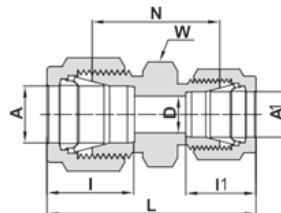
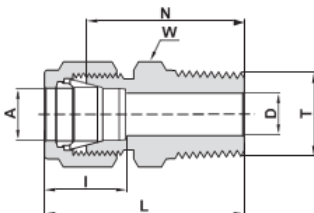


**DOUBLE FERRULE COMPRESSION FITTINGS**  
**1/16" - 2" SIZES**



**Western Valve  
& Fitting**

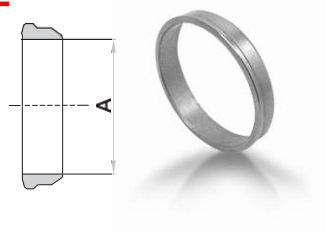
**(925-443-8500)**  
**4355 Technology Drive**  
**Livermore, CA 94551**



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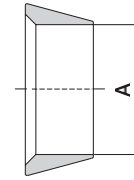
## BACK FERRULE



INCH

Ordering Information	A Tube O.D.	
	inch	mm
BF 1/16	1/16	1.58
BF 1/8	1/8	3.17
BF 3/16	3/16	4.76
BF 1/4	1/4	6.35
BF 5/16	5/16	7.93
BF 3/8	3/8	9.52
BF 1/2	1/2	12.70
BF 5/8	5/8	15.87
BF 3/4	3/4	19.05
BF 7/8	7/8	22.22
BF 1	1	25.40
BF 1 1/4 *	1 1/4	31.75
BF 1 1/2	1 1/2	38.10
BF 2 *	2	50.80

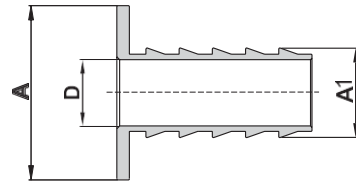
## FRONT FERRULE



INCH

Ordering Information	A Tube O.D.	
	inch	mm
FF 1/16	1/16	1.58
FF 1/8	1/8	3.17
FF 3/16	3/16	4.76
FF 1/4	1/4	6.35
FF 5/16	5/16	7.93
FF 3/8	3/8	9.52
FF 1/2	1/2	12.70
FF 5/8	5/8	15.87
FF 3/4	3/4	19.05
FF 7/8	7/8	22.22
FF 1	1	25.40
FF 1 1/4	1 1/4	31.75
FF 1 1/2	1 1/2	38.10
FF 2	2	50.80

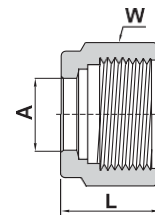
# TUBE INSERT



## INCH

Ordering Information	A Tube O.D.		A1 Tube I.D.		D	
	inch	mm	inch	mm	inch	mm
TI 3/16 X 1/8	3/16	4.76	1/8	3.17	.09	2.30
TI 1/4 X 1/8	1/4	6.35	1/8	3.17	.09	2.30
TI 1/4 X 0.17	1/4	6.35	.17	4.32	.11	2.70
TI 1/4 X 3/16	1/4	6.35	3/16	4.76	.12	3.10
TI 5/16 X 1/8	5/16	7.93	1/8	3.17	.09	2.30
TI 5/16 X 3/16	5/16	7.93	3/16	4.76	.12	3.00
TI 5/16 X 1/4	5/16	7.93	1/4	6.35	.18	4.65
TI 3/8 X 3/16	3/8	9.52	3/16	4.76	.12	3.10
TI 3/8 X 1/4	3/8	9.52	1/4	6.35	.18	4.65
TI 1/2 X 1/4	1/2	12.70	1/4	6.35	.18	4.65
TI 1/2 X 3/8	1/2	12.70	3/8	9.52	.31	7.80
TI 5/8 X 3/8	5/8	15.87	3/8	9.52	.31	7.80
TI 5/8 X 1/2	5/8	15.87	1/2	12.70	.44	11.10
TI 3/4 X 1/2	3/4	19.05	1/2	12.70	.44	11.10
TI 3/4 X 5/8	3/4	19.05	5/8	15.87	.56	14.20
TI 1 X 3/4	1	25.40	3/4	19.05	.69	17.50

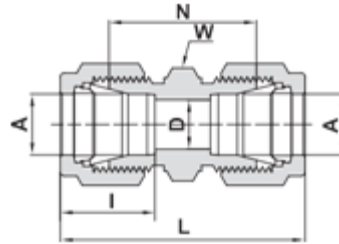
# NUT



## INCH

Ordering Information	A Tube O.D.		W Hex. Flat	L	
	inch	mm	inch	inch	mm
N 1/16	1/16	1.58	5/16	.31	7.87
N 1/8	1/8	3.17	7/16	.47	11.93
N 3/16	3/16	4.76	1/2	.47	11.93
N 1/4	1/4	6.35	9/16	.50	12.70
N 5/16	5/16	7.93	5/8	.53	13.46
N 3/8	3/8	9.52	11/16	.56	14.22
N 1/2	1/2	12.70	7/8	.69	17.52
N 5/8	5/8	15.87	1	.69	17.52
N 3/4	3/4	19.05	1 1/8	.69	17.52
N 7/8	7/8	22.22	1 1/4	.69	17.52
N 1	1	25.40	1 1/2	.81	20.57
N 1 1/4	1 1/4	31.75	1 7/8	1.25	31.75
N 1 1/2	1 1/2	38.10	2 1/4	1.50	38.10
N 2	2	50.80	3	2.06	52.32

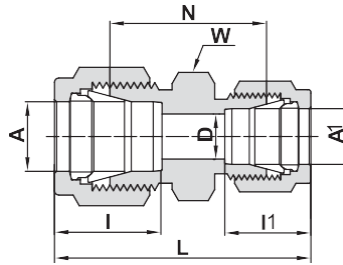
# UNION



## TUBE (INCH) TO TUBE (INCH)

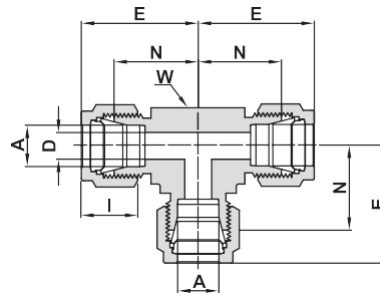
Ordering Information	A Tube O.D.		D		W Hex. Flat		N		L		I	
	inch	mm	inch	mm	inch	inch	mm	inch	mm	inch	mm	
	U 1/16	1/16	1.58	.05	1.27	5/16	.69	17.52	.99	25.14	.34	8.6
U 1/8	1/8	3.17	.09	2.28	7/16	.88	22.35	1.40	35.56	.50	12.7	
U 3/16	3/16	4.76	.12	3.04	7/16	.95	24.13	1.47	37.33	.54	13.7	
U 1/4	1/4	6.35	.19	4.82	1/2	1.03	26.16	1.61	40.89	.60	15.2	
U 5/16	5/16	7.93	.25	6.35	9/16	1.11	28.19	1.69	42.92	.64	16.2	
U 3/8	3/8	9.52	.28	7.11	5/8	1.19	30.22	1.77	44.95	.66	16.8	
U 1/2	1/2	12.70	.41	10.41	13/16	1.22	30.98	2.02	51.30	.90	22.9	
U 5/8	5/8	15.87	.50	12.70	15/16	1.25	31.75	2.05	52.07	.96	24.4	
U 3/4	3/4	19.05	.62	15.75	1 1/16	1.31	33.27	2.11	53.59	.96	24.4	
U 7/8	7/8	22.22	.72	18.28	1 3/16	1.37	34.80	2.17	55.11	1.02	25.9	
U 1	1	25.40	.88	22.35	1 3/8	1.59	40.38	2.55	64.77	1.23	31.2	
U 1 1/4	*1 1/4	31.75	1.09	27.70	1 3/4	1.89	48.00	3.63	92.20	1.62	41.2	
U 1 1/2	*1 1/2	38.10	1.34	34.00	2 1/8	2.11	53.60	4.25	107.95	1.97	50.0	
U 2	*2	50.80	1.81	45.97	2 3/4	2.94	74.67	5.88	149.35	2.66	67.6	

# REDUCING UNION



Ordering Information	A Tube O.D.		A1 Tube O.D.		D		W Hex. Flat		N		L		I		I1	
	inch	mm	inch	mm	inch	mm	inch	inch	mm	inch	mm	inch	mm	inch	mm	
	RU 1/8 X 1/16	1/8	3.17	1/16	1.58	.05	1.27	7/16	.81	20.57	1.22	30.98	.50	12.7	.34	8.6
RU 3/16 X 1/16	3/16	4.76	1/16	1.58	.05	1.27	7/16	.86	21.84	1.27	32.26	.54	13.7	.34	8.6	
RU 3/16 X 1/8	3/16	4.76	1/8	3.17	.09	2.28	7/16	.92	23.36	1.44	36.57	.54	13.7	.50	12.7	
RU 1/4 X 1/16	1/4	6.35	1/16	1.58	.05	1.27	1/2	.91	23.11	1.35	34.29	.60	15.2	.34	8.6	
RU 1/4 X 1/8	1/4	6.35	1/8	3.17	.09	2.28	1/2	.97	24.63	1.52	38.60	.60	15.2	.50	12.7	
RU 1/4 X 3/16	1/4	6.35	3/16	4.76	.12	3.04	1/2	1.00	25.40	1.55	37.37	.60	15.2	.54	13.7	
RU 5/16 X 1/8	5/16	7.93	1/8	3.17	.09	2.28	9/16	1.01	25.65	1.56	39.62	.64	16.2	.50	12.7	
RU 5/16 X 1/4	5/16	7.93	1/4	6.35	.19	4.82	9/16	1.08	27.43	1.66	42.16	.64	16.2	.60	15.2	
RU 3/8 X 1/16	3/8	9.52	1/16	1.58	.05	1.27	5/8	1.00	25.40	1.44	36.58	.66	16.8	.34	8.6	
RU 3/8 X 1/8	3/8	9.52	1/8	3.17	.09	2.28	5/8	1.06	26.92	1.61	40.89	.66	16.8	.50	12.7	
RU 3/8 X 1/4	3/8	9.52	1/4	6.35	.19	4.82	5/8	1.12	28.44	1.70	43.18	.66	16.8	.60	15.2	
RU 3/8 X 5/16	3/8	9.52	5/16	7.93	.25	6.35	5/8	1.16	29.46	1.74	44.19	.66	16.8	.64	16.2	
RU 1/2 X 1/8	1/2	12.70	1/8	3.17	.09	2.28	13/16	1.12	28.44	1.78	45.21	.90	22.9	.50	12.7	
RU 1/2 X 1/4	1/2	12.70	1/4	6.35	.19	4.82	13/16	1.16	29.46	1.85	46.99	.90	22.9	.60	15.2	
RU 1/2 X 3/8	1/2	12.70	3/8	9.52	.28	7.11	13/16	1.22	30.98	1.91	48.51	.90	22.9	.66	16.8	
RU 5/8 X 3/8	5/8	15.87	3/8	9.52	.28	7.11	15/16	1.25	31.75	1.94	49.27	.96	24.4	.66	16.8	
RU 5/8 X 1/2	5/8	15.87	1/2	12.70	.41	10.41	15/16	1.25	31.75	2.05	52.07	.96	24.4	.90	22.9	
RU 3/4 X 1/4	3/4	19.05	1/4	6.35	.19	4.82	1 1/16	1.25	31.75	1.94	49.28	.96	24.4	.60	15.2	
RU 3/4 X 3/8	3/4	19.05	3/8	9.52	.28	7.11	1 1/16	1.31	33.27	2.00	50.80	.96	24.4	.66	16.8	
RU 3/4 X 1/2	3/4	19.05	1/2	12.70	.41	10.41	1 1/16	1.31	33.27	2.11	53.59	.96	24.4	.90	22.9	
RU 3/4 X 5/8	3/4	19.05	5/8	15.87	.50	12.70	1 1/16	1.31	33.27	2.11	53.59	.96	24.4	.96	24.4	
RU 1 X 1/2	1	25.4	1/2	12.70	.41	10.41	1 3/8	1.50	38.10	2.38	60.45	1.23	31.2	.90	22.9	
RU 1 X 3/4	1	25.4	3/4	19.05	.62	15.75	1 3/8	1.50	38.10	2.38	60.45	1.23	31.2	.96	24.4	

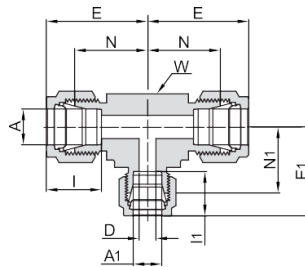
# UNION TEE



ALL TUBE (INCH)

Ordering Information	A		D		W		N		E		I	
	Tube O.D.		Wrench Flat		Wrench Flat		Wrench Flat		Wrench Flat		Wrench Flat	
	inch	mm	inch	mm	inch	mm	inch	mm	inch	mm	inch	mm
UT 1/16	1/16	1.58	.05	1.27	3/8	9.5	.55	14.00	.70	17.80	.34	8.6
UT 1/8	1/8	3.17	.09	2.28	3/8	9.5	.62	15.74	.88	22.35	.50	12.7
UT 3/16	3/16	4.76	.12	3.04	1/2	12.7	.70	17.80	.96	24.40	.54	13.7
UT 1/4	1/4	6.35	.19	4.82	1/2	12.7	.77	19.55	1.06	26.90	.60	15.2
UT 5/16	5/16	7.93	.25	6.35	5/8	15.9	.88	22.35	1.17	29.71	.64	16.2
UT 3/8	3/8	9.52	.28	7.11	5/8	15.9	.91	23.11	1.20	30.48	.66	16.8
UT 1/2	1/2	12.70	.41	10.41	13/16	20.6	1.02	25.90	1.42	36.06	.90	22.9
UT 5/8	5/8	15.87	.50	12.70	15/16	23.8	1.13	28.70	1.53	38.90	.96	24.4
UT 3/4	3/4	19.05	.62	15.74	1 1/16	27.0	1.17	29.70	1.57	39.90	.96	24.4
UT 7/8	7/8	22.22	.72	18.29	1 3/8	34.9	1.36	34.54	1.76	44.70	1.02	25.9
UT 1	1	25.40	.88	22.35	1 3/8	34.9	1.45	36.83	1.93	49.00	1.23	31.2
UT 1 1/4	*1 1/4	31.75	1.09	27.7	1 11/16	42.9	1.75	44.50	2.62	66.55	1.62	41.2
UT 1 1/2	*1 1/2	38.10	1.34	34.0	2	50.8	2.00	50.80	3.07	77.98	1.97	50.0
UT 2	*2	50.80	1.81	45.97	2 3/4	69.9	2.75	69.85	4.22	107.19	2.66	67.6

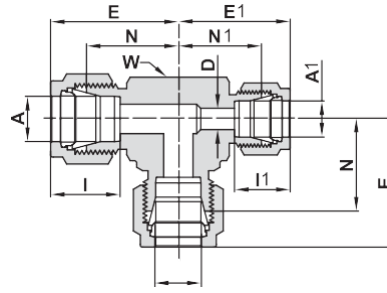
# REDUCING TEE



ALL TUBE (INCH)

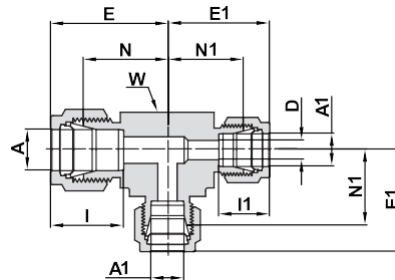
Ordering Information	A		A1		E		E1		I		I1		D		W		N		N1	
	Tube O.D.		Tube O.D.		Wrench Flat		Wrench Flat		Wrench Flat		Wrench Flat		Wrench Flat		Wrench Flat		Wrench Flat		Wrench Flat	
	inch	mm	inch	mm	inch	mm	inch	mm	inch	mm	inch	mm	inch	mm	inch	mm	inch	mm	inch	mm
RT 1/4 X 1/4 X 1/8	1/4	6.35	1/8	3.17	1.06	26.9	1.03	26.2	.60	15.2	.50	12.7	.09	2.28	1/2	12.7	.77	19.6	.77	19.6
RT 3/8 X 3/8 X 1/4	3/8	9.52	1/4	6.35	1.20	30.5	1.14	29.0	.66	16.8	.60	15.2	.19	4.82	5/8	15.9	.91	23.1	.85	21.6
RT 1/2 X 1/2 X 1/4	1/2	12.70	1/4	6.35	1.42	36.1	1.25	31.8	.90	22.9	.60	15.2	.19	4.82	13/16	20.6	1.02	25.9	.96	24.4
RT 1/2 X 1/2 X 3/8	1/2	12.70	3/8	9.52	1.42	36.1	1.31	33.3	.90	22.9	.66	16.8	.28	7.11	13/16	20.6	1.02	25.9	1.02	25.9
RT 5/8 X 5/8 X 3/8	5/8	15.88	3/8	9.52	1.53	38.9	1.42	36.1	.96	24.4	.66	16.8	.28	7.11	15/16	23.8	1.13	28.7	1.13	28.7
RT 3/4 X 3/4 X 1/4	3/4	19.05	1/4	6.35	1.57	39.9	1.46	37.1	.96	24.4	.60	15.2	.19	4.82	1 1/16	27.0	1.17	29.7	1.17	29.7
RT 3/4 X 3/4 X 3/8	3/4	19.05	3/8	9.52	1.57	39.9	1.46	37.1	.96	24.4	.66	16.8	.28	7.11	1 1/16	27.0	1.17	29.7	1.17	29.7
RT 3/4 X 3/4 X 1/2	3/4	19.05	1/2	12.70	1.57	39.9	1.57	39.9	.96	24.4	.90	22.9	.41	10.41	1 1/16	27.0	1.17	29.7	1.17	29.7
RT 1 X 1 X 3/8	1	25.4	3/8	9.52	1.93	49.0	1.65	41.9	1.23	31.2	.66	16.8	.28	7.11	1 3/8	34.9	1.45	36.8	1.36	34.5
RT 1 X 1 X 1/2	1	25.4	1/2	12.70	1.93	49.0	1.76	44.7	1.23	31.2	.90	22.9	.41	10.41	1 3/8	34.9	1.45	36.8	1.36	34.5
RT 1 X 1 X 3/4	1	25.4	3/4	19.05	1.93	49.0	1.76	44.7	1.23	31.2	0.96	24.4	.62	15.75	1 3/8	34.9	1.45	36.8	1.36	34.5
RT 1 1/4 X 1 1/4 X 1	*1 1/4	31.75	1	25.40	2.67	67.8	2.17	55.1	1.62	41.2	1.23	31.2	.88	22.35	1 11/16	42.9	1.75	44.5	1.69	42.9
RT 1 1/2 X 1 1/2 X 1	*1 1/2	38.10	1	25.40	3.10	78.7	2.36	59.9	1.97	50.0	1.23	31.2	.88	22.35	2	50.8	2.00	50.8	1.88	47.8

# REDUCING TEE



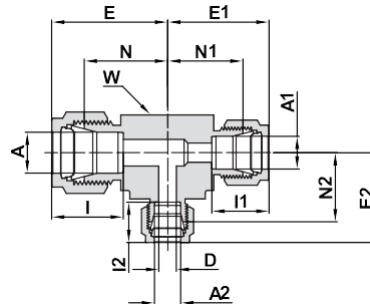
ALL TUBE (INCH)

Ordering Information	A Tube O.D.		A1 Tube O.D.		E		E1		I		I1		D		Wrench Flat		N		N1	
	inch	mm	inch	mm	inch	mm	inch	mm	inch	mm	inch	mm	inch	mm	inch	mm	inch	mm	inch	mm
RTL 1/4 X 1/8 X 1/4	1/4	6.35	1/8	3.17	1.06	26.9	1.03	26.2	.60	15.2	.50	12.7	.09	2.28	1/2	12.7	.77	19.6	.77	19.6
RTL 3/8 X 1/4 X 3/8	3/8	9.25	1/4	6.35	1.20	30.5	1.14	29.0	.66	16.8	.60	15.2	.19	4.82	5/8	15.9	.91	23.1	.85	21.6
RTL 1/2 X 1/4 X 1/2	1/2	12.7	1/4	6.35	1.42	36.1	1.31	33.3	.90	22.9	.60	15.2	.19	4.82	13/16	20.6	1.02	25.9	1.02	25.9
RTL 1/2 X 3/8 X 1/2	1/2	12.7	3/8	9.52	1.42	36.1	1.31	33.3	.90	22.9	.66	16.8	.28	7.11	13/16	20.6	1.02	25.9	1.02	25.9
RTL 3/4 X 3/8 X 3/4	3/4	19.05	3/8	9.52	1.57	39.9	1.46	37.1	.96	24.4	.66	16.8	.28	7.11	1 1/16	27.0	1.17	29.7	1.17	29.7



ALL TUBE (INCH)

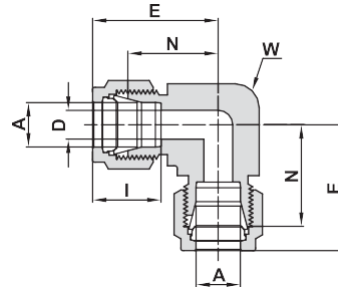
Ordering Information	A Tube O.D.		A1 Tube O.D.		E		E1		I		I1		D		Wrench Flat		N		N1	
	inch	mm	inch	mm	inch	mm	inch	mm	inch	mm	inch	mm	inch	mm	inch	mm	inch	mm	inch	mm
RTL 1/2 X 3/8 X 3/8	1/2	12.70	3/8	9.52	1.42	36.1	1.31	33.3	.90	22.9	.66	16.8	.28	7.1	13/16	20.6	1.02	25.9	1.02	25.9
RTL 5/8 X 3/8 X 3/8	5/8	15.87	3/8	9.52	1.53	38.9	1.42	36.1	.96	24.4	.66	16.8	.28	7.1	15/16	23.8	1.13	28.7	1.13	28.7
RTL 3/4 X 3/8 X 3/8	3/4	19.05	3/8	9.52	1.57	39.9	1.46	37.1	.96	24.4	.66	16.8	.28	7.1	1 1/16	27.0	1.17	29.7	1.17	29.7



ALL TUBE (INCH)

