



15930 Common Road (P.O. Box 41) Roseville MI, 48066  
Phone: (586) 771-5100 / (800) 521-1002 Fax: (586) 771-9100  
Email: [sales@piperindustries.com](mailto:sales@piperindustries.com) / [www.piperindustries.com](http://www.piperindustries.com)

## MORE THAN 70 YEARS OF EXCELLENCE

Since 1946, Piper Industries, Inc. has dedicated itself to service, quality and performance in the design and manufacturing of precision Fittings and Hydraulic Adapters. Sizes of adapters range from 1/8 inch to 2-1/2 inches. Types of fittings include SAE/JIC 37 degree flared, O'Ring, pipe, swivel, bulkhead, hose barb, flange, metric, brazed tube and high-pressure flat faced O'Ring fittings. All fittings are available in a wide selection of shapes and sizes: elbows, tees, crosses, connectors, nipples, plugs and caps. All adapters are designed to the latest SAE specifications.

Piper Industries, Inc. also has a wide range of jump size fittings, compound fittings, special manifolds and valves. Our special manifolds and fittings greatly reduce the potential for leaks by eliminating numerous unnecessary joints, reducing production and field problems.

If you are currently "assembling" a fitting anywhere in your production process, we can reduce your inventory and purchase costs, as well as save you labor time and reduce field problems. We would be pleased to assist you in this process – call, fax, or email us today.

### -MAIN PLANT-

15930 Common Road  
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All sizes are indicated in graduations of sixteenths of an inch according to the outside diameter of the tubing with which it will be mated. For example: 1/2 inch O.D. Tube is equal to 8/16 of an inch or a -8 size.

Pipe Thread is also indicated by sixteenths, both Male and Female.  
For example: 1/2 NPTF is equal to 8/16 NPTF or a -8 size.

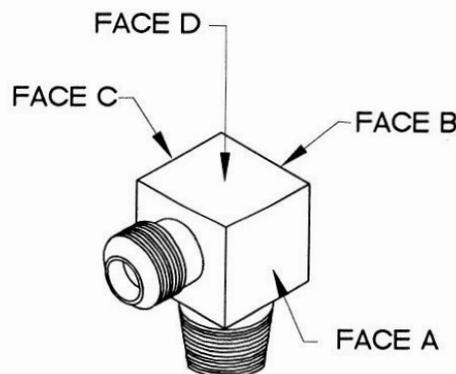
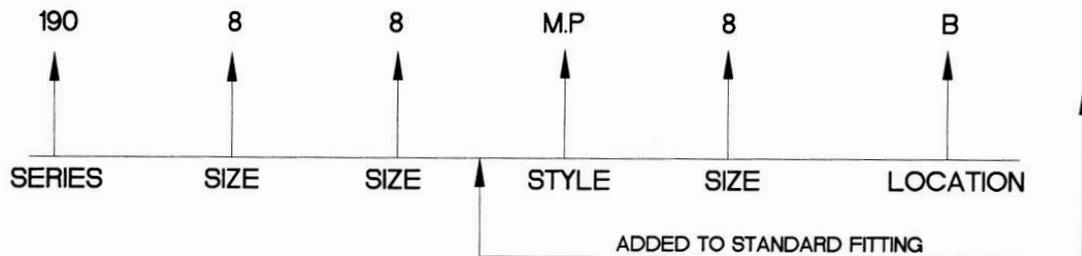
When ordering fittings, first use the series number, followed by Size A then Size B, etc.  
For example: 190-08-08

All Non-Standard Adapters may be engineered for your convenience by a qualified representative upon request.

We are always most willing to assist our many customers.

The following chart was designed to assist in the ordering of a standard adapter with an additional fitting incorporated for your need. The chart and examples below will provide you with the necessary information.

1. F.P. - Female Pipe
2. M.P. - Male Pipe
3. F.O.B. - Female O'Ring Boss
4. M.F. - 37 Degree J.I.C. Flare
5. H.B. - Hose Barb





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**INDEX**  
**DESCRIPTION**

<b><u>SERIES</u></b>	<b><u>DESCRIPTION</u></b>	<b><u>PAGE</u></b>
<b><i>37 DEGREE TUBE FITTINGS</i></b>		
100	MALE CONNECTOR	1
100	MALE CONNECTOR	2
100L	MALE CONNECTOR LONG	3
100XL	MALE CONNECTOR EXTRA LONG	3
120	MALE RUN TEE	4
130	MALE BRANCH TEE	5
140	CROSS-BRANCH STYLE-FLARE TO PIPE	6
141	CROSS-RUN STYLE-FLARE TO PIPE	7
145	45 DEGREE MALE ELBOW	8
190	90 DEGREE MALE ELBOW	9
190L	90 DEGREE LONG MALE ELBOW	10
190XL	90 DEGREE EXTRA LONG MALE ELBOW	10
190XXL	90 DEGREE EXTRA EXTRA LONG MALE ELBOW	11
200	FEMALE CONNECTOR	12
220	FEMALE RUN TEE	13
221	MALE FLARE-FEMALE PIPE-FEMALE PIPE-RUN TEE	14
230	FEMALE BRANCH TEE	15
231	MALE FLARE-FEMALE PIPE BRANCH TEE	16
240	FLARE-FEMALE PIPE CROSS	17
241	FLARE-FEMALE PIPE CROSS	18
245	45 DEGREE ELBOW MALE FLARE-FEMALE PIPE	19
290	90 DEGREE FEMALE ELBOW	20
300	MALE PIPE-FEMALE O'RING BOSS ADAPTER	21
340	MALE O'RING BOSS-FEMALE O'RING BOSS REDUCER	22
360	MALE O'RING BOSS-FEMALE PIPE CONNECTOR	23
380	MALE O'RING BOSS-MALE PIPE ADAPTER	24
400SH	UNION	24
410LH	LARGE HEX UNION	25
430	UNION TEE	26
440	FLARE-FLARE CROSS	27
445	45 DEGREE UNION ELBOW	28
490	90 DEGREE UNION ELBOW	28
500	37 DEGREE FLARE PLUG	29
510	O'RING PLUG	29
515	HEXAGON SOCKET PLUG	30
520	37 DEGREE FEMALE CAP	30
530	TUBE END REDUCER	31



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<u>SERIES</u>	<u>DESCRIPTION</u>	<u>PAGE</u>
530I	TUBE END INSERT REDUCER	32
600	STRAIGHT MALE O'RING-FEMALE 37 DEGREE SWIVEL	32
605	FEMALE PIPE-FEMALE 37 DEGREE SWIVEL	33
610	STRAIGHT MALE PIPE-FEMALE 37 DEGREE SWIVEL	33
620	SWIVEL RUN TEE	34
630	SWIVEL BRANCH TEE	35
645	45 DEGREE SWIVEL ELBOW	36
660	90 DEGREE SWIVEL ADAPTER	37
690	90 DEGREE SWIVEL ELBOW	38
700	STRAIGHT THREAD CONNECTOR	39
700	STRAIGHT THREAD CONNECTOR	40
700XL	STRAIGHT THREAD CONNECTOR EXTRA LONG	41
705	STRAIGHT THREAD UNION	41
720	STRAIGHT THREAD RUN TEE	42
730	STRAIGHT THREAD BRANCH TEE	43
740	90 DEGREE ELBOW-FEMALE O.R.B.-MALE ADJUSTABLE O.R.B.	44
745	45 DEGREE STRAIGHT THREAD ELBOW	45
760	90 DEGREE FEMALE ADJUSTABLE ADAPTER	46
760XL	90 DEGREE EXTRA LONG FEMALE ADJUSTABLE ADAPTER	47
780	90 DEGREE MALE ADJUSTABLE ADAPTER	47
790	90 DEGREE STRAIGHT THREAD ELBOW	48
790	90 DEGREE STRAIGHT THREAD ELBOW	49
790L	90 DEGREE LONG STRAIGHT THREAD ELBOW	50
790XL	90 DEGREE EXTRA LONG STRAIGHT THREAD ELBOW	50
790XXL	90 DEGREE EXTRA EXTRA LONG STRAIGHT THREAD ELBOW	51
800	STRAIGHT THREAD HOSE CONNECTOR	52
820	RUN TEE STRAIGHT THREAD HOSE CONNECTOR	53
830	BRANCH TEE STRAIGHT THREAD HOSE CONNECTOR	54
845	45 DEGREE STRAIGHT THREAD HOSE CONNECTOR	55
890	90 DEGREE STRAIGHT THREAD HOSE CONNECTOR	56
900	MALE PIPE HOSE CONNECTOR	57
920	RUN TEE MALE PIPE-HOSE CONNECTOR	58
930	BRANCH TEE MALE PIPE-HOSE CONNECTOR	59
945	45 DEGREE MALE PIPE HOSE CONNECTOR	60
990	90 DEGREE MALE PIPE HOSE CONNECTOR	61
1000	BULKHEAD UNION	62



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<u>SERIES</u>	<u>DESCRIPTION</u>	<u>PAGE</u>
1020	BULKHEAD RUN TEE	63
1030	BULKHEAD BRANCH TEE	64
1045	45 DEGREE BULKHEAD ELBOW	65
1090	90 DEGREE BULKHEAD ELBOW	65
<b><i>PIPE FITTINGS</i></b>		
1100	MALE PIPE PLUG	66
1110	PIPE-PIPE MALE ADAPTER	67
1120	PIPE-PIPE REDUCER	68
1120C	COMPACT REDUCER BUSHING	69
1130	MALE PIPE TEE	70
1140	MALE PIPE CROSS	71
1145	45 DEGREE MALE PIPE ELBOW	72
1150	HEXAGON PIPE NIPPLE	73
1190	90 DEGREE MALE PIPE ELBOW	74
1220	PIPE RUN TEE	75
1221	MALE PIPE-FEMALE PIPE RUN TEE	76
1230	PIPE BRANCH TEE	77
1231	MALE PIPE-FEMALE PIPE BRANCH TEE	78
1240	MALE PIPE-FEMALE PIPE CROSS	79
1241	MALE PIPE-FEMALE PIPE CROSS	80
1245	45 DEGREE STREET ELBOW	81
1290	90 DEGREE STREET ELBOW	82
1290C	90 DEGREE DOT ELBOW	83
1300	HEXAGON PIPE COUPLER	83
1330	FEMALE PIPE TEE	84
1340	FEMALE PIPE CROSS	85
1345	45 DEGREE FEMALE ELBOW	86
1390	90 DEGREE FEMALE PIPE ELBOW	86
1400	STRAIGHT ADAPTER UNION	87
1430	TEE ADAPTER UNION	88
1445	45 DEGREE ADAPTER UNION	89
1490	90 DEGREE ADAPTER UNION	90
1490C	90 DEGREE ADAPTER UNION COMPACT	91
1490L	90 DEGREE ADAPTER UNION LONG	91
1490XL	90 DEGREE ADAPTER UNION EXTRA LONG	92
1500	FEMALE ADAPTER UNION	92
1530	TEE ADAPTER UNION	93
1545	45 DEGREE ADAPTER UNION	94



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<u>SERIES</u>	<u>DESCRIPTION</u>	<u>PAGE</u>
1590	90 DEGREE ADAPTER UNION	95
1630	ADAPTER UNION TEE	96
1700	STRAIGHT THREAD UNION ADAPTER	97
1745	STRAIGHT THREAD 45 DEGREE UNION ADAPTER	98
1790	STRAIGHT THREAD 90 DEGREE UNION ADAPTER	99
1801	TUBE NUT	100
1802	TUBE SLEEVE	100
1804	ADJUSTABLE LOCKNUT	101
1805	BULKHEAD LOCKNUT	101
1806	FLANGE	102
1920	PIPE BRANCH TEE	103
1921	FLARE-PIPE RUN TEE	104
1923	MALE PIPE-FEMALE PIPE RUN TEE	105
1924	MALE FLARE-FEMALE PIPE RUN TEE	106
1925	MALE FLARE-MALE PIPE RUN TEE	107
1926	MALE FLARE-MALE PIPE BRANCH TEE	108
2010	FEMALE PIPE BULKHEAD	109
2020	MALE PIPE BULKHEAD	109
2590	90 DEGREE MALE PIPE-SWIVEL-CHECK VALVE	110
2690	90 DEGREE ADJUSTABLE STRAIGHT THREAD-SWIVEL-CHECK VALVE	111
2790	90 DEGREE PIPE SWIVEL MALE TUBE	112
2890	90 DEGREE PIPE SWIVEL MALE PIPE	113
2990	90 DEGREE SWIVEL PIPE ELBOW	113
3090	90 DEGREE MALE FLARE-MALE O'RING SWIVEL	114
3630	FEMALE J.I.C. SWIVEL TEE	115
7145	45 DEGREE ELBOW N.W.O.-N.W.O.	116
7190	90 DEGREE ELBOW N.W.O.-N.W.O.	117
7245	45 DEGREE ELBOW FEMALE J.I.C. SWIVEL-N.W.O.	118
7290	90 DEGREE ELBOW FEMALE J.I.C. SWIVEL-N.W.O.	119
7330	FEMALE STRAIGHT THREAD O'RING PORT TEE	120
7390	90 DEGREE FEMALE O'RING PORT ELBOW	121
7420	STRAIGHT THREAD O'RING PORT RUN TEE	122
7430	STRAIGHT THREAD BRANCH TEE	123
7845	45 DEGREE MALE PIPE-STRAIGHT THREAD ELBOW	124
9230	HOSE BARB TEE	125



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<u>SERIES</u>	<u>DESCRIPTION</u>	<u>PAGE</u>
<b>45 DEGREE FLARE</b>		
<b>AUTOMOTIVE TUBE FITTINGS</b>		
AF-100	MALE CONNECTOR	126
AF-145	45 DEGREE MALE ELBOW	127
AF-190	MALE 90 DEGREE ELBOW	128
AF-200	FEMALE CONNECTOR	129
AF-290	90 DEGREE FEMALE ELBOW	130
AF-400SH	UNION	131
AF-790	90 DEGREE STRAIGHT THREAD ELBOW	132
<b>BRAZE FITTINGS</b>		
B-4100	BRAZE TUBE UNION	133
B-4120	BRAZE TUBE TEE	134
B-4130	BRAZE TUBE TEE	135
B-4135	BRAZE TUBE TEE	136
B-4190	BRAZE 90 DEGREE TUBE ELBOW	137
B-5100	BRAZE BULKHEAD UNION	137
B-5190	BRAZE 90 DEGREE BULKHEAD ELBOW	138
B-6000	BRAZE MALE O'RING UNION	139
B-6100	BRAZE MALE PIPE UNION	140
B-6130	BRAZE MALE PIPE TEE	141
B-6190	BRAZE MALE PIPE ELBOW	142
B-7000	BRAZE NPSM SWIVEL ADAPTER	142
B-7130	BRAZE NPSM SWIVEL TEE	143
B-7190	BRAZE NPSM SWIVEL ELBOW	144
B-8000	BRAZE FEMALE J.I.C. SWIVEL ADAPTER	145
B-8190	BRAZE 90 DEGREE FEMALE J.I.C. SWIVEL ELBOW	146
B-9100	BRAZE FEMALE PIPE ADAPTER	147
B-9130	BRAZE FEMALE TEE	148
B-9190	BRAZE FEMALE O'RING BOSS 90 DEGREE ELBOW	149
<b>FLARELESS FITTINGS</b>		
FL-100	FLARELESS MALE CONNECTOR	150
FL-120	FLARELESS MALE RUN TEE	151
FL-130	FLARELESS MALE BRANCH TEE	152
FL-145	FLARELESS 45 DEGREE MALE ELBOW	153
FL-190	FLARELESS 90 DEGREE MALE ELBOW	154
FL-200	FLARELESS FEMALE CONNECTOR	155
FL-220	FLARELESS FEMALE RUN TEE	156
FL-230	FLARELESS FEMALE BRANCH TEE	157



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<u>SERIES</u>	<u>DESCRIPTION</u>	<u>PAGE</u>
FL-290	FLARELESS 90 DEGREE FEMALE ELBOW	158
FL-400SH	FLARELESS UNION	159
FL-410LH	FLARELESS LARGE HEX UNION	160
FL-430	FLARELESS UNION TEE	161
FL-440	FLARELESS UNION CROSS	162
FL-490	FLARELESS 90 DEGREE UNION ELBOW	163
FL-510	FLARELESS HEX HEAD O'RING PLUG	164
FL-520	FLARELESS CAP	164
FL-700	FLARELESS STRAIGHT THREAD O'RING MALE CONNECTOR	165
FL-720	FLARELESS STRAIGHT THREAD O'RING RUN TEE	166
FL-730	FLARELESS STRAIGHT THREAD O'RING BRANCH TEE	167
FL-745	FLARELESS STRAIGHT THREAD O'RING 45 DEGREE ELBOW	168
FL-790	FLARELESS 90 DEGREE STRAIGHT THREAD O'RING ELBOW	169
FL-1000	FLARELESS BULKHEAD UNION	170
FL-1801	FLARELESS NUT	171
FL-1802	FLARELESS FERRULE	171
FL-1805	FLARELESS BULKHEAD NUT	172
<b><i>CYLINDER FITTINGS</i></b>		
SW-100	STUD WELD FITTING STRAIGHT MALE FLARE TO STUD	173
SW-190	STUD WELD FITTING 90 DEGREE MALE FLARE TO STUD	174
SW-190L	STUD WELD FITTING 90 DEGREE LONG MALE FLARE TO STUD	174
SW-200	STUD WELD FITTING STRAIGHT FEMALE O'RING PORT TO STUD	175
SW-290	STUD WELD FITTING 90 DEGREE FEMALE O'RING BOSS TO STUD	176
<b><i>ENGINEERING INFORMATION</i></b>		
TABLE	FEMALE PIPE THREAD	177
TABLE	J.I.C.-37 DEGREE-SAE FLARE	178
TABLE	MALE O'RING BOSS	179
TABLE	ADJUSTABLE STRAIGHT THREAD	180
TABLE	FEMALE O'RING BOSS	181
TABLE	MALE PIPE THREAD	182



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**37 DEGREE TUBE FITTINGS**

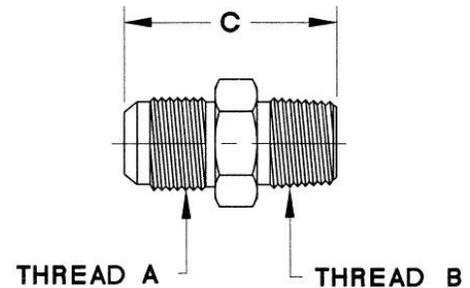
**100 SERIES**

**MALE CONNECTOR**

(070102)

PART NO.	O.D.	THREAD A	THREAD B	DIM D
100-02-02	0.13	5/16-24	1/8-27	1.11
100-03-02	0.19	3/8-24	1/8-27	1.14
100-04-02	0.25	7/16-20	1/8-27	1.22
100-04-04	0.25	7/16-20	1/4-18	1.42
100-04-06	0.25	7/16-20	3/8-18	1.42
100-04-08	0.25	7/16-20	1/2-14	1.68
100-05-02	0.31	1/2-20	1/8-27	1.22
100-05-04	0.31	1/2-20	1/4-18	1.42
100-05-06	0.31	1/2-20	3/8-18	1.37
100-05-08	0.31	1/2-20	1/2-14	1.67
100-06-02	0.38	9/16-18	1/8-27	1.24
100-06-04	0.38	9/16-18	1/4-18	1.43
100-06-06	0.38	9/16-18	3/8-18	1.43
100-06-08	0.38	9/16-18	1/2-14	1.69
100-06-12	0.38	9/16-18	3/4-14	1.75
100-08-02	0.50	3/4-16	1/8-27	1.34
100-08-04	0.50	3/4-16	1/4-18	1.53
100-08-06	0.50	3/4-16	3/8-18	1.53
100-08-08	0.50	3/4-16	1/2-14	1.79
100-08-12	0.50	3/4-16	3/4-14	1.85
100-08-16	0.50	3/4-16	1-11 1/2	2.05
100-10-04	0.63	7/8-14	1/4-18	1.69
100-10-06	0.63	7/8-14	3/8-18	1.70
100-10-08	0.63	7/8-14	1/2-14	1.88
100-10-12	0.63	7/8-14	3/4-14	1.95
100-10-16	0.63	7/8-14	1-11 1/2	2.15
100-12-06	0.75	1 1/16-12	3/8-18	1.76
100-12-08	0.75	1 1/16-12	1/2-14	2.06
100-12-12	0.75	1 1/16-12	3/4-14	2.06
100-12-16	0.75	1 1/16-12	1-11 1/2	2.25
100-12-20	0.75	1 1/16-12	1 1/4-11 1/2	2.37
100-12-24	0.75	1 1/16-12	1 1/2-11 1/2	2.46

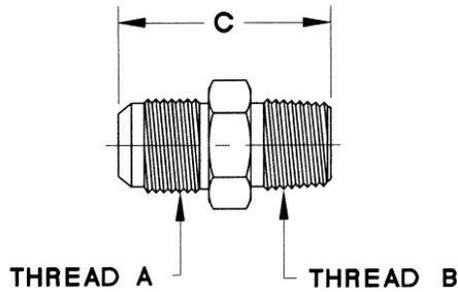
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**100 SERIES**



**MALE CONNECTOR  
(070102)**

PART NO.	O.D.	THREAD A	THREAD B	DIM C
100-14-08	0.88	1 3/16-12	1/2-14	2.09
100-14-12	0.88	1 3/16-12	3/4-14	2.09
100-14-16	0.88	1 3/16-12	1-11 1/2	2.27
100-16-08	1.00	1 5/16-12	1/2-14	2.11
100-16-12	1.00	1 5/16-12	3/4-14	2.11
100-16-16	1.00	1 5/16-12	1-11 1/2	2.30
100-16-20	1.00	1 5/16-12	1 1/4-11 1/2	2.40
100-16-24	1.00	1 5/16-12	1 1/2-11 1/2	2.51
100-20-12	1.25	1 5/8-12	3/4-14	2.20
100-20-16	1.25	1 5/8-12	1-11 1/2	2.42
100-20-20	1.25	1 5/8-12	1 1/4-11 1/2	2.45
100-20-24	1.25	1 5/8-12	1 1/2-11 1/2	2.55
100-24-16	1.50	1 7/8-12	1-11 1/2	2.62
100-24-20	1.50	1 7/8-12	1 1/4-11 1/2	2.64
100-24-24	1.50	1 7/8-12	1 1/2-11 1/2	2.68
100-24-32	1.50	1 7/8-12	2-11 1/2	2.86
100-32-16	2.00	2 1/2-12	1-11 1/2	3.02
100-32-20	2.00	2 1/2-12	1 1/4-11 1/2	3.05
100-32-24	2.00	2 1/2-12	1 1/2-11 1/2	3.08
100-32-32	2.00	2 1/2-12	2-11 1/2	3.10
100-40-40	2.50	3-12	2 1/2-8	3.37

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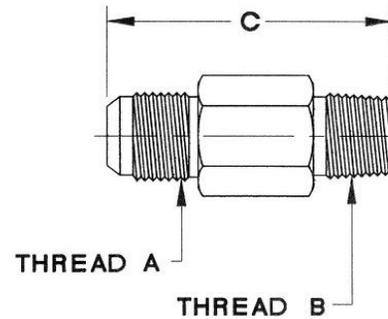
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**MALE CONNECTOR LONG  
 (NON STANDARD)**

<u>PART NO.</u>	<u>O.D.</u>	<u>THREAD A</u>	<u>THREAD B</u>	<u>DIM C</u>
100L-04-02	0.25	7/16-20	1/8-27	1.81
100L-05-02	0.31	1/2-20	1/8-27	1.93
100L-06-04	0.38	9/16-18	1/4-18	2.25
100L-08-06	0.50	3/4-16	3/8-18	2.75
100L-10-08	0.63	7/8-14	1/2-14	3.12
100L-12-12	0.75	1 1/16-12	3/4-14	3.50
100L-14-12	0.88	1 3/16-12	3/4-14	3.75
100L-16-16	1.00	1 5/16-12	1-11 1/2	4.00
100L-20-20	1.25	1 5/8-12	1 1/4-11 1/2	4.50
100L-24-24	1.50	1 7/8-12	1 1/2-11 1/2	4.88
100L-32-32	2.00	2 1/2-12	2-11 1/2	5.62

DESIGN AND DIMENSION SUBJECT TO CHANGE WITHOUT NOTICE.

**100L SERIES**

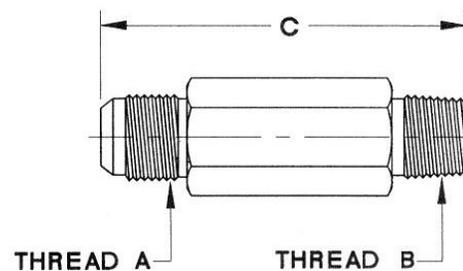


**MALE CONNECTOR EXTRA LONG  
 (NON STANDARD)**

<u>PART NO.</u>	<u>O.D.</u>	<u>THREAD A</u>	<u>THREAD B</u>	<u>DIM C</u>
100XL-04-02	0.25	7/16-20	1/8-27	2.56
100XL-05-02	0.31	1/2-20	1/8-27	2.81
100XL-06-04	0.38	9/16-18	1/4-18	3.25
100XL-08-06	0.50	3/4-16	3/8-18	4.00
100XL-10-08	0.63	7/8-14	1/2-14	4.37
100XL-12-12	0.75	1 1/16-12	3/4-14	5.00
100XL-14-12	0.88	1 3/16-12	3/4-14	5.37
100XL-16-16	1.00	1 5/16-12	1-11 1/2	5.75

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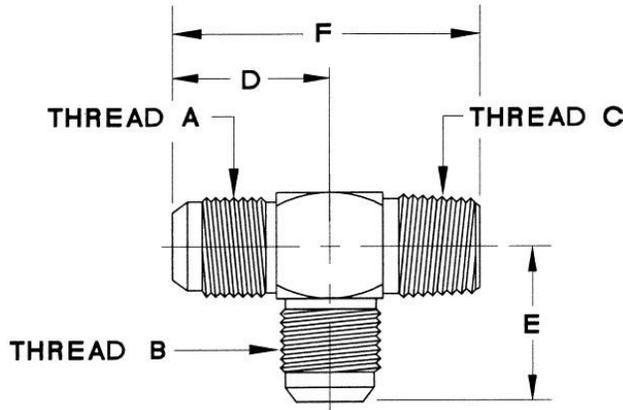
**100XL SERIES**





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**120 SERIES**



**MALE RUN TEE  
(070424)**

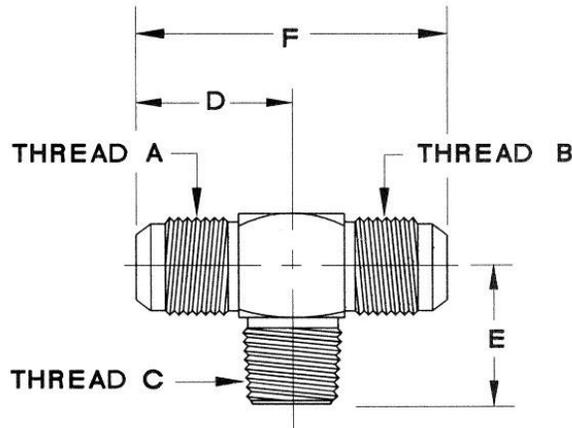
<u>PART NO.</u>	<u>O.D.</u>	<u>THREAD A</u>	<u>THREAD B</u>	<u>THREAD C</u>	<u>DIM D</u>	<u>DIM E</u>	<u>DIM F</u>
120-04-04-02	0.25	7/16-20	7/16-20	1/8-27	0.89	0.89	1.67
120-04-04-04	0.25	7/16-20	7/16-20	1/4-18	0.95	0.95	2.04
120-05-05-02	0.31	1/2-20	1/2-20	1/8-27	0.95	0.95	1.73
120-05-05-04	0.31	1/2-20	1/2-20	1/4-18	1.05	1.05	2.14
120-06-06-04	0.38	9/16-18	9/16-18	1/4-18	1.06	1.06	2.15
120-06-06-06	0.38	9/16-18	9/16-18	3/8-18	1.14	1.14	2.36
120-06-06-08	0.38	9/16-18	9/16-18	1/2-14	1.22	1.22	2.70
120-08-06-06	0.50	3/4-16	9/16-18	3/8-18	1.25	1.14	2.47
120-08-06-08	0.50	3/4-16	9/16-18	1/2-14	1.25	1.22	2.72
120-08-08-06	0.50	3/4-16	3/4-16	3/8-18	1.25	1.25	2.47
120-08-08-08	0.50	3/4-16	3/4-16	1/2-14	1.31	1.31	2.78
120-10-10-08	0.63	7/8-14	7/8-14	1/2-14	1.45	1.45	2.92
120-12-12-12	0.75	1 1/16-12	1 1/16-12	3/4-14	1.66	1.66	3.25
120-14-14-12	0.88	1 3/16-12	1 3/16-12	3/4-14	1.73	1.73	3.42
120-16-16-16	1.00	1 5/16-12	1 5/16-12	1-11 1/2	1.81	1.81	3.78
120-20-20-20	1.25	1 5/8-12	1 5/8-12	1 1/4-11 1/2	2.06	2.06	4.44
120-24-24-24	1.50	1 7/8-12	1 7/8-12	1 1/2-11 1/2	2.33	2.33	4.97
120-32-32-32	2.00	2 1/2-12	2 1/2-12	2-11 1/2	3.06	3.06	6.06

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## 130 SERIES



**MALE BRANCH TEE**  
(070425)

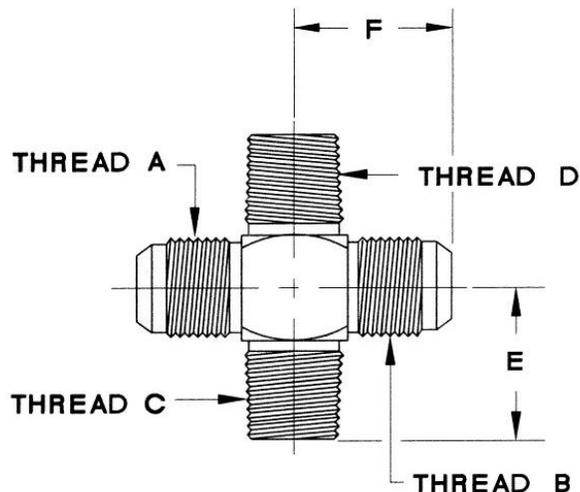
<u>PART NO.</u>	<u>O.D.</u>	<u>THREAD A</u>	<u>THREAD B</u>	<u>THREAD C</u>	<u>DIM D</u>	<u>DIM E</u>	<u>DIM F</u>
130-03-03-02	0.18	3/8-24	3/8-24	1/8-27	0.83	0.72	1.68
130-04-04-02	0.25	7/16-20	7/16-20	1/8-27	0.89	0.78	1.78
130-04-04-04	0.25	7/16-20	7/16-20	1/4-18	0.95	1.09	1.90
130-04-04-06	0.25	7/16-20	7/16-20	3/8-18	1.05	1.22	2.10
130-05-05-02	0.31	1/2-20	1/2-20	1/8-27	0.95	0.78	1.90
130-05-05-04	0.31	1/2-20	1/2-20	1/4-18	0.98	1.09	1.96
130-06-06-02	0.38	9/16-18	9/16-18	1/8-27	1.06	0.90	2.12
130-06-06-04	0.38	9/16-18	9/16-18	1/4-18	1.06	1.09	2.12
130-06-06-06	0.38	9/16-18	9/16-18	3/8-18	1.15	1.21	2.30
130-08-08-06	0.50	3/4-16	3/4-16	3/8-18	1.25	1.22	2.50
130-08-08-08	0.50	3/4-16	3/4-16	1/2-14	1.31	1.46	2.62
130-10-10-08	0.63	7/8-14	7/8-14	1/2-14	1.45	1.47	2.90
130-12-12-08	0.75	1 1/16-12	1 1/16-12	1/2-14	1.33	1.47	2.66
130-12-12-12	0.75	1 1/16-12	1 1/16-12	3/4-14	1.66	1.59	3.32
130-14-14-12	0.88	1 3/16-12	1 3/16-12	3/4-14	1.73	1.68	3.46
130-16-16-16	1.00	1 5/16-12	1 5/16-12	1-11 1/2	1.81	1.97	3.62
130-20-20-20	1.25	1 5/8-12	1 5/8-12	1 1/4-11 1/2	2.06	2.38	4.12
130-24-24-24	1.50	1 7/8-12	1 7/8-12	1 1/2-11 1/2	2.33	2.64	4.66
130-32-32-32	2.00	2 1/2-12	2 1/2-12	2-11 1/2	3.06	3.00	6.12

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**140 SERIES**



**CROSS-BRANCH STYLE-FLARE TO PIPE  
 (NON STANDARD)**

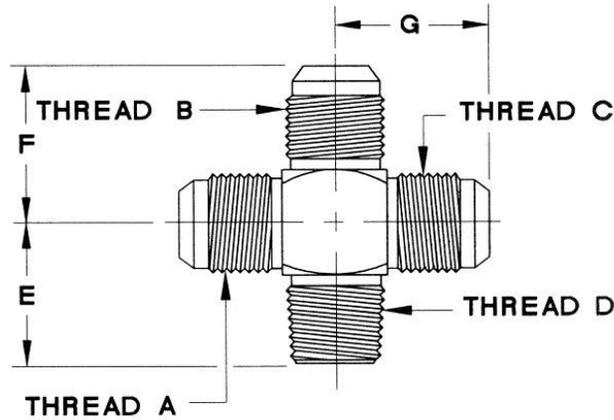
<u>PART NO.</u>	<u>O.D.</u>	<u>THREAD A</u>	<u>THREAD B</u>	<u>THREAD C</u>	<u>THREAD D</u>	<u>DIM E</u>	<u>DIM F</u>
140-04-04-02-02	0.25	7/16-20	7/16-20	1/8-27	1/8-27	0.89	0.78
140-06-06-04-04	0.38	9/16-18	9/16-18	1/4-18	1/4-18	1.06	1.09
140-08-08-06-06	0.50	3/4-16	3/4-16	3/8-18	3/8-18	1.25	1.22
140-10-10-08-08	0.63	7/8-14	7/8-14	1/2-14	1/2-14	1.45	1.47
140-12-12-12-12	0.75	1 1/16-12	1 1/16-12	3/4-14	3/4-14	1.66	1.59
140-16-16-16-16	1.00	1 5/16-12	1 5/16-12	1-11 1/2	1-11 1/2	1.81	1.97
140-20-20-20-20	1.25	1 5/8-12	1 5/8-12	1 1/4-11 1/2	1 1/4-11 1/2	2.06	2.38

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**141 SERIES**



**CROSS-RUN STYLE-FLARE TO PIPE  
 (NON STANDARD)**

<u>PART NO.</u>	<u>O.D.</u>	<u>THREAD A</u>	<u>THREAD B</u>	<u>THREAD C</u>	<u>THREAD D</u>	<u>DIM E</u>	<u>DIM F</u>	<u>DIM G</u>
141-06-06-06-04	0.38	9/16-18	9/16-18	9/16-18	1/4-18	1.06	1.06	1.09
141-06-06-06-06	0.38	9/16-18	9/16-18	9/16-18	3/8-18	1.14	1.14	1.22
141-08-08-08-06	0.50	3/4-16	3/4-16	3/4-16	3/8-18	1.25	1.25	1.22
141-10-10-10-08	0.63	7/8-14	7/8-14	7/8-14	1/2-14	1.45	1.45	1.47
141-12-12-12-12	0.75	1 1/16-12	1 1/16-12	1 1/16-12	3/4-14	1.66	1.66	1.59
141-16-16-16-16	1.00	1 5/16-12	1 5/16-12	1 5/16-12	1-11 1/2	1.81	1.81	1.97

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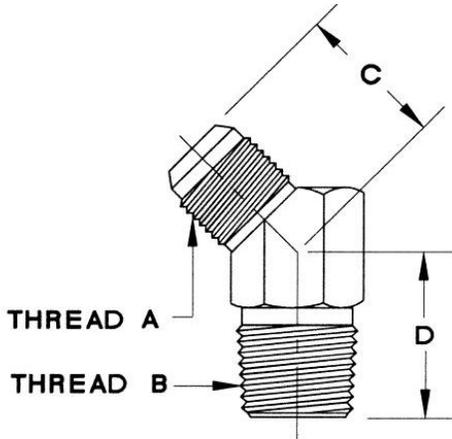


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**145 SERIES**

**45 DEGREE MALE ELBOW**

(070302)



PART NO.	O.D.	THREAD A	THREAD B	DIM C	DIM D
145-03-02	0.19	3/8-24	1/8-27	0.66	0.52
145-04-02	0.25	7/16-20	1/8-27	0.72	0.64
145-04-04	0.25	7/16-20	1/4-18	0.82	0.86
145-04-06	0.25	7/16-20	3/8-18	0.82	0.95
145-05-02	0.31	1/2-20	1/8-27	0.77	0.64
145-05-04	0.31	1/2-20	1/4-18	0.82	0.86
145-06-02	0.38	9/16-18	1/8-27	0.83	0.67
145-06-04	0.38	9/16-18	1/4-18	0.83	0.86
145-06-06	0.38	9/16-18	3/8-18	0.87	0.95
145-06-08	0.38	9/16-18	1/2-14	0.88	1.17
145-08-04	0.50	3/4-16	1/4-18	0.98	0.95
145-08-06	0.50	3/4-16	3/8-18	0.98	0.95
145-08-08	0.50	3/4-16	1/2-14	0.99	1.17
145-08-12	0.50	3/4-16	3/4-14	1.04	1.20
145-10-06	0.63	7/8-14	3/8-18	1.11	0.98
145-10-08	0.63	7/8-14	1/2-14	1.11	1.17
145-10-12	0.63	7/8-14	3/4-14	1.16	1.20
145-12-08	0.75	1 1/16-12	1/2-14	1.28	1.20
145-12-12	0.75	1 1/16-12	3/4-14	1.28	1.20
145-12-16	0.75	1 1/16-12	1-11 1/2	1.42	1.48
145-14-12	0.88	1 3/16-12	3/4-14	1.39	1.27
145-16-12	1.00	1 5/16-12	3/4-14	1.47	1.29
145-16-16	1.00	1 5/16-12	1-11 1/2	1.47	1.48
145-16-20	1.00	1 5/16-12	1 1/4-11 1/2	1.54	1.67
145-20-20	1.25	1 5/8-12	1 1/4-11 1/2	1.59	1.67
145-24-24	1.50	1 7/8-12	1 1/2-11 1/2	1.78	1.77
145-32-32	2.00	2 1/2-12	2-11 1/2	2.22	2.11
145-40-40	2.50	3-12	2 1/2-8	1.89	2.78
145-48-48	3.00	3 1/2-12	3-8	2.05	2.94

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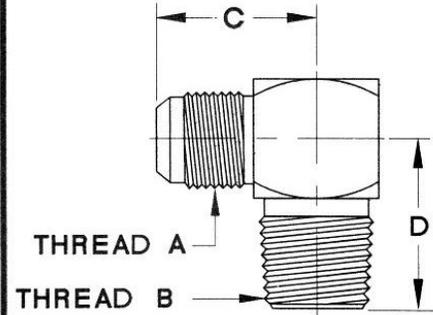


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**90 DEGREE MALE ELBOW**  
 (070202)

**190 SERIES**

PART NO.	O.D.	THREAD A	THREAD B	DIM C	DIM D
190-03-02	0.19	3/8-24	1/8-27	0.83	0.72
190-04-02	0.25	7/16-20	1/8-27	0.89	0.78
190-04-04	0.25	7/16-20	1/4-18	0.96	1.09
190-04-06	0.25	7/16-20	3/8-18	1.05	1.22
190-04-08	0.25	7/16-20	1/2-14	1.10	1.47
190-05-02	0.31	1/2-20	1/8-27	0.95	0.78
190-05-04	0.31	1/2-20	1/4-18	1.05	1.09
190-05-06	0.31	1/2-20	3/8-18	1.06	1.22
190-06-02	0.38	9/16-18	1/8-27	1.06	0.90
190-06-04	0.38	9/16-18	1/4-18	1.06	1.09
190-06-06	0.38	9/16-18	3/8-18	1.14	1.22
190-06-08	0.38	9/16-18	1/2-14	1.22	1.47
190-06-12	0.38	9/16-18	3/4-14	1.33	1.59
190-08-04	0.50	3/4-16	1/4-18	1.25	1.22
190-08-06	0.50	3/4-16	3/8-18	1.25	1.22
190-08-08	0.50	3/4-16	1/2-14	1.33	1.47
190-08-12	0.50	3/4-16	3/4-14	1.42	1.59
190-10-06	0.63	7/8-14	3/8-18	1.45	1.28
190-10-08	0.63	7/8-14	1/2-14	1.45	1.47
190-10-12	0.63	7/8-14	3/4-14	1.54	1.59
190-12-08	0.75	1 1/16-12	1/2-14	1.66	1.59
190-12-12	0.75	1 1/16-12	3/4-14	1.66	1.59
190-12-16	0.75	1 1/16-12	1-11 1/2	1.76	1.97
190-14-12	0.88	1 3/16-12	3/4-14	1.80	1.69
190-16-08	1.00	1 5/16-12	1/2-14	1.81	1.68
190-16-12	1.00	1 5/16-12	3/4-14	1.81	1.78
190-16-16	1.00	1 5/16-12	1-11 1/2	1.81	1.97
190-16-20	1.00	1 5/16-12	1 1/4-11 1/2	2.01	2.38
190-20-16	1.25	1 5/8-12	1-11 1/2	2.06	2.35
190-20-20	1.25	1 5/8-12	1 1/4-11 1/2	2.06	2.38
190-20-24	1.25	1 5/8-12	1 1/2-11 1/2	2.18	2.64
190-24-20	1.50	1 7/8-12	1 1/4-11 1/2	2.32	2.50
190-24-24	1.50	1 7/8-12	1 1/2-11 1/2	2.33	2.64
190-32-24	2.00	2 1/2-12	1 1/2-11 1/2	3.06	3.00
190-32-32	2.00	2 1/2-12	2-11 1/2	3.06	3.00
190-40-40	2.50	3-12	2 1/2-8	306.00	3.39



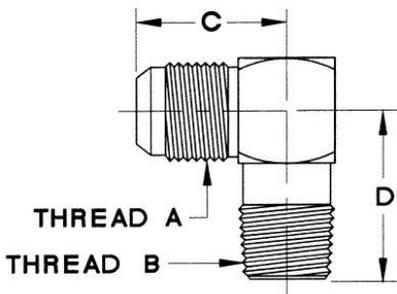
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**190L SERIES**

**90 DEGREE LONG MALE ELBOW  
(071502)**

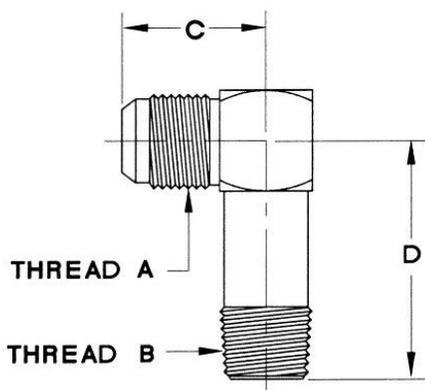


PART NO.	O.D.	THREAD A	THREAD B	DIM C	DIM D
190L-04-02	0.25	7/16-20	1/8-27	0.89	1.17
190L-04-04	0.25	7/16-20	1/4-18	0.95	1.57
190L-05-02	0.31	1/2-20	1/8-27	0.95	1.17
190L-05-04	0.31	1/2-20	1/4-18	0.95	1.54
190L-06-04	0.38	9/16-18	1/4-18	1.06	1.58
190L-06-06	0.38	9/16-18	3/8-18	1.15	1.82
190L-08-06	0.50	3/4-16	3/8-18	1.25	1.82
190L-08-08	0.50	3/4-16	1/2-14	1.31	2.17
190L-08-12	0.50	3/4-16	3/4-14	1.40	2.43
190L-10-08	0.63	7/8-14	1/2-14	1.45	2.17
190L-12-12	0.75	1 1/16-12	3/4-14	1.66	2.44
190L-14-12	0.88	1 3/16-12	3/4-14	1.80	2.59
190L-16-16	1.00	1 5/16-12	1-11 1/2	1.81	3.01
190L-20-20	1.25	1 5/8-12	1 1/4-11 1/2	2.06	3.69
190L-24-24	1.50	1 7/8-12	1 1/2-11 1/2	2.33	4.10

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**190XL SERIES**

**90 DEGREE EXTRA LONG MALE ELBOW  
(071602)**



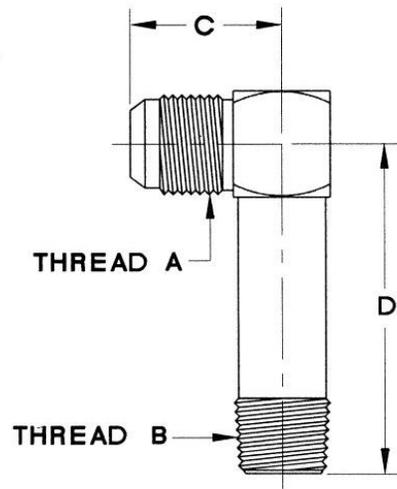
PART NO.	O.D.	THREAD A	THREAD B	DIM C	DIM D
190XL-04-02	0.25	7/16-20	1/8-27	0.89	1.56
190XL-04-04	0.25	7/16-20	1/4-18	0.96	2.07
190XL-05-02	0.31	1/2-20	1/8-27	0.95	1.63
190XL-05-04	0.31	1/2-20	1/4-18	0.95	2.03
190XL-06-04	0.38	9/16-18	1/4-18	1.06	2.07
190XL-06-06	0.38	9/16-18	3/8-18	1.14	2.39
190XL-08-06	0.50	3/4-16	3/8-18	1.25	2.42
190XL-08-08	0.50	3/4-16	1/2-14	1.31	2.87
190XL-10-08	0.63	7/8-14	1/2-14	1.45	2.87
190XL-12-08	0.75	1 1/16-12	1/2-14	1.66	2.93
190XL-12-12	0.75	1 1/16-12	3/4-14	1.66	3.28
190XL-14-12	0.88	1 3/16-12	3/4-14	1.73	3.62
190XL-16-16	1.00	1 5/16-12	1-11 1/2	1.81	4.05
190XL-20-20	1.25	1 5/8-12	1 1/4-11 1/2	2.06	5.00
190XL-24-24	1.50	1 7/8-12	1 1/2-11 1/2	2.33	5.55

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**190XXL SERIES**



**90 DEGREE EXTRA  
 EXTRA LONG MALE ELBOW  
 (NON STANDARD)**

<u>PART NO.</u>	<u>O.D.</u>	<u>THREAD A</u>	<u>THREAD B</u>	<u>DIM C</u>	<u>DIM D</u>
190XXL-04-02	0.25	7/16-20	1/8-27	0.89	2.31
190XXL-06-04	0.38	9/16-18	1/4-18	1.06	3.06
190XXL-08-06	0.50	3/4-16	3/8-18	1.25	3.75
190XXL-10-08	0.63	7/8-14	1/2-14	1.45	4.50
190XXL-12-12	0.75	1 1/16-12	3/4-14	1.65	5.03
190XXL-16-16	1.00	1 5/16-12	1-11 1/2	1.81	6.34
190XXL-20-20	1.25	1 5/8-12	1 1/4-11 1/2	2.06	7.34

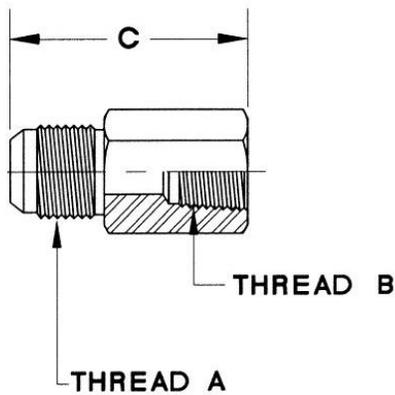
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**200 SERIES**

**FEMALE CONNECTOR  
(070103)**



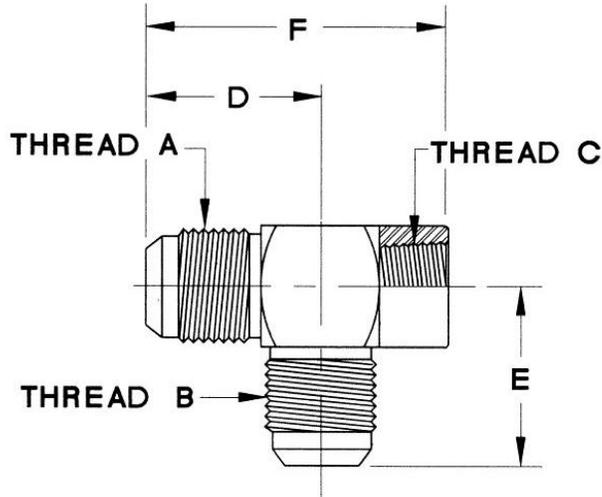
PART NO.	O.D.	PORT SIZE	THREAD A	THREAD B	DIM C
200-04-02	0.25	0.13	7/16-20	1/8-27	1.19
200-04-04	0.25	0.25	7/16-20	1/4-18	1.39
200-05-02	0.31	0.13	1/2-20	1/8-27	1.17
200-05-04	0.31	0.25	1/2-20	1/4-18	1.39
200-06-04	0.38	0.25	9/16-18	1/4-18	1.40
200-06-06	0.38	0.38	9/16-18	3/8-18	1.47
200-08-06	0.50	0.38	3/4-16	3/8-18	1.56
200-08-08	0.50	0.50	3/4-16	1/2-14	1.78
200-10-06	0.63	0.38	7/8-14	3/8-18	1.67
200-10-08	0.63	0.50	7/8-14	1/2-14	1.89
200-12-08	0.75	0.50	1 1/16-12	1/2-14	2.06
200-12-12	0.75	0.75	1 1/16-12	3/4-14	2.06
200-12-16	0.75	1.00	1 1/16-12	1-11 1/2	2.30
200-14-12	0.88	0.75	1 3/16-12	3/4-14	2.06
200-16-16	1.00	1.00	1 5/16-12	1-11 1/2	2.35
200-20-20	1.25	1.25	1 5/8-12	1 1/4-11 1/2	2.49
200-24-24	1.50	1.50	1 7/8-12	1 1/2-11 1/2	2.62
200-32-32	2.00	2.00	2 1/2-12	2-11 1/2	2.96

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**220 SERIES**



**FEMALE RUN TEE  
(070426)**

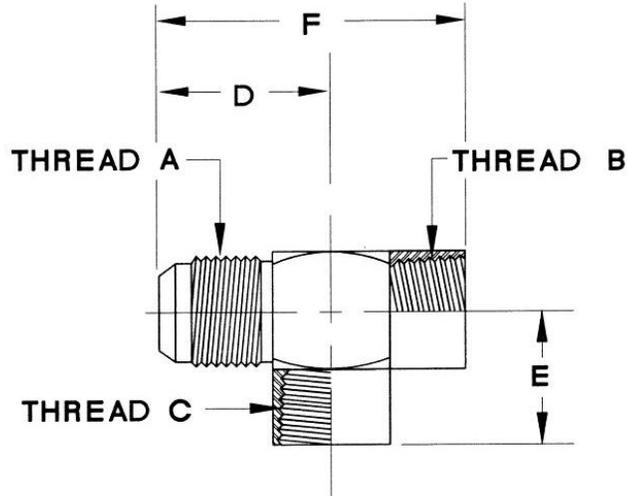
<u>PART NO.</u>	<u>O.D.</u>	<u>THREAD A</u>	<u>THREAD B</u>	<u>THREAD C</u>	<u>DIM D</u>	<u>DIM E</u>	<u>DIM F</u>
220-04-04-02	0.25	7/16-20	7/16-20	1/8-27	1.08	1.08	1.74
220-04-04-04	0.25	7/16-20	7/16-20	1/4-18	1.14	1.14	2.01
220-05-05-02	0.31	1/2-20	1/2-20	1/8-27	1.07	1.07	1.72
220-06-06-04	0.38	9/16-18	9/16-18	1/4-18	1.23	1.23	2.11
220-06-06-06	0.38	9/16-18	9/16-18	3/8-18	1.30	1.30	2.37
220-08-08-06	0.50	3/4-16	3/4-16	3/8-18	1.42	1.42	2.44
220-08-08-08	0.50	3/4-16	3/4-16	1/2-14	1.54	1.54	2.77
220-10-10-08	0.63	7/8-14	7/8-14	1/2-14	1.64	1.64	2.87
220-12-12-12	0.75	1 1/16-12	1 1/16-12	3/4-14	1.89	1.89	3.25
220-14-14-12	0.88	1 3/16-12	1 3/16-12	3/4-14	1.86	1.86	3.28
220-16-16-16	1.00	1 5/16-12	1 5/16-12	1-11 1/2	2.17	2.17	3.79
220-20-20-20	1.25	1 5/8-12	1 5/8-12	1 1/4-11 1/2	2.33	2.33	4.03
220-24-24-24	1.50	1 7/8-12	1 7/8-12	1 1/2-11 1/2	2.89	2.89	4.97
220-32-32-32	2.00	2 1/2-12	2 1/2-12	2-11 1/2	3.30	3.30	5.69

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**221 SERIES**



**MALE FLARE-FEMALE PIPE-  
 FEMALE PIPE-RUN TEE  
 (NON STANDARD)**

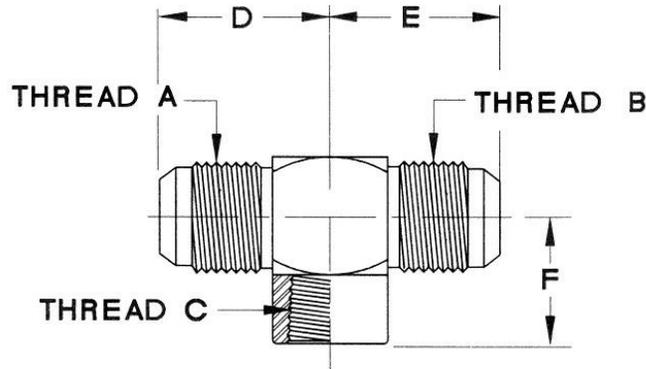
<u>PART NO.</u>	<u>O.D.</u>	<u>THREAD A</u>	<u>THREAD B</u>	<u>THREAD C</u>	<u>DIM D</u>	<u>DIM E</u>	<u>DIM F</u>
221-04-02-02	0.25	7/16-20	1/8-27	1/8-27	1.08	0.66	1.74
221-06-04-04	0.38	9/16-18	1/4-18	1/4-18	1.23	0.88	2.11
221-08-06-06	0.50	3/4-16	3/8-18	3/8-18	1.42	1.02	2.44
221-10-08-08	0.63	7/8-14	1/2-14	1/2-14	1.64	1.23	2.87
221-12-12-12	0.75	1 1/16-12	3/4-14	3/4-14	1.89	1.36	3.25
221-16-16-16	1.00	1 5/16-12	1-11 1/2	1-11 1/2	2.17	1.62	3.79
221-20-20-20	1.25	1 5/8-12	1 1/4-11 1/2	1 1/4-11 1/2	2.33	1.70	4.03
221-24-24-24	1.50	1 7/8-12	1 1/2-11 1/2	1 1/2-11 1/2	2.89	2.08	4.97

