SIZE	A
1	$\frac{3}{4}$
1½	$\frac{7}{8}$
2	$\frac{31}{32}$
2½	$1\frac{1}{16}$
3	$1\frac{1}{8}$
4	$1\frac{1}{4}$



14R FERRULE PLAIN ROLL-ON

SIZE	A
1	$\frac{3}{4}$
1½	1
2	1
2½	1
3	1
4	1



14A FERRULE PLAIN

SIZE	A
1	$1\frac{3}{8}$
1½	$1\frac{1}{2}$
2	$1\frac{1}{2}$
2½	$1\frac{3}{4}$
3	$1\frac{3}{4}$
4	$1\frac{3}{4}$

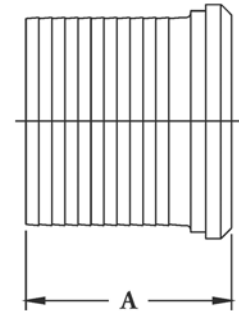
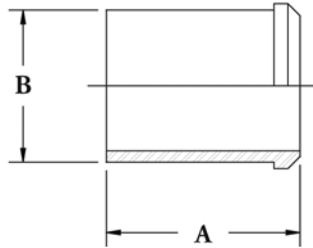


14PRF FERRULE SHORT WELDING

SIZE	A
1	$\frac{11}{16}$
1½	$\frac{11}{16}$
2	$\frac{23}{32}$
2½	$\frac{27}{32}$
3	$\frac{15}{16}$
4	1

BEVEL SEAT ADAPTERS

ALL DIMENSIONS ARE IN INCHES, NO. 7 SANITARY POLISH.

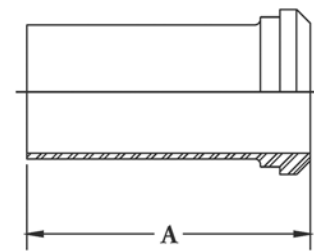
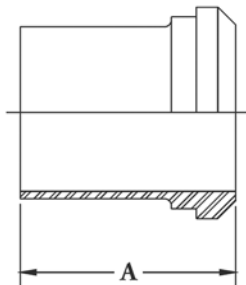


**14W PLAIN FERRULE TANK
SPUD (HEAVY)**

SIZE	A	B
1	$2\frac{3}{8}$	$1\frac{5}{32}$
1½	$2\frac{17}{32}$	$1\frac{21}{32}$
2	$2\frac{25}{32}$	$2\frac{3}{16}$
2½	$3\frac{1}{16}$	$2\frac{11}{16}$
3	$3\frac{17}{32}$	$3\frac{7}{32}$
4	$4\frac{5}{16}$	$4\frac{1}{4}$

14AHR RUBBER HOSE ADAPTER

SIZE	A
1	$1\frac{7}{8}$
1½	$1\frac{7}{8}$
2	$2\frac{17}{32}$
2½	$2\frac{11}{16}$
3	$3\frac{17}{32}$
4	$3\frac{25}{32}$



**14WL PLAIN FERRULE TANK
SPUD (LIGHT)**

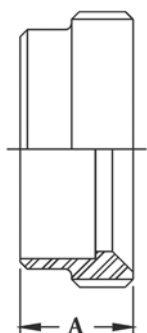
SIZE	A
1	2
1½	$2\frac{1}{4}$
2	$2\frac{1}{2}$
2½	$2\frac{3}{4}$
3	3
4	4

14AHT TYGON HOSE ADAPTER

SIZE	A
1	$4\frac{11}{16}$
1½	$4\frac{23}{32}$
2	$4\frac{23}{32}$
2½	$4\frac{27}{32}$
3	$4\frac{29}{32}$
4	$5\frac{7}{32}$

BEVEL SEAT FERRULES

ALL DIMENSIONS ARE IN INCHES, NO. 7 SANITARY POLISH.

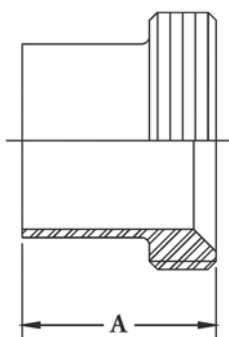


15 THREADED RECESSED FERRULE

SIZE	A
1	$\frac{13}{16}$
1½	$\frac{7}{8}$
2	$\frac{11}{32}$
2½	$\frac{11}{8}$
3	$\frac{11}{4}$
4	$\frac{13}{8}$

15R THREADED ROLL-ON FERRULE

SIZE	A
1	$\frac{13}{16}$
1½	1
2	$\frac{11}{8}$
2½	$\frac{11}{8}$
3	$\frac{11}{8}$
4	$\frac{11}{8}$



15A THREADED TUBE FERRULE

SIZE	A
1	$\frac{13}{8}$
1½	$\frac{11}{2}$
2	$\frac{11}{2}$
2½	$\frac{13}{4}$
3	$\frac{13}{4}$
4	$\frac{13}{4}$

15TRF THREADED FERRULE, SHORT WELDING

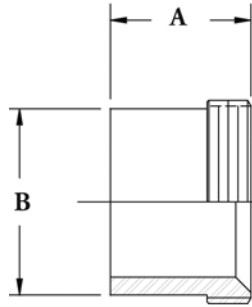
SIZE	A
1	$\frac{11}{16}$
1½	$\frac{11}{16}$
2	$\frac{23}{32}$
2½	$\frac{27}{32}$
3	$\frac{15}{16}$
4	1

BEVEL SEAT FERRULES AND ADAPTERS

ALL DIMENSIONS ARE IN INCHES, NO. 7 SANITARY POLISH.

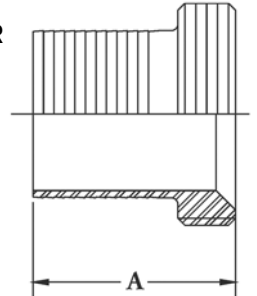
15W THREADED FERRULE, TANK SPUD (HEAVY)

SIZE	A	B
1	1 ¹ / ₂	1 ¹ / ₄
1 ¹ / ₂	1 ⁵ / ₈	1 ³ / ₄
2	1 ³ / ₄	2 ⁵ / ₁₆
2 ¹ / ₂	1 ³ / ₄	2 ⁷ / ₈
3	1 ¹³ / ₁₆	3 ³ / ₈
4	2 ¹ / ₈	4 ¹ / ₄



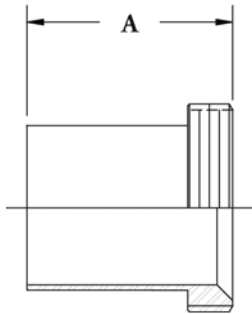
15AHR RUBBER HOSE ADAPTER

SIZE	A
1	1 ⁷ / ₈
1 ¹ / ₂	1 ⁷ / ₈
2	2 ¹⁷ / ₃₂
2 ¹ / ₂	2 ¹¹ / ₁₆
3	3 ¹⁷ / ₃₂
4	3 ²⁵ / ₃₂



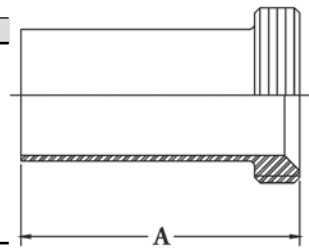
15WL THREADED FERRULE TANK SPUD (LIGHT)