Ordering Information	A Tube O.D.		A1 Tube O.D.		A2 Tube O.D.		E		E1		E2		I		I1		I2		D		Wrench Flat		N		N1&N2	
	inch	mm	inch	mm	inch	mm	inch	mm	inch	mm	inch	mm	inch	mm	inch	mm	inch	mm	inch	mm	inch	mm	inch	mm	inch	mm
RTL 5/8 X 1/2 X 3/8	5/8	15.87	1/2	12.70	3/8	9.52	1.53	.9	1.53	38.9	1.42	36.1	.96	24.4	.90	22.9	.66	16.8	.28	7.11	15/16	23.8	1.13	28.7	1.13	28.7
RTL 3/4 X 1/2 X 3/8	3/4	19.05	1/2	12.70	3/8	9.52	1.57	.9	1.57	39.9	1.46	37.1	.96	24.4	.90	22.9	.66	16.8	.28	7.11	1 1/16	27.0	1.17	29.7	1.17	29.7
RTL 1 X 3/4 X 3/8	1	25.40	3/4	19.05	3/8	9.52	1.93	.0	1.76	44.7	1.65	41.9	1.23	31.2	.96	24.4	.66	16.8	.28	7.11	1 3/8	34.9	1.45	36.8	1.36	34.5

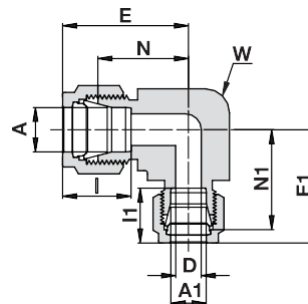
## UNION ELBOW



TUBE (INCH) TO TUBE (INCH)

Ordering Information	A		D		W		N		E		I	
	Tube O.D.		Tube O.D.		Wrench Flat		Wrench Flat		Wrench Flat		Wrench Flat	
	inch	mm	inch	mm	inch	mm	inch	mm	inch	mm	inch	mm
UE 1/16	1/16	1.58	.05	1.27	3/8	9.5	.55	14.00	.70	17.80	.34	.86
UE 1/8	1/8	3.17	.09	2.28	3/8	9.5	.62	15.74	.88	22.35	.50	12.7
UE 3/16	3/16	4.76	.12	3.04	1/2	12.7	.74	18.80	1.00	25.40	.54	13.7
UE 1/4	1/4	6.35	.19	4.82	1/2	12.7	.77	19.55	1.06	26.92	.60	15.2
UE 5/16	5/16	7.93	.25	6.35	9/16	14.3	.84	21.33	1.13	28.70	.64	16.2
UE 3/8	3/8	9.52	.28	7.11	5/8	15.9	.91	23.11	1.20	30.48	.66	16.8
UE 1/2	1/2	12.70	.41	10.41	13/16	20.6	1.02	25.90	1.42	36.06	.90	22.9
UE 5/8	5/8	15.87	.50	12.70	15/16	23.8	1.10	27.94	1.50	38.10	.96	24.4
UE 3/4	3/4	19.05	.62	15.74	1 1/16	27.0	1.17	29.70	1.57	39.90	.96	24.4
UE 7/8	7/8	22.22	.72	18.29	1 3/8	34.9	1.36	34.54	1.76	44.70	1.02	25.9
UE 1	1	25.40	.88	22.35	1 3/8	34.9	1.45	36.83	1.93	49.00	1.23	31.2
UE 1 1/4	*1 1/4	31.75	1.09	27.70	1 11/16	42.9	1.75	44.50	2.62	66.55	1.62	41.2
UE 1 1/2	*1 1/2	38.10	1.34	34.00	2	50.8	2.00	50.80	3.07	77.98	1.97	50.0
UE 2	*2	50.80	1.81	45.97	2 3/4	69.9	2.75	69.85	4.22	107.19	2.66	67.6

## REDUCING UNION ELBOW

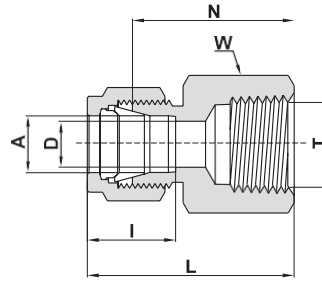


TUBE (INCH) TO TUBE (INCH)

Ordering Information	A		A1		E		E1		I		I1		D		W		N		N1	
	Tube O.D.		Tube O.D.		Tube O.D.		Tube O.D.		Tube O.D.		Tube O.D.		Wrench Flat		Wrench Flat		Wrench Flat		Wrench Flat	
	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm
RUE 3/8 X 1/4	3/8	9.52	1/4	6.35	1.20	30.48	1.20	30.48	.66	16.8	60.	15.2	19.	4.82	5/8	15.9	.91	23.11	.91	23.11
RUE 5/8 X 3/8	5/8	15.87	3/8	9.52	1.50	38.10	1.39	35.31	.96	24.4	.66	16.	.28	7.11	15/16	23.8	1.10	27.94	1.10	27.94



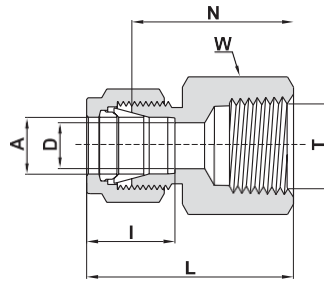
# FEMALE CONNECTOR



## TUBE (INCH) TO FEMALE NPT THREAD

Ordering Information	A Tube O.D		T (NPT)	D		W Hex Flat	N		L		I	
	inch	mm		inch	mm		inch	mm	inch	mm	inch	mm
FC 1/16 X 1/16	1/16	1.58	1/16	.05	1.27	7/16	.78	19.81	.93	23.62	.34	8.6
FC 1/16 X 1/8	1/16	1.58	1/8	.05	1.27	9/16	.81	20.57	.96	24.38	.34	8.6
FC 1/8 X 1/8	1/8	3.17	1/8	.09	2.28	9/16	.87	22.10	1.13	28.70	.50	12.7
FC 1/8 X 1/4	1/8	3.17	1/4	.09	2.28	3/4	1.06	26.92	1.32	33.52	.50	12.7
FC 3/16 X 1/8	3/16	4.76	1/8	.12	3.04	9/16	.91	23.11	1.17	29.71	.54	13.7
FC 1/4 X 1/8	1/4	6.35	1/8	.19	4.82	9/16	.94	23.87	1.23	31.24	.60	15.2
FC 1/4 X 1/4	1/4	6.35	1/4	.19	4.82	3/4	1.12	28.44	1.41	35.81	.60	15.2
FC 1/4 X 3/8	1/4	6.35	3/8	.19	4.82	7/8	1.19	30.22	1.48	37.59	.60	15.2
FC 1/4 X 1/2	1/4	6.35	1/2	.19	4.82	1 1/16	1.38	35.00	1.67	42.42	.60	15.2
FC 5/16 X 1/8	5/16	7.93	1/8	.25	6.35	9/16	.97	24.63	1.26	32.00	.64	16.2
FC 5/16 X 1/4	5/16	7.93	1/4	.25	6.35	3/4	1.16	29.46	1.45	36.83	.64	16.2
FC 3/8 X 1/8	3/8	9.52	1/8	.28	7.11	5/8	1.00	25.40	1.29	32.76	.66	16.8
FC 3/8 X 1/4	3/8	9.52	1/4	.28	7.11	3/4	1.19	30.22	1.48	37.59	.66	16.8
FC 3/8 X 3/8	3/8	9.52	3/8	.28	7.11	7/8	1.25	31.75	1.54	39.11	.66	16.8
FC 3/8 X 1/2	3/8	9.52	1/2	.28	7.11	1 1/16	1.44	36.57	1.73	43.94	.66	16.8
FC 3/8 X 3/4	3/8	9.52	3/4	.28	7.11	1 5/16	1.59	40.40	1.88	47.75	.66	16.8
FC 1/2 X 1/4	1/2	12.70	1/4	.41	10.41	13/16	1.19	30.22	1.59	40.38	.90	22.9
FC 1/2 X 3/8	1/2	12.70	3/8	.41	10.41	7/8	1.25	31.75	1.65	41.91	.90	22.9
FC 1/2 X 1/2	1/2	12.70	1/2	.41	10.41	1 1/16	1.44	36.57	1.84	46.73	.90	22.9
FC 1/2 X 3/4	1/2	12.70	3/4	.41	10.41	1 5/16	1.50	38.10	1.90	48.26	.90	22.9
FC 5/8 X 3/8	5/8	15.87	3/8	.50	12.70	15/16	1.25	31.75	1.65	41.91	.96	24.4
FC 5/8 X 1/2	5/8	15.87	1/2	.50	12.70	1 1/16	1.44	36.57	1.84	46.73	.96	24.4
FC 5/8 X 3/4	5/8	15.87	3/4	.50	12.70	1 5/16	1.50	38.10	1.90	48.26	.96	24.4
FC 3/4 X 1/2	3/4	19.05	1/2	.62	15.75	1 1/16	1.44	36.57	1.84	46.73	.96	24.4
FC 3/4 X 3/4	3/4	19.05	3/4	.62	15.75	1 5/16	1.50	38.10	1.90	48.26	.96	24.4
FC 7/8 X 3/4	7/8	22.22	3/4	.72	18.28	1 5/16	1.56	39.62	1.96	49.78	1.02	25.9
FC 1 X 3/4	1	25.40	3/4	.88	22.35	1 3/8	1.62	41.14	2.10	53.34	1.23	31.2
FC 1 X 1	1	25.40	1	.88	22.35	1 5/8	1.97	50.03	2.45	62.23	1.23	31.2
FC 1 1/4 X 1 1/4	*1 1/4	31.75	1 1/4	1.09	27.70	2 1/4	2.07	52.59	2.94	74.68	1.62	41.2
FC 1 1/2 X 1 1/2	*1 1/2	38.10	1 1/2	1.34	34.00	2 3/8	2.21	56.13	3.28	83.31	1.97	50.0

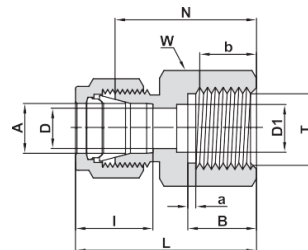
# FEMALE CONNECTOR



TUBE (INCH) TO FEMALE ISO TAPERED THREAD

Ordering Information	A Tube O.D.		T (ISO)	D		W Hex Flat		N		L		I	
	inch	mm		inch	mm	inch	mm	inch	mm	inch	mm	inch	mm
FCR 1/16 X 1/16	1/16	1.58	R-1/16	.05	1.27	7/16	.78	19.81	.93	23.62	.34	8.6	
FCR 1/16 X 1/8	1/16	1.58	R-1/8	.05	1.27	9/16	.81	20.57	.96	24.38	.34	8.6	
FCR 1/8 X 1/8	1/8	3.17	R-1/8	.09	2.28	9/16	.87	22.10	1.13	28.70	.50	12.7	
FCR 1/8 X 1/4	1/8	3.17	R-1/4	.09	2.28	3/4	1.06	26.92	1.32	33.52	.50	12.7	
FCR 3/16 X 1/8	3/16	4.76	R-1/8	.12	3.04	9/16	.91	23.11	1.17	29.71	.54	13.7	
FCR 1/4 X 1/8	1/4	6.35	R-1/8	.19	4.82	9/16	.94	23.87	1.23	31.24	.60	15.2	
FCR 1/4 X 1/4	1/4	6.35	R-1/4	.19	4.82	3/4	1.12	28.44	1.41	35.81	.60	15.2	
FCR 1/4 X 3/8	1/4	6.35	R-3/8	.19	4.82	7/8	1.19	30.22	1.48	37.59	.60	15.2	
FCR 1/4 X 1/2	1/4	6.35	R-1/2	.19	4.82	1 1/16	1.38	35.00	1.67	42.42	.60	15.2	
FCR 5/16 X 1/4	5/16	7.93	R-1/4	.25	6.35	3/4	1.16	29.46	1.45	36.83	.64	16.2	
FCR 3/8 X 1/8	3/8	9.52	R-1/8	.28	7.11	5/8	1.00	25.40	1.29	32.76	.66	16.8	
FCR 3/8 X 1/4	3/8	9.52	R-1/4	.28	7.11	3/4	1.19	30.22	1.48	37.59	.66	16.8	
FCR 3/8 X 3/8	3/8	9.52	R-3/8	.28	7.11	7/8	1.25	31.75	1.54	39.11	.66	16.8	
FCR 3/8 X 1/2	3/8	9.52	R-1/2	.28	7.11	1 1/16	1.44	36.57	1.73	43.94	.66	16.8	
FCR 1/2 X 1/4	1/2	12.70	R-1/4	.41	10.41	13/16	1.19	30.20	1.59	40.38	.90	22.9	
FCR 1/2 X 3/8	1/2	12.70	R-3/8	.41	10.41	7/8	1.25	31.75	1.65	41.91	.90	22.9	
FCR 1/2 X 1/2	1/2	12.70	R-1/2	.41	10.41	1 1/16	1.44	36.57	1.84	46.73	.90	22.9	
FCR 5/8 X 1/2	5/8	15.87	R-1/2	.50	12.70	1 1/16	1.44	36.57	1.84	46.73	.96	24.4	
FCR 3/4 X 1/2	3/4	19.05	R-1/2	.62	15.75	1 1/16	1.44	36.57	1.84	46.73	.96	24.4	
FCR 3/4 X 3/4	3/4	19.05	R-3/4	.62	15.75	1 5/16	1.50	38.10	1.90	48.26	.96	24.4	
FCR 1 X 3/4	1	25.40	R-3/4	.88	22.35	1 3/8	1.62	41.14	2.10	53.34	1.23	31.2	
FCR 1 X 1	1	25.40	R-1	.88	22.35	1 5/8	1.97	50.03	2.45	62.23	1.23	31.2	

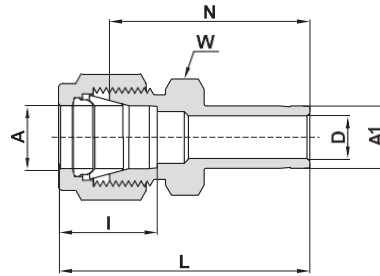
# FEMALE CONNECTOR



TUBE (INCH) TO FEMALE ISO PARALLEL THREAD

Ordering Information	A Tube O.D.		T (ISO)	D		D1		W Hex. Flat		B		b Min		a Min		N		L		I	
	inch	mm		inch	mm	inch	mm	inch	mm	inch	mm	inch	mm	inch	mm	inch	mm	inch	mm	inch	mm
FCG 1/8 X 1/4	1/8	3.17	G-1/4	.09	2.3	.22	5.5	3/4	.51	13.0	.37	9.5	.06	1.6	1.13	28.7	1.39	35.3	.50	12.7	
FCG 1/4 X 1/8	1/4	6.35	G-1/8	.16	4.0	.16	4.0	9/16	.40	10.0	.28	7.0	.06	1.6	.98	25.0	1.27	32.4	.60	15.2	
FCG 1/4 X 1/4	1/4	6.35	G-1/4	.19	4.8	.22	5.5	3/4	.51	13.0	.37	9.5	.06	1.6	1.19	30.2	1.48	37.6	.60	15.2	
FCG 1/4 X 3/8	1/4	6.35	G-3/8	.19	4.8	.26	6.5	15/16	.56	14.1	.39	10.0	.06	1.6	1.19	30.2	1.48	37.6	.60	15.2	
FCG 1/4 X 1/2	1/4	6.35	G-1/2	.19	4.8	.28	7.0	1/16 1	.74	19.0	.59	15.0	.06	1.6	1.42	36.1	1.71	43.4	.60	15.2	
FCG 5/16 X 1/4	5/16	7.93	G-1/4	.22	5.5	.22	5.5	3/4	.51	13.0	.37	9.5	.06	1.6	1.22	31.0	1.51	38.4	.64	16.2	
FCG 5/16 X 1/2	5/16	7.93	G-1/2	.28	7.0	.28	7.0	1/16 1	.74	19.0	.59	15.0	.06	1.6	1.32	33.5	1.61	40.9	.64	16.2	
FCG 3/8 X 1/4	3/8	9.52	G-1/4	.22	5.5	.22	5.5	3/4	.51	13.0	.37	9.5	.06	1.6	1.25	31.8	1.54	39.1	.66	16.8	
FCG 3/8 X 3/8	3/8	9.52	G-3/8	.26	6.6	.26	6.6	15/16	.56	14.1	.39	10.0	.06	1.6	1.23	31.2	1.52	38.6	.66	16.8	
FCG 3/8 X 1/2	3/8	9.52	G-1/2	.28	7.0	.28	7.0	1 1/16	.74	19.0	.59	15.0	.06	1.6	1.36	34.5	1.65	41.9	.66	16.8	
FCG 1/2 X 3/8	1/2	12.7	G-3/8	.26	6.5	.26	6.5	15/16	.56	14.1	.39	10.0	.06	1.6	1.35	34.3	1.75	44.5	.90	22.9	
FCG 1/2 X 1/2	1/2	12.7	G-1/2	.28	7.0	.28	7.0	1 1/16	.74	19.0	.59	15.0	.06	1.6	1.50	38.1	1.90	48.2	.90	22.9	

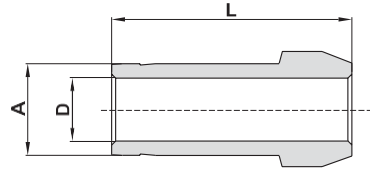
# REDUCER



## TUBE (INCH) TO STUB (INCH)

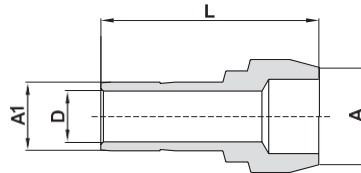
Ordering Information	A		A1		D		W		N		L		I	
	.Tube O.D		.Tube O.D				Hex Flat							
	inch	mm	inch	mm	inch	mm	inch	inch	mm	inch	mm	inch	mm	
R 1/16 X 1/8	1/16	1.58	1/8	3.17	.05	1.27	5/16	1.00	25.40	1.15	29.21	.34	8.6	
R 1/16 X 1/4	1/16	1.58	1/4	6.35	.05	1.27	5/16	1.09	27.68	1.24	31.50	.34	8.6	
R 1/8 X 1/16	1/8	3.17	1/16	1.58	.03	.76	7/16	.88	22.35	1.14	28.96	.50	12.7	
R 1/8 X 1/8	1/8	3.17	1/8	3.17	.08	2.03	7/16	1.06	26.92	1.32	33.52	.50	12.7	
R 1/8 X 3/16	1/8	3.17	3/16	4.76	.09	2.28	7/16	1.09	27.68	1.35	34.29	.50	12.7	
R 1/8 X 1/4	1/8	3.17	1/4	6.35	.09	2.28	7/16	1.16	29.46	1.42	36.06	.50	12.7	
R 1/8 X 3/8	1/8	3.17	3/8	9.52	.09	2.28	7/16	1.22	30.98	1.48	37.59	.50	12.7	
R 1/8 X 1/2	1/8	3.17	1/2	12.70	.09	2.28	9/16	1.48	37.59	1.74	44.20	.50	12.7	
R 3/16 X 1/8	3/16	4.76	1/8	3.17	.08	2.03	7/16	1.11	28.19	1.37	34.80	.54	13.7	
R 3/16 X 1/4	3/16	4.76	1/4	6.35	.12	3.04	7/16	1.20	30.48	1.46	37.08	.54	13.7	
R 1/4 X 1/8	1/4	6.35	1/8	3.17	.08	2.03	1/2	1.16	29.46	1.45	36.83	.60	15.2	
R 1/4 X 3/16	1/4	6.35	3/16	4.76	.12	3.04	1/2	1.19	30.22	1.48	37.59	.60	15.2	
R 1/4 X 1/4	1/4	6.35	1/4	6.35	.17	4.20	1/2	1.25	31.75	1.54	39.11	.60	15.2	
R 1/4 X 5/16	1/4	6.35	5/16	7.93	.19	4.82	1/2	1.28	32.51	1.57	39.87	.60	15.2	
R 1/4 X 3/8	1/4	6.35	3/8	9.52	.19	4.82	1/2	1.31	33.27	1.60	40.64	.60	15.2	
R 1/4 X 1/2	1/4	6.35	1/2	12.70	.19	4.82	9/16	1.53	38.86	1.82	46.22	.60	15.2	
R 1/4 X 5/8	1/4	6.35	5/8	15.87	.19	4.82	11/16	1.60	40.64	1.89	48.00	.60	15.2	
R 1/4 X 3/4	1/4	6.35	3/4	19.05	.19	4.82	13/16	1.59	40.39	1.88	47.75	.60	15.2	
R 5/16 X 3/8	5/16	7.93	3/8	9.52	.25	6.35	9/16	1.36	34.54	1.65	41.91	.64	16.2	
R 5/16 X 1/2	5/16	7.93	1/2	12.70	.25	6.35	9/16	1.58	40.13	1.87	47.49	.64	16.2	
R3/8 X 1/4	3/8	9.52	1/4	6.35	.17	4.20	5/8	1.34	34.03	1.63	41.40	.66	16.8	
R 3/8 X 3/8	3/8	9.52	3/8	9.52	.27	6.85	5/8	1.41	35.81	1.70	43.18	.66	16.8	
R 3/8 X 1/2	3/8	9.52	1/2	12.70	.28	7.11	5/8	1.62	41.14	1.91	48.51	.66	16.8	
R 3/8 X 5/8	3/8	9.52	5/8	15.87	.28	7.11	11/16	1.69	42.92	1.98	50.29	.66	16.8	
R 3/8 X 3/4	3/8	9.52	3/4	19.05	.28	7.11	13/16	1.69	42.92	1.98	50.29	.66	16.8	
R 1/2 X 1/4	1/2	12.70	1/4	6.35	.17	4.20	13/16	1.37	34.80	1.77	44.96	.90	22.9	
R 1/2 X 3/8	1/2	12.70	3/8	9.52	.27	6.85	13/16	1.44	36.58	1.84	46.74	.90	22.9	
R 1/2 X 1/2	1/2	12.70	1/2	12.70	.37	9.40	13/16	1.66	42.16	2.06	52.32	.90	22.9	
R 1/2 X 5/8	1/2	12.70	5/8	15.87	.41	10.41	13/16	1.72	43.68	2.12	53.84	.90	22.9	
R 1/2 X 3/4	1/2	12.70	3/4	19.05	.41	10.41	13/16	1.72	43.68	2.12	53.84	.90	22.9	
R 1/2 X 1	1/2	12.70	1	25.40	.41	10.41	1 1/16	1.97	50.03	2.37	60.19	.90	22.9	
R 5/8 X 3/4	5/8	15.87	3/4	19.05	.50	12.70	15/16	1.75	44.45	2.15	54.61	.96	24.4	
R 5/8 X 7/8	5/8	15.87	7/8	22.22	.50	12.70	15/16	1.81	45.97	2.21	56.13	.96	24.4	
R 5/8 X 1	5/8	15.87	1	25.40	.50	12.70	1 1/16	2.00	50.80	2.40	60.96	.96	24.4	
R 3/4 X 1/2	3/4	19.05	1/2	12.70	.37	9.40	1 1/16	1.75	44.45	2.15	54.61	.96	24.4	
R 3/4 X 1	3/4	19.05	1	25.40	.62	15.75	1 1/16	2.06	52.32	2.46	62.48	.96	24.4	
R 1 X 1 1/4	1	25.40	*1 1/4	31.75	.88	22.35	1 3/8	2.69	68.33	3.17	80.52	1.23	31.2	
R 1 X 1 1/2	1	25.40	*1 1/2	38.10	.88	22.35	1 5/8	3.03	76.96	3.51	89.15	1.23	31.2	
R 1 1/4 X 1 1/2	1 1/4	31.75	*1 1/2	38.10	1.09	27.7	1 3/4	3.23	82.00	4.10	104.1	1.62	41.2	