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## 230 SERIES



### FEMALE BRANCH TEE (070427)

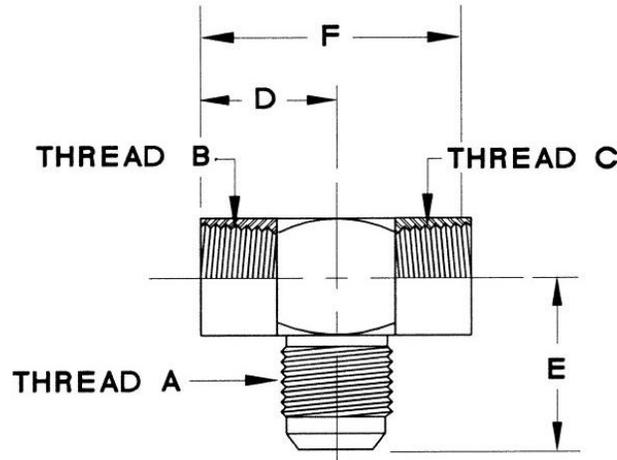
PART NO.	O.D.	THREAD A	THREAD B	THREAD C	DIM D	DIM E	DIM F
230-04-04-02	0.25	7/16-20	7/16-20	1/8-27	1.08	1.08	0.65
230-04-04-04	0.25	7/16-20	7/16-20	1/4-18	1.13	1.13	0.87
230-05-05-02	0.31	1/2-20	1/2-20	1/8-27	1.08	1.08	0.65
230-05-05-04	0.31	1/2-20	1/2-20	1/4-18	1.13	1.13	0.88
230-06-06-04	0.38	9/16-18	9/16-18	1/4-18	1.23	1.23	0.88
230-06-06-06	0.38	9/16-18	9/16-18	3/8-18	1.30	1.30	1.07
230-08-08-06	0.50	3/4-16	3/4-16	3/8-18	1.42	1.42	1.01
230-08-08-08	0.50	3/4-16	3/4-16	1/2-14	1.54	1.54	1.23
230-10-10-08	0.63	7/8-14	7/8-14	1/2-14	1.64	1.64	1.23
230-10-10-12	0.63	7/8-14	7/8-14	3/4-14	1.70	1.70	1.36
230-12-12-12	0.75	1 1/16-12	1 1/16-12	3/4-14	1.89	1.89	1.36
230-12-12-16	0.75	1 1/16-12	1 1/16-12	1-11 1/2	1.89	1.89	1.89
230-14-14-12	0.88	1 3/16-12	1 3/16-12	3/4-14	1.85	1.85	1.42
230-16-16-16	1.00	1 5/16-12	1 5/16-12	1-11 1/2	2.17	2.17	1.62
230-20-20-20	1.25	1 5/8-12	1 5/8-12	1 1/4-11 1/2	2.33	2.33	1.70
230-24-24-24	1.50	1 7/8-12	1 7/8-12	1 1/2-11 1/2	2.89	2.89	2.07
230-32-32-32	2.00	2 1/2-12	2 1/2-12	2-11 1/2	3.30	3.30	2.39

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**231 SERIES**



**MALE FLARE-FEMALE PIPE BRANCH TEE  
 (NON STANDARD)**

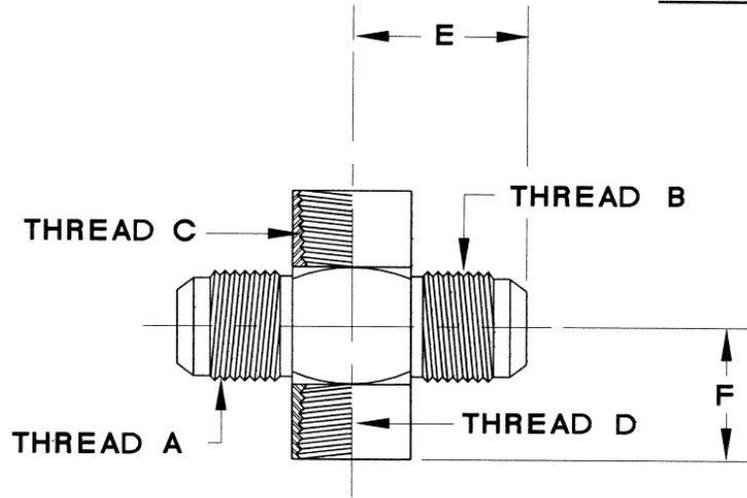
PART NO.	O.D.	THREAD A	THREAD B	THREAD C	DIM D	DIM E	DIM F
231-04-02-02	0.25	7/16-20	1/8-27	1/8-27	0.66	1.08	1.32
231-06-04-04	0.38	9/16-18	1/4-18	1/4-18	0.88	1.23	1.76
231-08-06-06	0.50	3/4-16	3/8-18	3/8-18	1.02	1.42	2.04
231-10-08-08	0.63	7/8-14	1/2-14	1/2-14	1.23	1.64	2.46
231-12-12-12	0.75	1 1/16-12	3/4-14	3/4-14	1.36	1.89	2.72
231-16-16-16	1.00	1 5/16-12	1-11 1/2	1-11 1/2	1.62	2.17	3.24
231-20-20-20	1.25	1 5/8-12	1 1/4-11 1/2	1 1/4-11 1/2	1.70	2.33	3.40
231-24-24-24	1.50	1 7/8-12	1 1/2-11 1/2	1 1/2-11 1/2	2.08	2.89	4.16

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**240 SERIES**



**FLARE-FEMALE PIPE CROSS  
(NON STANDARD)**

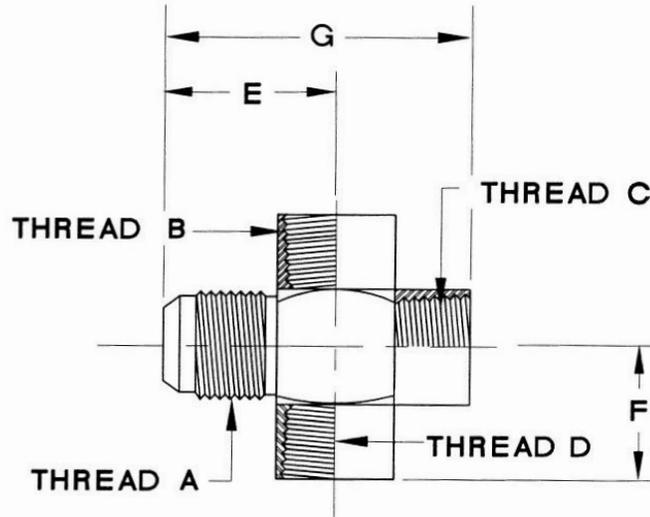
<u>PART NO.</u>	<u>O.D.</u>	<u>THREAD A</u>	<u>THREAD B</u>	<u>THREAD C</u>	<u>THREAD D</u>	<u>DIM E</u>	<u>DIM F</u>
240-04-04-02-02	0.25	7/16-20	7/16-20	1/8-27	1/8-27	1.08	0.66
240-06-06-04-04	0.38	9/16-18	9/16-18	1/4-18	1/4-18	1.23	0.88
240-08-08-06-06	0.50	3/4-16	3/4-16	3/8-18	3/8-18	1.42	1.02
240-10-10-08-08	0.63	7/8-14	7/8-14	1/2-14	1/2-14	1.64	1.23
240-12-12-12-12	0.75	1 1/16-12	1 1/16-12	3/4-14	3/4-14	1.89	1.36
240-16-16-16-16	1.00	1 5/16-12	1 5/16-12	1-11 1/2	1-11 1/2	2.17	1.62
240-20-20-20-20	1.25	1 5/8-12	1 5/8-12	1 1/4-11 1/2	1 1/4-11 1/2	2.33	1.70

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**241 SERIES**



**FLARE-FEMALE PIPE CROSS  
(NON STANDARD)**

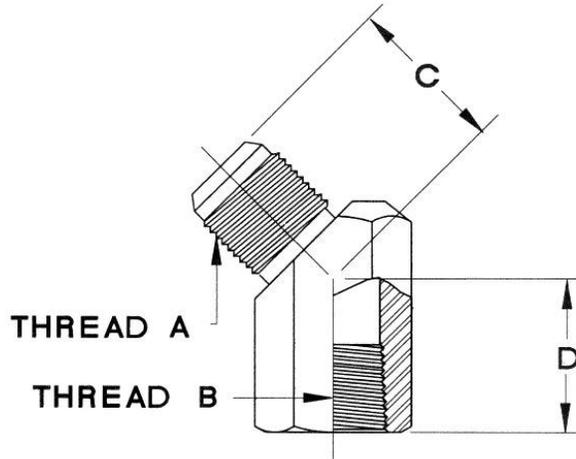
<u>PART NO.</u>	<u>O.D.</u>	<u>THREAD A</u>	<u>THREAD B</u>	<u>THREAD C</u>	<u>THREAD D</u>	<u>DIM E</u>	<u>DIM F</u>	<u>DIM G</u>
241-04-02-02-02	0.25	7/16-20	1/8-27	1/8-27	1/8-27	1.08	0.66	1.74
241-06-04-04-04	0.38	9/16-18	1/4-18	1/4-18	1/4-18	1.23	0.88	2.11
241-08-06-06-06	0.50	3/4-16	3/8-18	3/8-18	3/8-18	1.42	1.02	2.44
241-10-08-08-08	0.63	7/8-14	1/2-14	1/2-14	1/2-14	1.64	1.23	2.87
241-12-12-12-12	0.75	1 1/16-12	3/4-14	3/4-14	3/4-14	1.89	1.36	3.25
241-16-16-16-16	1.00	1 5/16-12	1-11 1/2	1-11 1/2	1-11 1/2	2.17	1.62	3.79
241-20-20-20-20	1.25	1 5/8-12	1 1/4-11 1/2	1 1/4-11 1/2	1 1/4-11 1/2	2.33	1.70	4.03
241-24-24-24-24	1.50	1 7/8-12	1 1/2-11 1/2	1 1/2-11 1/2	1 1/2-11 1/2	2.89	2.08	4.97

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**245 SERIES**



**45 DEGREE ELBOW  
 MALE FLARE-FEMALE PIPE  
 (NON STANDARD)**

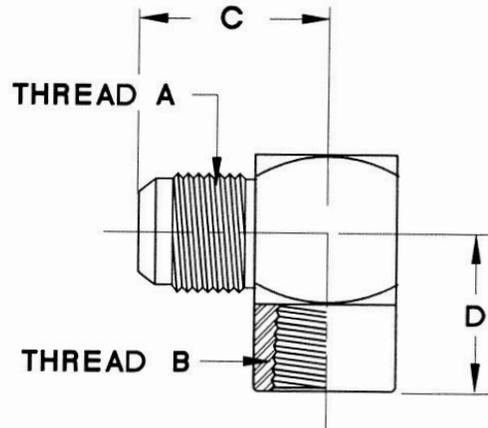
<b>PART NO.</b>	<b>O.D.</b>	<b>PORT SIZE</b>	<b>THREAD A</b>	<b>THREAD B</b>	<b>DIM C</b>	<b>DIM D</b>
245-06-04	0.38	0.25	9/16-18	1/4-18	1.02	0.65
245-08-06	0.50	0.38	3/4-16	3/8-18	1.13	0.72
245-10-08	0.63	0.50	7/8-14	1/2-14	1.19	0.99
245-12-12	0.75	0.75	1 1/16-12	3/4-14	1.49	0.97
245-16-16	1.00	1.00	1 5/16-12	1-11 1/2	1.78	1.22
245-20-20	1.25	1.25	1 5/8-12	1 1/4-11 1/2	1.97	1.38

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**290 SERIES**



**90 DEGREE FEMALE ELBOW  
 (070203)**

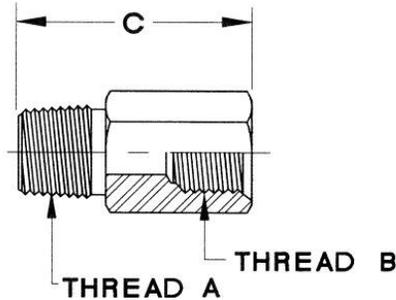
<b>PART NO.</b>	<b>O.D.</b>	<b>THREAD A</b>	<b>THREAD B</b>	<b>DIM C</b>	<b>DIM D</b>
290-04-02	0.25	7/16-20	1/8-27	1.07	0.65
290-04-04	0.25	7/16-20	1/4-18	1.14	0.87
290-04-06	0.25	7/16-20	3/8-18	1.12	1.02
290-05-02	0.31	1/2-20	1/8-27	1.07	0.65
290-05-04	0.31	1/2-20	1/4-18	1.13	0.88
290-06-02	0.38	9/16-18	1/8-27	1.23	0.66
290-06-04	0.38	9/16-18	1/4-18	1.23	0.87
290-06-06	0.38	9/16-18	3/8-18	1.30	1.07
290-08-04	0.50	3/4-16	1/4-18	1.42	0.95
290-08-06	0.50	3/4-16	3/8-18	1.42	1.01
290-08-08	0.50	3/4-16	1/2-14	1.54	1.23
290-08-12	0.50	3/4-16	3/4-14	1.54	1.36
290-10-08	0.63	7/8-14	1/2-14	1.64	1.23
290-12-08	0.75	1 1/16-12	1/2-14	1.89	1.35
290-12-12	0.75	1 1/16-12	3/4-14	1.89	1.35
290-14-12	0.88	1 3/16-12	3/4-14	1.85	1.42
290-16-12	1.00	1 5/16-12	3/4-14	2.05	1.36
290-16-16	1.00	1 5/16-12	1-11 1/2	2.17	1.62
290-20-20	1.25	1 5/8-12	1 1/4-11 1/2	2.32	1.70
290-24-24	1.50	1 7/8-12	1 1/2-11 1/2	2.89	2.07
290-32-32	2.00	2 1/2-12	2-11 1/2	3.29	2.39

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### **300 SERIES**



### **MALE PIPE-FEMALE O'RING BOSS ADAPTER (NON STANDARD)**

<b>PART NO.</b>	<b>O.D.</b>	<b>PORT SIZE</b>	<b>THREAD A</b>	<b>THREAD B</b>	<b>DIM C</b>
300-02-04	0.13	0.25	1/8-27	7/16-20	1.37
300-02-05	0.13	0.31	1/8-27	1/2-20	1.37
300-04-04	0.25	0.25	1/4-18	7/16-20	1.55
300-04-06	0.25	0.38	1/4-18	9/16-18	1.55
300-06-06	0.38	0.38	3/8-18	9/16-18	1.40
300-06-08	0.38	0.50	3/8-18	3/4-16	1.50
300-08-06	0.50	0.38	1/2-14	9/16-18	1.74
300-08-08	0.50	0.50	1/2-14	3/4-16	1.58
300-08-10	0.50	0.63	1/2-14	7/8-14	1.81
300-12-12	0.75	0.75	3/4-14	1 1/16-12	1.97
300-12-14	0.75	0.88	3/4-14	1 3/16-12	2.03
300-16-16	1.00	1.00	1-11 1/2	1 5/16-12	2.16
300-20-20	1.25	1.25	1 1/4-11 1/2	1 5/8-12	2.25
300-24-24	1.50	1.50	1 1/2-11 1/2	1 7/8-12	2.28
300-32-32	2.00	2.00	2-11 1/2	2 1/2-12	2.31

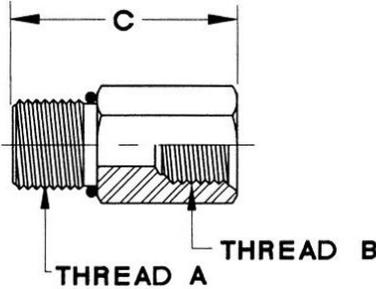
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**MALE O'RING BOSS-FEMALE  
 O'RING BOSS REDUCER  
 (NON STANDARD)**

**340 SERIES**



PART NO.	O.D.	PORT SIZE	THREAD A	THREAD B	DIM C
340-04-04	0.25	0.25	7/16-20	7/16-20	1.06
340-04-06	0.25	0.38	7/16-20	9/16-18	1.16
340-05-04	0.31	0.25	1/2-20	7/16-20	1.06
340-06-04	0.38	0.25	9/16-18	7/16-20	1.03
340-06-06	0.38	0.38	9/16-18	9/16-18	1.02
340-06-08	0.38	0.50	9/16-18	3/4-16	1.30
340-08-04	0.50	0.25	3/4-16	7/16-20	0.80
340-08-06	0.50	0.38	3/4-16	9/16-18	1.14
340-08-08	0.50	0.50	3/4-16	3/4-16	1.25
340-08-10	0.50	0.63	3/4-16	7/8-14	1.56
340-10-04	0.63	0.25	7/8-14	7/16-20	1.22
340-10-06	0.63	0.38	7/8-14	9/16-18	1.25
340-10-08	0.63	0.50	7/8-14	3/4-16	1.31
340-10-10	0.63	0.63	7/8-14	7/8-14	1.35
340-10-12	0.63	0.75	7/8-14	1 1/16-12	1.31
340-12-04	0.75	0.25	1 1/16-12	7/16-20	1.00
340-12-06	0.75	0.38	1 1/16-12	9/16-18	1.00
340-12-08	0.75	0.50	1 1/16-12	3/4-16	1.41
340-12-10	0.75	0.63	1 1/16-12	7/8-14	1.56
340-12-14	0.75	0.88	1 1/16-12	1 3/16-12	1.80
340-12-16	0.75	1.00	1 1/16-12	1 5/16-12	1.91
340-14-06	0.88	0.38	1 3/16-12	9/16-18	1.09
340-14-10	0.88	0.63	1 3/16-12	7/8-14	1.59
340-14-12	0.88	0.75	1 3/16-12	1 1/16-12	1.59
340-16-06	1.00	0.38	1 5/16-12	9/16-18	1.00
340-16-08	1.00	0.50	1 5/16-12	3/4-16	1.00
340-16-10	1.00	0.63	1 5/16-12	7/8-14	1.47
340-16-12	1.00	0.75	1 5/16-12	1 1/16-12	1.59
340-16-14	1.00	0.88	1 5/16-12	1 3/16-12	1.70
340-16-16	1.00	1.00	1 5/16-12	1 5/16-12	1.78
340-16-20	1.00	1.25	1 5/16-12	1 5/8-12	1.89
340-20-06	1.25	0.38	1 5/8-12	9/16-18	1.20
340-20-10	1.25	0.63	1 5/8-12	7/8-14	1.20
340-20-12	1.25	0.75	1 5/8-12	1 1/16-12	1.20
340-20-16	1.25	1.00	1 5/8-12	1 5/16-12	1.78
340-20-24	1.25	1.50	1 5/8-12	1 7/8-12	1.74
340-24-12	1.50	0.75	1 7/8-12	1 1/16-12	1.25
340-24-20	1.50	1.25	1 7/8-12	1 5/8-12	1.59
340-32-24	2.00	1.50	2 1/2-12	1 7/8-12	1.43

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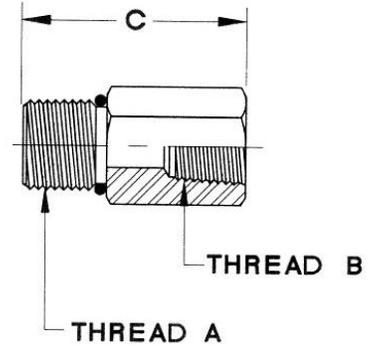


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**MALE O'RING BOSS-FEMALE  
 PIPE CONNECTOR  
 (NON STANDARD)**

**360 SERIES**

<u>PART NO.</u>	<u>O.D.</u>	<u>PORT SIZE</u>	<u>THREAD A</u>	<u>THREAD B</u>	<u>DIM C</u>
360-04-02	0.25	0.13	7/16-20	1/8-27	0.97
360-04-04	0.25	0.25	7/16-20	1/4-18	1.11
360-05-02	0.31	0.13	1/2-20	1/8-27	1.00
360-05-04	0.31	0.25	9/16-18	1/4-18	1.26
360-06-04	0.38	0.25	9/16-18	1/4-18	1.16
360-06-06	0.38	0.38	3/4-16	3/8-18	1.29
360-08-04	0.50	0.25	3/4-16	1/4-18	1.31
360-08-06	0.50	0.38	3/4-16	3/8-18	1.31
360-08-08	0.50	0.50	7/8-14	1/2-14	1.50
360-10-04	0.63	0.25	7/8-14	1/4-18	1.39
360-10-06	0.63	0.38	7/8-14	3/8-18	1.55
360-10-08	0.63	0.50	7/8-14	1/2-14	1.54
360-10-12	0.63	0.75	1 1/16-12	3/4-14	1.74
360-12-06	0.75	0.38	1 1/16-12	3/8-18	1.46
360-12-08	0.75	0.50	1 1/16-12	1/2-14	1.50
360-12-12	0.75	0.75	1 3/16-12	3/4-14	1.72
360-14-12	0.88	0.75	1 5/16-12	3/4-14	1.72
360-16-08	1.00	0.50	1 5/16-12	1/2-14	1.64
360-16-12	1.00	0.75	1 5/16-12	3/4-14	1.78
360-16-16	1.00	1.00	1 5/8-12	1-11 1/2	1.84
360-20-12	1.25	0.75	1 5/8-12	3/4-14	1.90
360-20-16	1.25	1.00	1 5/8-12	1-11 1/2	1.92
360-20-20	1.25	1.25	1 5/8-12	1 1/4-11 1/2	2.11
360-24-20	1.50	1.25	1 7/8-12	1 1/4-11 1/2	2.09
360-24-24	1.50	1.25	1 7/8-12	1 1/2-11 1/2	2.11
360-32-32	2.00	2.00	2 1/2-12	2-11 1/2	2.17



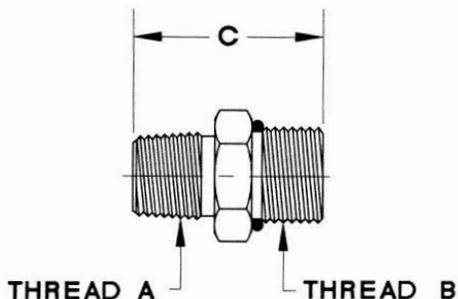
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**(NON STANDARD)**

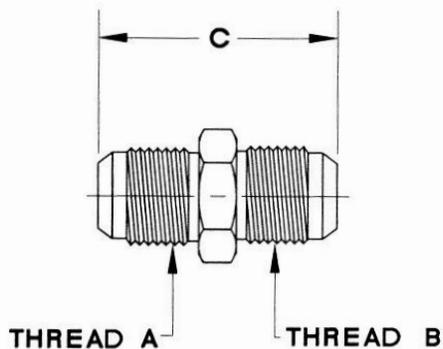
**380 SERIES**



PART NO.	THREAD A	THREAD B	DIM C
380-02-04	1/8-27	7/16-20	1.04
380-02-05	1/8-27	1/2-20	1.04
380-04-04	1/4-18	7/16-20	1.28
380-04-06	1/4-18	9/16-18	1.28
380-04-08	1/4-18	3/4-16	1.36
380-06-04	3/8-18	7/16-20	1.25
380-06-06	3/8-18	9/16-18	1.22
380-06-08	3/8-18	3/4-16	1.35
380-08-06	1/2-14	9/16-18	1.55
380-08-08	1/2-14	3/4-16	1.61
380-08-10	1/2-14	7/8-14	1.67
380-12-12	3/4-14	1 1/16-12	1.84
380-12-14	3/4-14	1 3/16-12	1.84
380-16-12	1-11 1/2	1 1/16-12	2.06
380-16-16	1-11 1/2	1 5/16-12	2.06
380-20-20	1 1/4-11 1/2	1 5/8-12	2.17
380-24-24	1 1/2-11 1/2	1 7/8-12	2.26
380-32-32	2-11 1/2	2 1/2-12	2.46

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**400SH SERIES**



**UNION  
(070101)**

PART NO.	O.D.	THREAD A	THREAD B	DIM C
400SH-04-04	0.25	7/16-20	7/16-20	1.37
400SH-04-06	0.25	7/16-20	9/16-18	1.37
400SH-05-05	0.31	1/2-20	1/2-20	1.37
400SH-06-06	0.38	9/16-18	9/16-18	1.41
400SH-06-08	0.50	9/16-18	3/4-16	1.55
400SH-08-08	0.50	3/4-16	3/4-16	1.67
400SH-08-10	0.50	3/4-16	7/8-14	1.76
400SH-10-10	0.63	7/8-14	7/8-14	1.88
400SH-10-12	0.63	7/8-14	1 1/16-12	2.05
400SH-08-12	0.75	3/4-16	1 1/16-12	1.94
400SH-12-12	0.75	1 1/16-12	1 1/16-12	2.16
400SH-12-16	0.75	1 1/16-12	1 5/16-12	2.21
400SH-14-14	0.88	1 3/16-12	1 3/16-12	2.21
400SH-16-16	1.00	1 5/16-12	1 5/16-12	2.25
400SH-16-20	1.00	1 5/16-12	1 5/8-12	2.39
400SH-20-20	1.25	1 5/8-12	1 5/8-12	2.43
400SH-24-24	1.50	1 7/8-12	1 7/8-12	2.75
400SH-32-32	2.00	2 1/2-12	2 1/2-12	3.40

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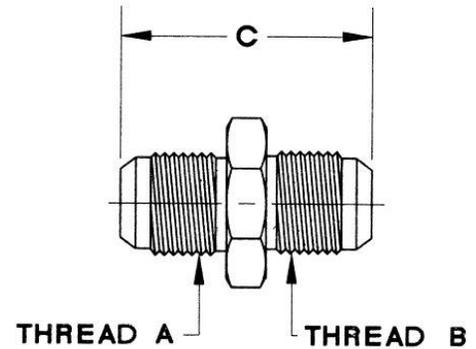


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**LARGE HEX UNION**  
 (070119)

**410LH SERIES**

PART NO.	O.D.	THREAD A	THREAD B	DIM C
410LH-04-04	0.25	7/16-20	7/16-20	1.37
410LH-05-05	0.31	1/2-20	1/2-20	1.37
410LH-06-06	0.38	9/16-18	9/16-18	1.41
410LH-08-08	0.50	3/4-16	3/4-16	1.62
410LH-08-10	0.50	3/4-16	7/8-14	1.76
410LH-10-10	0.63	7/8-14	7/8-14	1.88
410LH-08-12	0.75	3/4-16	1 1/16-12	1.94
410LH-12-12	0.75	1 1/16-12	1 1/16-12	2.16
410LH-14-14	0.88	1 3/16-12	1 3/16-12	2.21
410LH-16-16	1.00	1 5/16-12	1 5/16-12	2.25
410LH-20-20	1.25	1 5/8-12	1 5/8-12	2.43
410LH-24-24	1.50	1 7/8-12	1 7/8-12	2.75
410LH-32-32	2.00	2 1/2-12	2 1/2-12	3.40

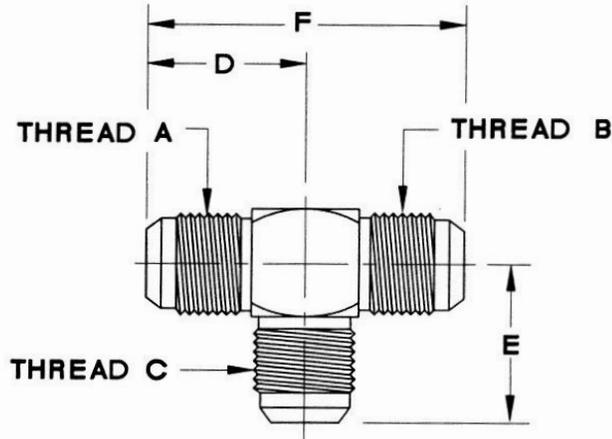


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**430 SERIES**



**UNION TEE  
(070401)**

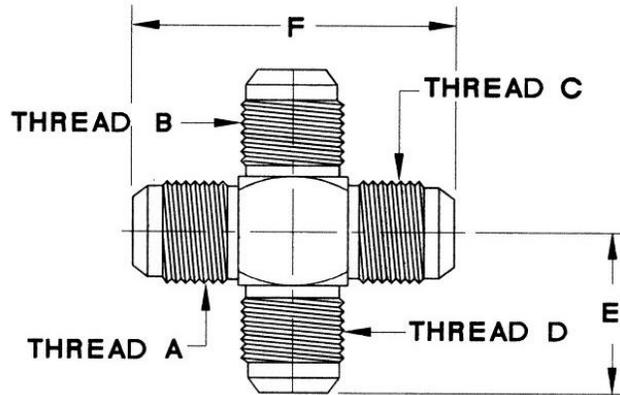
<b>PART NO.</b>	<b>O.D.</b>	<b>THREAD A</b>	<b>THREAD B</b>	<b>THREAD C</b>	<b>DIM D</b>	<b>DIM E</b>	<b>DIM F</b>
430-03-03-03	0.18	3/8-24	3/8-24	3/8-24	0.83	0.83	1.66
430-04-04-04	0.25	7/16-20	7/16-20	7/16-20	0.89	0.89	1.78
430-05-05-05	0.31	1/2-20	1/2-20	1/2-20	0.95	0.95	1.90
430-06-06-06	0.38	9/16-18	9/16-18	9/16-18	1.06	1.06	2.12
430-06-06-08	0.38	9/16-18	9/16-18	3/4-16	1.14	1.25	2.28
430-06-06-10	0.38	9/16-18	9/16-18	7/8-14	1.22	1.22	2.44
430-08-08-06	0.50	3/4-16	3/4-16	9/16-18	1.25	1.14	2.50
430-08-08-08	0.50	3/4-16	3/4-16	3/4-16	1.25	1.25	2.50
430-08-08-10	0.50	3/4-16	3/4-16	7/8-14	1.33	1.33	2.66
430-10-08-08	0.63	7/8-14	3/4-16	3/4-16	1.45	1.31	2.76
430-10-10-08	0.63	7/8-14	7/8-14	3/4-16	1.64	1.33	2.66
430-10-10-10	0.63	7/8-14	7/8-14	7/8-14	1.45	1.45	2.90
430-12-12-12	0.75	1 1/16-12	1 1/16-12	1 1/16-12	1.66	1.66	3.32
430-12-12-16	0.75	1 1/16-12	1 1/16-12	1 5/16-12	1.76	1.81	3.52
430-12-16-12	0.75	1 1/16-12	1 5/16-12	1 1/16-12	1.76	1.76	3.57
430-14-14-14	0.88	1 3/16-12	1 3/16-12	1 3/16-12	1.80	1.80	3.60
430-16-16-16	1.00	1 5/16-12	1 5/16-12	1 5/16-12	1.81	1.81	3.62
430-16-16-20	1.00	1 5/16-12	1 5/16-12	1 5/8-12	2.01	2.01	4.02
430-20-20-20	1.25	1 5/8-12	1 5/8-12	1 5/8-12	2.06	2.06	4.12
430-24-24-24	1.50	1 7/8-12	1 7/8-12	1 7/8-12	2.33	2.33	4.66
430-32-32-32	2.00	2 1/2-12	2 1/2-12	2 1/2-12	3.06	3.06	6.12

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**440 SERIES**



**FLARE-FLARE CROSS  
(070501)**

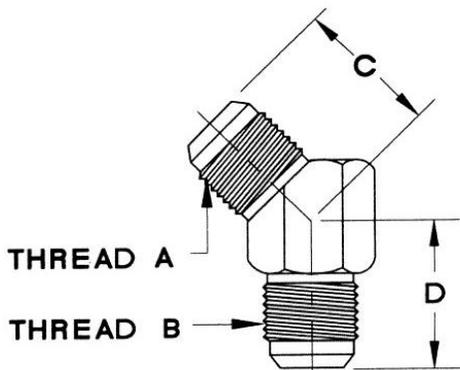
<u>PART NO.</u>	<u>O.D.</u>	<u>THREAD A</u>	<u>THREAD B</u>	<u>THREAD C</u>	<u>THREAD D</u>	<u>DIM E</u>	<u>DIM F</u>
440-04-04-04-04	0.25	7/16-20	7/16-20	7/16-20	7/16-20	0.89	1.78
440-05-05-05-05	0.31	1/2-20	1/2-20	1/2-20	1/2-20	0.95	1.90
440-06-06-06-06	0.38	9/16-18	9/16-18	9/16-18	9/16-18	1.06	2.12
440-08-08-08-08	0.50	3/4-16	3/4-16	3/4-16	3/4-16	1.25	2.50
440-10-10-10-10	0.63	7/8-14	7/8-14	7/8-14	7/8-14	1.45	2.90
440-12-12-12-12	0.75	1 1/16-12	1 1/16-12	1 1/16-12	1 1/16-12	1.66	3.32
440-14-14-14-14	0.88	1 3/16-12	1 3/16-12	1 3/16-12	1 3/16-12	1.80	3.60
440-16-16-16-16	1.00	1 5/16-12	1 5/16-12	1 5/16-12	1 5/16-12	1.81	3.62
440-20-20-20-20	1.25	1 5/8-12	1 5/8-12	1 5/8-12	1 5/8-12	2.06	4.12
440-24-24-24-24	1.50	1 7/8-12	1 7/8-12	1 7/8-12	1 7/8-12	2.33	4.66
440-32-32-32-32	2.00	2 1/2-12	2 1/2-12	2 1/2-12	2 1/2-12	3.06	6.12

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**445 SERIES**

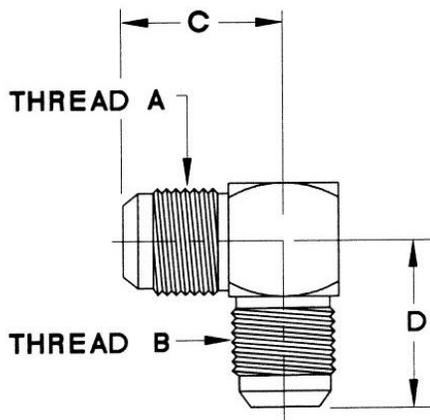


**45 DEGREE UNION ELBOW  
(NON STANDARD)**

PART NO.	O.D.	THREAD A	THREAD B	DIM C	DIM D
445-04-04	0.25	7/16-20	7/16-20	0.72	0.72
445-05-05	0.31	1/2-20	1/2-20	0.77	0.77
445-06-06	0.38	9/16-18	9/16-18	0.83	0.83
445-08-08	0.50	3/4-16	3/4-16	0.98	0.98
445-10-10	0.63	7/8-14	7/8-14	1.11	1.11
445-12-12	0.75	1 1/16-12	1 1/16-12	1.28	1.28
445-14-14	0.88	1 3/16-12	1 3/16-12	1.39	1.39
445-16-16	1.00	1 5/16-12	1 5/16-12	1.47	1.47
445-20-20	1.25	1 5/8-12	1 5/8-12	1.59	1.59
445-24-24	1.50	1 7/8-12	1 7/8-12	1.78	1.78
445-32-32	2.00	2 1/2-12	2 1/2-12	2.21	2.21

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**490 SERIES**



**90 DEGREE UNION ELBOW  
(070201)**

PART NO.	O.D.	THREAD A	THREAD B	DIM C	DIM D
490-04-04	0.25	7/16-20	7/16-20	0.89	0.89
490-05-05	0.31	1/2-20	1/2-20	0.95	0.95
490-06-06	0.38	9/16-18	9/16-18	1.06	1.06
490-06-08	0.38	9/16-18	3/4-16	1.14	1.25
490-08-08	0.50	3/4-16	3/4-16	1.25	1.25
490-08-10	0.50	3/4-16	7/8-14	1.33	1.45
490-10-10	0.63	7/8-14	7/8-14	1.45	1.45
490-12-12	0.75	1 1/16-12	1 1/16-12	1.66	1.66
490-12-16	0.75	1 1/16-12	1 5/16-12	1.76	1.81
490-14-14	0.88	1 3/16-12	1 3/16-12	1.80	1.80
490-16-16	1.00	1 5/16-12	1 5/16-12	1.81	1.81
490-20-20	1.25	1 5/8-12	1 5/8-12	2.06	2.06
490-24-24	1.50	1 7/8-12	1 7/8-12	2.33	2.33
490-32-32	2.00	2 1/2-12	2 1/2-12	3.06	3.06

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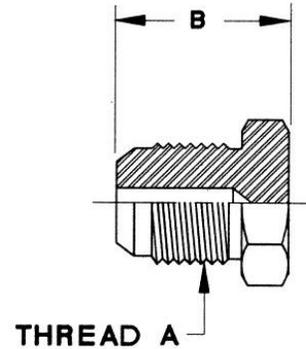
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**37 DEGREE FLARE PLUG  
 (070109)**

PART NO.	O.D.	THREAD A	DIM B
500-04	0.25	7/16-20	0.80
500-05	0.31	1/2-20	0.80
500-06	0.38	9/16-18	0.84
500-08	0.50	3/4-16	0.94
500-10	0.63	7/8-14	1.10
500-12	0.75	1 1/16-12	1.28
500-14	0.88	1 3/16-12	1.31
500-16	1.00	1 5/16-12	1.33
500-20	1.25	1 5/8-12	1.45
500-24	1.50	1 7/8-12	1.65
500-32	2.00	2 1/2-12	2.04

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**500 SERIES**

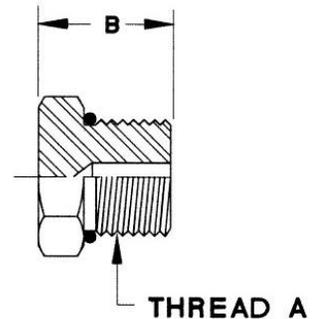


**O'RING PLUG  
 (090109A)**

PART NO.	O.D.	THREAD A	DIM B
510-02	0.13	5/16-24	0.60
510-03	0.18	3/8-24	0.60
510-04	0.25	7/16-20	0.67
510-05	0.31	1/2-20	0.67
510-06	0.38	9/16-18	0.73
510-08	0.50	3/4-16	0.80
510-10	0.63	7/8-14	0.93
510-12	0.75	1 1/16-12	1.09
510-14	0.88	1 3/16-12	1.09
510-16	1.00	1 5/16-12	1.12
510-20	1.25	1 5/8-12	1.20
510-24	1.50	1 7/8-12	1.27
510-32	2.00	2 1/2-12	1.43

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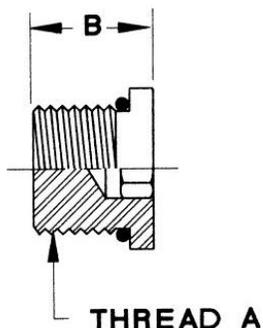
**510 SERIES**





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**515 SERIES**

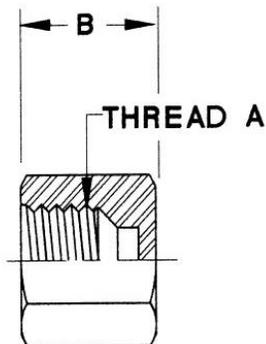


**HEXAGON SOCKET PLUG  
(090109B)**

PART NO.	O.D.	THREAD A	DIM B
515-02	0.13	5/16-24	0.40
515-03	0.19	3/8-24	0.40
515-04	0.25	7/16-20	0.47
515-05	0.31	1/2-20	0.47
515-06	0.38	9/16-18	0.50
515-08	0.50	3/4-16	0.58
515-10	0.63	7/8-14	0.65
515-12	0.75	1 1/16-12	0.77
515-14	0.88	1 3/16-12	0.77
515-16	1.00	1 5/16-12	0.77
515-20	1.25	1 5/8-12	0.77
515-24	1.50	1 7/8-12	0.77
515-32	2.00	2 1/2-12	0.77

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**520 SERIES**



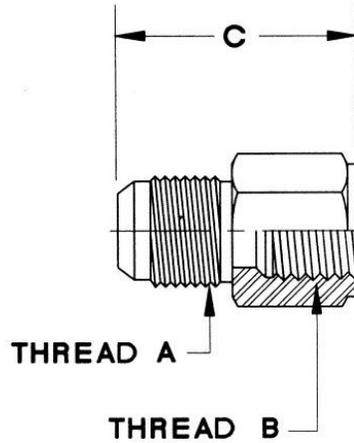
**37 DEGREE FEMALE CAP  
(070112)**

PART NO.	O.D.	THREAD A	DIM B
520-04	0.25	7/16-20	0.59
520-05	0.31	1/2-20	0.61
520-06	0.38	9/16-18	0.63
520-08	0.50	3/4-16	0.75
520-10	0.63	7/8-14	0.84
520-12	0.75	1 1/16-12	0.91
520-14	0.88	1 3/16-12	0.97
520-16	1.00	1 5/16-12	1.02
520-20	1.25	1 5/8-12	1.06
520-24	1.50	1 7/8-12	1.12
520-32	2.00	2 1/2-12	1.44

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**530 SERIES**

**TUBE END REDUCER  
(070123)**

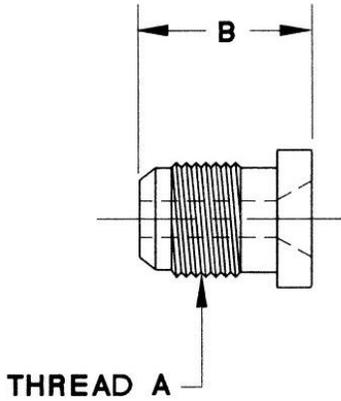
<b>PART NO.</b>	<b>O.D.</b>	<b>PORT SIZE</b>	<b>THREAD A</b>	<b>THREAD B</b>	<b>DIM C</b>
530-04-06	0.25	0.38	7/16-20	9/16-18	1.18
530-04-08	0.25	0.50	7/16-20	3/4-16	1.32
530-04-10	0.25	0.63	7/16-20	7/8-14	1.46
530-04-12	0.25	0.75	7/16-20	1 1/16-12	1.49
530-04-16	0.25	1.00	7/16-20	1 5/16-12	1.61
530-06-08	0.38	0.50	9/16-18	3/4-16	1.33
530-06-10	0.38	0.63	9/16-18	7/8-14	1.40
530-06-12	0.38	0.75	9/16-18	1 1/16-12	1.46
530-06-14	0.38	0.88	9/16-18	1 3/16-12	1.58
530-08-10	0.50	0.63	3/4-16	7/8-14	1.40
530-08-12	0.50	0.75	3/4-16	1 1/16-12	1.57
530-08-14	0.50	0.88	3/4-16	1 3/16-12	1.64
530-08-16	0.50	1.00	3/4-16	1 5/16-12	1.71
530-10-12	0.63	0.75	7/8-14	1 1/16-12	1.57
530-10-14	0.63	0.88	7/8-14	1 3/16-12	1.72
530-10-16	0.63	1.00	7/8-14	1 5/16-12	1.82
530-12-10	0.75	0.63	1 1/16-12	7/8-14	1.86
530-12-14	0.75	0.88	1 1/16-12	1 3/16-12	1.90
530-12-16	0.75	1.00	1 1/16-12	1 5/16-12	1.94
530-12-20	0.75	1.25	1 1/16-12	1 5/8-12	2.02
530-12-24	0.75	1.50	1 1/16-12	1 7/8-12	2.05
530-14-16	0.88	1.00	1 3/16-12	1 5/16-12	1.92
530-14-20	0.88	1.25	1 3/16-12	1 5/8-12	1.96
530-16-20	1.00	1.25	1 5/16-12	1 5/8-12	2.15
530-16-24	1.00	1.50	1 5/16-12	1 7/8-12	2.19
530-20-24	1.25	1.50	1 5/8-12	1 7/8-12	2.15
530-24-32	1.50	2.00	1 7/8-12	2 1/2-12	2.70

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**530I SERIES**



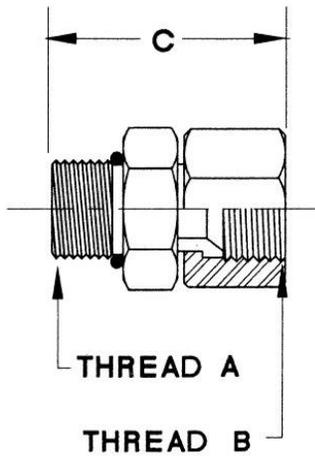
**TUBE END INSERT REDUCER  
(NON STANDARD)**

<u>PART NO.</u>	<u>O.D.</u>	<u>THREAD A</u>	<u>DIM B</u>
530I-04-06	0.25	7/16-20	0.90
530I-06-08	0.38	9/16-18	0.91
530I-08-10	0.50	3/4-16	0.98
530I-10-12	0.63	7/8-14	1.04
530I-12-14	0.75	1 1/16-12	1.20
530I-14-16	0.88	1 3/16-12	1.23
530I-16-20	1.00	1 5/16-12	1.44
530I-20-24	1.25	1 5/8-12	1.47

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**\*TO BE USED WITH 1801 TUBE NUT**

**600 SERIES**



**STRAIGHT MALE O'RING-  
FEMALE 37 DEGREE SWIVEL  
(NON STANDARD)**

<u>PART NO.</u>	<u>O.D.</u>	<u>THREAD A</u>	<u>THREAD B</u>	<u>DIM C</u>
600-04-04	0.25	7/16-20	7/16-20	1.47
600-04-06	0.25	7/16-20	9/16-18	1.41
600-06-06	0.38	9/16-18	9/16-18	1.48
600-06-08	0.38	9/16-18	3/4-16	1.60
600-08-06	0.50	3/4-16	9/16-18	1.60
600-08-08	0.50	3/4-16	3/4-16	1.60
600-10-08	0.63	7/8-14	3/4-16	1.97
600-10-10	0.75	7/8-14	7/8-14	1.97
600-10-12	0.75	7/8-14	1 1/16-12	2.12
600-12-12	0.75	1 1/16-12	1 1/16-12	2.16
600-16-12	1.00	1 5/16-12	1 1/16-12	2.19
600-16-16	1.00	1 5/16-12	1 5/16-12	2.28
600-20-20	1.25	1 5/8-12	1 5/8-12	2.41
600-24-24	1.50	1 7/8-12	1 7/8-12	2.61

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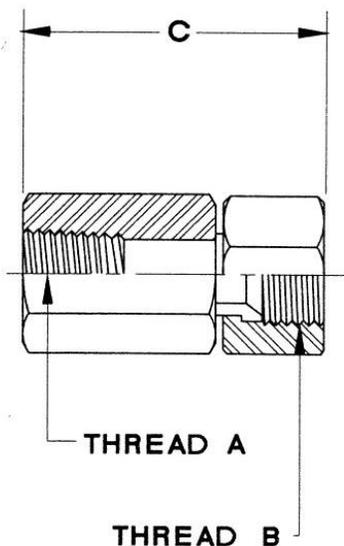
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**FEMALE PIPE-  
 FEMALE 37 DEGREE SWIVEL  
 (NON STANDARD)**

PART NO.	O.D.	PORT SIZE	THREAD A	THREAD B	DIM C
605-04-04	0.25	0.25	1/4-18	7/16-20	1.32
605-04-06	0.25	0.38	1/4-18	9/16-18	1.48
605-06-06	0.38	0.38	3/8-18	9/16-18	1.63
605-06-08	0.38	0.50	3/8-18	3/4-16	1.70
605-08-06	0.50	0.38	1/2-14	9/16-18	1.81
605-08-08	0.50	0.50	1/2-14	3/4-16	1.81
605-08-10	0.50	0.63	1/2-14	7/8-14	2.08
605-12-10	0.75	0.63	3/4-14	7/8-14	1.94
605-12-12	0.75	0.75	3/4-14	1 1/16-12	2.08
605-12-14	0.75	0.88	3/4-14	1 3/16-12	2.12
605-16-16	1.00	1.00	1-11 1/2	1 5/16-12	2.62
605-20-20	1.25	1.25	1 1/4-11 1/2	1 5/8-12	2.74
605-24-24	1.50	1.50	1 1/2-11 1/2	1 7/8-12	2.82
605-32-32	2.00	2.00	2-11 1/2	2 1/2-12	3.15

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**605 SERIES**

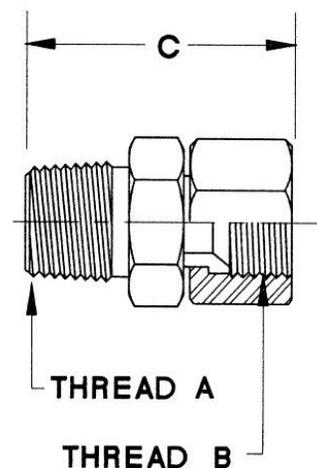


**STRAIGHT MALE PIPE-  
 FEMALE 37 DEGREE SWIVEL  
 (NON STANDARD)**

PART NO.	O.D.	THREAD A	THREAD B	DIM C
610-02-04	0.13	1/8-27	7/16-20	1.35
610-04-04	0.25	1/4-18	7/16-20	1.45
610-04-05	0.25	1/4-18	1/2-20	1.41
610-04-06	0.25	1/4-18	9/16-18	1.60
610-06-06	0.38	3/8-18	9/16-18	1.72
610-06-08	0.38	3/8-18	3/4-16	1.75
610-06-10	0.38	3/8-18	7/8-14	1.79
610-08-08	0.50	1/2-14	3/4-16	1.91
610-08-10	0.50	1/2-14	7/8-14	2.28
610-08-12	0.50	1/2-14	1 1/16-12	2.17
610-12-10	0.75	3/4-14	7/8-14	1.93
610-12-12	0.75	3/4-14	1 1/16-12	2.27
610-12-16	1.00	3/4-14	1 5/16-12	2.40
610-16-16	1.00	1-11 1/2	1 5/16-12	2.55
610-20-20	1.25	1 1/4-11 1/2	1 5/8-12	2.65
610-24-24	1.50	1 1/2-11 1/2	1 7/8-12	2.93
610-32-32	2.00	2-11 1/2	2 1/2-12	3.32

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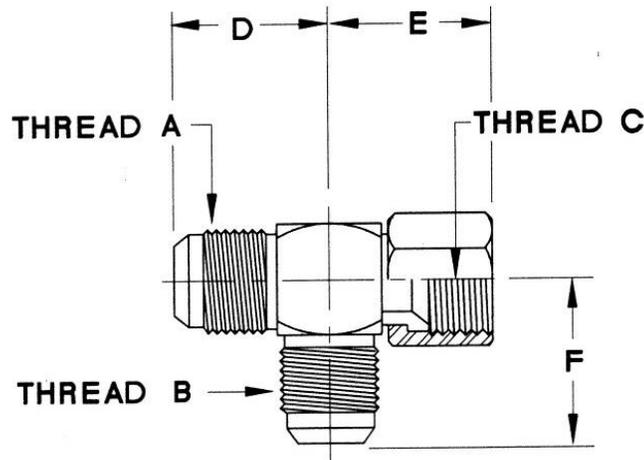
**610 SERIES**





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**620 SERIES**



**SWIVEL RUN TEE  
(070432)**

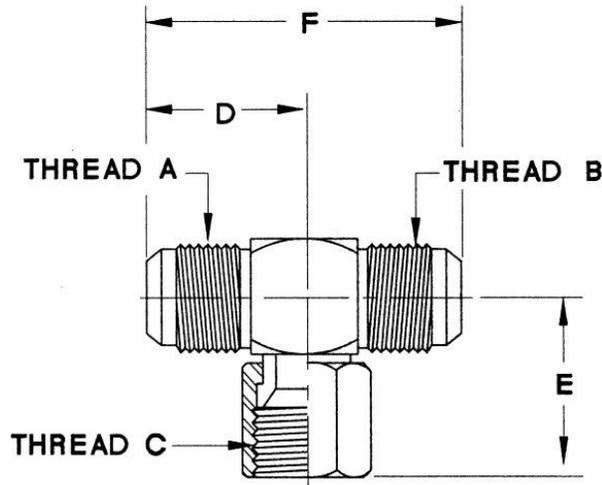
PART NO.	O.D.	THREAD A	THREAD B	THREAD C	DIM D	DIM E	DIM F
620-03-03-03	0.18	3/8-24	3/8-24	3/8-24	0.83	0.95	0.83
620-04-04-04	0.25	7/16-20	7/16-20	7/16-20	0.89	1.00	0.89
620-05-05-05	0.31	1/2-20	1/2-20	1/2-20	0.95	1.06	0.95
620-06-06-06	0.38	9/16-18	9/16-18	9/16-18	1.06	1.25	1.06
620-08-08-08	0.50	3/4-16	3/4-16	3/4-16	1.25	1.38	1.25
620-08-10-08	0.50	3/4-16	7/8-14	3/4-16	1.33	1.62	1.45
620-10-10-10	0.63	7/8-14	7/8-14	7/8-14	1.45	1.62	1.45
620-12-04-12	0.75	1 1/16-12	7/16-20	1 1/16-12	1.66	1.19	1.66
620-12-12-12	0.75	1 1/16-12	1 1/16-12	1 1/16-12	1.66	1.75	1.66
620-12-12-16	0.75	1 1/16-12	1 1/16-12	1 5/16-12	1.81	2.00	1.81
620-14-14-14	0.88	1 3/16-12	1 3/16-12	1 3/16-12	1.80	1.73	1.80
620-16-16-16	1.00	1 5/16-12	1 5/16-12	1 5/16-12	1.81	2.00	1.81
620-20-20-20	1.25	1 5/8-12	1 5/8-12	1 5/8-12	2.06	2.31	2.06
620-24-24-24	1.50	1 7/8-12	1 7/8-12	1 7/8-12	2.33	2.59	2.33
620-32-32-32	2.00	2 1/2-12	2 1/2-12	2 1/2-12	3.06	3.38	3.06

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**630 SERIES**



**SWIVEL BRANCH TEE  
 (070433)**

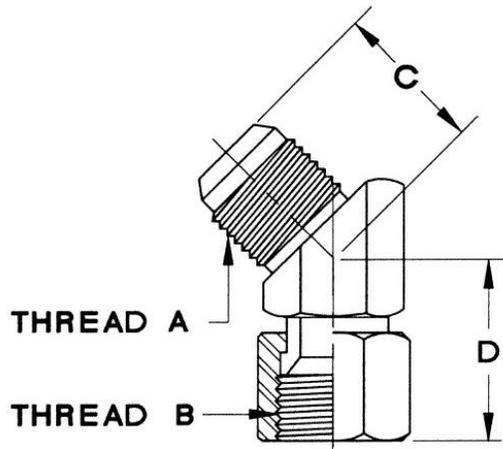
<u>PART NO.</u>	<u>O.D.</u>	<u>THREAD A</u>	<u>THREAD B</u>	<u>THREAD C</u>	<u>DIM D</u>	<u>DIM E</u>	<u>DIM F</u>
630-04-04-04	0.25	7/16-20	7/16-20	7/16-20	0.89	1.00	1.78
630-05-05-05	0.31	1/2-20	1/2-20	1/2-20	0.95	1.06	1.90
630-06-06-06	0.38	9/16-18	9/16-18	9/16-18	1.06	1.25	2.12
630-08-08-08	0.50	3/4-16	3/4-16	3/4-16	1.25	1.38	2.50
630-10-10-10	0.63	7/8-14	7/8-14	7/8-14	1.45	1.62	2.90
630-12-12-12	0.75	1 1/16-12	1 1/16-12	1 1/16-12	1.66	1.75	3.32
630-14-14-14	0.88	1 3/16-12	1 3/16-12	1 3/16-12	1.80	1.78	3.60
630-16-16-16	1.00	1 5/16-12	1 5/16-12	1 5/16-12	1.81	2.00	3.62
630-20-20-20	1.25	1 5/8-12	1 5/8-12	1 5/8-12	2.06	2.31	4.12
630-24-24-24	1.50	1 7/8-12	1 7/8-12	1 7/8-12	2.33	2.59	4.66
630-32-32-32	2.00	2 1/2-12	2 1/2-12	2 1/2-12	3.06	3.38	6.12