SIZE	A
1	2
1 ¹ / ₂	2 ¹ / ₄
2	2 ¹ / ₂
2 ¹ / ₂	2 ³ / ₄
3	3
4	4

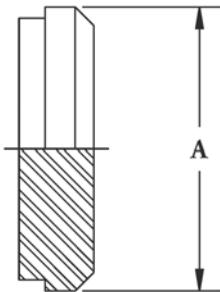


15AHT TYGON HOSE ADAPTER

SIZE	A
1	4 ¹¹ / ₁₆
1 ¹ / ₂	4 ²³ / ₃₂
2	4 ²³ / ₃₂
2 ¹ / ₂	4 ²⁷ / ₃₂
3	4 ²⁹ / ₃₂
4	5 ⁷ / ₃₂

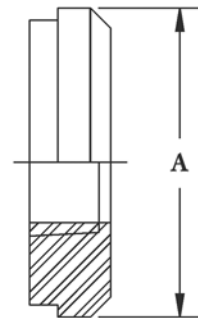


BEVEL SEAT CAPS



16A CAP

SIZE	A
1	1 ¹⁵ / ₁₆
1 ¹ / ₂	1 ²⁷ / ₃₂
2	2 ³ / ₈
2 ¹ / ₂	2 ²⁹ / ₃₂
3	3 ⁷ / ₁₆
4	4 ¹ / ₂



23B THERMOMETER CAP

SIZE	A
1	1 ⁵ / ₁₆
1 ¹ / ₂	1 ²⁷ / ₃₂
2	2 ³ / ₈
2 ¹ / ₂	2 ²⁹ / ₃₂
3	3 ⁷ / ₁₆
4	4 ¹ / ₂

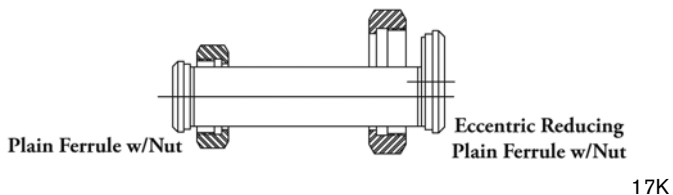
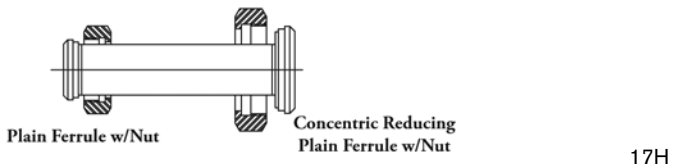
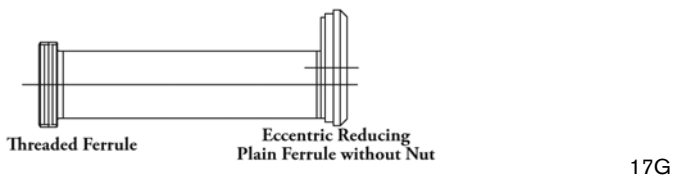
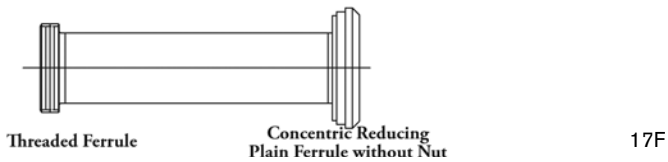
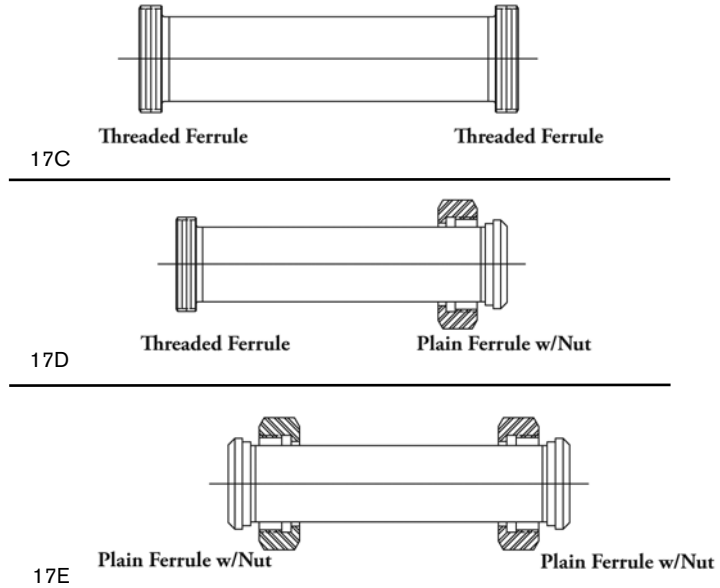
1" tapped 1/2" NPT other sizes are tapped 3/4" NPT.

BEVEL SEAT TUBE ASSEMBLIES

TUBE ASSEMBLIES

SIZE	NO. 17C	NO. 17D	NO. 17E
1	1 ³ / ₈	2 ⁷ / ₈	2 ⁷ / ₈
1 ¹ / ₂	1 ⁷ / ₁₆	3 ¹ / ₈	3 ¹ / ₈
2	1 ⁷ / ₁₆	3 ³ / ₈	3 ³ / ₈
2 ¹ / ₂	1 ¹¹ / ₁₆	3 ³ / ₄	3 ³ / ₄
3	1 ¹³ / ₁₆	3 ⁷ / ₈	3 ⁷ / ₈
4	2 ⁷ / ₁₆	4 ⁵ / ₈	4 ⁵ / ₈

NOTE: Minimum lengths



REDUCING TUBE ASSEMBLIES

SIZE	NO. 17F	NO. 17G	NO. 17H	NO. 17K
1 ¹ / ₂ X 1	1 ³ / ₈	1 ³ / ₈	3 ³ / ₃₂	4 ⁵ / ₁₆
2 X 1	1 ⁷ / ₁₆	1 ⁷ / ₁₆	3 ⁹ / ₃₂	5 ¹ / ₈
2 X 1 ¹ / ₂	1 ¹⁵ / ₃₂	1 ¹⁵ / ₃₂	3 ³ / ₈	5 ¹ / ₈
2 ¹ / ₂ X 1	1 ¹⁵ / ₃₂	1 ¹⁵ / ₃₂	3 ⁹ / ₁₆	5 ¹¹ / ₁₆
2 ¹ / ₂ X 1 ¹ / ₂	1 ¹ / ₂	1 ¹ / ₂	3 ²¹ / ₃₂	5 ¹¹ / ₁₆
2 ¹ / ₂ X 2	1 ¹ / ₂	1 ¹ / ₂	3 ²¹ / ₃₂	5 ¹¹ / ₁₆
3 X 1	1 ¹⁷ / ₃₂	1 ¹⁷ / ₃₂	3 ²⁵ / ₃₂	6 ³ / ₁₆
3 X 1 ¹ / ₂	1 ⁹ / ₁₆	1 ⁹ / ₁₆	3 ⁷ / ₈	6 ³ / ₁₆
3 X 2	1 ⁹ / ₁₆	1 ⁹ / ₁₆	3 ⁷ / ₈	6 ³ / ₁₆
3 X 2 ¹ / ₂	1 ¹¹ / ₁₆	1 ¹¹ / ₁₆	3 ²⁹ / ₃₂	6 ³ / ₁₆
4 X 1	1 ⁵ / ₈	1 ⁵ / ₈	4 ⁹ / ₃₂	8 ¹ / ₈
4 X 1 ¹ / ₂	1 ²¹ / ₃₂	1 ²¹ / ₃₂	4 ³ / ₈	8 ¹ / ₈
4 X 2	1 ²¹ / ₃₂	1 ²¹ / ₃₂	4 ³ / ₈	8 ¹ / ₈
4 X 2 ¹ / ₂	1 ²⁵ / ₃₂	1 ²⁵ / ₃₂	4 ¹³ / ₃₂	8 ¹ / ₈
4 X 3	1 ²⁷ / ₃₂	1 ²⁷ / ₃₂	4 ⁷ / ₁₆	8 ¹ / ₈

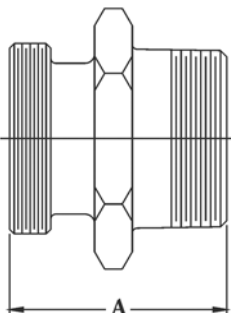
NOTE: Minimum lengths

BEVEL SEAT FERRULES AND ADAPTERS

ALL DIMENSIONS ARE IN INCHES, NO. 7 SANITARY POLISH.

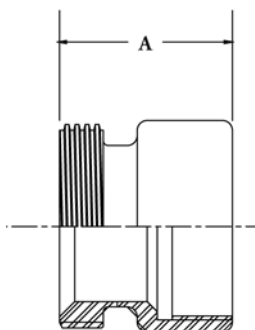
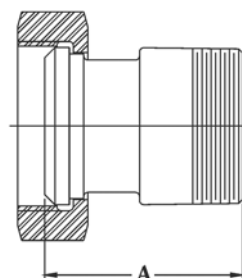
21 THREADED 15W FERRULE TO MALE NPT ADAPTER

SIZE	A
1	2 ¹ / ₄
1 ¹ / ₂	2 ⁷ / ₁₆
2	2 ²¹ / ₃₂
2 ¹ / ₂	3 ⁹ / ₃₂
3	3 ¹ / ₂
4	3 ¹³ / ₁₆



21-14 14W & NUT TO MALE NPT ADAPTER

SIZE	A
1	2 ²⁹ / ₃₂
1 ¹ / ₂	2 ¹⁵ / ₁₆
2	3
2 ¹ / ₂	3 ⁵ / ₈
3	4 ⁵ / ₃₂
4	4 ¹⁷ / ₃₂

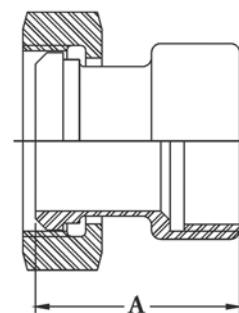


22 FEMALE NPT TO 15TRF ADAPTER

SIZE	A
1	1 ¹³ / ₁₆
1 ¹ / ₂	1 ¹³ / ₁₆
2	1 ¹⁵ / ₁₆
2 ¹ / ₂	2 ⁷ / ₁₆
3	2 ⁵ / ₈
4	3

22-14 14W & NUT TO FEMALE NPT ADAPTER

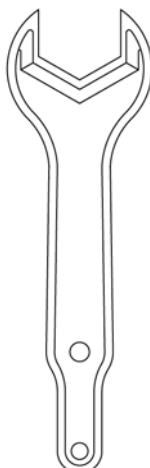
SIZE	A
1	2 ¹ / ₂
1 ¹ / ₂	2 ¹³ / ₁₆
2	2 ²³ / ₃₂
2 ¹ / ₂	3 ¹ / ₄
3	3 ²⁷ / ₃₂
4	4 ⁷ / ₃₂



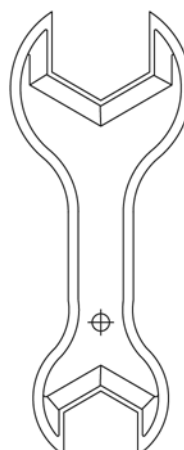
BEVEL SEAT WRENCHES

WRENCHES (ALUMINUM)

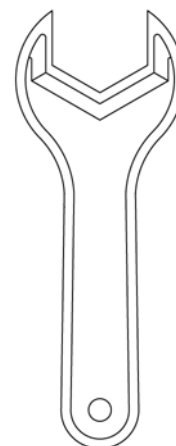
PART NO.	DESCRIPTION
79-1	25H Wrench - Hex Union Nut - 1"
79-2	25H Wrench - Hex Union Nut - 1 ¹ / ₂ "
79-3	25H Wrench - Hex Union Nut - 2"
79-4	25H Wrench - Hex Union Nut - 2 ¹ / ₂ "
79-5	25H Wrench - Hex Union Nut - 3"
79-6	25H Wrench - Hex Union Nut - 4"
79-10	25HA Wrench - Double End - 1 ¹ / ₂ " x 1"
79-7	25HA Wrench - Double End - 2" x 1 ¹ / ₂ "
79-12	25HA Wrench - Double End - 2" x 3"
79-8	W25HX Wrench - Pocket Size - 1 ¹ / ₂ "
79-9	W25HX Wrench - Pocket Size - 2"