## PORT CONNECTOR



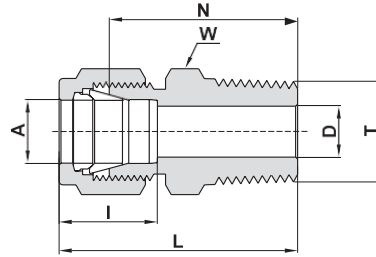
Ordering Information	A Tube O.D.		D		L	
	inch	mm	inch	mm	inch	mm
PC 1/16	1/16	1.58	.03	0.75	.54	13.7
PC 1/8	1/8	3.17	.08	2.03	.88	22.4
PC 1/4	1/4	6.35	.17	4.20	.98	24.9
PC 5/16	5/16	7.93	.24	6.00	1.02	25.9
PC 3/8	3/8	9.52	.27	6.85	1.03	26.2
PC 1/2	1/2	12.70	.37	9.40	1.41	35.8
PC 3/4	3/4	19.05	.59	15.00	1.47	37.3
PC 1	1	25.40	.80	20.30	1.90	48.1
PC 1 1/4	*1 1/4	31.75	1.02	26.00	2.72	69.1
PC 1/2	*1 1/2	38.10	1.25	31.60	3.31	84.1
PC 2	*2	50.80	1.72	43.67	4.56	115.8

## REDUCING PORT CONNECTOR



Ordering Information	A Tube O.D.		A1 Tube O.D.		D		L	
	inch	mm	inch	mm	inch	mm	inch	mm
RPC 1/8 X 1/16	1/8	3.17	1/16	1.58	.03	0.75	.68	17.3
RPC 1/4 X 1/16	1/4	6.35	1/16	1.58	.03	0.75	.71	18.0
RPC 1/4 X 1/8	1/4	6.35	1/8	3.17	.08	2.03	.89	22.6
RPC 3/8 X 1/8	3/8	9.52	1/8	3.17	.08	2.03	.91	23.2
RPC 3/8 X 1/4	3/8	9.52	1/4	6.35	.17	4.20	.98	24.9
RPC 1/2 X 1/4	1/2	12.70	1/4	6.35	.17	4.20	1.15	29.2
RPC 1/2 X 3/8	1/2	12.70	3/8	9.52	.28	7.10	1.20	30.5
RPC 3/4 X 1/2	3/4	19.05	1/2	12.70	.39	9.90	1.49	37.9

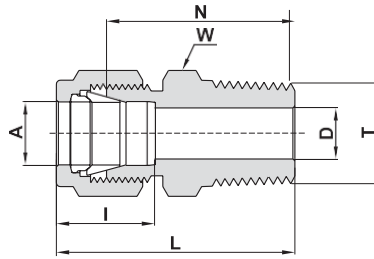
# MALE CONNECTOR



## TUBE (INCH) MALE NPT THREAD

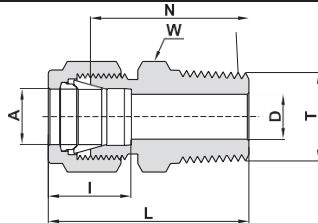
Ordering Information	A Tube O.D.		T (NPT)	D		W Hex. Flat	N		L		I	
	inch	mm	inch	inch	mm	inch	inch	mm	inch	mm	inch	mm
MC 1/16 X 1/16	1/16	1.58	1/16	.05	1.27	5/16	.79	20.10	.94	23.88	.34	8.6
MC 1/16 X 1/8	1/16	1.58	1/8	.05	1.27	7/16	.88	22.35	1.03	26.10	.34	8.6
MC 1/16 X 1/4	1/16	1.58	1/4	.05	1.27	9/16	1.07	27.17	1.22	30.98	.34	8.6
MC 1/8 X 1/16	1/8	3.17	1/16	.09	2.28	7/16	.91	23.11	1.17	29.71	.50	12.7
MC 1/8 X 1/8	1/8	3.17	1/8	.09	2.28	7/16	.94	23.90	1.20	30.48	.50	12.7
MC 1/8 X 1/4	1/8	3.17	1/4	.09	2.28	9/16	1.14	28.95	1.40	35.56	.50	12.7
MC 1/8 X 3/8	1/8	3.17	3/8	.09	2.28	11/16	1.15	29.21	1.41	35.81	.50	12.7
MC 1/8 X 1/2	1/8	3.17	1/2	.09	2.28	7/8	1.40	35.56	1.66	42.16	.50	12.7
MC 3/16 X 1/8	3/16	4.76	1/8	.12	3.04	7/16	.97	24.63	1.23	31.24	.54	13.7
MC 3/16 X 1/4	3/16	4.76	1/4	.12	3.04	9/16	1.17	29.72	1.43	36.32	.54	13.7
MC 1/4 X 1/16	1/4	6.35	1/16	.12	3.04	1/2	1.00	25.40	1.29	32.76	.60	15.2
MC 1/4 X 1/8	1/4	6.35	1/8	.19	4.82	1/2	1.00	25.40	1.29	32.76	.60	15.2
MC 1/4 X 1/4	1/4	6.35	1/4	.19	4.82	9/16	1.20	30.50	1.49	37.85	.60	15.2
MC 1/4 X 3/8	1/4	6.35	3/8	.19	4.82	11/16	1.22	30.98	1.51	38.35	.60	15.2
MC 1/4 X 1/2	1/4	6.35	1/2	.19	4.82	7/8	1.47	37.34	1.76	44.70	.60	15.2
MC 1/4 X 3/4	1/4	6.35	3/4	.19	4.82	1 1/16	1.53	38.86	1.82	46.22	.60	15.2
MC 5/16 X 1/8	5/16	7.93	1/8	.19	4.82	9/16	1.05	26.67	1.34	34.03	.64	16.2
MC 5/16 X 1/4	5/16	7.93	1/4	.25	6.35	9/16	1.23	31.24	1.52	38.60	.64	16.2
MC 5/16 X 3/8	5/16	7.93	3/8	.25	6.35	11/16	1.25	31.75	1.54	39.11	.64	16.2
MC 3/8 X 1/8	3/8	9.52	1/8	.19	4.82	5/8	1.10	27.90	1.39	35.30	.66	16.8
MC 3/8 X 1/4	3/8	9.52	1/4	.28	7.11	5/8	1.28	32.51	1.57	39.87	.66	16.8
MC 3/8 X 3/8	3/8	9.52	3/8	.28	7.11	11/16	1.28	32.51	1.57	39.87	.66	16.8
MC 3/8 X 1/2	3/8	9.52	1/2	.28	7.11	7/8	1.53	38.90	1.82	46.23	.66	16.8
MC 3/8 X 3/4	3/8	9.52	3/4	.28	7.11	1 1/16	1.59	40.38	1.88	47.75	.66	16.8
MC 3/8 X 1	3/8	9.52	1	.28	7.11	1 3/8	1.85	46.99	2.14	54.35	.66	16.8
MC 1/2 X 1/8	1/2	12.70	1/8	.19	4.82	13/16	1.13	28.70	1.53	38.86	.90	22.9
MC 1/2 X 1/4	1/2	12.70	1/4	.28	7.11	13/16	1.31	33.27	1.71	43.43	.90	22.9
MC 1/2 X 3/8	1/2	12.70	3/8	.38	9.65	13/16	1.31	33.27	1.71	43.43	.90	22.9
MC 1/2 X 1/2	1/2	12.70	1/2	.41	10.41	7/8	1.53	38.90	1.93	49.02	.90	22.9
MC 1/2 X 3/4	1/2	12.70	3/4	.41	10.41	1 1/16	1.59	40.38	1.99	50.54	.90	22.9
MC 1/2 X 1	1/2	12.70	1	.41	10.41	1 3/8	1.85	47.00	2.25	57.15	.90	22.9

# MALE CONNECTOR



Ordering Information	A Tube O.D.		T (NPT)	D		W Hex. Flat		N		L		I	
	inch	mm		inch	mm	inch	inch	mm	mm	inch	mm		
MCL 5/8 X 1/4	5/8	15.87	1/4	.28	7.11	15/16	1.34	34.03	1.74	44.19	.96	24.4	
MCL 5/8 X 3/8	5/8	15.87	3/8	.38	9.65	15/16	1.34	34.03	1.74	44.19	.96	24.4	
MCL 5/8 X 1/2	5/8	15.87	1/2	.47	11.90	15/16	1.53	38.86	1.93	49.02	.96	24.4	
MCL 5/8 X 3/4	5/8	15.87	3/4	.50	12.70	1 1/16	1.59	40.38	1.99	50.54	.96	24.4	
MCL 3/4 X 3/8	3/4	19.05	3/8	.38	9.50	1 1/16	1.38	35.05	1.78	45.21	.96	24.4	
MCL 3/4 X 1/2	3/4	19.05	1/2	.47	11.90	1 1/16	1.59	40.38	1.99	50.54	.96	24.4	
MCL 3/4 X 3/4	3/4	19.05	3/4	.62	15.75	1 1/16	1.59	40.38	1.99	50.54	.96	24.4	
MCL 3/4 X 1	3/4	19.05	1	.62	15.75	1 3/8	1.85	47.00	2.25	57.15	.96	24.4	
MCL 7/8 X 1/2	7/8	22.22	1/2	.47	11.90	1 3/16	1.59	40.38	1.99	50.54	1.02	25.9	
MCL 7/8 X 3/4	7/8	22.22	3/4	.62	15.75	1 3/16	1.59	40.38	1.99	50.54	1.02	25.9	
MCL 7/8 X 1	7/8	22.22	1	.72	18.28	1 3/8	1.85	46.99	2.25	57.15	1.02	25.9	
MCL 1 X 1/2	1	25.40	1/2	.47	11.90	1 3/8	1.78	45.21	2.26	57.40	1.23	31.2	
MCL 1 X 3/4	1	25.40	3/4	.62	15.75	1 3/8	1.78	45.21	2.26	57.40	1.23	31.2	
MCL 1 X 1	1	25.40	1	.88	22.35	1 3/8	1.97	50.03	2.45	62.23	1.23	31.2	
MCL 1 1/4 X 1	*1 1/4	31.75	1	.86	21.80	1 3/4	2.17	55.12	3.04	77.22	1.62	41.2	
MCL 1 1/4 X 1 1/4	*1 1/4	31.75	1 1/4	1.09	27.70	1 3/4	2.17	55.12	3.04	77.22	1.62	41.2	
MCL 1 1/2 X 1 1/2	*1 1/2	38.10	1 1/2	1.34	34.00	2 1/8	2.43	61.72	3.50	88.90	1.97	50.0	
MCL 2 X 2	*2	50.80	2	1.81	45.97	2 3/4	3.00	76.20	4.47	113.54	2.66	67.6	

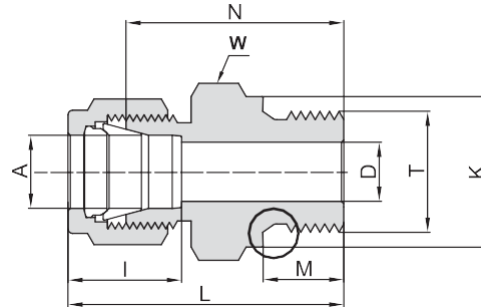
# MALE CONNECTOR



Tube ISO Tapered Thread

Ordering Information	A Tube O.D.		T (ISO)	D		W Hex. Flat		N		L		I	
	inch	mm		inch	mm	inch	inch	mm	mm	inch	mm		
MCR 1/8 X 1/8	1/8	3.17	R-1/8	.09	2.28	7/16	.94	23.90	1.20	30.48	.50	12.70	
MCR 1/8 X 1/4	1/8	3.17	R-1/4	.09	2.28	9/16	1.14	28.95	1.40	35.56	.50	12.70	
MCR 1/4 X 1/8	1/4	6.35	R-1/8	.19	4.82	1/2	1.00	25.40	1.29	32.76	.60	15.20	
MCR 1/4 X 1/4	1/4	6.35	R-1/4	.19	4.82	9/16	1.20	30.50	1.49	37.85	.60	15.20	
MCR 1/4 X 3/8	1/4	6.35	R-3/8	.19	4.82	11/16	1.22	30.98	1.51	38.35	.60	15.20	
MCR 1/4 X 1/2	1/4	6.35	R-1/2	.19	4.82	7/8	1.47	37.34	1.76	44.70	.60	15.20	
MCR 5/16 X 1/8	5/16	7.93	R-1/8	.19	4.82	9/16	1.05	26.67	1.34	34.03	.64	16.20	
MCR 5/16 X 1/4	5/16	7.93	R-1/4	.25	6.35	9/16	1.23	31.24	1.52	38.60	.64	16.20	
MCR 3/8 X 1/8	3/8	9.52	R-1/8	.19	4.82	5/8	1.10	27.90	1.39	35.30	.66	16.80	
MCR 3/8 X 1/4	3/8	9.52	R-1/4	.28	7.11	5/8	1.28	32.51	1.57	39.87	.66	16.80	
MCR 3/8 X 3/8	3/8	9.52	R-3/8	.28	7.11	11/16	1.28	32.51	1.57	39.87	.66	16.80	
MCR 3/8 X 1/2	3/8	9.52	R-1/2	.28	7.11	7/8	1.53	38.90	1.82	46.23	.66	16.80	
MCR 3/8 X 3/4	3/8	9.52	R-3/4	.28	7.11	1 1/16	1.59	40.38	1.88	47.75	.66	16.80	
MCR 1/2 X 1/4	1/2	12.70	R-1/4	.28	7.11	13/16	1.31	33.27	1.71	43.43	.90	22.90	
MCR 1/2 X 3/8	1/2	12.70	R-3/8	.38	9.65	13/16	1.31	33.27	1.71	43.43	.90	22.90	
MCR 1/2 X 1/2	1/2	12.70	R-1/2	.41	10.41	7/8	1.53	38.90	1.93	49.02	.90	22.90	
MCR 1/2 X 3/4	1/2	12.70	R-3/4	.41	10.41	1 1/16	1.59	40.38	1.99	50.54	.90	22.90	
MCR 5/8 X 1/2	5/8	15.87	R-1/2	.47	11.90	15/16	1.53	38.86	1.93	49.02	.96	24.40	
MCR 3/4 X 3/4	3/4	19.05	R-3/4	.62	15.74	1 1/16	1.59	40.38	1.99	50.54	.96	24.40	
MCR 3/4 X 1	3/4	19.05	R-1	.62	15.74	1 3/8	1.85	47.00	2.25	57.15	.96	24.40	
MCR 1 X 3/4	1	25.40	R-3/4	.63	15.90	1 3/8	1.78	45.21	2.26	57.40	1.23	31.20	
MCR 1 X 1	1	25.40	R-1	.88	22.35	1 3/8	1.97	50.03	2.45	62.23	1.23	31.20	
MCR 1 1/4 X 1 1/4	*1 1/4	31.75	R-1 1/4	1.09	27.70	1 3/4	2.17	55.12	3.04	77.22	1.62	41.20	

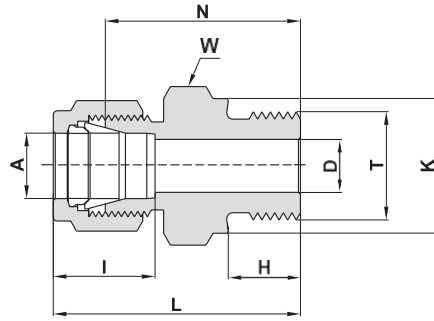
# MALE CONNECTOR



TUBE (INCH) TO ISO PARALLEL THREAD

Ordering Information	A		T (P-ISO)	D		K		W Hex. Flat		N	M		L		I	
	inch	mm		inch	inch	mm	inch	mm	inch		inch	mm	inch	mm		inch
MCG 1/8 X 1/8	1/8	3.17	G-1/8	0.09	2.30	0.54	13.80	9/16	0.92	23.40	0.28	7.10	1.18	30.00	0.50	12.7
MCG 1/8 X 1/4	1/8	3.17	G-1/4	0.09	2.30	0.71	18.00	3/4	1.13	28.70	0.44	11.20	1.39	35.30	0.50	12.7
MCG 1/8 X 3/8	1/8	3.17	G-3/8	0.09	2.30	0.86	21.80	7/8	1.17	29.72	0.44	11.20	1.43	36.32	0.50	12.7
MCG 1/8 X 1/2	1/8	3.17	G-1/2	0.09	2.30	1.02	26.00	1 1/16	1.40	35.70	0.56	14.20	1.66	42.16	0.50	12.7
MCG 3/16 X 1/8	3/16	4.76	G-1/8	0.12	3.10	0.54	13.80	9/16	0.95	24.10	0.28	7.10	1.21	30.70	0.54	13.7
MCG 1/4 X 1/8	1/4	6.35	G-1/8	0.16	4.10	0.54	13.80	9/16	0.98	24.90	0.28	7.10	1.27	32.26	0.60	15.2
MCG 1/4 X 1/4	1/4	6.35	G-1/4	0.19	4.80	0.71	18.00	3/4	1.19	30.20	0.44	11.20	1.48	37.60	0.60	15.2
MCG 1/4 X 3/8	1/4	6.35	G-3/8	0.19	4.80	0.86	21.80	7/8	1.24	31.50	0.44	11.20	1.50	38.10	0.60	15.2
MCG 1/4 X 1/2	1/4	6.35	G-1/2	0.19	4.80	1.02	26.00	1 1/16	1.47	37.30	0.56	14.20	1.76	44.70	0.60	15.2
MCG 5/16 X 1/4	5/16	7.93	G-1/4	0.23	5.80	0.71	18.00	3/4	1.22	31.00	0.44	11.20	1.51	38.36	0.64	16.2
MCG 5/16 X 3/8	5/16	7.93	G-3/8	0.25	6.40	0.86	21.80	7/8	1.27	32.30	0.44	11.20	1.56	39.66	0.64	16.2
MCG 3/8 X 1/8	3/8	9.52	G-1/8	0.16	4.00	1.26	32.0	5/8	1.05	26.7	0.28	7.10	1.34	34.03	0.66	16.8
MCG 3/8 X 1/4	3/8	9.52	G-1/4	0.23	5.80	0.71	18.00	3/4	1.25	31.75	0.44	11.20	1.54	39.11	0.66	16.8
MCG 3/8 X 3/8	3/8	9.52	G-3/8	0.28	7.10	0.86	21.80	7/8	1.30	33.00	0.44	11.20	1.59	40.40	0.66	16.8
MCG 3/8 X 1/2	3/8	9.52	G-1/2	0.28	7.10	1.02	26.00	1 1/16	1.53	38.86	0.56	14.20	1.82	46.22	0.66	16.8
MCG 1/2 X 1/4	1/2	12.70	G-1/4	0.23	5.80	0.71	18.00	13/16	1.28	32.50	0.44	11.20	1.68	42.67	0.90	22.9
MCG 1/2 X 3/8	1/2	12.70	G-3/8	0.31	7.90	0.86	21.80	7/8	1.30	33.00	0.44	11.20	1.70	43.18	0.90	22.9
MCG 1/2 X 1/2	1/2	12.70	G-1/2	0.41	10.40	1.02	26.00	1 1/16	1.47	37.40	0.56	14.20	1.87	47.56	0.90	22.9
MCG 1/2 X 3/4	1/2	12.70	G-3/4	0.41	10.40	1.26	32.00	1 5/16	1.68	42.70	0.62	15.70	2.08	52.86	0.90	22.9
MCG 5/8 X 3/8	5/8	15.87	G-3/8	0.31	7.90	0.86	21.80	24mm	1.33	33.80	0.44	11.20	1.73	43.96	0.96	24.4
MCG 5/8 X 1/2	5/8	15.87	G-1/2	0.47	11.90	1.02	26.00	1 1/16	1.53	38.90	0.56	14.20	1.93	49.10	0.96	24.4
MCG 3/4 X 1/2	3/4	19.05	G-1/2	0.47	11.90	1.02	26.00	1 1/16	1.53	38.86	0.56	14.20	1.93	49.00	0.96	24.4
MCG 3/4 X 3/4	3/4	19.05	G-3/4	0.62	15.80	1.26	32.00	1 5/16	1.68	42.70	0.62	15.70	2.08	52.83	0.96	24.4
MCG 1 X 1/2	1	25.40	G-1/2	0.47	11.90	1.02	26.00	1 3/8	1.72	43.70	0.56	14.20	2.20	55.80	1.23	31.2
MCG 1 X 3/4	1	25.40	G-3/4	0.62	15.90	1.26	32.00	1 3/8	1.78	45.20	0.62	15.70	2.26	57.40	1.23	31.2
MCG 1 X 1	1	25.40	G-1	0.78	19.80	1.54	39.00	1 5/8	1.88	47.80	0.72	18.30	2.36	59.94	1.23	31.2