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**645 SERIES**



**45 DEGREE SWIVEL ELBOW  
(070321)**

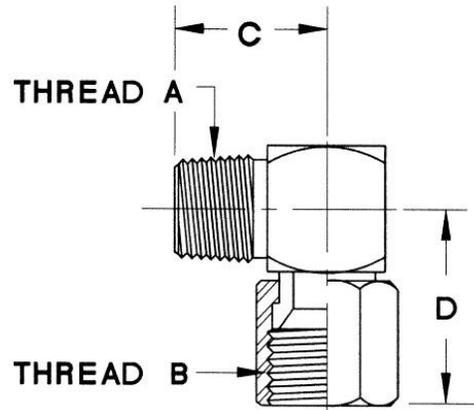
PART NO.	O.D.	THREAD A	THREAD B	DIM C	DIM D
645-04-04	0.25	7/16-20	7/16-20	0.72	0.94
645-05-05	0.31	1/2-20	1/2-20	0.77	1.00
645-06-06	0.38	9/16-18	9/16-18	0.83	1.12
645-08-08	0.50	3/4-16	3/4-16	0.98	1.28
645-10-08	0.63	7/8-14	3/4-16	1.22	1.21
645-10-10	0.63	7/8-14	7/8-14	1.11	1.44
645-12-12	0.75	1 1/16-12	1 1/16-12	1.28	1.50
645-14-14	0.88	1 3/16-12	1 3/16-12	1.45	1.62
645-16-16	1.00	1 5/16-12	1 5/16-12	1.47	1.75
645-20-20	1.25	1 5/8-12	1 5/8-12	1.59	2.03
645-24-24	1.50	1 7/8-12	1 7/8-12	1.78	2.25
645-32-32	2.00	2 1/2-12	2 1/2-12	2.22	2.91

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**660 SERIES**



**90 DEGREE SWIVEL ADAPTER  
(140230)**

PART NO.	O.D.	THREAD A	THREAD B	DIM C	DIM D
660-02-04	0.13	1/8-27	7/16-20	0.78	1.00
660-02-05	0.13	1/8-27	1/2-20	0.78	1.00
660-04-04	0.25	1/4-18	7/16-20	1.11	1.11
660-04-05	0.25	1/4-18	1/2-20	1.11	1.09
660-04-06	0.25	1/4-18	9/16-18	1.09	1.25
660-06-04	0.38	3/8-18	7/16-20	1.11	1.13
660-06-06	0.38	3/8-18	9/16-18	1.22	1.33
660-06-08	0.38	3/8-18	3/4-16	1.22	1.38
660-08-06	0.50	1/2-14	9/16-18	1.47	1.37
660-08-08	0.50	1/2-14	3/4-16	1.47	1.47
660-08-10	0.50	1/2-14	7/8-14	1.47	1.62
660-12-08	0.75	3/4-14	3/4-16	1.50	1.65
660-12-12	0.75	3/4-14	1 1/16-12	1.59	1.75
660-12-14	0.75	3/4-14	1 3/16-12	1.69	1.78
660-16-16	1.00	1-11 1/2	1 5/16-12	1.97	2.00
660-20-20	1.25	1 1/4-11 1/2	1 5/8-12	2.38	2.31
660-24-24	1.50	1 1/2-11 1/2	1 7/8-12	2.64	2.59
660-32-32	2.00	2-11 1/2	2 1/2-12	3.00	3.38

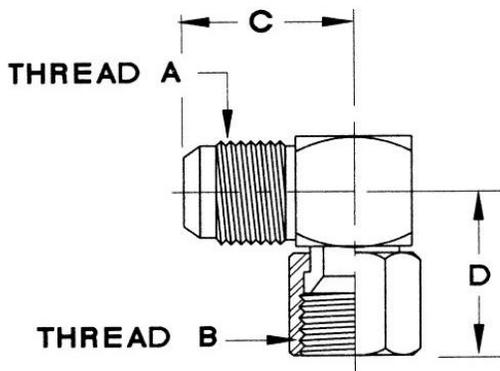
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**690 SERIES**

**90 DEGREE SWIVEL ELBOW  
(070221)**



PART NO.	O.D.	THREAD A	THREAD B	DIM C	DIM D
690-03-03	0.18	3/8-24	3/8-24	0.83	1.00
690-04-04	0.25	7/16-20	7/16-20	0.89	1.00
690-05-05	0.31	1/2-20	1/2-20	0.95	1.06
690-05-06	0.31	1/2-20	9/16-18	1.02	1.22
690-06-06	0.38	9/16-18	9/16-18	1.06	1.25
690-06-08	0.38	9/16-18	3/4-16	1.16	1.36
690-08-06	0.50	3/4-16	9/16-18	1.25	1.32
690-08-08	0.50	3/4-16	3/4-16	1.25	1.38
690-08-10	0.50	3/4-16	7/8-14	1.30	1.62
690-08-12	0.50	3/4-16	1 1/16-12	1.41	1.74
690-10-08	0.63	7/8-14	3/4-16	1.45	1.47
690-10-10	0.63	7/8-14	7/8-14	1.45	1.62
690-10-12	0.63	7/8-14	1 1/16-12	1.53	1.78
690-12-08	0.75	1 1/16-12	3/4-16	1.65	1.55
690-12-10	0.75	1 1/16-12	7/8-14	1.65	1.73
690-12-12	0.75	1 1/16-12	1 1/16-12	1.66	1.75
690-12-16	0.75	1 1/16-12	1 5/16-12	1.78	2.03
690-14-14	0.88	1 3/16-12	1 3/16-12	1.80	1.78
690-16-16	1.00	1 5/16-12	1 5/16-12	1.81	2.00
690-20-20	1.25	1 5/8-12	1 5/8-12	2.06	2.31
690-24-24	1.50	1 7/8-12	1 7/8-12	2.33	2.59
690-32-32	2.00	2 1/2-12	2 1/2-12	3.06	3.38

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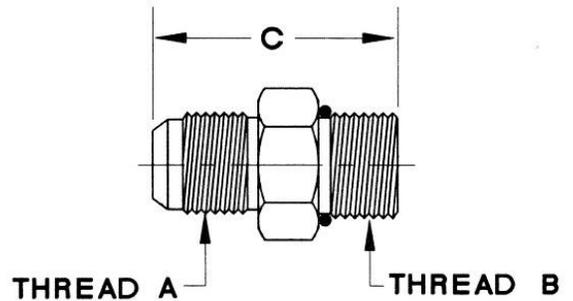


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**STRAIGHT THREAD CONNECTOR**  
 (070120)

**700 SERIES**

<b>PART NO.</b>	<b>O.D.</b>	<b>THREAD A</b>	<b>THREAD B</b>	<b>DIM C</b>
700-02-02	0.13	5/16-24	5/16-24	1.06
700-03-03	0.19	3/8-24	3/8-24	1.10
700-04-02	0.25	7/16-20	5/16-24	1.13
700-04-03	0.25	7/16-20	3/8-24	1.17
700-04-04	0.25	7/16-20	7/16-20	1.23
700-04-05	0.25	7/16-20	1/2-20	1.23
700-04-06	0.25	7/16-20	9/16-18	1.28
700-04-08	0.25	7/16-20	3/4-16	1.37
700-04-10	0.25	7/16-20	7/8-14	1.49
700-04-12	0.25	7/16-20	1 1/16-12	1.65
700-05-03	0.31	1/2-20	3/8-24	1.06
700-05-04	0.31	1/2-20	7/16-20	1.24
700-05-05	0.31	1/2-20	1/2-20	1.23
700-05-06	0.31	1/2-20	9/16-18	1.30
700-05-08	0.31	1/2-20	3/4-16	1.37
700-05-10	0.31	1/2-20	7/8-14	1.54
700-06-04	0.38	9/16-18	7/16-20	1.27
700-06-05	0.38	9/16-18	1/2-20	1.29
700-06-06	0.38	9/16-18	9/16-18	1.30
700-06-08	0.38	9/16-18	3/4-16	1.38
700-06-10	0.38	9/16-18	7/8-14	1.50
700-06-12	0.38	9/16-18	1 1/16-12	1.65
700-06-16	0.38	9/16-18	1 5/16-12	1.69
700-08-04	0.50	3/4-16	7/16-20	1.49
700-08-05	0.50	3/4-16	1/2-20	1.52
700-08-06	0.50	3/4-16	9/16-18	1.44
700-08-08	0.50	3/4-16	3/4-16	1.48
700-08-10	0.50	3/4-16	7/8-14	1.59
700-08-12	0.50	3/4-16	1 1/16-12	1.77
700-08-14	0.50	3/4-16	1 3/16-12	1.77
700-08-16	0.50	3/4-16	1 5/16-12	1.76
700-10-04	0.63	7/8-14	7/16-20	1.68
700-10-06	0.63	7/8-14	9/16-18	1.69
700-10-08	0.63	7/8-14	3/4-16	1.67
700-10-10	0.63	7/8-14	7/8-14	1.70



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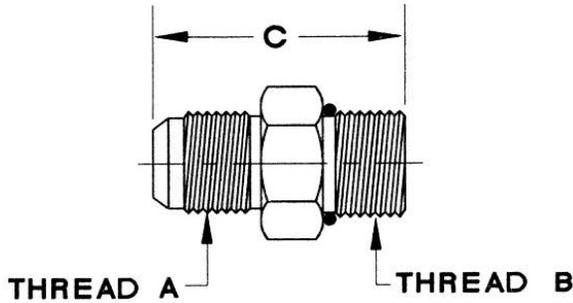


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**700 SERIES**

**STRAIGHT THREAD CONNECTOR**

(070102)



<b>PART NO.</b>	<b>O.D.</b>	<b>THREAD A</b>	<b>THREAD B</b>	<b>DIM C</b>
700-10-12	0.62	7/8-14	1 1/16-12	1.86
700-10-14	0.62	7/8-14	1 3/16-12	1.86
700-10-16	0.62	7/8-14	1 5/16-12	1.89
700-10-20	0.62	7/8-14	1 5/8-12	1.96
700-12-06	0.75	1 1/16-12	9/16-18	1.86
700-12-08	0.75	1 1/16-12	3/4-16	1.94
700-12-10	0.75	1 1/16-12	7/8-14	1.88
700-12-12	0.75	1 1/16-12	1 1/16-12	1.97
700-12-14	0.75	1 1/16-12	1 3/16-12	1.97
700-12-16	0.75	1 1/16-12	1 5/16-12	1.99
700-12-20	0.75	1 1/16-12	1 5/8-12	2.08
700-14-10	0.87	1 3/16-12	7/8-14	1.95
700-14-12	0.87	1 3/16-12	1 1/16-12	1.98
700-14-14	0.87	1 3/16-12	1 3/16-12	1.99
700-14-16	0.87	1 3/16-12	1 5/16-12	2.02
700-16-08	1.00	1 5/16-12	3/4-16	1.97
700-16-10	1.00	1 5/16-12	7/8-14	2.04
700-16-12	1.00	1 5/16-12	1 1/16-12	1.99
700-16-14	1.00	1 5/16-12	1 3/16-12	2.04
700-16-16	1.00	1 5/16-12	1 5/16-12	2.05
700-16-20	1.00	1 5/16-12	1 5/8-12	2.13
700-16-24	1.00	1 5/16-12	1 7/8-12	2.22
700-20-12	1.25	1 5/8-12	1 1/16-12	2.30
700-20-16	1.25	1 5/8-12	1 5/16-12	2.20
700-20-20	1.25	1 5/8-12	1 5/8-12	2.17
700-20-24	1.25	1 5/8-12	1 7/8-12	2.22
700-24-20	1.50	1 7/8-12	1 5/8-12	2.53
700-24-24	1.50	1 7/8-12	1 7/8-12	2.37
700-24-32	1.50	1 7/8-12	2 1/2-12	2.53
700-32-24	2.00	2 1/2-12	1 7/8-12	2.81
700-32-32	2.00	2 1/2-12	2 1/2-12	2.78

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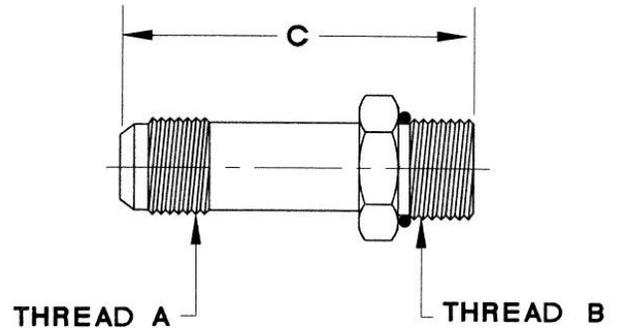
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**STRAIGHT THREAD  
 CONNECTOR EXTRA LONG  
 (NON STANDARD)**

PART NO.	O.D.	THREAD A	THREAD B	DIM C
700XL-04-04	0.25	7/16-20	7/16-20	2.08
700XL-05-05	0.31	1/2-20	1/2-20	2.14
700XL-06-06	0.38	9/16-18	9/16-18	2.31
700XL-06-08	0.38	9/16-18	3/4-16	2.34
700XL-08-08	0.50	3/4-16	3/4-16	2.70
700XL-10-10	0.63	7/8-14	7/8-14	3.04
700XL-12-12	0.75	1 1/16-12	1 1/16-12	3.61
700XL-16-16	1.00	1 5/16-12	1 5/16-12	3.98
700XL-20-20	1.25	1 5/8-12	1 5/8-12	4.69
700XL-24-24	1.50	1 7/8-12	1 7/8-12	5.17
700XL-32-32	2.00	2 1/2-12	2 1/2-12	6.30

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**700XL SERIES**

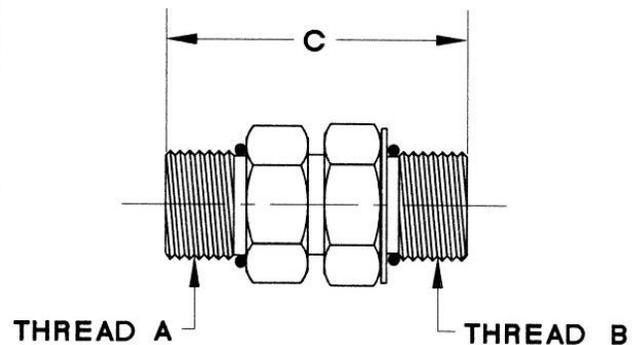


**STRAIGHT THREAD UNION  
 (NON STANDARD)**

PART NO.	O.D.	THREAD A	THREAD B	DIM C
705-04-04	0.25	7/16-20	7/16-20	1.22
705-06-06	0.38	9/16-18	9/16-18	1.41
705-08-08	0.50	3/4-16	3/4-16	1.56
705-10-10	0.63	7/8-14	7/8-14	1.81
705-12-12	0.75	1 1/16-12	1 1/16-12	2.13
705-16-16	1.00	1 5/16-12	1 5/16-12	2.13
705-20-20	1.25	1 5/8-12	1 5/8-12	2.13
705-24-24	1.50	1 7/8-12	1 7/8-12	2.13
705-32-32	2.00	2 1/2-12	2 1/2-12	2.13

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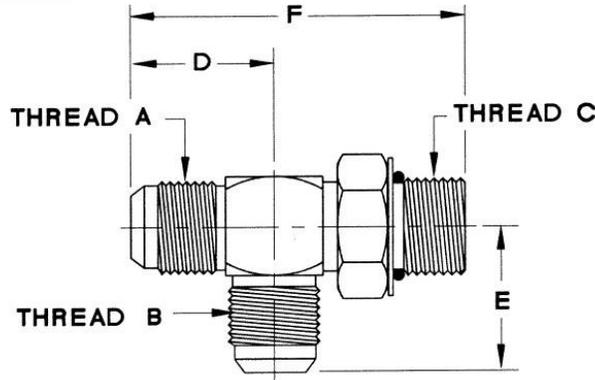
**705 SERIES**





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**720 SERIES**

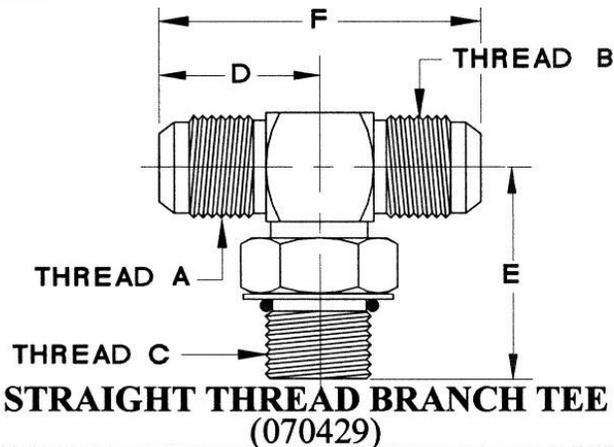


**STRAIGHT THREAD RUN TEE**  
(070428)

PART NO.	O.D.	THREAD A	THREAD B	THREAD C	DIM D	DIM E	DIM F
720-04-04-04	0.25	7/16-20	7/16-20	7/16-20	0.89	0.89	1.92
720-04-04-06	0.25	7/16-20	7/16-20	9/16-18	0.97	0.97	2.24
720-05-05-05	0.31	1/2-20	1/2-20	1/2-20	0.95	0.95	2.08
720-06-06-04	0.37	9/16-18	9/16-18	7/16-20	0.95	0.95	2.20
720-06-06-06	0.37	9/16-18	9/16-18	9/16-18	1.06	1.06	2.31
720-06-06-08	0.37	9/16-18	9/16-18	3/4-16	1.14	1.14	2.59
720-08-06-10	0.50	3/4-16	9/16-18	7/8-14	1.25	1.06	2.95
720-08-08-06	0.50	3/4-16	3/4-16	9/16-18	1.25	1.25	2.59
720-08-08-08	0.50	3/4-16	3/4-16	3/4-16	1.25	1.25	2.70
720-08-08-10	0.50	3/4-16	3/4-16	7/8-14	1.31	1.31	2.95
720-10-06-12	0.63	7/8-14	9/16-18	1 1/16-12	1.54	1.29	3.48
720-10-08-08	0.63	7/8-14	3/4-16	3/4-16	1.45	1.31	3.00
720-10-10-08	0.63	7/8-14	7/8-14	3/4-16	1.45	1.45	2.97
720-10-10-10	0.63	7/8-14	7/8-14	7/8-14	1.45	1.45	3.15
720-10-10-12	0.63	7/8-14	7/8-14	1 1/16-12	1.55	1.55	3.49
720-10-12-10	0.63	7/8-14	1 1/16-12	7/8-14	1.66	1.66	3.46
720-12-04-12	0.75	1 1/16-12	7/16-20	1 1/16-12	1.66	1.18	3.60
720-12-06-12	0.75	1 1/16-12	9/16-18	1 1/16-12	1.66	1.29	3.60
720-12-12-08	0.75	1 1/16-12	1 1/16-12	3/4-16	1.66	1.66	3.27
720-12-12-10	0.75	1 1/16-12	1 1/16-12	7/8-14	1.66	1.66	3.46
720-12-12-12	0.75	1 1/16-12	1 1/16-12	1 1/16-12	1.66	1.66	3.60
720-12-12-14	0.75	1 1/16-12	1 1/16-12	1 3/16-12	1.72	1.72	3.72
720-12-12-16	0.75	1 1/16-12	1 1/16-12	1 5/16-12	1.78	1.78	3.83
720-14-14-14	0.88	1 3/16-12	1 3/16-12	1 3/16-12	1.80	1.80	3.80
720-16-12-16	1.00	1 5/16-12	1 1/16-12	1 5/16-12	1.81	1.78	3.86
720-16-16-12	1.00	1 5/16-12	1 5/16-12	1 1/16-12	1.81	1.81	3.86
720-16-16-16	1.00	1 5/16-12	1 5/16-12	1 5/16-12	1.81	1.81	3.86
720-20-20-20	1.25	1 5/8-12	1 5/8-12	1 5/8-12	2.06	2.06	4.31
720-24-24-24	1.50	1 7/8-12	1 7/8-12	1 7/8-12	2.33	2.33	4.72
720-32-32-24	2.00	2 1/2-12	2 1/2-12	1 7/8-12	3.06	3.06	5.81
720-32-32-32	2.00	2 1/2-12	2 1/2-12	2 1/2-12	3.06	3.06	5.95



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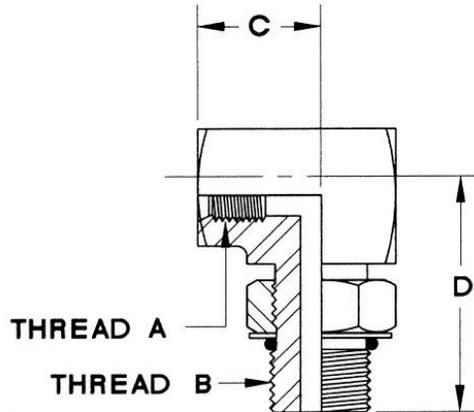


PART NO.	O.D.	THREAD A	THREAD B	THREAD C	DIM D	DIM E	DIM F
730-04-04-04	0.25	7/16-20	7/16-20	7/16-20	0.89	1.03	1.78
730-04-04-06	0.25	7/16-20	7/16-20	9/16-18	0.95	1.24	1.90
730-05-05-05	0.31	1/2-20	1/2-20	1/2-20	0.95	1.13	1.90
730-06-06-05	0.38	9/16-18	9/16-18	1/2-20	1.06	1.13	2.12
730-06-06-06	0.38	9/16-18	9/16-18	9/16-18	1.06	1.25	2.12
730-06-06-08	0.38	9/16-18	9/16-18	3/4-16	1.15	1.45	2.30
730-06-06-10	0.38	9/16-18	9/16-18	7/8-14	1.22	1.70	2.44
730-06-06-12	0.38	9/16-18	9/16-18	1 1/16-12	1.30	1.94	2.60
730-06-08-06	0.38	9/16-18	3/4-16	9/16-18	1.16	1.34	2.32
730-06-12-16	0.38	9/16-18	1 1/16-12	1 5/16-12	1.45	2.05	2.90
730-08-06-10	0.36	3/4-16	9/16-18	7/8-14	1.22	1.70	2.44
730-08-08-06	0.50	3/4-16	3/4-16	9/16-18	1.25	1.33	2.50
730-08-08-08	0.50	3/4-16	3/4-16	3/4-16	1.25	1.45	2.50
730-08-08-10	0.50	3/4-16	3/4-16	7/8-14	1.32	1.71	2.64
730-08-08-12	0.50	3/4-16	3/4-16	1 1/16-12	1.42	1.94	2.84
730-08-12-12	0.50	3/4-16	1 1/16-12	1 1/16-12	1.41	1.94	2.82
730-10-10-08	0.63	7/8-14	7/8-14	3/4-16	1.46	1.51	2.92
730-10-10-10	0.63	7/8-14	7/8-14	7/8-14	1.45	1.70	1.90
730-10-10-12	0.63	7/8-14	7/8-14	1 1/16-12	1.55	1.94	3.10
730-10-10-16	0.63	7/8-14	7/8-14	1 5/16-12	1.67	2.04	3.34
730-12-12-08	0.75	1 1/16-12	1 1/16-12	3/4-16	1.65	1.61	3.30
730-12-12-10	0.75	1 1/16-12	1 1/16-12	7/8-14	1.66	1.81	3.32
730-12-12-12	0.75	1 1/16-12	1 1/16-12	1 1/16-12	1.66	1.94	3.32
730-12-12-14	0.75	1 1/16-12	1 1/16-12	1 3/16-12	1.72	2.00	3.44
730-12-12-16	0.75	1 1/16-12	1 1/16-12	1 5/16-12	1.79	2.05	3.58
730-12-16-12	0.75	1 1/16-12	1 5/16-12	1 1/16-12	1.66	1.94	3.32
730-14-14-14	0.88	1 3/16-12	1 3/16-12	1 3/16-12	1.80	1.80	3.60
730-16-16-12	1.00	1 5/16-12	1 5/16-12	1 1/16-12	1.81	2.05	3.62
730-16-16-16	1.00	1 5/16-12	1 5/16-12	1 5/16-12	1.81	2.05	3.62
730-20-20-20	1.25	1 5/8-12	1 5/8-12	1 5/8-12	2.06	2.25	4.12
730-24-24-24	1.50	1 7/8-12	1 7/8-12	1 7/8-12	2.33	2.39	4.66
730-32-32-32	2.00	2 1/2-12	2 1/2-12	2 1/2-12	3.06	2.89	6.12



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**740 SERIES**



**90 DEGREE ELBOW-FEMALE  
 O.R.B.-MALE ADJUSTABLE O.R.B.  
 (NON STANDARD)**

<u>PART NO.</u>	<u>O.D.</u>	<u>THREAD A</u>	<u>THREAD B</u>	<u>DIM C</u>	<u>DIM D</u>
740-04-04	0.25	7/16-20	7/16-20	0.63	1.23
740-06-06	0.38	9/16-18	9/16-18	0.75	1.38
740-08-08	0.50	3/4-16	3/4-16	0.88	1.59
740-10-10	0.63	7/8-14	7/8-14	1.02	1.81
740-12-12	0.75	1 1/16-12	1 1/16-12	1.21	2.00
740-16-16	1.00	1 5/16-12	1 5/16-12	1.33	2.26

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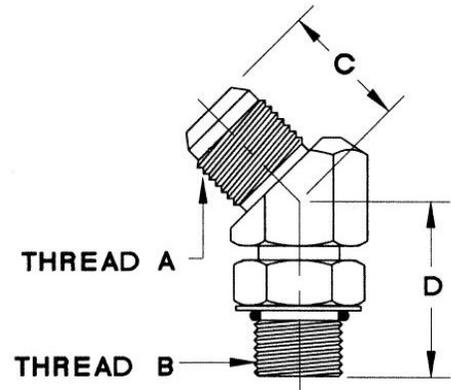


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**45 DEGREE STRAIGHT THREAD ELBOW**  
 (070320)

**745 SERIES**

PART NO.	O.D.	THREAD A	THREAD B	DIM C	DIM D
745-04-04	0.25	7/16-20	7/16-20	0.72	1.05
745-04-05	0.25	7/16-20	1/2-20	0.73	1.05
745-04-06	0.25	7/16-20	9/16-18	0.72	1.14
745-04-08	0.25	7/16-20	3/4-16	0.90	1.30
745-05-04	0.31	1/2-20	7/16-20	0.79	1.00
745-05-05	0.31	1/2-20	1/2-20	0.77	1.05
745-05-06	0.31	1/2-20	9/16-18	0.85	1.14
745-06-04	0.38	9/16-18	7/16-20	0.91	1.00
745-06-05	0.38	9/16-18	1/2-20	0.91	1.00
745-06-06	0.38	9/16-18	9/16-18	0.83	1.14
745-06-08	0.38	9/16-18	3/4-16	0.87	1.30
745-06-10	0.38	9/16-18	7/8-14	0.96	1.52
745-08-04	0.50	3/4-16	7/16-20	1.07	1.11
745-08-06	0.50	3/4-16	9/16-18	0.98	1.14
745-08-08	0.50	3/4-16	3/4-16	0.98	1.30
745-08-10	0.50	3/4-16	7/8-14	0.99	1.52
745-08-12	0.50	3/4-16	1 1/16-12	1.05	1.73
745-10-08	0.63	7/8-14	3/4-16	1.09	1.41
745-10-10	0.63	7/8-14	7/8-14	1.11	1.52
745-10-12	0.63	7/8-14	1 1/16-12	1.28	1.73
745-12-08	0.75	1 1/16-12	3/4-16	1.37	1.54
745-12-10	0.75	1 1/16-12	7/8-14	1.30	1.58
745-12-12	0.75	1 1/16-12	1 1/16-12	1.28	1.73
745-12-14	0.75	1 1/16-12	1 3/16-12	1.38	1.81
745-12-16	0.75	1 1/16-12	1 5/16-12	1.47	1.86
745-14-14	0.88	1 3/16-12	1 3/16-12	1.45	1.86
745-16-12	1.00	1 5/16-12	1 1/16-12	1.47	1.86
745-16-16	1.00	1 5/16-12	1 5/16-12	1.47	1.86
745-16-20	1.00	1 5/16-12	1 5/8-12	1.54	1.91
745-20-16	1.25	1 5/8-12	1 5/16-12	1.59	1.86
745-20-20	1.25	1 5/8-12	1 5/8-12	1.59	1.91
745-24-24	1.50	1 7/8-12	1 7/8-12	1.78	1.91
745-32-32	2.00	2 1/2-12	2 1/2-12	2.22	1.86

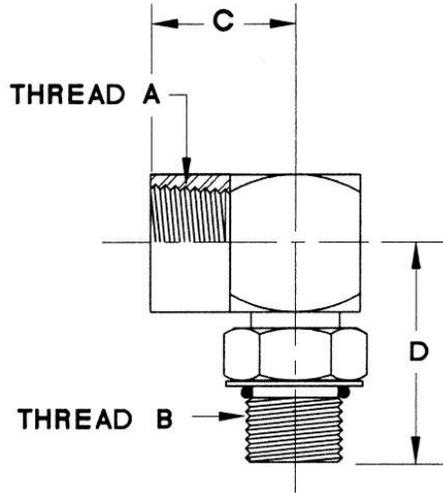


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**760 SERIES**



**90 DEGREE FEMALE ADJUSTABLE ADAPTER  
(NON STANDARD)**

PART NO.	THREAD A	THREAD B	DIM C	DIM D
760-02-04	1/8-27	7/16-20	0.64	1.08
760-02-05	1/8-27	1/2-20	0.64	1.11
760-04-04	1/4-18	7/16-20	0.81	1.15
760-04-06	1/4-18	9/16-18	0.88	1.31
760-04-10	1/4-18	7/8-14	0.96	1.70
760-06-04	3/8-18	7/16-20	1.02	1.22
760-06-06	3/8-18	9/16-18	1.02	1.37
760-06-08	3/8-18	3/4-16	1.02	1.47
760-06-10	3/8-18	7/8-14	1.07	1.70
760-08-06	1/2-14	9/16-18	1.23	1.49
760-08-08	1/2-14	3/4-16	1.24	1.59
760-08-10	1/2-14	7/8-14	1.24	1.78
760-08-12	1/2-14	1 1/16-12	1.34	1.98
760-12-08	3/4-14	3/4-16	1.34	1.47
760-12-10	3/4-14	7/8-14	1.34	1.66
760-12-12	3/4-14	1 1/16-12	1.34	2.05
760-12-14	3/4-14	1 3/16-12	1.34	2.05
760-12-16	3/4-14	1 5/16-12	1.34	2.05
760-16-12	1-11 1/2	1 1/16-12	1.62	2.23
760-16-16	1-11 1/2	1 5/16-12	1.62	2.16
760-20-20	1 1/4-11 1/2	1 5/8-12	1.75	2.36
760-24-24	1 1/2-11 1/2	1 7/8-12	2.06	2.56
760-32-32	2-11 1/2	2 1/2-12	2.39	3.00

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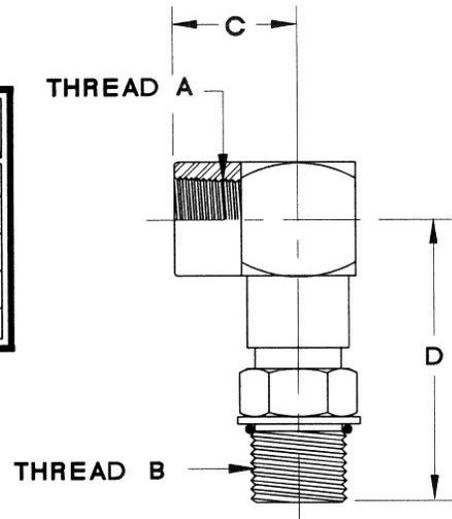
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**90 DEGREE EXTRA LONG FEMALE  
 ADJUSTABLE ADAPTER  
 (NON STANDARD)**

PART NO.	THREAD A	THREAD B	DIM C	DIM D
760XL-06-06	3/8-18	9/16-18	1.02	2.15
760XL-06-08	3/8-18	3/4-16	1.02	2.97
760XL-08-10	1/2-14	7/8-14	1.23	3.56
760XL-12-12	3/4-14	1 1/16-12	1.36	4.13
760XL-16-16	1-11 1/2	1 5/16-12	1.62	4.64

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**760XL SERIES**

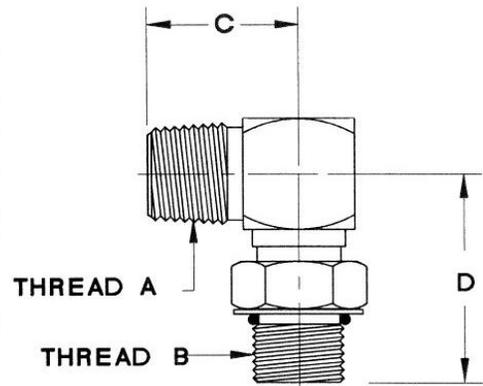


**90 DEGREE MALE ADJUSTABLE ADAPTER  
 (NON STANDARD)**

PART NO.	THREAD A	THREAD B	DIM C	DIM D
780-02-04	1/8-27	7/16-20	0.78	1.02
780-02-05	1/8-27	1/2-20	0.78	1.08
780-04-06	1/4-18	9/16-18	1.03	1.23
780-06-08	3/8-18	3/4-16	1.22	1.43
780-08-10	1/2-14	7/8-14	1.44	1.68
780-12-12	3/4-14	1 1/16-12	1.60	1.92
780-12-14	3/4-14	1 3/16-12	1.66	1.98
780-16-16	1-11 1/2	1 5/16-12	1.97	2.03
780-20-20	1 1/4-11 1/2	1 5/8-12	2.37	2.23
780-24-24	1 1/2-11 1/2	1 7/8-12	2.62	2.37

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**780 SERIES**

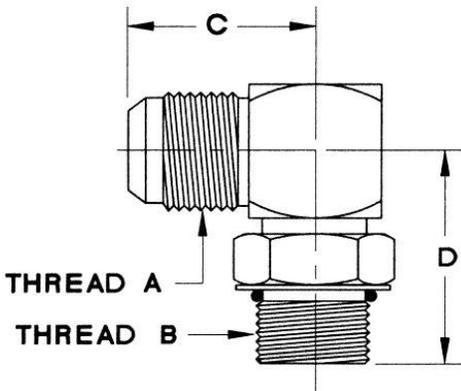




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**790 SERIES**

**90 DEGREE STRAIGHT THREAD ELBOW  
(070220)**



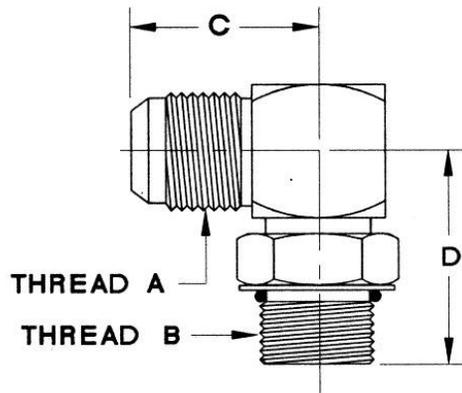
PART NO.	O.D.	THREAD A	THREAD B	DIM C	DIM D
790-02-02	0.13	5/16-24	5/16-24	0.77	0.91
790-03-03	0.19	3/8-24	3/8-24	0.83	0.94
790-04-04	0.25	7/16-20	7/16-20	0.89	1.03
790-04-05	0.25	7/16-20	1/2-20	0.95	1.13
790-04-06	0.25	7/16-20	9/16-18	0.95	1.25
790-04-08	0.25	7/16-20	3/4-16	1.05	1.45
790-05-04	0.31	1/2-20	7/16-20	0.98	1.06
790-05-05	0.31	1/2-20	1/2-20	0.95	1.09
790-05-06	0.31	1/2-20	9/16-18	0.98	1.25
790-05-08	0.31	1/2-20	3/4-16	1.09	1.45
790-05-10	0.31	1/2-20	7/8-14	1.13	1.70
790-06-04	0.38	9/16-18	7/16-20	1.06	1.09
790-06-05	0.38	9/16-18	1/2-20	1.06	1.13
790-06-06	0.38	9/16-18	9/16-18	1.06	1.25
790-06-08	0.38	9/16-18	3/4-16	1.16	1.45
790-06-10	0.38	9/16-18	7/8-14	1.22	1.70
790-06-12	0.38	9/16-18	1 1/16-12	1.29	1.94
790-06-16	0.38	9/16-18	1 5/16-12	1.45	2.05
790-08-04	0.50	3/4-16	7/16-20	1.25	1.18
790-08-05	0.50	3/4-16	1/2-20	1.25	1.18
790-08-06	0.50	3/4-16	9/16-18	1.25	1.34
790-08-08	0.50	3/4-16	3/4-16	1.25	1.45
790-08-10	0.50	3/4-16	7/8-14	1.31	1.70
790-08-12	0.50	3/4-16	1 1/16-12	1.41	1.94
790-08-16	0.50	3/4-16	1 5/16-12	1.55	2.05
790-10-06	0.63	7/8-14	9/16-18	1.45	1.40
790-10-08	0.63	7/8-14	3/4-16	1.45	1.52
790-10-10	0.63	7/8-14	7/8-14	1.45	1.70
790-10-12	0.63	7/8-14	1 1/16-12	1.55	1.94
790-10-16	0.63	7/8-14	1 5/16-12	1.66	2.05
790-10-20	0.63	7/8-14	1 5/8-12	1.86	2.32
790-12-06	0.75	1 1/16-12	9/16-18	1.65	1.51
790-12-08	0.75	1 1/16-12	3/4-16	1.66	1.80

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**790 SERIES**



**90 DEGREE STRAIGHT THREAD ELBOW  
(070220)**

<b>PART NO.</b>	<b>O.D.</b>	<b>THREAD A</b>	<b>THREAD B</b>	<b>DIM C</b>	<b>DIM D</b>
790-12-10	0.75	1 1/16-12	7/8-14	1.66	1.80
790-12-12	0.75	1 1/16-12	1 1/16-12	1.66	1.94
790-12-14	0.75	1 1/16-12	1 3/16-12	1.72	2.00
790-12-16	0.75	1 1/16-12	1 5/16-12	1.78	2.05
790-12-20	0.75	1 1/16-12	1 5/8-12	1.95	2.25
790-14-12	0.88	1 3/16-12	1 1/16-12	1.74	1.99
790-14-14	0.88	1 3/16-12	1 3/16-12	1.72	2.00
790-14-16	0.88	1 3/16-12	1 5/16-12	1.28	2.06
790-16-08	1.00	1 5/16-12	3/4-16	1.81	1.74
790-16-10	1.00	1 5/16-12	7/8-14	1.81	1.93
790-16-12	1.00	1 5/16-12	1 1/16-12	1.81	2.06
790-16-14	1.00	1 5/16-12	1 3/16-12	1.81	2.06
790-16-16	1.00	1 5/16-12	1 5/16-12	1.81	2.05
790-16-20	1.00	1 5/16-12	1 5/8-12	2.00	2.25
790-20-12	1.25	1 5/8-12	1 1/16-12	2.06	2.25
790-20-14	1.25	1 5/8-12	1 3/16-12	2.06	2.25
790-20-16	1.25	1 5/8-12	1 5/16-12	2.06	2.23
790-20-20	1.25	1 5/8-12	1 5/8-12	2.06	2.25
790-20-24	1.25	1 5/8-12	1 7/8-12	2.28	2.42
790-24-16	1.50	1 7/8-12	1 5/16-12	2.33	2.34
790-24-20	1.50	1 7/8-12	1 5/8-12	2.33	2.38
790-24-24	1.50	1 7/8-12	1 7/8-12	2.33	2.39
790-32-24	2.00	2 1/2-12	1 7/8-12	3.06	2.75
790-32-32	2.00	2 1/2-12	2 1/2-12	3.06	2.89

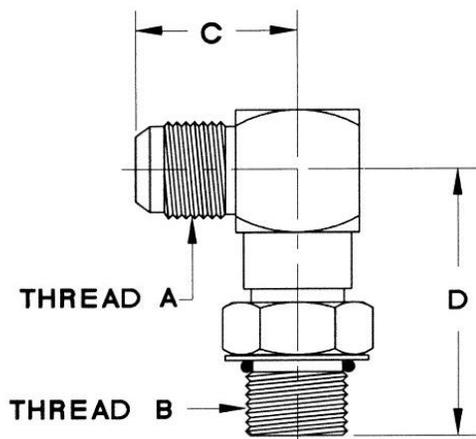
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**90 DEGREE LONG  
 STRAIGHT THREAD ELBOW  
 (NON STANDARD)**

**790L SERIES**

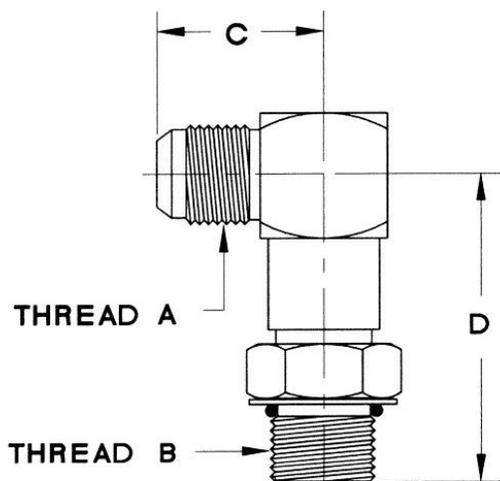


PART NO.	O.D.	THREAD A	THREAD B	DIM C	DIM D
790L-04-04	0.25	7/16-20	7/16-20	0.89	1.19
790L-05-05	0.31	1/2-20	1/2-20	0.95	1.22
790L-06-06	0.38	9/16-18	9/16-18	1.06	1.66
790L-06-08	0.38	9/16-18	3/4-16	1.15	1.81
790L-08-08	0.50	3/4-16	3/4-16	1.25	1.81
790L-08-10	0.50	3/4-16	7/8-14	1.33	2.13
790L-10-10	0.63	7/8-14	7/8-14	1.44	2.16
790L-10-12	0.63	7/8-14	1 1/16-12	1.66	2.25
790L-12-10	0.75	1 1/16-12	7/8-14	1.52	2.47
790L-12-12	0.75	1 1/16-12	1 1/16-12	1.66	2.47
790L-16-12	1.00	1 5/16-12	1 1/16-12	1.81	2.59
790L-16-16	1.00	1 5/16-12	1 5/16-12	1.81	3.06
790L-20-20	1.25	1 5/8-12	1 5/8-12	2.06	3.48
790L-24-24	1.50	1 7/8-12	1 7/8-12	2.33	3.93
790L-32-32	2.00	2 1/2-12	2 1/2-12	3.06	4.46

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**90 DEGREE EXTRA LONG  
 STRAIGHT THREAD ELBOW  
 (NON STANDARD)**

**790XL SERIES**

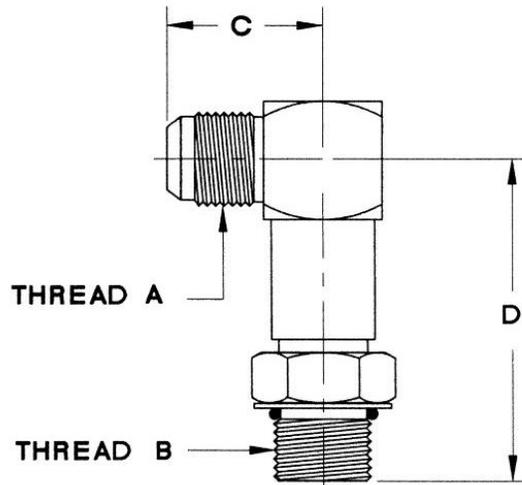


PART NO.	O.D.	THREAD A	THREAD B	DIM C	DIM D
790XL-04-04	0.25	7/16-20	7/16-20	0.89	1.73
790XL-05-05	0.31	1/2-20	1/2-20	0.95	1.86
790XL-06-05	0.38	9/16-18	1/2-20	1.06	1.89
790XL-06-06	0.38	9/16-18	9/16-18	1.06	2.08
790XL-06-08	0.38	9/16-18	3/4-16	1.16	2.49
790XL-08-06	0.50	3/4-16	9/16-18	1.25	2.17
790XL-08-08	0.50	3/4-16	3/4-16	1.25	2.50
790XL-08-10	0.50	3/4-16	7/8-14	1.30	2.88
790XL-10-08	0.63	7/8-14	3/4-16	1.45	2.56
790XL-10-10	0.63	7/8-14	7/8-14	1.45	2.88
790XL-12-08	0.75	1 1/16-12	3/4-16	1.66	2.66
790XL-12-10	0.75	1 1/16-12	7/8-14	1.66	3.00
790XL-12-12	0.75	1 1/16-12	1 1/16-12	1.66	3.34
790XL-12-16	0.75	1 1/16-12	1 5/16-12	1.78	3.72
790XL-14-14	0.88	1 3/16-12	1 3/16-12	1.73	3.57
790XL-16-16	1.00	1 5/16-12	1 5/16-12	1.81	3.71
790XL-20-20	1.25	1 5/8-12	1 5/8-12	2.06	4.41
790XL-24-24	1.50	1 7/8-12	1 7/8-12	2.33	4.81
790XL-32-32	2.00	2 1/2-12	2 1/2-12	3.06	5.98



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**790XXL SERIES**



**90 DEGREE EXTRA EXTRA LONG  
 STRAIGHT THREAD ELBOW  
 (NON STANDARD)**

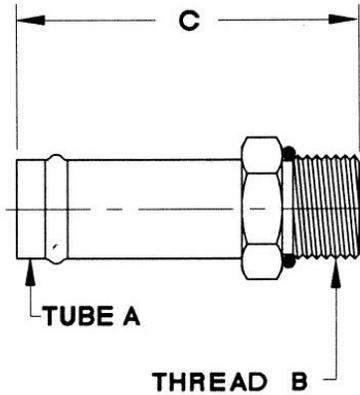
<u>PART NO.</u>	<u>O.D.</u>	<u>THREAD A</u>	<u>THREAD B</u>	<u>DIM C</u>	<u>DIM D</u>
790XXL-04-04	0.25	7/16-20	7/16-20	0.89	2.44
790XXL-06-06	0.38	9/16-18	9/16-18	1.06	3.07
790XXL-08-08	0.50	3/4-16	3/4-16	1.25	3.54
790XXL-10-10	0.63	7/8-14	7/8-14	1.45	3.99
790XXL-12-12	0.75	1 1/16-12	1 1/16-12	1.66	4.75
790XXL-16-16	1.00	1 5/16-12	1 5/16-12	1.81	5.39

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**800 SERIES**



**STRAIGHT THREAD HOSE CONNECTOR  
(NON STANDARD)**

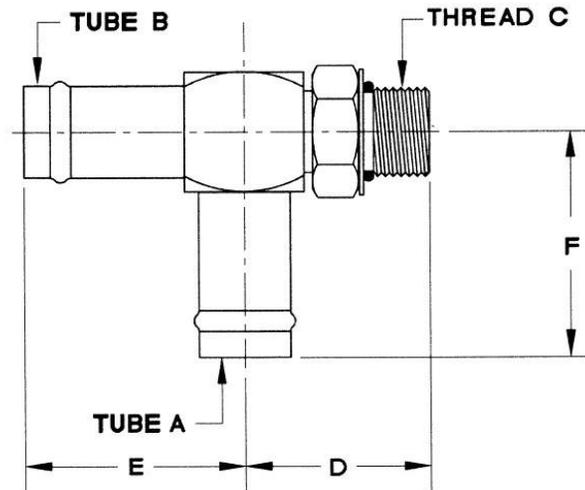
<b>PART NO.</b>	<b>TUBE A</b>	<b>THREAD B</b>	<b>DIM C</b>
800-04-04	0.25	7/16-20	1.80
800-04-06	0.25	9/16-18	1.86
800-05-05	0.31	1/2-20	1.77
800-06-04	0.37	7/16-20	1.80
800-06-06	0.37	9/16-18	1.86
800-08-06	0.50	9/16-18	1.89
800-08-08	0.50	3/4-16	1.96
800-10-08	0.62	3/4-16	1.96
800-10-10	0.62	7/8-14	2.09
800-10-12	0.62	1 1/16-12	2.16
800-12-08	0.75	3/4-16	1.96
800-12-10	0.75	7/8-14	2.09
800-12-12	0.75	1 1/16-12	2.16
800-12-16	0.75	1 5/16-12	2.28
800-16-10	1.00	7/8-14	2.09
800-16-12	1.00	1 1/16-12	2.16
800-16-14	1.00	1 3/16-12	2.26
800-16-16	1.00	1 5/16-12	2.28
800-16-20	1.00	1 5/8-12	2.35
800-20-12	1.25	1 1/16-12	2.54
800-20-16	1.25	1 5/16-12	2.66
800-20-20	1.25	1 5/8-12	2.73
800-20-24	1.25	1 7/8-12	2.78
800-24-16	1.50	1 5/16-12	2.54
800-24-20	1.50	1 5/8-12	2.73
800-24-24	1.50	1 7/8-12	2.79
800-32-24	2.00	1 7/8-12	2.79
800-32-32	2.00	2 1/2-12	2.97

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**820 SERIES**



**RUN TEE STRAIGHT THREAD HOSE CONNECTOR  
 (NON STANDARD)**

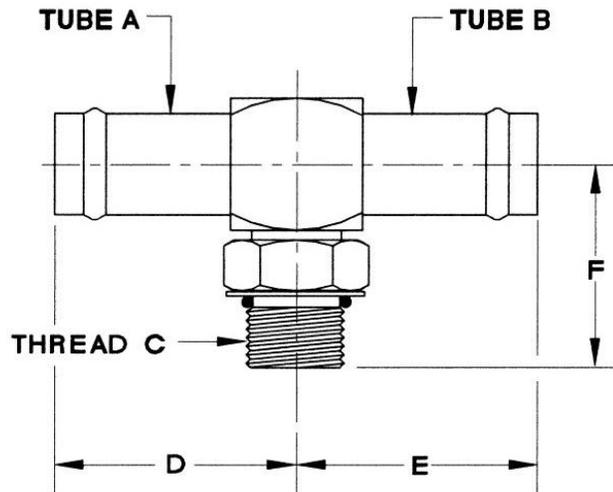
PART NO.	TUBE A	TUBE B	THREAD C	DIM D	DIM E	DIM F
820-04-04-04	0.25	0.25	7/16-20	1.03	1.43	1.43
820-06-06-06	0.38	0.38	9/16-18	1.25	1.49	1.49
820-08-08-08	0.50	0.50	3/4-16	1.45	1.67	1.67
820-10-10-10	0.63	0.63	7/8-14	1.70	1.69	1.69
820-12-12-12	0.75	0.75	1 1/16-12	1.90	1.79	1.79
820-16-16-16	1.00	1.00	1 5/16-12	2.12	1.82	1.82
820-20-20-20	1.25	1.25	1 5/8-12	2.39	2.43	2.43
820-24-24-24	1.50	1.50	1 7/8-12	2.37	2.56	2.56
820-32-32-32	2.00	2.00	2 1/2-12	3.05	2.97	2.97

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**830 SERIES**



**BRANCH TEE STRAIGHT THREAD HOSE CONNECTOR  
(NON STANDARD)**

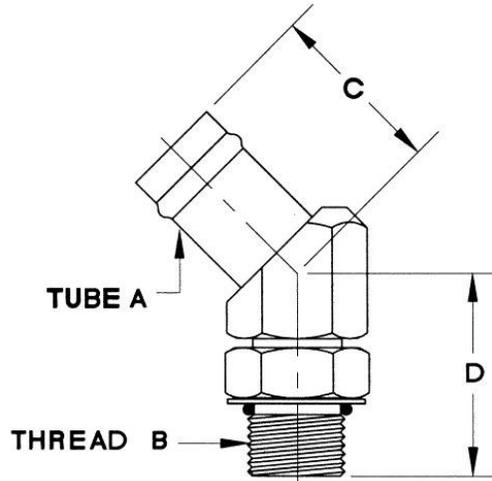
<u>PART NO.</u>	<u>TUBE A</u>	<u>TUBE B</u>	<u>THREAD C</u>	<u>DIM D</u>	<u>DIM E</u>	<u>DIM F</u>
830-04-04-04	0.25	0.25	7/16-20	1.43	1.43	1.03
830-06-06-06	0.38	0.38	9/16-18	1.49	1.49	1.25
830-08-08-08	0.50	0.50	3/4-16	1.67	1.67	1.45
830-10-10-10	0.63	0.63	7/8-14	1.69	1.69	1.70
830-12-12-12	0.75	0.75	1 1/16-12	1.79	1.79	1.90
830-16-16-16	1.00	1.00	1 5/16-12	1.82	1.82	2.12
830-20-20-20	1.25	1.25	1 5/8-12	2.43	2.43	2.39
830-24-24-24	1.50	1.50	1 7/8-12	2.56	2.56	2.37
830-32-32-32	2.00	2.00	2 1/2-12	2.97	2.97	3.05

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**845 SERIES**



**45 DEGREE STRAIGHT  
 THREAD HOSE CONNECTOR  
 (NON STANDARD)**

<u>PART NO.</u>	<u>TUBE A</u>	<u>THREAD B</u>	<u>DIM C</u>	<u>DIM D</u>
845-04-04	0.25	7/16-20	1.37	1.03
845-05-05	0.31	1/2-20	1.39	1.05
845-06-06	0.38	9/16-18	1.46	1.12
845-08-08	0.50	3/4-16	1.62	1.28
845-10-08	0.63	3/4-16	1.62	1.28
845-10-10	0.63	7/8-14	1.69	1.50
845-10-12	0.63	1 1/16-12	1.70	1.80
845-12-08	0.75	3/4-16	1.62	1.28
845-12-10	0.75	7/8-14	1.62	1.50
845-12-12	0.75	1 1/16-12	1.70	1.80
845-12-16	0.75	1 5/16-12	1.86	1.84
845-16-12	1.00	1 1/16-12	1.70	2.00
845-16-16	1.00	1 5/16-12	1.86	1.84
845-20-16	1.25	1 5/16-12	1.86	1.84
845-20-20	1.25	1 5/8-12	1.92	1.90
845-24-16	1.50	1 5/16-12	1.77	1.84
845-24-20	1.50	1 5/8-12	1.92	1.90
845-24-24	1.50	1 7/8-12	2.45	1.90
845-32-32	2.00	2 1/2-12	3.25	1.87

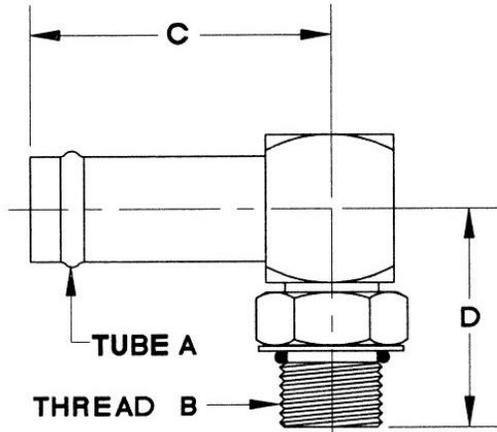
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**890 SERIES**

**90 DEGREE STRAIGHT  
 THREAD HOSE CONNECTOR  
 (NON STANDARD)**



PART NO.	TUBE A	THREAD B	DIM C	DIM D
890-04-04	0.25	7/16-20	1.43	1.03
890-04-05	0.25	1/2-20	1.43	1.31
890-04-06	0.25	9/16-18	1.49	1.25
890-05-04	0.31	7/16-20	1.43	1.01
890-05-05	0.31	1/2-20	1.43	1.31
890-06-04	0.38	7/16-20	1.43	1.03
890-06-06	0.38	9/16-18	1.49	1.25
890-06-08	0.38	3/4-16	1.61	1.47
890-08-06	0.50	9/16-18	1.54	1.25
890-08-08	0.50	3/4-16	1.67	1.45
890-10-08	0.63	3/4-16	1.67	1.45
890-10-10	0.63	7/8-14	1.67	1.70
890-10-12	0.63	1 1/16-12	1.79	1.93
890-12-08	0.75	3/4-16	1.63	1.45
890-12-10	0.75	7/8-14	1.73	1.68
890-12-12	0.75	1 1/16-12	1.79	1.93
890-12-16	0.75	1 5/16-12	1.91	2.04
890-14-14	0.88	1 3/16-12	1.85	2.00
890-16-10	1.00	7/8-14	1.70	1.68
890-16-12	1.00	1 1/16-12	1.70	1.95
890-16-14	1.00	1 3/16-12	1.70	2.00
890-16-16	1.00	1 5/16-12	1.70	2.04
890-16-20	1.00	1 5/8-12	2.01	2.25
890-20-12	1.25	1 1/16-12	2.22	2.03
890-20-16	1.25	1 5/16-12	2.22	2.04
890-20-20	1.25	1 5/8-12	2.41	2.25
890-20-24	1.25	1 7/8-12	2.54	2.30
890-24-16	1.50	1 5/16-12	2.20	2.37
890-24-20	1.50	1 5/8-12	2.41	2.24
890-24-24	1.50	1 7/8-12	2.54	2.39
890-32-32	2.00	2 1/2-12	2.85	2.89