25A



25HA

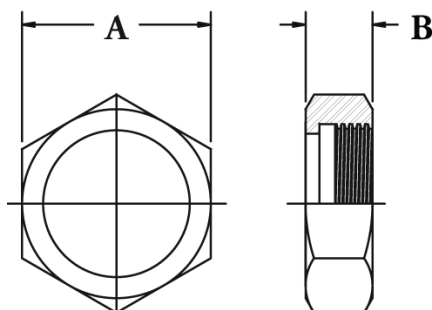


W25HX

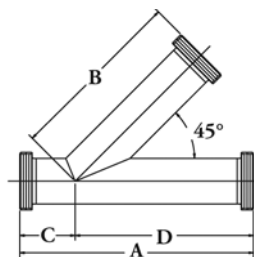
BEVEL SEAT NUTS

13H UNION NUT, HEX

SIZE	A	B
1	$1^{13}/_{16}$	2^9}_{32}
1 $\frac{1}{2}$	2^{13}_{32}	3^1}_{32}
2	3	1^1}_{16}
2 $\frac{1}{2}$	3^{19}_{32}	1^3}_{16}
3	4^3}_{16}	1^9}_{32}
4	5^7}_{16}	2^1}_{2}

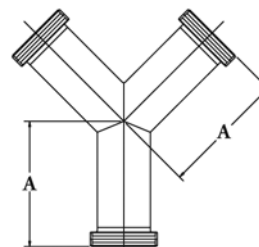


BEVEL SEAT REDUCING ELBOWS, LATERALS & TRUE WYES



28A LATERAL WYE

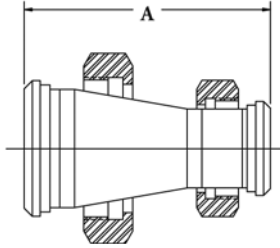
SIZE	A	B	C	D
1	7^3}_{8}	5^{11}_{16}	1^{11}_{16}	5^{11}_{16}
1 $\frac{1}{2}$	8^3}_{4}	6^7}_{8}	1^7}_{8}	6^7}_{8}
2	10^9}_{32}	7^{27}_{32}	2^7}_{16}	7^{27}_{32}
2 $\frac{1}{2}$	11^{25}_{32}	9^{11}_{32}	2^7}_{16}	9^{11}_{32}
3	12^5}_{8}	9^{13}_{16}	2^{13}_{16}	9^{13}_{16}
4	14^{13}_{16}	11^3}_{4}	3^1}_{16}	11^3}_{4}



28B TRUE Y

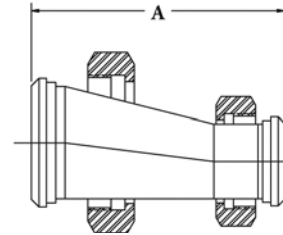
SIZE	A
1	3^{11}_{16}
1 $\frac{1}{2}$	3^{23}_{32}
2	4^{23}_{32}
2 $\frac{1}{2}$	5^{27}_{32}
3	6^{29}_{32}
4	9^7}_{32}

BEVEL SEAT REDUCERS



**31-14F CONCENTRIC & ECCENTRIC
ADAPTER REDUCER**

SIZE	A
1½ X 1	4 ³ / ₄
2 X 1	4 ²⁵ / ₃₂
2 X 1½	4 ⁷ / ₁₆
2½ X 1½	4 ²⁹ / ₃₂
2½ X 2	4 ¹⁵ / ₁₆
3 X 1½	6 ¹ / ₄
3 X 2	6 ⁹ / ₃₂
3 X 2½	6 ¹³ / ₃₂
4 X 2½	6 ¹⁵ / ₃₂
4 X 3	6 ⁹ / ₁₆

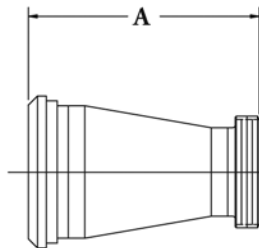


**32-14F CONCENTRIC & ECCENTRIC
ADAPTER REDUCER**

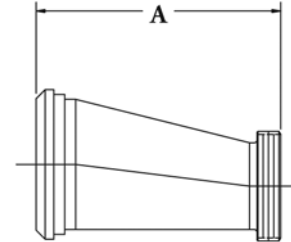
SIZE	A
1½ X 1	4 ¹¹ / ₃₂
2 X 1	6 ¹¹ / ₃₂
2 X 1½	4 ⁷ / ₁₆
2½ X 1½	6 ⁹ / ₁₆
2½ X 2	4 ³ / ₄
3 X 1½	8 ⁵ / ₈
3 X 2	6 ¹³ / ₁₆
3 X 2½	5 ¹ / ₁₆
4 X 2½	9 ³ / ₈
4 X 3	7 ¹⁷ / ₃₂

**31-15F CONCENTRIC &
32-15F ECCENTRIC REDUCER ADAPTER**

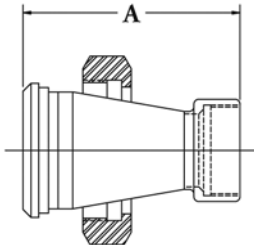
SIZE	A
1½ X 1	3 ¹³ / ₃₂
2 X 1	5 ¹³ / ₃₂
2 X 1½	3 ⁷ / ₁₆
2½ X 1½	5 ⁹ / ₁₆
2½ X 2	3 ⁹ / ₁₆
3 X 1½	7 ⁵ / ₈
3 X 2	5 ⁵ / ₈
3 X 2½	3 ³ / ₄
4 X 2½	8 ¹ / ₁₆
4 X 3	6 ¹ / ₈



31-15F

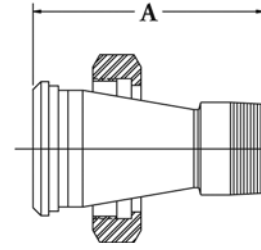


32-15F



**31-18F REDUCER ADAPTER
(SANITARY PLAIN FERRULE HEX NUT TO FEMALE NPT)**

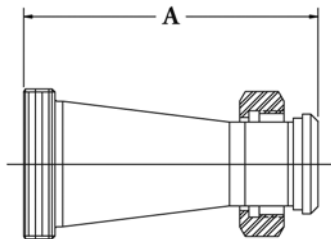
SIZE	A
1½ X 1	4 ¹ / ₁₆
2 X 1	6 ¹ / ₁₆
2 X 1½	4 ¹¹ / ₃₂
2½ X 1½	6 ¹⁵ / ₃₂
2½ X 2	4 ³ / ₈
3 X 2	6 ⁷ / ₁₆
3 X 2½	4 ²⁷ / ₃₂
4 X 2½	9 ⁵ / ₃₂
4 X 3	7 ¹³ / ₃₂



**31-19F REDUCER ADAPTER
(SANITARY PLAIN FERRULE TO MALE NPT)**

SIZE	A
1½ X 1*	4 ¹⁵ / ₃₂
2 X 1	6 ¹⁵ / ₃₂
2 X 1½	4 ¹⁵ / ₃₂
2½ X 1½	6 ¹⁹ / ₃₂
2½ X 2*	4 ²¹ / ₃₂
3 X 2	6 ²³ / ₃₂
3 X 2½*	5 ⁷ / ₃₂
4 X 2½	9 ¹⁷ / ₃₂
4 X 3	7 ²³ / ₃₂

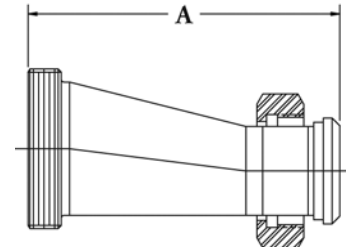
* Hex nuts supplied on these sizes.



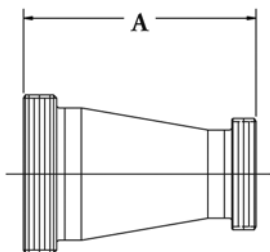
31 TP

**31TP ADAPTER - REDUCER (CONCENTRIC)
32TP ADAPTER - REDUCER (ECCENTRIC)**

SIZE	A
1½ X 1	4 ¹¹ / ₃₂
2 X 1	6 ¹¹ / ₃₂
2 X 1½	4 ⁷ / ₁₆
2½ X 1½	6 ⁹ / ₁₆
2½ X 2	4 ³ / ₄
3 X 1½	8 ⁵ / ₈
3 X 2	6 ¹³ / ₁₆
3 X 2½	5 ¹ / ₁₆
4 X 2½	9 ³ / ₈
4 X 3	7 ¹⁷ / ₃₂



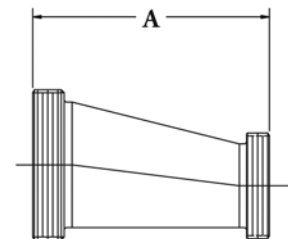
32 TP



31 TT

**31 TT ADAPTER - REDUCER (CONCENTRIC)
32 TT ADAPTER - REDUCER (ECCENTRIC)**

SIZE	A
1½ X 1	3 ³ / ₈
2 X 1	5 ¹³ / ₃₂
2 X 1½	3 ¹³ / ₃₂
2½ X 1½	5 ¹⁷ / ₃₂
2½ X 2	3 ⁹ / ₁₆
3 X 1½	7 ⁵ / ₈
3 X 2	5 ²¹ / ₃₂
3 X 2½	3 ²⁵ / ₃₂
4 X 2½	7 ²⁷ / ₃₂
4 X 3	5 ¹⁵ / ₁₆



32 TT

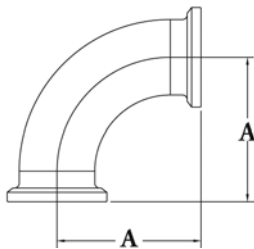
Q-LINE FITTINGS ALL DIMENSIONS ARE IN INCHES.

