



www.sglok.com

SG-Lok Instrumentation

TUBE FITTINGS



How to Order

- SG-Lok tube fittings parts numbers are constructed from symbols that identify the style and size of the fitting and material used.

◆ FRACTIONAL TUBE NUMBERING SYSTEM

G	MC	8	4	N	SS
SG – Lok Tube Fitting	Fitting Type (Male Connector)	Tube O.D. (1/2" O.D.)	Pipe Thread Size (1/4")	Pipe Thread Type (NPT)	Material (Stainless steel)

◆ METRIC TUBE NUMBERING SYSTEM

G	MC	6M	4	R	SS
SG – Lok Tube Fitting	Fitting Type (Male Connector)	Tube O.D. (6mm O.D.)	Pipe Thread Size (1/4")	Pipe Thread Type (PT)	Material (Stainless steel)

· N : American National Standard
 Taper Pipe Threads (NPT:ANSI B1.20.1)
 · R : Taper Pipe Threads (PT:JIS B0203, ISO 7/1)
 · G : Parallel Pipe Threads (PF:JIS B0202, ISO 228/1)

· SS : Stainless Steel
 · BS : Brass
 · CS : Carbon Steel
 · MO : Monel
 · IN : Inconel

◆ SG-Lok Tube End Designator

▶ Fractional Tube

Tube O.D.	1/16"	1/8"	3/16"	1/4"	5/16"	3/8"	1/2"	5/8"	3/4"	7/8"	1"	1-1/4"	1-1/2"	2"
Designation	1	2	3	4	5	6	8	10	12	14	16	20	24	32

▶ Metric Tube

Tube O.D.	2mm	3mm	4mm	6mm	8mm	10mm	12mm	14mm	15mm	16mm	20mm	22mm	25mm	28mm	30mm	32mm	38mm
Designation	2M	3M	4M	6M	8M	10M	12M	14M	15M	16M	20M	22M	25M	28M	30M	32M	38M

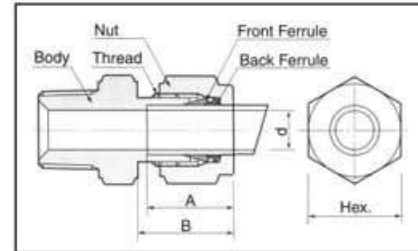
▶ Pipe Thread Designator

Nominal Size	1/16"	1/8"	1/4"	3/8"	1/2"	3/4"	1"	1-1/4"	1-1/2"	2"	Applicable Specifications
NPT	1N	2N	4N	6N	8N	12N	16N	20N	24N	32N	ANSI B1.20.1 (NPT)
ISO Tapered	1R	2R	4R	6R	8R	12R	16R	20R	24R	32R	JIS B0203(PT), DIN 2999, ISO 7/1, BS 21(BSPT)
ISO Parallel	1G	2G	4G	6G	8G	12G	16G	20G	24G	32G	JIS B0202(PF), DIN ISO 228/1, BS 2779(BSPP)
Unified Screw	1U	2U	4U	6U	8U	12U	16U	20U	24U	32U	American Standard Unified Screw Thread

Installation

◆ Desian introduction

Tube fittings are commonly used on instrumentation, process and control systems or any other application where a quality tube fitting is required



SG-Lok Fraction Tube End Dimensions

Unit:mm

Size No.	Tube O.D.	Thread	A	B	d	Hex
2	1/8	5/16-20UN	12.70	15.24	2.28	11.11
3	3/16	3/8-20UN	13.70	16.00	3.04	12.70
4	1/4	7/16-20UNF	15.24	17.78	4.80	14.28
5	5/16	1/2-20UNF	16.25	18.54	6.35	15.87
6	3/8	9/16-20UNF	16.76	19.30	7.10	17.46
8	1/2	3/4-20UNEF	22.86	21.84	10.40	22.22
10	5/8	7/8-20UNEF	24.38	21.84	12.70	25.40
12	3/4	1-20UNEF	24.38	21.84	15.70	28.57
14	7/8	1-1/8-20UN	25.90	21.84	18.20	31.75
16	1	1-5/16-20UN	31.24	26.41	22.40	38.10

SG-Lok Metric Tube End Dimensions

Unit:mm

Size No.	Tube O.D.	Thread	A	B	d	Hex
3M	3mm	5/16-20UN	12.9	15.3	2.4	11.11
4M	4mm	3/8-20UN	13.70	16.00	3.04	12.70
6M	6mm	7/16-20UNF	15.3	17.7	4.8	14.28
8M	8mm	1/2-20UNF	16.2	18.6	6.4	15.87
10M	10mm	5/8-20UNF	17.2	19.5	7.9	19.05
12M	12mm	3/4-20UNEF	22.8	22.0	9.5	22.22
15M	15mm	7/8-20UNEF	24.4	22.0	11.9	25.40
16M	16mm	7/8-20UNEF	24.4	22.0	12.7	25.40
18M	18mm	1-20UNEF	24.4	22.0	15.1	30.16
20M	20mm	1-1/8-20UN	26.0	22.0	15.9	31.75
22M	22mm	1-1/8-20UN	26.0	22.0	18.3	31.75
25M	25mm	1-5/16-20UN	31.3	26.5	21.8	38.10

◆ Assembly Instructions

SG-Lok tube fittings can be installed by using readily available wrenches.