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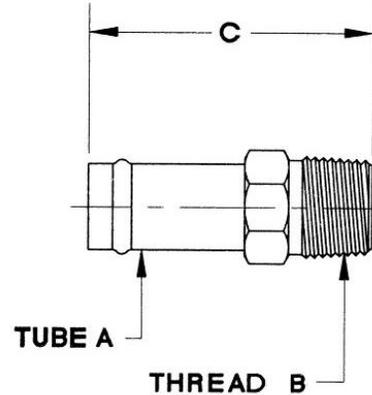
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**MALE PIPE HOSE CONNECTOR**  
**(430160)**

**900 SERIES**

PART NO.	TUBE A	THREAD B	DIM C
900-04-02	0.25	1/8-27	1.69
900-04-04	0.25	1/4-18	1.90
900-05-02	0.31	1/8-27	1.69
900-05-04	0.31	1/4-18	1.90
900-06-02	0.38	1/8-27	1.69
900-06-04	0.38	1/4-18	1.90
900-06-06	0.38	3/8-18	1.93
900-08-04	0.50	1/4-18	1.93
900-08-06	0.50	3/8-18	1.96
900-08-08	0.50	1/2-14	2.15
900-08-12	0.50	3/4-14	2.21
900-10-06	0.63	3/8-18	1.96
900-10-08	0.63	1/2-14	2.15
900-10-12	0.63	3/4-14	2.21
900-12-06	0.75	3/8-18	1.96
900-12-08	0.75	1/2-14	2.15
900-12-12	0.75	3/4-14	2.21
900-16-12	1.00	3/4-14	2.21
900-16-16	1.00	1-11 1/2	2.43
900-20-16	1.25	1-11 1/2	3.01
900-20-20	1.25	1 1/4-11 1/2	3.01
900-24-20	1.50	1 1/4-11 1/2	2.88
900-24-24	1.50	1 1/2-11 1/2	3.07
900-32-32	2.00	2-11 1/2	3.22

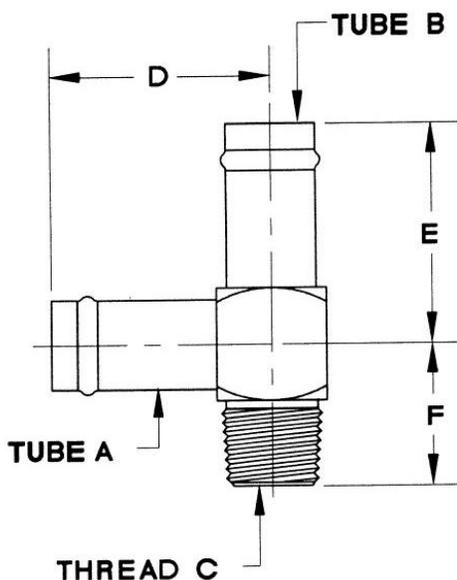
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**920 SERIES**



**RUN TEE MALE PIPE-HOSE CONNECTOR  
 (NON STANDARD)**

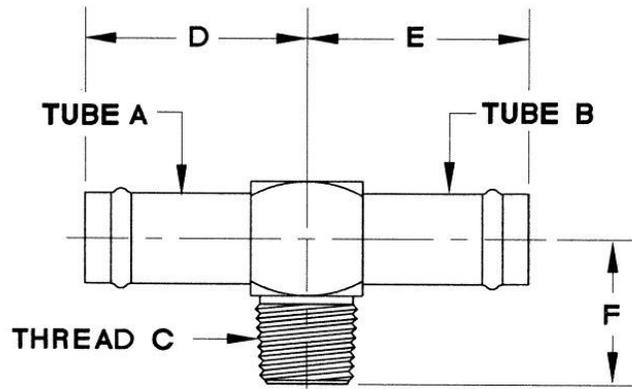
<u>PART NO.</u>	<u>TUBE A</u>	<u>TUBE B</u>	<u>THREAD C</u>	<u>DIM D</u>	<u>DIM E</u>	<u>DIM F</u>
920-06-06-04	0.38	0.38	1/4-18	1.53	1.53	1.20
920-08-08-06	0.50	0.50	3/8-18	1.60	1.60	1.23
920-10-10-08	0.63	0.63	1/2-14	1.72	1.72	1.49
920-12-12-12	0.75	0.75	3/4-14	1.80	1.80	1.60
920-16-16-16	1.00	1.00	1-11 1/2	1.91	1.91	2.00
920-20-20-20	1.25	1.25	1 1/4-11 1/2	2.41	2.41	2.55
920-24-24-24	1.50	1.50	1 1/2-11 1/2	2.53	2.53	2.68
920-32-32-32	2.00	2.00	2-11 1/2	2.85	2.85	3.05

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**930 SERIES**



**BRANCH TEE MALE PIPE-HOSE CONNECTOR  
 (NON STANDARD)**

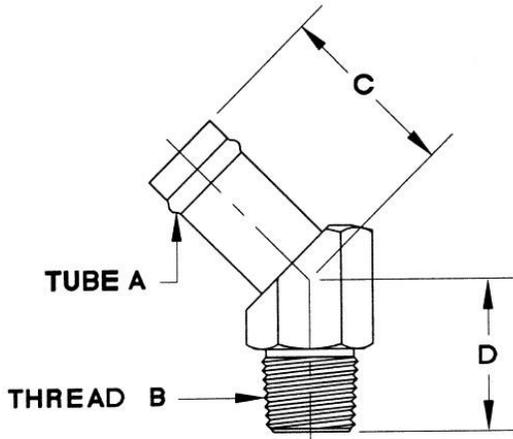
PART NO.	TUBE A	TUBE B	THREAD C	DIM D	DIM E	DIM F
930-04-04-02	0.25	0.25	1/8-27	1.42	1.42	0.71
930-04-04-04	0.25	0.25	1/4-18	1.48	1.48	1.06
930-06-06-04	0.38	0.38	1/4-18	1.53	1.53	1.20
930-08-08-06	0.50	0.50	3/8-18	1.60	1.60	1.23
930-08-08-08	0.50	0.50	1/2-14	1.66	1.66	1.44
930-10-10-08	0.63	0.63	1/2-14	1.72	1.72	1.49
930-12-12-12	0.75	0.75	3/4-14	1.80	1.80	1.60
930-16-16-16	1.00	1.00	1-11 1/2	1.91	1.91	2.00
930-20-20-20	1.25	1.25	1 1/4-11 1/2	2.41	2.41	2.55
930-24-24-24	1.50	1.50	1 1/2-11 1/2	2.53	2.53	2.68
930-32-32-32	2.00	2.00	2-11 1/2	2.85	2.85	3.05

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**945 SERIES**



**45 DEGREE MALE PIPE HOSE CONNECTOR  
(430360)**

PART NO.	TUBE A	THREAD B	DIM C	DIM D
945-04-02	0.25	1/8-27	1.41	0.60
945-04-04	0.25	1/4-18	1.47	0.91
945-05-02	0.31	1/8-27	1.34	0.64
945-06-04	0.38	1/4-18	1.45	0.91
945-06-06	0.38	3/8-18	1.53	0.95
945-08-04	0.50	1/4-18	1.41	0.91
945-08-06	0.50	3/8-18	1.44	1.13
945-08-08	0.50	1/2-14	1.60	1.06
945-10-06	0.63	3/8-18	1.58	0.98
945-10-08	0.63	1/2-14	1.66	1.08
945-10-12	0.63	3/4-14	1.68	1.30
945-12-08	0.75	1/2-14	1.51	1.08
945-12-12	0.75	3/4-14	1.53	1.32
945-12-16	0.75	1-11 1/2	1.71	1.49
945-16-12	1.00	3/4-14	1.43	1.35
945-16-16	1.00	1-11 1/2	1.70	1.45
945-16-20	1.00	1 1/4-11 1/2	1.85	1.56
945-20-16	1.25	1-11 1/2	1.96	1.89
945-20-20	1.25	1 1/4-11 1/2	2.13	1.50
945-24-20	1.50	1 1/4-11 1/2	1.96	1.56
945-24-24	1.50	1 1/2-11 1/2	2.36	1.75
945-32-32	2.00	2-11 1/2	2.22	2.10

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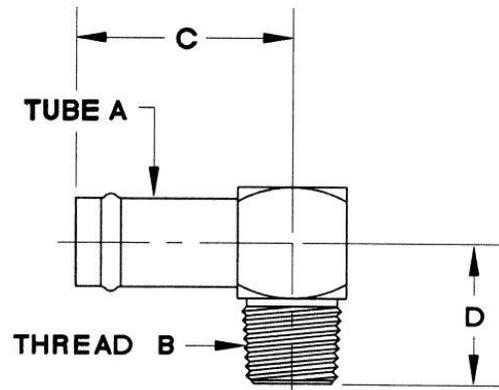
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**90 DEGREE MALE  
 PIPE HOSE CONNECTOR  
 (430260)**

**990 SERIES**

<u>PART NO.</u>	<u>TUBE A</u>	<u>THREAD B</u>	<u>DIM C</u>	<u>DIM D</u>
990-04-02	0.25	1/8-27	1.42	0.71
990-04-04	0.25	1/4-18	1.48	1.06
990-05-02	0.31	1/8-27	1.55	1.22
990-05-04	0.31	1/4-18	1.43	0.78
990-06-02	0.38	1/8-27	1.49	1.06
990-06-04	0.38	1/4-18	1.53	1.20
990-06-06	0.38	3/8-18	1.59	1.22
990-06-08	0.38	1/2-14	1.65	1.46
990-08-04	0.50	1/4-18	1.54	1.10
990-08-06	0.50	3/8-18	1.60	1.23
990-08-08	0.50	1/2-14	1.66	1.44
990-08-12	0.50	3/4-14	1.79	1.60
990-10-06	0.63	3/8-18	1.66	1.20
990-10-08	0.63	1/2-14	1.72	1.49
990-10-12	0.63	3/4-14	1.85	1.60
990-12-06	0.75	3/8-18	1.62	1.20
990-12-08	0.75	1/2-14	1.68	1.44
990-12-12	0.75	3/4-14	1.80	1.60
990-12-16	0.75	1-11 1/2	1.84	1.98
990-16-08	1.00	1/2-14	1.96	1.96
990-16-12	1.00	3/4-14	2.13	1.60
990-16-16	1.00	1-11 1/2	1.91	2.00
990-16-20	1.00	1 1/4-11 1/2	2.45	2.38
990-16-24	1.00	1 1/2-11 1/2	2.23	2.64
990-20-16	1.25	1-11 1/2	2.23	1.98
990-20-20	1.25	1 1/4-11 1/2	2.41	2.55
990-20-24	1.25	1 1/2-11 1/2	2.22	2.64
990-24-16	1.50	1-11 1/2	2.23	2.16
990-24-20	1.50	1 1/4-11 1/2	2.42	2.38
990-24-24	1.50	1 1/2-11 1/2	2.53	2.68
990-32-32	2.00	2-11 1/2	2.85	3.05

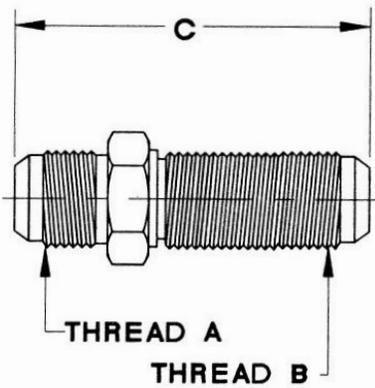
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**1000 SERIES**



**BULKHEAD UNION**

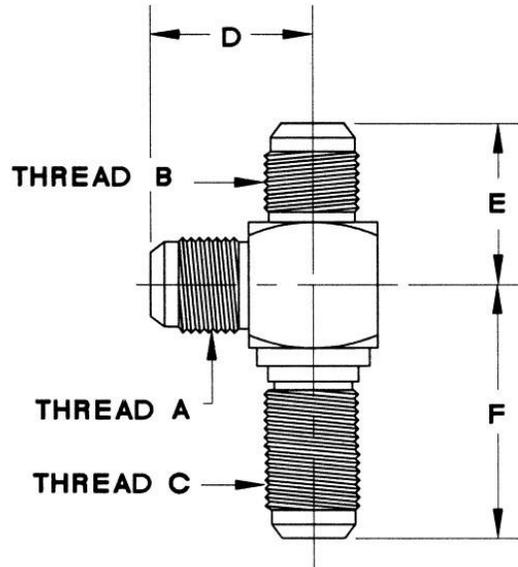
(070601)

<u>PART NO.</u>	<u>O.D.</u>	<u>THREAD A</u>	<u>THREAD B</u>	<u>DIM C</u>
1000-03-03	0.19	3/8-24	3/8-24	1.90
1000-04-04	0.25	7/16-20	7/16-20	2.07
1000-05-05	0.31	1/2-20	1/2-20	2.07
1000-06-06	0.38	9/16-18	9/16-18	2.18
1000-08-08	0.50	3/4-16	3/4-16	2.44
1000-10-10	0.63	7/8-14	7/8-14	2.74
1000-10-12	0.63	7/8-14	1 1/16-12	2.96
1000-12-12	0.75	1 1/16-12	1 1/16-12	3.09
1000-14-14	0.88	1 3/16-12	1 3/16-12	3.12
1000-16-16	1.00	1 5/16-12	1 5/16-12	3.14
1000-20-20	1.25	1 5/8-12	1 5/8-12	3.31
1000-24-24	1.50	1 7/8-12	1 7/8-12	3.52
1000-32-32	2.00	2 1/2-12	2 1/2-12	4.20

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**1020 SERIES**

**BULKHEAD RUN TEE  
(NON STANDARD)**

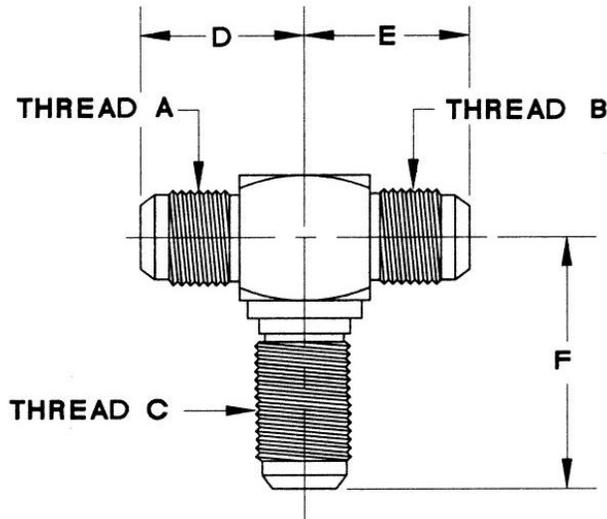
<b>PART NO.</b>	<b>O.D.</b>	<b>THREAD A</b>	<b>THREAD B</b>	<b>THREAD C</b>	<b>DIM D</b>	<b>DIM E</b>	<b>DIM F</b>
1020-04-04-04	0.25	7/16-20	7/16-20	7/16-20	0.97	0.97	1.59
1020-06-06-06	0.38	9/16-18	9/16-18	9/16-18	1.09	1.09	1.81
1020-08-08-08	0.50	3/4-16	3/4-16	3/4-16	1.36	1.36	2.11
1020-10-10-10	0.63	7/8-14	7/8-14	7/8-14	1.56	1.56	2.39
1020-12-12-12	0.75	1 1/16-12	1 1/16-12	1 1/16-12	1.78	1.78	2.69
1020-16-16-16	1.00	1 5/16-12	1 5/16-12	1 5/16-12	1.94	1.94	2.80
1020-20-20-20	1.25	1 5/8-12	1 5/8-12	1 5/8-12	2.18	2.18	3.23
1020-24-24-24	1.50	1 7/8-12	1 7/8-12	1 7/8-12	2.34	2.34	3.42
1020-32-32-32	2.00	2 1/2-12	2 1/2-12	2 1/2-12	2.89	2.89	4.11

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**1030 SERIES**



**BULKHEAD BRANCH TEE**  
 (070959)

<u>PART NO.</u>	<u>O.D.</u>	<u>THREAD A</u>	<u>THREAD B</u>	<u>THREAD C</u>	<u>DIM D</u>	<u>DIM E</u>	<u>DIM F</u>
1030-04-04-04	0.25	7/16-20	7/16-20	7/16-20	0.97	0.97	1.59
1030-05-05-05	0.31	1/2-20	1/2-20	1/2-20	1.06	1.06	1.72
1030-06-06-06	0.38	9/16-18	9/16-18	9/16-18	1.09	1.09	1.81
1030-08-08-08	0.50	3/4-16	3/4-16	3/4-16	1.36	1.36	2.11
1030-10-10-10	0.63	7/8-14	7/8-14	7/8-14	1.56	1.56	2.39
1030-12-12-12	0.75	1 1/16-12	1 1/16-12	1 1/16-12	1.78	1.78	2.67
1030-14-14-14	0.88	1 3/16-12	1 3/16-12	1 3/16-12	1.92	1.92	2.80
1030-16-16-16	1.00	1 5/16-12	1 5/16-12	1 5/16-12	1.94	1.94	2.80
1030-20-20-20	1.25	1 5/8-12	1 5/8-12	1 5/8-12	2.17	2.17	3.12

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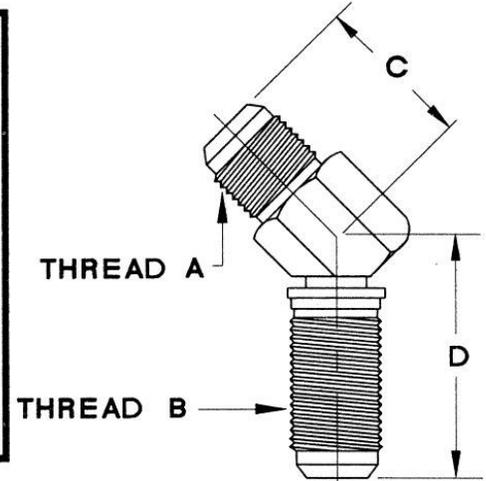
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**45 DEGREE BULKHEAD ELBOW**  
 (070801)

PART NO.	O.D.	THREAD A	THREAD B	DIM C	DIM D
1045-04-04	0.25	7/16-20	7/16-20	0.72	1.53
1045-05-05	0.31	1/2-20	1/2-20	0.77	1.66
1045-06-06	0.38	9/16-18	9/16-18	0.83	1.67
1045-08-08	0.50	3/4-16	3/4-16	0.98	1.94
1045-10-10	0.63	7/8-14	7/8-14	1.11	2.17
1045-12-12	0.75	1 1/16-12	1 1/16-12	1.28	2.44
1045-14-14	0.88	1 3/16-12	1 3/16-12	1.45	2.50
1045-16-16	1.00	1 5/16-12	1 5/16-12	1.47	2.56
1045-20-20	1.25	1 5/8-12	1 5/8-12	1.59	2.65
1045-24-24	1.50	1 7/8-12	1 7/8-12	1.78	2.67

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**1045 SERIES**

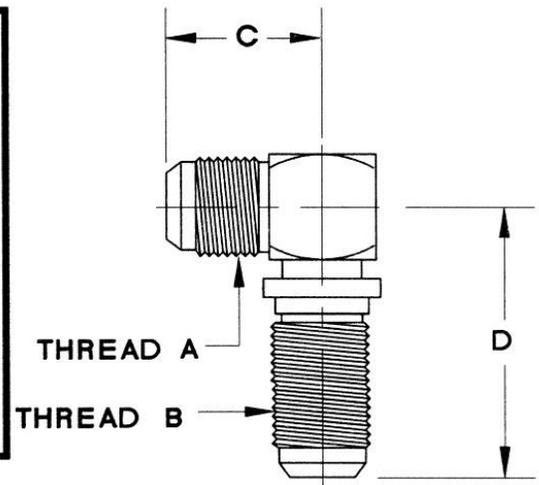


**90 DEGREE BULKHEAD ELBOW**  
 (070701)

PART NO.	O.D.	THREAD A	THREAD B	DIM C	DIM D
1090-04-04	0.25	7/16-20	7/16-20	0.97	1.59
1090-05-05	0.31	1/2-20	1/2-20	1.06	1.72
1090-06-06	0.38	9/16-18	9/16-18	1.09	1.81
1090-08-08	0.50	3/4-16	3/4-16	1.36	2.11
1090-10-10	0.63	7/8-14	7/8-14	1.56	2.39
1090-12-12	0.75	1 1/16-12	1 1/16-12	1.78	2.67
1090-16-12	1.00	1 5/16-12	1 1/16-12	1.89	2.80
1090-16-16	1.00	1 5/16-12	1 5/16-12	1.94	2.80
1090-20-20	1.25	1 5/8-12	1 5/8-12	2.17	3.12
1090-24-24	1.50	1 7/8-12	1 7/8-12	2.34	3.42

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**1090 SERIES**

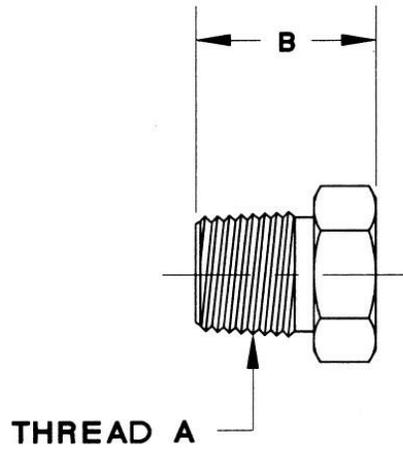




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**PIPE FITTINGS**

**1100 SERIES**



**MALE PIPE PLUG**

**(130109E)**

<b>PART NO.</b>	<b>THREAD A</b>	<b>DIM B</b>
1100-02	1/8-27	0.53
1100-04	1/4-18	0.74
1100-06	3/8-18	0.77
1100-08	1/2-14	0.96
1100-12	3/4-14	1.05
1100-16	1-11 1/2	1.24
1100-20	1 1/4-11 1/2	1.28
1100-24	1 1/2-11 1/2	1.31
1100-32	2-11 1/2	1.75

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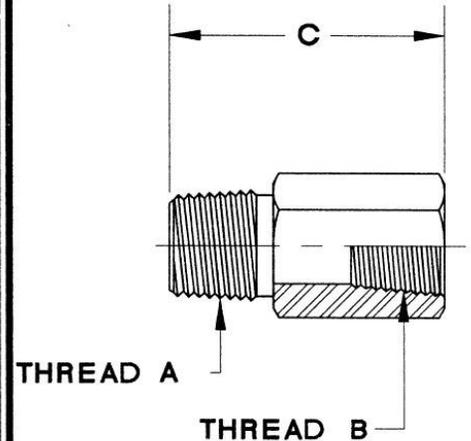


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**PIPE-PIPE MALE ADAPTER  
 (140139)**

**1110 SERIES**

PART NO.	O.D.	PORT SIZE	THREAD A	THREAD B	DIM C
1110-02-02	0.13	0.13	1/8-27	1/8-27	1.04
1110-02-04	0.13	0.25	1/8-27	1/4-18	1.21
1110-02-06	0.13	0.38	1/8-27	3/8-18	1.34
1110-02-08	0.13	0.50	1/8-27	1/2-14	1.48
1110-04-02	0.25	0.13	1/4-18	1/8-27	1.22
1110-04-04	0.25	0.25	1/4-18	1/4-18	1.39
1110-04-06	0.25	0.38	1/4-18	3/8-18	1.43
1110-04-08	0.25	0.50	1/4-18	1/2-14	1.68
1110-04-12	0.25	0.75	1/4-18	3/4-14	1.74
1110-06-02	0.38	0.13	3/8-18	1/8-27	1.42
1110-06-04	0.38	0.25	3/8-18	1/4-18	1.44
1110-06-06	0.38	0.38	3/8-18	3/8-18	1.43
1110-06-08	0.38	0.50	3/8-18	1/2-14	1.68
1110-06-12	0.38	0.75	3/8-18	3/4-14	1.74
1110-08-06	0.50	0.38	1/2-14	3/8-18	1.85
1110-08-08	0.50	0.50	1/2-14	1/2-14	1.87
1110-08-12	0.50	0.75	1/2-14	3/4-14	1.93
1110-08-16	0.50	1.00	1/2-14	1-11 1/2	2.18
1110-12-04	0.75	0.25	3/4-14	1/4-18	1.82
1110-12-06	0.75	0.38	3/4-14	3/8-18	1.62
1110-12-08	0.75	0.50	3/4-14	1/2-14	1.93
1110-12-12	0.75	0.75	3/4-14	3/4-14	1.93
1110-12-16	0.75	1.00	3/4-14	1-11 1/2	2.18
1110-12-20	0.75	1.25	3/4-14	1 1/4-11 1/2	2.27
1110-16-08	1.00	0.50	1-11 1/2	1/2-14	2.06
1110-16-12	1.00	0.75	1-11 1/2	3/4-14	2.12
1110-16-16	1.00	1.00	1-11 1/2	1-11 1/2	2.37
1110-16-20	1.00	1.25	1-11 1/2	1 1/4-11 1/2	2.46
1110-16-24	1.00	1.50	1-11 1/2	1 1/2-11 1/2	2.47
1110-20-16	1.25	1.00	1 1/4-11 1/2	1-11 1/2	2.52
1110-20-20	1.25	1.25	1 1/4-11 1/2	1 1/4-11 1/2	2.49
1110-20-24	1.25	1.50	1 1/4-11 1/2	1 1/2-11 1/2	2.50
1110-20-32	1.25	2.00	1 1/4-11 1/2	2-11 1/2	2.59
1110-24-20	1.50	1.25	1 1/2-11 1/2	1 1/4-11 1/2	2.20
1110-24-24	1.50	1.50	1 1/2-11 1/2	1 1/2-11 1/2	2.53
1110-24-32	1.50	2.00	1 1/2-11 1/2	2-11 1/2	2.62
1110-32-32	2.00	2.00	2-11 1/2	2-11 1/2	2.62

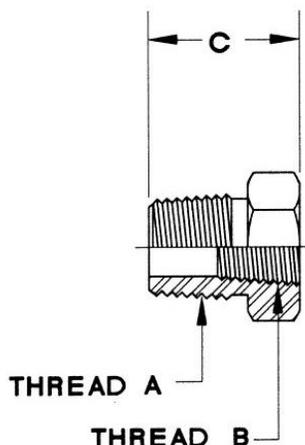


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**1120 SERIES**



**PIPE-PIPE REDUCER**

(140140)

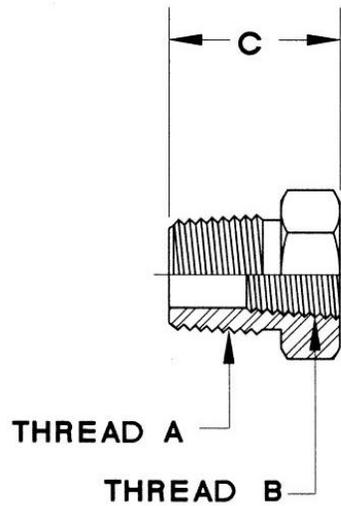
PART NO.	O.D.	THREAD A	THREAD B	DIM C
1120-04-02	0.25	1/4-18	1/8-27	0.85
1120-06-02	0.38	3/8-18	1/8-27	0.85
1120-06-04	0.38	3/8-18	1/4-18	0.85
1120-08-02	0.50	1/2-14	1/8-27	1.10
1120-08-04	0.50	1/2-14	1/4-18	1.10
1120-08-06	0.50	1/2-14	3/8-18	1.10
1120-12-02	0.75	3/4-14	1/8-27	1.17
1120-12-04	0.75	3/4-14	1/4-18	1.17
1120-12-06	0.75	3/4-14	3/8-18	1.17
1120-12-08	0.75	3/4-14	1/2-14	1.17
1120-16-02	1.00	1-11 1/2	1/8-27	1.35
1120-16-04	1.00	1-11 1/2	1/4-18	1.35
1120-16-06	1.00	1-11 1/2	3/8-18	1.35
1120-16-08	1.00	1-11 1/2	1/2-14	1.35
1120-16-12	1.00	1-11 1/2	3/4-14	1.35
1120-20-04	1.25	1 1/4-11 1/2	1/4-18	1.47
1120-20-06	1.25	1 1/4-11 1/2	3/8-18	1.47
1120-20-08	1.25	1 1/4-11 1/2	1/2-14	1.47
1120-20-12	1.25	1 1/4-11 1/2	3/4-14	1.47
1120-20-16	1.25	1 1/4-11 1/2	1-11 1/2	1.47
1120-24-06	1.50	1 1/2-11 1/2	3/8-18	1.57
1120-24-08	1.50	1 1/2-11 1/2	1/2-14	1.57
1120-24-12	1.50	1 1/2-11 1/2	3/4-14	1.57
1120-24-16	1.50	1 1/2-11 1/2	1-11 1/2	1.57
1120-24-20	1.50	1 1/2-11 1/2	1 1/4-11 1/2	1.57
1120-32-08	2.00	2-11 1/2	1/2-14	1.75
1120-32-12	2.00	2-11 1/2	3/4-14	1.75
1120-32-16	2.00	2-11 1/2	1-11 1/2	1.75
1120-32-20	2.00	2-11 1/2	1 1/4-11 1/2	1.75
1120-32-24	2.00	2-11 1/2	1 1/2-11 1/2	1.75

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**1120C SERIES**



**COMPACT REDUCER BUSHING  
(130140)**

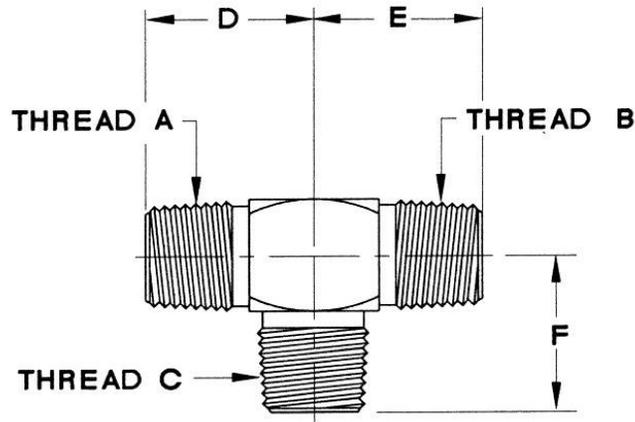
<u>PART NO.</u>	<u>O.D.</u>	<u>THREAD A</u>	<u>THREAD B</u>	<u>DIM C</u>
1120C-04-02	0.25	1/4-18	1/8-27	0.75
1120C-06-02	0.38	3/8-18	1/8-27	0.75
1120C-06-04	0.38	3/8-18	1/4-18	0.75
1120C-08-02	0.50	1/2-14	1/8-27	1.00
1120C-08-04	0.50	1/2-14	1/4-18	1.00
1120C-08-06	0.50	1/2-14	3/8-18	1.00
1120C-12-02	0.75	3/4-14	1/8-27	1.00
1120C-12-04	0.75	3/4-14	1/4-18	1.00
1120C-12-06	0.75	3/4-14	3/8-18	1.00
1120C-12-08	0.75	3/4-14	1/2-14	1.00
1120C-16-02	1.00	1-11 1/2	1/8-27	1.31
1120C-16-04	1.00	1-11 1/2	1/4-18	1.31
1120C-16-06	1.00	1-11 1/2	3/8-18	1.31
1120C-16-08	1.00	1-11 1/2	1/2-14	1.31
1120C-16-12	1.00	1-11 1/2	3/4-14	1.31

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**1130 SERIES**



**MALE PIPE TEE  
(NON STANDARD)**

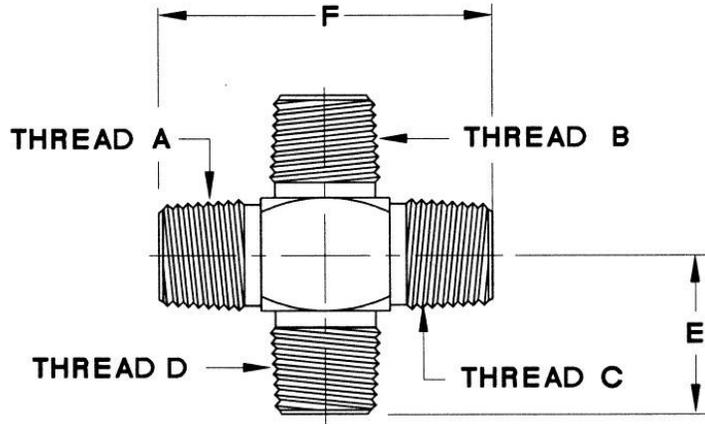
<u>PART NO.</u>	<u>THREAD A</u>	<u>THREAD B</u>	<u>THREAD C</u>	<u>DIM D</u>	<u>DIM E</u>	<u>DIM F</u>
1130-02-02-02	1/8-27	1/8-27	1/8-27	0.78	0.78	0.78
1130-04-04-04	1/4-18	1/4-18	1/4-18	1.09	1.09	1.09
1130-06-06-06	3/8-18	3/8-18	3/8-18	1.22	1.22	1.22
1130-08-08-08	1/2-14	1/2-14	1/2-14	1.47	1.47	1.47
1130-12-12-12	3/4-14	3/4-14	3/4-14	1.59	1.59	1.59
1130-16-16-16	1-11 1/2	1-11 1/2	1-11 1/2	1.97	1.97	1.97
1130-20-20-20	1 1/4-11 1/2	1 1/4-11 1/2	1 1/4-11 1/2	2.38	2.38	2.38
1130-24-24-24	1 1/2-11 1/2	1 1/2-11 1/2	1 1/2-11 1/2	2.64	2.64	2.64
1130-32-32-32	2-11 1/2	2-11 1/2	2-11 1/2	3.00	3.00	3.00

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**1140 SERIES**



**MALE PIPE CROSS  
(NON STANDARD)**

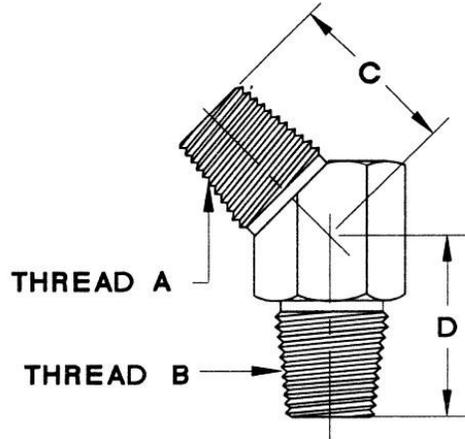
PART NO.	THREAD A	THREAD B	THREAD C	THREAD D	DIM E	DIM F
1140-02-02-02-02	1/8-27	1/8-27	1/8-27	1/8-27	0.78	1.56
1140-04-04-04-04	1/4-18	1/4-18	1/4-18	1/4-18	1.09	2.18
1140-06-06-06-06	3/8-18	3/8-18	3/8-18	3/8-18	1.22	2.44
1140-08-08-08-08	1/2-14	1/2-14	1/2-14	1/2-14	1.47	2.94
1140-12-12-12-12	3/4-14	3/4-14	3/4-14	3/4-14	1.59	3.18
1140-16-16-16-16	1-11 1/2	1-11 1/2	1-11 1/2	1-11 1/2	1.97	3.80
1140-20-20-20-20	1 1/4-11 1/2	1 1/4-11 1/2	1 1/4-11 1/2	1 1/4-11 1/2	2.38	4.76
1140-24-24-24-24	1 1/2-11 1/2	1 1/2-11 1/2	1 1/2-11 1/2	1 1/2-11 1/2	2.64	5.28
1140-32-32-32-32	2-11 1/2	2-11 1/2	2-11 1/2	2-11 1/2	3.00	6.00

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**1145 SERIES**



**45 DEGREE MALE PIPE ELBOW  
(NON STANDARD)**

<b>PART NO.</b>	<b>O.D.</b>	<b>THREAD A</b>	<b>THREAD B</b>	<b>DIM C</b>	<b>DIM D</b>
1145-02-02	0.13	1/8-27	1/8-27	0.64	0.74
1145-04-04	0.25	1/4-18	1/4-18	0.86	1.06
1145-06-06	0.38	3/8-18	3/8-18	0.95	1.00
1145-08-08	0.50	1/2-14	1/2-14	1.08	1.30
1145-12-12	0.75	3/4-14	3/4-14	1.20	1.34
1145-16-16	1.00	1-11 1/2	1-11 1/2	1.48	1.71
1145-20-20	1.25	1 1/4-11 1/2	1 1/4-11 1/2	1.67	1.81
1145-24-24	1.50	1 1/2-11 1/2	1 1/2-11 1/2	1.77	2.30

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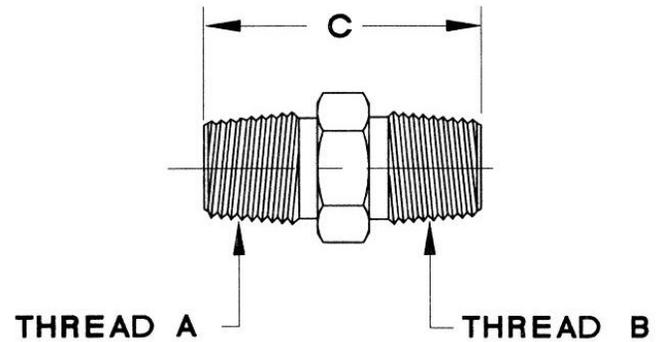


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**HEXAGON PIPE NIPPLE**  
 (140137)

**1150 SERIES**

PART NO.	THREAD A	THREAD B	DIM C
1150-02-02	1/8-27	1/8-27	1.06
1150-04-02	1/4-18	1/8-27	1.25
1150-04-04	1/4-18	1/4-18	1.45
1150-06-02	3/8-18	1/8-27	1.45
1150-06-04	3/8-18	1/4-18	1.45
1150-06-06	3/8-18	3/8-18	1.45
1150-08-04	1/2-14	1/4-18	1.70
1150-08-06	1/2-14	3/8-18	1.70
1150-08-08	1/2-14	1/2-14	1.89
1150-12-04	3/4-14	1/4-18	1.78
1150-12-06	3/4-14	3/8-18	1.77
1150-12-08	3/4-14	1/2-14	1.96
1150-12-12	3/4-14	3/4-14	1.96
1150-16-04	1-11 1/2	1/4-18	1.96
1150-16-06	1-11 1/2	3/8-18	1.97
1150-16-08	1-11 1/2	1/2-14	2.15
1150-16-12	1-11 1/2	3/4-14	2.09
1150-16-16	1-11 1/2	1-11 1/2	2.34
1150-20-12	1 1/4-11 1/2	3/4-14	2.41
1150-20-16	1 1/4-11 1/2	1-11 1/2	2.45
1150-20-20	1 1/4-11 1/2	1 1/4-11 1/2	2.48
1150-24-12	1 1/2-11 1/2	3/4-14	2.38
1150-24-16	1 1/2-11 1/2	1-11 1/2	2.56
1150-24-20	1 1/2-11 1/2	1 1/4-11 1/2	2.59
1150-24-24	1 1/2-11 1/2	1 1/2-11 1/2	2.61
1150-32-16	2-11 1/2	1-11 1/2	2.71
1150-32-20	2-11 1/2	1 1/4-11 1/2	2.76
1150-32-24	2-11 1/2	1 1/2-11 1/2	2.76
1150-32-32	2-11 1/2	2-11 1/2	2.83

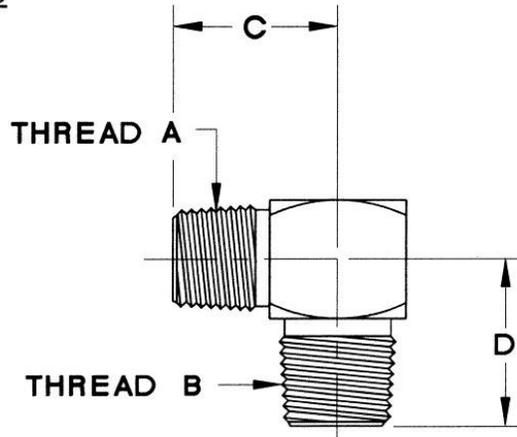


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**1190 SERIES**



**90 DEGREE MALE PIPE ELBOW  
 (NON STANDARD)**

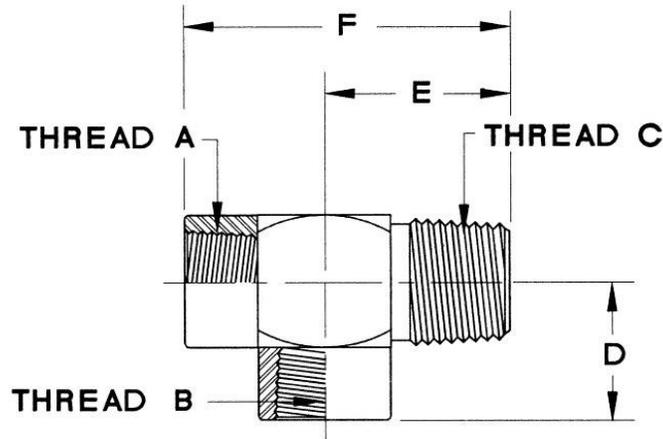
<b>PART NO.</b>	<b>THREAD A</b>	<b>THREAD B</b>	<b>DIM C</b>	<b>DIM D</b>
1190-02-02	1/8-27	1/8-27	0.78	0.78
1190-04-02	1/4-18	1/8-27	1.09	0.83
1190-04-04	1/4-18	1/4-18	1.09	1.09
1190-06-04	3/8-18	1/4-18	1.21	1.18
1190-06-06	3/8-18	3/8-18	1.22	1.22
1190-08-04	1/2-14	1/4-18	1.47	1.25
1190-08-06	1/2-14	3/8-18	1.46	1.28
1190-08-08	1/2-14	1/2-14	1.47	1.47
1190-12-08	3/4-14	1/2-14	1.59	1.56
1190-12-12	3/4-14	3/4-14	1.59	1.59
1190-16-12	1-11 1/2	3/4-14	1.95	1.68
1190-16-16	1-11 1/2	1-11 1/2	1.97	1.97
1190-20-20	1 1/4-11 1/2	1 1/4-11 1/2	2.38	2.38
1190-24-24	1 1/2-11 1/2	1 1/2-11 1/2	2.64	2.64
1190-32-32	2-11 1/2	2-11 1/2	3.00	3.00

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**1220 SERIES**



**PIPE RUN TEE  
(140424)**

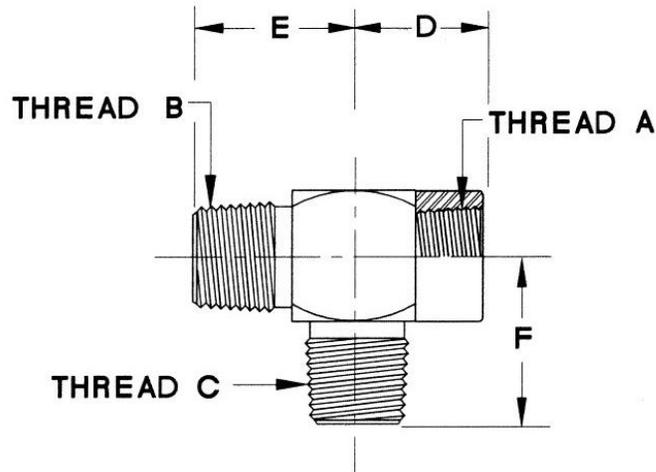
<b>PART NO.</b>	<b>THREAD A</b>	<b>THREAD B</b>	<b>THREAD C</b>	<b>DIM D</b>	<b>DIM E</b>	<b>DIM F</b>
1220-02-02-02	1/8-27	1/8-27	1/8-27	0.66	0.78	1.44
1220-04-02-04	1/4-18	1/8-27	1/4-18	0.72	1.09	1.97
1220-04-04-02	1/4-18	1/4-18	1/8-27	0.88	0.88	1.76
1220-04-04-04	1/4-18	1/4-18	1/4-18	0.88	1.09	1.97
1220-06-06-06	3/8-18	3/8-18	3/8-18	1.02	1.22	2.24
1220-08-08-08	1/2-14	1/2-14	1/2-14	1.23	1.47	2.70
1220-08-12-08	1/2-14	3/4-14	1/2-14	1.36	1.67	3.03
1220-12-08-12	3/4-14	1/2-14	3/4-14	1.36	1.59	2.95
1220-12-12-12	3/4-14	3/4-14	3/4-14	1.36	1.59	2.95
1220-16-16-16	1-11 1/2	1-11 1/2	1-11 1/2	1.62	1.97	3.59
1220-20-20-20	1 1/4-11 1/2	1 1/4-11 1/2	1 1/4-11 1/2	1.70	2.38	4.08
1220-24-24-24	1 1/2-11 1/2	1 1/2-11 1/2	1 1/2-11 1/2	2.08	2.64	4.72
1220-32-32-32	2-11 1/2	2-11 1/2	2-11 1/2	2.39	3.00	5.39

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**1221 SERIES**



**MALE PIPE-FEMALE PIPE RUN TEE  
 (NON STANDARD)**

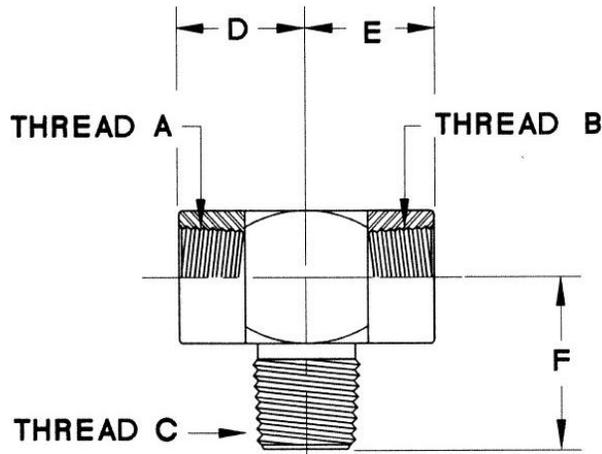
<b>PART NO.</b>	<b>THREAD A</b>	<b>THREAD B</b>	<b>THREAD C</b>	<b>DIM D</b>	<b>DIM E</b>	<b>DIM F</b>
1221-02-02-02	1/8-27	1/8-27	1/8-27	0.66	0.78	0.78
1221-04-04-04	1/4-18	1/4-18	1/4-18	0.88	1.09	1.09
1221-06-06-06	3/8-18	3/8-18	3/8-18	1.02	1.22	1.22
1221-08-08-08	1/2-14	1/2-14	1/2-14	1.23	1.47	1.47
1221-12-12-12	3/4-14	3/4-14	3/4-14	1.36	1.59	1.59
1221-16-16-16	1-11 1/2	1-11 1/2	1-11 1/2	1.62	1.97	1.97

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**1230 SERIES**



**PIPE BRANCH TEE  
(140425)**

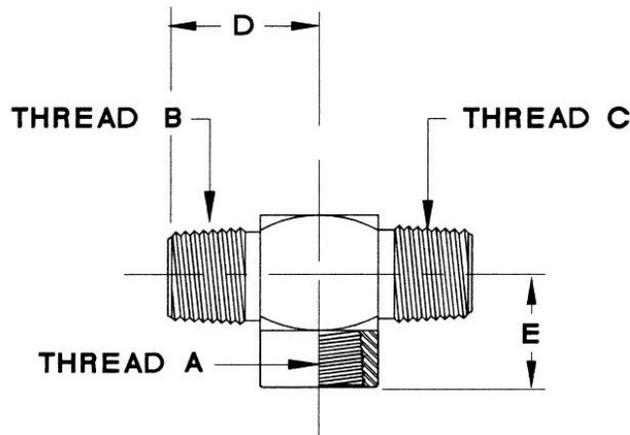
<u>PART NO.</u>	<u>O.D.</u>	<u>THREAD A</u>	<u>THREAD B</u>	<u>THREAD C</u>	<u>DIM D</u>	<u>DIM E</u>	<u>DIM F</u>
1230-02-02-02	0.13	1/8-27	1/8-27	1/8-27	0.66	0.66	0.78
1230-04-04-04	0.25	1/4-18	1/4-18	1/4-18	0.88	0.88	1.09
1230-06-06-06	0.38	3/8-18	3/8-18	3/8-18	1.02	1.02	1.22
1230-08-08-08	0.50	1/2-14	1/2-14	1/2-14	1.23	1.23	1.47
1230-12-12-08	0.75	3/4-14	3/4-14	1/2-14	1.37	1.37	1.59
1230-12-12-12	0.75	3/4-14	3/4-14	3/4-14	1.36	1.36	1.59
1230-16-16-16	1.00	1-11 1/2	1-11 1/2	1-11 1/2	1.63	1.63	1.97
1230-20-20-20	1.25	1 1/4-11 1/2	1 1/4-11 1/2	1 1/4-11 1/2	1.70	1.70	2.38
1230-24-24-24	1.50	1 1/2-11 1/2	1 1/2-11 1/2	1 1/2-11 1/2	2.08	2.08	2.64

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**1231 SERIES**



**MALE PIPE-FEMALE PIPE BRANCH TEE  
 (NON STANDARD)**

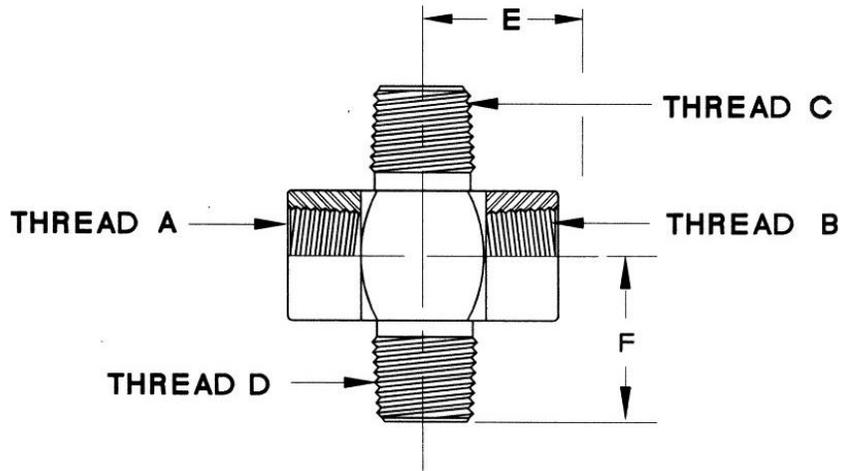
<b>PART NO.</b>	<b>THREAD A</b>	<b>THREAD B</b>	<b>THREAD C</b>	<b>DIM D</b>	<b>DIM E</b>
1231-02-02-02	1/8-27	1/8-27	1/8-27	0.78	0.66
1231-04-04-04	1/4-18	1/4-18	1/4-18	1.09	0.88
1231-06-06-06	3/8-18	3/8-18	3/8-18	1.22	1.02
1231-08-08-08	1/2-14	1/2-14	1/2-14	1.47	1.23
1231-12-12-12	3/4-14	3/4-14	3/4-14	1.59	1.36
1231-16-16-16	1-11 1/2	1-11 1/2	1-11 1/2	1.97	1.62

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**1240 SERIES**



**MALE PIPE-FEMALE PIPE CROSS  
 (NON STANDARD)**

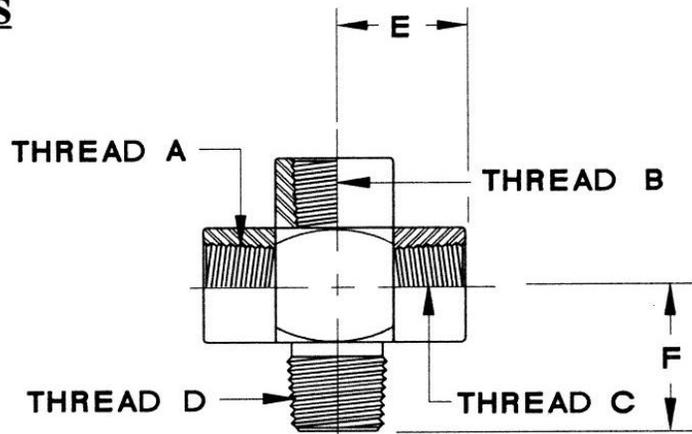
<u>PART NO.</u>	<u>THREAD A</u>	<u>THREAD B</u>	<u>THREAD C</u>	<u>THREAD D</u>	<u>DIM E</u>	<u>DIM F</u>
1240-04-04-04-04	1/4-18	1/4-18	1/4-18	1/4-18	0.88	1.09
1240-06-06-06-06	3/8-18	3/8-18	3/8-18	3/8-18	1.02	1.22
1240-08-08-08-08	1/2-14	1/2-14	1/2-14	1/2-14	1.23	1.47
1240-12-12-12-12	3/4-14	3/4-14	3/4-14	3/4-14	1.36	1.59
1240-16-16-16-16	1-11 1/2	1-11 1/2	1-11 1/2	1-11 1/2	1.62	1.97
1240-20-20-20-20	1 1/4-11 1/2	1 1/4-11 1/2	1 1/4-11 1/2	1 1/4-11 1/2	1.70	2.38

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**1241 SERIES**



**MALE PIPE-FEMALE PIPE CROSS  
 (NON STANDARD)**

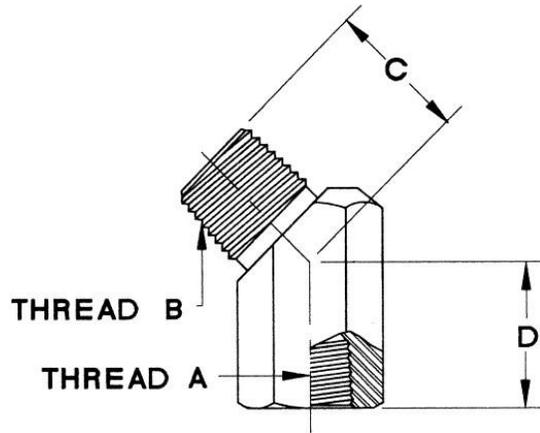
PART NO.	THREAD A	THREAD B	THREAD C	THREAD D	DIM E	DIM F
1241-04-04-04-04	1/4-18	1/4-18	1/4-18	1/4-18	0.88	1.09
1241-06-06-06-06	3/8-18	3/8-18	3/8-18	3/8-18	1.02	1.22
1241-08-08-08-08	1/2-14	1/2-14	1/2-14	1/2-14	1.23	1.47
1241-12-12-12-12	3/4-14	3/4-14	3/4-14	3/4-14	1.36	1.59

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**1245 SERIES**



**45 DEGREE STREET ELBOW  
 (140339)**

PART NO.	PORT SIZE	THREAD A	THREAD B	DIM C	DIM D
1245-02-02	0.13	1/8-27	1/8-27	0.72	0.47
1245-04-04	0.25	1/4-18	1/4-18	1.05	0.63
1245-06-06	0.38	3/8-18	3/8-18	1.06	0.72
1245-08-08	0.50	1/2-14	1/2-14	1.34	0.91
1245-12-12	0.75	3/4-14	3/4-14	1.38	0.97
1245-16-16	1.00	1-11 1/2	1-11 1/2	1.72	1.13
1245-20-20	1.25	1 1/4-11 1/2	1 1/4-11 1/2	1.80	1.63
1245-24-24	1.50	1 1/2-11 1/2	1 1/2-11 1/2	2.06	1.69