WCB-Flow Products Q-Line Quick Clamp fittings are a more robust version of the S-Line. With thicker, beefier ferrules, Q-Line fittings are ideal for rough environments.

The face-to-face design and quick disconnect clamp allow easy line assembly or dismantling.

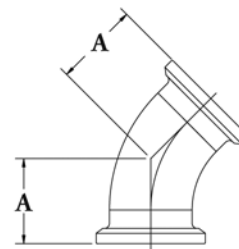


Q-LINE ELBOWS



2CQ 90 DEGREE

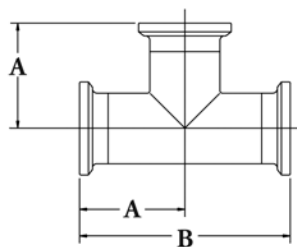
SIZE	A
1	2 ¹ / ₃₂
1½	2 ¹³ / ₁₆
2	3 ¹³ / ₁₆
2½	4 ¹¹ / ₁₆
3	5 ⁷ / ₁₆
4	7



2KQ 45 DEGREE

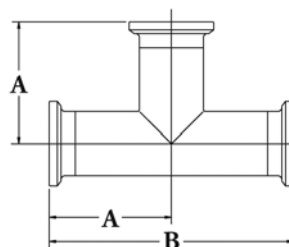
SIZE	A
1	1 ⁵ / ₃₂
1½	1½
2	2 ¹ / ₁₆
2½	2½
3	2 ¹³ / ₁₆
4	3 ²⁹ / ₃₂

Q-LINE TEES & HOSE FERRULES



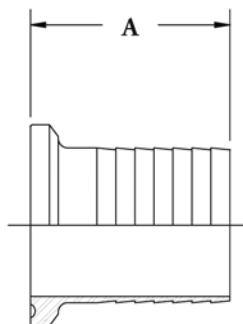
7Q TEE

SIZE	A	B
1	2 ³ / ₈	4 ³ / ₄
1½	2 ³ / ₄	5½
2	3½	7
2½	3½	7
3	3¾	7½
4	4 ⁵ / ₁₆	8 ⁵ / ₈



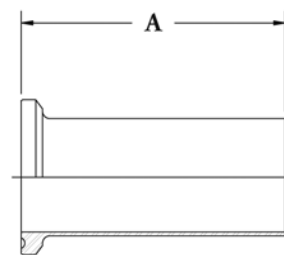
7XQ TEE

SIZE	A	B
1	2 ¹ / ₃₂	4 ¹ / ₁₆
1½	2 ¹³ / ₁₆	5 ⁵ / ₈
2	3 ¹³ / ₁₆	7 ⁵ / ₈
2½	4 ¹¹ / ₁₆	9 ³ / ₈
3	5 ⁷ / ₁₆	10 ⁷ / ₈
4	7	14



14HRQ RUBBER HOSE BARB

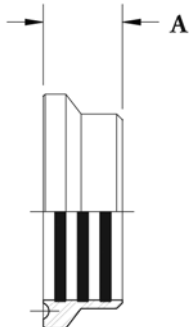
SIZE	A
1	1 ²³ / ₃₂
1½	1 ³ / ₄
2	2 ⁵ / ₈
2½	1 ²⁵ / ₃₂
3	3 ¹⁷ / ₃₂
4	3 ²⁵ / ₃₂



14HTQ TYGON HOSE ADAPTER

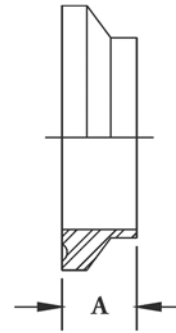
SIZE	A
1	4
1½	4 ¹ / ₈
2	4 ¹⁷ / ₃₂
2½	4 ²⁹ / ₃₂
3	5 ³ / ₃₂
4	5 ³ / ₃₂

Q-LINE ROLL ON & WELD FERRULES



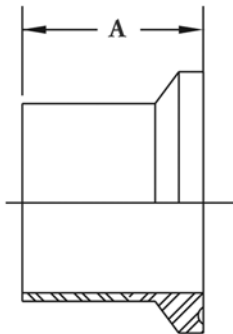
14RQ - UNION FERRULE

SIZE	A
1	$11/16$
1 $1/2$	$11/16$
2	$7/8$
2 $1/2$	1
3	1
4	1



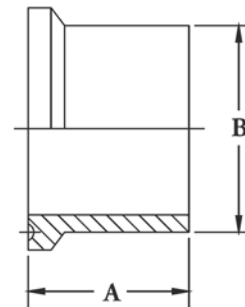
**14WQ WELDING FERRULE
SHORT SHANK**

SIZE	A
1	$17/32$
1 $1/2$	$9/16$
2	$13/16$
2 $1/2$	$15/16$
3	$15/16$
4	1



**14WLQ WELDING FERRULE
LIGHT WALL, LONG SHANK**

SIZE	A
1	$13/4$
1 $1/2$	$21/32$
2	$25/16$
2 $1/2$	$21/2$
3	$211/16$
4	3



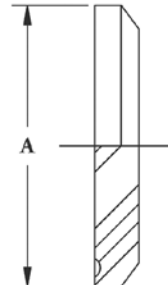
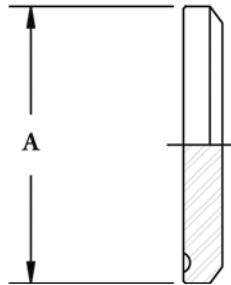
**14WHQ WELDING FERRULE
HEAVY WALL**

SIZE	A	B
1	$11/2$	$11/4$
1 $1/2$	$15/8$	$111/16$
2	$13/4$	$21/4$
2 $1/2$	$13/4$	$23/4$
3	$113/16$	$35/16$
4	$21/8$	$41/4$

Q-LINE CAPS & PIPE ADAPTERS ALL DIMENSIONS ARE IN INCHES.

16AQ-14Q SOLID CAP ONLY

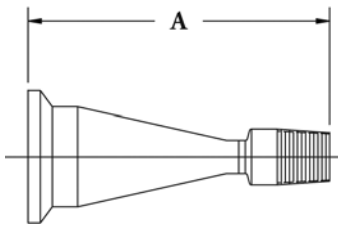
SIZE	A
1	2
1½	2
2	2 ⁵ / ₈
2½	3 ⁵ / ₁₆
3	3 ⁷ / ₈
4	4 ⁷ / ₈



16AQSG TRANSPARENT CAP SIGHT GLASS FOR TEE OR CROSS

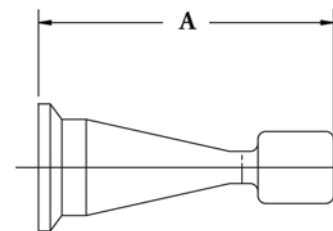
SIZE	A
1	2
1½	2
2	2 ⁵ / ₈
2½	3 ⁵ / ₁₆
3	3 ⁷ / ₈
4	4 ⁷ / ₈

Acrylic. maximum temperature rating: 195 °F



21Q ADAPTER

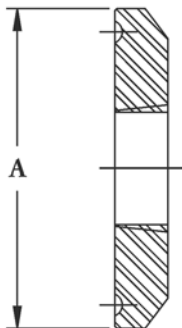
SIZE	A
1	2 ⁹ / ₃₂
1½	2 ⁵ / ₁₆
2	2 ⁵ / ₈
2½	3 ¹ / ₄
3	3 ⁷ / ₁₆



22Q ADAPTER

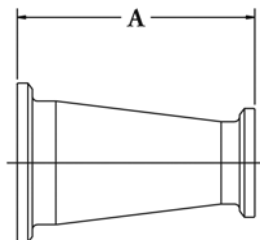
SIZE	A
1	1 ²⁹ / ₃₂
1½	1 ³¹ / ₃₂
2	2 ¹ / ₄
2½	2 ¹¹ / ₁₆
3	2 ¹³ / ₁₆

Q-LINE THERMOMETER CAP & REDUCERS



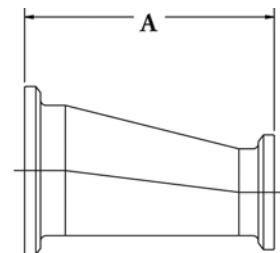
23BQ THERMOMETER FERRULE I.P. THREADED

SIZE	A
1	2
1½	2
2	2 ⁵ / ₈
2½	3 ⁵ / ₁₆
3	3 ⁷ / ₈
4	4 ⁷ / ₈



31Q-14FQ CONCENTRIC REDUCER

SIZE	A
1½ X 1	3 ¹⁵ / ₃₂
2 X 1½	3 ³ / ₄
2½ X 1½	3 ⁷ / ₈
2½ X 2	4 ¹ / ₈
3 X 2	5 ³ / ₈
3 X 2½	5½
4 X 2½	5 ⁹ / ₁₆
4 X 3	5 ⁹ / ₁₆



32Q-14FQ ECCENTRIC REDUCER

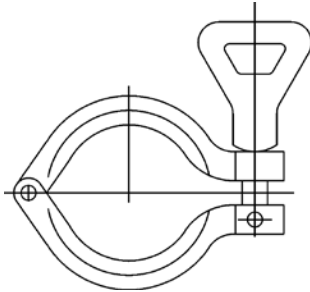
SIZE	A
1½ X 1	3 ³ / ₃₂
2 X 1½	3 ³ / ₈
2½ X 1½	5½
2½ X 2	3¾
3 X 2	5¾
3 X 2½	3¾
4 X 2½	7 ¹⁵ / ₁₆
4 X 3	5 ¹⁵ / ₁₆

1" tapped 1/2" NPT, 1½" thru 4" tapped 3/4" NPT.