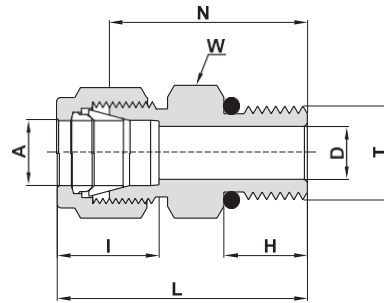
# MALE CONNECTOR



TUBE (INCH) TO ISO PARALLEL THREAD

Ordering Information	A Tube O.D.		T Straight Thread UN	D		K		W Hex. Flat		N	H		L		I	
	inch	mm		inch	inch	mm	inch	mm	inch		mm	inch	mm	inch	mm	inch
MCU 1/8 X 1/8	1/8	3.17	G-1/8A	0.09	2.30	0.54	13.80	9/16	0.92	23.40	0.28	7.10	1.18	30.00	0.50	12.7
MCU 1/8 X 1/4	1/8	3.17	G-1/4A	0.09	2.30	0.71	18.00	3/4	1.13	28.70	0.44	11.20	1.39	35.30	0.50	12.7
MCU 1/4 X 1/8	1/4	6.35	G-1/8A	0.16	4.10	0.54	13.80	9/16	0.98	24.90	0.28	7.10	1.27	32.26	0.60	15.2
MCU 1/4 X 1/4	1/4	6.35	G-1/4A	0.19	4.80	0.71	18.00	3/4	1.19	30.20	0.44	11.20	1.48	37.60	0.60	15.2
MCU 1/2 X 3/8	1/2	12.70	G-3/8A	0.31	7.90	0.86	21.80	7/8	1.30	33.00	0.44	11.20	1.70	43.18	0.90	22.9
MCU 1/2 X 1/2	1/2	12.70	G-1/2A	0.41	10.40	1.02	26.00	1-1/16	1.53	39.86	0.56	14.20	1.93	49.02	0.90	22.9
MCU 3/4 X 1/2	3/4	19.05	G-1/2A	0.47	11.90	1.02	26.00	1-1/16	3.65	41.91	0.56	14.20	2.05	52.07	0.96	24.4
MCU 3/4 X 3/4	3/4	19.05	G-3/4A	0.62	15.80	1.26	32.00	1 3/8	1.68	42.70	0.62	15.70	2.08	52.83	0.96	24.4
MCU 1 X 1	1	25.40	G-1A	0.78	19.80	1.54	39.00	1 5/8	1.88	47.80	0.72	18.30	2.36	59.94	1.23	31.2

# MALE CONNECTOR

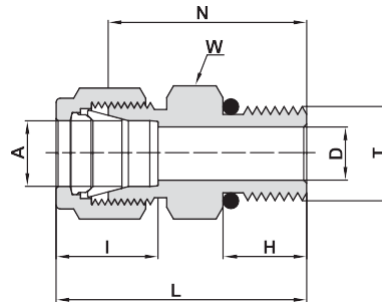


SAE/MS STRAIGHT THREAD BOSS\*\*\*

Ordering Information	A Tube O.D.	T Straight Thread UN	D	W Hex. Flat	N	H	L	I	**O-Ring
	mm	inch							
MCLB 3 X 5/16-24	3	5/16-24	2.4	7/16"	23.4	7.6	30.0	12.9	-902
MCLB 3 X 9/16-18	3	9/16-18	2.4	18	26.7	9.9	33.3	12.9	-906
MCLB 6 X 1/2-20	6	1/2-20	4.8	17	27.4	9.1	34.8	15.3	-905
MCLB 6 X 9/16-18	6	9/16-18	4.8	18	28.2	9.9	35.6	15.3	-906
MCLB 6 X 7/8-14	6	7/8-14	4.8	27	33.3	12.7	40.7	15.3	-910
MCLB 8 X 1/2-20	8	1/2-20	6.4	17	27.4	9.1	34.9	16.2	-905
MCLB 8 X 9/16-18	8	9/16-18	6.4	18	29.1	9.9	36.6	16.2	-906
MCLB 10 X 9/16-18	10	9/16-18	7.1	18	29.7	9.9	37.3	17.2	-906
MCLB 10 X 3/4-16	10	3/4-16	7.9	22	31.8	11.2	39.4	17.2	-908
MCLB 12 X 7/16-20	12	7/16-20	5.2	22	30.5	9.1	40.6	22.8	-904
MCLB 12 X 9/16-18	12	9/16-18	7.1	22	29.0	9.9	39.1	22.8	-906
MCLB 12 X 3/4-16	12	3/4-16	9.5	22	31.8	11.2	41.9	22.8	-908
MCLB 16 X 9/16-18	16	9/16-18	7.1	24	21.2	9.9	31.3	24.4	-906
MCLB 25 X 1 1/16-12	25	1 1/16-12	16.7	35	41.2	15.0	53.5	31.3	-912



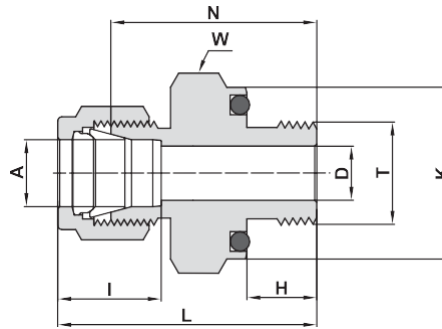
# MALE CONNECTOR



SAE/MS STRAIGHT THREAD BOSS\*\*\*

Ordering Information	A Tube O.D.		T Straight Thread UN	D		W Hex. Flat	N		H		L		I		**O-RING
	inch	mm		inch	mm		inch	mm	inch	mm	inch	mm	inch	mm	
MCB 1/8 X 5/16-24	1/8	3.17	5/16-24	.09	2.28	7/16	.92	23.37	.30	7.62	1.18	29.97	.50	12.7	-902
MCB 1/8 X 7/16-20	1/8	3.17	7/16-20	.09	2.28	9/16	.98	24.89	.36	9.14	1.24	31.50	.50	12.7	-904
MCB 1/8 X 9/16-18	1/8	3.17	9/16-18	.09	2.28	11/16	1.05	26.67	.39	9.90	1.31	33.27	.50	12.7	-906
MCB 1/4 X 5/16-24	1/4	6.35	5/16-24	.09	2.28	9/16	.92	23.37	.30	7.62	1.21	30.73	.60	15.2	-902
MCB 1/4 X 7/16-20	1/4	6.35	7/16-20	.19	4.82	9/16	1.05	26.67	.36	9.14	1.34	34.03	.60	15.2	-904
MCB 1/4 X 9/16-18	1/4	6.35	9/16-18	.19	4.82	11/16	1.11	28.19	.39	9.90	1.40	35.56	.60	15.2	-906
MCB 1/4 X 3/4 -16	1/4	6.35	3/4 -16	.19	4.82	7/8	1.19	30.20	.44	11.17	1.48	37.59	.60	15.2	-908
MCB 1/4 X 7/8-14	1/4	6.35	7/8-14	.19	4.82	1	1.31	33.27	.50	12.70	1.60	40.64	.60	15.2	-910
MCB 5/16 X 1/2-20	5/16	7.93	1/2-20	.25	6.40	5/8	1.08	27.43	.36	9.14	1.37	34.80	.64	16.2	-905
MCB 3/8 X 7/16-20	3/8	9.52	7/16-20	.20	5.10	5/8	1.11	28.19	.36	9.14	1.40	35.56	.66	16.8	-904
MCB 3/8 X 9/16-18	3/8	9.52	9/16-18	.28	7.11	11/16	1.17	29.71	.39	9.90	1.46	37.02	.66	16.8	-906
MCB 3/8 X 3/4 -16	3/8	9.52	3/4 -16	.28	7.11	7/8	1.25	31.75	.44	11.17	1.54	39.11	.66	16.8	-908
MCB 3/8 X 7/8-14	3/8	9.52	7/8-14	.28	7.11	1	1.37	34.80	.50	12.70	1.66	42.16	.66	16.8	-910
MCB 1/2 X 9/16-18	1/2	12.70	9/16-18	.28	7.11	13/16	1.14	28.95	.39	9.90	1.54	39.11	.90	22.9	-906
MCB 1/2 X 3/4 -16	1/2	12.70	3/4 -16	.41	10.41	7/8	1.25	31.75	.44	11.17	1.65	41.91	.90	22.9	-908
MCB 1/2 X 7/8-14	1/2	12.70	7/8-14	.41	10.41	1	1.37	34.80	.50	12.70	1.77	44.96	.90	22.9	-910
MCB 1/2 X 1 1/16-12	1/2	12.70	1 1/16-12	.41	10.41	1 1/4	1.53	38.86	.59	14.98	1.93	49.02	.90	22.9	-912
MCB 5/8 X 3/4 -16	5/8	15.87	3/4 -16	.42	10.66	15/16	1.25	31.75	.44	11.17	1.65	41.91	.96	22.4	-908
MCB 5/8 X 7/8 -14	5/8	15.87	7/8 -14	.50	12.70	1	1.38	35.05	.50	12.70	1.78	45.21	.96	22.4	-910
MCB 3/4 X 3/4 -16	3/4	19.05	3/4 -16	.42	10.66	1 1/16	1.41	35.81	.44	11.17	1.81	46.0	.96	22.4	-908
MCB 3/4 X 1 1/16 -12	3/4	19.05	1 1/16 -12	.62	15.74	1 1/4	1.53	38.86	.59	14.98	1.93	49.02	.96	22.4	-912
MCB 3/4 X 1 5/16-12	3/4	19.05	1 5/16-12	.62	15.74	1 1/2	1.66	42.16	.59	14.98	2.06	52.32	1.02	25.9	-916
MCB 7/8 X 1 3/16 -12	7/8	22.22	1 3/16 -12	.72	18.29	1 3/8	1.53	38.86	.59	14.98	1.93	49.02	1.02	25.9	-914
MCB 1 X 1 1/16 -12	1	25.40	1 1/16 -12	.66	16.76	1 3/8	1.62	41.20	.59	14.98	2.10	53.34	1.23	31.2	-912
MCB 1 X 1 5/16 -12	1	25.40	1 5/16 -12	.88	22.35	1 1/2	1.66	42.16	.59	14.98	2.14	54.35	1.23	31.2	-916
MCB 1 1/4 X 1 5/8 -12	*1 1/4	31.75	1 5/8 -12	1.09	27.70	1 7/8	1.82	46.23	.59	15.10	2.69	68.33	1.62	41.2	-920
MCB 1 1/2 X 1 7/8 -12	*1 1/2	38.10	1 7/8 -12	1.34	34.00	2 1/8	1.99	50.55	.59	15.10	3.06	77.72	1.97	50.0	-924
MCB 2 X 2 1/2 -12	*2	50.80	2 1/2 -12	1.81	45.97	2 3/4	2.53	64.26	.59	15.10	4.00	101.60	2.66	67.6	-932

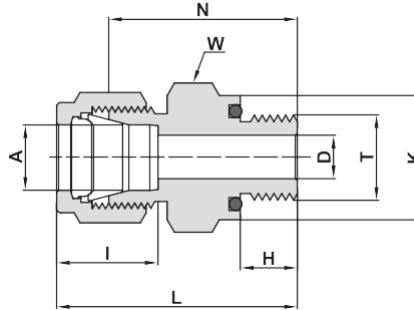
# MALE CONNECTOR



## O-SEAL NPT TAPERED THREAD

Ordering Information	A Tube O.D.		T NPT) Short)	D Hex. Flat		K	W Hex. Flat		N	H		L		I	**O-RING		
	inch	mm	inch	inch	mm	inch	mm	inch	inch	mm	inch	mm	inch	mm	inch	mm	
MCLP 1/8 X 1/8	1/8	3.17	1/8	.09	2.28	.74	18.79	3/4	1.03	26.16	.28	7.11	1.29	32.76	.50	12.7	-111
MCLP 1/4 X 1/8	1/4	6.35	1/8	.19	4.82	.74	18.79	3/4	1.09	27.70	.28	7.11	1.38	35.05	.60	15.2	-111
MCLP 1/4 X 1/4	1/4	6.35	1/4	.19	4.82	.93	23.62	15/16	1.22	31.00	.38	9.65	1.51	38.40	.60	15.2	-113
MCLP 3/8 X 1/4	3/8	9.52	1/4	.28	7.11	.93	23.62	15/16	1.28	32.51	.38	9.65	1.57	39.88	.66	16.8	-113
MCLP 3/8 X 3/8	3/8	9.52	3/8	.28	7.11	1.12	28.45	1 1/8	1.34	34.04	.41	10.41	1.63	41.40	.66	16.8	-116
MCLP 3/8 X 1/2	3/8	9.52	1/2	.28	7.11	1.30	33.02	1 5/16	1.56	39.62	.53	13.46	1.85	46.99	.66	16.8	-212
MCLP 1/2 X 1/2	1/2	12.70	1/2	.41	10.41	1.30	33.02	1 5/16	1.56	39.62	.53	13.46	1.96	49.78	.90	22.9	-212

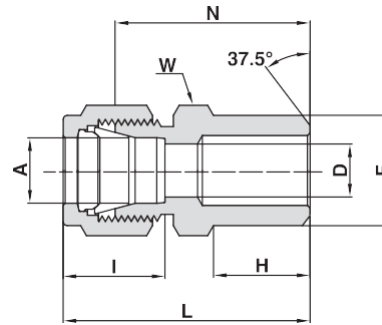
# MALE CONNECTOR



## O-SEAL MALE UN THREAD

Ordering Information	A Tube O.D.		T Straight Thread UN	D	K	W Hex. Flat		N	H		L		I	**O-RING			
	inch	mm	inch	inch	mm	inch	mm	inch	mm	inch	mm	inch	mm	inch	mm		
MCLO 1/16 X 5/16-24	1/16	1.58	5/16-24	.05	1.27	.55	14.0	9/16	.90	22.86	.34	8.63	1.05	26.67	.34	8.6	-011
MCLO 1/8 X 5/16-24	1/8	3.17	5/16-24	.09	2.28	.55	14.0	9/16	1.03	26.20	.34	8.63	1.29	32.77	.50	12.7	-011
MCLO 3/16 X 3/8 -24	3/16	4.76	3/8 -24	.12	3.04	.62	15.75	5/8	1.09	27.70	.38	9.65	1.35	34.29	.54	12.7	-012
MCLO 1/4 X 7/16-20	1/4	6.35	7/16-20	.19	4.82	.74	18.80	3/4	1.22	31.00	.41	10.41	1.51	38.35	.60	15.2	-111
MCLO 5/16 X 1/2 -20	5/16	7.93	1/2 -20	.25	6.35	.86	21.84	7/8	1.31	33.30	.44	11.17	1.60	40.64	.64	16.2	-112
MCLO 3/8 X 9/16-18	3/8	9.52	9/16-18	.28	7.11	.93	23.62	15/16	1.38	35.05	.47	11.93	1.67	40.89	.66	16.8	-113
MCLO 1/2 X 3/4 -16	1/2	12.70	3/4 -16	.41	10.41	1.12	28.45	1 1/8	1.41	35.81	.47	11.93	1.81	45.77	.90	22.9	-116
MCLO 3/4 X 1 1/16-12	3/4	19.05	1 1/16-12	.62	15.74	1.49	37.85	1 1/2	1.66	42.20	.56	14.22	2.06	52.32	.96	24.4	-215
MCLO 1 X 1 5/16-12	1	25.40	1 5/16-12	.88	22.35	1.74	44.20	1 3/4	1.81	45.97	.56	14.22	2.29	58.17	1.23	32.2	-219

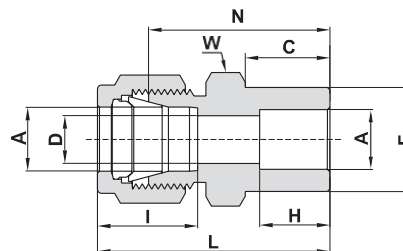
# MALE PIPE WELD CONNECTOR



TUBE (INCH)

Ordering Information	A Tube O.D.		F Pipe Size		D		W Hex. Flat		N		H		L		I	
	inch	mm	inch	mm	inch	mm	inch	inch	mm	inch	mm	inch	mm	inch	mm	
MPWC 1/8 X 1/8	1/8	3.17	1/8	10.30	.09	2.28	7/16	.94	23.88	.38	9.65	1.20	30.48	.50	12.7	
MPWC 3/16 X 1/8	3/16	4.76	1/8	10.30	.12	3.04	7/16	.97	24.60	.38	9.65	1.23	31.25	.54	13.7	
MPWC 1/4 X 1/8	1/4	6.35	1/8	10.30	.19	4.82	1/2	1.00	25.40	.38	9.65	1.29	32.77	.60	15.2	
MPWC 1/4 X 1/4	1/4	6.35	1/4	13.70	.19	4.82	9/16	1.20	30.48	.56	14.22	1.49	37.85	.60	15.2	
MPWC 5/16 X 1/8	5/16	7.93	1/8	10.30	.20	5.08	9/16	1.05	26.67	.38	9.65	1.34	34.04	.64	16.2	
MPWC 5/16 X 1/4	5/16	7.93	1/4	13.70	.25	6.35	9/16	1.23	31.24	.56	14.22	1.52	38.61	.64	16.2	
MPWC 3/8 X 1/4	3/8	9.52	1/4	13.70	.28	7.11	5/8	1.28	32.51	.56	14.22	1.57	39.87	.66	16.8	
MPWC 3/8 X 3/8	3/8	9.52	3/8	17.10	.28	7.11	11/16	1.28	32.51	.56	14.22	1.57	39.87	.66	16.8	
MPWC 3/8 X 1/2	3/8	9.52	1/2	21.34	.28	7.11	7/8	1.53	38.86	.75	19.05	1.82	46.22	.66	16.8	
MPWC 3/8 X 3/4	3/8	9.52	3/4	26.67	.28	7.11	1 1/16	1.59	40.38	.75	19.05	1.88	47.75	.66	16.8	
MPWC 1/2 X 3/8	1/2	12.70	3/8	17.10	.41	10.41	13/16	1.31	33.27	.56	14.22	1.71	44.43	.90	22.9	
MPWC 1/2 X 1/2	1/2	12.70	1/2	21.34	.41	10.41	7/8	1.53	38.86	.75	19.05	1.93	49.00	.90	22.9	
MPWC 1/2 X 3/4	1/2	12.70	3/4	26.67	.41	10.41	1 1/16	1.59	40.40	.75	19.05	1.99	50.55	.90	22.9	
MPWC 1/2 X 1	1/2	12.70	1	33.40	.41	10.41	1 3/8	1.87	47.50	.94	23.87	2.27	57.65	.90	22.9	
MPWC 5/8 X 1/2	5/8	15.87	1/2	21.34	.50	12.70	15/16	1.53	38.86	.75	19.05	1.93	49.02	.96	24.4	
MPWC 3/4 X 1/2	3/4	19.05	1/2	21.34	.53	13.46	1 1/16	1.53	38.86	.75	19.05	1.93	49.00	.96	24.4	
MPWC 3/4 X 3/4	3/4	19.05	3/4	26.67	.62	15.74	1 1/16	1.59	40.40	.75	19.05	1.99	50.55	.96	24.4	
MPWC 1 X 1	1	25.40	1	33.40	.88	22.35	1 3/8	1.97	50.03	.94	23.87	2.45	62.23	1.23	31.2	
MPWC 1 1/4 X 1 1/4	*1 1/4	31.75	1 1/4	42.16	1.09	27.70	1 3/4	2.17	55.12	.94	23.88	3.04	77.22	1.62	41.2	
MPWC 1 1/2 X 1 1/2	*1 1/2	38.10	1 1/2	48.26	1.34	34.00	2 1/8	2.43	61.72	1.03	26.16	3.50	88.90	1.97	50.0	
MPWC 2 X 2	*2	50.80	2	60.33	1.81	45.97	2 3/4	3.00	76.20	1.06	26.92	4.47	113.34	2.66	67.6	

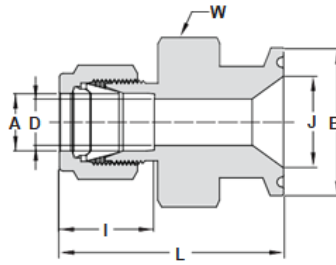
# TUBE SOCKET WELD UNION



TUBE (INCH)

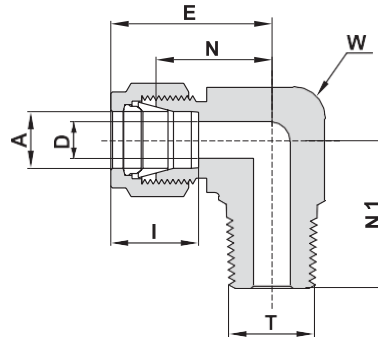
Ordering Information	A Tube O.D.		C		D		W Hex. Flat		F		H		I		L		N	
	inch	mm	inch	mm	inch	mm	inch	inch	mm	inch	mm	inch	mm	inch	mm	inch	mm	
TSWU 1/8 X 1/8	1/8	3.17	.34	8.64	.09	2.28	7/16	.31	7.87	.25	6.35	.50	12.70	1.14	28.96	.88	22.35	
TSWU 1/4 X 1/4	1/4	6.35	.41	10.41	.19	4.80	1/2	.44	11.18	.31	7.90	.60	15.20	1.32	33.53	1.03	26.16	
TSWU 3/8 X 3/8	3/8	9.52	.47	11.94	.28	7.10	5/8	.62	15.75	.38	9.65	.66	16.80	1.48	37.60	1.19	30.23	
TSWU 1/2 X 1/2	1/2	12.70	.47	11.94	.41	10.40	13/16	.75	19.05	.50	12.70	.90	22.90	1.62	41.15	1.22	31.00	
TSWU 3/4 X 3/4	3/4	19.05	.47	11.94	.62	15.80	1/16 1	1.05	26.67	.56	14.20	.96	24.40	1.71	43.43	1.31	33.28	
TSWU 1 X 1	1	25.40	.56	14.22	.88	22.35	1 3/8	1.36	34.54	.75	19.05	1.23	31.20	2.07	52.58	1.59	40.40	