1. Insert the tubing into the SG-Lok fitting until the tubing sits on the shoulder of the body. Make sure the nut is finger-tight.
2. Form the finger-tight position, rotate the nut 3/4 for sizes between 1/16-inch and 3/16-inch ; and 1-1/4 turn for the sizes between 1/4-inch and 1-inch.

◆ Reassembly Instructions

SG-Lok tube fittings can be assembled and disassembled repeatedly. The following instructions should be carried out to reassemble a fitting.

1. Insert the tubing with the previously set ferreles into the SG-Lok fitting until the tubing sits on the shoulder of the body. Make sure the nut is finger-tight.
2. Using a wrench, from the finger-tight position, rotate the nut 3/4 for sizes between 1/16-inch and 3/16-inch ; and 1-1/4 turn for the sizes between 1/4-inch and 1-inch until sung, then tighten a little more.

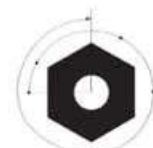


Size 1 thru 3(1/16" thru 3/16")



Only 3/4 turn from finger-tight position

Size 4 thru 16(1/4" thru 1")



1-1/4 turn from finger-tight position

ALLOWABLE PRESSURE TABLES

Table 1 STAINLESS STEEL TUBING

Fully annealed high quality Type 304, 316, etc. Stainless Steel hydraulic tubing ASTM A-269 or A-213 or equivalent.

Tube O.D. (inch)	TUBE WALL THICKNESS (inches)												
	0.010	0.012	0.014	0.016	0.020	0.028	0.035	0.049	0.065	0.083	0.095	0.109	0.120
1/16	5500	6800	8100	9400	12000								
1/8						8500	10900						
3/16						5400	7000	10200					
1/4						4000	5100	7500	10200				
5/16							4000	5800	8000				
3/8							3300	4800	6500				
1/2							2400	3500	4700	6200			
5/8								2900	4000	5200	6000		
3/4								2400	3300	4200	4900	5800	
7/8								2000	2800	3600	4200	4800	
1									2400	3100	3600	4200	4700

ALLOWABLE STRESS = 20,000 psi between -20° F and 100° F (ANSI B31.3 code)

*working pressure(PSIG)

Safety Factor = 4 considering tensile strength to be 75,000 psi at room temperature.

Hardness Rb80 or less.

Table 2 COPPER TUBING

High quality soft annealed seamless copper tubing ASTM B-75 or equivalent.

Tube O.D. (inch)	TUBE WALL THICKNESS (inches)							
	0.028	0.035	0.049	0.065	0.083	0.095	0.109	0.120
1/8	2700	3400						
3/16	1800	2300	3400					
1/4	1300	1600	2500	3500				
5/16		1300	1900	2700				
3/8		1000	1600	2200				
1/2		800	1100	1600	2100			
5/8			900	1200	1600	1900		
3/4			700	1000	1300	1500	1800	
7/8			600	800	1100	1300	1500	
1			500	700	900	1100	1300	1500

ALLOWABLE STRESS = 6,500 psi between -20° F and 100° F (ANSI B31.3 code)

*working pressure(PSIG)

Safety Factor = 5 considering tensile strength to be 30,000 psi at room temperature.

Table 3 MONEL TUBING

Fully annealed quality seamless MONEL 400 hydraulic tubing ASTM B-165 or equivalent.

Tube O.D. (inch)	TUBE WALL THICKNESS (inches)							
	0.028	0.035	0.049	0.065	0.083	0.095	0.109	0.120
1/8	7900	10100						
1/4	3700	4800	7000	9500				
3/8		3100	4400	6100				
1/2		2300	3200	4400				
3/4			2200	3000	4000	4600		
1				2200	2900	3400	3900	4300

ALLOWABLE STRESS = 18,700 psi between -20° F and 100° F (ANSI B31.3 code)

*working pressure(PSIG)

Safety Factor = 4 considering tensile strength to be 70,000 psi at room temperature.

Hardness Rb75 maximum.