Q-LINE CLAMPS ALL DIMENSIONS ARE IN INCHES.

Rugged and dependable, designed for heavy duty applications and built to last. Made from cast 304 stainless steel in three basic styles, See page 03 for Ordering Information.

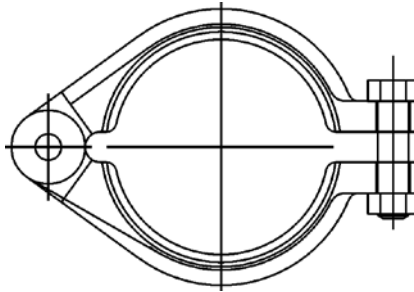
13IS



Wingnut Tightened Clamp

Available in 1"-4" sizes

13I

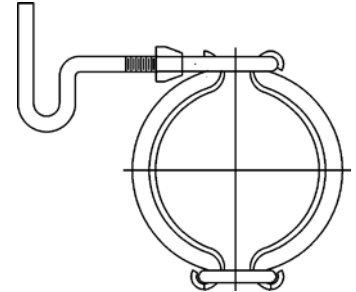


Bolted Clamp

Available in 1"-6"

(6" has two bolt connection)

13QT



Hinged, 3-Piece Clamp

For light duty applications

Adjusting, latch screw closure 1"-4"

See page 49 Pressure Ratings for 13IS and 13I Clamps

See page 03 for Clamp Ordering Information

PRESSURE RATINGS: I-LINE CLAMPED UNIONS

		P.S.I. Service Rating						
TUBE O.D.	TEMP.	1"	1½"	2"	2½"	3"	4"	6"
CLAMP								
HEAVY DUTY	@ 70°F	500	500	450	400	350	200	*
13I, 13IU & 13IS	@ 250°F	250	250	250	200	150	125	*
*13I AND 13IU ONLY. SHOWN ON PAGE 38.								
LIGHTWEIGHT	@ 70°F	150	150	150	150	150	100	
13QT	@ 250°F	125	125	125	125	125	75	

Service Ratings are based on hydrostatic tests using standard elastomer gaskets, properly assembled joints, and no shock pressure.

Please refer to PTFE statement.

Q-LINE GASKETS ALL DIMENSIONS ARE IN INCHES.

FOR QUICK CLAMP FITTINGS



Part Description	Material	Size Available
40QH	BUNA	1"-4"
40QS	SILICONE	1"-4"
40QT	TEFLON®	1"-4"

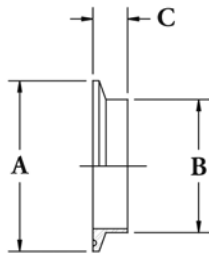
I.P.S. SCHEDULE FITTINGS

I.P.S. (International Pipe Size) Available in schedules 5 and 10, as standard, other wall thicknesses upon request WCB-Flow Products offer these in S-Line and I-Line.

I.P.S. S-LINE

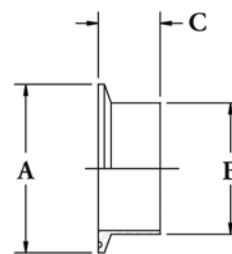
- Sizes 1" - 6"
- Available in 304 and 316L
- Standard Finish unpolished

S-LINE FERRULES



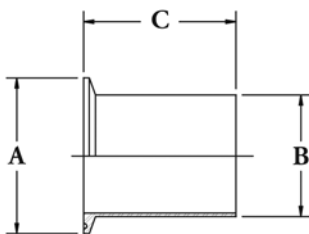
14WMP-5 FERRULE

SIZE	A	B	C
1	1.944	1.315	$\frac{1}{2}$
1½	2.516	1.9	$\frac{1}{2}$
2	3.047	2.375	$\frac{1}{2}$
2½	3.579	2.875	$\frac{1}{2}$
3	4.125	3.5	$\frac{1}{2}$
4	5.125	4.5	$\frac{5}{8}$
6	7.188	6.625	$\frac{5}{8}$



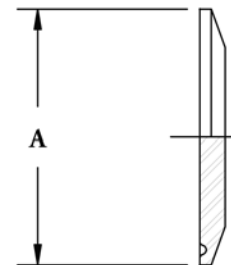
L14AM7V

SIZE	A	B	C
1	1.944	1.315	$\frac{1}{8}$
1½	2.516	1.9	$\frac{1}{8}$
2	3.047	2.375	$\frac{1}{8}$
2½	3.579	2.875	$\frac{1}{8}$
3	4.125	3.5	$\frac{1}{8}$
4	5.125	4.5	$\frac{1}{8}$
6	7.188	6.625	$\frac{1}{2}$



14WLMPV

SIZE	A	B	C
1	1.944	1.315	3
1½	2.516	1.9	3
2	3.047	2.375	3
2½	3.579	2.875	4
3	4.125	3.5	4
4	5.125	4.5	4
6	7.188	6.625	6



16AMPV

SIZE	A
1	1.944
1½	2.516
2	3.047
2½	3.579
3	4.125
4	5.125
6	7.188

S-LINE GASKETS

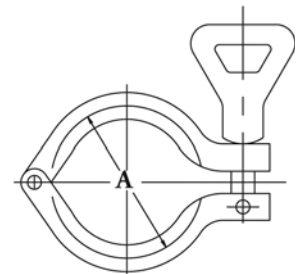
Available in standard, flanged, teflon envelope and in various elastomers, P/N 40 MPV (Identify elastomer).

S-LINE ADAPTERS

See Miscellaneous section - "IPS Adapters" (Page 63)

S-LINE CLAMPS

PIPE SIZE	DESCRIPTION	PART NUMBER	DIMENSION (A)
1	13MHMM-5 1"	119-28	2.122
1 1/2	13MHMM-5 1 1/2"	119-30	2.654
2	13MHMM-5 2"	119-33	3.185
2 1/2	13MHMM-5 2 1/2"	119-34	3.717
3	13MHMM-5 3"	119-51	4.263
4	13MHMM-5 4"	119-87	5.263
6	13MHMM-5 6"	119-123	7.230

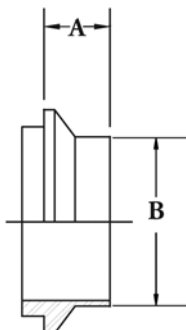


NOTE: Sizing, for 1" > 2 1/2" use next larger nominal tube O.D. S-Line clamp
(i.e. use 2" 13MHMM for 1 1/2" IPS ferrule)

I.P.S. I-LINE

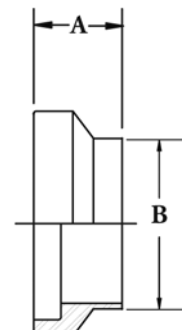
- Sizes 1" - 4"
- Available in 304 and 316L
- Standard Finish 32Ra

I-LINE FERRULES



14WI-5 FERRULE

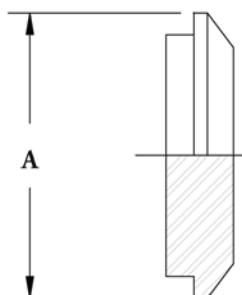
SIZE	A	B
1	¹⁹ / ₃₂	1.315
1 1/2	¹¹ / ₁₆	1.9
2	¹¹ / ₁₆	2.375
2 1/2	²⁷ / ₃₂	2.875
3	1	3.5
4	1 1/32	4.5



15WI-5 FERRULE

SIZE	A	B
1	²⁵ / ₃₂	1.315
1 1/2	¹⁵ / ₁₆	1.9
2	1 1/8	2.375
2 1/2	1 5/32	2.875
3	1 5/16	3.5
4	1 11/32	4.5

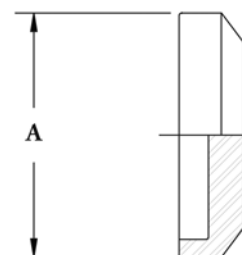
I-LINE CAPS



16AI-14I-5

16AI-14I-5 & 16AI-15I-5

SIZE	A
1	2
1 1/2	1 5/8
2	3 5/16
2 1/2	3 7/8
3	4 7/8
4	5 7/8



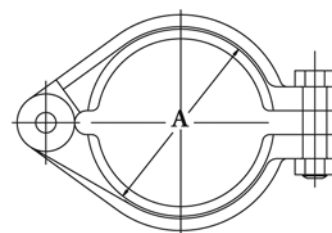
16AI-15I-5

I-LINE GASKETS

Available in various elastomers, P/N 40I_-5 (_ = identify elastomer) (i.e. 40IT05=Teflon, 40IH=BUNA, 40IV-VITON)

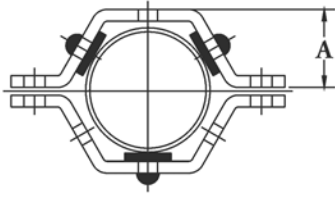
I-LINE CLAMPS

PIPE SIZE	DESCRIPTION	PART NUMBER	DIMENSION (A)
1	13I-5 1"	042223	2.125
1 1/2	13I-5 1 1/2"	0343223	2.813
2	13I-5 2"	0344223	3.498
2 1/2	13I-5 2 1/2"	0345223	4.062
3	13I-5 3"	0346223	5.000
4	13I-5 4"	0546223	6.000



NOTE: Sizing, for 1" > 3" use next larger nominal tube O.D. I-Line clamp
(i.e. use 2" 13I for 1 1/2" IPS ferrule)

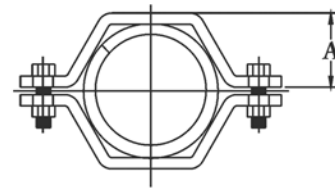
HANGERS: HEX HANGERS (304 SS)



“TH” MODEL PIPE HANGER

O.D. Tubing Size Hex Hangers in T-304 S.S. with BUNA grommets. Fluorocarbon Rubber (VITON1) grommets are also available as “TH-V”. See note below on Application Temperature.