# SANITARY FLANGE



Ordering Information	A Tube O.D.		Flange size		B		J		D		W		L		I	
	inch	mm	inch	inch	mm	mm	inch	mm	inch	mm	inch	mm	inch	mm	inch	mm
SF 1/4 X 1/2	1/4	6.35	1/2	0.98	24.90	0.37	9.40	0.19	4.82	1	1.57	39.90	0.60	15.2		
SF 1/4 X 3/4	1/4	6.35	3/4	0.98	24.90	0.62	15.70	0.19	4.82	1	1.57	39.90	0.60	15.2		
SF 1/4 X 1	1/4	6.35	1	1.98	50.30	0.87	22.10	0.19	4.82	1-3/8	1.57	39.90	0.60	15.2		
SF 1/4 X 1-1/2	1/4	6.35	1-1/2	1.98	50.30	1.37	34.80	0.19	4.82	1-3/8	1.57	39.90	0.60	15.2		
SF 3/8 X 1/2	3/8	9.52	1/2	0.98	24.90	0.37	9.40	0.28	7.11	1	1.63	41.40	0.66	16.8		
SF 3/8 X 3/4	3/8	9.52	3/4	0.98	24.90	0.62	15.70	0.28	7.11	1	1.63	41.40	0.66	16.8		
SF 3/8 X 1	3/8	9.52	1	1.98	50.30	0.87	22.10	0.28	7.11	1-3/8	1.63	41.40	0.66	16.8		
SF 3/8 X 1-1/2	3/8	9.52	1-1/2	1.98	50.30	1.37	34.80	0.28	7.11	1-3/8	1.63	41.40	0.66	16.8		
SF 1/2 X 1/2	1/2	12.70	1/2	0.98	24.90	0.37	9.40	0.37	9.40	1	1.74	44.20	0.90	22.9		
SF 1/2 X 3/4	1/2	12.70	3/4	0.98	24.90	0.62	15.70	0.41	10.41	1	1.74	44.20	0.90	22.9		
SF 1/2 X 1	1/2	12.70	1	1.98	50.30	0.87	22.10	0.41	10.41	1-3/8	1.74	44.20	0.90	22.9		
SF 1/2 X 1-1/2	1/2	12.70	1-1/2	1.98	50.30	1.37	34.80	0.41	10.41	1-3/8	1.74	44.20	0.90	22.9		
SF 1 X 1	1	25.40	1	1.98	50.30	0.87	22.10	0.88	22.35	1-3/8	1.92	48.80	1.23	31.2		
SF 1 X 2	1	25.40	2	2.52	64.00	1.87	47.50	0.88	22.35	2-3/4	2.50	63.50	1.23	31.2		

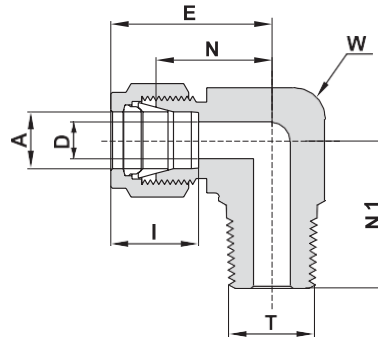
# MALE ELBOW



TUBE (INCH) MALE NPT THREAD

Ordering Information	A Tube O.D.		T (NPT) inch	D inch	W Wrench Flat		N inch	E		N1		I			
	inch	mm			mm	mm		inch	mm	inch	mm	inch	mm		
ME 1/16 X 1/16	1/16	1.58	1/16	.05	1.27	7/16	11.1	.60	15.24	.75	19.05	.70	17.78	.34	8.6
ME 1/16 X 1/8	1/16	1.58	1/8	.05	1.27	7/16	11.1	.60	15.24	.75	19.05	.70	17.78	.34	8.6
ME 1/8 X 1/16	1/8	3.17	1/16	.09	2.28	7/16	11.1	.67	17.02	.93	23.62	.70	17.78	.50	12.7
ME 1/8 X 1/8	1/8	3.17	1/8	.09	2.28	7/16	11.1	.67	17.02	.93	23.62	.70	17.78	.50	12.7
ME 1/8 X 1/4	1/8	3.17	1/4	.09	2.28	1/2	12.7	.71	18.03	.97	24.64	.92	23.37	.50	12.7
ME 3/16 X 1/8	3/16	4.76	1/8	.12	3.04	1/2	12.7	.74	18.80	1.00	25.40	.74	18.80	.54	13.7
ME 3/16 X 1/4	3/16	4.76	1/4	.12	3.04	1/2	12.7	.74	18.80	1.00	25.40	.92	23.37	.54	13.7
ME 1/4 X 1/16	1/4	6.35	1/16	.12	3.04	1/2	12.7	.77	19.56	1.06	26.92	.74	18.80	.60	15.2
ME 1/4 X 1/8	1/4	6.35	1/8	.19	4.82	1/2	12.7	.77	19.56	1.06	26.92	.74	18.80	.60	15.2
ME 1/4 X 1/4	1/4	6.35	1/4	.19	4.82	1/2	12.7	.77	19.56	1.06	26.92	.92	23.37	.60	15.2
ME 1/4 X 3/8	1/4	6.35	3/8	.19	4.82	11/16	17.5	.88	22.35	1.17	29.71	1.03	26.16	.60	15.2
ME 1/4 X 1/2	1/4	6.35	1/2	.19	4.82	13/16	20.6	.96	24.38	1.25	31.75	1.30	33.02	.60	15.2
ME 5/16 X 1/8	5/16	7.93	1/8	.19	4.82	9/16	14.3	.84	21.34	1.13	28.70	.78	19.81	.64	16.2
ME 5/16 X 1/4	5/16	7.93	1/4	.25	6.35	9/16	14.3	.84	21.34	1.13	28.70	.96	24.38	.64	16.2
ME 5/16 X 3/8	5/16	7.93	3/8	.25	6.35	11/16	17.5	.91	23.11	1.20	30.48	1.03	26.16	.64	16.2
ME 3/8 X 1/8	3/8	9.52	1/8	.19	4.82	5/8	15.9	.91	23.11	1.20	30.48	.82	20.83	.66	16.8
ME 3/8 X 1/4	3/8	9.52	1/4	.28	7.11	5/8	15.9	.91	23.11	1.20	30.48	1.00	25.40	.66	16.8
ME 3/8 X 3/8	3/8	9.52	3/8	.28	7.11	11/16	17.5	.94	23.87	1.23	31.24	1.03	26.16	.66	16.8
ME 3/8 X 1/2	3/8	9.52	1/2	.28	7.11	13/16	20.6	1.02	25.90	1.31	33.28	1.30	33.02	.66	16.8
ME 3/8 X 3/4	3/8	9.52	3/4	.28	7.11	1 1/16	27.0	1.17	29.71	1.46	37.08	1.45	36.83	.66	16.8
ME 1/2 X 1/4	1/2	12.70	1/4	.28	7.11	13/16	20.6	1.02	25.90	1.42	36.07	1.11	28.19	.90	22.9
ME 1/2 X 3/8	1/2	12.70	3/8	.38	9.50	13/16	20.6	1.02	25.90	1.42	36.07	1.11	28.19	.90	22.9
ME 1/2 X 1/2	1/2	12.70	1/2	.41	10.41	13/16	20.6	1.02	25.90	1.42	36.07	1.30	33.02	.90	22.9
ME 1/2 X 3/4	1/2	12.70	3/4	.41	10.41	1 1/16	27.0	1.17	29.71	1.57	39.88	1.45	36.83	.90	22.9
ME 5/8 X 3/8	5/8	15.87	3/8	.38	9.61	15/16	23.8	1.10	27.94	1.50	38.10	1.19	30.23	.96	24.4
ME 5/8 X 1/2	5/8	15.87	1/2	.47	11.94	15/16	23.8	1.10	27.94	1.50	38.10	1.38	35.05	.96	24.4
ME 5/8 X 3/4	5/8	15.87	3/4	.50	12.70	1 1/16	27.0	1.17	29.71	1.57	39.88	1.45	36.83	.96	24.4
ME 3/4 X 1/2	3/4	19.05	1/2	.47	11.94	1 1/16	27.0	1.17	29.71	1.57	39.88	1.45	36.83	.96	24.4
ME 3/4 X 3/4	3/4	19.05	3/4	.62	15.74	1 1/16	27.0	1.17	29.71	1.57	39.88	1.45	36.83	.96	24.4
ME 7/8 X 3/4	7/8	22.22	3/4	.62	15.74	1 3/8	34.9	1.36	34.54	1.76	44.70	1.64	41.66	1.02	25.9
ME 1 X 3/4	1	25.40	3/4	.62	15.74	1 3/8	34.9	1.45	36.83	1.93	49.02	1.64	41.66	1.23	31.2
ME 1 X 1	1	25.40	1	.86	21.84	1 3/8	34.9	1.45	36.83	1.93	49.02	1.83	46.48	1.23	31.2
ME 1 1/4 X 1 1/4	*1 1/4	31.75	1 1/4	1.09	27.70	1 11/16	42.9	1.75	44.45	2.62	66.50	1.88	47.75	1.62	41.2
ME 1 1/2 X 1 1/2	*1 1/2	38.10	1 1/2	1.34	34.00	2	50.8	2.00	50.80	3.07	78.00	2.38	60.45	1.97	50.0
ME 2 X 2	*2	50.80	2	1.81	45.97	2 3/4	69.9	2.75	69.85	4.22	107.19	2.78	70.61	2.66	67.6

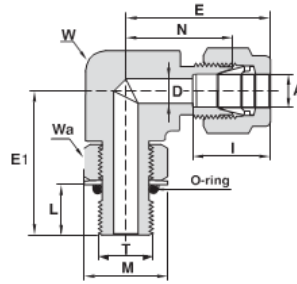
# MALE ELBOW



## TUBE (INCH) ISO TAPERED THREAD

Ordering Information	A		T (ISO)	D		W Wrench Flat		N	E		N1		I		
	Tube O.D.			inch	mm	inch	mm		inch	mm	inch	mm	inch	mm	inch
	inch	mm													
MER 1/8 X 1/8	1/8	3.17	R-1/8	.09	2.28	7/16	11.1	.67	17.02	.93	23.62	.70	17.78	.50	12.7
MER 1/8 X 1/4	1/8	3.17	R-1/4	.09	2.28	1/2	12.7	.71	18.03	.97	24.64	.92	23.37	.50	12.7
MER 1/4 X 1/8	1/4	6.35	R-1/8	.19	4.82	1/2	12.7	.77	19.56	1.06	26.92	.74	18.80	.60	15.2
MER 1/4 X 1/4	1/4	6.35	R-1/4	.19	4.82	1/2	12.7	.77	19.56	1.06	26.92	.92	23.37	.60	15.2
MER 1/4 X 3/8	1/4	6.35	R-3/8	.19	4.82	11/16	17.5	.88	22.35	1.17	29.71	1.03	26.16	.60	15.2
MER 1/4 X 1/2	1/4	6.35	R-1/2	.19	4.82	13/16	20.6	.96	24.38	1.25	31.75	1.30	33.02	.60	15.2
MER 5/16 X 1/4	5/16	7.93	R-1/4	.25	6.35	9/16	14.3	.84	21.34	1.13	28.70	.96	24.38	.64	16.2
MER 3/8 X 1/8	3/8	9.52	R-1/8	.19	4.82	5/8	15.9	.91	23.11	1.20	30.48	.82	20.83	.66	16.8
MER 3/8 X 1/4	3/8	9.52	R-1/4	.28	7.11	5/8	15.9	.91	23.11	1.20	30.48	1.00	25.40	.66	16.8
MER 3/8 X 3/8	3/8	9.52	R-3/8	.28	7.11	11/16	17.5	.94	23.87	1.23	31.24	1.03	26.16	.66	16.8
MER 1/2 X 1/4	1/2	12.70	R-1/4	.28	7.11	13/16	20.6	1.02	25.90	1.42	36.07	1.11	28.19	.90	22.9
MER 1/2 X 3/8	1/2	12.70	R-3/8	.38	9.50	13/16	20.6	1.02	25.90	1.42	36.07	1.11	28.19	.90	22.9
MER 1/2 X 1/2	1/2	12.70	R-1/2	.41	10.41	13/16	20.6	1.02	25.90	1.42	36.07	1.30	33.02	.90	22.9
MER 3/4 X 1/2	3/4	19.05	R-1/2	.47	11.94	1 1/16	27.0	1.17	29.71	1.57	39.88	1.45	36.83	.96	24.4
MER 1 X 1	1	25.40	R-1	.86	21.84	1 3/8	34.9	1.45	36.83	1.93	49.02	1.83	46.48	1.23	31.2

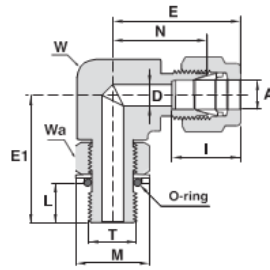
# MALE ELBOW POS



TUBE TO SAE/MS STRAIGHT THREAD BOSS (POSITIONABLE)\*

Ordering Information	A		T	D		W		Wa		N		E		E1		L		M		I		**O-ring
	Tube O.D.	SAE/MS	SAE/MS	inch	mm	Wrench Flat	Hex. Flat	inch	mm	inch	mm	inch	mm	inch	mm	inch	mm	inch	mm	inch	mm	.Dash No
MEP 1/4 X 7/16-20	1/4	6.35	7/16-20	.19	4.8	1/2	12.7	9/16	.83	21.10	1.12	28.45	1.12	28.45	.39	9.9	.65	16.5	.60	15.2		-904
MEP 1/4 X 9/16-18	1/4	6.35	9/16-18	.19	4.8	5/8	15.9	11/16	.91	23.11	1.20	30.48	1.27	32.26	.44	11.2	.79	20.1	.60	15.2		-906
MEP 3/8 X 7/16-20	3/8	9.52	7/16-20	.20	5.1	5/8	15.9	9/16	.97	24.64	1.26	32.00	1.12	28.45	.39	9.9	.65	16.5	.66	16.8		-904
MEP3/8 X 9/16-18	3/8	9.52	9/16-18	.28	7.1	5/8	15.9	11/16	.97	24.64	1.26	32.00	1.27	32.26	.44	11.2	.79	20.1	.66	16.8		-906
MEP 3/8 X 3/4-16	3/8	9.52	3/4-16	.28	7.1	13/16	20.6	7/8	1.08	27.43	1.37	34.80	1.49	37.85	.50	12.7	1.01	25.7	.66	16.8		-908
MEP 1/2 X 9/16-18	1/2	12.70	9/16-18	.28	7.1	13/16	20.6	11/16	1.08	27.43	1.48	37.59	1.38	35.05	.44	11.2	.79	20.1	.90	22.9		-906
MEP 1/2 X 3/4-16	1/2	12.70	3/4-16	.41	10.4	13/16	20.6	7/8	1.08	27.43	1.48	37.59	1.49	37.85	.50	12.7	1.01	25.7	.90	22.9		-908
MEP 3/4 X 1 1/16-12	3/4	19.05	1 1/16-12	.62	15.8	1 1/16	27.0	1 1/4	1.23	31.24	1.63	41.40	1.92	48.77	.66	16.8	1.44	36.7	.96	24.4		-912
MEP 1 X 1 1/16-12	1	25.40	1 1/16-12	.62	15.8	1 3/8	34.9	1 1/4	1.51	38.35	1.99	50.55	2.05	52.07	.66	16.8	1.44	36.7	1.23	31.2		-912
MEP 1 X 1 5/16-12	1	25.40	1 5/16-12	.88	22.3	1 3/8	34.9	1 1/2	1.51	38.35	1.99	50.55	2.11	53.59	.66	16.8	1.73	44.0	1.23	31.2		-916

# MALE ELBOW

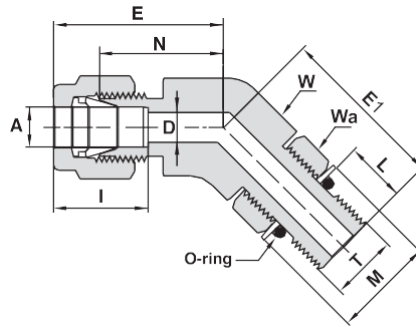


TUBE (INCH) TO ISO PARALLEL THREAD (POSITIONABLE)\*

Ordering Information	A		T	D		W		Wa	N		E		E1		L		M		I	**O-ring	
	Tube O.D.		(ISO)	Wrench Flat		Hex. Flat			inch mm		inch mm		inch mm		inch mm		inch mm		inch mm	.Dash No	
	inch	mm	inch	inch	mm	inch	mm	inch	inch	mm	inch	mm	inch	mm	inch	mm	inch	mm	inch	mm	
ME 1/4 X 1/8 POS.	1/4	6.35	G-1/8-28	.16	4.0	1/2	12.7	9/16	.77	19.60	1.06	26.9	1.04	26.4	.32	8.1	.68	17.3	.60	15.2	***
ME 1/4 X 1/4 POS.	1/4	6.35	G-1/4-19	.19	4.8	5/8	15.9	3/4	.85	21.60	1.14	28.9	1.27	32.2	.36	9.1	.90	22.9	.60	15.2	-111
ME 1/4 X 1/2 POS.	1/4	6.35	G-1/2-14	.19	4.8	15/16	23.8	1 1/16	.96	24.38	1.25	31.8	1.71	43.4	.51	13.0	1.26	32.0	.60	15.2	-593
ME 3/8 X 1/4 POS.	3/8	9.52	G-1/4-19	.23	5.9	5/8	15.9	3/4	.91	23.11	1.20	30.5	1.27	32.2	.36	9.1	.90	22.9	.66	16.8	-111
ME 3/8 X 3/8 POS.	3/8	9.52	G-3/8-19	.28	7.1	13/16	20.6	7/8	1.02	25.91	1.31	33.3	1.46	37.1	.37	9.4	1.04	26.4	.66	16.8	-113
ME 1/2 X 1/4 POS.	1/2	12.70	G-1/4-19	.23	5.9	13/16	20.6	3/4	1.02	25.91	1.42	36.1	1.27	32.2	.36	9.1	.90	22.9	.90	22.9	-111
ME 1/2 X 3/8 POS.	1/2	12.70	G-3/8-19	.31	7.9	13/16	20.6	7/8	1.02	25.91	1.42	36.1	1.46	37.1	.37	9.4	1.04	26.4	.90	22.9	-113
ME 1/2 X 1/2 POS.	1/2	12.70	G-1/2-14	.41	10.4	15/16	23.8	1 1/16	1.10	27.94	1.50	38.1	1.71	43.4	.51	13.0	1.26	32.0	.90	22.9	-593
ME 5/8 X 1/2 POS.	5/8	15.87	G-1/2-14	.47	11.9	15/16	23.8	1 1/16	1.10	27.94	1.50	38.1	1.71	43.4	.51	13.0	1.26	32.0	.96	24.4	-593



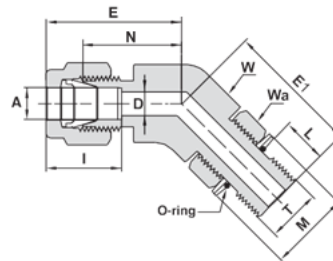
# MALE ELBOW 45° POS



TUBE TO SAE/MS STRAIGHT THREAD BOSS (POSITIONABLE)\*

Ordering Information	A		T	D		W		Wa	N		E		E1		L		M		I	**O-ring	
	Tube O.D.	SAE/MS	Wrench Flat	Hex. Flat	inch	mm	inch	mm	inch	mm	inch	mm	inch	mm	inch	mm	inch	mm	inch	mm	.Dash No
ME45DEG 1/4 X 7/16-20	1/4	6.35	7/16-20	.19	4.8	9/16	14.3	9/16	.72	18.29	1.01	25.65	1.01	25.65	.39	9.9	.65	16.5	.60	15.2	-904
ME4 DEG 3/8 X 9/16-18	3/8	9.52	9/16-18	.28	7.1	13/16	20.6	11/16	.81	20.57	1.10	27.94	1.06	27.00	0.40	10.2	.79	20.1	.66	16.8	-906

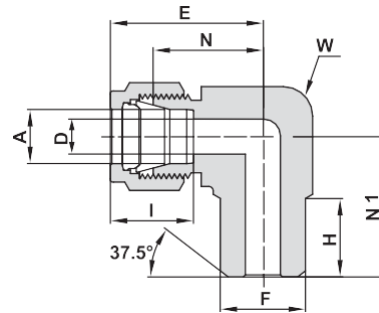
# MALE ELBOW 45° POS



TUBE TO (INCH) TO ISO PARALEL THREAD (POSITIONABLE)\*

Ordering Information	A		T	D		W		Wa	N		E		E1		L		M		I	**O-ring	
	Tube O.D.	ISO(	Wrench Flat	Hex. Flat	inch	mm	inch	mm	inch	mm	inch	mm	inch	mm	inch	mm	inch	mm	inch	mm	.Dash No
MELG 1/4 X 1/8 POS.	1/4	6.35	G-1/8-28	.16	4.0	9/16	14.3	9/16	69.	17.5	.98	24.0	.94	24.0	.32	8.1	0.68	17.3	.60	15.2	***

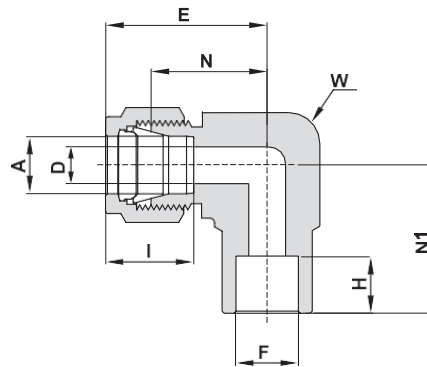
# MALE PIPE WELD ELBOW



TUBE (INCH) X Butt Weld

Ordering Information	A		F		D		W		N	H	E		N1		I			
	Tube O.D.		Pipe Size				Wrench Flat											
	inch	mm	inch	mm	inch	mm	inch	mm			inch	mm	inch	mm		inch	mm	
MPWE 1/4 X 1/8	1/4	6.35	1/8	10.30	.19	4.82	1/2	12.7	.77	19.56	.38	9.65	1.06	26.92	.74	18.8	.60	15.2
MPWE 1/4 X 1/4	1/4	6.35	1/4	13.70	.19	4.82	1/2	12.7	.77	19.56	.56	14.22	1.06	26.92	.92	23.37	.60	15.2
MPWE 3/8 X 1/4	3/8	9.52	1/4	13.70	.28	7.11	5/8	15.9	.91	23.11	.56	14.22	1.20	30.48	1.00	25.40	.66	16.8
MPWE 1/2 X 1/2	1/2	12.70	1/2	21.34	.41	10.41	13/16	20.6	1.02	25.90	.75	19.05	1.42	36.06	1.30	33.02	.90	22.9
MPWE 3/4 X 3/4	3/4	19.05	3/4	26.67	.62	15.75	1 1/16	27.0	1.17	29.72	.75	19.05	1.57	39.88	1.45	36.83	.96	24.4