Features

- SG-Lok flareless tube fittings have been specifically designed and manufactured for use on instrumentation, process and control systems, equipment employed in chemical, petroleum, nuclear power generation, and pulp and paper plants. The SG-Lok tube fitting has also found extensive application in other fields where a very high quality tube fitting is required.

Construction and Materials

- SG-Lok tube fittings are sequential phase controlled action, sealing and gripping device. Superior design, rigid manufacturing tolerances, and strict quality assurance programs produce an all-metal sealing and holding device which performs leak-free when properly installed.
- The SG-Lok flareless tube fittings consist of a body, a nut, front ferrule and back ferrule. Straight fittings are made of solid bar stock and shaped bodies (tees, elbows and crosses) are made from forgings, made from bar stock bought to special restricted requirement.

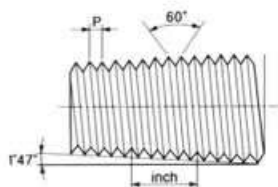
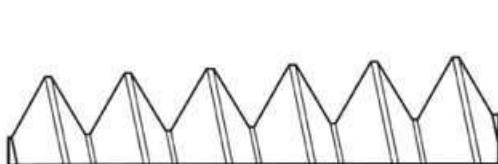
TYPICAL RAW MATERIAL SPECIFICATIONS			
BASIC FITTING MATERIAL	Bar Stock	Forging	Common Tubing Specification
STAINLESS STEEL (TYPE316)	ASTM A479, ASTM A276 ASME SA479 JIS G4303	ASTM A182 F316 ASME SA182 F316 JIS G3214	ASTM A213 ASME SA213 ASTM A249 ASTM A269 MIL T8504 MIL T8506 JIS G3459
BRASS	ASTM B16 Alloy360 ASTM B453 Alloy345 QQ-B626 Alloy360 JIS H3250 C3604	ASTM B124 Alloy377 JIS H3250 C3771	ASTM B75 ASME SB75 JIS H3300
CARBON STEEL	JIS G4051 S20C-S48C	JIS G4051 S20C-S48C	ASTM A161 ASTM A719 DIN 2391
MONEL 400TM	QQN281 Alloy405 QQN286 Alloy4500 ASTM B164	QQN281 Alloy400 ASTM B164	ASTM B165

Thread Information

- Threads of many kinds are used for different purposes in small piping components. The followings are the more common types of pipe threads.

1. NPT Tapered Pipe Threads

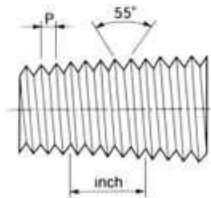
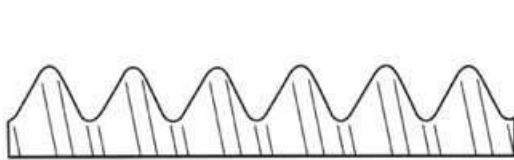
- NPT(National Pipe Tapered) is made to specifications outlined in ANSI B1. 2. This is the pipe thread used on the pipe end.



- 60° Thread Angle
- Taper Angle 1° 47'
- Truncation of root and crest are flat.
- Pitch measured in inches.

2. ISO 7/1 Tapered Pipe Threads

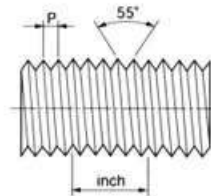
- International Organization for Standards(ISO 71/Tapered.(P.T)
ISO tapered threads are equivalent to DIN 2999, BSP TR, JIS B0203, R 1/8 and R 1/4 keg.
- In application ISO threads are used similar to NPT threads.
However, care should be used that ISO and NPT threads are not mixed, ISO threads have a 55° angle versus 60° for NPT. Thread pitch is usually measured in millimeters but may be expressed in inch. In many sizes the threads-per-inch are different and the root and crest configurations are different from NPT.



- 55° Thread Angle
- Taper Angle 1° 47'
- Truncation of root and crest are round.
- Pitch measured in millimeters.

3. ISO 228/1 Parallel Pipe Threads

- International Organization for Standards(ISO 228/1)paralle(PF)
ISO Parallel threads are equivalent to DIN ISO 228/1, BSP PL, JIS B0202, R 1/8 and R 1/4.
- These pipe threads are similar in configuration to 7/1 threads except there is no taper. Therefore do not work by thread interference like the tapered pipe threads of ISO 7/1 or NPT.
A gasket or O-Ring is normally used to seal into the parallel female threaded component.












- 55° Thread Angle
- Diameter measured in inches.
- Truncation of root and crest are round.
- Pitch measured in inches.