SIZE	A		MATERIAL
	THT	HP	
1	$\frac{13}{16}$	$\frac{9}{16}$	8GA X 1"
1½	$\frac{13}{16}$	$\frac{13}{16}$	8GA X 1"
2	$1\frac{1}{16}$	$1\frac{1}{16}$	8GA X 1"
2½	$1\frac{5}{16}$	$1\frac{5}{16}$	8GA X 1"
3	$1\frac{9}{16}$	$1\frac{9}{16}$	8GA X 1"
4	$2\frac{1}{16}$	$2\frac{1}{16}$	8GA X 1"
6	$3\frac{1}{16}$	$3\frac{1}{16}$	8GA X 2"



“THP” MODEL PIPE HANGER

The “THP” line utilizes a split Polypropylene collar that is held in place by the S.S. frame, thereby preventing it from being pulled out.

This hanger is available in sizes 1" through 4".

Typical Unfilled Polypropylene:

Melt Temperature 320°F (160°C)

Deflection Temperature (@264 psi) 120°F

Deflection Temperature (@66 psi) 225°F

ALL DIMENSIONS ARE IN INCHES.

ORDERING INFORMATION: HANGERS

WHEN ORDERING PLEASE SPECIFY

*MODEL

TH 26LC
TH-V K24FCF
TH-P K24FCV
26CB K24FCA
26CB-V

BLANK: O.D. TUBE SIZE
SCH5: PIPE (WHERE AVAILABLE)

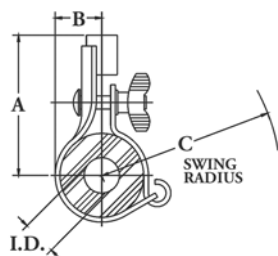
SIZE
REFER TO THE
APPROPRIATE TABLES
FOR AVAILABLE SIZES
FOR THE K24 SERIES
HANGERS.

NOTE ON APPLICATION TEMPERATURE:

BUNA: MAX. TEMPERATURE 250°F

VITON: MAX. TEMPERATURE 400°F

HANGERS: QUICK CONNECT/DISCONNECT HANGERS (304SS) WITH RUBBER INSERTS

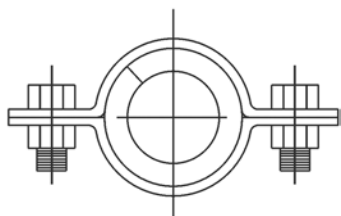


26CB - HANGER

O.D. Tubing Size Hanger with a split EPDM insert attachable via a wing nut. VITON inserts are also available as "26CB-V".

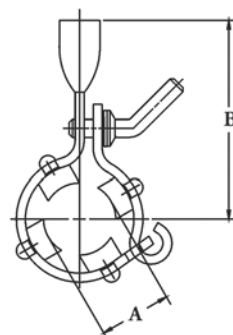
Refer to Application temperature in Ordering Information.

SIZE	I.D.	A	B	C
1 TUBE	1			
1 1/2 TUBE	1 1/2	3 31/32	1 5/16	5
2 TUBE	2			
2 1/2 TUBE	2 1/2	4 13/16	1 7/8	6 1/2
3 TUBE	3			
4 TUBE	4	5 1/2	2 3/8	8



"26LC" MODEL MINI-PIPE HANGER

For fractional tubing 1/2" and 3/4" with a BUNA Gasket. T-304 SS. 211/16 wide by 3/4". Refer to Application temperature in Ordering Information.



K24FCF - HANGER

FOR TAKE DOWN PIPING

For tubing or pipe. Please specify. BUNA inserts are standard. Fluorocarbon Rubber (Viton1) is also available as "K24FCV" please specify. For the S.S. bracket alone, specify K24FC A. Refer to Application temperature in Ordering Information.

	SIZE	A	B
TUBE O.D.	1	1 7/8	4 1/8
	1 1/2	1 7/8	4 1/8
	2	1 7/8	4 1/8
	2 1/2	2 1/2	4 1/2
	3	2 1/2	4 1/2
	4	3 1/2	5 7/8
PIPE	6	4 1/2	6 3/4
	1" PIPE	1 7/8	4 1/8
	1 1/2" PIPE	1 7/8	4 1/8
	2" PIPE	2 1/2	4 1/2
	2 1/2" PIPE	2 1/2	4 1/2
	3" PIPE	3 1/2	5 7/8
	4" PIPE	3 1/2	5 7/8

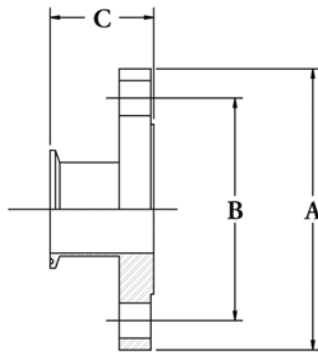
* Please specify either O.D. Tube or Pipe

MISCELLANEOUS FITTINGS

FLANGE ADAPTERS

- Available in 304, 316L and higher alloys
- Sizes 1/2" - 8"
- Standard Finish unpolished
- Other finishes and configurations available upon request

SIZE	A	B	C
1/2	3 1/2	2 3/8	1 9/16
3/4	3 7/8	2 3/4	1 5/8
1	4 1/4	3 1/8	1 11/16
1 1/2	5	3 7/8	1 13/16
2	6	4 3/4	1 7/8
2 1/2	7	5 1/2	2
3	4 1/2	6	2 1/16
4	9	7 1/2	2 1/16
6	11	9 1/2	2 1/2
8	13 1/2	11 3/4	2 5/8



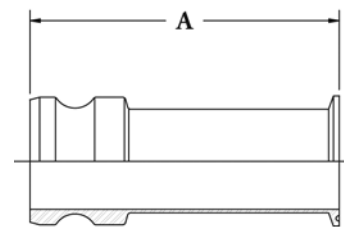
"CAMLOCK" STYLE FITTINGS

- Available in 316
- Sizes 1/2" - 6"
- Standard Finish 32Ra

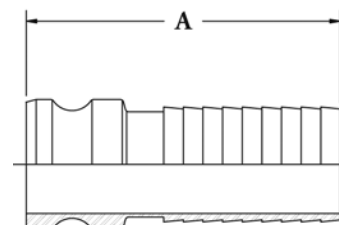
12A, 12C, 12E QUICK DISCONNECT

SIZE	A
1/2	3 ²⁹ / ₆₄
3/4	3 ⁶¹ / ₆₄
1	4 ⁵ / ₆₄
1 1/2	5 ¹¹ / ₃₂
2	5 ⁵⁷ / ₆₄
2 1/2	6 ²¹ / ₆₄
3	6 ⁴⁹ / ₆₄
4	7 ¹ / ₈
6	9 ⁷ / ₈

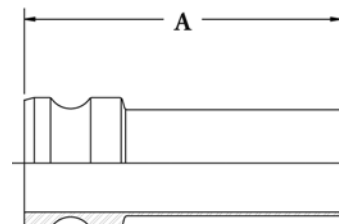
All adapters have a 32Ra finish.



12A



12C



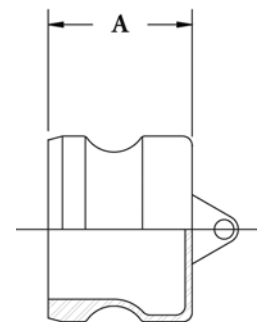
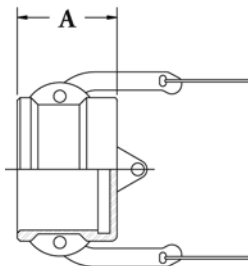
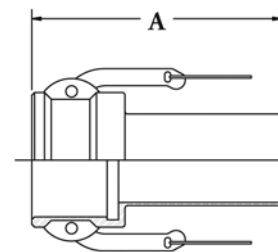
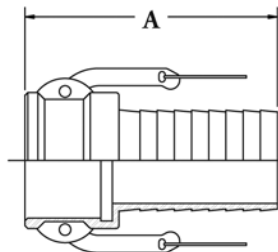
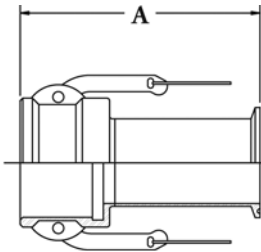
12E

"CAMLOCK" STYLE FITTINGS

12B CLAMP, 12D HOSE, 12F WELD X QUICK DISCONNECT COUPLER

SIZE	A	B	C	D
1/2	3 ¹³ / ₆₄	1 ¹ / ₄	.0370	1 ³ / ₄
3/4	3 ²⁵ / ₃₂	1 ²³ / ₆₄	.0620	2 ¹ / ₈
1	3 ⁵⁵ / ₆₄	1 ¹⁹ / ₃₂	.0870	2 ⁷ / ₁₆
1 1/2	4 ⁶³ / ₆₄	2 ²⁹ / ₃₂	1.370	3 ⁵ / ₁₆
2	5 ¹ / ₂	2 ⁷ / ₆₄	1.870	3 ³ / ₄
2 1/2	6 ¹ / ₃₂	2 ¹¹ / ₆₄	2.370	4 ⁵ / ₁₆
3	6 ²⁵ / ₆₄	2 ⁵ / ₁₆	2.870	5 ⁷ / ₁₆
4	6 ⁴⁹ / ₆₄	2 ⁷ / ₁₆	3.834	6 ¹ / ₂
6	9 ²⁷ / ₆₄	2 ⁴¹ / ₆₄	5.782	9 ¹ / ₄

All couplers have a 32Ra finish of shank, buffed coupler section.