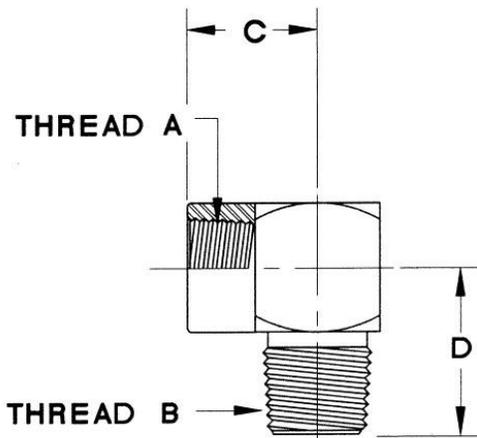
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**1290 SERIES**

**90 DEGREE STREET ELBOW  
 (140239)**



<u>PART NO.</u>	<u>THREAD A</u>	<u>THREAD B</u>	<u>DIM C</u>	<u>DIM D</u>
1290-02-02	1/8-27	1/8-27	0.66	0.78
1290-02-04	1/8-27	1/4-18	0.67	1.09
1290-04-02	1/4-18	1/8-27	0.88	0.91
1290-04-04	1/4-18	1/4-18	0.88	1.09
1290-04-06	1/4-18	3/8-18	0.91	1.22
1290-04-08	1/4-18	1/2-14	0.92	1.47
1290-06-04	3/8-18	1/4-18	1.02	1.22
1290-06-06	3/8-18	3/8-18	1.02	1.22
1290-06-08	3/8-18	1/2-14	1.02	1.47
1290-06-12	3/8-18	3/4-14	1.12	1.59
1290-08-04	1/2-14	1/4-18	1.23	1.26
1290-08-06	1/2-14	3/8-18	1.23	1.38
1290-08-08	1/2-14	1/2-14	1.23	1.47
1290-08-12	1/2-14	3/4-14	1.23	1.59
1290-12-08	3/4-14	1/2-14	1.23	1.59
1290-12-12	3/4-14	3/4-14	1.36	1.59
1290-12-16	3/4-14	1-11 1/2	1.37	1.84
1290-16-12	1-11 1/2	3/4-14	1.63	1.71
1290-16-16	1-11 1/2	1-11 1/2	1.63	1.97
1290-16-20	1-11 1/2	1 1/4-11 1/2	1.68	2.38
1290-20-16	1 1/4-11 1/2	1-11 1/2	1.70	2.16
1290-20-20	1 1/4-11 1/2	1 1/4-11 1/2	1.70	2.38
1290-24-20	1 1/2-11 1/2	1 1/4-11 1/2	2.00	2.50
1290-24-24	1 1/2-11 1/2	1 1/2-11 1/2	2.08	2.64
1290-32-32	2-11 1/2	2-11 1/2	2.39	3.00

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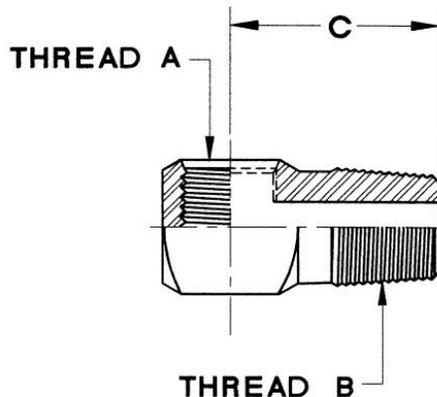
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### 90 DEGREE DOT ELBOW (NON STANDARD)

PART NO.	THREAD A	THREAD B	DIM C
1290C-02-02	1/8-27	1/8-27	0.75
1290C-04-04	1/4-18	1/4-18	0.95
1290C-06-06	3/8-18	3/8-18	1.06
1290C-08-08	1/2-14	1/2-14	1.36

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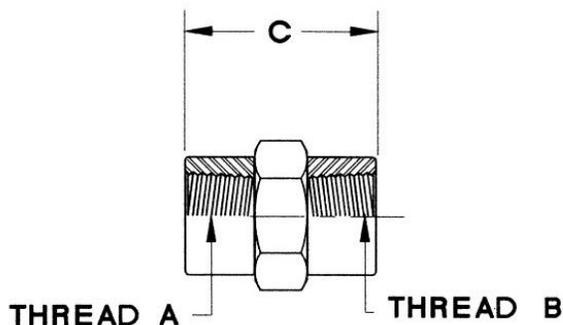
### 1290C SERIES



### HEXAGON PIPE COUPLER (140138)

PART NO.	O.D.	THREAD A	THREAD B	DIM C
1300-02-02	0.12	1/8-27	1/8-27	0.75
1300-04-02	0.25	1/4-18	1/8-27	1.13
1300-04-04	0.25	1/4-18	1/4-18	1.12
1300-06-02	0.37	3/8-18	1/8-27	1.13
1300-06-04	0.37	3/8-18	1/4-18	1.13
1300-06-06	0.37	3/8-18	3/8-18	1.12
1300-08-02	0.50	1/2-14	1/8-27	1.50
1300-08-04	0.50	1/2-14	1/4-18	1.50
1300-08-06	0.50	1/2-14	3/8-18	1.50
1300-08-08	0.50	1/2-14	1/2-14	1.50
1300-12-06	0.75	3/4-14	3/8-18	1.53
1300-12-08	0.75	3/4-14	1/2-14	1.53
1300-12-12	0.75	3/4-14	3/4-14	1.53
1300-16-08	1.00	1-11 1/2	1/2-14	1.89
1300-16-12	1.00	1-11 1/2	3/4-14	1.89
1300-16-16	1.00	1-11 1/2	1-11 1/2	1.89
1300-20-16	1.25	1 1/4-11 1/2	1-11 1/2	1.93
1300-20-20	1.25	1 1/4-11 1/2	1 1/4-11 1/2	1.93
1300-24-20	1.50	1 1/2-11 1/2	1 1/4-11 1/2	1.93
1300-24-24	1.50	1 1/2-11 1/2	1 1/2-11 1/2	1.93
1300-32-32	2.00	2-11 1/2	2-11 1/2	1.96

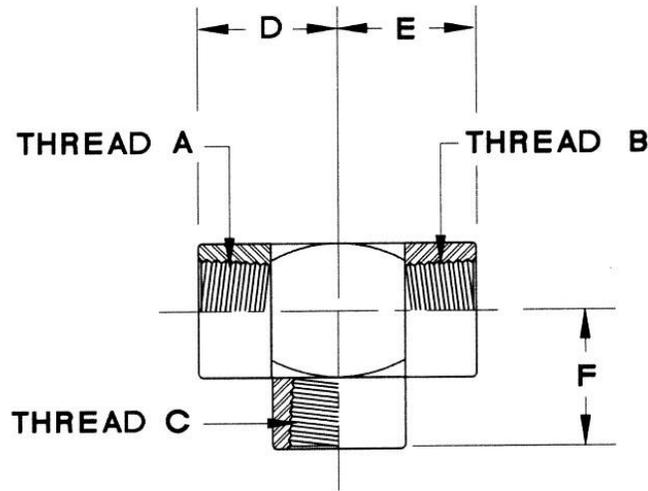
### 1300 SERIES





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**1330 SERIES**



**FEMALE PIPE TEE  
(140438)**

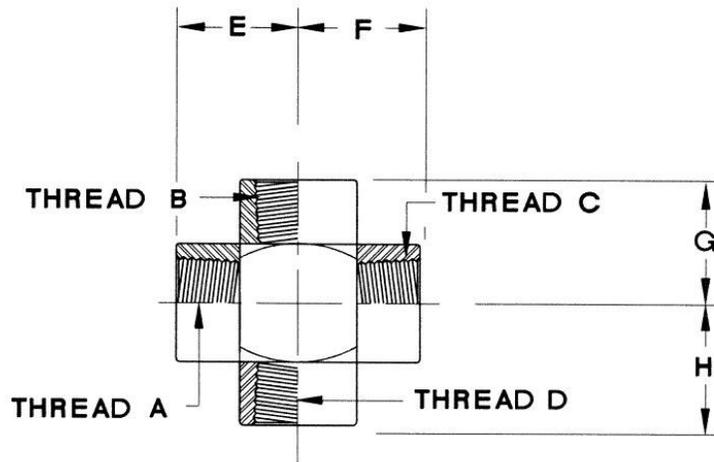
<u>PART NO.</u>	<u>THREAD A</u>	<u>THREAD B</u>	<u>THREAD C</u>	<u>DIM D</u>	<u>DIM E</u>	<u>DIM F</u>
1330-02-02-02	1/8-27	1/8-27	1/8-27	0.66	0.66	0.66
1330-04-04-04	1/4-18	1/4-18	1/4-18	0.88	0.88	0.88
1330-06-06-06	3/8-18	3/8-18	3/8-18	1.02	1.02	1.02
1330-06-06-08	3/8-18	3/8-18	1/2-14	1.14	1.14	1.23
1330-08-08-08	1/2-14	1/2-14	1/2-14	1.23	1.23	1.23
1330-12-12-12	3/4-14	3/4-14	3/4-14	1.36	1.36	1.36
1330-16-16-12	1-11 1/2	1-11 1/2	3/4-14	1.63	1.63	1.50
1330-16-16-16	1-11 1/2	1-11 1/2	1-11 1/2	1.63	1.63	1.63
1330-20-20-20	1 1/4-11 1/2	1 1/4-11 1/2	1 1/4-11 1/2	1.70	1.70	1.70
1330-24-24-24	1 1/2-11 1/2	1 1/2-11 1/2	1 1/2-11 1/2	2.08	2.08	2.08
1330-32-32-32	2-11 1/2	2-11 1/2	2-11 1/2	2.39	2.39	2.39

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**1340 SERIES**



**FEMALE PIPE CROSS  
(NON STANDARD)**

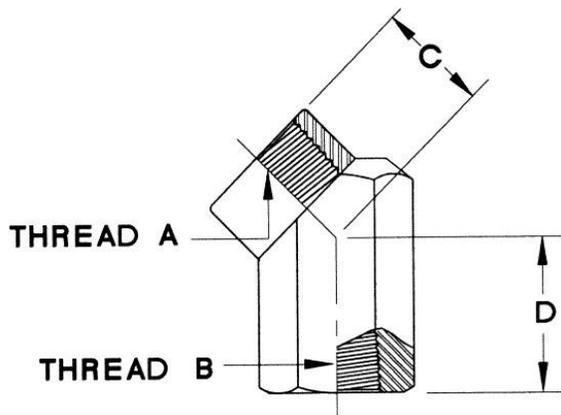
PART NO.	O.D.	THREAD A	THREAD B	THREAD C	THREAD D	DIM E	DIM F	DIM G	DIM H
1340-02-02-02-02	0.13	1/8-27	1/8-27	1/8-27	1/8-27	0.66	0.66	0.66	0.66
1340-04-04-04-04	0.25	1/4-18	1/4-18	1/4-18	1/4-18	0.88	0.88	0.88	0.88
1340-06-06-06-06	0.38	3/8-18	3/8-18	3/8-18	3/8-18	1.02	1.02	1.02	1.02
1340-08-08-08-08	0.50	1/2-14	1/2-14	1/2-14	1/2-14	1.23	1.23	1.23	1.23
1340-12-12-12-12	0.75	3/4-14	3/4-14	3/4-14	3/4-14	1.36	1.36	1.36	1.36
1340-16-16-16-16	1.00	1-11 1/2	1-11 1/2	1-11 1/2	1-11 1/2	1.63	1.63	1.63	1.63
1340-20-20-20-20	1.25	1 1/4-11 1/2	1 1/4-11 1/2	1 1/4-11 1/2	1 1/4-11 1/2	1.70	1.70	1.70	1.70
1340-24-24-24-24	1.50	1 1/2-11 1/2	1 1/2-11 1/2	1 1/2-11 1/2	1 1/2-11 1/2	2.08	2.08	2.08	2.08
1340-32-32-32-32	2.00	2-11 1/2	2-11 1/2	2-11 1/2	2-11 1/2	2.39	2.39	2.39	2.39

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**1345 SERIES**

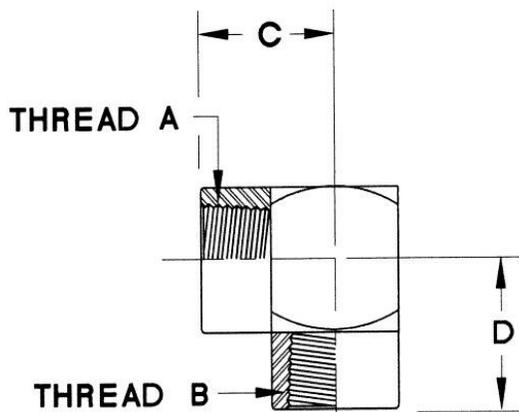


**45 DEGREE FEMALE ELBOW  
(140338)**

PART NO.	THREAD A	THREAD B	DIM C	DIM D
1345-02-02	1/8-27	1/8-27	0.51	0.51
1345-04-04	1/4-18	1/4-18	0.66	0.66
1345-06-06	3/8-18	3/8-18	0.75	0.75
1345-08-08	1/2-14	1/2-14	0.92	0.92
1345-12-12	3/4-14	3/4-14	0.97	0.97
1345-16-16	1-11 1/2	1-11 1/2	1.16	1.16

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**1390 SERIES**



**90 DEGREE FEMALE PIPE ELBOW  
(140238)**

PART NO.	THREAD A	THREAD B	DIM C	DIM D
1390-02-02	1/8-27	1/8-27	0.66	0.66
1390-04-02	1/4-18	1/8-27	0.88	0.72
1390-04-04	1/4-18	1/4-18	0.88	0.88
1390-06-04	3/8-18	1/4-18	1.02	0.93
1390-06-06	3/8-18	3/8-18	1.02	1.02
1390-08-04	1/2-14	1/4-18	1.23	1.09
1390-08-06	1/2-14	3/8-18	1.23	1.14
1390-08-08	1/2-14	1/2-14	1.23	1.23
1390-12-08	3/4-14	1/2-14	1.36	1.36
1390-12-12	3/4-14	3/4-14	1.36	1.36
1390-16-12	1-11 1/2	3/4-14	1.63	1.48
1390-16-16	1-11 1/2	1-11 1/2	1.63	1.63
1390-20-20	1 1/4-11 1/2	1 1/4-11 1/2	1.70	1.70
1390-24-24	1 1/2-11 1/2	1 1/2-11 1/2	2.08	2.08
1390-32-32	2-11 1/2	2-11 1/2	2.39	2.39

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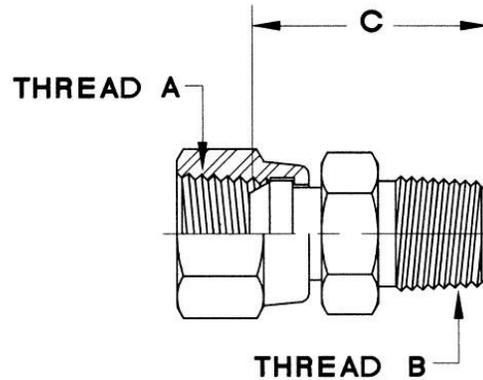


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**STRAIGHT ADAPTER UNION**  
 (140130)

**1400 SERIES**

PART NO.	THREAD A	THREAD B	DIM C
1400-02-02	1/8-27	1/8-27	0.88
1400-02-04	1/8-27	1/4-18	1.19
1400-04-02	1/4-18	1/8-27	1.09
1400-04-04	1/4-18	1/4-18	1.26
1400-04-06	1/4-18	3/8-18	1.33
1400-04-08	1/4-18	1/2-14	1.58
1400-06-04	3/8-18	1/4-18	1.35
1400-06-06	3/8-18	3/8-18	1.35
1400-06-08	3/8-18	1/2-14	1.57
1400-08-04	1/2-14	1/4-18	1.53
1400-08-06	1/2-14	3/8-18	1.39
1400-08-08	1/2-14	1/2-14	1.63
1400-08-12	1/2-14	3/4-14	1.66
1400-12-06	3/4-14	3/8-18	1.56
1400-12-08	3/4-14	1/2-14	1.67
1400-12-12	3/4-14	3/4-14	1.68
1400-12-16	3/4-14	1-11 1/2	1.92
1400-12-20	3/4-14	1 1/4-11 1/2	1.84
1400-16-06	1-11 1/2	3/8-18	1.81
1400-16-08	1-11 1/2	1/2-14	1.83
1400-16-12	1-11 1/2	3/4-14	1.80
1400-16-16	1-11 1/2	1-11 1/2	2.00
1400-16-20	1-11 1/2	1 1/4-11 1/2	2.05
1400-20-16	1 1/4-11 1/2	1-11 1/2	2.11
1400-20-20	1 1/4-11 1/2	1 1/4-11 1/2	2.07
1400-20-24	1 1/4-11 1/2	1 1/2-11 1/2	2.18
1400-24-20	1 1/2-11 1/2	1 1/4-11 1/2	2.11
1400-24-24	1 1/2-11 1/2	1 1/2-11 1/2	2.25
1400-32-32	2-11 1/2	2-11 1/2	2.43

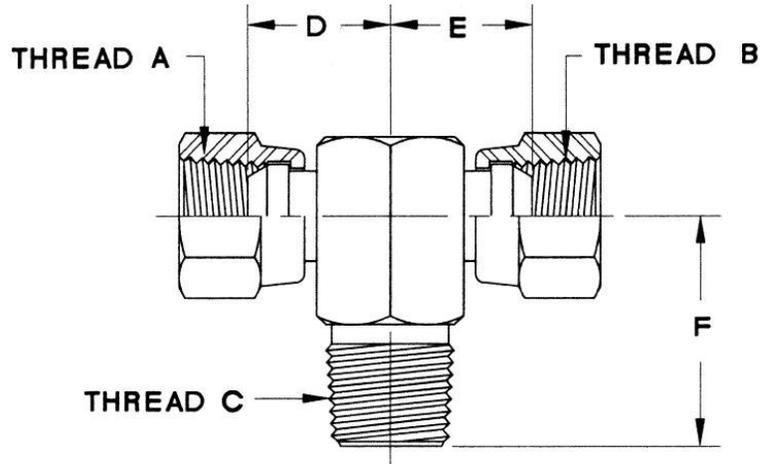


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**1430 SERIES**



**TEE ADAPTER UNION  
(NON STANDARD)**

PART NO.	THREAD A	THREAD B	THREAD C	DIM D	DIM E	DIM F
1430-02-02-02	1/8-27	1/8-27	1/8-27	0.68	0.68	0.94
1430-04-04-02	1/4-18	1/4-18	1/8-27	0.75	0.75	1.06
1430-04-04-04	1/4-18	1/4-18	1/4-18	0.78	0.78	1.25
1430-04-04-06	1/4-18	1/4-18	3/8-18	0.87	0.87	1.19
1430-04-04-08	1/4-18	1/4-18	1/2-14	0.87	0.87	1.21
1430-06-06-04	3/8-18	3/8-18	1/4-18	0.86	0.86	1.50
1430-06-06-06	3/8-18	3/8-18	3/8-18	0.92	0.92	1.50
1430-06-06-08	3/8-18	3/8-18	1/2-14	0.92	0.92	1.69
1430-08-08-08	1/2-14	1/2-14	1/2-14	1.00	1.00	1.87
1430-08-08-12	1/2-14	1/2-14	3/4-14	1.05	1.05	1.75
1430-12-12-12	3/4-14	3/4-14	3/4-14	1.14	1.14	2.00
1430-12-12-16	3/4-14	3/4-14	1-11 1/2	1.27	1.27	2.44
1430-16-16-12	1-11 1/2	1-11 1/2	3/4-14	1.44	1.44	2.31
1430-16-16-16	1-11 1/2	1-11 1/2	1-11 1/2	1.31	1.31	2.44
1430-20-20-20	1 1/4-11 1/2	1 1/4-11 1/2	1 1/4-11 1/2	1.50	1.50	2.56
1430-24-24-24	1 1/2-11 1/2	1 1/2-11 1/2	1 1/2-11 1/2	1.75	1.75	2.81
1430-32-32-32	2-11 1/2	2-11 1/2	2-11 1/2	2.31	2.31	3.30

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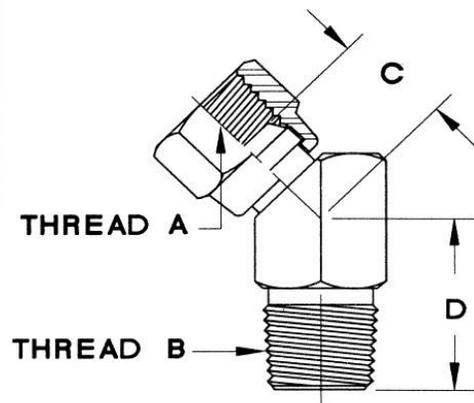


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**45 DEGREE ADAPTER UNION**  
**(140330)**

**1445 SERIES**

<b>PART NO.</b>	<b>THREAD A</b>	<b>THREAD B</b>	<b>DIM C</b>	<b>DIM D</b>
1445-02-02	1/8-27	1/8-27	0.62	0.64
1445-02-04	1/8-27	1/4-18	0.68	0.86
1445-04-02	1/4-18	1/8-27	0.68	0.65
1445-04-04	1/4-18	1/4-18	0.82	0.86
1445-04-06	1/4-18	3/8-18	0.82	0.95
1445-04-08	1/4-18	1/2-14	0.82	1.17
1445-06-04	3/8-18	1/4-18	0.82	0.95
1445-06-06	3/8-18	3/8-18	0.82	1.06
1445-06-08	3/8-18	1/2-14	0.82	1.17
1445-06-12	3/8-18	3/4-14	0.90	1.20
1445-08-04	1/2-14	1/4-18	0.80	0.95
1445-08-06	1/2-14	3/8-18	0.88	1.38
1445-08-08	1/2-14	1/2-14	0.88	1.31
1445-08-12	1/2-14	3/4-14	0.95	1.20
1445-12-08	3/4-14	1/2-14	1.00	1.31
1445-12-12	3/4-14	3/4-14	1.00	1.56
1445-12-16	3/4-14	1-11 1/2	1.12	1.48
1445-16-12	1-11 1/2	3/4-14	1.15	1.29
1445-16-16	1-11 1/2	1-11 1/2	1.29	1.56
1445-16-20	1-11 1/2	1 1/4-11 1/2	1.35	1.67
1445-20-16	1 1/4-11 1/2	1-11 1/2	1.16	1.75
1445-20-20	1 1/4-11 1/2	1 1/4-11 1/2	1.25	1.87
1445-24-24	1 1/2-11 1/2	1 1/2-11 1/2	1.44	2.03
1445-32-32	2-11 1/2	2-11 1/2	1.56	2.11

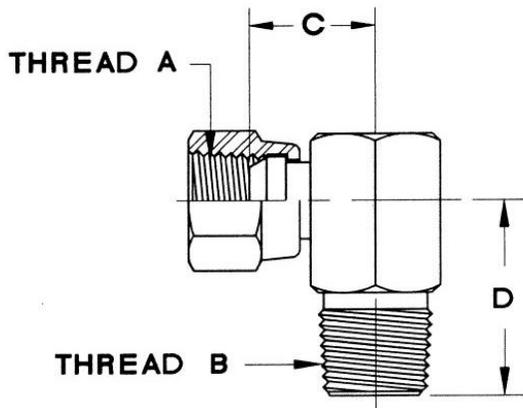


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**1490 SERIES**



**90 DEGREE ADAPTER UNION  
(140230)**

PART NO.	THREAD A	THREAD B	DIM C	DIM D
1490-02-02	1/8-27	1/8-27	0.68	0.94
1490-02-04	1/8-27	1/4-18	0.70	1.25
1490-04-02	1/4-18	1/8-27	0.75	1.06
1490-04-04	1/4-18	1/4-18	0.78	1.25
1490-04-06	1/4-18	3/8-18	0.87	1.19
1490-04-08	1/4-18	1/2-14	0.89	1.21
1490-04-12	1/4-18	3/4-14	0.97	1.30
1490-06-04	3/8-18	1/4-18	0.86	1.50
1490-06-06	3/8-18	3/8-18	0.92	1.50
1490-06-08	3/8-18	1/2-14	0.92	1.69
1490-06-12	3/8-18	3/4-14	0.97	1.30
1490-08-04	1/2-14	1/4-18	1.00	1.62
1490-08-06	1/2-14	3/8-18	0.92	1.50
1490-08-08	1/2-14	1/2-14	1.00	1.87
1490-08-12	1/2-14	3/4-14	1.05	1.75
1490-08-16	1/2-14	1-11 1/2	1.19	1.75
1490-12-06	3/4-14	3/8-18	1.12	1.75
1490-12-08	3/4-14	1/2-14	1.14	2.00
1490-12-12	3/4-14	3/4-14	1.14	2.06
1490-12-16	3/4-14	1-11 1/2	1.27	2.31
1490-12-20	3/4-14	1 1/4-11 1/2	1.44	1.90
1490-16-08	1-11 1/2	1/2-14	1.44	1.90
1490-16-12	1-11 1/2	3/4-14	1.44	1.95
1490-16-16	1-11 1/2	1-11 1/2	1.31	1.95
1490-16-20	1-11 1/2	1 1/4-11 1/2	1.50	2.56
1490-20-12	1 1/4-11 1/2	3/4-14	1.50	2.37
1490-20-16	1 1/4-11 1/2	1-11 1/2	1.50	2.56
1490-20-20	1 1/4-11 1/2	1 1/4-11 1/2	1.50	2.56
1490-20-24	1 1/4-11 1/2	1 1/2-11 1/2	1.88	2.81
1490-24-20	1 1/2-11 1/2	1 1/4-11 1/2	1.72	2.81
1490-24-24	1 1/2-11 1/2	1 1/2-11 1/2	1.80	2.81
1490-32-32	2-11 1/2	2-11 1/2	2.31	3.30

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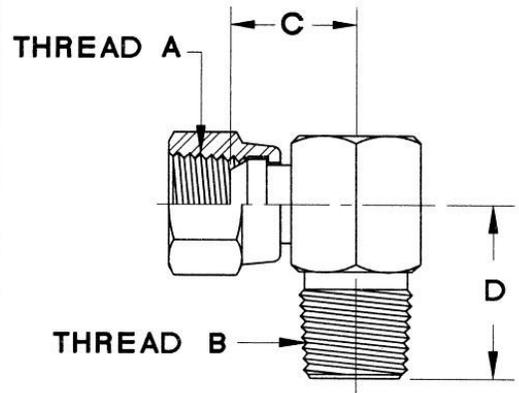
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**90 DEGREE ADAPTER UNION COMPACT  
 (NON STANDARD)**

**1490C SERIES**

<u>PART NO.</u>	<u>THREAD A</u>	<u>THREAD B</u>	<u>DIM C</u>	<u>DIM D</u>
1490C-02-02	1/8-27	1/8-27	0.68	0.72
1490C-04-04	1/4-18	1/4-18	0.78	1.09
1490C-06-06	3/8-18	3/8-18	0.92	1.22
1490C-08-08	1/2-14	1/2-14	1.00	1.47
1490C-12-12	3/4-14	3/4-14	1.14	1.59
1490C-16-16	1-11 1/2	1-11 1/2	1.31	1.97
1490C-20-20	1 1/4-11 1/2	1 1/4-11 1/2	1.50	2.38
1490C-24-24	1 1/2-11 1/2	1 1/2-11 1/2	1.75	2.64
1490C-32-32	2-11 1/2	2-11 1/2	2.31	2.70

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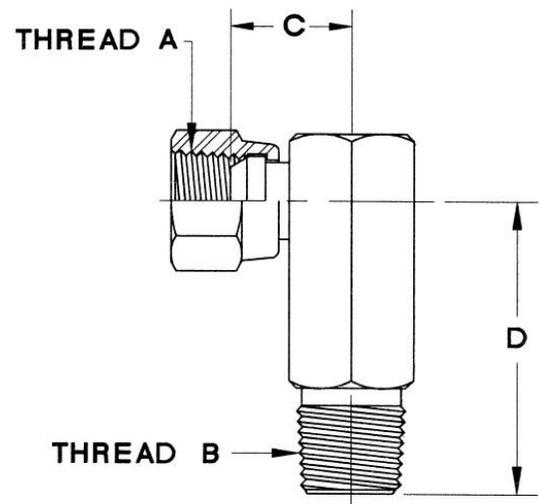


**90 DEGREE ADAPTER UNION LONG  
 (NON STANDARD)**

**1490L SERIES**

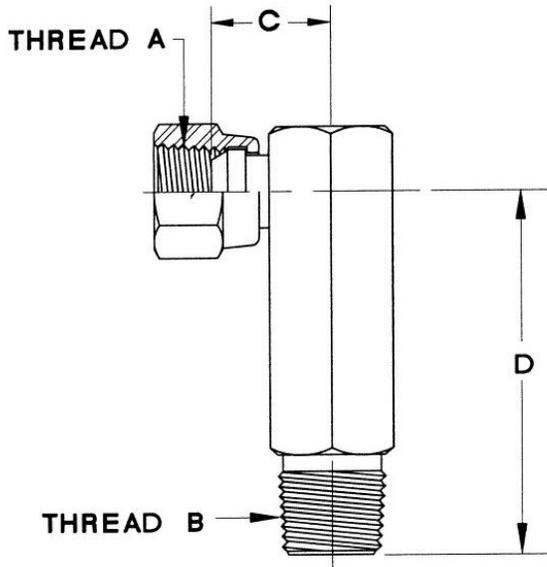
<u>PART NO.</u>	<u>THREAD A</u>	<u>THREAD B</u>	<u>DIM C</u>	<u>DIM D</u>
1490L-02-02	1/8-27	1/8-27	0.68	1.64
1490L-04-04	1/4-18	1/4-18	0.78	2.25
1490L-06-06	3/8-18	3/8-18	0.92	2.76
1490L-08-08	1/2-14	1/2-14	1.00	3.19
1490L-12-12	3/4-14	3/4-14	1.14	3.66

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## 90 DEGREE ADAPTER UNION EXTRA LONG (NON STANDARD)

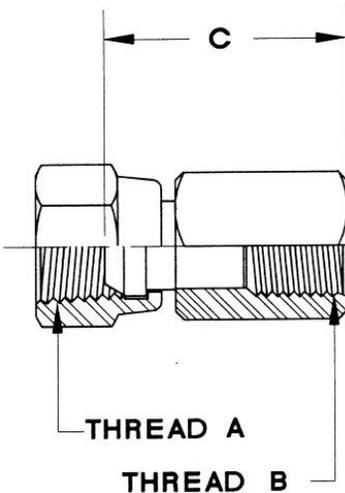
### 1490XL SERIES



PART NO.	THREAD A	THREAD B	DIM C	DIM D
1490XL-02-02	1/8-27	1/8-27	0.68	1.64
1490XL-04-04	1/4-18	1/4-18	0.78	2.25
1490XL-06-06	3/8-18	3/8-18	0.82	2.76
1490XL-08-08	1/2-14	1/2-14	1.00	3.50
1490XL-12-12	3/4-14	3/4-14	1.14	3.66
1490XL-16-16	1-11 1/2	1-11 1/2	1.31	4.31

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### 1500 SERIES



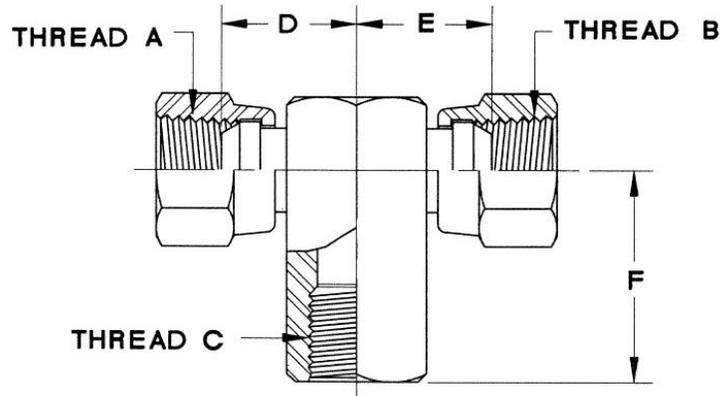
## FEMALE ADAPTER UNION (140131)

PART NO.	THREAD A	THREAD B	DIM C
1500-02-02	1/8-27	1/8-27	0.75
1500-02-04	1/8-27	1/4-18	1.17
1500-04-02	1/4-18	1/8-27	1.11
1500-04-04	1/4-18	1/4-18	1.19
1500-04-06	1/4-18	3/8-18	1.23
1500-04-08	1/4-18	1/2-14	1.50
1500-06-04	3/8-18	1/4-18	1.22
1500-06-06	3/8-18	3/8-18	1.22
1500-06-08	3/8-18	1/2-14	1.47
1500-08-04	1/2-14	1/4-18	1.41
1500-08-06	1/2-14	3/8-18	1.41
1500-08-08	1/2-14	1/2-14	1.41
1500-08-12	1/2-14	3/4-14	1.50
1500-12-08	3/4-14	1/2-14	1.50
1500-12-12	3/4-14	3/4-14	1.56
1500-12-16	3/4-14	1-11 1/2	1.91
1500-16-12	1-11 1/2	3/4-14	1.92
1500-16-16	1-11 1/2	1-11 1/2	1.92
1500-20-20	1 1/4-11 1/2	1 1/4-11 1/2	1.92
1500-24-24	1 1/2-11 1/2	1 1/2-11 1/2	1.92
1500-32-32	2-11 1/2	2-11 1/2	2.16



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**1530 SERIES**



**TEE ADAPTER UNION  
(NON STANDARD)**

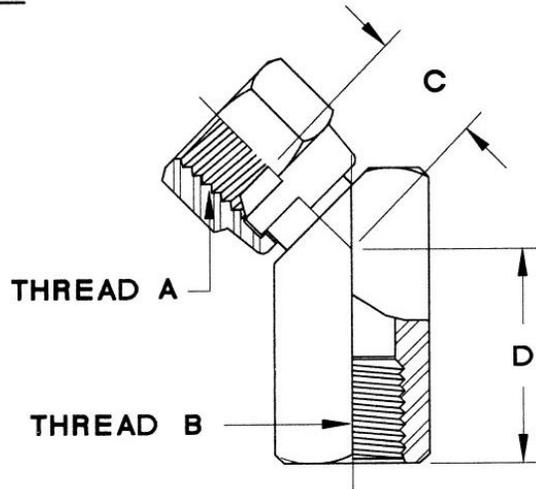
<b>PART NO.</b>	<b>THREAD A</b>	<b>THREAD B</b>	<b>THREAD C</b>	<b>DIM D</b>	<b>DIM E</b>	<b>DIM F</b>
1530-02-02-02	1/8-27	1/8-27	1/8-27	0.65	0.65	0.68
1530-04-04-04	1/4-18	1/4-18	1/4-18	0.78	0.78	0.94
1530-04-04-06	1/4-18	1/4-18	3/8-18	0.87	0.87	1.06
1530-06-06-06	3/8-18	3/8-18	3/8-18	0.92	0.92	1.06
1530-06-06-08	3/8-18	3/8-18	1/2-14	0.99	0.99	1.25
1530-08-08-08	1/2-14	1/2-14	1/2-14	1.00	1.00	1.25
1530-08-08-12	1/2-14	1/2-14	3/4-14	1.12	1.12	1.43
1530-12-12-08	3/4-14	3/4-14	1/2-14	1.19	1.19	1.43
1530-12-12-12	3/4-14	3/4-14	3/4-14	1.19	1.19	1.43
1530-12-12-16	3/4-14	3/4-14	1-11 1/2	1.27	1.27	1.75
1530-16-16-16	1-11 1/2	1-11 1/2	1-11 1/2	1.31	1.31	1.75
1530-20-20-20	1 1/4-11 1/2	1 1/4-11 1/2	1 1/4-11 1/2	1.62	1.62	2.00
1530-24-24-24	1 1/2-11 1/2	1 1/2-11 1/2	1 1/2-11 1/2	1.75	1.75	2.25
1530-32-32-32	2-11 1/2	2-11 1/2	2-11 1/2	2.31	2.31	2.50

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**1545 SERIES**



**45 DEGREE ADAPTER UNION  
(140331)**

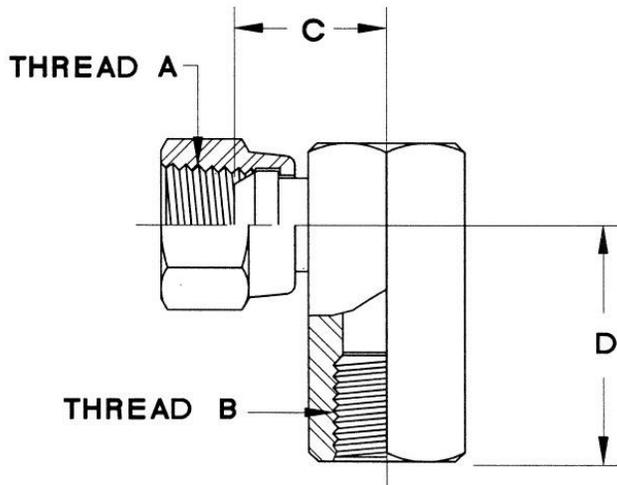
<u>PART NO.</u>	<u>THREAD A</u>	<u>THREAD B</u>	<u>DIM C</u>	<u>DIM D</u>
1545-02-02	1/8-27	1/8-27	0.62	0.73
1545-04-02	1/4-18	1/8-27	0.68	0.90
1545-04-04	1/4-18	1/4-18	0.68	0.90
1545-04-06	1/4-18	3/8-18	0.82	1.06
1545-06-04	3/8-18	1/4-18	0.82	1.00
1545-06-06	3/8-18	3/8-18	0.82	1.06
1545-06-08	3/8-18	1/2-14	0.82	1.18
1545-08-06	1/2-14	3/8-18	0.88	1.18
1545-08-08	1/2-14	1/2-14	0.88	1.18
1545-12-12	3/4-14	3/4-14	1.13	1.25
1545-12-16	3/4-14	1-11 1/2	1.25	1.56
1545-16-16	1-11 1/2	1-11 1/2	1.29	1.56
1545-20-20	1 1/4-11 1/2	1 1/4-11 1/2	1.32	1.78
1545-24-24	1 1/2-11 1/2	1 1/2-11 1/2	1.25	1.96
1545-32-32	2-11 1/2	2-11 1/2	1.50	2.00

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**1590 SERIES**



**90 DEGREE ADAPTER UNION  
(140231)**

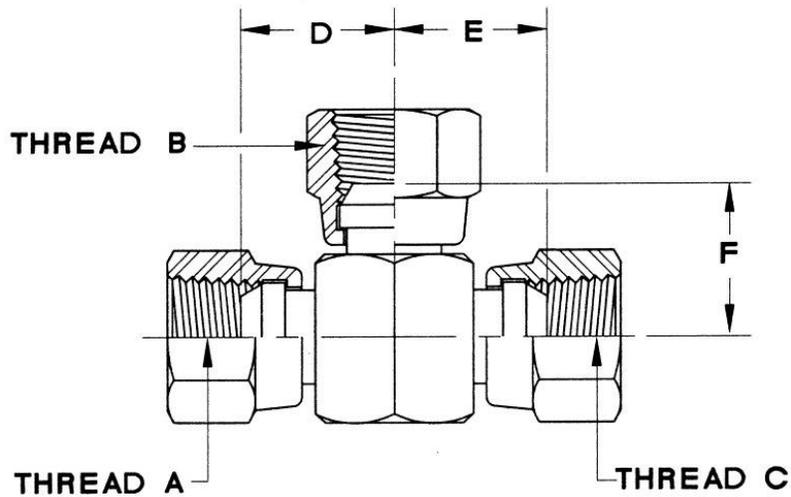
<u>PART NO.</u>	<u>THREAD A</u>	<u>THREAD B</u>	<u>DIM C</u>	<u>DIM D</u>
1590-02-02	1/8-27	1/8-27	0.65	0.68
1590-02-04	1/8-27	1/4-18	0.75	0.94
1590-04-02	1/4-18	1/8-27	0.78	0.94
1590-04-04	1/4-18	1/4-18	0.78	0.94
1590-04-06	1/4-18	3/8-18	0.87	1.06
1590-04-08	1/4-18	1/2-14	0.93	1.25
1590-06-04	3/8-18	1/4-18	0.92	1.06
1590-06-06	3/8-18	3/8-18	0.92	1.06
1590-06-08	3/8-18	1/2-14	0.99	1.25
1590-08-06	1/2-14	3/8-18	1.00	1.25
1590-08-08	1/2-14	1/2-14	1.00	1.25
1590-08-12	1/2-14	3/4-14	1.12	1.43
1590-12-08	3/4-14	1/2-14	1.19	1.43
1590-12-12	3/4-14	3/4-14	1.19	1.43
1590-12-16	3/4-14	1-11 1/2	1.27	1.75
1590-16-12	1-11 1/2	3/4-14	1.31	1.75
1590-16-16	1-11 1/2	1-11 1/2	1.31	1.75
1590-16-20	1-11 1/2	1 1/4-11 1/2	1.55	2.00
1590-20-20	1 1/4-11 1/2	1 1/4-11 1/2	1.62	2.00
1590-24-24	1 1/2-11 1/2	1 1/2-11 1/2	1.75	2.25
1590-32-32	2-11 1/2	2-11 1/2	2.31	2.50

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**1630 SERIES**



**ADAPTER UNION TEE  
(NON STANDARD)**

<b>PART NO.</b>	<b>THREAD A</b>	<b>THREAD B</b>	<b>THREAD C</b>	<b>DIM D</b>	<b>DIM E</b>	<b>DIM F</b>
1630-02-02-02	1/8-27	1/8-27	1/8-27	0.70	0.70	0.70
1630-04-04-04	1/4-18	1/4-18	1/4-18	0.78	0.78	0.78
1630-06-06-06	3/8-18	3/8-18	3/8-18	0.94	0.94	0.94
1630-08-08-08	1/2-14	1/2-14	1/2-14	1.00	1.00	1.00
1630-12-12-12	3/4-14	3/4-14	3/4-14	1.19	1.19	1.19
1630-16-16-16	1-11 1/2	1-11 1/2	1-11 1/2	1.44	1.44	1.44
1630-20-20-20	1 1/4-11 1/2	1 1/4-11 1/2	1 1/4-11 1/2	1.65	1.65	1.65

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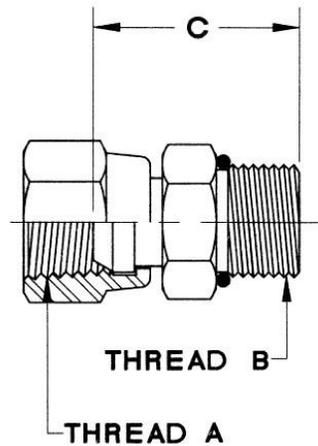


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**STRAIGHT THREAD UNION ADAPTER**  
 (140157)

**1700 SERIES**

PART NO.	O.D.	THREAD A	THREAD B	DIM C
1700-02-04	0.13	1/8-27	7/16-20	0.96
1700-04-04	0.25	1/4-18	7/16-20	1.10
1700-04-05	0.25	1/4-18	1/2-20	1.12
1700-04-06	0.25	1/4-18	9/16-18	1.13
1700-04-08	0.25	1/4-18	3/4-16	1.23
1700-06-04	0.38	3/8-18	7/16-20	1.12
1700-06-06	0.38	3/8-18	9/16-18	1.12
1700-06-08	0.38	3/8-18	3/4-16	1.26
1700-06-10	0.38	3/8-18	7/8-14	1.35
1700-06-12	0.38	3/8-18	1 1/16-12	1.53
1700-08-04	0.50	1/2-14	7/16-20	1.21
1700-08-05	0.50	1/2-14	1/2-20	1.21
1700-08-06	0.50	1/2-14	9/16-18	1.32
1700-08-08	0.50	1/2-14	3/4-16	1.19
1700-08-10	0.50	1/2-14	7/8-14	1.35
1700-08-12	0.50	1/2-14	1 1/16-12	1.43
1700-08-16	0.50	1/2-14	1 5/16-12	1.61
1700-12-08	0.75	3/4-14	3/4-16	1.40
1700-12-10	0.75	3/4-14	7/8-14	1.43
1700-12-12	0.75	3/4-14	1 1/16-12	1.58
1700-12-14	0.75	3/4-14	1 3/16-12	1.68
1700-12-16	0.75	3/4-14	1 5/16-12	1.71
1700-12-20	0.75	3/4-14	1 5/8-12	1.78
1700-16-12	1.00	1-11 1/2	1 1/16-12	1.63
1700-16-14	1.00	1-11 1/2	1 3/16-12	1.73
1700-16-16	1.00	1-11 1/2	1 5/16-12	1.76
1700-16-20	1.00	1-11 1/2	1 5/8-12	1.82
1700-20-16	1.25	1 1/4-11 1/2	1 5/16-12	1.81
1700-20-20	1.25	1 1/4-11 1/2	1 5/8-12	1.68
1700-20-24	1.25	1 1/4-11 1/2	1 7/8-12	1.72
1700-24-24	1.50	1 1/2-11 1/2	1 7/8-12	1.72
1700-32-32	2.00	2-11 1/2	2 1/2-12	2.22

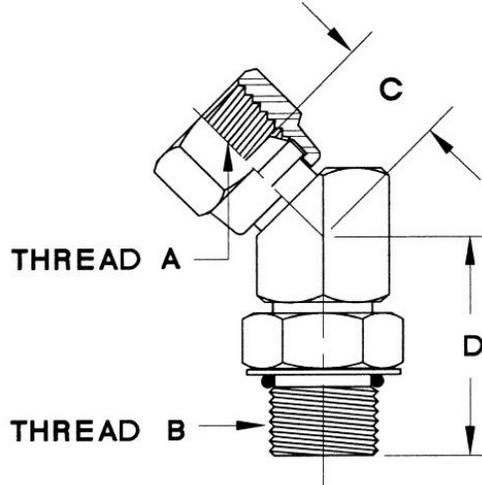


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**1745 SERIES**



**STRAIGHT THREAD 45 DEGREE  
 UNION ADAPTER  
 (070321)**

<u>PART NO.</u>	<u>O.D.</u>	<u>THREAD A</u>	<u>THREAD B</u>	<u>DIM C</u>	<u>DIM D</u>
1745-04-04	0.25	1/4-18	7/16-20	0.65	1.06
1745-04-06	0.25	1/4-18	9/16-18	0.65	1.06
1745-04-08	0.25	1/4-18	3/4-16	0.81	1.12
1745-06-04	0.38	3/8-18	7/16-20	0.78	1.06
1745-06-06	0.38	3/8-18	9/16-18	0.70	1.06
1745-06-08	0.38	3/8-18	3/4-16	0.87	1.12
1745-06-10	0.38	3/8-18	7/8-14	0.93	1.50
1745-06-12	0.38	3/8-18	1 1/16-12	1.02	1.50
1745-08-06	0.50	1/2-14	9/16-18	0.81	1.06
1745-08-08	0.50	1/2-14	3/4-16	0.81	1.12
1745-08-10	0.50	1/2-14	7/8-14	0.78	1.50
1745-08-12	0.50	1/2-14	1 1/16-12	0.95	1.50
1745-12-08	0.75	3/4-14	3/4-16	1.08	1.22
1745-12-10	0.75	3/4-14	7/8-14	1.05	1.35
1745-12-12	0.75	3/4-14	1 1/16-12	1.04	1.50
1745-12-16	0.75	3/4-14	1 5/16-12	1.05	1.62
1745-16-12	1.00	1-11 1/2	1 1/16-12	1.05	1.68
1745-16-16	1.00	1-11 1/2	1 5/16-12	1.06	1.62
1745-16-20	1.00	1-11 1/2	1 5/8-12	1.45	1.84
1745-20-20	1.25	1 1/4-11 1/2	1 5/8-12	1.17	2.28
1745-24-24	1.50	1 1/2-11 1/2	1 7/8-12	1.34	2.60

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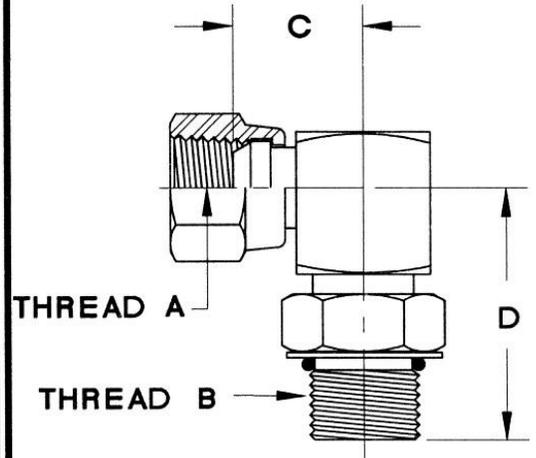


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**STRAIGHT THREAD 90 DEGREE  
 UNION ADAPTER  
 (140251)**

**1790 SERIES**

PART NO.	O.D.	THREAD A	THREAD B	DIM C	DIM D
1790-02-04	0.13	1/8-27	7/16-20	0.73	1.11
1790-04-04	0.25	1/4-18	7/16-20	0.78	1.10
1790-04-05	0.25	1/4-18	1/2-20	0.79	1.13
1790-04-06	0.25	1/4-18	9/16-18	0.78	1.18
1790-04-08	0.25	1/4-18	3/4-16	0.91	1.48
1790-04-10	0.25	1/4-18	7/8-14	0.92	1.64
1790-06-04	0.38	3/8-18	7/16-20	0.93	1.25
1790-06-06	0.38	3/8-18	9/16-18	0.93	1.29
1790-06-08	0.38	3/8-18	3/4-16	1.00	1.51
1790-06-10	0.38	3/8-18	7/8-14	1.00	1.64
1790-06-12	0.38	3/8-18	1 1/16-12	1.12	1.92
1790-08-04	0.50	1/2-14	7/16-20	1.01	1.28
1790-08-06	0.50	1/2-14	9/16-18	1.00	1.48
1790-08-08	0.50	1/2-14	3/4-16	1.00	1.51
1790-08-10	0.50	1/2-14	7/8-14	1.00	1.64
1790-08-12	0.50	1/2-14	1 1/16-12	1.12	1.92
1790-12-08	0.75	3/4-14	3/4-16	1.25	1.65
1790-12-10	0.75	3/4-14	7/8-14	1.25	1.78
1790-12-12	0.75	3/4-14	1 1/16-12	1.25	1.92
1790-12-14	0.75	3/4-14	1 3/16-12	1.25	1.92
1790-12-16	0.75	3/4-14	1 5/16-12	1.00	2.09
1790-12-20	0.75	3/4-14	1 5/8-12	2.00	2.48
1790-16-12	1.00	1-11 1/2	1 1/16-12	1.25	2.00
1790-16-14	1.00	1-11 1/2	1 3/16-12	1.24	2.09
1790-16-16	1.00	1-11 1/2	1 5/16-12	1.39	2.09
1790-16-20	1.00	1-11 1/2	1 5/8-12	1.87	2.48
1790-20-16	1.25	1 1/4-11 1/2	1 5/16-12	1.61	2.35
1790-20-20	1.25	1 1/4-11 1/2	1 5/8-12	1.65	2.48
1790-24-24	1.50	1 1/2-11 1/2	1 7/8-12	1.73	2.60
1790-32-32	2.00	2-11 1/2	2 1/2-12	2.31	3.25

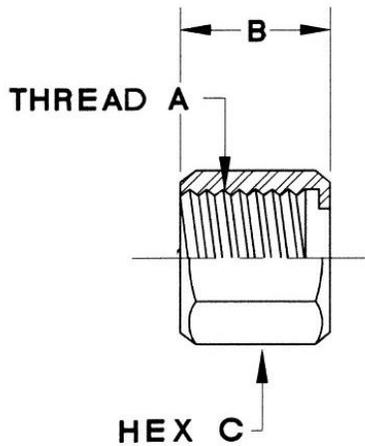


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**1801 SERIES**

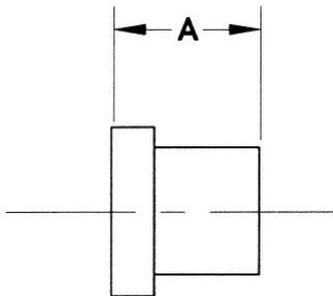


**TUBE NUT  
(070110)**

PART NO.	O.D.	THREAD A	DIM B	HEX C
1801-02	0.13	5/16-24	0.55	3/8
1801-03	0.19	3/8-24	0.61	7/16
1801-04	0.25	7/16-20	0.20	9/16
1801-05	0.31	1/2-20	0.68	5/8
1801-06	0.38	9/16-18	0.73	11/16
1801-08	0.50	3/4-16	0.85	7/8
1801-10	0.63	7/8-14	0.98	1
1801-12	0.75	1 1/16-12	1.03	1 1/4
1801-14	0.88	1 3/16-12	1.09	1 3/8
1801-16	1.00	1 5/16-12	1.13	1 1/2
1801-20	1.25	1 5/8-12	1.23	2
1801-24	1.50	1 7/8-12	1.42	2 1/4
1801-32	2.00	2 1/2-12	1.75	2 7/8

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**1802 SERIES**



**TUBE SLEEVE  
(070115)**

PART NO.	O.D.	DIM A
1802-02	0.13	0.34
1802-03	0.19	0.34
1802-04	0.25	0.41
1802-05	0.31	0.44
1802-06	0.38	0.50
1802-08	0.50	0.56
1802-10	0.63	0.66
1802-12	0.75	0.68
1802-14	0.88	0.76
1802-16	1.00	0.78
1802-20	1.25	0.91
1802-24	1.50	1.12
1802-32	2.00	1.19

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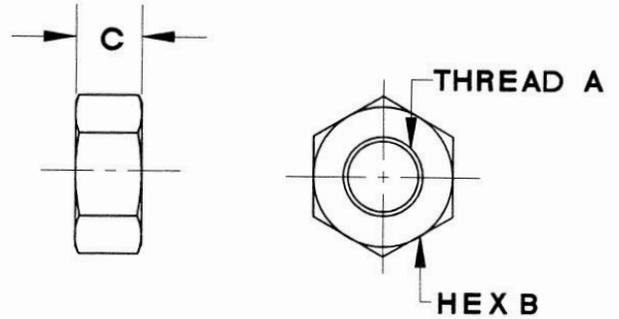
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### ADJUSTABLE LOCKNUT (070117)

PART NO.	O.D.	THREAD A	HEX B	DIM C
1804-03	0.19	3/8-24	1/2	0.22
1804-04	0.25	7/16-20	9/16	0.28
1804-05	0.31	1/2-20	5/8	0.28
1804-06	0.38	9/16-18	11/16	0.27
1804-08	0.50	3/4-16	7/8	0.31
1804-10	0.63	7/8-14	1	0.36
1804-12	0.75	1 1/16-12	1 1/4	0.41
1804-14	0.88	1 3/16-12	1 3/8	0.41
1804-16	1.00	1 5/16-12	1 1/2	0.41
1804-20	1.25	1 5/8-12	1 7/8	0.41
1804-24	1.50	1 7/8-12	2 1/8	0.41
1804-32	2.00	2 1/2-12	2 3/4	0.41