► Comparison Chart Pipe Threads

Nominal Size	Threads Per inch	Included Thread Angle	Pitch	Pipe O.D.
1/16"	NPT 27	60°	0.037"	0.312"
	ISO 28	55°	0.036"	0.312"
1/8"	NPT 27	60°	0.037"	0.405"
	ISO 28	55°	0.036"	0.398"
1/4"	NPT 18	60°	0.0556"	0.540"
	ISO 19	55°	0.053"	0.535"
3/8"	NPT 18	60°	0.0556"	0.675"
	ISO 19	55°	0.053"	0.672"
1/2"	NPT 14	60°	0.0714"	0.840"
	ISO 14	55°	0.071"	0.843"
3/4"	NPT 14	60°	0.0714"	1.050"
	ISO 14	55°	0.071"	1.060"
1"	NPT 11-1/2	60°	0.087"	1.315"
	ISO 11	55°	0.091"	1.331"
1-1/4"	NPT 11-1/2	60°	0.087"	1.660"
	ISO 11	55°	0.091"	1.669"
1-1/2"	NPT 11-1/2	60°	0.087"	1.315"
	ISO 11	55°	0.091"	1.331"
2"	NPT 11-1/2	60°	0.087"	1.660"
	ISO 11	55°	0.091"	1.669"

INDEX

Tube to Male Pipe

Male Connector	GMC		8, 9
Thermocouple Connector	GTMC		10
Male Connector for Bonded Seal	GMC-G		10, 11
Bulkhead Male Connector	GBMC		11
Male Connector for Metal Gasket	GMC-M		12
Male Elbow	GME		13, 14
45° Male Elbow	GME45D		14
Male Run Tee	GMRT		15, 16
Male Branch Tee	GBMT		17, 18

Tube to Female Pipe







Female Connector	GFC		19, 20
Gauge Connector	GGC		21
Bulkhead Female Connector	GBFC		22
Female Elbow	GFE		23
Female Run Tee	GFRT		24
Female Branch Tee	GFBT		25

Tube to Tube Union

Union	GU		26
Reducing Union	GRU		27, 28
Bulkhead Union	GBU		29

Union Elbow	GUE		30
Union Tee	GUT		31
Reducing Union Branch Tee	GRBT		32
Reducing Union Run Tee	GRRT		32
Union Cross	GUC		33

Stub Tube Connector





Reducer	GR		34, 35
Bulkhead Reducer	GBR		36
Male Adapter	GMA		37
Female Adapter	GFA		38
Port Connector	GPC		39
Reducing Port Connector	GRPC		40

Tube to An(37° Flare) Tube




AN Union	GAU		41
AN Bulkhead Union	GABU		41
AN Adapter	GAA		41

Tube to SAE/MS O-Ring Seal



SAE Male Connector	GSMC		42
Positionable SAE Male Elbow	GSME		42
Positionable 45° SAE Male Elbow	GSME45D		43

Positionable SAE Male Run Tee	GSMRT		43
Positionable SAE Male Branch Tee	GSMBT		43
O-Seal Straight Thread Connector	GMOS		44
O-Seal Pipe Thread Connector	GMOP		44



Tube to Weld Systems

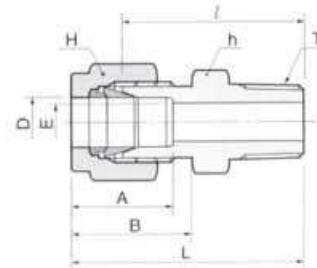
Male Pipe Weld Connector	GMPWC		45
Male Pipe Weld Elbow	GMPWE		46
Tube Socket Weld Connector	GTSWC		46
Tube Socket Weld Elbow	GTSWE		46

Plug and Cap

Tube Plug	GP		47
Tube Cap	GC		47

Components

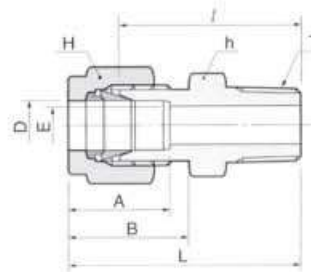
Tube Insert	GI		48
Nut	GN		48
Front Fernule	GFF		49
Back Fernule	GBF		49