12DC QUICK DISCONNECT CAP

SIZE	A
1/2	1 ¹ / ₄
3/4	1 ¹ / ₄
1	1 ¹¹ / ₁₆
1 1/2	2
2	3
2 1/2	3 ¹¹ / ₁₆
3	3 ¹ / ₄
4	2 ⁵ / ₈
6	3 ¹¹ / ₁₆

32Ra finished I.D., buffed O.D.

12DP QUICK DISCONNECT PLUG

SIZE	A
1/2	1 ¹ / ₃₂
3/4	1 ¹ / ₈
1	1 ¹ / ₄
1 1/2	1 ³ / ₄
2	2 ¹ / ₁₆
2 1/2	1 ⁷ / ₈
3	2 ¹ / ₈
4	2 ³ / ₈
6	2 ⁵ / ₈

32Ra finished I.D. and O.D.

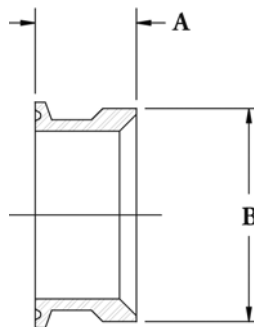
PIPE TO TUBE ADAPTERS

Drawings for reference purposes only, reducers can vary greatly. The table is only a sampling of available reducers.

- Available in 304, 316L and higher alloys.
- IPS schedules 5 and 10 are standard.
- 32RA machine finish is standard.
- We can provide custom finishes, reductions, lengths, walls, and ferrule ends upon request.

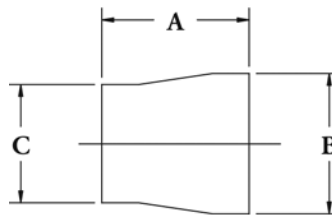
S-LINE X IPS B/W

S-LINE	IPS	A	B
1/2	1/2	2 1/2	0.84
3/4	3/4	1 1/2	1.05
1	1	1 1/8	1.315
1 1/2	1 1/2	1 1/8	1.9
2	2	1 1/8	2.375
2 1/2	2 1/2	1 1/8	2.875
3	3	2 1/2	3.5
4	4	1 1/8	4.5
6	6	3	6.625
8	8	2 1/2	8.625



TUBE OD BW X IPS B/W

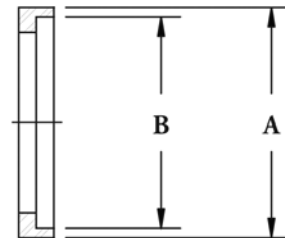
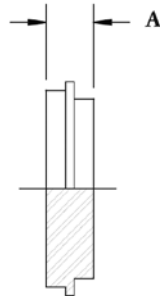
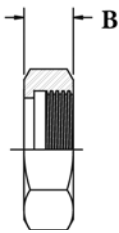
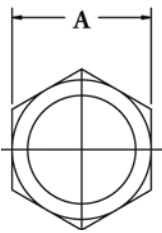
TUBE OD	IPS	A	B	C
1/2	1/2	1 1/2	0.84	1/2
3/4	3/4	1 1/2	1.05	3/4
1	1	1 1/8	1.315	1
1 1/2	1 1/2	1 1/8	1.9	1 1/2
2	2	1 1/8	2.375	2
2 1/2	2 1/2	1 1/8	2.875	2 1/2
3	3	2 1/2	3.5	3
4	4	1 1/8	4.5	4
6	6	3	6.625	6



JOHN PERRY FITTINGS

- Available in 304 and 316L
- Sizes 1" - 4"
- Standard Finish 32Ra
- Other finishes and configuration available upon request

JOHN PERRY NUTS, GASKETS, CAPS



JP13H UNION NUT, HEX

SIZE	A	B
1	1 ¹³ / ₁₆	2 ⁹ / ₃₂
1 ¹ / ₂	2 ¹³ / ₃₂	3 ¹ / ₃₂
2	3	1 ¹ / ₁₆
2 ¹ / ₂	3 ¹⁹ / ₃₂	1 ³ / ₁₆
3	4 ³ / ₁₆	1 ⁹ / ₃₂
4	5 ⁷ / ₁₆	2 ¹ / ₂

JP16A - CAP

SIZE	A
1	2 ⁹ / ₃₂
1 ¹ / ₂	3 ¹ / ₃₂
2	1 ¹ / ₁₆
2 ¹ / ₂	1 ³ / ₁₆
3	1 ⁹ / ₃₂
4	2 ¹ / ₂

JP40 - GASKET*

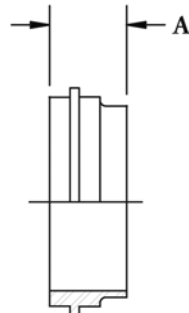
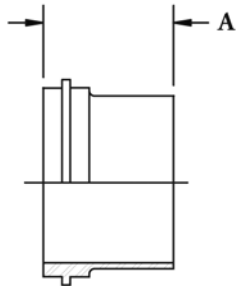
SIZE	A	B
1	1 ³ / ₁₆	1 ¹ / ₈
1 ¹ / ₂	1 ²⁷ / ₃₂	1 ²¹ / ₃₂
2	2 ³ / ₈	2 ³ / ₁₆
2 ¹ / ₂	2 ²⁷ / ₃₂	2 ²¹ / ₃₂
3	3 ³ / ₈	3 ³ / ₁₆
4	4 ³ / ₈	4 ³ / ₁₆

*Available in Silicone, BUNA-N, VITON, EPDM, TEFLON

JOHN PERRY FERRULES

JP14A - FERRULE

SIZE	A
1	1 ⁵ / ₁₆
1 ¹ / ₂	1 ³ / ₈
2	1 ³ / ₈
2 ¹ / ₂	1 ⁵ / ₈
3	1 ⁵ / ₈
4	1 ⁵ / ₈

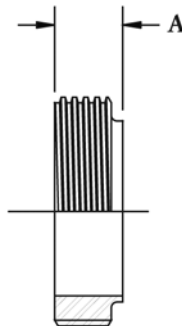
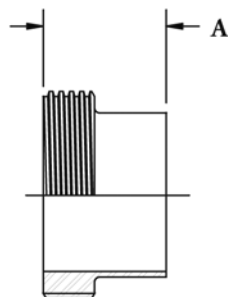


JP14PRF - FERRULE

SIZE	A
1	2 ¹ / ₃₂
1 ¹ / ₂	4 ³ / ₆₄
2	5 ⁵ / ₈
2 ¹ / ₂	2 ⁵ / ₃₂
3	1 ³ / ₁₆
4	3 ¹ / ₃₂

JP15A - FERRULE

SIZE	A
1	1 ³ / ₈
1 ¹ / ₂	1 ¹ / ₂
2	1 ¹ / ₂
2 ¹ / ₂	1 ³ / ₄
3	1 ³ / ₄
4	1 ³ / ₄



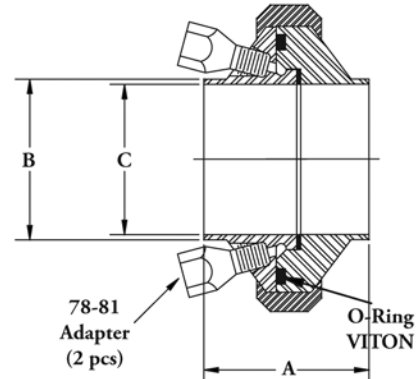
JP15TRF - FERRULE

SIZE	A
1	1 ¹¹ / ₁₆
1 ¹ / ₂	2 ³ / ₃₂
2	2 ³ / ₃₂
2 ¹ / ₂	2 ²⁷ / ₃₂
3	2 ²⁹ / ₃₂
4	1 ¹ / ₃₂

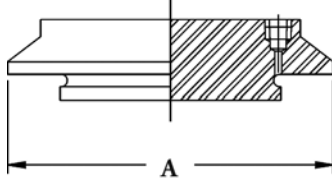
ASEPTIC FITTINGS

ASEPTIC UNION

SIZE	A	B	C
1	1 ⁷ / ₈	1	0.870
1 ¹ / ₂	2 ¹ / ₁₆	1 ¹ / ₂	1.370
2	2 ⁵ / ₁₆	2	1.870
2 ¹ / ₂	2 ⁷ / ₁₆	2 ¹ / ₂	2.370
3	2 ¹¹ / ₁₆	3	2.870
4	2 ¹¹ / ₁₆	4	3.834



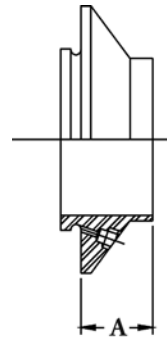
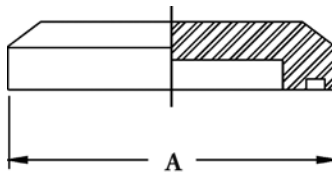
16NI-141