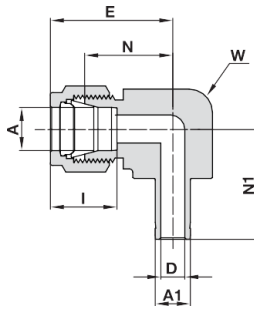
# TUBE SOCKET WELD ELBOW



TUBE (INCH) x Tube Socket Weld

Ordering Information	A		F		D		W		N	H	E		N1		I			
	Tube O.D.		Tube O.D.				Wrench Flat											
	inch	mm	inch	mm	inch	mm	inch	mm			inch	mm	inch	mm		inch	mm	
TSWE 1/4 X 1/4	1/4	6.35	1/4	6.35	.19	4.82	1/2	12.7	.77	19.60	.31	7.87	1.06	26.98	.77	19.60	.60	15.2
TSWE 3/8 X 3/8	3/8	9.52	3/8	9.52	.28	7.11	5/8	15.9	.91	23.11	.38	9.65	1.20	30.98	.91	23.11	.66	16.8
TSWE 1/2 X 1/2	1/2	12.70	1/2	12.70	.41	10.41	15/16	23.8	1.02	25.90	.50	12.70	1.42	36.06	1.02	25.90	.90	22.9
TSWE 3/4 X 3/4	3/4	19.05	3/4	19.05	.62	15.74	1 1/16	27.0	1.17	29.71	.56	14.22	1.57	39.87	1.17	29.71	.96	24.4
TSWE 1 X 1	1	25.40	1	25.40	.88	22.35	1 3/8	34.9	1.45	36.83	.75	19.05	1.93	49.02	1.45	36.83	1.23	31.2

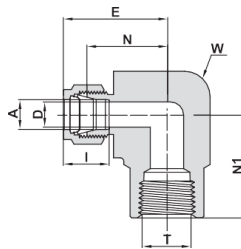
# REDUCING ELBOW



TUBE (INCH) TO STUB (INCH)

Ordering Information	A		A1		D		W		N		E		N1		I	
	Tube O.D.		Tube O.D.		Wrench Flat		Wrench Flat		Wrench Flat		Wrench Flat		Wrench Flat		Wrench Flat	
	inch	mm	inch	mm	inch	mm	inch	mm	inch	mm	inch	mm	inch	mm	inch	mm
RE 1/4 X 3/8	1/4	6.35	3/8	9.52	.19	4.82	5/8	15.9	.91	23.1	1.20	30.5	1.24	31.5	.60	15.2

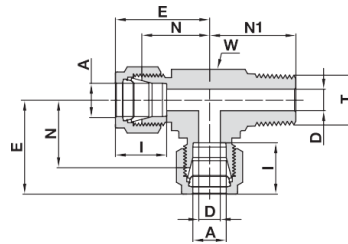
# FEMALE ELBOW



TUBE (INCH) TO FEMALE NPT THREAD

Ordering Information	A		T (NPT)	D		W		N		E		N1		I	
	Tube O.D.			Wrench Flat		Wrench Flat		Wrench Flat		Wrench Flat		Wrench Flat		Wrench Flat	
	inch	mm	inch	inch	mm	inch	mm	inch	mm	inch	mm	inch	mm	inch	mm
FE 1/8 X 1/8	1/8	3.17	1/8	.09	2.28	1/2	12.7	.71	18.03	.97	24.64	.75	19.05	.50	12.7
FE 1/8 X 1/4	1/8	3.17	1/4	.09	2.28	11/16	17.5	.82	20.80	1.08	27.43	.88	22.40	.50	12.7
FE 3/16 X 1/8	3/16	4.76	1/8	.12	3.04	1/2	12.7	.74	18.80	1.00	25.40	.75	19.05	.54	13.7
FE 1/4 X 1/8	1/4	6.35	1/8	.19	4.82	1/2	12.7	.77	19.55	1.06	26.92	.75	19.05	.60	15.2
FE 1/4 X 1/4	1/4	6.35	1/4	.19	4.82	11/16	17.5	.88	22.40	1.17	29.72	.88	22.40	.60	15.2
FE 1/4 X 3/8	1/4	6.35	3/8	.19	4.82	15/16	23.8	.96	24.38	1.25	31.75	.88	22.40	.60	15.2
FE 1/4 X 1/2	1/4	6.35	1/2	.19	4.82	1 1/16	27.0	1.07	27.18	1.36	34.54	1.12	28.45	.60	15.2
FE 5/16 X 1/8	5/16	7.93	1/8	.25	6.35	9/16	14.3	.84	21.30	1.13	28.70	.75	19.05	.64	16.2
FE 5/16 X 1/4	5/16	7.93	1/4	.25	6.35	11/16	17.5	.91	23.11	1.20	30.48	.88	22.40	.64	16.2
FE 3/8 X 1/8	3/8	9.52	1/8	.28	7.11	5/8	15.9	.91	23.11	1.20	30.48	.75	19.05	.66	16.8
FE 3/8 X 1/4	3/8	9.52	1/4	.28	7.11	11/16	17.5	0.94	23.87	1.23	31.24	.88	22.40	.66	16.8
FE 3/8 X 3/8	3/8	9.52	3/8	.28	7.11	15/16	23.8	1.02	25.90	1.31	33.27	.88	22.40	.66	16.8
FE 3/8 X 1/2	3/8	9.52	1/2	.28	7.11	1 1/16	27.0	1.13	28.70	1.42	36.07	1.12	28.45	.66	16.8
FE 1/2 X 1/4	1/2	12.70	1/4	.41	10.41	13/16	20.6	1.02	25.90	1.42	36.07	.88	22.40	.90	22.9
FE 1/2 X 3/8	1/2	12.70	3/8	.41	10.41	15/16	23.8	1.02	25.90	1.42	36.07	.88	22.40	.90	22.9
FE 1/2 X 1/2	1/2	12.70	1/2	.41	10.41	1 1/16	27.0	1.13	28.70	1.53	36.86	1.12	28.45	.90	22.9
FE 5/8 X 3/8	5/8	15.87	3/8	.50	12.70	15/16	23.8	1.10	27.90	1.50	38.10	.88	22.40	.96	24.4
FE 5/8 X 1/2	5/8	15.87	1/2	.50	12.70	1 1/16	27.0	1.17	29.70	1.57	39.86	1.12	28.45	.96	24.4
FE 3/4 X 1/2	3/4	19.05	1/2	.62	15.74	1 1/16	27.0	1.17	29.70	1.57	39.86	1.12	28.45	.96	24.4
FE 3/4 X 3/4	3/4	19.05	3/4	.62	15.74	1 3/8	34.9	1.36	34.54	1.76	44.70	1.25	31.75	.96	24.4
FE 7/8 X 3/4	7/8	22.22	3/4	.72	18.28	1 3/8	34.9	1.36	34.54	1.76	44.70	1.25	31.75	1.02	25.9
FE 1 X 3/4	1	25.40	3/4	.88	22.35	1 3/8	34.9	1.45	36.83	1.93	49.02	1.25	31.75	1.23	31.2
FE 1 X 1	1	25.40	1	.88	22.35	1 11/16	42.9	1.63	41.40	2.11	53.59	1.50	38.10	1.23	31.2

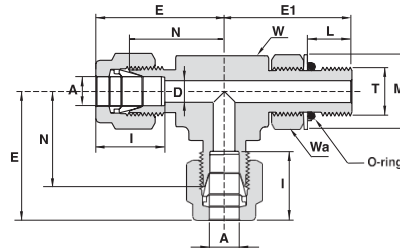
# MALE RUN TEE



TUBE (INCH) TO MALE NPT THREAD

Ordering Information	A Tube O.D.		T (NPT)	D		W Wrench Flat		N		E		N1		I	
	inch	mm	inch	inch	mm	inch	mm	inch	mm	inch	mm	inch	mm	inch	mm
MRT 1/8 X 1/8	1/8	3.17	1/8	.09	2.28	7/16	11.1	.67	17.02	.93	23.62	.70	17.78	.50	12.7
MRT 1/8 X 1/4	1/8	3.17	1/4	.09	2.28	1/2	12.7	.71	18.03	.97	24.64	.92	23.40	.50	12.7
MRT 3/16 X 1/8	3/16	4.76	1/8	.12	3.05	7/16	11.1	.70	17.78	.96	24.38	.70	17.78	.54	13.7
MRT 1/4 X 1/8	1/4	6.35	1/8	.19	4.82	1/2	12.7	.77	19.56	1.06	26.92	.74	18.8	.60	15.2
MRT 1/4 X 1/4	1/4	6.35	1/4	.19	4.82	1/2	12.7	.77	19.56	1.06	26.92	.92	23.37	.60	15.2
MRT 5/16 X 1/8	5/16	7.93	1/8	.19	4.82	5/8	15.9	.88	22.35	1.17	29.71	.82	20.83	.64	16.2
MRT 3/8 X 1/4	3/8	9.52	1/4	.28	7.11	5/8	15.9	.91	23.11	1.20	30.48	1.00	25.40	.66	16.8
MRT 3/8 X 3/8	3/8	9.52	3/8	.28	7.11	13/16	20.6	1.02	25.91	1.31	33.27	1.11	28.19	.66	16.8
MRT 1/2 X 3/8	1/2	12.70	3/8	.38	9.5	13/16	20.6	1.02	25.91	1.42	36.07	1.11	28.19	.90	22.9
MRT 1/2 X 1/2	1/2	12.70	1/2	.41	10.41	13/16	20.6	1.02	25.91	1.42	36.07	1.30	33.00	.90	22.9
MRT 5/8 X 1/2	5/8	15.87	1/2	.47	11.94	15/16	23.8	1.10	27.94	1.50	38.1	1.38	35.05	.96	24.4
MRT 3/4 X 3/4	3/4	19.05	3/4	.62	15.75	1 1/16	27.0	1.17	29.72	1.57	39.88	1.45	36.83	.96	24.4

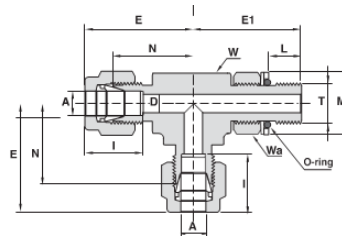
# MALE RUN TEE POS



TUBE TO SAE/MS STRAIGHT THREAD BOSS (POSITIONABLE)

Ordering Information	A Tube O.D.		T SAE/MS	D		W Wrench Flat		Wa Hex. Flat	N	E	E1	L		M	I	**O-ring					
	inch	mm	inch	inch	mm	inch	mm	inch	inch	mm	inch	mm	inch	mm	inch	mm	.Dash No				
MRTP 1/4 X 7/16-20 POS.	1/4	6.35	7/16-20	.19	4.8	1/2	12.7	9/16	.83	21.10	1.12	28.45	1.12	28.45	.39	9.9	.65	16.5	.60	15.2	-904
MRTP 3/8 X 9/16-18 POS.	3/8	9.52	9/16-18	.28	7.1	5/8	15.9	11/16	.97	24.64	1.26	32.00	1.27	32.26	.44	11.2	.79	20.1	.66	16.8	-906

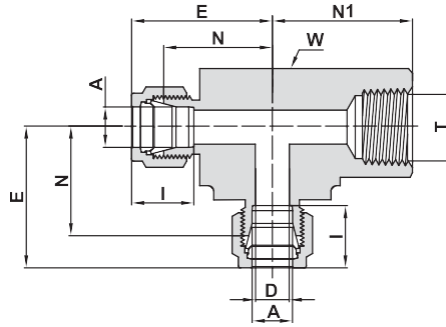
# MALE RUN TEE POS



TUBE (INCH) TO ISO PARALLEL THREAD (POSITIONABLE)

Ordering Information	A Tube O.D.		T (ISO)	D		W Wrench Flat		Wa Hex. Flat	N	E	E1	L		M	I	**O-ring					
	inch	mm	inch	inch	mm	inch	mm	inch	inch	mm	inch	mm	inch	mm	inch	mm	.Dash No				
MRTPG 1/4 X 1/8 POS.	1/4	6.35	G-1/8-28	.16	4.0	1/2	12.7	9/16	.77	19.6	1.06	26.9	1.04	26.4	.32	8.1	.68	17.3	.60	15.2	***
MRTPG 1/4 X 1/4 POS.	1/4	6.35	G-1/4-19	.19	4.8	5/8	15.9	3/4	.85	21.6	1.14	28.9	1.27	32.2	.36	9.1	.90	22.9	.60	15.2	-111
MRTPG 3/8 X 1/4 POS.	3/8	9.52	G-1/4-19	.23	5.9	5/8	15.9	3/4	.91	23.1	1.20	30.5	1.27	32.2	.36	9.1	.90	22.9	.66	16.8	-111

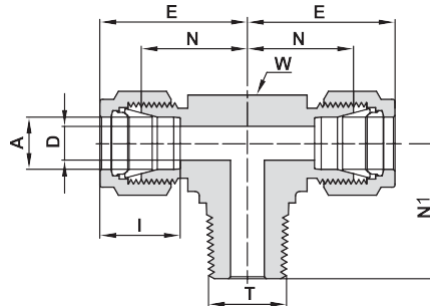
# FEMALE RUN TEE



TUBE (INCH) TO FEMALE NPT THREAD

Ordering Information	A Tube O.D.		T (NPT)	D		W Wrench Flat		N		E		N1		I	
	inch	mm	inch	inch	mm	inch	mm	inch	mm	inch	mm	inch	mm	inch	mm
FRT 1/8 X 1/8	1/8	3.17	1/8	.09	2.28	5/8	15.9	.71	18.00	.97	24.63	.75	19.05	.50	12.7
FRT 1/4 X 1/8	1/4	6.35	1/8	.19	4.82	5/8	15.9	.77	19.55	1.06	26.92	.75	19.05	.60	15.2
FRT 1/4 X 1/4	1/4	6.35	1/4	.19	4.82	13/16	20.6	.88	22.35	1.17	29.71	.88	22.35	.60	15.2
FRT 3/8 X 1/4	3/8	9.52	1/4	.28	7.11	13/16	20.6	.94	23.87	1.23	31.24	.88	22.35	.66	16.8
FRT 1/2 X 3/8	1/2	12.70	3/8	.41	10.41	15/16	23.8	1.02	25.9	1.42	36.07	.88	22.35	.90	22.9
FRT 1/2 X 1/2	1/2	12.70	1/2	.41	10.41	1 1/16	27.0	1.17	29.72	1.57	39.88	1.12	28.45	.90	22.9
FRT 3/4 X 3/4	3/4	19.05	3/4	.62	15.75	1 3/8	34.9	1.36	34.54	1.76	44.70	1.25	31.75	.96	24.4
FRT 1 X 3/4	1	25.4	3/4	.88	22.35	1 3/8	34.9	1.45	36.83	1.93	49.02	1.25	31.75	1.23	31.2
FRT 1 X 1	1	25.4	1	.88	22.35	1 11/16	42.9	1.63	41.40	2.11	53.59	1.50	38.10	1.23	31.2

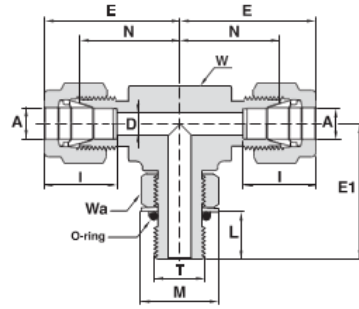
# MALE BRANCH TEE



TUBE (INCH) TO MALE NPT THREAD

Ordering Information	A Tube O.D.		T (NPT)	D		W Wrench Flat		N		E		N1		I	
	inch	mm	inch	inch	mm	inch	mm	inch	mm	inch	mm	inch	mm	inch	mm
MBT 1/8 X 1/8	1/8	3.17	1/8	.09	2.28	7/16	11.1	.67	17.02	.93	23.62	.70	17.78	.50	12.7
MBT 1/8 X 1/4	1/8	3.17	1/4	.09	2.28	1/2	12.7	.71	18.03	.97	24.64	.92	23.37	.50	12.7
MBT 3/16 X 1/8	3/16	4.76	1/8	.12	3.04	7/16	11.1	.70	17.78	.96	24.38	.70	17.78	.54	13.7
MBT 1/4 X 1/8	1/4	6.35	1/8	.19	4.82	1/2	12.7	.77	19.56	1.06	26.92	.74	18.80	.60	15.2
MBT 1/4 X 1/4	1/4	6.35	1/4	.19	4.82	1/2	12.7	.77	19.56	1.06	26.92	.92	23.37	.60	15.2
MBT 5/16 X 1/8	5/16	7.93	1/8	.19	4.82	5/8	15.9	.88	22.35	1.17	29.71	.82	20.83	.64	16.2
MBT 3/8 X 1/4	3/8	9.52	1/4	.28	7.11	5/8	15.9	.91	23.11	1.20	30.48	1.00	25.40	.66	16.8
MBT 3/8 X 3/8	3/8	9.52	3/8	.28	7.11	13/16	20.6	1.02	25.91	1.31	33.27	1.11	28.19	.66	16.8
MBT 1/2 X 3/8	1/2	12.70	3/8	.38	9.65	13/16	20.6	1.02	25.91	1.42	36.07	1.11	28.19	.90	22.9
MBT 1/2 X 1/2	1/2	12.70	1/2	.41	10.41	13/16	20.6	1.02	25.91	1.42	36.07	1.30	33.02	.90	22.9
MBT 5/8 X 1/2	5/8	15.87	1/2	.47	11.94	15/16	23.8	1.13	28.7	1.53	38.86	1.41	35.81	.96	24.4
MBT 3/4 X 3/4	3/4	19.05	3/4	.62	15.75	1 1/16	27.0	1.17	29.72	1.57	39.88	1.45	36.83	.96	24.4

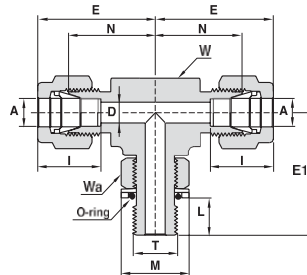
# MALE BRANCH TEE POS



TUBE TO SAE/MS STRAIGHT THREAD BOSS (POSITIONABLE)\*

Ordering Information	A		T	D		W		Wa	N		E	E1		L		M		I	**O-ring		
	Tube O.D.	inch	SAE/MS	inch	inch	Wrench Flat	Hex. Flat	inch	inch	inch	inch	inch	inch	inch	inch	inch	inch	inch	Dash No.		
MBTP 1/4 X 7/16-20 POS.	1/4	6.35	7/16-20	.19	4.8	1/2	12.7	9/16	.83	21.10	1.12	28.45	1.12	28.45	.39	9.9	.65	16.5	.60	15.2	-904
MBTP 3/8 X 9/16-18 POS.	3/8	9.52	9/16-18	.28	7.1	5/8	15.9	11/16	.97	24.64	1.26	32.00	1.27	32.26	.44	11.2	.79	20.1	.66	16.8	-906

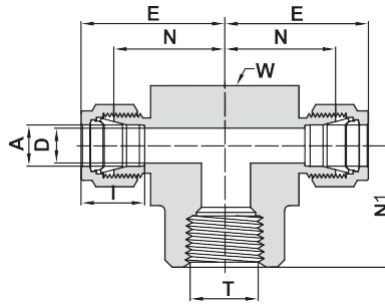
# MALE BRANCH TEE POS



TUBE (INCH) TO ISO PARALLEL THREAD (POSITIONABLE)

Ordering Information	A		T	D		W		Wa	N		E	E1		M		**O-ring					
	Tube O.D.	inch	(ISO)	inch	inch	Wrench Flat	Hex. Flat	inch	inch	inch	inch	inch	inch	inch	inch	Dash No.					
MBTPG 1/4 X 1/8 POS.	1/4	6.35	G-1/8-28	0.16	4.0	1/2	12.7	9/16	0.77	19.6	1.06	26.9	1.04	26.4	0.32	8.1	0.68	17.3	0.60	15.2	***
MBTPG 1/4 X 1/4 POS.	1/4	6.35	G-1/4-19	0.19	4.8	5/8	15.9	3/4	0.85	21.6	1.14	28.9	1.27	32.2	0.36	9.1	0.90	22.9	0.60	15.2	-111
MBTPG 3/8 X 1/4 POS.	3/8	9.52	G-1/4-19	0.23	5.9	5/8	15.9	3/4	0.91	23.1	1.20	30.5	1.27	32.2	0.36	9.1	0.90	22.9	0.66	16.8	-111

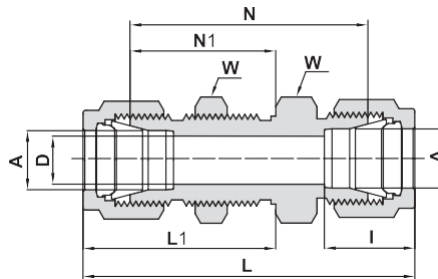
## FEMALE BRANCH TEE



TUBE (INCH) TO FEMALE NPT THREAD

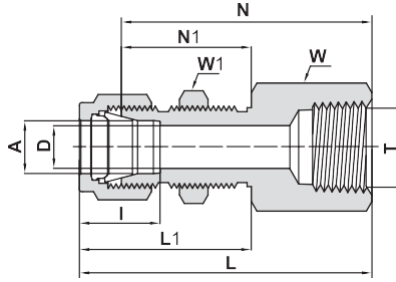
Ordering Information	A Tube O.D.		T (NPT) inch	D inch	W Wrench Flat		N inch	E inch	N1		I inch				
	inch	mm			inch	mm			inch	mm					
FBT 1/8 X 1/8	1/8	3.17	1/8	.09	2.28	5/8	15.9	.70	18.00	.97	24.64	.75	19.05	.50	12.7
FBT 1/4 X 1/8	1/4	6.35	1/8	.19	4.82	5/8	15.9	.77	19.56	1.06	26.96	.75	19.05	.60	15.2
FBT 1/4 X 1/4	1/4	6.35	1/4	.19	4.82	13/16	20.6	.88	22.35	1.17	29.71	.88	22.35	.60	15.2
FBT 3/8 X 1/4	3/8	9.52	1/4	.28	7.11	13/16	20.6	.94	23.88	1.23	31.24	.88	22.35	.66	16.8
FBT 3/8 X 3/8	3/8	9.52	3/8	.28	7.11	15/16	23.8	1.02	25.90	1.31	33.27	.88	22.35	.66	16.8
FBT 3/8 X 1/2	3/8	9.52	1/2	.28	7.11	1 1/16	27.0	1.13	28.70	1.42	36.07	1.12	28.45	.66	16.8
FBT 1/2 X 1/4	1/2	12.70	1/4	.41	10.41	13/16	20.6	1.02	25.90	1.42	36.07	.88	22.35	.90	22.9
FBT 1/2 X 3/8	1/2	12.70	3/8	.41	10.41	15/16	23.8	1.02	25.90	1.42	36.07	.88	22.35	.90	22.9
FBT 1/2 X 1/2	1/2	12.70	1/2	.41	10.41	1 1/16	27.0	1.13	28.70	1.53	38.86	1.12	28.45	.90	22.9
FBT 5/8 X 1/2	5/8	15.87	1/2	.50	12.70	1 1/16	27.0	1.13	28.70	1.53	38.86	1.12	28.44	.96	24.4
FBT 3/4 X 3/4	3/4	19.05	3/4	.62	15.74	1 3/8	34.9	1.36	34.50	1.76	44.70	1.25	31.75	.96	24.4
FBT 1 X 3/4	1	25.4	3/4	.88	22.35	1 3/8	34.9	1.45	36.83	1.93	49.02	1.25	31.75	1.23	31.2
FBT 1 X 1	1	25.4	1	.88	22.35	1 11/16	42.9	1.63	41.40	2.11	53.60	1.50	38.10	1.23	31.2