Connects fractional tube to female NPT thread

Part No.	Tube O.D.		T (NPT)	E Min.	Width across flat				A	B	ℓ	L
	D				h		H					
	in	mm			in	mm	in	mm				
GMC 1-1N	1/16	1.59	1/16	1.27	5/16	7.93	5/16	7.93	8.63	10.92	20.00	23.83
GMC 1-2N	1/16	1.59	1/8	1.27	7/16	11.11	5/16	7.93	8.63	10.92	22.35	26.23
GMC 1-4N	1/16	1.59	1/4	1.27	9/16	14.28	5/16	7.93	8.63	10.92	27.17	30.98
GMC 2-1N	1/8	3.17	1/16	2.28	7/16	11.11	7/16	11.11	12.70	15.24	23.11	29.71
GMC 2-2N	1/8	3.17	1/8	2.28	7/16	11.11	7/16	11.11	12.70	15.24	23.87	30.48
GMC 2-4N	1/8	3.17	1/4	2.28	9/16	14.28	7/16	11.11	12.70	15.24	28.95	35.56
GMC 2-6N	1/8	3.17	3/8	2.28	11/16	17.46	7/16	11.11	12.70	15.24	29.21	35.81
GMC 2-8N	1/8	3.17	1/2	2.28	7/8	22.22	7/16	11.11	12.70	15.24	35.56	42.16
GMC 3-2N	3/16	4.76	1/8	3.04	7/16	11.11	1/2	12.70	13.71	16.00	24.63	31.24
GMC 3-4N	3/16	4.76	1/4	3.04	9/16	14.28	1/2	12.70	13.71	16.00	29.71	36.32
GMC 4-1N	1/4	6.35	1/16	4.82	1/2	12.70	9/16	14.28	15.24	17.78	25.40	32.76
GMC 4-2N	1/4	6.35	1/8	4.82	1/2	12.70	9/16	14.28	15.24	17.78	25.40	32.76
GMC 4-4N	1/4	6.35	1/4	4.82	9/16	14.28	9/16	14.28	15.24	17.78	30.48	37.84
GMC 4-6N	1/4	6.35	3/8	4.82	11/16	17.46	9/16	14.28	15.24	17.78	30.98	38.35
GMC 4-8N	1/4	6.35	1/2	4.82	7/8	22.22	9/16	14.28	15.24	17.78	37.33	44.70
GMC 4-12N	1/4	6.35	3/4	4.82	1-1/16	26.98	9/16	14.28	15.24	17.78	38.86	46.22
GMC 5-2N	5/16	7.93	1/8	4.82	9/16	14.28	5/8	15.87	16.25	18.54	26.67	34.03
GMC 5-4N	5/16	7.93	1/4	6.35	9/16	14.28	5/8	15.87	16.25	18.54	31.24	38.60
GMC 5-6N	5/16	7.93	3/8	6.35	11/16	17.46	5/8	15.87	16.25	18.54	31.75	39.11
GMC 5-8N	5/16	7.93	1/2	6.35	7/8	22.22	5/8	15.87	16.25	18.54	38.11	45.60
GMC 6-2N	3/8	9.52	1/8	4.28	5/8	15.87	11/16	17.46	16.75	19.30	27.94	35.30
GMC 6-4N	3/8	9.52	1/4	7.11	5/8	15.87	11/16	17.46	16.75	19.30	32.51	39.87
GMC 6-6N	3/8	9.52	3/8	7.11	11/16	17.46	11/16	17.46	16.75	19.30	32.51	39.87
GMC 6-8N	3/8	9.52	1/2	7.11	7/8	22.22	11/16	17.46	16.75	19.30	38.86	46.22
GMC 6-12N	3/8	9.52	3/4	7.11	1-1/16	26.98	11/16	17.46	16.75	19.30	40.38	47.75
GMC 8-2N	1/2	12.70	1/8	4.82	13/16	20.64	7/8	22.22	22.86	21.84	28.70	38.86