16NI-141 MALE CAP 16NI-151 FEMALE CAP

SIZE	A
1	2
1 ¹ / ₂	2 ⁵ / ₈
2	3 ⁵ / ₁₆
2 ¹ / ₂	3 ⁷ / ₈
3	4 ⁷ / ₈
4	5 ⁷ / ₈

16NI-151

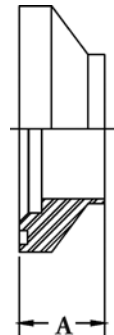


14WNI - MALE I-LINE FERRULE

SIZE	A
1	3/4
1 ¹ / ₂	27/32
2	29/32
2 ¹ / ₂	29/32
3	1 ¹ / ₃₂
4	1 ¹ / ₃₂

15WNI - FEMALE I-LINE FERRULE

SIZE	A
1	15/16
1 ¹ / ₂	1 ¹ / ₃₂
2	1 ⁵ / ₃₂
2 ¹ / ₂	1 ⁷ / ₃₂
3	1 ¹¹ / ₃₂
4	1 ¹¹ / ₃₂



SWEEP ELBOWS

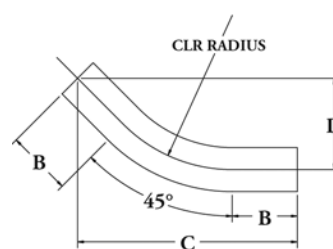
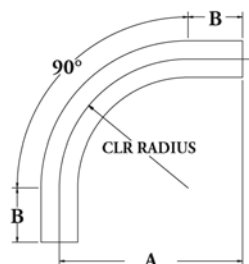
- Sizes 1/2" - 6"
- Tube O.D. , Butt weld ends standard
- Standard 316 material
- Polished O.D. and I.D. 32Ra
- Other finishes and configuration available upon request
- Required Information to Order:

- * Polish Code
- * Tangent #1 length
- * Tangent #2 length
- * CLR - Center Line Radius
- * Bend Angle
- * Tube O.D. Size
- * Tube Material (316)
- * Connection Type

SWEEP ELBOWS

STD. DIM	12" CLR*	18" CLR*	24" CLR*	36" CLR*	48" CLR*
A	20	26	32	44	56
B	8	8	8	8	8
C	22.142	26.388	30.627	39.113	47.598
D	9.172	10.929	12.686	16.201	19.716

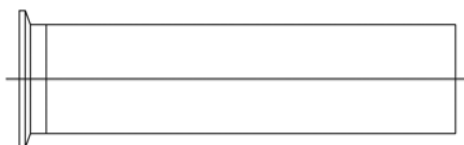
* CLR - Center Line Radius



SPOOLS, FILL PORTS

Please see Bevel Seat Fittings section starting on page 45.

- 1/2" - 12" nominal ferrule sizes
- Finishes available, mill to 10Ra electropolished
- Standard 304 and 316L material



17-KW

Please, contact factory for available lengths.



17-KK

For liquids with a viscosity and density similar to water. To convert inches vacuum into feet suction, multiply by 1.13.






1 LB. PER SQ. IN.	= 2.31 FEET OF HEAD
1 FT. OF HEAD	= .43 LBS. PER SQ. IN.
1 U.S. GAL. OF WATER	= 8.335 LBS.
1 U.S. GAL.	= 231 CU. IN.
1 IN. OF MERCURY	= .491 LBS. PER SQ. IN.
1 IN. OF MERCURY	= 13.60 INCHES OF WATER
1 CU. FT. OF WATER	= 7.481 U.S. GALS.
1 U.S. QUART	= 947 C.C.

STAINLESS STEEL TUBING DATA

STANDARD SIZE (O.D.) INCHES	1	1½	2	2½	3	4
GALS. WATER PER FT. OF LENGTH	.031	.077	.143	.229	.336	.600
VOLUME IN CU. IN. PER FT. OF LENGTH	7.13	17.69	32.96	52.94	77.63	138.5

**FRICITION LOSS EXPRESSED IN FT. PER FITTING
AND FT. PER FOOT OF STAINLESS STEEL TUBING**

CAPACITY IN U.S. G.P.M.	O.D. - 1"			O.D. - 1½"			O.D. - 2"			O.D. - 2½"			O.D. - 3"			O.D. - 4"		
	I.D. - .870"			I.D. - 1.370"			I.D. - 1.870"			I.D. - 2.370"			I.D. - 2.870"			I.D. - 3.834"		
	TUBING	ELBOW	TEE	TUBING	ELBOW	TEE	TUBING	ELBOW	TEE	TUBING	ELBOW	TEE	TUBING	ELBOW	TEE	TUBING	ELBOW	TEE
2	.01	.01	.08															
4	.03	.02	.23															
5	.04	.03	.30															
10	.14	.7	.47	.02	.01	.12	.005	.015	.1									
15	.29	.12	.92	.04	.02	.21	.013	.02	.15									
20	.48	.24	1.66	.06	.03	.28	.02	.025	.2	.005	.02	.1	.003	.02	.06			
25	.71	.43	2.45	.08	.04	.41	.025	.03	.25	.006	.03	.15	.004	.03	.08			
30	1.00	.75	3.56	.11	.07	.59	.035	.05	.3	.008	.05	.2	.005	.04	.1			
35	1.29	1.32	5.49	.15	.10	.87	.04	.06	.4	.011	.06	.25	.006	.05	.13			
40				.19	.12	1.09	.05	.08	.5	.015	.07	.3	.007	.06	.15			
45				.24	.18	1.49	.063	.1	.6	.02	.09	.35	.008	.065	.18			
50				.28	.22	1.78	.073	.12	.7	.022	.1	.4	.01	.07	.2			
60				.39	.40	2.53	.1	.18	.9	.03	.12	.45	.015	.08	.25			
80				.66	.87	4.24	.16	.3	1.5	.05	.15	.55	.02	.1	.4			
100				.96	1.52	6.53	.23	.44	2.3	.075	.18	.6	.03	.11	.5	.008	.04	.1
120				1.37	2.38	10.57	.32	.64	3.3	.105	.21	1.0	.04	.13	.6	.04	.05	.15
140							.42	.85	4.5	.14	.23	1.25	.05	.16	.8	.013	.06	.2
160							.54	1.13	5.8	.17	.28	1.6	.07	.2	1.1	.015	.07	.25
180							.67	1.45	7.4	.205	.31	2.0	.08	.21	1.3	.02	.08	.3
200							.81	1.82	9.0	.245	.35	2.5	.1	.26	1.6	.025	.09	.4
220							.95	2.22	11.0	.29	.41	3.0	.12	.3	1.9	.028	.1	.5
240							1.10	2.63	13.5	.34	.48	3.7	.14	.33	2.2	.035	.11	.55
260										.39	.53	4.5	.165	.39	2.5	.04	.115	.6
280										.45	.61	5.3	.19	.42	2.8	.045	.12	.65
300										.515	.7	6.2	.22	.5	3.1	.05	.13	.7
350										.68	1.05	8.5	.28	.67	4.1	.07	.15	.9
400										.86	1.55	11.0	.36	.88	5.2	.085	.18	1.2
450										1.05	2.25	13.5	.44	1.1	6.6	.105	.2	1.5
500													.54	1.4	8.0	.13	.23	1.75
550													.64	1.7	9.5	.15	.27	2.1
600													.75	2.05	10.2	.175	.3	2.5
650													.87	2.41	13.0	.2	.34	2.8
700													1.0	2.8	15.0	.23	.4	3.4
750																.26	.43	3.8
800																.3	.5	4.4
850																.33	.56	5.0
900																.37	.62	5.7
950																.41	.7	6.3
1000																.45	.8	7.0
1100																.53	1.06	8.6

 <p>See Literature Document FH-1870</p>	<h3>SPECIALTY PRODUCTS</h3> <ul style="list-style-type: none"> • Dedicated production cells for faster lead times • Digital imaging equipment for quality validation 	<ul style="list-style-type: none"> • Unique tangents and configurations • Extensive metal working capabilities
 <p>See Literature Document DS-1601</p>	<h3>BPE FITTINGS</h3> <ul style="list-style-type: none"> • Manufactured in accordance to ASME BPE standards • Available in 1/2" through 6" • Made of T316L stainless steel. Other alloys available 	<ul style="list-style-type: none"> • Electropolished fittings available • MTR (Material Test Reports) provided with each shipment • Packaged in resealable bags
 <p>See Literature Document DS-1230</p>	<h3>BUTTERFLY AND BALL VALVES</h3> <p>Butterfly Valves</p> <ul style="list-style-type: none"> • Available 1" through 4" • T304 & 316 construction • Finishes are 32 Ra ID and OD • 13 position handle 	<p>Ball Valves</p> <ul style="list-style-type: none"> • Available 1/2" through 4" • T316 construction • Finishes are 32 Ra ID • Meets 3A and FDA requirements • Comes with standard locking handle
 <p>See Literature Document FH-1870</p>	<h3>RELATED PRODUCTS</h3> <ul style="list-style-type: none"> • Offering Rath manufactured tubing in T304 and T316L stainless steel • Special alloy products in AL6XN and Hastelloy • T316 S-Line Clamps 	<ul style="list-style-type: none"> • Hangers • Sampling Valves • Check Valves • Special Gaskets
 <p>See Literature Document FH-1735</p>	<h3>C-SERIES PUMPS</h3> <ul style="list-style-type: none"> • Value priced pump offering strong performance • Easy-cleaning, open type impeller delivers smooth pumping performance 	<ul style="list-style-type: none"> • Enlarged inlets available for larger suction lines • Standard CIP capability • Parts are interchangeable with other C-Series brands

Common Applications: Food, Dairy, Beverage, Pharmaceutical, and Personal Care

SPX®

PROCESS EQUIPMENT

Your local contact:

SPX Process Equipment
611 Sugar Creek Road
Delavan, WI 53115

Phone: (262)728-1900 or (800)252-5200 Fax: (262)728-4904 or (800)252-5012

E-mail: wcb@spx.com

For more information about our worldwide locations, approvals, certifications, and local representatives, please visit www.spxpe.com.

SPX Corporation reserves the right to incorporate our latest design and material changes without notice or obligation.

Design features, materials of construction and dimensional data, as described in this bulletin, are provided for your information only and should not be relied upon unless confirmed in writing.

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