## BULKHEAD UNION



Ordering Information	A Tube O.D.		D inch	D mm	W Hex. Flat inch	N inch	N mm	N1 inch	N1 mm	L inch	L mm	L1 inch	L1 mm	I inch	I mm	Panel Hole Drill Size		Max. Panel thickness	
	inch	mm														inch	mm	inch	mm
BU 1/16	1/16	1.58	.05	1.27	5/16	.94	23.88	.53	13.46	1.24	31.5	.68	17.3	.34	8.6	13/64	5.16	.12	3.05
BU 1/8	1/8	3.17	.09	2.28	1/2	1.50	38.10	.97	24.63	2.02	51.30	1.23	31.24	.50	12.7	21/64	8.33	.50	12.70
BU 3/16	3/16	4.76	.12	3.04	9/16	1.59	40.38	1.00	25.40	2.11	53.59	1.26	32.00	.54	13.7	25/64	9.92	.50	12.70
BU 1/4	1/4	6.35	.19	4.82	5/8	1.69	42.92	1.03	26.16	2.27	57.65	1.32	33.52	.60	15.2	29/64	11.50	.40	10.16
BU 5/16	5/16	7.93	.25	6.35	11/16	1.81	45.97	1.12	28.44	2.39	60.70	1.41	35.81	.64	16.2	33/64	13.09	.44	11.17
BU 3/8	3/8	9.52	.28	7.11	3/4	1.87	47.5	1.16	29.46	2.45	62.2	1.45	36.83	.66	16.8	37/64	14.68	.44	11.17
BU 1/2	1/2	12.70	.41	10.41	15/16	2.00	50.80	1.25	31.75	2.80	71.12	1.65	41.91	.90	22.9	49/64	19.44	.50	12.70
BU 75/8	5/8	15.87	.50	12.70	1 1/16	2.06	52.32	1.28	32.51	2.86	72.64	1.68	42.67	.96	24.4	57/64	22.62	.50	12.70
BU 3/4	3/4	19.05	.62	15.75	1 3/16	2.31	58.67	1.47	37.33	3.11	78.99	1.87	47.49	.96	24.4	1 1/64	25.79	.66	16.76
BU 1	1	25.40	.88	22.35	1 5/8	2.81	71.37	1.78	45.21	3.77	95.76	2.26	57.40	1.23	31.2	1 21/64	33.73	.75	19.05
BU 1 1/4	*1 1/4	31.75	1.09	27.70	1 7/8	3.11	79.00	1.88	47.75	4.85	123.19	2.75	69.85	1.62	41.2	1 41/64	41.67	.75	19.05
BU 1 1/2	*1 1/2	38.10	1.34	34.00	2 1/4	3.34	84.80	1.94	49.28	5.48	139.19	3.01	76.45	1.97	50.0	1 61/64	49.61	.75	19.05

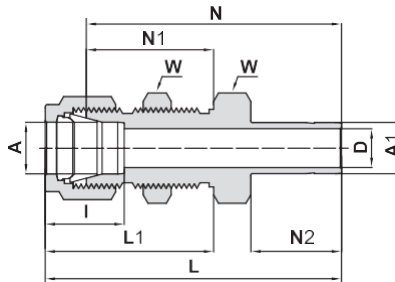
# BULKHEAD FEMALE CONNECTOR



TUBE (INCH) TO FEMALE NPT THREAD

Ordering Information	A		T		D		W		W1		N		N1		L		L1		I		Panel Hole Drill Size		Max. Panel thickness	
	Tube O.D.		(NPT)				Hex. Flat		Hex. Flat															
	inch	mm	inch	mm	inch	mm	inch	mm	inch	mm	inch	mm	inch	mm	inch	mm	inch	mm	inch	mm	inch	mm	inch	mm
BFC 1/8X1/8	1/8	3.17	1/8	.09	2.28	9/16	1/2	1.50	38.10	.97	24.63	1.76	44.70	1.23	31.24	.50	12.7	21/64	8.33	.50	12.70			
BFC 1/4X1/8	1/4	6.35	1/8	.19	4.82	5/8	5/8	1.56	39.62	1.03	26.16	1.85	46.99	1.32	33.52	.60	15.2	29/64	11.50	.40	10.16			
BFC 1/4X1/4	1/4	6.35	1/4	.19	4.82	3/4	5/8	1.75	44.45	1.03	26.16	2.04	51.81	1.32	33.52	.60	15.2	29/64	11.50	.40	10.16			
BFC 3/8X1/4	3/8	9.52	1/4	.28	7.11	3/4	3/4	1.88	47.75	1.16	29.46	2.17	55.11	1.45	36.83	.66	16.8	37/64	14.68	.44	11.17			
BFC 1/2X3/8	1/2	12.70	3/8	.41	10.41	15/16	15/16	2.03	51.56	1.25	31.75	2.43	61.72	1.65	41.91	.90	22.9	49/64	19.44	.50	12.70			
BFC 1/2X1/2	1/2	12.70	1/2	.41	10.41	1 1/16	15/16	2.22	56.38	1.25	31.75	2.62	66.54	1.65	41.91	.90	22.9	49/64	19.44	.50	12.70			

# BULKHEAD REDUCER

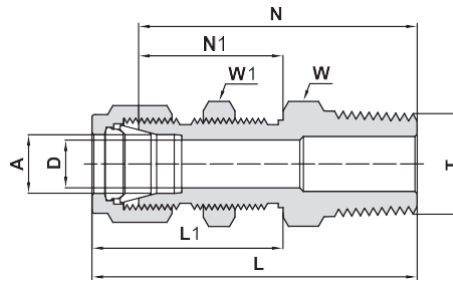


TUBE (INCH) TO TUBE (INCH)

Ordering Information	A		A1		D		W		N		N1		N2		L		L1		I		Panel hole drill size		Max. Panel thickness	
	Tube O.D.		Tube O.D.				Hex. Flat																	
	inch	mm	inch	mm	inch	mm	inch	mm	inch	mm	inch	mm	inch	mm	inch	mm	inch	mm	inch	mm	inch	mm	inch	mm
BR 1/8X1/8	1/8	3.17	1/8	.08	2.03	1/2	1.69	42.92	.97	24.63	.53	13.46	1.95	49.53	1.23	31.24	.50	12.7	21/64	8.33	.50	12.70		
BR 1/4X1/4	1/4	6.35	1/4	.17	4.20	5/8	1.91	48.50	1.03	26.16	.62	15.74	2.20	55.88	1.32	33.52	.60	15.2	29/64	11.50	.40	10.16		
BR 3/8X3/8	3/8	9.52	3/8	.28	7.11	3/4	2.12	53.85	1.16	29.46	.69	17.52	2.41	61.21	1.45	36.83	.66	16.8	37/64	14.68	.44	11.17		
BR 1/2X1/2	1/2	12.7	1/2	.39	9.90	15/16	2.47	62.73	1.25	31.75	.91	23.11	2.87	72.89	1.65	41.91	.90	22.9	49/64	19.44	.50	12.70		
BR 5/8X5/8	5/8	15.87	5/8	.50	12.70	1 1/16	2.56	65.02	1.28	32.51	.97	24.64	2.96	75.18	1.68	42.67	.96	24.4	57/64	22.62	.50	12.70		
BR 3/4X3/4	3/4	19.05	3/4	.59	15.00	1 3/16	2.81	71.37	1.47	37.33	.97	24.64	3.21	81.53	1.87	47.49	.96	24.4	1 1/64	25.79	.66	16.76		
BR 1X1	1	25.40	1	.80	20.30	1 5/8	3.47	88.14	1.78	45.21	1.30	33.02	3.95	100.33	2.26	57.40	1.23	31.2	1 21/64	33.73	.75	19.05		



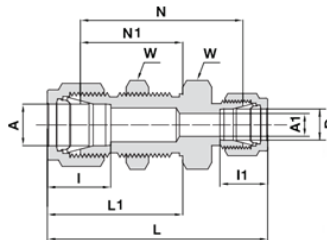
# BULKHEAD MALE CONNECTOR



TUBE (INCH) TO MALE NPT THREAD

Ordering Information	A Tube O.D.		T (NPT)	D		W Hex. Flat		N		N1		L		L1		Panel Hole Drill Size		Max. Panel Thickness	
	inch	mm		inch	inch	mm	inch	inch	inch	mm	inch	mm	inch	mm	inch	mm	inch	mm	inch
BMC 1/8 X 1/8	1/8	3.17	1/8	.09	2.28	1/2	1/2	1.57	39.90	.97	24.60	1.83	46.48	1.23	31.24	21/64	8.33	.50	12.70
BMC 1/4 X 1/8	1/4	6.35	1/8	.19	4.82	5/8	5/8	1.66	42.20	1.03	26.20	1.95	49.53	1.32	33.52	29/64	11.50	.40	10.16
BMC 1/4 X 1/4	1/4	6.35	1/4	.19	4.82	5/8	5/8	1.84	46.70	1.03	26.16	2.13	54.10	1.32	33.52	29/64	11.50	.40	10.16
BMC 3/8 X 1/4	3/8	9.52	1/4	.28	7.11	3/4	3/4	1.97	50.00	1.16	29.46	2.26	57.40	1.45	36.83	37/64	14.68	.44	11.17
BMC 3/8 X 3/8	3/8	9.52	3/8	.28	7.11	3/4	3/4	1.97	50.04	1.16	29.46	2.26	57.40	1.45	36.83	37/64	14.68	.44	11.17
BMC 3/8 X 1/2	3/8	9.52	1/2	.28	7.11	7/8	3/4	2.22	56.39	1.16	29.46	2.51	63.75	1.45	36.83	37/64	14.68	.44	11.17
BMC 1/2 X 3/8	1/2	12.70	3/8	.40	10.40	15/16	15/16	2.09	53.10	1.25	31.75	2.49	83.25	1.65	41.91	49/64	19.44	.50	12.70
BMC 1/2 X 1/2	1/2	12.70	1/2	.40	10.40	15/16	15/16	2.31	58.70	1.25	31.70	2.71	68.83	1.65	41.91	49/64	19.44	.50	12.70
BMC 3/4 X 3/4	3/4	19.05	3/4	.62	15.74	1 3/16	1 3/16	2.60	66.04	1.47	37.33	3.00	76.20	1.87	47.49	1 1/64	25.79	.66	16.76
BMC 1 X 1	1	25.4	1	.88	22.35	1 5/8	1 5/8	3.19	81.02	1.78	45.21	3.67	93.21	2.26	57.40	1 21/64	33.73	.75	19.05

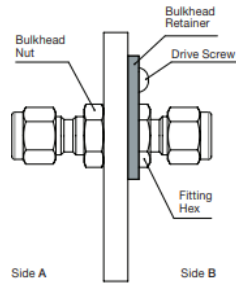
# BULKHEAD REDUCING UNION



TUBE (INCH) TO TUBE (INCH)

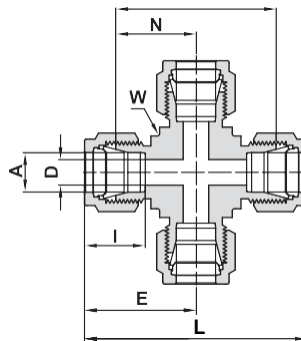
Ordering Information	A Tube O.D.		A1 Tube O.D.		D		W Hex. Flat		N		N1		L		L1		I		I1		Panel Hole Drill Size		Max. Panel Thickness	
	inch	mm	inch	mm	inch	mm	inch	inch	inch	mm	inch	mm	inch	mm	inch	mm	inch	mm	inch	mm	inch	mm	inch	mm
BRU 1/8 X 1/16	1/8	3.17	1/16	1.58	.05	1.27	1/2	1.44	36.57	.97	24.64	1.85	46.99	1.23	31.24	.50	12.7	.34	8.6	21/64	8.33	.50	12.70	
BRU 3/16 X 1/4	3/16	4.76	1/4	6.35	.12	3.04	9/16	1.62	41.15	1.00	25.40	2.17	55.12	1.26	32.00	.54	13.7	.60	15.2	25/64	9.92	.50	12.70	
BRU 1/4 X 1/8	1/4	6.35	1/8	3.17	.09	2.28	5/8	1.62	41.15	1.03	26.16	2.17	55.12	1.32	33.53	.60	15.2	.50	12.7	29/64	11.50	.40	10.16	
BRU 1/4 X 3/8	1/4	6.35	3/8	9.52	.19	4.82	5/8	1.74	44.20	1.03	26.16	2.61	66.29	1.32	33.53	.60	15.2	.66	16.8	29/64	11.50	.40	10.16	
BRU 3/8 X 1/4	3/8	9.52	1/4	6.35	.19	4.82	3/4	1.81	45.97	1.16	29.46	2.39	60.71	1.45	36.83	.66	16.8	.60	15.2	37/64	14.68	.44	11.17	
BRU 1/2 X 1/4	1/2	12.70	1/4	6.35	.19	4.82	15/16	1.94	49.28	1.25	31.75	2.63	66.80	1.65	41.91	.90	22.9	.60	15.2	49/64	19.44	.50	12.70	
BRU 1/2 X 5/8	1/2	12.70	5/8	15.87	.41	10.41	15/16	2.03	51.56	1.25	31.75	2.83	71.88	1.65	41.91	.90	22.9	.96	24.4	49/64	19.44	.50	12.70	
BRU 5/8 X 3/8	5/8	15.87	3/8	9.52	.28	7.11	1 1/16	2.06	52.32	1.28	32.51	2.75	69.85	1.68	42.67	.96	24.4	.66	16.8	57/64	22.62	.50	12.70	

# BULKHEAD RETAINER



Ordering Information	Fitting Size		H	L	R	D	B	Drill Hole Size	Drill Screw Size
	inch	mm	inch	inch	inch	inch	inch	inch	mm
BR 1/8	1/8	-	1/2	1/2	13/32	7/32	5/32	0.12	3.5
BR 1/4-6	1/4	6	5/8	5/8	1/2	9/32	5/32	0.12	3.5
BR 3/8	3/8	-	3/4	3/4	5/8	11/32	5/32	0.12	3.5

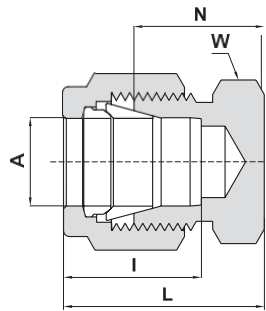
# UNION CROSS



## ALL TUBES (INCH)

Ordering Information	A Tube O.D.		D		W Wrench Flat		N		E		M		L		I	
	inch	mm	inch	mm	inch	mm	inch	mm	inch	mm	inch	mm	inch	mm	inch	mm
UC 1/8	1/8	3.17	.09	2.28	3/8	9.5	.62	15.74	.88	22.35	1.24	31.48	1.76	44.70	.50	12.7
UC 1/4	1/4	6.35	.19	4.82	1/2	12.7	.77	19.56	1.06	26.92	1.54	39.12	2.12	53.84	.60	15.2
UC 5/16	5/16	7.93	.25	6.35	5/8	15.9	.88	22.35	1.17	29.71	1.76	44.70	2.34	59.42	.64	16.2
UC 3/8	3/8	9.52	.28	7.11	5/8	15.9	.91	23.11	1.20	30.48	1.82	46.22	2.40	60.96	.66	16.8
UC 1/2	1/2	12.70	.41	10.41	13/16	20.6	1.02	25.9	1.42	36.07	2.04	51.80	2.84	72.14	.90	22.9
UC 3/4	3/4	19.05	.62	15.74	1 1/16	27.0	1.17	29.72	1.57	39.88	2.34	59.44	3.14	79.76	.96	24.4
UC 1	1	25.40	.88	22.35	1 3/8	34.9	1.45	36.8	1.93	49.02	2.90	73.60	3.86	98.04	1.23	31.2

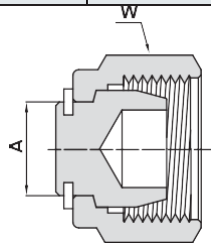
# CAP



## CAPPING END OF TUBE (INCH)

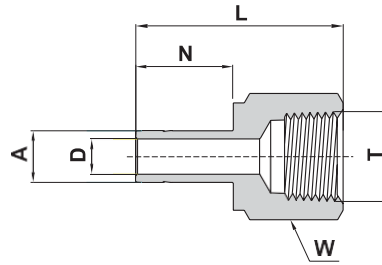
Ordering Information	A Tube O.D.		W Hex. Flat		N		L		I	
	inch	mm	inch	inch	mm	inch	mm	inch	mm	
	CA 1/16	1/16	1.58	5/16	.44	11.17	.59	14.98	.34	8.6
CA 1/8	1/8	3.17	7/16	.53	13.46	.79	20.06	.50	12.7	
CA 3/16	3/16	4.76	7/16	.58	14.73	.84	21.84	.54	13.7	
CA 1/4	1/4	6.35	1/2	.63	16.00	.92	23.37	.60	15.2	
CA 5/16	5/16	7.93	9/16	.67	17.01	.96	24.38	.64	16.2	
CA 3/8	3/8	9.52	5/8	.72	18.28	1.01	26.65	.66	16.8	
CA 1/2	1/2	12.70	13/16	.75	19.05	1.15	29.21	.90	22.9	
CA 5/8	5/8	15.87	15/16	.78	19.81	1.18	29.97	.96	24.4	
CA 3/4	3/4	19.05	1 1/16	.84	21.33	1.24	31.49	.96	24.4	
CA 7/8	7/8	22.22	1 3/16	.94	23.88	1.34	34.04	1.02	25.9	
CA 1	1	25.40	1 3/8	1.03	26.16	1.51	38.35	1.23	31.2	
CA 1 1/4	*1 1/4	31.75	1 3/4	1.23	31.24	2.10	53.34	1.62	41.2	
CA 1 1/2	*1 1/2	38.10	2 1/8	1.47	37.33	2.54	64.52	1.97	50.0	
CA 2	*2	50.80	2 3/4	1.94	49.28	3.41	86.61	2.66	67.6	

# PLUG



Ordering Information	A		W Hex. Flat	
	inch	mm	inch	
	PL 1/16	1/16	1.58	5/16
PL 1/8	1/8	3.17	7/16	
PL 3/16	3/16	4.76	1/2	
PL 1/4	1/4	6.35	9/16	
PL 5/16	5/16	7.93	5/8	
PL 3/8	3/8	9.52	11/16	
PL 1/2	1/2	12.70	7/8	
PL 5/8	5/8	15.87	1	
PL 3/4	3/4	19.05	1 1/8	
PL 7/8	7/8	22.22	1 1/4	
PL 1	1	25.40	1 1/2	
PL 1 1/4	*1 1/4	31.75	1 7/8	
PL 1 1/2	*1 1/2	38.10	2 1/4	
PL 2	*2	50.80	3 inch	

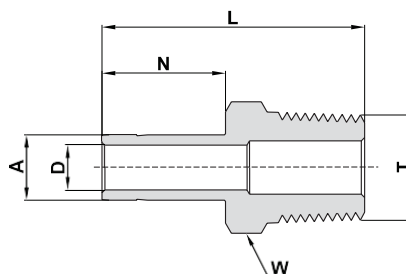
# FEMALE ADAPTER TUBE TO PIPE



## TUBE (INCH) FEMALE PIPE

Ordering Information	A Tube O.D.		T (NPT)	D		W Hex. Flat		N		L	
	inch	mm	inch	inch	mm	inch	inch	mm	inch	mm	
FATTP 1/8 X 1/8	1/8	3.17	1/8	.08	2.0	9/16	.53	13.45	1.24	31.5	
FATTP 1/8 X 1/4	1/8	3.17	1/4	.08	2.0	3/4	.53	13.45	1.39	35.3	
FATTP 3/16 X 1/4	3/16	4.76	1/4	.12	3.0	3/4	.56	14.20	1.41	35.8	
FATTP 1/4 X 1/8	1/4	6.35	1/8	.17	4.2	9/16	.62	15.75	1.30	33.0	
FATTP 1/4 X 1/4	1/4	6.35	1/4	.17	4.2	3/4	.62	15.75	1.46	37.1	
FATTP 1/4 X 3/8	1/4	6.35	3/8	.17	4.2	7/8	.62	15.75	1.55	39.4	
FATTP 1/4 X 1/2	1/4	6.35	1/2	.17	4.2	1 1/16	.62	15.75	1.79	45.5	
FATTP 5/16 X 1/4	5/16	7.93	1/4	.22	5.6	3/4	.66	16.75	1.48	37.6	
FATTP 3/8 X 1/8	3/8	9.52	1/8	.27	6.9	9/16	.69	17.50	1.35	34.3	
FATTP 3/8 X 1/4	3/8	9.52	1/4	.27	6.9	3/4	.69	17.50	1.50	38.1	
FATTP 3/8 X 3/8	3/8	9.52	3/8	.27	6.9	7/8	.69	17.50	1.59	40.4	
FATTP 3/8 X 1/2	3/8	9.52	1/2	.27	6.9	1 1/16	.69	17.50	1.84	46.7	
FATTP 1/2 X 1/4	1/2	12.70	1/4	.37	9.4	3/4	.91	23.10	1.71	43.4	
FATTP 1/2 X 3/8	1/2	12.70	3/8	.37	9.4	7/8	.91	23.10	1.79	45.5	
FATTP 1/2 X 1/2	1/2	12.70	1/2	.37	9.4	1 1/16	.91	23.10	2.05	52.1	
FATTP 5/8 X 1/2	5/8	15.87	1/2	.50	12.7	1 1/16	.97	24.65	2.09	53.1	
FATTP 3/4 X 1/2	3/4	19.05	1/2	.59	15.0	1 1/16	.97	24.65	2.08	52.8	
FATTP 3/4 X 3/4	3/4	19.05	3/4	.59	15.0	1 5/16	.97	24.65	2.16	54.9	
FATTP 1/4 X 1	3/4	19.05	1	.59	15.0	1 5/8	.97	24.65	2.30	58.4	
FATTP 1 X 3/4	1	25.40	3/4	.80	20.3	1 5/16	1.23	31.20	2.39	60.7	
FATTP 1 X 1	1	25.40	1	.80	20.3	1 5/8	1.23	31.20	2.53	64.3	
FATTP 1 1/4 X 1 1/4	* 1 1/4	31.75	1 1/4	1.02	25.9	2 1/8	1.73	43.82	3.06	77.7	
FATTP 1 1/2 X 1 1/2	* 1 1/2	38.10	1 1/2	1.25	31.8	2 3/8	2.14	54.33	3.50	88.9	