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### 1804 SERIES

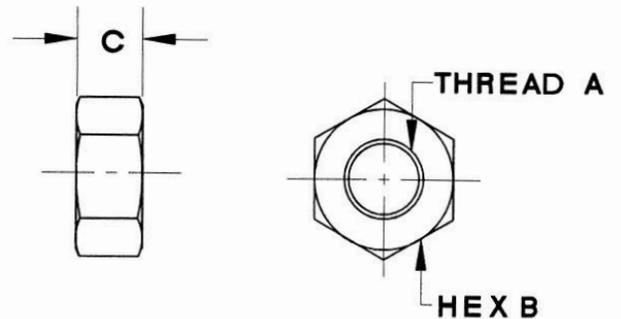


### BULKHEAD LOCKNUT (070118)

PART NO.	O.D.	THREAD A	HEX B	DIM C
1805-04	0.25	7/16-20	11/16	0.28
1805-05	0.31	1/2-20	3/4	0.28
1805-06	0.38	9/16-18	13/16	0.27
1805-08	0.50	3/4-16	1	0.31
1805-10	0.63	7/8-14	1 1/8	0.36
1805-12	0.75	1 1/16-12	1 3/8	0.41
1805-14	0.88	1 3/16-12	1 1/2	0.41
1805-16	1.00	1 5/16-12	1 5/8	0.41
1805-20	1.25	1 5/8-12	1 7/8	0.41
1805-24	1.50	1 7/8-12	2 1/8	0.41
1805-32	2.00	2 1/2-12	2 3/4	0.41

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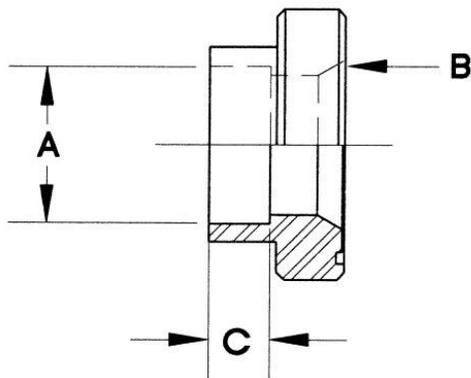
### 1805 SERIES





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**1806 SERIES**



**FLANGE**  
**(J518 CODE 61)**

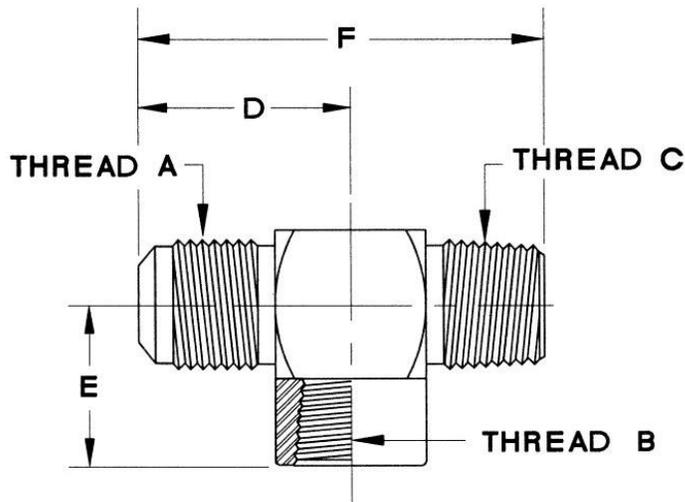
<b>PART NO.</b>	<b>DIM A</b>	<b>FLANGE B</b>	<b>DIM C</b>
1806-06-08	0.38	0.50	0.31
1806-08-08	0.50	0.50	0.31
1806-10-08	0.63	0.50	0.31
1806-10-12	0.63	0.75	0.38
1806-10-16	0.63	1.00	0.31
1806-12-12	0.75	0.75	0.38
1806-12-16	0.75	1.00	0.38
1806-12-20	0.75	1.25	0.31
1806-14-16	0.88	1.00	0.38
1806-16-12	1.00	0.75	0.38
1806-16-16	1.00	1.00	0.38
1806-16-20	1.00	1.25	0.38
1806-16-24	1.00	1.50	0.38
1806-16-32	1.00	2.00	0.34
1806-20-16	1.25	1.00	0.38
1806-20-20	1.25	1.25	0.38
1806-20-24	1.25	1.50	0.38
1806-20-32	1.25	2.00	0.34
1806-24-20	1.50	1.25	0.38
1806-24-24	1.50	1.50	0.44
1806-24-32	1.50	2.00	0.38
1806-32-32	2.00	2.00	0.50

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**1920 SERIES**



**PIPE BRANCH TEE  
(NON STANDARD)**

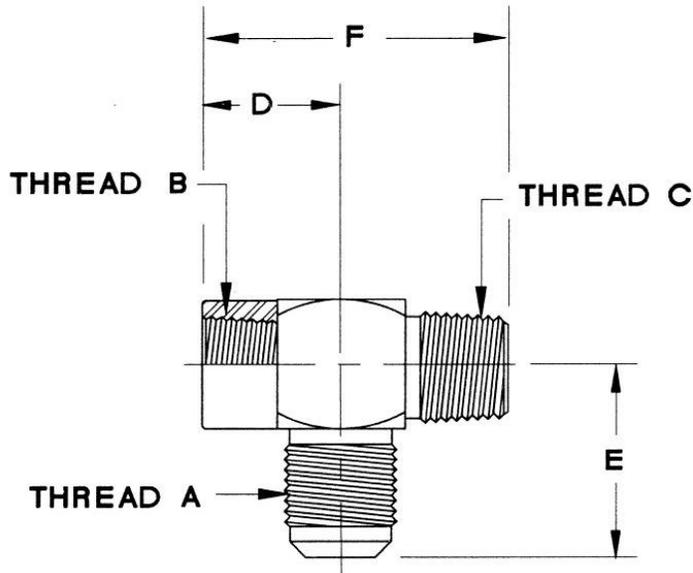
<b>PART NO.</b>	<b>O.D.</b>	<b>THREAD A</b>	<b>THREAD B</b>	<b>THREAD C</b>	<b>DIM D</b>	<b>DIM E</b>	<b>DIM F</b>
1920-04-02-02	0.25	7/16-20	1/8-27	1/8-27	1.07	0.65	1.44
1920-06-04-04	0.38	9/16-18	1/4-18	1/4-18	1.23	0.87	2.32
1920-08-06-06	0.50	3/4-16	3/8-18	3/8-18	1.42	1.01	2.64
1920-10-08-08	0.63	7/8-14	1/2-14	1/2-14	1.64	1.23	3.11
1920-12-12-12	0.75	1 1/16-12	3/4-14	3/4-14	1.89	1.35	3.48
1920-16-16-16	1.00	1 5/16-12	1-11 1/2	1-11 1/2	2.17	1.62	4.14
1920-20-20-20	1.25	1 5/8-12	1 1/4-11 1/2	1 1/4-11 1/2	2.32	1.70	4.70

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**1921 SERIES**



**FLARE-PIPE RUN TEE  
(NON STANDARD)**

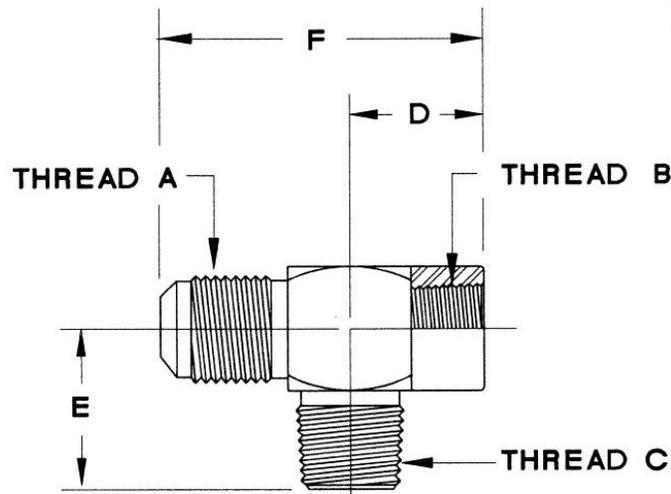
PART NO.	O.D.	THREAD A	THREAD B	THREAD C	DIM D	DIM E	DIM F
1921-04-02-02	0.25	7/16-20	1/8-27	1/8-27	0.66	1.07	1.44
1921-06-04-04	0.38	9/16-18	1/4-18	1/4-18	0.88	1.23	1.97
1921-08-06-06	0.50	3/4-16	3/8-18	3/8-18	1.02	1.42	2.24
1921-10-08-08	0.63	7/8-14	1/2-14	1/2-14	1.23	1.64	2.70
1921-12-12-12	0.75	1 1/16-12	3/4-14	3/4-14	1.36	1.89	2.95
1921-16-16-16	1.00	1 5/16-12	1-11 1/2	1-11 1/2	1.62	2.17	3.59
1921-20-20-20	1.25	1 5/8-12	1 1/4-11 1/2	1 1/4-11 1/2	1.70	2.32	4.08

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**1923 SERIES**



**MALE PIPE-FEMALE PIPE RUN TEE  
 (NON STANDARD)**

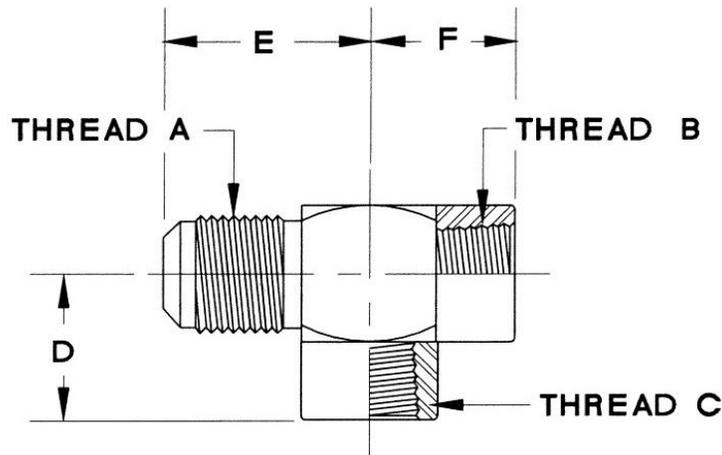
<u>PART NO.</u>	<u>O.D.</u>	<u>THREAD A</u>	<u>THREAD B</u>	<u>THREAD C</u>	<u>DIM D</u>	<u>DIM E</u>	<u>DIM F</u>
1923-04-02-02	0.25	7/16-20	1/8-27	1/8-27	0.66	0.78	1.74
1923-06-04-04	0.38	9/16-18	1/4-18	1/4-18	0.88	1.09	2.11
1923-08-06-06	0.50	3/4-16	3/8-18	3/8-18	1.02	1.22	2.44
1923-10-08-08	0.63	7/8-14	1/2-14	1/2-14	1.23	1.47	2.87
1923-12-12-12	0.75	1 1/16-12	3/4-14	3/4-14	1.36	1.59	3.25
1923-16-16-16	1.00	1 5/16-12	1-11 1/2	1-11 1/2	1.62	1.97	3.79
1923-20-20-20	1.25	1 5/8-12	1 1/4-11 1/2	1 1/4-11 1/2	1.70	2.38	4.03

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**1924 SERIES**



**MALE FLARE-FEMALE PIPE RUN TEE  
 (NON STANDARD)**

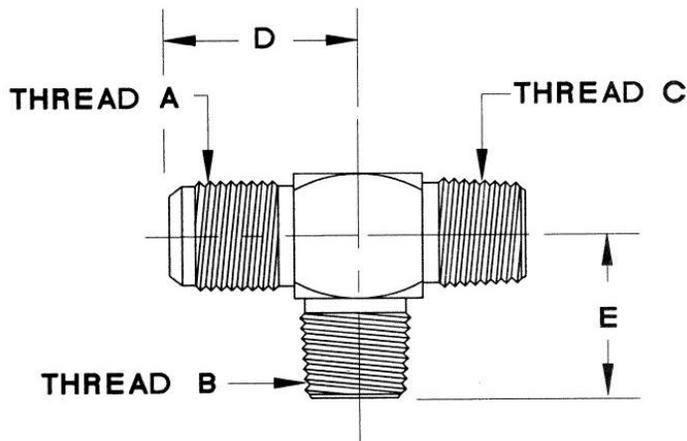
<b>PART NO.</b>	<b>O.D.</b>	<b>THREAD A</b>	<b>THREAD B</b>	<b>THREAD C</b>	<b>DIM D</b>	<b>DIM E</b>	<b>DIM F</b>
1924-06-04-04	0.38	9/16-18	1/4-18	1/4-18	0.87	1.23	0.87
1924-08-06-06	0.50	3/4-16	3/8-18	3/8-18	1.01	1.42	1.02
1924-10-08-08	0.63	7/8-14	1/2-14	1/2-14	1.23	1.64	1.23
1924-12-12-12	0.75	1 1/16-12	3/4-14	3/4-14	1.36	1.89	1.36

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**1925 SERIES**



**MALE FLARE-MALE PIPE RUN TEE  
 (NON STANDARD)**

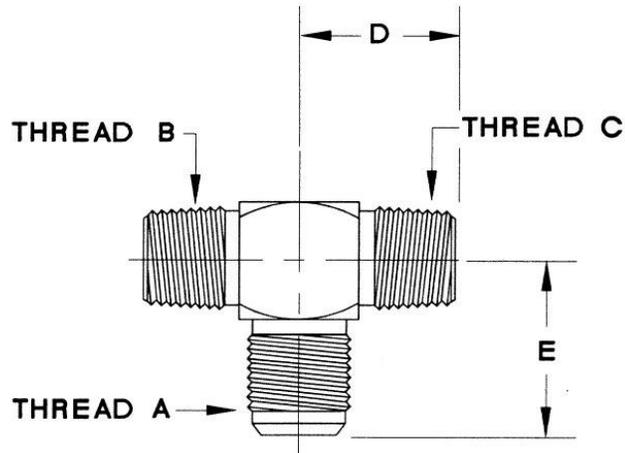
<b>PART NO.</b>	<b>O.D.</b>	<b>THREAD A</b>	<b>THREAD B</b>	<b>THREAD C</b>	<b>DIM D</b>	<b>DIM E</b>
1925-04-02-02	0.25	7/16-20	1/8-27	1/8-27	0.88	0.76
1925-06-04-04	0.38	9/16-18	1/4-18	1/4-18	1.06	1.08
1925-08-06-06	0.50	3/4-16	3/8-18	3/8-18	1.25	1.20
1925-08-08-08	0.50	3/4-16	1/2-14	1/2-14	1.32	1.45
1925-10-08-08	0.63	7/8-14	1/2-14	1/2-14	1.45	1.48
1925-12-12-12	0.75	1 1/16-12	3/4-14	3/4-14	1.65	1.60
1925-16-16-16	1.00	1 5/16-12	1-11 1/2	1-11 1/2	1.82	1.97
1925-20-20-20	1.25	1 5/8-12	1 1/4-11 1/2	1 1/4-11 1/2	2.06	2.38

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**1926 SERIES**



**MALE FLARE-MALE PIPE BRANCH TEE  
 (NON STANDARD)**

<b>PART NO.</b>	<b>O.D.</b>	<b>THREAD A</b>	<b>THREAD B</b>	<b>THREAD C</b>	<b>DIM D</b>	<b>DIM E</b>
1926-04-04-04	0.25	7/16-20	1/4-18	1/4-18	1.09	0.94
1926-06-04-04	0.25	9/16-18	1/4-18	1/4-18	1.10	1.04
1926-06-06-06	0.38	9/16-18	3/8-18	3/8-18	1.21	1.15
1926-08-06-06	0.50	3/4-16	3/8-18	3/8-18	1.21	1.25
1926-10-08-08	0.63	7/8-14	1/2-14	1/2-14	1.47	1.45
1926-12-12-12	0.75	1 1/16-12	3/4-14	3/4-14	1.59	1.65

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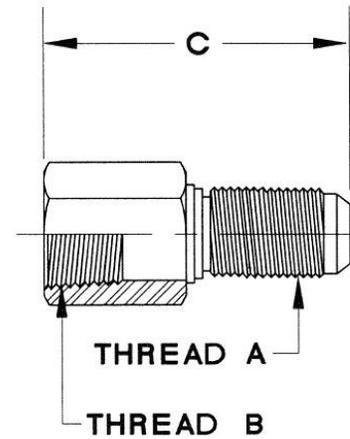
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**FEMALE PIPE BULKHEAD  
 (NON STANDARD)**

<b>PART NO.</b>	<b>O.D.</b>	<b>THREAD A</b>	<b>THREAD B</b>	<b>DIM C</b>
2010-04-02	0.25	7/16-20	1/8-27	1.92
2010-06-04	0.38	9/16-18	1/4-18	2.06
2010-08-06	0.50	3/4-16	3/8-18	2.48
2010-10-08	0.63	7/8-14	1/2-14	2.84
2010-12-12	0.75	1 1/16-12	3/4-14	3.05
2010-16-16	1.00	1 5/16-12	1-11 1/2	3.25

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**2010 SERIES**

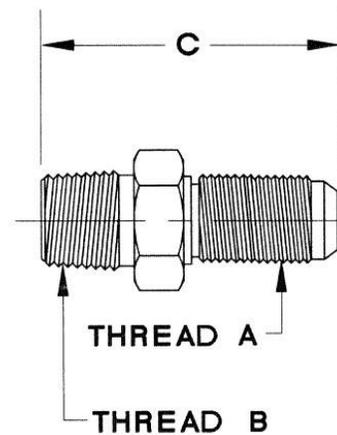


**MALE PIPE BULKHEAD  
 (NON STANDARD)**

<b>PART NO.</b>	<b>O.D.</b>	<b>THREAD A</b>	<b>THREAD B</b>	<b>DIM C</b>
2020-04-02	0.25	7/16-20	1/8-27	1.84
2020-04-04	0.25	7/16-20	1/4-18	2.03
2020-06-04	0.38	9/16-18	1/4-18	2.12
2020-08-06	0.50	3/4-16	3/8-18	2.36
2020-10-08	0.63	7/8-14	1/2-14	2.71
2020-12-12	0.75	1 1/16-12	3/4-14	2.92
2020-16-16	1.00	1 5/16-12	1-11 1/2	3.11

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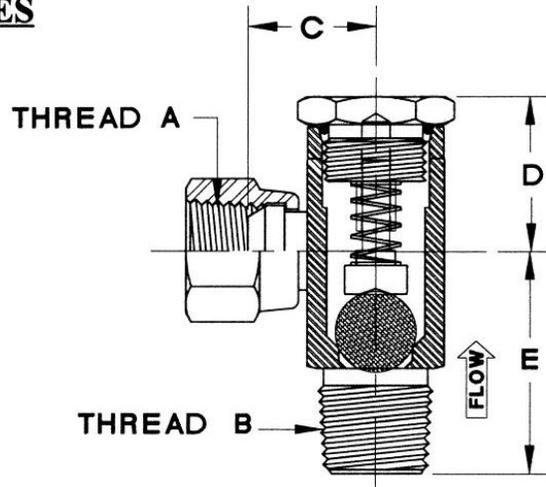
**2020 SERIES**





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**2590 SERIES**



**WILL CRACK AT 5 PSI**

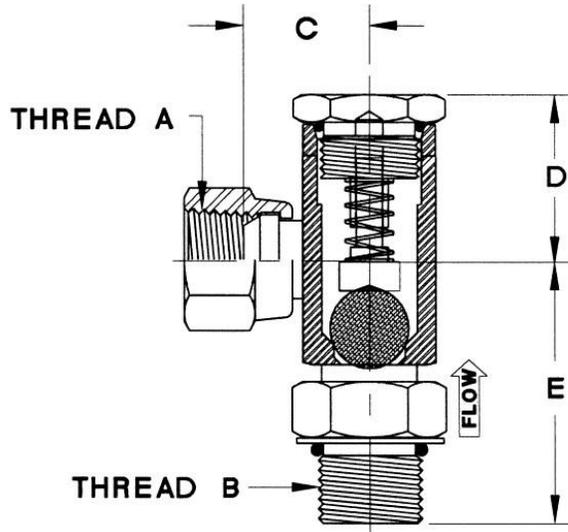
**90 DEGREE MALE PIPE-  
 SWIVEL-CHECK VALVE  
 (NON STANDARD)**

<u>PART NO.</u>	<u>THREAD A</u>	<u>THREAD B</u>	<u>DIM C</u>	<u>DIM D</u>	<u>DIM E</u>
2590-04-04	1/4-18	1/4-18	0.81	0.81	1.25
2590-06-06	3/8-18	3/8-18	0.92	0.88	1.50
2590-08-08	1/2-14	1/2-14	0.98	1.06	1.50
2590-12-12	3/4-14	3/4-14	1.26	1.38	2.00

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**2690 SERIES**

**WILL CRACK AT 5 PSI**  
**90 DEGREE ADJUSTABLE STRAIGHT**  
**THREAD-SWIVEL-CHECK VALVE**  
**(NON STANDARD)**

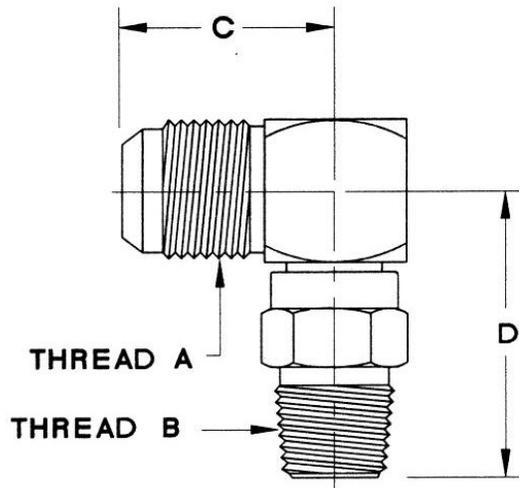
<u>PART NO.</u>	<u>THREAD A</u>	<u>THREAD B</u>	<u>DIM C</u>	<u>DIM D</u>	<u>DIM E</u>
2690-06-06	3/8-18	9/16-18	0.92	2.30	0.88
2690-08-08	1/2-14	3/4-16	0.98	2.75	1.06
2690-12-12	3/4-14	1 1/16-12	1.26	3.50	1.38

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**2790 SERIES**



**90 DEGREE PIPE SWIVEL MALE TUBE  
(NON STANDARD)**

<u>PART NO.</u>	<u>O.D.</u>	<u>THREAD A</u>	<u>THREAD B</u>	<u>DIM C</u>	<u>DIM D</u>
2790-06-04	0.38	9/16-18	1/4-18	1.06	1.58
2790-08-06	0.50	3/4-16	3/8-18	1.25	1.66
2790-10-08	0.63	7/8-14	1/2-14	1.45	2.00
2790-12-12	0.75	1 1/16-12	3/4-14	1.66	2.14

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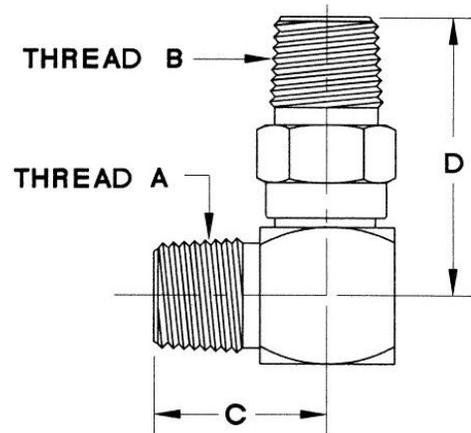
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**90 DEGREE PIPE SWIVEL MALE PIPE  
 (NON STANDARD)**

PART NO.	THREAD A	THREAD B	DIM C	DIM D
2890-04-04	1/4-18	1/4-18	1.06	1.54
2890-06-06	3/8-18	3/8-18	1.22	1.69
2890-08-08	1/2-14	1/2-14	1.47	1.99
2890-12-12	3/4-14	3/4-14	1.59	2.13

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**2890 SERIES**

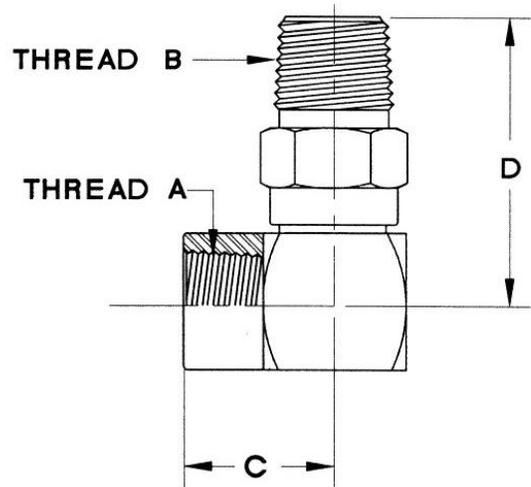


**90 DEGREE SWIVEL PIPE ELBOW  
 (NON STANDARD)**

PART NO.	THREAD A	THREAD B	DIM C	DIM D
2990-04-04	1/4-18	1/4-18	0.88	1.61
2990-06-06	3/8-18	3/8-18	1.02	1.69
2990-08-08	1/2-14	1/2-14	1.23	2.01
2990-12-12	3/4-14	3/4-14	1.36	2.25

DESIGN AND DIMENSION SUBJECT TO CHANGE WITHOUT NOTICE.

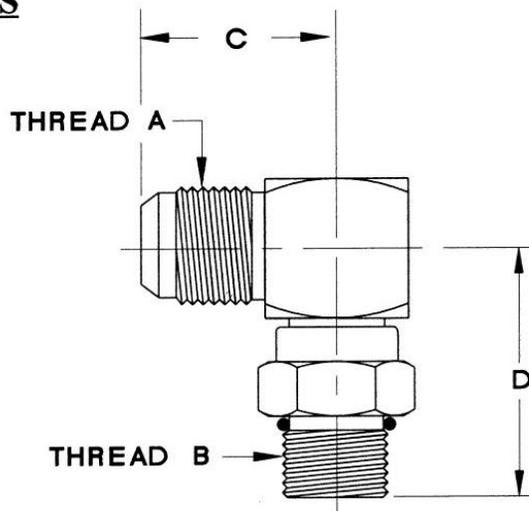
**2990 SERIES**





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**3090 SERIES**



**90 DEGREE MALE FLARE-MALE O'RING SWIVEL  
 (NON STANDARD)**

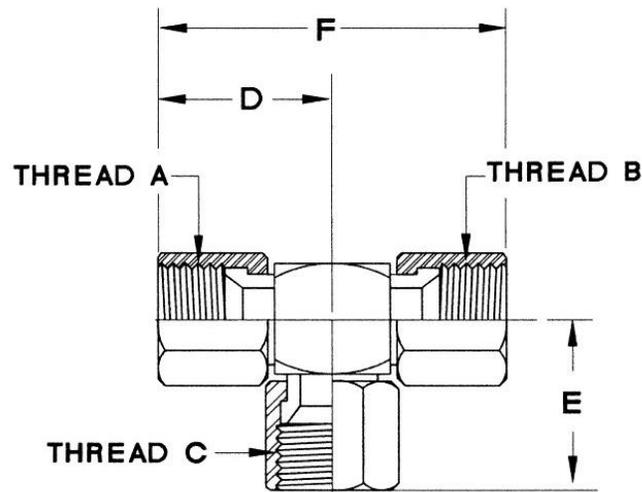
<u>PART NO.</u>	<u>O.D.</u>	<u>THREAD A</u>	<u>THREAD B</u>	<u>DIM C</u>	<u>DIM D</u>
3090-06-06	0.38	9/16-18	9/16-18	1.06	1.53
3090-08-08	0.50	3/4-16	3/4-16	1.25	1.67
3090-10-10	0.63	7/8-14	7/8-14	1.45	1.81
3090-12-12	0.75	1 1/16-12	1 1/16-12	1.66	2.13

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**3630 SERIES**



**FEMALE J.I.C. SWIVEL TEE  
 (NON STANDARD)**

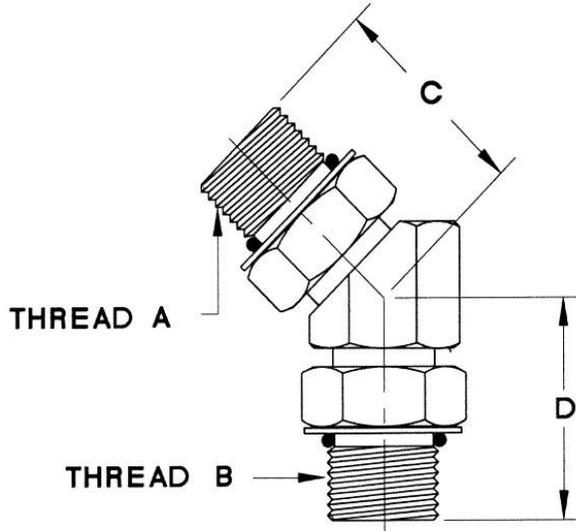
<u>PART NO.</u>	<u>O.D.</u>	<u>THREAD A</u>	<u>THREAD B</u>	<u>THREAD C</u>	<u>DIM D</u>	<u>DIM E</u>	<u>DIM F</u>
3630-04-04-04	0.25	7/16-20	7/16-20	7/16-20	1.03	1.03	2.06
3630-06-06-06	0.38	9/16-18	9/16-18	9/16-18	1.25	1.25	2.50
3630-08-08-08	0.50	3/4-16	3/4-16	3/4-16	1.35	1.35	2.70
3630-10-10-10	0.63	7/8-14	7/8-14	7/8-14	1.62	1.62	3.24
3630-12-12-12	0.75	1 1/16-12	1 1/16-12	1 1/16-12	1.75	1.75	3.50
3630-16-16-16	1.00	1 5/16-12	1 5/16-12	1 5/16-12	1.81	1.81	3.62
3630-20-20-20	1.25	1 5/8-12	1 5/8-12	1 5/8-12	2.31	2.31	4.62
3630-24-24-24	1.50	1 7/8-12	1 7/8-12	1 7/8-12	2.59	2.59	5.18
3630-32-32-32	2.00	2 1/2-12	2 1/2-12	2 1/2-12	3.38	3.38	6.76

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**7145 SERIES**



**45 DEGREE ELBOW N.W.O.-N.W.O.  
 (NON STANDARD)**

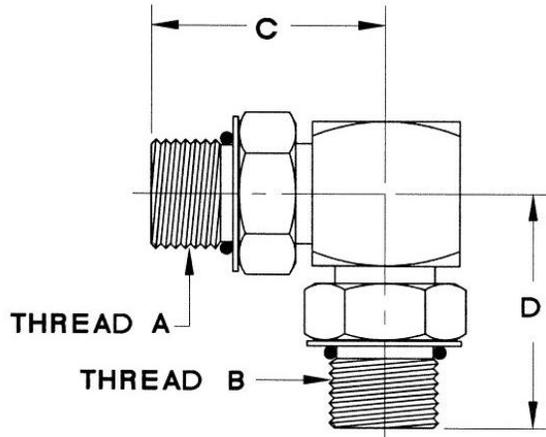
<u>PART NO.</u>	<u>O.D.</u>	<u>THREAD A</u>	<u>THREAD B</u>	<u>DIM C</u>	<u>DIM D</u>
7145-04-04	0.25	7/16-20	7/16-20	1.05	1.05
7145-06-06	0.38	9/16-18	9/16-18	1.14	1.14
7145-08-08	0.50	3/4-16	3/4-16	1.30	1.30
7145-10-10	0.63	7/8-14	7/8-14	1.52	1.52
7145-12-12	0.75	1 1/16-12	1 1/16-12	1.73	1.73
7145-16-16	1.00	1 5/16-12	1 5/16-12	1.86	1.86
7145-20-20	1.25	1 5/8-12	1 5/8-12	1.91	1.91
7145-24-24	1.50	1 7/8-12	1 7/8-12	1.91	1.91
7145-32-32	2.00	2 1/2-12	2 1/2-12	1.86	1.86

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**7190 SERIES**



**90 DEGREE ELBOW N.W.O.-N.W.O.  
 (NON STANDARD)**

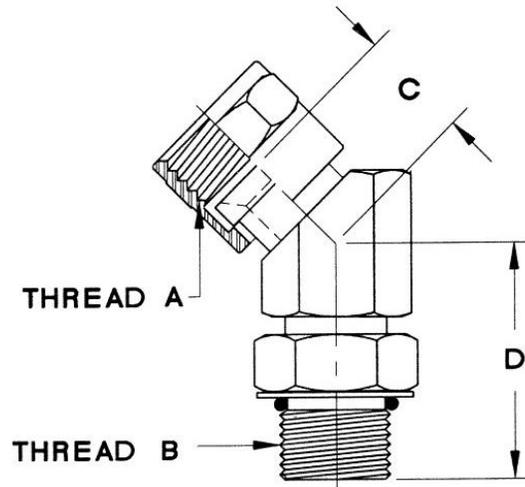
<u>PART NO.</u>	<u>O.D.</u>	<u>THREAD A</u>	<u>THREAD B</u>	<u>DIM C</u>	<u>DIM D</u>
7190-04-04	0.25	7/16-20	7/16-20	1.03	1.03
7190-06-06	0.38	9/16-18	9/16-18	1.25	1.25
7190-08-08	0.50	3/4-16	3/4-16	1.45	1.45
7190-10-10	0.63	7/8-14	7/8-14	1.70	1.70
7190-12-12	0.75	1 1/16-12	1 1/16-12	1.94	1.94
7190-16-16	1.00	1 5/16-12	1 5/16-12	2.05	2.05
7190-20-20	1.25	1 5/8-12	1 5/8-12	2.25	2.25
7190-24-24	1.50	1 7/8-12	1 7/8-12	2.39	2.39
7190-32-32	2.00	2 1/2-12	2 1/2-12	2.89	2.89

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**7245 SERIES**



**45 DEGREE ELBOW FEMALE  
 J.I.C. SWIVEL-N.W.O.  
 (NON STANDARD)**

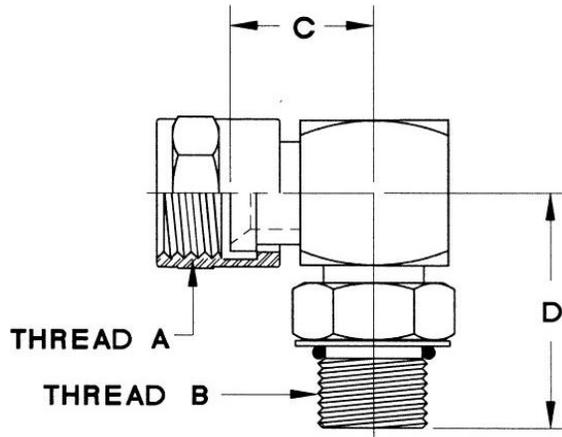
<u>PART NO.</u>	<u>O.D.</u>	<u>THREAD A</u>	<u>THREAD B</u>	<u>DIM C</u>	<u>DIM D</u>
7245-04-04	0.25	7/16-20	7/16-20	0.94	1.05
7245-06-06	0.38	9/16-18	9/16-18	1.12	1.14
7245-08-08	0.50	3/4-16	3/4-16	1.28	1.30
7245-10-10	0.63	7/8-14	7/8-14	1.44	1.52
7245-12-12	0.75	1 1/16-12	1 1/16-12	1.50	1.73
7245-16-16	1.00	1 5/16-12	1 5/16-12	1.75	1.86
7245-20-20	1.25	1 5/8-12	1 5/8-12	2.03	1.91
7245-24-24	1.50	1 7/8-12	1 7/8-12	2.25	1.91
7245-32-32	2.00	2 1/2-12	2 1/2-12	2.91	1.86

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**7290 SERIES**



**90 DEGREE ELBOW FEMALE  
 J.I.C. SWIVEL-N.W.O.  
 (NON STANDARD)**

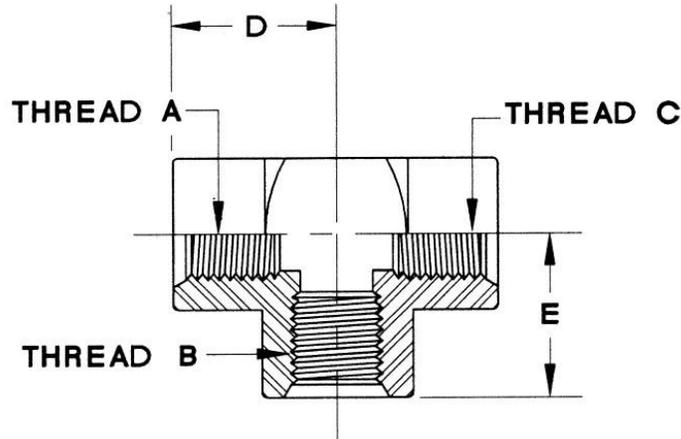
<u>PART NO.</u>	<u>O.D.</u>	<u>THREAD A</u>	<u>THREAD B</u>	<u>DIM C</u>	<u>DIM D</u>
7290-04-04	0.25	7/16-20	7/16-20	1.00	1.03
7290-06-06	0.38	9/16-18	9/16-18	1.25	1.25
7290-08-08	0.50	3/4-16	3/4-16	1.38	1.45
7290-08-10	0.50	3/4-16	7/8-14	1.55	1.70
7290-10-10	0.63	7/8-14	7/8-14	1.62	1.70
7290-12-12	0.75	1 1/16-12	1 1/16-12	1.75	1.94
7290-16-16	1.00	1 5/16-12	1 5/16-12	2.00	2.05
7290-20-20	1.25	1 5/8-12	1 5/8-12	2.31	2.25
7290-24-24	1.50	1 7/8-12	1 7/8-12	2.59	2.39
7290-32-32	2.00	2 1/2-12	2 1/2-12	3.38	2.89

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**7330 SERIES**



**FEMALE STRAIGHT THREAD O'RING PORT TEE  
 (NON STANDARD)**

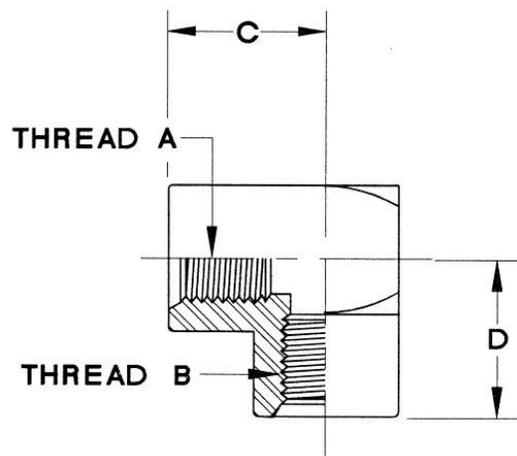
<b>PART NO.</b>	<b>O.D.</b>	<b>THREAD A</b>	<b>THREAD B</b>	<b>THREAD C</b>	<b>DIM D</b>	<b>DIM E</b>
7330-04-04-04	0.25	7/16-20	7/16-20	7/16-20	0.74	0.74
7330-06-06-06	0.38	9/16-18	9/16-18	9/16-18	0.86	0.86
7330-08-08-08	0.50	3/4-16	3/4-16	3/4-16	1.03	1.03
7330-10-10-10	0.63	7/8-14	7/8-14	7/8-14	1.18	1.18
7330-12-12-12	0.75	1 1/16-12	1 1/16-12	1 1/16-12	1.39	1.39
7330-16-16-16	1.00	1 5/16-12	1 5/16-12	1 5/16-12	1.52	1.52

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**7390 SERIES**



**90 DEGREE FEMALE O'RING PORT ELBOW  
 (NON STANDARD)**

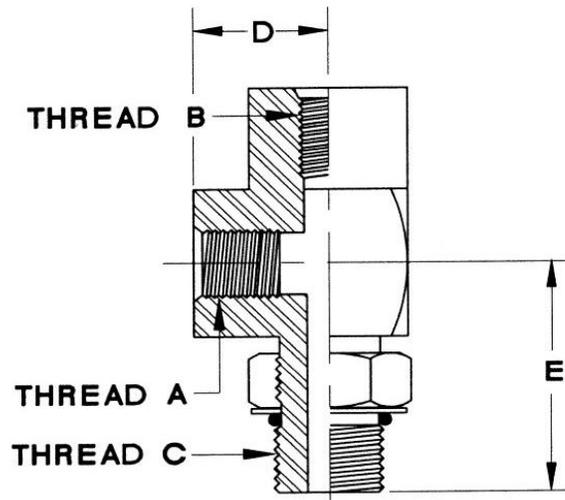
<b>PART NO.</b>	<b>O.D.</b>	<b>THREAD A</b>	<b>THREAD B</b>	<b>DIM C</b>	<b>DIM D</b>
7390-04-04	0.25	7/16-20	7/16-20	0.74	0.74
7390-06-06	0.38	9/16-18	9/16-18	0.86	0.86
7390-08-08	0.50	3/4-16	3/4-16	1.03	1.03
7390-10-10	0.63	7/8-14	7/8-14	1.18	1.18
7390-12-12	0.75	1 1/16-12	1 1/16-12	1.39	1.39
7390-16-16	1.00	1 5/16-12	1 5/16-12	1.52	1.52

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**7420 SERIES**



**STRAIGHT THREAD O'RING PORT RUN TEE  
 (NON STANDARD)**

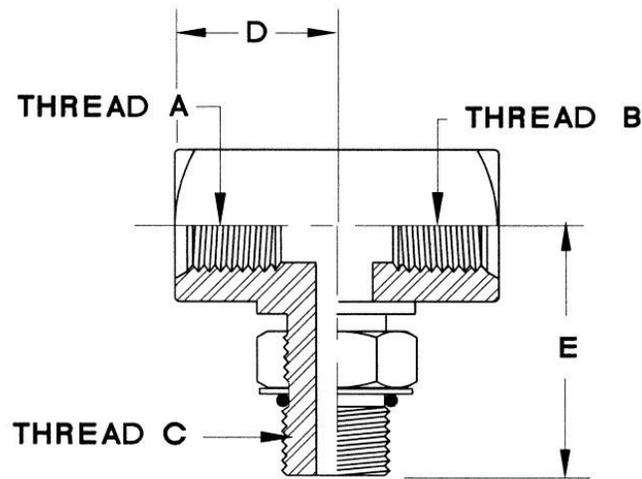
<u>PART NO.</u>	<u>O.D.</u>	<u>THREAD A</u>	<u>THREAD B</u>	<u>THREAD C</u>	<u>DIM D</u>	<u>DIM E</u>
7420-04-04-04	0.25	7/16-20	7/16-20	7/16-20	0.74	1.23
7420-06-06-06	0.38	9/16-18	9/16-18	9/16-18	0.86	1.38
7420-08-08-08	0.50	3/4-16	3/4-16	3/4-16	1.03	1.59
7420-10-10-10	0.63	7/8-14	7/8-14	7/8-14	1.18	1.81
7420-12-12-12	0.75	1 1/16-12	1 1/16-12	1 1/16-12	1.21	2.00
7420-16-16-16	1.00	1 5/16-12	1 5/16-12	1 5/16-12	1.90	2.00
7420-20-20-20	1.25	1 5/8-12	1 5/8-12	1 5/8-12	1.52	2.25

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**7430 SERIES**



**STRAIGHT THREAD BRANCH TEE  
 (NON STANDARD)**

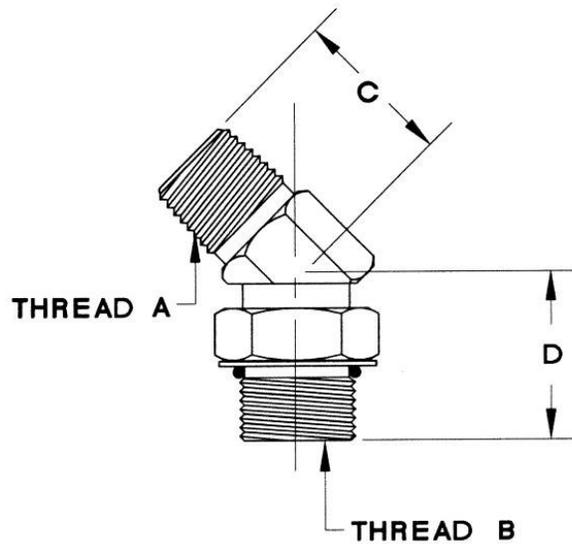
<b>PART NO.</b>	<b>O.D.</b>	<b>THREAD A</b>	<b>THREAD B</b>	<b>THREAD C</b>	<b>DIM D</b>	<b>DIM E</b>
7430-04-04-04	0.25	7/16-20	7/16-20	7/16-20	0.63	1.23
7430-06-06-06	0.38	9/16-18	9/16-18	9/16-18	0.75	1.38
7430-08-08-08	0.50	3/4-16	3/4-16	3/4-16	0.88	1.59
7430-10-10-10	0.63	7/8-14	7/8-14	7/8-14	1.02	1.81
7430-12-12-12	0.75	1 1/16-12	1 1/16-12	1 1/16-12	1.21	2.00
7430-16-16-16	1.00	1 5/16-12	1 5/16-12	1 5/16-12	1.33	2.25

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**7845 SERIES**



**45 DEGREE MALE PIPE-STRAIGHT THREAD ELBOW  
 (NON STANDARD)**

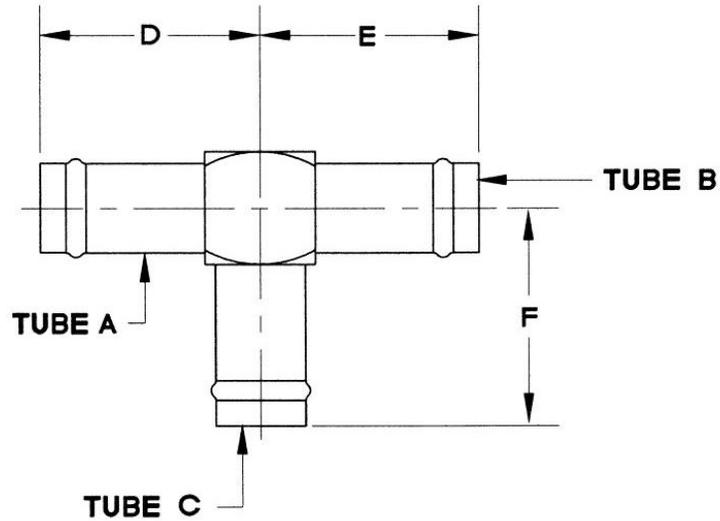
<b>PART NO.</b>	<b>THREAD A</b>	<b>THREAD B</b>	<b>DIM C</b>	<b>DIM D</b>
7845-02-04	1/8-27	7/16-20	0.64	0.99
7845-04-06	1/4-18	9/16-20	0.85	1.22
7845-06-08	3/8-18	3/4-16	0.95	1.30
7845-08-08	1/2-14	3/4-16	1.16	1.46
7845-08-10	1/2-14	7/8-14	1.16	1.46
7845-12-10	3/4-14	7/8-14	1.20	1.56
7845-12-12	3/4-14	1 1/16-12	1.20	1.73
7845-16-16	1-11 1/2	1 5/16-12	1.48	1.84
7845-20-20	1 1/4-11 1/2	1 5/8-12	1.67	1.94
7845-24-24	1 1/2-11 1/2	1 7/8-12	1.77	2.19

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**9230 SERIES**



**HOSE BARB TEE  
(NON STANDARD)**

<u>PART NO.</u>	<u>TUBE A</u>	<u>TUBE B</u>	<u>TUBE C</u>	<u>DIM D</u>	<u>DIM E</u>	<u>DIM F</u>
9230-04-04-04	0.25	0.25	0.25	1.43	1.43	1.43
9230-06-06-06	0.38	0.38	0.38	1.49	1.49	1.49
9230-08-08-08	0.50	0.50	0.50	1.67	1.67	1.67
9230-10-10-10	0.63	0.63	0.63	1.69	1.69	1.69
9230-12-12-12	0.75	0.75	0.75	1.80	1.80	1.80
9230-16-16-16	1.00	1.00	1.00	1.91	1.91	1.91
9230-20-20-20	1.25	1.25	1.25	2.41	2.41	2.41
9230-24-24-24	1.50	1.50	1.50	2.53	2.53	2.53
9230-32-32-32	2.00	2.00	2.00	2.85	2.85	2.85

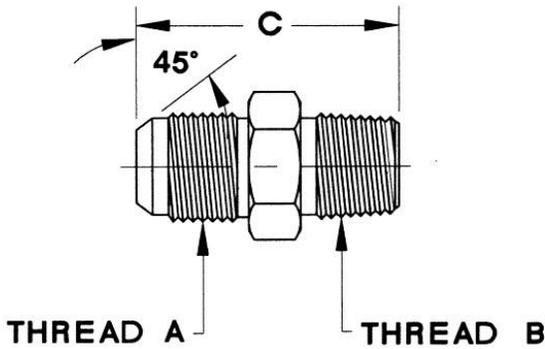
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**45 DEGREE FLARE  
 AUTOMOTIVE TUBE FITTINGS  
 AF-100 SERIES**

**MALE CONNECTOR  
 (010102)**



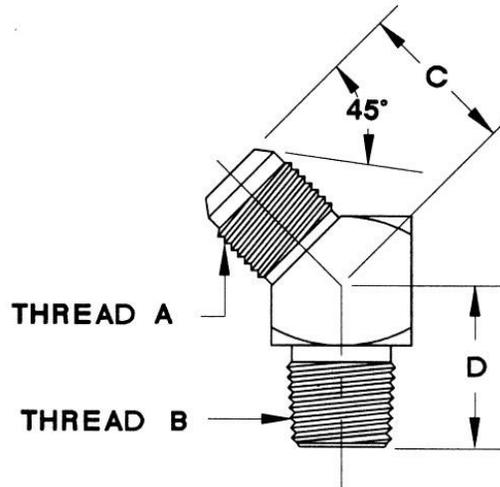
<u>PART NO.</u>	<u>O.D.</u>	<u>THREAD A</u>	<u>THREAD B</u>	<u>DIM C</u>
AF-100-04-02	0.25	7/16-20	1/8-27	1.06
AF-100-04-04	0.25	7/16-20	1/4-18	1.23
AF-100-04-06	0.25	7/16-20	3/8-18	1.28
AF-100-04-08	0.25	7/16-20	1/2-14	1.57
AF-100-05-02	0.31	1/2-20	1/8-27	1.16
AF-100-05-04	0.31	1/2-20	1/4-18	1.32
AF-100-05-06	0.31	1/2-20	3/8-18	1.36
AF-100-06-02	0.38	5/8-18	1/8-27	1.25
AF-100-06-04	0.38	5/8-18	1/4-18	1.44
AF-100-06-06	0.38	5/8-18	3/8-18	1.42
AF-100-06-08	0.38	5/8-18	1/2-14	1.69
AF-100-08-04	0.50	3/4-16	1/4-18	1.59
AF-100-08-06	0.50	3/4-16	3/8-18	1.62
AF-100-08-08	0.50	3/4-16	1/2-14	1.81
AF-100-08-12	0.50	3/4-16	3/4-14	1.92
AF-100-10-08	0.63	7/8-14	1/2-14	2.00
AF-100-10-12	0.63	7/8-14	3/4-14	1.93
AF-100-12-08	0.75	1 1/16-14	1/2-14	2.19
AF-100-12-12	0.75	1 1/16-14	3/4-14	2.17

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**AF-145 SERIES**



**45 DEGREE MALE ELBOW  
 (010302)**

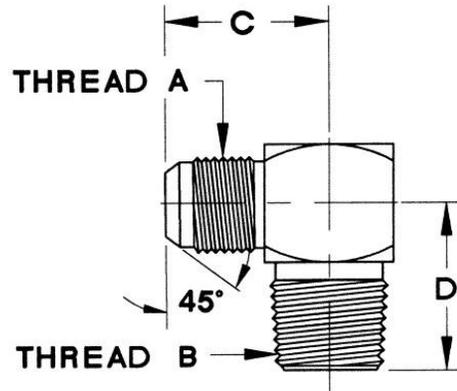
<b>PART NO.</b>	<b>O.D.</b>	<b>THREAD A</b>	<b>THREAD B</b>	<b>DIM C</b>	<b>DIM D</b>
AF-145-04-02	0.25	7/16-20	1/8-27	0.69	0.66
AF-145-04-04	0.25	7/16-20	1/4-18	0.75	0.84
AF-145-05-02	0.31	1/2-20	1/8-27	0.75	0.65
AF-145-05-04	0.31	1/2-20	1/4-18	0.75	0.81
AF-145-06-04	0.38	5/8-18	1/4-18	0.88	0.88
AF-145-06-06	0.38	5/8-18	3/8-18	0.91	0.93
AF-145-08-06	0.50	3/4-16	3/8-18	1.06	0.95
AF-145-08-08	0.50	3/4-16	1/2-14	0.97	1.17
AF-145-10-08	0.63	7/8-14	1/2-14	1.23	1.17

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**AF-190 SERIES**



**MALE 90 DEGREE ELBOW  
(010202)**

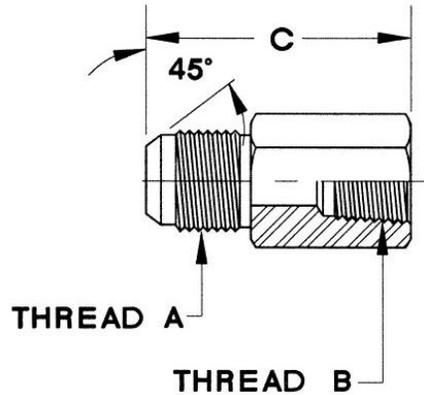
<b>PART NO.</b>	<b>O.D.</b>	<b>THREAD A</b>	<b>THREAD B</b>	<b>DIM C</b>	<b>DIM D</b>
AF-190-04-02	0.25	7/16-20	1/8-27	0.79	0.76
AF-190-04-04	0.25	7/16-20	1/4-18	0.90	0.94
AF-190-04-06	0.25	7/16-20	3/8-18	0.94	1.06
AF-190-05-02	0.31	1/2-20	1/8-27	0.90	0.79
AF-190-05-04	0.31	1/2-20	1/4-18	0.95	0.95
AF-190-06-04	0.38	5/8-18	1/4-18	1.01	1.05
AF-190-06-06	0.38	5/8-18	3/8-18	1.04	1.07
AF-190-06-08	0.38	5/8-18	1/2-14	1.15	1.27
AF-190-08-04	0.50	3/4-16	1/4-18	1.20	1.17
AF-190-08-06	0.50	3/4-16	3/8-18	1.20	1.10
AF-190-08-08	0.50	3/4-16	1/2-14	1.28	1.38
AF-190-10-06	0.63	7/8-14	3/8-18	1.41	1.25
AF-190-10-08	0.63	7/8-14	1/2-14	1.40	1.39
AF-190-10-12	0.63	7/8-14	3/4-14	1.42	1.48
AF-190-12-08	0.75	1 1/16-14	1/2-14	1.60	1.48
AF-190-12-12	0.75	1 1/16-14	3/4-14	1.59	1.62

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**AF-200 SERIES**



**FEMALE CONNECTOR  
(010103)**

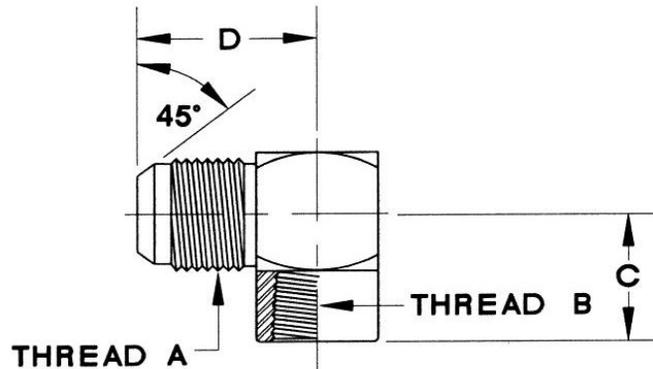
<u>PART NO.</u>	<u>O.D.</u>	<u>THREAD A</u>	<u>THREAD B</u>	<u>DIM C</u>
AF-200-04-02	0.25	7/16-20	1/8-27	1.06
AF-200-04-04	0.25	7/16-20	1/4-18	1.19
AF-200-04-06	0.25	7/16-20	3/8-18	1.19
AF-200-05-02	0.31	1/2-20	1/8-27	1.16
AF-200-05-04	0.31	1/2-20	1/4-18	1.25
AF-200-06-04	0.38	5/8-18	1/4-18	1.19
AF-200-06-06	0.38	5/8-18	3/8-18	1.31
AF-200-06-08	0.38	5/8-18	1/2-14	1.50
AF-200-08-04	0.50	3/4-16	1/4-18	1.44
AF-200-08-06	0.50	3/4-16	3/8-18	1.56
AF-200-08-08	0.50	3/4-16	1/2-14	1.62
AF-200-10-06	0.63	7/8-14	3/8-18	1.56
AF-200-10-08	0.63	7/8-14	1/2-14	1.81
AF-200-10-12	0.63	7/8-14	3/4-14	1.81
AF-200-12-08	0.75	1 1/16-14	1/2-14	2.00
AF-200-12-12	0.75	1 1/16-14	3/4-14	1.94