GMC 8-4N	1/2	12.70	1/4	7.11	13/16	20.64	7/8	22.22	22.86	21.84	33.27	43.43
GMC 8-6N	1/2	12.70	3/8	9.65	13/16	20.64	7/8	22.22	22.86	21.84	33.27	43.43
GMC 8-8N	1/2	12.70	1/2	10.41	7/8	22.22	7/8	22.22	22.86	21.84	38.86	49.02
GMC 8-12N	1/2	12.70	3/4	10.41	1-1/16	26.98	7/8	22.22	22.86	21.84	40.38	50.54
GMC 8-16N	1/2	12.70	1	10.41	1-3/8	34.92	7/8	22.22	22.86	21.84	46.99	57.15
GMC 10-6N	5/8	15.87	3/8	9.65	15/16	23.81	1	25.40	24.38	21.84	34.03	44.19
GMC 10-8N	5/8	15.87	1/2	11.93	15/16	23.81	1	25.40	24.38	21.84	38.86	49.02
GMC 10-12N	5/8	15.87	3/4	12.70	1-1/16	26.98	1	25.40	24.38	21.84	40.38	50.54
GMC 12-8N	3/4	19.05	1/2	11.93	1-1/16	26.98	1-1/8	28.58	24.38	21.84	40.38	50.54
GMC 12-12N	3/4	19.05	3/4	15.74	1-1/16	26.98	1-1/8	28.58	24.38	21.84	40.38	50.54
GMC 12-16N	3/4	19.05	1	15.74	1-3/8	34.92	1-1/8	28.58	24.38	21.84	46.99	57.15
GMC 14-12N	7/8	22.22	3/4	15.74	1-3/16	30.16	1-1/4	31.75	25.90	21.84	40.38	50.54
GMC 14-16N	7/8	22.22	1	18.28	1-3/8	34.92	1-1/4	31.75	25.90	21.84	46.99	57.15
GMC 16-8N	1	25.40	1/2	11.93	1-3/8	34.92	1-1/2	38.10	31.24	26.41	45.21	57.40
GMC 16-12N	1	25.40	3/4	15.74	1-3/8	34.92	1-1/2	38.10	31.24	26.41	45.21	57.40
GMC 16-16N	1	25.40	1	22.35	1-3/8	34.92	1-1/2	38.10	31.24	26.41	50.03	62.23
GMC 20-16N	1-1/4	31.75	1	22.35	1-3/4	44.45	1-7/8	47.63	41.14	38.86	55.11	77.21
GMC 20-20N	1-1/4	31.75	1-1/4	27.68	1-3/4	44.45	1-7/8	47.63	41.14	38.86	55.11	77.21
GMC 20-24N	1-1/4	31.75	1-1/2	27.68	1-3/4	44.45	1-7/8	47.63	41.14	38.86	60.54	82.64
GMC 24-20N	1-1/2	38.10	1-1/4	27.68	2-1/8	53.98	2-1/4	57.15	50.03	45.21	59.42	86.60
GMC 24-24N	1-1/2	38.10	1-1/2	34.03	2-1/8	53.98	2-1/4	57.15	50.03	45.21	61.72	88.90
GMC 24-32N	1-1/2	38.10	2	34.03	2-3/4	69.85	2-1/4	57.15	50.03	45.21	62.42	99.75
GMC 32-8N	2	50.80	1/2	11.93	2-3/4	69.85	3	76.20	67.56	62.73	68.40	105.73
GMC 32-20N	2	50.80	1-1/4	45.97	2-3/4	69.85	3	76.20	67.56	62.73	71.40	108.73
GMC 32-24N	2	50.80	1-1/2	45.97	2-3/4	69.85	3	76.20	67.56	62.73	75.50	112.83
GMC 32-32N	2	50.80	2	45.97	2-3/4	69.85	3	76.20	67.56	62.73	76.20	113.53