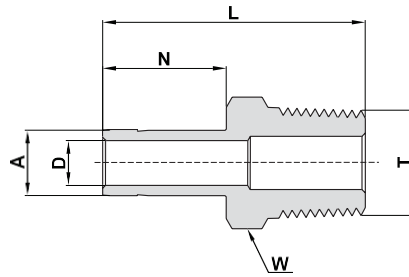
# MALE ADAPTER TUBE TO PIPE



## TUBE (INCH) MALE PIPE

Ordering Information	A Tube O.D.		T (NPT)	D		W Hex. Flat	N		L	
	inch	mm	inch	inch	mm	inch	inch	mm	inch	mm
MATTP 1/8 X 1/8	1/8	3.17	1/8	.08	2.0	7/16	.53	13.45	1.16	29.5
MATTP 1/8 X 1/4	1/8	3.17	1/4	.08	2.0	9/16	.53	13.45	1.37	34.8
MATTP 3/16 X 1/8	3/16	4.76	1/8	.12	3.0	7/16	.56	14.20	1.19	30.2
MATTP 3/16 X 1/4	3/16	4.76	1/4	.12	3.0	9/16	.56	14.20	1.40	35.6
MATTP 1/4 X 1/8	1/4	6.35	1/8	.17	4.2	7/16	.62	15.75	1.25	31.8
MATTP 1/4 X 1/4	1/4	6.35	1/4	.17	4.2	9/16	.62	15.75	1.46	37.1
MATTP 1/4 X 3/8	1/4	6.35	3/8	.17	4.2	11/16	.62	15.75	1.49	37.9
MATTP 1/4 X 1/2	1/4	6.35	1/2	.17	4.2	7/8	.62	15.75	1.71	43.4
MATTP 5/16 X 1/8	5/16	7.93	1/8	.22	5.6	7/16	.66	16.75	1.29	32.7
MATTP 5/16 X 1/4	5/16	7.93	1/4	.22	5.6	9/16	.66	16.75	1.50	38.1
MATTP 3/8 X 1/8	3/8	9.52	1/8	.27	6.9	7/16	.69	17.50	1.32	33.5
MATTP 3/8 X 1/4	3/8	9.52	1/4	.27	6.9	9/16	.69	17.50	1.53	38.9
MATTP 3/8 X 3/8	3/8	9.52	3/8	.27	6.9	11/16	.69	17.50	1.56	39.6
MATTP 3/8 X 1/2	3/8	9.52	1/2	.27	6.9	7/8	.69	17.50	1.78	45.2
MATTP 1/2 X 1/4	1/2	12.70	1/4	.28	7.1	9/16	.91	23.10	1.75	44.5
MATTP 1/2 X 3/8	1/2	12.70	3/8	.37	9.4	11/16	.91	23.10	1.78	45.2
MATTP 1/2 X 1/2	1/2	12.70	1/2	.37	9.4	7/8	.91	23.10	2.0	50.8
MATTP 5/8 X 3/8	5/8	15.87	3/8	.37	9.5	11/16	.97	24.65	1.81	47.6
MATTP 5/8 X 1/2	5/8	15.87	1/2	.47	11.9	7/8	.97	24.65	2.06	52.3
MATTP 5/8 X 3/4	5/8	15.87	3/4	.50	12.7	1 1/16	.97	24.65	2.06	52.3
MATTP 3/4 X 1/2	3/4	19.05	1/2	.47	11.9	7/8	.97	24.65	2.06	52.3
MATTP 3/4 X 3/4	3/4	19.05	3/4	.59	15.0	1 1/16	.97	24.65	2.06	52.3
MATTP 3/4 X 1	3/4	19.05	1	.59	15.0	1 3/8	.97	24.65	2.28	57.3
MATTP 7/8 X 3/4	7/8	22.22	3/4	.60	15.9	1 1/16	1.05	26.60	2.09	54.3
MATTP 1 X 3/4	1	25.40	3/4	.60	15.8	1 1/16	1.30	33.00	2.31	58.7
MATTP 1 X 1	1	25.40	1	.80	20.3	1 3/8	1.30	33.00	2.60	66.0
MATTP 1 1/4 X 1 1/4	* 1 1/4	31.75	1 1/4	1.02	25.9	1 3/4	1.73	43.82	3.16	80.3
MATTP 1 1/2 X 1 1/2	* 1 1/2	38.10	1 1/2	1.25	31.6	2 1/8	2.14	54.33	3.72	94.5

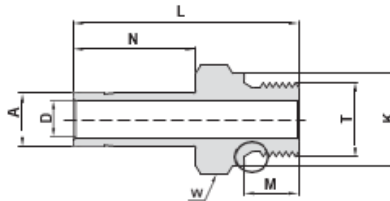
# MALE ADAPTER TUBE TO PIPE



TUBE (INCH) MALE PIPE

Ordering Information	A Tube O.D.		T (ISO)	D		W Hex. Flat	N		L	
	inch	mm		inch	mm		inch	mm	inch	mm
MATTPLM 1/8 X 1/8	1/8	3.17	R-1/8	.08	2.0	7/16	.53	13.45	1.16	29.5
MATTPLM 1/8 X 1/4	1/8	3.17	R-1/4	.08	2.0	9/16	.53	13.45	1.37	34.8
MATTPLM 1/4 X 1/8	1/4	6.35	R-1/8	.17	4.2	7/16	.62	15.75	1.25	31.8
MATTPLM 1/4 X 1/4	1/4	6.35	R-1/4	.17	4.2	9/16	.62	15.75	1.46	37.1
MATTPLM 1/4 X 3/8	1/4	6.35	R-3/8	.17	4.2	11/16	.62	15.75	1.49	37.9
MATTPLM 1/4 X 1/2	1/4	6.35	R-1/2	.17	4.2	7/8	.62	15.75	1.71	43.4
MATTPLM 3/8 X 1/4	3/8	9.52	R-1/4	.27	6.9	9/16	.69	17.50	1.53	38.9
MATTPLM 3/8 X 3/8	3/8	9.52	R-3/8	.27	6.9	11/16	.69	17.50	1.56	39.6
MATTPLM 3/8 X 1/2	3/8	9.52	R-1/2	.27	6.9	7/8	.69	17.50	1.78	45.2
MATTPLM 1/2 X 1/4	1/2	12.70	R-1/4	.28	7.1	9/16	.91	23.10	1.75	44.5
MATTPLM 1/2 X 3/8	1/2	12.70	R-3/8	.37	9.4	11/16	.91	23.10	1.78	45.2
MATTPLM 1/2 X 1/2	1/2	12.70	R-1/2	.37	9.4	7/8	.91	23.10	2.00	50.8
MATTPLM 5/8 X 1/2	5/8	15.87	R-1/2	.47	11.9	7/8	.97	24.65	2.06	52.3
MATTPLM 3/4 X 1/2	3/4	19.05	R-1/2	.47	11.9	7/8	.97	24.65	2.06	52.3
MATTPLM 3/4 X 3/4	3/4	19.05	R-3/4	.59	15.0	1 1/16	.97	24.65	2.06	52.3
MATTPLM 1 X 1	1	25.40	R-1	.80	20.3	1 3/8	1.30	33.00	2.60	66.0

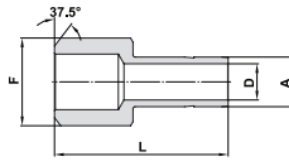
# MALE ADAPTER TUBE TO PIPE



TUBE (INCH) TO ISO PARALLEL THREAD

Ordering Information	A Tube O.D.		T (ISO)	D		K		W Hex. Flat	N		M		L	
	inch	mm		inch	mm	inch	mm		inch	mm	inch	mm	inch	mm
MATTPLMG 1/8 X 1/8	1/8	3.17	G-1/8	.08	2.0	.54	13.8	9/16	.53	13.45	.28	7.1	1.22	31.0
MATTPLMG 1/8 X 1/4	1/8	6.35	G-1/4	.08	2.0	.71	18.0	3/4	.53	13.45	.44	11.2	1.41	35.8
MATTPLMG 1/4 X 1/8	1/4	3.17	G-1/8	.16	4.0	.54	13.8	9/16	.62	15.75	.28	7.1	1.20	30.5
MATTPLMG 1/4 X 1/4	1/4	6.35	G-1/4	.17	4.2	.71	18.0	3/4	.62	15.75	.44	11.2	1.42	36.0
MATTPLMG 3/8 X 1/4	3/8	6.35	G-1/4	.23	5.8	.71	18.0	3/4	.69	17.50	.44	11.2	1.57	39.9
MATTPLMG 3/8 X 3/8	3/8	9.52	G-3/8	.27	6.9	.86	21.8	7/8	.69	17.50	.44	11.2	1.60	40.6
MATTPLMG 1/2 X 1/4	1/2	6.35	G-1/4	.23	5.8	.71	18.0	3/4	.91	23.10	.44	11.2	1.85	47.0
MATTPLMG 1/2 X 3/8	1/2	9.52	G-3/8	.31	7.9	.86	21.8	7/8	.91	23.10	.44	11.2	1.88	47.7
MATTPLMG 1/2 X 1/2	1/2	12.70	G-1/2	.37	9.4	1.02	26.0	1 1/16	.91	23.10	.56	14.2	1.96	49.8
MATTPLMG 3/4 X 3/4	3/4	19.05	G-3/4	.59	15.0	1.26	32.0	1 5/16	.97	24.65	.62	15.7	2.16	54.9
MATTPLMG 1 X 1	1	25.40	G-1	.78	19.8	1.54	39.0	1 5/8	1.23	31.20	.72	18.3	2.59	65.8

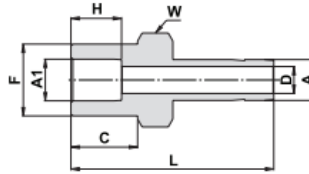
# WELD ADAPTER TUBE TO PIPE



TUBE (INCH) TO TUBE(INCH)

Ordering Information	A Tube O.D.		F Pipe Size		D		L	
	inch	mm	inch	mm	inch	mm	inch	mm
	WATTP 1/4 X 1/4	1/4	6.35	1/4	13.70	.17	4.20	1.14
WATTP 3/8 X 1/2	3/8	9.52	1/2	21.34	.27	6.85	1.46	37.08
WATTP 1/2 X 1/2	1/2	12.7	1/2	21.34	.37	9.40	1.66	42.15
WATTP 1/2 X 3/4	1/2	12.7	3/4	26.67	.37	9.40	1.68	42.67
WATTP 3/4 X 3/4	3/4	19.05	3/4	26.67	.59	15.00	1.87	47.50

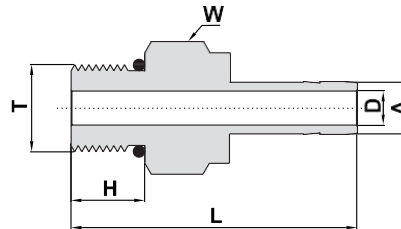
# SOCKET WELD ADAPTER



TUBE (INCH) TO TUBE (INCH)

Ordering Information	A Tube O.D.		A1 Pipe Size		C		D		W		F		H		L	
	inch	mm	inch	mm	inch	mm	inch	mm	inch	mm	inch	mm	inch	mm	inch	mm
	SWA 1/4 X 1/4	1/4	6.35	1/4	6.35	.41	10.41	.17	4.20	1/2	12.7	.44	11.18	.31	7.90	1.25
SWA 3/8 X 3/8	3/8	9.52	3/8	9.52	.47	11.94	.28	7.11	5/8	15.9	.62	15.75	.38	9.65	1.42	36.70
SWA 1/2 X 1/2	1/2	12.7	1/2	12.7	.47	11.94	.39	9.91	13/16	20.6	.75	19.05	.50	12.7	1.67	42.42

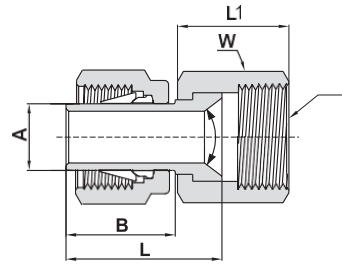
# MALE ADAPTER



TUBE (INCH) TO SAE/MS STRAIGHT THREAD BOSS

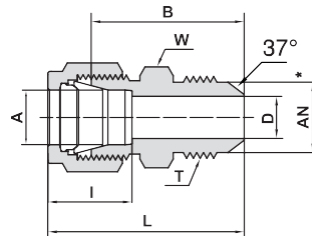
Ordering Information	A Tube O.D.		T Straight Thread UN		D		W		H		L		**O-Ring
	inch	mm	inch	inch	mm	mm	inch	mm	inch	mm	inch	mm	
	MA 1/8 X 5/16-24	1/8	3.18	5/16-24	.08	2.03	7/16	11.1	.30	7.62	1.20	30.48	
MA 1/4 X 7/16-20	1/4	6.35	7/16-20	.17	4.20	9/16	14.3	.36	9.14	1.39	35.3	-904	
MA 1/4 X 9/16-18	1/4	6.35	9/16-18	.17	4.20	11/16	17.5	.39	9.90	1.42	36.07	-906	
MA 3/8 X 7/16-20	3/8	9.52	7/16-20	.20	5.10	9/16	14.3	.36	9.14	1.46	37.08	-904	
MA 3/8 X 9/16-18	3/8	9.52	9/16-18	.27	6.85	11/16	17.5	.39	9.90	1.52	38.61	-906	
MA3/8 X 3/4-16	3/8	9.52	3/4-16	.27	6.85	7/8	22.2	.44	11.17	1.60	40.64	-908	
MA 1/2 X 9/16-18	1/2	12.7	9/16-18	.28	7.11	11/16	17.5	.39	9.90	1.74	44.20	-906	
MA 1/2 X 3/4-16	1/2	12.7	3/4-16	.37	9.40	7/8	22.2	.44	11.17	1.82	46.23	-908	
MA 5/8 X 7/8-14	5/8	15.87	7/8-14	.47	11.94	1	25.4	.50	12.70	1.94	49.28	-910	
MA 3/4 X 1 1/16-12	3/4	19.05	1 1/16-12	.59	15.00	1 1/4	31.8	.59	14.98	2.10	53.34	-912	
MA 1 X 1 5/16-12	1	25.40	1 5/16-12	.80	20.32	1 1/2	38.1	.59	14.98	2.41	61.21	-916	
MA 1 1/4 X 1 5/8-12	* 1 1/4	31.75	1 5/8-12	1.02	26.00	1 7/8	47.6	.59	15.10	2.81	71.37	-920	

## COMPRESSION TO AN ADAPTER



Ordering Information	A		AN*		W	L		L1		B	
	Tube O.D.		Tube Flare Size			Hex. Flat					
	inch	mm	inch	mm	inch		inch	mm	inch	mm	inch
CTAA 1/8 X 1/8	1/8	3.17	1/8	3.17	3/8	.75	19.05	.54	13.71	.53	13.46
CTAA 1/8 X 1/4	1/8	3.17	1/4	6.35	9/16	.75	19.05	.61	15.50	.53	13.46
CTAA 1/4 X 1/4	1/4	6.35	1/4	6.35	9/16	.84	21.33	.61	15.50	.62	15.75
CTAA 3/8 X 3/8	3/8	9.52	3/8	9.52	11/16	.98	24.89	.72	18.30	.69	17.53
CTAA 1/2 X 1/2	1/2	12.70	1/2	12.70	7/8	1.25	31.75	.84	21.30	.91	23.11

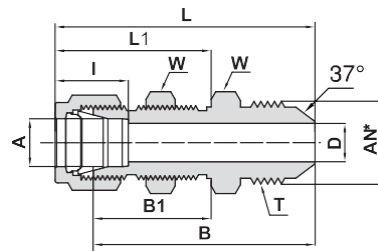
## COMPRESSION TO AN UNION



TUBE (INCH) TO TUBE (INCH)

Ordering Information	A		AN*		D		W		B	L	I	T		
	.Tube O.D		Tube Flare size				Hex. Flat						Straight Thread	
	inch	mm	inch	mm	inch	mm	inch	mm	inch	mm	inch	mm		
CTAU 1/16 X 1/8	1/16	1.58	1/8	3.17	.05	1.27	7/16	.92	23.36	1.07	27.18	.34	8.6	5/16-24
CTAU 1/8 X 1/8	1/8	3.17	1/8	3.17	.06	1.52	7/16	1.01	25.65	1.27	32.26	.50	12.7	5/16-24
CTAU 1/8 X 1/4	1/8	3.17	1/4	6.35	.09	2.28	1/2	1.12	28.44	1.38	35.05	.50	12.7	7/16-20
CTAU 1/4 X 1/4	1/4	6.35	1/4	6.35	.17	4.31	1/2	1.19	30.22	1.48	37.59	.60	15.2	7/16-20
CTAU 3/8 X 1/4	3/8	9.52	1/4	6.35	.17	4.31	5/8	1.27	32.25	1.56	39.62	.66	16.8	7/16-20
CTAU 3/8 X 3/8	3/8	9.52	3/8	9.52	.28	7.11	5/8	1.27	32.25	1.56	39.62	.66	16.8	9/16-18
CTAU 1/2 X 1/2	1/2	12.70	1/2	12.70	.39	9.90	13/16	1.41	35.8	1.81	45.96	.90	22.9	3/4-16
CTAU 3/4 X 3/4	3/4	19.05	3/4	19.05	.61	15.49	1 1/8	1.70	43.18	2.10	53.34	.96	24.4	1 1/16-12
CTAU 1 X 1	1	25.40	1	25.40	.84	21.34	1 3/8	1.94	49.28	2.42	61.47	1.23	31.2	1 5/16-12

## COMPRESSION TO AN BULKHEAD UNION

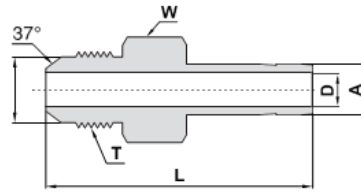


TUBE (INCH) TO 37 DEGREE FLARE

Ordering Information	A		AN*		D		W		B	B1	L	L1	T	Panel hole drill size	Max. panel thickness	I							
	.Tube O.D		Tube Flare size				Hex. Flat										Straight Thread						
	inch	mm	inch	mm	inch	mm	inch	mm	inch	mm	inch	mm	inch	mm	inch	mm							
774LFL_1/4 X 1/4	1/4	6.35	1/4	6.35	.17	4.30	5/8	15.9	1.83	46.48	1.03	26.16	2.12	53.84	1.32	33.52	7/16-20	29/64	11.50	.40	10.16	.60	15.2
774LFL_3/8 X 3/8	3/8	9.52	3/8	9.52	.28	7.11	3/4	19.1	1.96	49.78	1.16	29.46	2.25	57.15	1.45	36.83	9/16-18	37/64	14.68	.44	11.17	.66	16.8
774LFL_1/2 X 1/2	1/2	12.70	1/2	12.70	.39	9.90	15/16	23.8	2.19	55.63	1.25	31.75	2.59	65.79	1.65	41.91	3/4-16	49/64	19.45	.50	12.70	.90	22.9
774LFL_3/4 X 3/4	3/4	19.05	3/4	19.05	.61	15.49	1 3/16	30.2	2.71	68.83	1.47	37.34	3.11	78.99	1.87	47.50	1 1/16-12	1 1/64	25.80	.66	16.76	.96	24.4
774LFL_1 X 1	1	25.40	1	25.40	.84	21.33	1 5/8	41.3	3.16	80.26	1.78	45.21	3.64	92.46	2.26	57.40	1 5/16-12	1 21/64	33.73	.75	19.05	.23	31.2



# MALE ADAPTER TUBE



TUBE (INCH) TO TUBE (INCH)

Ordering Information	A		AN*		D		W		L		T
	.Tube O.D		Thread Flare Size								Straight Thread
	inch	mm	inch	mm	inch	mm	inch	mm	inch	mm	
MAT 1/4 X 1/4	1/4	6.35	1/4	6.35	.17	4.20	1/2	12.7	1.46	37.08	7/16-20
MAT 3/8 X 1/4	3/8	9.52	1/4	6.35	.17	4.20	1/2	12.7	1.53	38.86	7/16-20
MAT 3/8 X 3/8	3/8	9.52	3/8	9.52	.28	7.11	5/8	15.9	1.56	39.62	9/16-18
MAT 1/2 X 1/2	1/2	12.7	1/2	12.7	.39	9.90	13/16	20.6	1.91	48.51	3/4-16
MAT 5/8 X 5/8	5/8	15.87	5/8	15.87	.484	12.30	15/16	23.8	2.10	53.20	7/8-14
MAT 3/4 X 3/4	3/4	19.05	3/4	19.05	.59	15.00	1 1/8	28.6	2.21	56.13	1 1/16-12
MAT 1 X 1	1	25.40	1	25.40	.80	20.32	1 3/8	34.9	2.58	65.53	1 5/16-12

## Western Valve and Fitting

4355 Technology Drive,  
Livermore, CA, 94551

Ph: (925-443-8500)

Fax: (925-443-8525)

Email: [Info@westernvalveandfitting.com](mailto:Info@westernvalveandfitting.com) ION

Website: [Westernvalveandfitting.com](http://Westernvalveandfitting.com)