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**AF-290 SERIES**



**90 DEGREE FEMALE ELBOW  
(010203)**

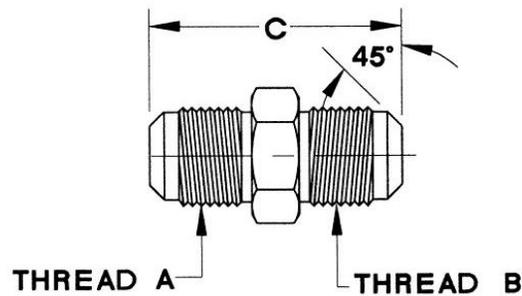
<b>PART NO.</b>	<b>O.D.</b>	<b>THREAD A</b>	<b>THREAD B</b>	<b>DIM C</b>	<b>DIM D</b>
AF-290-04-02	0.25	7/16-20	1/8-27	0.78	0.94
AF-290-04-04	0.25	7/16-20	1/4-18	1.04	0.87
AF-290-05-04	0.31	1/2-20	1/4-18	1.04	0.88
AF-290-06-04	0.38	5/8-18	1/4-18	0.97	1.16
AF-290-06-06	0.38	5/8-18	3/8-18	1.20	1.17
AF-290-08-06	0.50	3/4-16	3/8-18	1.12	1.34
AF-290-08-08	0.50	3/4-16	1/2-14	1.44	1.23
AF-290-10-08	0.63	7/8-14	1/2-14	1.55	1.23
AF-290-12-12	0.75	1 1/16-14	3/4-14	1.89	1.36

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**AF-400SH SERIES**



**UNION  
(010101)**

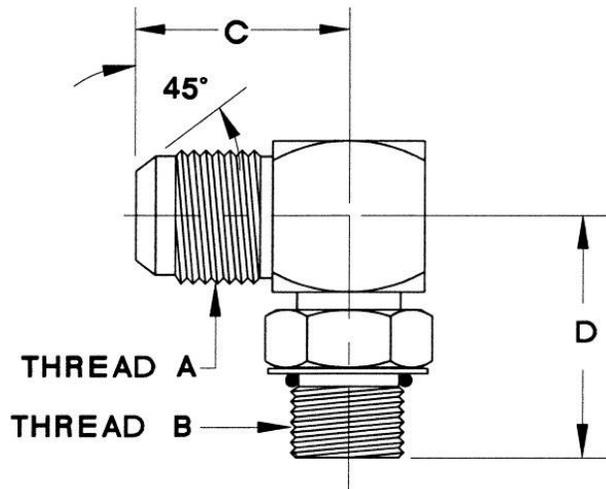
<u>PART NO.</u>	<u>O.D.</u>	<u>THREAD A</u>	<u>THREAD B</u>	<u>DIM C</u>
AF-400SH-04-04	0.25	7/16-20	7/16-20	1.17
AF-400SH-05-05	0.31	1/2-20	1/2-20	1.32
AF-400SH-06-06	0.38	5/8-18	5/8-18	1.50
AF-400SH-08-08	0.50	3/4-16	3/4-16	1.81
AF-400SH-10-10	0.63	7/8-14	7/8-14	2.10
AF-400SH-12-12	0.75	1 1/16-14	1 1/16-14	2.44

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**AF-790 SERIES**



**90 DEGREE STRAIGHT  
 THREAD ELBOW  
 (010202)**

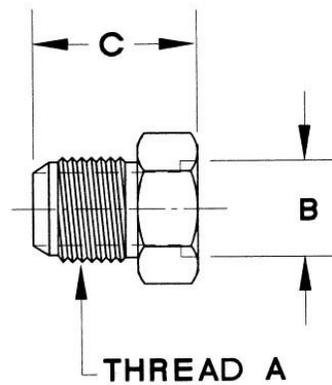
<u>PART NO.</u>	<u>O.D.</u>	<u>THREAD A</u>	<u>THREAD B</u>	<u>DIM C</u>	<u>DIM D</u>
AF-790-04-04	0.25	7/16-20	7/16-20	0.90	1.02
AF-790-06-06	0.38	5/8-18	5/8-18	1.06	1.23
AF-790-08-08	0.50	3/4-16	3/4-16	1.25	1.45
AF-790-10-10	0.63	7/8-14	7/8-14	1.45	1.70
AF-790-12-12	0.75	1 1/16-14	1 1/16-12	1.66	1.94

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**BRAZE FITTINGS**  
**B-4100 SERIES**



**BRAZE TUBE UNION**  
**(NON STANDARD)**

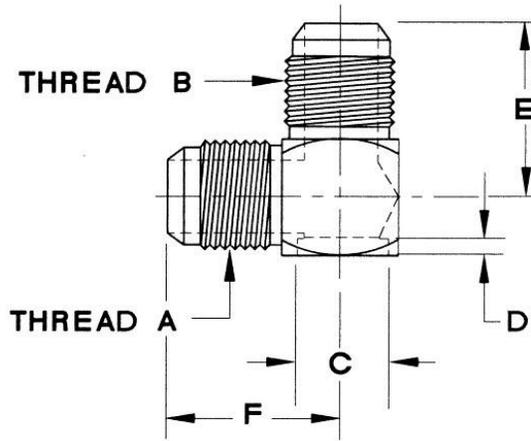
<u>PART NO.</u>	<u>O.D.</u>	<u>THREAD A</u>	<u>DIM B</u>	<u>DIM C</u>
B-4100-04-04	0.25	7/16-20	0.25	0.79
B-4100-06-06	0.38	9/16-18	0.38	0.84
B-4100-08-08	0.50	3/4-16	0.50	0.93
B-4100-10-10	0.63	7/8-14	0.63	1.09
B-4100-12-12	0.75	1 1/16-12	0.75	1.28
B-4100-16-16	1.00	1 5/16-12	1.00	1.32
B-4100-20-20	1.25	1 5/8-12	1.25	1.45
B-4100-24-24	1.50	1 7/8-12	1.50	1.65
B-4100-32-32	2.00	2 1/2-12	2.00	2.04

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**B-4120 SERIES**



**BRAZE TUBE TEE  
(NON STANDARD)**

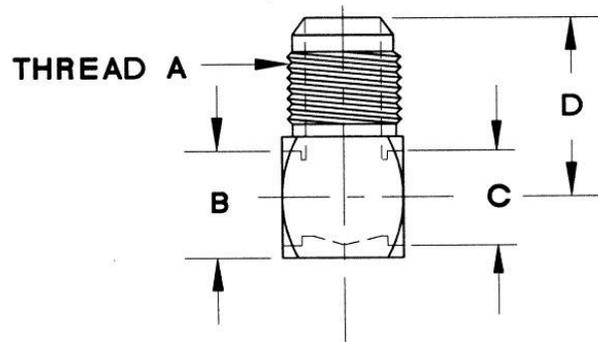
<b>PART NO.</b>	<b>O.D.</b>	<b>THREAD A</b>	<b>THREAD B</b>	<b>DIM C</b>	<b>DIM D</b>	<b>DIM E</b>	<b>DIM F</b>
B-4120-04-04-04	0.25	7/16-20	7/16-20	0.25	0.12	0.89	0.89
B-4120-06-06-06	0.38	9/16-18	9/16-18	0.38	0.14	1.06	1.06
B-4120-08-08-08	0.50	3/4-16	3/4-16	0.50	0.16	1.25	1.25
B-4120-10-10-10	0.63	7/8-14	7/8-14	0.63	0.20	1.45	1.45
B-4120-12-12-12	0.75	1 1/16-12	1 1/16-12	0.75	0.21	1.66	1.66
B-4120-16-16-16	1.00	1 5/16-12	1 5/16-12	1.00	0.24	1.81	1.81
B-4120-20-20-20	1.25	1 5/8-12	1 5/8-12	1.25	0.30	2.06	2.06
B-4120-24-24-24	1.50	1 7/8-12	1 7/8-12	1.50	0.30	2.33	2.33
B-4120-32-32-32	2.00	2 1/2-12	2 1/2-12	2.00	0.35	3.06	3.06

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**B-4130 SERIES**



**BRAZE TUBE TEE  
(NON STANDARD)**

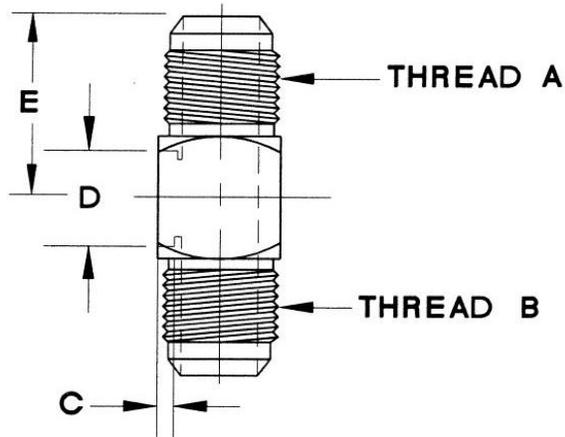
<u>PART NO.</u>	<u>O.D.</u>	<u>THREAD A</u>	<u>DIM B</u>	<u>DIM C</u>	<u>DIM D</u>
B-4130-04-04-04	0.25	7/16-20	0.25	0.25	0.89
B-4130-06-06-06	0.38	9/16-18	0.37	0.37	1.06
B-4130-08-08-08	0.50	3/4-16	0.50	0.50	1.25
B-4130-10-10-10	0.63	7/8-14	0.62	0.62	1.45
B-4130-12-12-12	0.75	1 1/16-12	0.75	0.75	1.65
B-4130-16-16-16	1.00	1 5/16-12	1.00	1.00	1.81
B-4130-20-20-20	1.25	1 5/8-12	1.25	1.25	2.06
B-4130-24-24-24	1.50	1 7/8-12	1.50	1.50	2.32
B-4130-32-32-32	2.00	2 1/2-12	2.00	2.00	3.06

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**B-4135 SERIES**



**BRAZE TUBE TEE  
(NON STANDARD)**

<b>PART NO.</b>	<b>O.D.</b>	<b>THREAD A</b>	<b>THREAD B</b>	<b>DIM C</b>	<b>DIM D</b>	<b>DIM E</b>
B-4135-04-04-04	0.25	7/16-20	7/16-20	0.12	0.25	0.89
B-4135-06-06-06	0.38	9/16-18	9/16-18	0.14	0.38	1.06
B-4135-08-08-08	0.50	3/4-16	3/4-16	0.16	0.50	1.25
B-4135-10-10-10	0.63	7/8-14	7/8-14	0.20	0.63	1.45
B-4135-12-12-12	0.75	1 1/16-12	1 1/16-12	0.21	0.75	1.66
B-4135-16-16-16	1.00	1 5/16-12	1 5/16-12	0.24	1.00	1.81
B-4135-20-20-20	1.25	1 5/8-12	1 5/8-12	0.30	1.25	2.06
B-4135-24-24-24	1.50	1 7/8-12	1 7/8-12	0.30	1.50	2.33
B-4135-32-32-32	2.00	2 1/2-12	2 1/2-12	0.35	2.00	3.06

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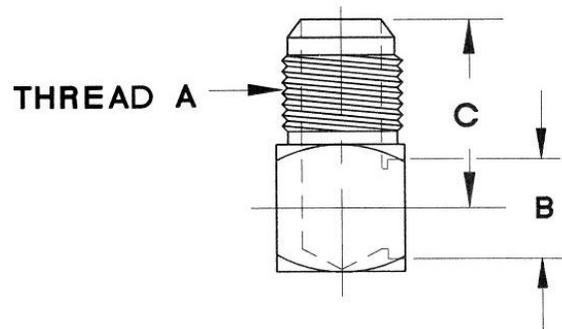
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**BRAZE 90 DEGREE TUBE ELBOW  
 (NON STANDARD)**

PART NO.	O.D.	THREAD A	DIM B	DIM C
B-4190-04-04	0.25	7/16-20	0.25	0.89
B-4190-06-06	0.38	9/16-18	0.38	1.06
B-4190-08-08	0.50	3/4-16	0.50	1.25
B-4190-10-10	0.63	7/8-14	0.62	1.45
B-4190-12-12	0.75	1 1/16-12	0.75	1.65
B-4190-16-16	1.00	1 5/16-12	1.00	1.81
B-4190-20-20	1.25	1 5/8-12	1.25	2.06
B-4190-24-24	1.50	1 7/8-12	1.50	2.32
B-4190-32-32	2.00	2 1/2-12	2.00	3.06

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**B-4190 SERIES**

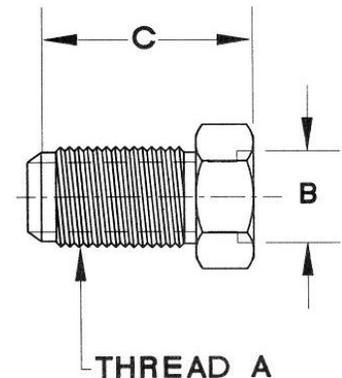


**BRAZE BULKHEAD UNION  
 (NON STANDARD)**

PART NO.	O.D.	THREAD A	DIM B	DIM C
B-5100-04-04	0.25	7/16-20	0.25	1.50
B-5100-06-06	0.38	9/16-18	0.38	1.58
B-5100-08-08	0.50	3/4-16	0.50	1.85
B-5100-10-10	0.63	7/8-14	0.63	2.00
B-5100-12-12	0.75	1 1/16-12	0.75	2.15
B-5100-16-16	1.00	1 5/16-12	1.00	2.18
B-5100-20-20	1.25	1 5/8-12	1.25	2.34
B-5100-24-24	1.50	1 7/8-12	1.50	2.44

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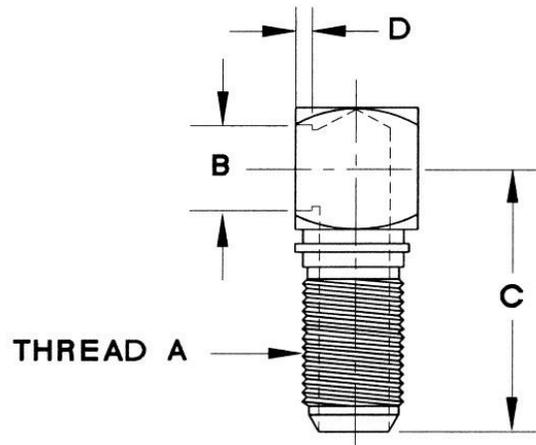
**B-5100 SERIES**





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**B-5190 SERIES**



**BRAZE 90 DEGREE BULKHEAD ELBOW  
(NON STANDARD)**

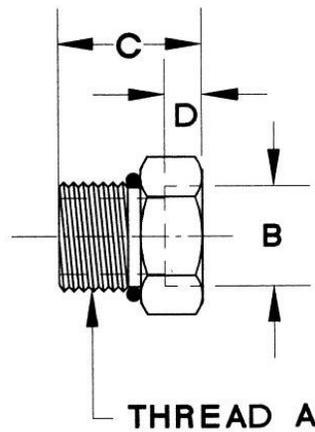
<u>PART NO.</u>	<u>O.D.</u>	<u>THREAD A</u>	<u>DIM B</u>	<u>DIM C</u>	<u>DIM D</u>
B-5190-04-04	0.25	7/16-20	0.25	1.56	0.12
B-5190-06-06	0.38	9/16-18	0.38	1.81	0.14
B-5190-08-08	0.50	3/4-16	0.50	2.10	0.16
B-5190-10-10	0.63	7/8-14	0.63	2.39	0.20
B-5190-12-12	0.75	1 1/16-12	0.75	2.67	0.21
B-5190-16-16	1.00	1 5/16-12	1.03	2.79	0.24
B-5190-20-20	1.25	1 5/8-12	1.25	3.12	0.30
B-5190-24-24	1.50	1 7/8-12	1.50	3.42	0.30
B-5190-32-32	2.00	2 1/2-12	2.00	4.11	0.35

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**B-6000 SERIES**



**BRAZE MALE O'RING UNION  
(NON STANDARD)**

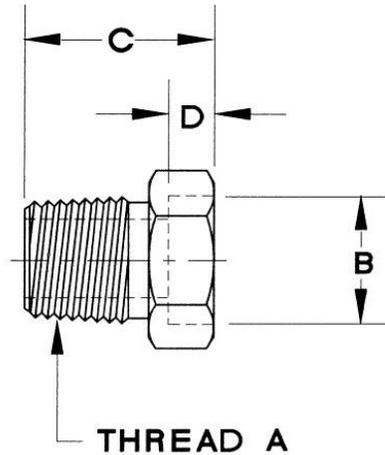
<u>PART NO.</u>	<u>O.D.</u>	<u>THREAD A</u>	<u>DIM B</u>	<u>DIM C</u>	<u>DIM D</u>
B-6000-04-04	0.25	7/16-20	0.25	0.67	0.13
B-6000-05-05	0.31	1/2-20	0.31	0.67	0.14
B-6000-06-06	0.38	9/16-18	0.38	0.73	0.14
B-6000-08-08	0.50	3/4-16	0.50	0.80	0.25
B-6000-10-10	0.63	7/8-14	0.63	0.83	0.25
B-6000-12-12	0.75	1 1/16-12	0.75	1.09	0.25
B-6000-16-16	1.00	1 5/16-12	1.00	1.12	0.31
B-6000-20-20	1.25	1 5/8-12	1.25	1.20	0.31
B-6000-24-24	1.50	1 7/8-12	1.50	1.27	0.31
B-6000-32-32	2.00	2 1/2-12	2.00	1.43	0.35

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**B-6100 SERIES**



**BRAZE MALE PIPE UNION  
(NON STANDARD)**

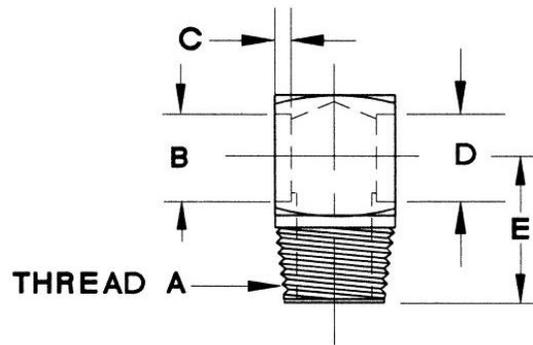
<u>PART NO.</u>	<u>O.D.</u>	<u>THREAD A</u>	<u>DIM B</u>	<u>DIM C</u>	<u>DIM D</u>
B-6100-02-04	0.25	1/8-27	0.25	0.56	0.19
B-6100-04-06	0.38	1/4-18	0.38	0.81	0.25
B-6100-06-08	0.50	3/8-18	0.50	0.84	0.28
B-6100-06-10	0.63	3/8-18	0.63	0.84	0.28
B-6100-08-10	0.63	1/2-14	0.63	1.08	0.33
B-6100-12-12	0.75	3/4-14	0.75	1.09	0.34
B-6100-16-16	1.00	1-11 1/2	1.00	1.31	0.38
B-6100-20-16	1.25	1 1/4-11 1/2	1.00	1.31	0.44
B-6100-20-20	1.25	1 1/4-11 1/2	1.25	1.41	0.44
B-6100-24-24	1.50	1 1/2-11 1/2	1.50	1.50	0.50
B-6100-32-32	2.00	2-11 1/2	2.00	1.78	0.75

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**B-6130 SERIES**



**BRAZE MALE PIPE TEE  
(NON STANDARD)**

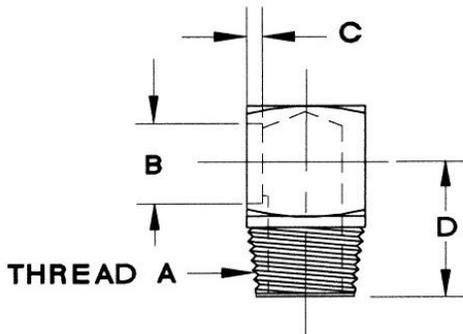
<b>PART NO.</b>	<b>THREAD A</b>	<b>DIM B</b>	<b>DIM C</b>	<b>DIM D</b>	<b>DIM E</b>
B-6130-02-04-04	1/8-27	0.25	0.12	0.25	0.78
B-6130-04-06-06	1/4-18	0.38	0.14	0.38	1.09
B-6130-06-08-08	3/8-18	0.50	0.16	0.50	1.22
B-6130-08-10-10	1/2-14	0.63	0.20	0.63	1.47
B-6130-12-12-12	3/4-14	0.75	0.21	0.75	1.59
B-6130-16-16-16	1-11 1/2	1.00	0.24	1.00	1.97
B-6130-20-20-20	1 1/4-11 1/2	1.25	0.30	1.25	2.38
B-6130-24-24-24	1 1/2-11 1/2	1.50	0.30	1.50	2.64
B-6130-32-32-32	2-11 1/2	2.00	0.35	2.00	3.00

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**B-6190 SERIES**

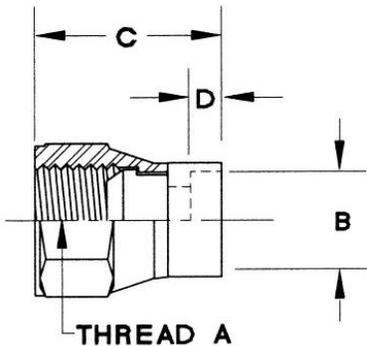


**BRAZE MALE PIPE ELBOW  
(NON STANDARD)**

<u>PART NO.</u>	<u>O.D.</u>	<u>THREAD A</u>	<u>DIM B</u>	<u>DIM C</u>	<u>DIM D</u>
B-6190-02-04	0.25	1/8-27	0.25	0.16	0.78
B-6190-04-06	0.38	1/4-18	0.38	0.16	0.91
B-6190-06-08	0.50	3/8-18	0.50	0.16	1.22
B-6190-08-10	0.63	1/2-14	0.63	0.20	1.47
B-6190-12-12	0.75	3/4-14	0.75	0.21	1.59
B-6190-16-16	1.00	1-11 1/2	1.00	0.24	1.97
B-6190-20-20	1.25	1 1/4-11 1/2	1.25	0.30	2.38
B-6190-24-24	1.50	1 1/2-11 1/2	1.50	0.30	2.64
B-6190-32-32	2.00	2-11 1/2	2.00	0.35	3.00

DESIGN AND DIMENSION SUBJECT TO CHANGE WITHOUT NOTICE.

**B-7000 SERIES**



**BRAZE NPSM SWIVEL ADAPTER  
(NON STANDARD)**

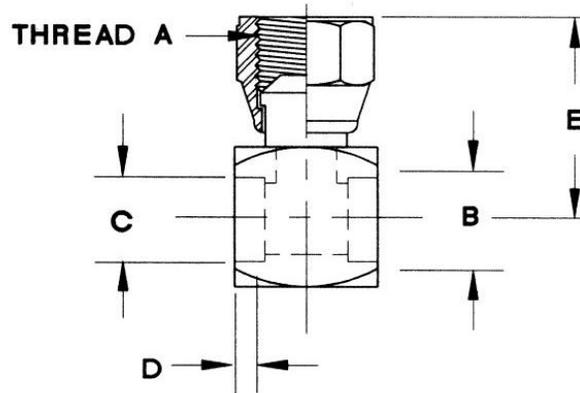
<u>PART NO.</u>	<u>THREAD A</u>	<u>DIM B</u>	<u>DIM C</u>	<u>DIM D</u>
B-7000-04-04	1/4-18	0.25	0.93	0.12
B-7000-06-06	3/8-18	0.38	1.01	0.14
B-7000-08-08	1/2-14	0.50	1.12	0.25
B-7000-12-12	3/4-14	0.75	1.26	0.25
B-7000-16-16	1-11 1/2	1.03	1.34	0.31
B-7000-20-20	1 1/4-11 1/2	1.25	1.53	0.31
B-7000-24-24	1 1/2-11 1/2	1.50	1.53	0.31

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**B-7130 SERIES**



**BRAZE NPSM SWIVEL TEE  
 (NON STANDARD)**

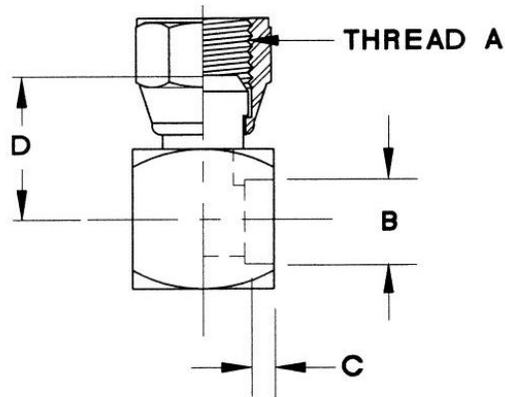
<u>PART NO.</u>	<u>THREAD A</u>	<u>DIM B</u>	<u>DIM C</u>	<u>DIM D</u>	<u>DIM E</u>
B-7130-04-04-04	1/4-18	0.25	0.25	0.12	0.72
B-7130-06-06-06	3/8-18	0.38	0.38	0.14	0.80
B-7130-06-08-08	3/8-18	0.50	0.50	0.16	0.80
B-7130-08-08-08	1/2-14	0.50	0.50	0.20	0.82
B-7130-08-10-10	1/2-14	0.63	0.63	0.21	0.82
B-7130-12-12-12	3/4-14	0.75	0.75	0.24	1.08
B-7130-16-16-16	1-11 1/2	1.00	1.00	0.30	1.18
B-7130-20-20-20	1 1/4-11 1/2	1.25	1.25	0.30	1.44
B-7130-24-24-24	1 1/2-11 1/2	1.50	1.50	0.35	1.58

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**B-7190 SERIES**



**BRAZE NPSM SWIVEL ELBOW  
 (NON STANDARD)**

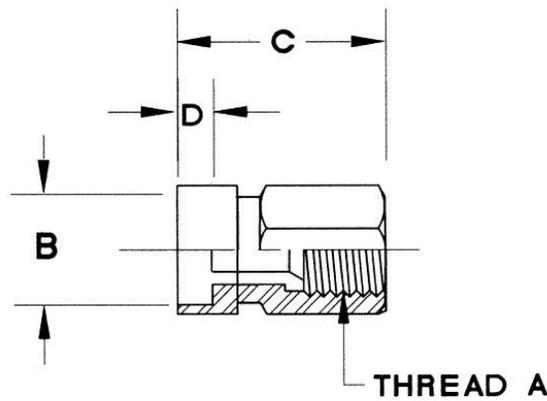
<u>PART NO.</u>	<u>O.D.</u>	<u>THREAD A</u>	<u>DIM B</u>	<u>DIM C</u>	<u>DIM D</u>
B-7190-04-04	0.25	1/4-18	0.25	0.12	0.72
B-7190-06-06	0.38	3/8-18	0.38	0.14	0.80
B-7190-06-08	0.50	3/8-18	0.50	0.16	0.80
B-7190-08-08	0.50	1/2-14	0.50	0.20	0.82
B-7190-08-10	0.63	1/2-14	0.63	0.21	0.82
B-7190-12-12	0.75	3/4-14	0.75	0.24	1.08
B-7190-16-16	1.00	1-11 1/2	1.00	0.30	1.18
B-7190-20-20	1.25	1 1/4-11 1/2	1.25	0.30	1.44
B-7190-24-24	1.50	1 1/2-11 1/2	1.50	0.35	1.58

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**B-8000 SERIES**



**BRAZE FEMALE J.I.C. SWIVEL ADAPTER  
 (NON STANDARD)**

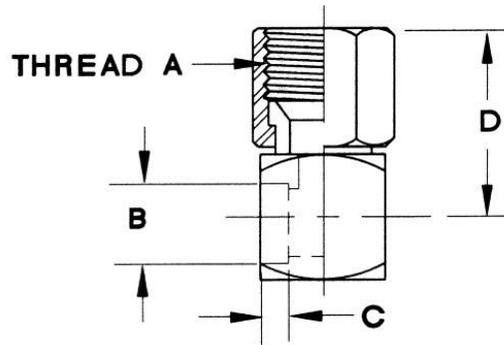
<u>PART NO.</u>	<u>O.D.</u>	<u>THREAD A</u>	<u>DIM B</u>	<u>DIM C</u>	<u>DIM D</u>
B-8000-04-04	0.25	7/16-20	0.25	0.92	0.12
B-8000-06-06	0.38	9/16-18	0.38	0.97	0.14
B-8000-08-08	0.50	3/4-16	0.50	1.13	0.25
B-8000-10-10	0.63	7/8-14	0.63	1.28	0.25
B-8000-12-12	0.75	1 1/16-12	0.75	1.30	0.25
B-8000-16-16	1.00	1 5/16-12	1.00	1.50	0.31
B-8000-20-20	1.25	1 5/8-12	1.25	1.75	0.31

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**B-8190 SERIES**



**BRAZE 90 DEGREE FEMALE  
 J.I.C. SWIVEL ELBOW  
 (NON STANDARD)**

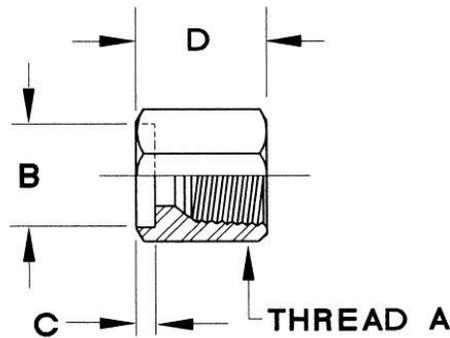
<u>PART NO.</u>	<u>O.D.</u>	<u>THREAD A</u>	<u>DIM B</u>	<u>DIM C</u>	<u>DIM D</u>
B-8190-04-04	0.25	7/16-20	0.25	0.12	1.00
B-8190-06-06	0.38	9/16-18	0.38	0.14	1.25
B-8190-08-08	0.50	3/4-16	0.50	0.16	1.37
B-8190-10-10	0.63	7/8-14	0.63	0.21	1.62
B-8190-12-12	0.75	1 1/16-12	0.75	0.24	1.75
B-8190-16-16	1.00	1 5/16-12	1.00	0.30	2.00
B-8190-20-20	1.25	1 5/8-12	1.25	0.30	2.31

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**B-9100 SERIES**



**BRAZE FEMALE PIPE ADAPTER  
 (NON STANDARD)**

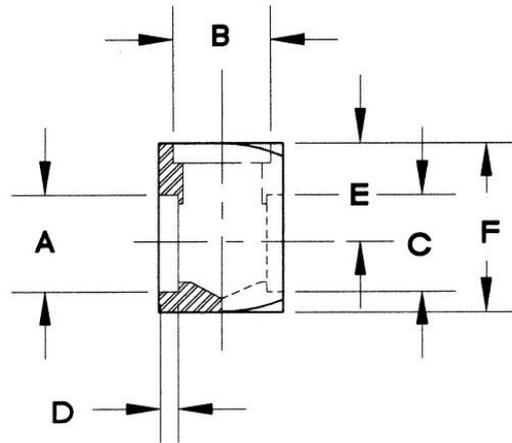
<u>PART NO.</u>	<u>O.D.</u>	<u>THREAD A</u>	<u>DIM B</u>	<u>DIM C</u>	<u>DIM D</u>
B-9100-04-04	0.25	1/4-18	0.25	0.12	0.88
B-9100-04-06	0.38	1/4-18	0.38	0.14	0.88
B-9100-06-06	0.38	3/8-18	0.38	0.14	1.06
B-9100-06-08	0.50	3/8-18	0.50	0.25	1.06
B-9100-08-08	0.50	1/2-14	0.50	0.25	1.31
B-9100-08-10	0.63	1/2-14	0.63	0.25	1.31
B-9100-12-12	0.75	3/4-14	0.75	0.25	1.31
B-9100-16-16	1.00	1-11 1/2	1.00	0.31	1.50
B-9100-20-20	1.25	1 1/4-11 1/2	1.25	0.31	1.62
B-9100-24-24	1.50	1 1/2-11 1/2	1.50	0.31	1.68

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**B-9130 SERIES**



**BRAZE FEMALE TEE  
 (NON STANDARD)**

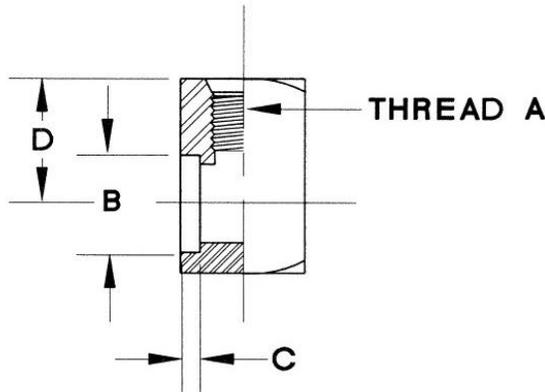
<u>PART NO.</u>	<u>O.D.</u>	<u>DIM A</u>	<u>DIM B</u>	<u>DIM C</u>	<u>DIM D</u>	<u>DIM E</u>	<u>DIM F</u>
B-9130-04-04-04	0.25	0.25	0.25	0.25	0.12	0.31	0.62
B-9130-06-06-06	0.38	0.38	0.38	0.38	0.14	0.40	0.80
B-9130-08-08-08	0.50	0.50	0.50	0.50	0.16	0.50	1.00
B-9130-10-10-10	0.63	0.63	0.63	0.63	0.20	0.56	1.12
B-9130-12-12-12	0.75	0.75	0.75	0.75	0.21	0.68	1.37
B-9130-16-16-16	1.00	1.00	1.00	1.00	0.24	0.87	1.75
B-9130-20-20-20	1.25	1.25	1.25	1.25	0.30	1.00	2.00
B-9130-24-24-24	1.50	1.50	1.50	1.50	0.30	1.18	2.37
B-9130-32-32-32	2.00	2.00	2.00	2.00	0.35	1.43	2.87

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**B-9190 SERIES**



**BRAZE FEMALE O'RING BOSS  
 90 DEGREE ELBOW  
 (NON STANDARD)**

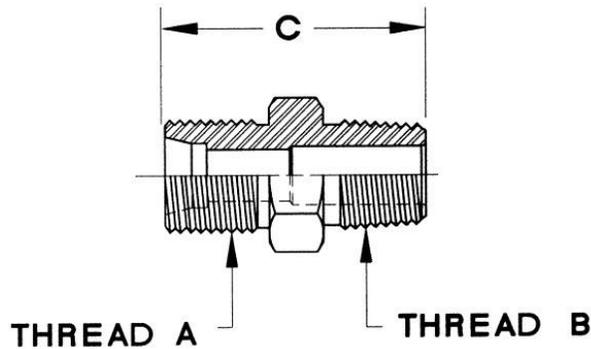
<u>PART NO.</u>	<u>O.D.</u>	<u>THREAD A</u>	<u>DIM B</u>	<u>DIM C</u>	<u>DIM D</u>
B-9190-04-04	0.25	7/16-20	0.25	0.12	1.23
B-9190-06-06	0.38	9/16-18	0.38	0.14	1.42
B-9190-08-06	0.50	3/4-16	0.38	0.16	1.42
B-9190-08-08	0.50	3/4-16	0.50	0.20	1.64
B-9190-10-08	0.63	7/8-14	0.50	0.21	1.64
B-9190-12-12	0.75	1 1/16-12	0.75	0.24	1.89
B-9190-16-16	1.00	1 5/16-12	1.00	0.30	2.17
B-9190-20-20	1.25	1 5/8-12	1.25	0.30	2.33
B-9190-24-24	1.50	1 7/8-12	1.50	0.35	2.89

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**FLARELESS FITTINGS**  
**FL-100 SERIES**



**FLARELESS MALE CONNECTOR**  
**(080102)**

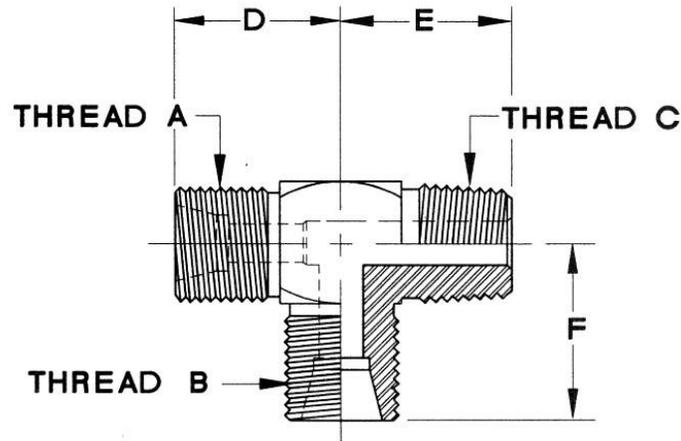
<b>PART NO.</b>	<b>O.D.</b>	<b>THREAD A</b>	<b>THREAD B</b>	<b>DIM C</b>
FL-100-04-02	0.25	7/16-20	1/8-27	1.12
FL-100-04-04	0.25	7/16-20	1/4-18	1.32
FL-100-06-04	0.38	9/16-18	1/4-18	1.34
FL-100-06-06	0.38	9/16-18	3/8-18	1.35
FL-100-08-06	0.50	3/4-16	3/8-18	1.44
FL-100-08-08	0.50	3/4-16	1/2-14	1.69
FL-100-10-08	0.63	7/8-14	1/2-14	1.75
FL-100-12-12	0.75	1 1/16-12	3/4-14	1.88
FL-100-16-12	1.00	1 5/16-12	3/4-14	1.88
FL-100-16-16	1.00	1 5/16-12	1-11 1/2	2.07
FL-100-20-20	1.25	1 5/8-12	1 1/4-11 1/2	2.18
FL-100-24-24	1.50	1 7/8-12	1 1/2-11 1/2	2.28
FL-100-32-32	2.00	2 1/2-12	2-11 1/2	2.46

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**FL-120 SERIES**



**FLARELESS MALE RUN TEE  
 (080424)**

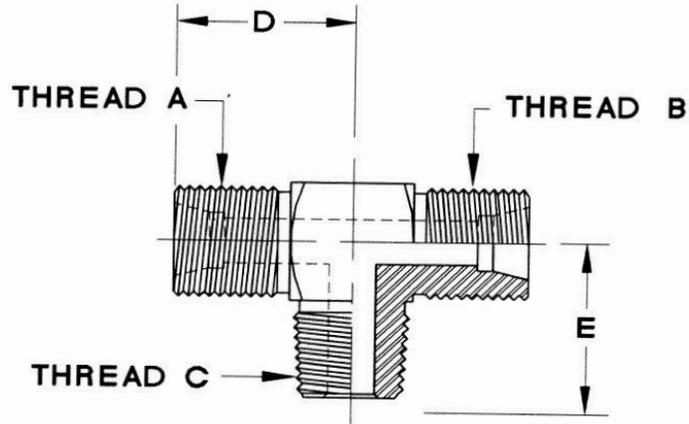
<b>PART NO.</b>	<b>O.D.</b>	<b>THREAD A</b>	<b>THREAD B</b>	<b>THREAD C</b>	<b>DIM D</b>	<b>DIM E</b>	<b>DIM F</b>
FL-120-04-04-02	0.25	7/16-20	7/16-20	1/8-27	0.89	0.78	0.89
FL-120-04-04-04	0.25	7/16-20	7/16-20	1/4-18	1.03	1.09	1.03
FL-120-05-05-02	0.31	1/2-20	1/2-20	1/8-27	0.95	0.81	0.95
FL-120-06-06-04	0.38	9/16-18	9/16-18	1/4-18	1.05	1.09	1.05
FL-120-08-08-06	0.50	3/4-16	3/4-16	3/8-18	1.25	1.22	1.25
FL-120-08-08-08	0.50	3/4-16	3/4-16	1/2-14	1.35	1.47	1.35
FL-120-10-10-08	0.63	7/8-14	7/8-14	1/2-14	1.42	1.47	1.42
FL-120-12-12-12	0.75	1 1/16-12	1 1/16-12	3/4-14	1.58	1.59	1.58
FL-120-16-16-16	1.00	1 5/16-12	1 5/16-12	1-11 1/2	1.73	1.97	1.73

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**FL-130 SERIES**



**FLARELESS MALE BRANCH TEE  
(080425)**

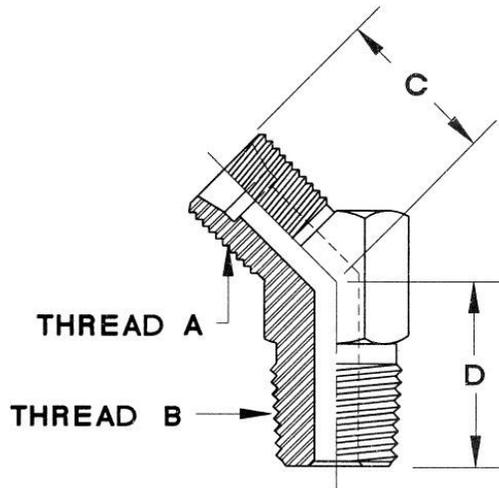
PART NO.	O.D.	THREAD A	THREAD B	THREAD C	DIM D	DIM E
FL-130-04-04-02	0.25	7/16-20	7/16-20	1/8-27	0.89	0.78
FL-130-04-04-04	0.25	7/16-20	7/16-20	1/4-18	1.03	1.09
FL-130-05-05-02	0.31	1/2-20	1/2-20	1/8-27	0.95	0.78
FL-130-06-06-04	0.38	9/16-18	9/16-18	1/4-18	1.05	1.09
FL-130-08-08-06	0.50	3/4-16	3/4-16	3/8-18	1.25	1.22
FL-130-08-08-08	0.50	3/4-16	3/4-16	1/2-14	1.35	1.47
FL-130-10-10-08	0.63	7/8-14	7/8-14	1/2-14	1.42	1.47
FL-130-12-12-12	0.75	1 1/16-12	1 1/16-12	3/4-14	1.58	1.59
FL-130-14-14-12	0.88	1 3/16-12	1 3/16-12	3/4-14	1.66	1.66
FL-130-16-16-16	1.00	1 5/16-12	1 5/16-12	1-11 1/2	1.73	1.97
FL-130-20-20-20	1.25	1 5/8-12	1 5/8-12	1 1/4-11 1/2	1.89	2.38
FL-130-24-24-24	1.50	1 7/8-12	1 7/8-12	1 1/2-11 1/2	2.02	2.64
FL-130-32-32-32	2.00	2 1/2-12	2 1/2-12	2-11 1/2	2.45	3.00

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**FL-145 SERIES**



**FLARELESS 45 DEGREE MALE ELBOW  
(080302)**

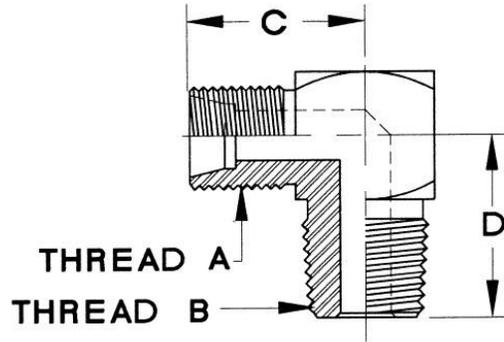
<b>PART NO.</b>	<b>O.D.</b>	<b>THREAD A</b>	<b>THREAD B</b>	<b>DIM C</b>	<b>DIM D</b>
FL-145-04-02	0.25	7/16-20	1/8-27	0.70	0.64
FL-145-04-04	0.25	7/16-20	1/4-18	0.83	0.86
FL-145-05-02	0.31	1/2-20	1/8-27	0.75	0.64
FL-145-06-04	0.38	9/16-18	1/4-18	0.83	0.86
FL-145-08-06	0.50	3/4-16	3/8-18	0.98	0.95
FL-145-10-08	0.63	7/8-14	1/2-14	1.08	1.17
FL-145-12-12	0.75	1 1/16-12	3/4-14	1.27	1.20
FL-145-14-12	0.88	1 3/16-12	3/4-14	1.34	1.30
FL-145-16-16	1.00	1 5/16-12	1-11 1/2	1.36	1.48
FL-145-20-20	1.25	1 5/8-12	1 1/4-11 1/2	1.45	1.67
FL-145-24-24	1.50	1 7/8-12	1 1/2-11 1/2	1.52	1.77
FL-145-32-32	2.00	2 1/2-12	2-11 1/2	1.83	2.11

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**FL-190 SERIES**



**FLARELESS 90 DEGREE MALE ELBOW  
 (080202)**

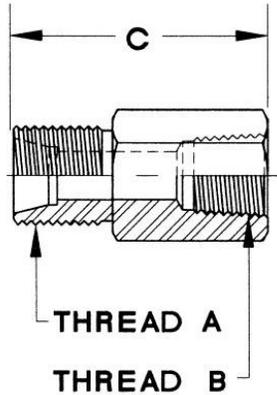
<b>PART NO.</b>	<b>O.D.</b>	<b>THREAD A</b>	<b>THREAD B</b>	<b>DIM C</b>	<b>DIM D</b>
FL-190-02-02	0.13	5/16-24	1/8-27	0.77	0.72
FL-190-03-02	0.19	3/8-24	1/8-27	0.83	0.72
FL-190-04-02	0.25	7/16-20	1/8-27	0.89	0.78
FL-190-04-04	0.25	7/16-20	1/4-18	1.03	1.09
FL-190-05-02	0.31	1/2-20	1/8-27	0.95	0.78
FL-190-05-04	0.31	1/2-20	1/8-27	1.03	1.09
FL-190-06-04	0.38	9/16-18	1/4-18	1.05	1.09
FL-190-06-02	0.38	9/16-18	1/8-27	1.05	0.90
FL-190-06-06	0.38	9/16-18	3/8-18	1.14	1.22
FL-190-06-08	0.38	9/16-18	1/2-14	1.24	1.47
FL-190-08-04	0.50	3/4-16	1/4-18	1.22	1.22
FL-190-08-06	0.50	3/4-16	3/8-18	1.25	1.22
FL-190-08-08	0.50	3/4-16	1/2-14	1.35	1.47
FL-190-10-06	0.63	7/8-14	3/8-18	1.42	1.28
FL-190-10-08	0.63	7/8-14	1/2-14	1.42	1.47
FL-190-12-12	0.75	1 1/16-12	3/4-14	1.58	1.59
FL-190-12-08	0.75	1 1/16-12	1/2-14	1.58	1.59
FL-190-14-12	0.88	1 3/16-12	3/4-14	1.66	1.69
FL-190-16-12	1.00	1 5/16-12	3/4-14	1.73	1.78
FL-190-16-16	1.00	1 5/16-12	1-11 1/2	1.73	1.97
FL-190-20-20	1.25	1 5/8-12	1 1/4-11 1/2	1.89	2.38
FL-190-24-24	1.50	1 7/8-12	1 1/2-11 1/2	2.02	2.64
FL-190-32-32	2.00	2 1/2-12	2-11 1/2	2.45	3.00

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**FL-200 SERIES**



**FLARELESS FEMALE CONNECTOR  
(080103)**

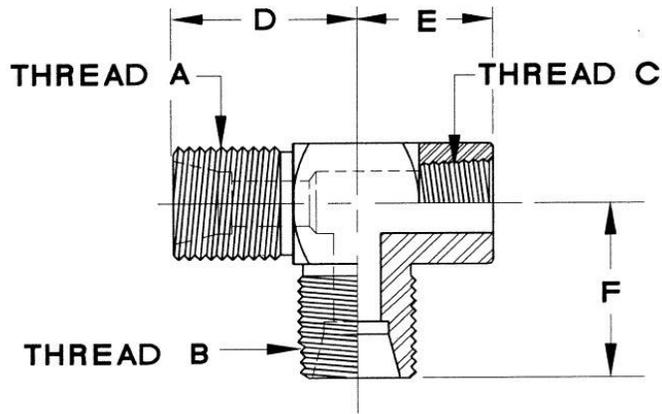
<u>PART NO.</u>	<u>O.D.</u>	<u>THREAD A</u>	<u>THREAD B</u>	<u>DIM C</u>
FL-200-02-02	0.13	5/16-24	1/8-27	0.83
FL-200-04-02	0.25	7/16-20	1/8-27	1.09
FL-200-04-04	0.25	7/16-20	1/4-18	1.29
FL-200-05-02	0.31	1/2-20	1/8-27	1.08
FL-200-06-04	0.38	9/16-18	1/4-18	1.31
FL-200-06-06	0.38	9/16-18	3/8-18	1.34
FL-200-08-06	0.50	3/4-16	3/8-18	1.47
FL-200-08-04	0.50	3/4-16	1/4-18	1.47
FL-200-08-08	0.50	3/4-16	1/2-14	1.69
FL-200-10-08	0.63	7/8-14	1/2-14	1.77
FL-200-12-12	0.75	1 1/16-12	3/4-14	1.89
FL-200-14-12	0.88	1 3/16-12	3/4-14	1.86
FL-200-16-16	1.00	1 5/16-12	1-11 1/2	2.13
FL-200-20-20	1.25	1 5/8-12	1 1/4-11 1/2	2.22
FL-200-24-24	1.50	1 7/8-12	1 1/2-11 1/2	2.23
FL-200-32-32	2.00	2 1/2-12	2-11 1/2	2.31

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**FL-220 SERIES**



**FLARELESS FEMALE RUN TEE  
(080426)**

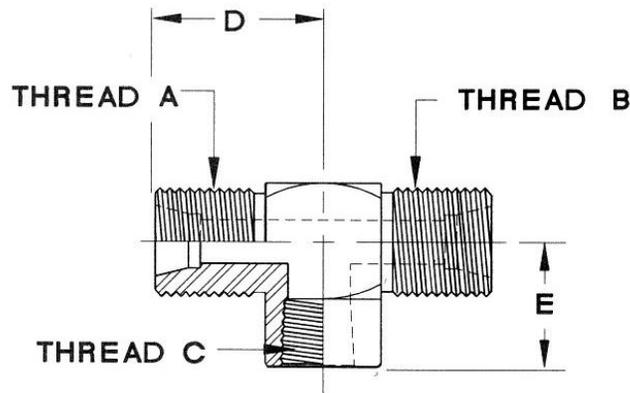
PART NO.	O.D.	THREAD A	THREAD B	THREAD C	DIM D	DIM E	DIM F
FL-220-04-04-02	0.25	7/16-20	7/16-20	1/8-27	0.89	0.66	0.89
FL-220-06-06-04	0.38	9/16-18	9/16-18	1/4-18	1.05	0.88	1.05
FL-220-08-08-06	0.50	3/4-16	3/4-16	3/8-18	1.23	1.02	1.23
FL-220-10-10-08	0.63	7/8-14	7/8-14	1/2-14	1.42	1.23	1.42
FL-220-12-12-12	0.75	1 1/16-12	1 1/16-12	3/4-14	1.58	1.36	1.58
FL-220-16-16-16	1.00	1 5/16-12	1 5/16-12	1-11 1/2	1.73	1.62	1.73
FL-220-20-20-20	1.25	1 5/8-12	1 5/8-12	1 1/4-11 1/2	2.08	1.70	2.08
FL-220-24-24-24	1.50	1 7/8-12	1 7/8-12	1 1/2-11 1/2	2.58	2.08	2.58
FL-220-32-32-32	2.00	2 1/2-12	2 1/2-12	2-11 1/2	2.64	2.39	2.64

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**FL-230 SERIES**



**FLARELESS FEMALE BRANCH TEE  
(080427)**

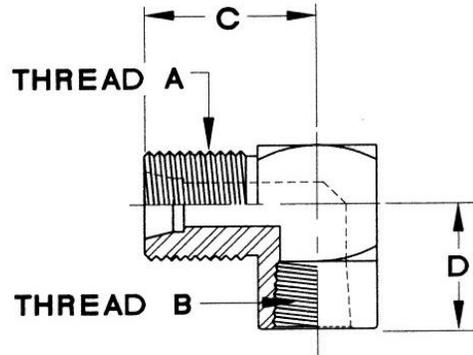
<b>PART NO.</b>	<b>O.D.</b>	<b>THREAD A</b>	<b>THREAD B</b>	<b>THREAD C</b>	<b>DIM D</b>	<b>DIM E</b>
FL-230-04-04-02	0.25	7/16-20	7/16-20	1/8-27	0.89	0.66
FL-230-04-04-04	0.25	7/16-20	7/16-20	1/4-18	1.03	0.88
FL-230-06-06-04	0.38	9/16-18	9/16-18	1/4-18	1.05	0.88
FL-230-08-08-06	0.50	3/4-16	3/4-16	3/8-18	1.23	1.02
FL-230-10-10-08	0.63	7/8-14	7/8-14	1/2-14	1.42	1.23
FL-230-12-12-12	0.75	1 1/16-12	1 1/16-12	3/4-14	1.58	1.36
FL-230-16-16-16	1.00	1 5/16-12	1 5/16-12	1-11 1/2	1.73	1.62
FL-230-20-20-20	1.25	1 5/8-12	1 5/8-12	1 1/4-11 1/2	2.08	1.70
FL-230-24-24-24	1.50	1 7/8-12	1 7/8-12	1 1/2-11 1/2	2.58	2.08
FL-230-32-32-32	2.00	2 1/2-12	2 1/2-12	2-11 1/2	2.64	2.39

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**FL-290 SERIES**



**FLARELESS 90 DEGREE FEMALE ELBOW  
(080203)**

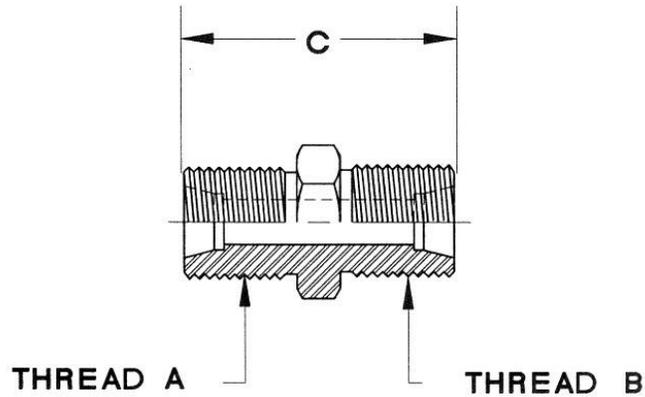
<b>PART NO.</b>	<b>O.D.</b>	<b>THREAD A</b>	<b>THREAD B</b>	<b>DIM C</b>	<b>DIM D</b>
FL-290-04-02	0.25	7/16-20	1/8-27	0.66	0.89
FL-290-04-04	0.25	7/16-20	1/4-18	0.88	1.03
FL-290-05-02	0.31	1/2-20	1/8-27	0.66	0.95
FL-290-06-04	0.38	9/16-18	1/4-18	0.88	1.05
FL-290-06-06	0.38	9/16-18	3/8-18	1.02	1.12
FL-290-08-06	0.50	3/4-16	3/8-18	1.02	1.23
FL-290-08-08	0.50	3/4-16	1/2-14	1.23	1.35
FL-290-10-08	0.63	7/8-14	1/2-14	1.23	1.42
FL-290-12-12	0.75	1 1/16-12	3/4-14	1.36	1.58
FL-290-14-12	0.88	1 3/16-12	3/4-14	1.42	1.62
FL-290-16-16	1.00	1 5/16-12	1-11 1/2	1.62	1.73