GMC
Male Connector



Connects metric tube to female ISO tapered thread

Part No.	Tube O.D. D	T (PT)	E Min	Width across flat		A	B	ℓ	L
				h	H				
GMC 2M-2R	2	1/8	1.7	11.11	11.11	12.9	15.3	23.9	30.5
GMC 3M-2R	3	1/8	2.4	11.11	11.11	12.9	15.3	23.1	29.7
GMC 3M-4R	3	1/4	2.4	14.28	11.11	12.9	15.3	29.0	35.6
GMC 4M-2R	4	1/8	2.4	11.11	12.70	13.7	16.1	24.6	31.2
GMC 4M-4R	4	1/4	2.4	14.28	12.70	13.7	16.1	29.7	36.3
GMC 6M-2R	6	1/8	4.8	12.70	14.28	15.3	17.7	25.4	32.8
GMC 6M-4R	6	1/4	4.8	14.28	14.28	15.3	17.7	30.2	37.6
GMC 6M-6R	6	3/8	4.8	17.46	14.28	15.3	17.7	31.0	38.4
GMC 6M-8R	6	1/2	4.8	22.22	14.28	15.3	17.7	37.3	44.0
GMC 8M-2R	8	1/8	4.8	14.28	15.87	16.2	18.6	26.7	34.2
GMC 8M-4R	8	1/4	6.4	14.28	15.87	16.2	18.6	31.2	38.7
GMC 8M-6R	8	3/8	6.4	17.46	15.87	16.2	18.6	31.8	39.2
GMC 8M-8R	8	1/2	6.4	22.22	15.87	16.2	18.6	37.3	44.8
GMC 10M-2R	10	1/8	4.8	17.46	19.05	17.2	19.5	28.7	36.3
GMC 10M-4R	10	1/4	7.1	17.46	19.05	17.2	19.5	33.3	40.9
GMC 10M-6R	10	3/8	7.9	17.46	19.05	17.2	19.5	33.3	40.9
GMC 10M-8R	10	1/2	7.9	22.22	19.05	17.2	19.5	38.1	45.7
GMC 12M-4R	12	1/4	7.1	20.63	22.22	22.8	22.0	33.3	43.4
GMC 12M-6R	12	3/8	9.5	20.63	22.22	22.8	22.0	33.3	43.4
GMC 12M-8R	12	1/2	9.5	22.22	22.22	22.8	22.0	38.1	48.2
GMC 12M-12R	12	3/4	9.5	26.98	22.22	22.8	22.0	38.9	49.0
GMC 15M-8R	15	1/2	11.9	23.81	25.40	24.4	22.0	38.9	49.0
GMC 16M-4R	16	1/4	7.1	23.81	25.40	24.4	22.0	34.0	44.1
GMC 16M-6R	16	3/8	9.5	23.81	25.40	24.4	22.0	34.0	44.1
GMC 16M-8R	16	1/2	11.9	23.81	25.40	24.4	22.0	38.9	49.0
GMC 16M-12R	16	3/4	12.7	26.98	25.40	24.4	22.0	38.9	49.0
GMC 18M-8R	18	1/2	11.9	26.98	30.16	24.4	22.0	40.4	50.5
GMC 18M-12R	18	3/4	15.1	26.98	30.16	24.4	22.0	40.4	50.5
GMC 20M-8R	20	1/2	11.9	30.16	31.75	26.0	22.0	42.2	52.3
GMC 20M-12R	20	3/4	15.9	30.16	31.75	26.0	22.0	42.2	52.3
GMC 22M-12R	22	3/4	15.9	30.16	31.75	26.0	22.0	42.2	52.3
GMC 22M-16R	22	1	18.3	34.92	31.75	26.0	22.0	47.8	57.9
GMC 25M-12R	25	3/4	15.9	34.92	38.10	31.3	26.5	45.2	57.5
GMC 25M-16R	25	1	21.8	34.92	38.10	31.3	26.5	50.0	62.3
GMC 28M-16R	28	1	21.8	41.27	46.04	36.6	36.6	51.6	72.4
GMC 28M-20R	28	1-1/4	21.8	46.04	46.04	36.6	36.6	52.3	73.1
GMC 30M-20R	30	1-1/4	26.0	46.04	49.21	39.6	39.2	55.6	77.2
GMC 32M-20R	32	1-1/4	28.6	46.04	49.21	42.0	41.6	56.6	79.6
GMC 38M-24R	38	1-1/2	33.7	55.56	60.32	49.4	47.9	64.0	91.6