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**FL-400SH SERIES**



**FLARELESS UNION  
(080101)**

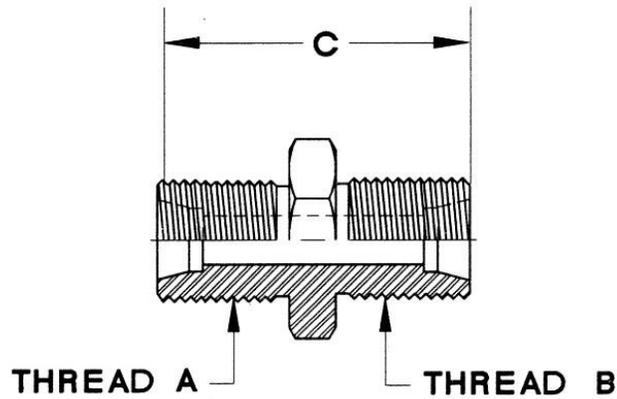
<b>PART NO.</b>	<b>O.D.</b>	<b>THREAD A</b>	<b>THREAD B</b>	<b>DIM C</b>
FL-400SH-02-02	0.13	5/16-24	5/16-24	1.02
FL-400SH-03-03	0.19	3/8-24	3/8-24	1.11
FL-400SH-04-04	0.25	7/16-20	7/16-20	1.09
FL-400SH-05-05	0.31	1/2-20	1/2-20	1.19
FL-400SH-06-06	0.38	9/16-18	9/16-18	1.24
FL-400SH-08-08	0.50	3/4-16	3/4-16	1.42
FL-400SH-10-10	0.63	7/8-14	7/8-14	1.61
FL-400SH-12-12	0.75	1 1/16-12	1 1/16-12	1.81
FL-400SH-14-14	0.88	1 3/16-12	1 3/16-12	1.81
FL-400SH-16-16	1.00	1 5/16-12	1 5/16-12	1.81
FL-400SH-20-20	1.25	1 5/8-12	1 5/8-12	1.89
FL-400SH-24-24	1.50	1 7/8-12	1 7/8-12	1.96
FL-400SH-32-32	2.00	2 1/2-12	2 1/2-12	2.11

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**FL-410LH SERIES**



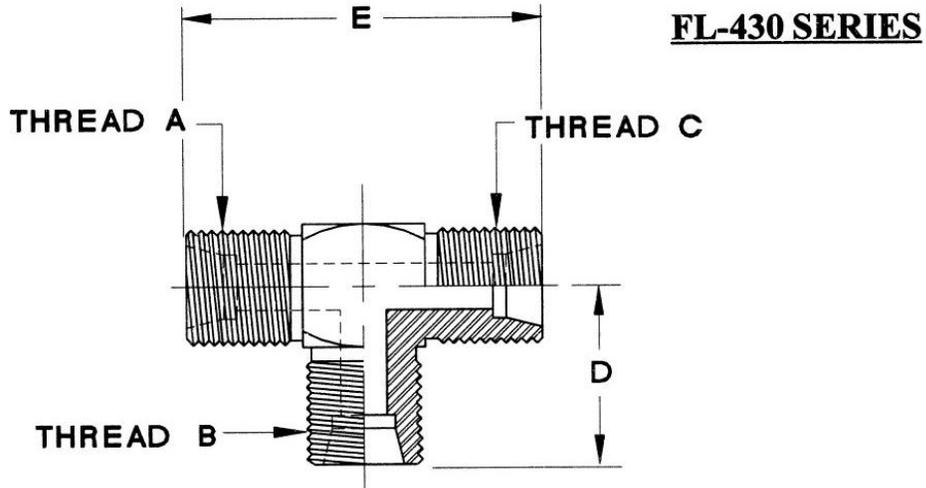
**FLARELESS LARGE HEX UNION  
(080119)**

<b>PART NO.</b>	<b>O.D.</b>	<b>THREAD A</b>	<b>THREAD B</b>	<b>DIM C</b>
FL-410LH-04-04	0.25	7/16-20	7/16-20	1.19
FL-410LH-06-06	0.38	9/16-18	9/16-18	1.23
FL-410LH-08-08	0.50	3/4-16	3/4-16	1.42
FL-410LH-10-10	0.63	7/8-14	7/8-14	1.61
FL-410LH-12-12	0.75	1 1/16-12	1 1/16-12	1.81
FL-410LH-16-16	1.00	1 5/16-12	1 5/16-12	1.81
FL-410LH-20-20	1.25	1 5/8-12	1 5/8-12	1.89
FL-410LH-24-24	1.50	1 7/8-12	1 7/8-12	1.96
FL-410LH-32-32	2.00	2 1/2-12	2 1/2-12	2.11

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**FL-430 SERIES**

**FLARELESS UNION TEE  
(080401)**

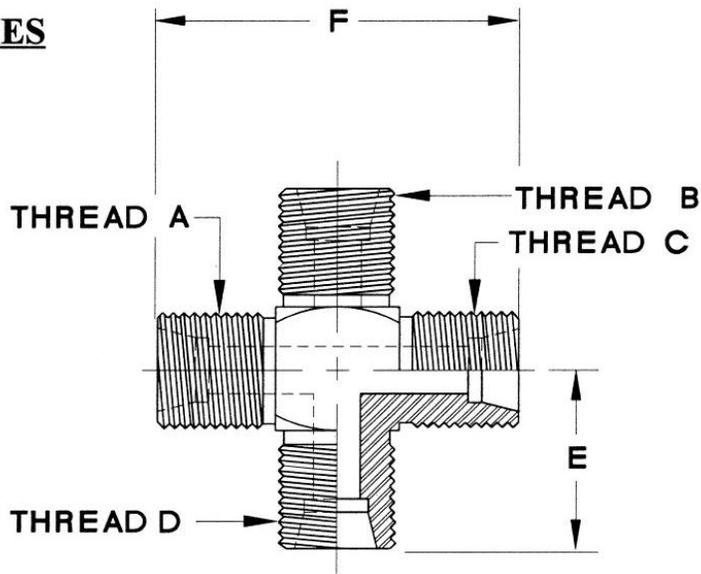
PART NO.	O.D.	THREAD A	THREAD B	THREAD C	DIM D	DIM E
FL-430-02-02-02	0.13	5/16-24	5/16-24	5/16-24	0.77	1.54
FL-430-03-03-03	0.19	3/8-24	3/8-24	3/8-24	0.84	1.68
FL-430-04-04-04	0.25	7/16-20	7/16-20	7/16-20	0.89	1.78
FL-430-05-05-05	0.31	1/2-20	1/2-20	1/2-20	0.95	1.90
FL-430-06-06-06	0.38	9/16-18	9/16-18	9/16-18	1.05	2.10
FL-430-08-08-08	0.50	3/4-16	3/4-16	3/4-16	1.25	2.50
FL-430-08-08-06	0.50	3/4-16	3/4-16	9/16-18	1.25	2.50
FL-430-10-10-10	0.63	7/8-14	7/8-14	7/8-14	1.42	2.84
FL-430-12-12-12	0.75	1 1/16-12	1 1/16-12	1 1/16-12	1.58	3.16
FL-430-14-14-14	0.88	1 3/16-12	1 3/16-12	1 3/16-12	1.66	3.32
FL-430-16-16-16	1.00	1 5/16-12	1 5/16-12	1 5/16-12	1.73	3.46
FL-430-20-20-20	1.25	1 5/8-12	1 5/8-12	1 5/8-12	1.89	3.78
FL-430-24-24-24	1.50	1 7/8-12	1 7/8-12	1 7/8-12	2.02	4.04
FL-430-32-32-32	2.00	2 1/2-12	2 1/2-12	2 1/2-12	2.45	4.90

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**FL-440 SERIES**



**FLARELESS UNION CROSS**

(080501)

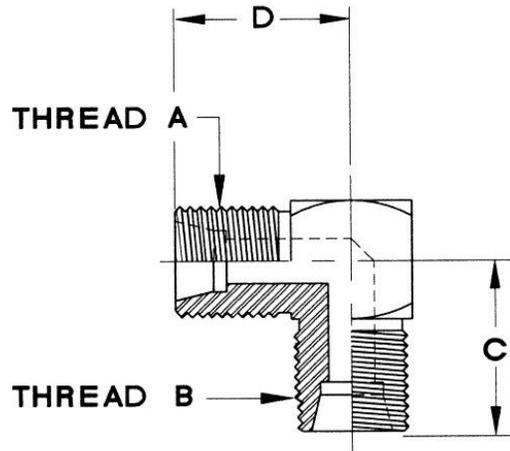
PART NO.	O.D.	THREAD A	THREAD B	THREAD C	THREAD D	DIM E	DIM F
FL-440-04-04-04-04	0.25	7/16-20	7/16-20	7/16-20	7/16-20	0.89	1.78
FL-440-06-06-06-06	0.38	9/16-18	9/16-18	9/16-18	9/16-18	1.05	2.10
FL-440-08-08-08-08	0.50	3/4-16	3/4-16	3/4-16	3/4-16	1.25	2.50
FL-440-10-10-10-10	0.63	7/8-14	7/8-14	7/8-14	7/8-14	1.42	2.84
FL-440-12-12-12-12	0.75	1 1/16-12	1 1/16-12	1 1/16-12	1 1/16-12	1.58	3.16
FL-440-16-16-16-16	1.00	1 5/16-12	1 5/16-12	1 5/16-12	1 5/16-12	1.73	3.46
FL-440-20-20-20-20	1.25	1 5/8-12	1 5/8-12	1 5/8-12	1 5/8-12	1.89	3.78
FL-440-24-24-24-24	1.50	1 7/8-12	1 7/8-12	1 7/8-12	1 7/8-12	2.02	4.04
FL-440-32-32-32-32	2.00	2 1/2-12	2 1/2-12	2 1/2-12	2 1/2-12	2.45	4.90

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**FL-490 SERIES**



**FLARELESS 90 DEGREE UNION ELBOW  
 (080201)**

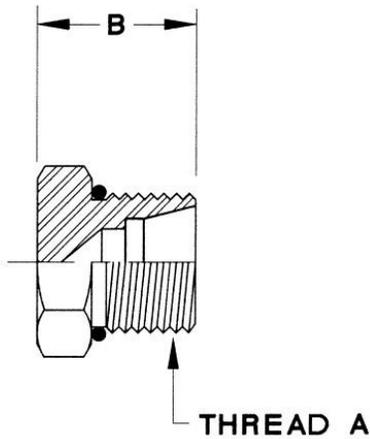
<u>PART NO.</u>	<u>O.D.</u>	<u>THREAD A</u>	<u>THREAD B</u>	<u>DIM C</u>	<u>DIM D</u>
FL-490-04-04	0.25	7/16-20	7/16-20	0.89	0.89
FL-490-05-05	0.31	1/2-20	1/2-20	0.95	0.95
FL-490-06-06	0.38	9/16-18	9/16-18	1.05	1.05
FL-490-08-08	0.50	3/4-16	3/4-16	1.25	1.25
FL-490-10-10	0.63	7/8-14	7/8-14	1.42	1.42
FL-490-12-12	0.75	1 1/16-12	1 1/16-12	1.58	1.58
FL-490-14-14	0.88	1 3/16-12	1 3/16-12	1.62	1.62
FL-490-16-16	1.00	1 5/16-12	1 5/16-12	1.73	1.73
FL-490-20-20	1.25	1 5/8-12	1 5/8-12	1.89	1.89
FL-490-24-24	1.50	1 7/8-12	1 7/8-12	2.02	2.02
FL-490-32-32	2.00	2 1/2-12	2 1/2-12	2.45	2.45

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**FL-510 SERIES**

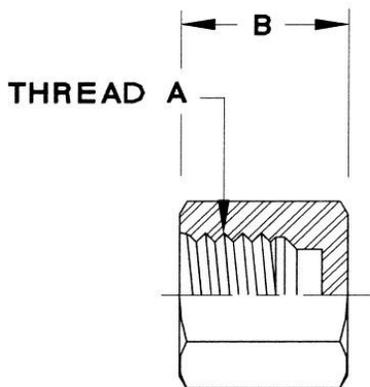


**FLARELESS HEX HEAD O'RING PLUG  
(090109A)**

<u>PART NO.</u>	<u>O.D.</u>	<u>THREAD A</u>	<u>DIM B</u>
FL-510-02	0.13	5/16-24	0.60
FL-510-04	0.25	7/16-20	0.71
FL-510-05	0.31	1/2-20	0.71
FL-510-06	0.38	9/16-18	0.75
FL-510-08	0.50	3/4-16	0.85
FL-510-10	0.63	7/8-14	0.97
FL-510-12	0.75	1 1/16-12	1.09
FL-510-14	0.88	1 3/16-12	1.09
FL-510-16	1.00	1 5/16-12	1.12
FL-510-20	1.25	1 5/8-12	1.20
FL-510-24	1.50	1 7/8-12	1.27
FL-510-32	2.00	2 1/2-12	1.43

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**FL-520 SERIES**



**FLARELESS CAP  
(080112)**

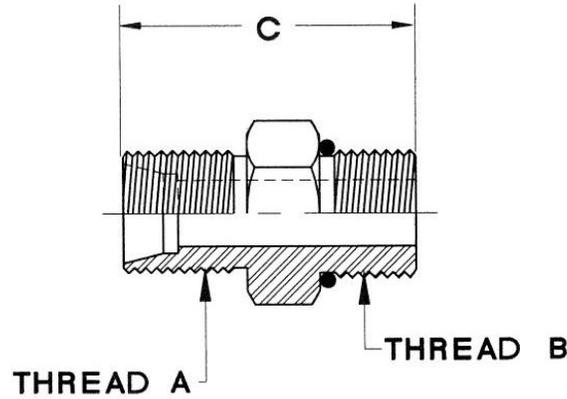
<u>PART NO.</u>	<u>O.D.</u>	<u>THREAD A</u>	<u>DIM B</u>
FL-520-04	0.25	7/16-20	0.70
FL-520-06	0.38	9/16-18	0.75
FL-520-08	0.50	3/4-16	0.84
FL-520-10	0.63	7/8-14	0.92
FL-520-12	0.75	1 1/16-12	0.97
FL-520-16	1.00	1 5/16-12	1.05
FL-520-20	1.25	1 5/8-12	1.05

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**FL-700 SERIES**



**FLARELESS  
 STRAIGHT THREAD O'RING  
 MALE CONNECTOR  
 (080120)**

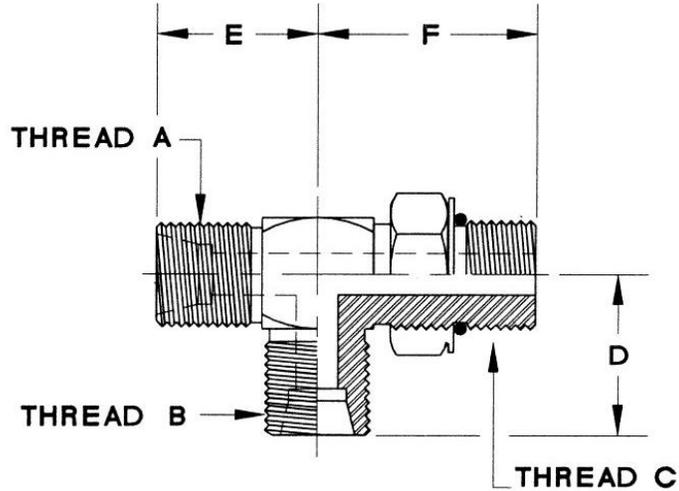
<b>PART NO.</b>	<b>O.D.</b>	<b>THREAD A</b>	<b>THREAD B</b>	<b>DIM C</b>
FL-700-03-03	0.19	3/8-24	3/8-24	1.04
FL-700-04-04	0.25	7/16-20	7/16-20	1.13
FL-700-04-05	0.25	7/16-20	1/2-20	1.13
FL-700-04-06	0.25	7/16-20	9/16-18	1.19
FL-700-05-05	0.31	1/2-20	1/2-20	1.13
FL-700-06-06	0.38	9/16-18	9/16-18	1.21
FL-700-06-08	0.38	9/16-18	3/4-16	1.28
FL-700-08-08	0.50	3/4-16	3/4-16	1.38
FL-700-08-10	0.50	3/4-16	7/8-14	1.50
FL-700-08-12	0.50	3/4-16	1 1/16-12	1.67
FL-700-10-10	0.63	7/8-14	7/8-14	1.57
FL-700-12-12	0.75	1 1/16-12	1 1/16-12	1.79
FL-700-12-16	0.75	1 1/16-12	1 5/16-12	1.79
FL-700-16-12	1.00	1 5/16-12	1 1/16-12	1.82
FL-700-16-16	1.00	1 5/16-12	1 5/16-12	1.82
FL-700-20-20	1.25	1 5/8-12	1 5/8-12	1.90
FL-700-24-24	1.50	1 7/8-12	1 7/8-12	1.97
FL-700-32-32	2.00	2 1/2-12	2 1/2-12	2.13

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**FL-720 SERIES**



**FLARELESS STRAIGHT THREAD  
 O'RING RUN TEE  
 (080428)**

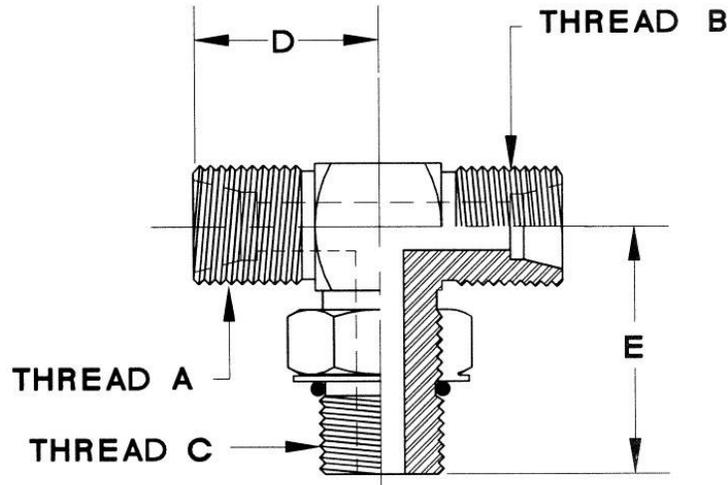
<b>PART NO.</b>	<b>O.D.</b>	<b>THREAD A</b>	<b>THREAD B</b>	<b>THREAD C</b>	<b>DIM D</b>	<b>DIM E</b>	<b>DIM F</b>
FL-720-04-04-04	0.25	7/16-20	7/16-20	7/16-20	0.89	0.89	1.03
FL-720-06-06-06	0.38	9/16-18	9/16-18	9/16-18	1.05	1.05	1.25
FL-720-08-08-08	0.50	3/4-16	3/4-16	3/4-16	1.25	1.25	1.45
FL-720-10-10-10	0.63	7/8-14	7/8-14	7/8-14	1.42	1.42	1.70
FL-720-12-12-12	0.75	1 1/16-12	1 1/16-12	1 1/16-12	1.58	1.58	1.94
FL-720-16-16-16	1.00	1 5/16-12	1 5/16-12	1 5/16-12	1.73	1.73	2.05
FL-720-20-20-20	1.25	1 5/8-12	1 5/8-12	1 5/8-12	1.89	1.89	2.25
FL-720-24-24-24	1.50	1 7/8-12	1 7/8-12	1 7/8-12	2.02	2.02	2.39
FL-720-32-32-32	2.00	2 1/2-12	2 1/2-12	2 1/2-12	2.45	2.45	2.89

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**FL-730 SERIES**



**FLARELESS STRAIGHT THREAD  
 O'RING BRANCH TEE  
 (080429)**

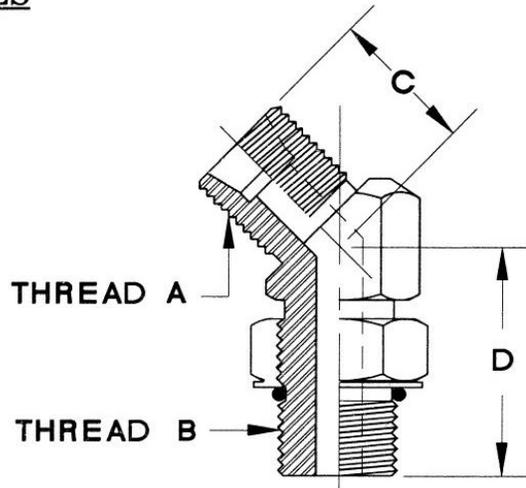
<b>PART NO.</b>	<b>O.D.</b>	<b>THREAD A</b>	<b>THREAD B</b>	<b>THREAD C</b>	<b>DIM D</b>	<b>DIM E</b>
FL-730-04-04-04	0.25	7/16-20	7/16-20	7/16-20	0.89	1.03
FL-730-06-06-06	0.38	9/16-18	9/16-18	9/16-18	1.05	1.25
FL-730-08-08-08	0.50	3/4-16	3/4-16	3/4-16	1.27	1.45
FL-730-10-10-10	0.63	7/8-14	7/8-14	7/8-14	1.42	1.70
FL-730-12-12-12	0.75	1 1/16-12	1 1/16-12	1 1/16-12	1.58	1.94
FL-730-16-16-16	1.00	1 5/16-12	1 5/16-12	1 5/16-12	1.73	2.05
FL-730-20-20-20	1.25	1 5/8-12	1 5/8-12	1 5/8-12	1.89	2.25
FL-730-24-24-24	1.50	1 7/8-12	1 7/8-12	1 7/8-12	2.02	2.39
FL-730-32-32-32	2.00	2 1/2-12	2 1/2-12	2 1/2-12	2.45	2.89

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**FL-745 SERIES**



**FLARELESS STRAIGHT THREAD  
 O'RING 45 DEGREE ELBOW  
 (080320)**

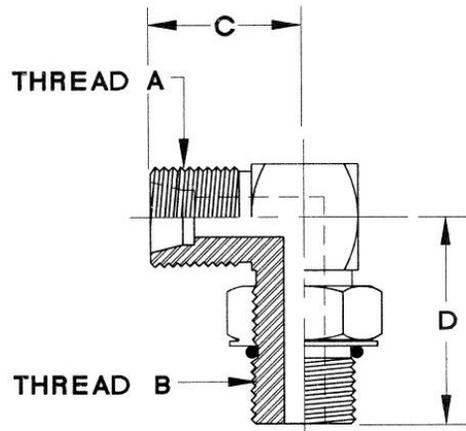
PART NO.	O.D.	THREAD A	THREAD B	DIM C	DIM D
FL-745-04-04	0.25	7/16-20	7/16-20	0.70	1.05
FL-745-06-06	0.38	9/16-18	9/16-18	0.83	1.14
FL-745-08-08	0.50	3/4-16	3/4-16	0.98	1.30
FL-745-10-10	0.63	7/8-14	7/8-14	1.08	1.52
FL-745-12-12	0.75	1 1/16-12	1 1/16-12	1.27	1.73
FL-745-16-16	1.00	1 5/16-12	1 5/16-12	1.36	1.86
FL-745-20-20	1.25	1 5/8-12	1 5/8-12	1.45	1.91
FL-745-24-24	1.50	1 7/8-12	1 7/8-12	1.52	1.91
FL-745-32-32	2.00	2 1/2-12	2 1/2-12	1.83	1.86

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**FL-790 SERIES**



**FLARELESS 90 DEGREE STRAIGHT THREAD  
 O'RING ELBOW  
 (080220)**

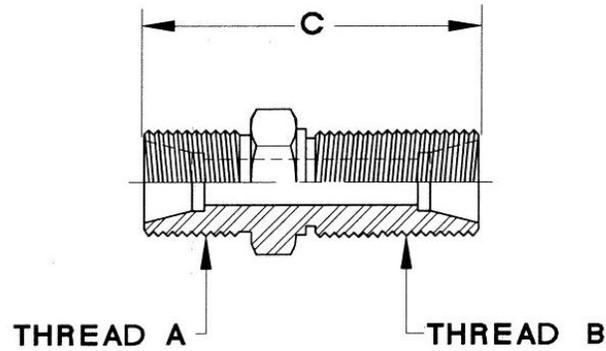
<u>PART NO.</u>	<u>O.D.</u>	<u>THREAD A</u>	<u>THREAD B</u>	<u>DIM C</u>	<u>DIM D</u>
FL-790-04-04	0.25	7/16-20	7/16-20	0.89	1.03
FL-790-05-05	0.31	1/2-20	1/2-20	0.97	1.09
FL-790-06-06	0.38	9/16-18	9/16-18	1.05	1.25
FL-790-08-08	0.50	3/4-16	3/4-16	1.27	1.45
FL-790-10-10	0.63	7/8-14	7/8-14	1.42	1.70
FL-790-12-12	0.75	1 1/16-12	1 1/16-12	1.58	1.94
FL-790-16-16	1.00	1 5/16-12	1 5/16-12	1.73	2.05
FL-790-20-20	1.25	1 5/8-12	1 5/8-12	1.89	2.05
FL-790-24-24	1.50	1 7/8-12	1 7/8-12	2.02	2.39
FL-790-32-32	2.00	2 1/2-12	2 1/2-12	2.45	2.89

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**FL-1000 SERIES**



**FLARELESS BULKHEAD UNION  
(080601)**

<u>PART NO.</u>	<u>O.D.</u>	<u>THREAD A</u>	<u>THREAD B</u>	<u>DIM C</u>
FL-1000-04-04	0.25	7/16-20	7/16-20	1.89
FL-1000-06-06	0.38	9/16-18	9/16-18	1.98
FL-1000-08-08	0.50	3/4-16	3/4-16	2.22
FL-1000-10-10	0.63	7/8-14	7/8-14	2.48
FL-1000-12-12	0.75	1 1/16-12	1 1/16-12	2.72
FL-1000-16-16	1.00	1 5/16-12	1 5/16-12	2.77
FL-1000-20-20	1.25	1 5/8-12	1 5/8-12	2.80
FL-1000-24-24	1.50	1 7/8-12	1 7/8-12	2.87
FL-1000-32-32	2.00	2 1/2-12	2 1/2-12	3.23

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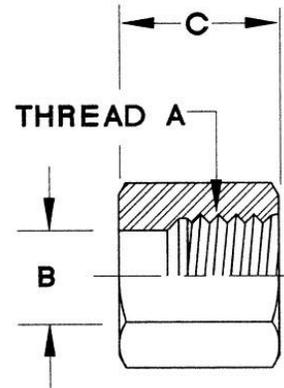
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**FLARELESS NUT**  
 (080110)

PART NO.	O.D.	THREAD A	DIM B	DIM C
FL-1801-02	0.13	5/16-24	0.13	0.53
FL-1801-03	0.19	3/8-24	0.20	0.61
FL-1801-04	0.25	7/16-20	0.26	0.70
FL-1801-05	0.31	1/2-20	0.32	0.72
FL-1801-06	0.38	9/16-18	0.38	0.75
FL-1801-08	0.50	3/4-16	0.51	0.84
FL-1801-10	0.63	7/8-14	0.63	0.92
FL-1801-12	0.75	1 1/16-12	0.76	0.97
FL-1801-14	0.88	1 3/16-12	0.88	1.00
FL-1801-16	1.00	1 5/16-12	1.01	1.05
FL-1801-20	1.25	1 5/8-12	1.26	1.05
FL-1801-24	1.50	1 7/8-12	1.51	1.03
FL-1801-32	2.00	2 1/2-12	2.01	1.12

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**FL-1801 SERIES**

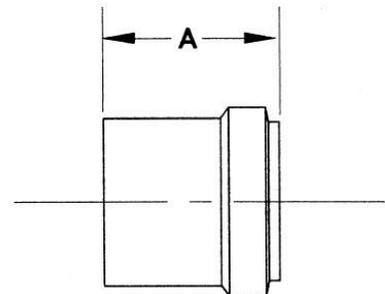


**FLARELESS FERRULE**  
 (080115A)

PART NO.	O.D.	DIM A
FL-1802-02	0.13	0.29
FL-1802-03	0.19	0.28
FL-1802-04	0.25	0.34
FL-1802-05	0.31	0.34
FL-1802-06	0.38	0.38
FL-1802-08	0.50	0.38
FL-1802-10	0.63	0.42
FL-1802-12	0.75	0.42
FL-1802-14	0.88	0.42
FL-1802-16	1.00	0.42
FL-1802-20	1.25	0.42
FL-1802-24	1.50	0.42
FL-1802-32	2.00	0.45

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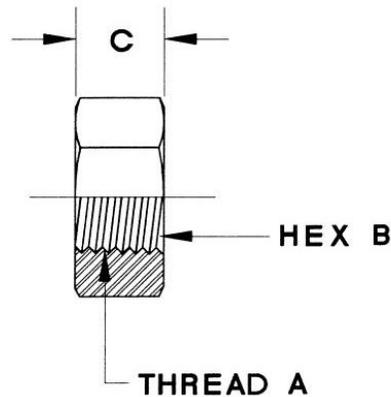
**FL-1802 SERIES**





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**FL-1805 SERIES**



**FLARELESS BULKHEAD NUT  
(080118)**

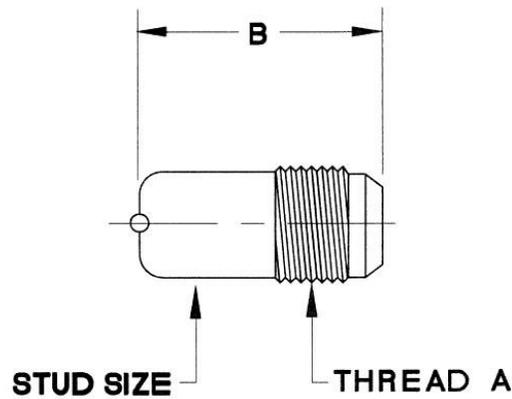
<b>PART NO.</b>	<b>O.D.</b>	<b>THREAD A</b>	<b>HEX B</b>	<b>DIM C</b>
FL-1805-04	0.25	7/16-20	0.69	0.25
FL-1805-06	0.38	9/16-18	0.81	0.27
FL-1805-08	0.50	3/4-16	1.00	0.31
FL-1805-10	0.63	7/8-14	1.13	0.36
FL-1805-12	0.75	1 1/16-12	1.38	0.41
FL-1805-16	1.00	1 5/16-12	1.63	0.41
FL-1805-20	1.25	1 5/8-12	1.88	0.41
FL-1805-24	1.50	1 7/8-12	2.13	0.41
FL-1805-32	2.00	2 1/2-12	2.75	0.41

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**CYLINDER FITTINGS**  
**SW-100 SERIES**



**STUD WELD FITTING**  
**STRAIGHT MALE FLARE TO STUD**  
**(NON STANDARD)**

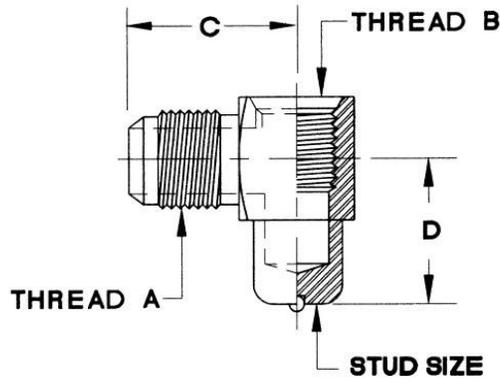
<u>PART NO.</u>	<u>O.D.</u>	<u>THREAD A</u>	<u>STUD SIZE</u>	<u>DIM B</u>	<u>AFTER WELD B</u>
SW-100-06	0.38	9/16-18	0.50	0.94	0.81
SW-100-08	0.50	3/4-16	0.63	1.15	1.02
SW-100-10	0.63	7/8-14	0.88	3.40	3.25

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**SW-190 SERIES**

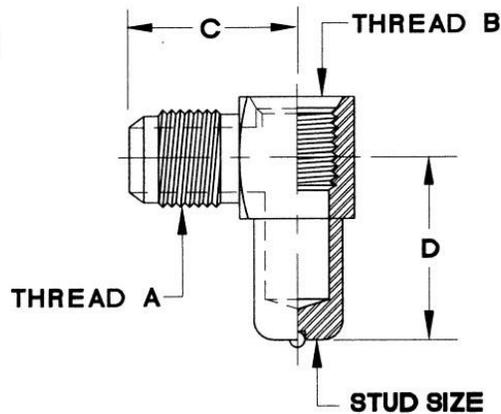


**STUD WELD FITTING  
 90 DEGREE MALE FLARE TO STUD  
 (NON STANDARD)**

<u>PART NO.</u>	<u>O.D.</u>	<u>THREAD A</u>	<u>THREAD B</u>	<u>STUD SIZE</u>	<u>DIM C</u>	<u>DIM D</u>	<u>AFTER WELD D</u>
SW-190-06	0.38	9/16-18	3/8-24	0.50	0.88	0.75	0.58
SW-190-08	0.50	3/4-16	9/16-18	0.63	1.09	0.94	0.84
SW-190-10	0.63	7/8-14	9/16-18	0.88	1.39	1.39	0.98

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**SW-190L SERIES**



**STUD WELD FITTING  
 90 DEGREE LONG MALE FLARE TO STUD  
 (NON STANDARD)**

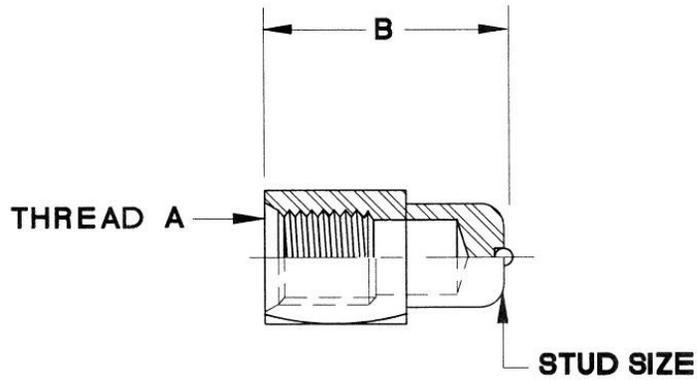
<u>PART NO.</u>	<u>O.D.</u>	<u>THREAD A</u>	<u>THREAD B</u>	<u>STUD SIZE</u>	<u>DIM C</u>	<u>DIM D</u>	<u>AFTER WELD D</u>
SW-190L-06	0.38	9/16-18	3/8-24	0.50	0.88	1.37	1.20
SW-190L-08	0.50	3/4-16	9/16-18	0.63	1.09	2.17	2.00
SW-190L-10	0.63	7/8-14	9/16-18	0.88	1.39	2.22	2.06

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**SW-200 SERIES**



**STUD WELD FITTING  
 STRAIGHT FEMALE O'RING PORT TO STUD  
 (NON STANDARD)**

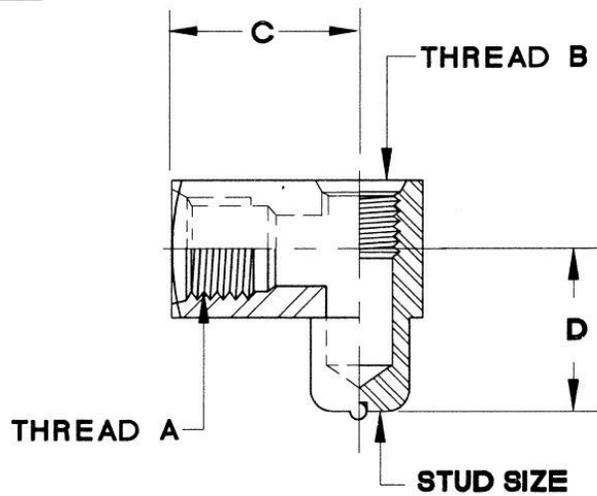
<b>PART NO.</b>	<b>O.D.</b>	<b>THREAD A</b>	<b>STUD SIZE</b>	<b>DIM B</b>	<b>AFTER WELD B</b>
SW-200-08	0.50	3/4-16	.625	1.44	1.32

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**SW-290 SERIES**



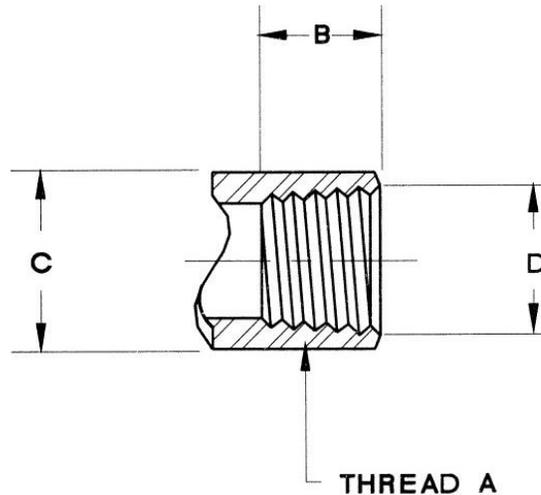
**STUD WELD FITTING  
 90 DEGREE FEMALE O'RING BOSS TO STUD  
 (NON STANDARD)**

<u>PART NO.</u>	<u>O.D.</u>	<u>THREAD A</u>	<u>THREAD B</u>	<u>STUD SIZE</u>	<u>DIM C</u>	<u>DIM D</u>	<u>AFTER WELD D</u>
SW-290-04	0.25	7/16-20	5/16-24	0.50	0.88	0.81	0.71
SW-290-06	0.38	9/16-18	7/16-20	0.63	0.94	0.94	0.84
SW-290-10	0.63	7/8-14	7/16-20	0.63	1.19	1.06	0.94

DESIGN AND DIMENSION SUBJECT TO CHANGE WITHOUT NOTICE.



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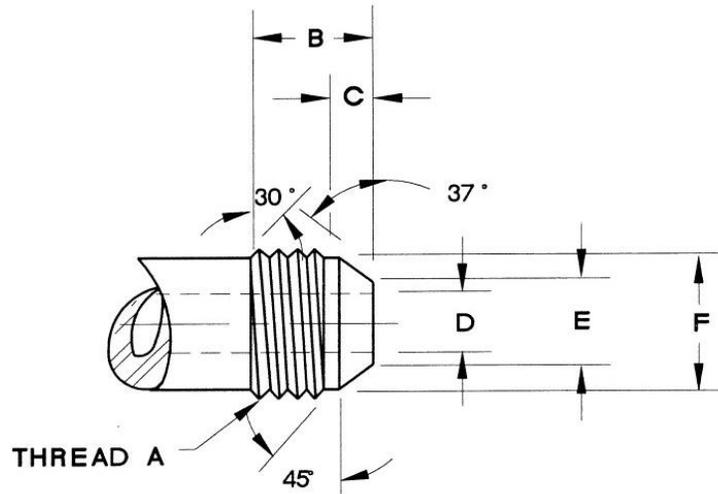


### FEMALE PIPE THREAD

A Female NPTF	B Full Thread	C Hole Diameter		D 90 Degree Countersink	
		Min.	Max.	Min.	Max.
1/8-27	0.31	0.331	0.335	0.406	0.422
1/4-18	0.47	0.429	0.433	0.547	0.563
3/8-18	0.50	0.569	0.573	0.672	0.688
1/2-14	0.66	0.695	0.699	0.844	0.859
3/4-14	0.66	0.905	0.909	1.047	1.063
1-11 1/2	0.78	1.139	1.143	1.313	1.328
1 1/4-11 1/2	0.81	1.483	1.487	1.656	1.672
1 1/2-11 1/2	0.81	1.717	1.721	1.906	1.922
2-11 1/2	0.81	2.202	2.206	2.375	2.391



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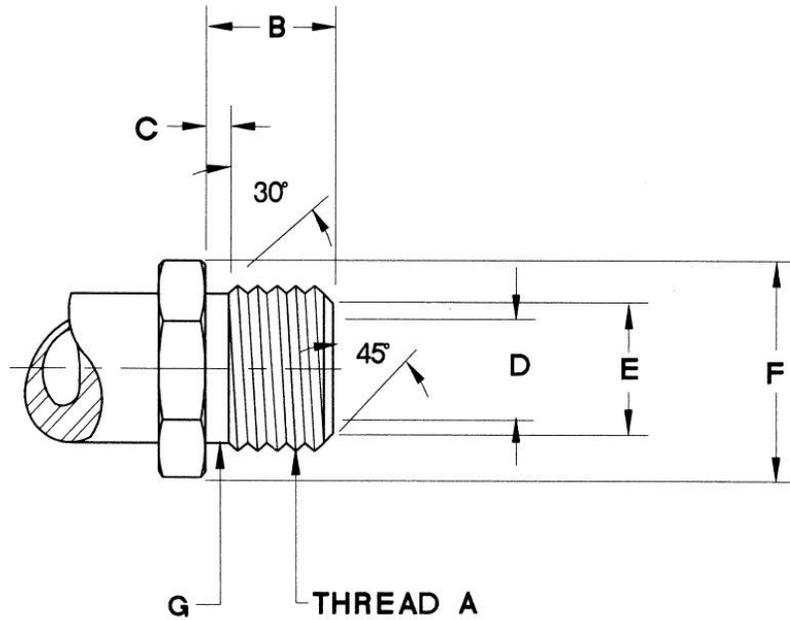


### J.I.C.-37 DEGREE-SAE FLARE

A U.N.F.-2A Straight Thread	B Full Thread	C Nose Length		D Hole Diameter		E Nose Diameter		F Diameter	
		Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.
5/16-24	0.43	0.177	0.192	0.059	0.065	0.080	0.086	0.240	0.245
3/8-24	0.46	0.177	0.192	0.122	0.128	0.143	0.149	0.302	0.307
7/16-20	0.54	0.193	0.208	0.169	0.175	0.190	0.196	0.354	0.359
1/2-20	0.54	0.193	0.208	0.231	0.237	0.252	0.258	0.416	0.421
9/16-18	0.54	0.198	0.213	0.293	0.301	0.315	0.321	0.471	0.476
3/4-16	0.64	0.253	0.268	0.387	0.395	0.423	0.429	0.649	0.654
7/8-14	0.74	0.266	0.281	0.480	0.488	0.536	0.542	0.762	0.767
1 1/16-12	0.85	0.315	0.330	0.604	0.614	0.661	0.667	0.933	0.938
1 3/16-12	0.88	0.315	0.330	0.713	0.723	0.785	0.791	1.058	1.063
1 5/16-12	0.90	0.315	0.330	0.839	0.851	0.910	0.916	1.183	1.188
1 5/8-12	0.94	0.367	0.382	1.073	1.086	1.144	1.150	1.496	1.501
1 7/8-12	1.07	0.378	0.393	1.307	1.320	1.378	1.384	1.745	1.750
2 1/2-12	1.32	0.461	0.476	1.776	1.791	1.877	1.883	2.370	2.375



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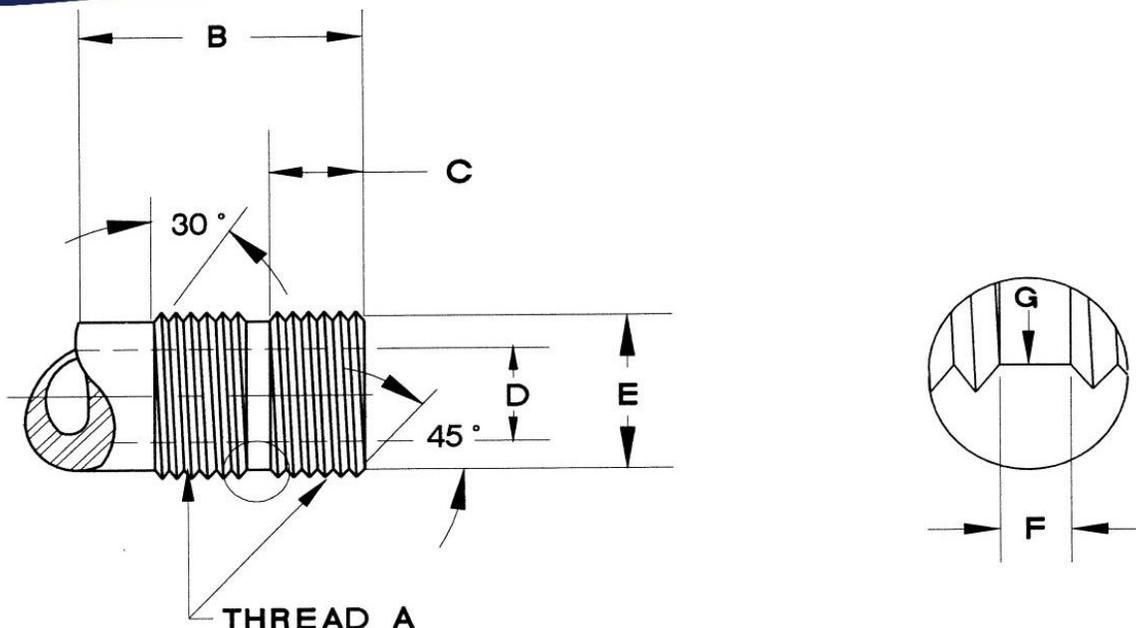


### MALE O'RING BOSS

A U.N.F.-2A Thread	B End to Hexagon		C Groove Width		D Hole Diameter		E Chamfer Diameter		F Chamfer Diameter		G Groove Diameter	
	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.
5/16-24	0.292	0.302	0.063	0.078	0.059	0.065	0.245	0.255	0.433	0.443	0.247	0.252
3/8-24	0.292	0.302	0.063	0.078	0.122	0.128	0.305	0.315	0.495	0.505	0.310	0.315
7/16-20	0.355	0.365	0.075	0.090	0.169	0.175	0.360	0.370	0.558	0.568	0.361	0.366
1/2-20	0.355	0.365	0.075	0.090	0.231	0.237	0.420	0.430	0.620	0.630	0.424	0.429
9/16-18	0.386	0.396	0.083	0.098	0.293	0.301	0.475	0.485	0.683	0.693	0.479	0.484
3/4-16	0.433	0.443	0.094	0.109	0.387	0.395	0.655	0.665	0.870	0.880	0.657	0.662
7/8-14	0.495	0.505	0.107	0.122	0.480	0.488	0.770	0.780	0.995	1.005	0.770	0.775
1 1/16-12	0.589	0.599	0.125	0.140	0.604	0.614	0.940	0.950	1.245	1.255	0.942	0.947
1 3/16-12	0.589	0.599	0.125	0.140	0.713	0.723	1.065	1.075	1.370	1.380	1.067	1.072
1 5/16-12	0.589	0.599	0.125	0.140	0.839	0.851	1.190	1.200	1.495	1.505	1.192	1.197
1 5/8-12	0.589	0.599	0.125	0.140	1.073	1.086	1.500	1.510	1.870	1.880	1.504	1.509
1 7/8-12	0.589	0.599	0.125	0.140	1.307	1.320	1.750	1.760	2.120	2.130	1.753	1.758
2 1/2-12	0.589	0.599	0.125	0.140	1.776	1.791	2.375	2.385	2.745	2.755	2.378	2.383



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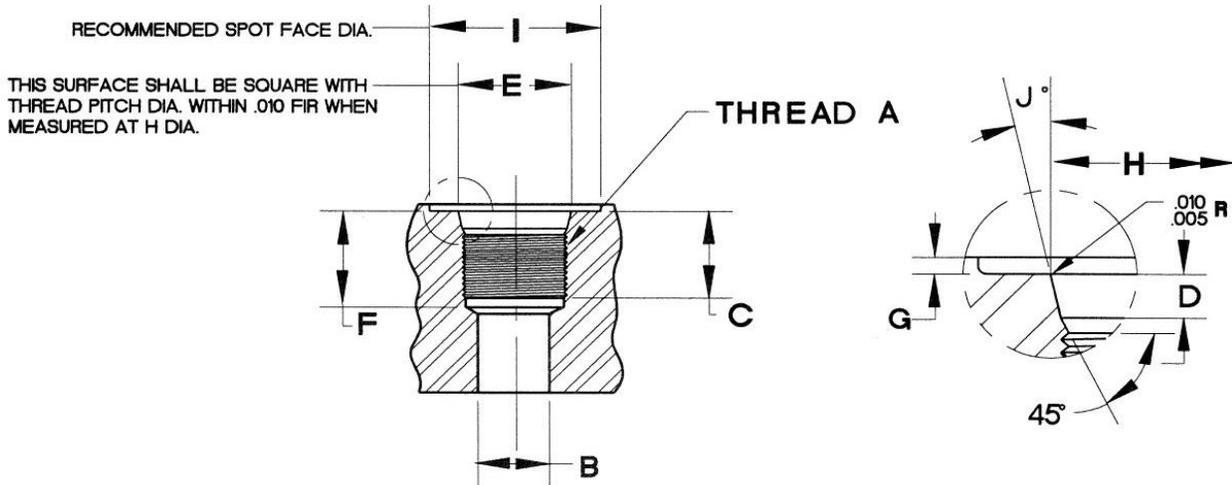
NOTE: TIGHT SLIP FIT FOR WASHER  
 .0005 MAXIMUM CLEARANCE

### ADJUSTABLE STRAIGHT THREAD

A U.N.F.-2A Thread	B Full Thread		C Full Thread		D Hole Diameter		E Chamfer Diameter		F Groove Width		G Groove Diameter	
	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.
5/16-24	0.59	0.63	0.229	0.239	0.059	0.065	0.245	0.255	0.125	0.135	0.247	0.252
3/8-24	0.59	0.63	0.229	0.239	0.122	0.128	0.305	0.315	0.131	0.141	0.310	0.315
7/16-20	0.68	0.72	0.276	0.286	0.169	0.175	0.360	0.370	0.140	0.150	0.361	0.366
1/2-20	0.68	0.72	0.276	0.286	0.231	0.237	0.420	0.430	0.140	0.150	0.424	0.429
9/16-18	0.75	0.79	0.307	0.317	0.293	0.301	0.475	0.485	0.156	0.166	0.479	0.484
3/4-16	0.86	0.90	0.339	0.349	0.387	0.395	0.655	0.665	0.187	0.197	0.657	0.662
7/8-14	1.00	1.04	0.386	0.396	0.480	0.488	0.770	0.780	0.219	0.229	0.770	0.775
1 1/16-12	1.14	1.18	0.464	0.474	0.604	0.614	0.940	0.950	0.234	0.244	0.942	0.947
1 3/16-12	1.14	1.18	0.464	0.474	0.713	0.723	1.065	1.075	0.234	0.244	1.067	1.072
1 5/16-12	1.14	1.18	0.464	0.474	0.839	0.851	1.190	1.200	0.234	0.244	1.192	1.197
1 5/8-12	1.14	1.18	0.464	0.474	1.073	1.086	1.500	1.510	0.234	0.244	1.504	1.509
1 7/8-12	1.14	1.18	0.464	0.474	1.307	1.320	1.750	1.760	0.234	0.244	1.753	1.758
2 1/2-12	1.14	1.18	0.464	0.474	1.776	1.791	2.375	2.385	0.234	0.244	2.378	2.383



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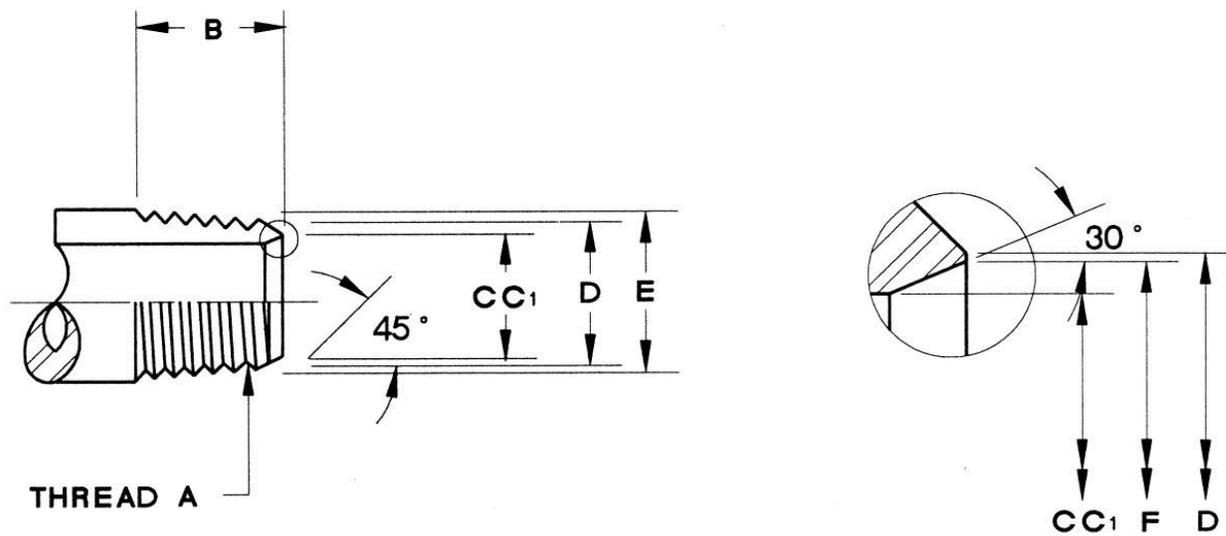


### FEMALE O'RING BOSS

A Female U.N.F. -2B	B Hole Diameter Min.	C Full Thread Min.	D Seat Depth		E Diameter Min.	F Drill Depth Min.	G Spot- Face Max.	H Counterbore Diameter		I Spot- Face Diameter	J Seat Angle	
			Min.	Max.				Min.	Max.		Min.	Max.
5/16-24	0.06	0.39	.076	.089	0.43	0.47	0.062	0.359	0.361	0.67	11	13
3/8-24	0.14	0.39	.076	.089	0.52	0.47	0.062	0.422	0.424	0.75	11	13
7/16-20	0.18	0.45	.095	.109	0.59	0.55	0.062	0.489	0.491	0.83	11	13
1/2-20	0.24	0.45	.095	.109	0.63	0.55	0.062	0.552	0.554	0.91	11	13
9/16-18	0.30	0.50	.099	.113	0.71	0.61	0.062	0.617	0.619	0.98	11	13
3/4-16	0.39	0.56	.099	.113	0.87	0.69	0.094	0.811	0.813	1.18	14	16
7/8-14	0.49	0.66	.099	.113	1.02	0.79	0.094	0.943	0.945	1.34	14	16
1 1/16-12	0.63	0.75	.130	.144	1.26	0.91	0.094	1.148	1.150	1.61	14	16
1 3/16-12	0.71	0.75	.130	.144	1.38	0.91	0.094	1.274	1.276	1.77	14	16
1 5/16-12	0.83	0.75	.130	.144	1.50	0.91	0.134	1.398	1.400	1.93	14	16
1 5/8-12	1.06	0.75	.130	.144	1.89	0.91	0.134	1.713	1.715	2.28	14	16
1 7/8-12	1.30	0.75	.130	.144	2.13	0.91	0.134	1.963	1.965	2.56	14	16
2 1/2-12	1.77	0.75	.130	.144	2.76	0.91	0.134	2.587	2.589	3.46	14	16



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### MALE PIPE THREAD

A NPTF Male Thread	B Thread Length		C Hole Diameter Drill	C <sub>1</sub> Optional Hole Diameter		D Chamfer Diameter		E O.D. At Small End		F Optional Seat Diameter	
	Min.	Max.		Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.
1/8-27	0.38	0.41	0.19	0.110	0.190	0.313	0.328	0.393	0.396	0.271	0.291
1/4-18	0.56	0.59	0.28	0.210	0.230	0.406	0.422	0.523	0.526	0.334	0.354
3/8-18	0.56	0.59	0.41	0.320	0.360	0.547	0.563	0.658	0.661	0.459	0.479
1/2-14	0.75	0.78	0.53	0.440	0.480	0.672	0.688	0.820	0.823	0.615	0.635
3/4-14	0.75	0.78	0.72	0.610	0.660	0.891	0.906	1.029	1.032	0.803	0.823
1-11 1/2	0.94	0.97	0.94	0.780	0.880	1.109	1.125	1.289	1.292	1.021	1.041
1 1/4-11 1/2	0.97	1.00	1.25	1.010	1.160	1.453	1.469	1.633	1.636	1.334	1.354
1 1/2-11 1/2	1.00	1.03	1.50	1.250	1.380	1.672	1.688	1.872	1.875	1.553	1.573
2-11 1/2	1.03	1.06	1.94	1.720	1.880	2.141	2.156	2.345	2.348	2.053	2.073