GTMC

Thermocouple Male Connector

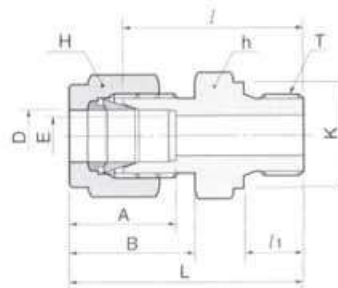


- Thermocouple or dip tubes are easily handled by SG-Lok Thermal Couple Male Connector. The root diameter of the pipe thread end of Male Connector Makes it impractical to bore through all male Connector. Suffix "T" Male Connector's identifier.

Note Male Connector whose the tube fitting end is larger than pipe thread end are not available at GTMC 10M-6R or N, GTMC 8-4R or N

GMC-G

Male Connector for Bonded Seal



Connects fractional tube to IOS parallel thread

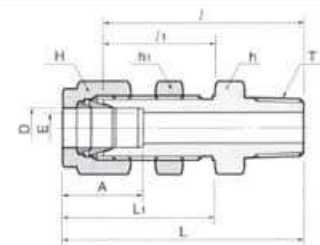
Part No.	Tube O.D.		T G(PF)	E Min.	Width across flat				A	B	ℓ	ℓ ₁	L	K
	D				h		H							
	in	mm			in	mm	in	mm						
GMC 2-2G	1/8	3.17	1/8	2.28	9/16	14.28	7/16	11.11	12.70	15.24	23.37	7.11	29.97	13.72
GMC 2-4G	1/8	3.17	1/4	2.28	3/4	19.05	7/16	11.11	12.70	15.24	28.70	11.18	35.31	18.03
GMC 2-6G	1/8	3.17	3/8	2.28	7/8	22.22	7/16	11.11	12.70	15.24	29.72	11.18	36.21	21.84
GMC 4-2G	1/4	6.35	1/8	2.28	9/16	14.28	9/16	14.28	15.24	17.78	24.89	7.11	32.26	13.72
GMC 4-4G	1/4	6.35	1/4	4.28	3/4	19.05	9/16	14.28	15.24	17.78	30.23	11.18	37.59	18.03
GMC 4-6G	1/4	6.35	3/8	4.28	7/8	22.22	9/16	14.28	15.24	17.78	31.50	11.18	38.86	21.84
GMC 4-8G	1/4	6.35	1/2	4.28	1-1/16	26.98	9/16	14.28	15.24	17.78	37.34	14.22	44.70	25.91
GMC 6-4G	3/8	9.53	1/4	4.28	3/4	19.05	11/16	17.46	16.76	19.30	31.75	11.18	39.12	18.03
GMC 6-6G	3/8	9.53	3/8	7.11	7/8	22.22	11/16	17.46	16.76	19.30	33.02	11.18	40.39	21.84
GMC 6-8G	3/8	9.53	1/2	7.11	1-1/16	26.98	11/16	17.46	16.76	19.30	38.86	14.22	46.23	25.91
GMC 8-4G	1/2	12.70	1/4	7.11	13/16	20.64	7/8	22.22	22.86	21.84	32.51	11.18	42.67	18.03
GMC 8-6G	1/2	12.70	3/8	9.65	7/8	22.22	7/8	22.22	22.86	21.84	33.02	11.18	43.18	21.84
GMC 8-8G	1/2	12.70	1/2	10.41	1-1/16	26.98	7/8	22.22	22.86	21.84	38.86	14.22	49.02	25.91
GMC 12-8G	3/4	19.05	1/2	11.93	1-1/16	26.98	1-1/8	28.58	24.38	21.84	38.86	14.22	49.02	25.91
GMC 12-12G	3/4	19.05	3/4	15.74	1-5/16	33.33	1-1/8	28.58	24.38	21.84	42.67	15.75	52.83	32.00
GMC 16-8G	1	25.40	1/2	11.93	1-3/8	34.92	1-1/2	38.10	31.24	26.41	43.69	14.22	52.88	25.91
GMC 16-16G	1	25.40	1	22.35	1-5/8	41.27	1-1/2	38.10	31.24	26.41	47.75	18.29	59.94	39.12
GMC 20-20G	1-1/4	31.75	1-1/4	27.68	2	50.80	1-7/8	47.63	41.14	38.86	51.16	20.00	73.26	49.00
GMC 24-24G	1-1/2	38.10	1-1/2	34.03	2-1/4	57.15	2-1/4	57.15	50.03	45.21	57.57	22.00	84.75	55.00

Connects metric tube to female ISO parallel thread

Part No.	Tube O.D. D(mm)	T G(PF)	E Min	Width across flat			A	B	ℓ	ℓ ₁	L	K
				h	h ₁	H						
GMC 2M-2G	2	1/8	1.7	14.28	11.11	12.9	15.3	23.4	7.1	30.0	13.8	
GMC 3M-2G	3	1/8	2.4	14.28	11.11	12.9	15.3	23.4	7.1	30.0	13.8	
GMC 3M-4G	3	1/4	2.4	19.05	11.11	12.9	15.3	28.7	11.2	35.3	18.0	
GMC 4M-2G	4	1/8	2.4	14.28	12.70	13.7	16.1	24.1	7.1	30.7	13.8	
GMC 4M-4G	4	1/4	2.4	19.05	12.70	13.7	16.1	29.4	11.2	36.0	18.0	
GMC 6M-2G	6	1/8	4.0	14.28	14.28	15.3	17.7	24.9	7.1	32.3	13.8,28	
GMC 6M-4G	6	1/4	4.8	19.05	14.28	15.3	17.7	30.2	11.2	37.6	18.0	
GMC 6M-6G	6	3/8	4.8	22.22	14.28	15.3	17.7	31.5	11.2	38.9	21.8	
GMC 6M-8G	6	1/2	4.8	26.98	14.28	15.3	17.7	37.3	14.2	44.7	26.0	
GMC 8M-2G	8	1/8	4.0	15.87	15.87	16.2	18.6	25.7	7.1	33.2	13.8	
GMC 8M-4G	8	1/4	6.4	19.05	15.87	16.2	18.6	31.0	11.2	38.5	13.8	
GMC 8M-6G	8	3/8	6.4	22.22	15.87	16.2	18.6	32.3	11.2	39.8	21.8	
GMC 8M-8G	8	1/2	6.4	26.98	15.87	16.2	18.6	38.1	14.2	45.6	26.0	
GMC 10M-4G	10	1/4	6.4	19.05	19.05	17.2	19.5	31.8	11.2	39.4	18.0	
GMC 10M-6G	10	3/8	7.9	22.22	19.05	17.2	19.5	33.0	11.2	40.6	21.8	
GMC 10M-8G	10	1/2	7.9	26.98	19.05	17.2	19.5	38.9	14.2	46.5	26.0	
GMC 12M-4G	12	1/4	5.9	22.22	22.22	22.8	22.0	32.5	11.2	42.6	18.0	
GMC 12M-6G	12	3/8	7.9	22.22	22.22	22.8	22.0	33.0	11.2	43.1	21.8	
GMC 12M-8G	12	1/2	9.5	26.98	22.22	22.8	22.0	38.9	14.2	49.0	26.0	
GMC 12M-12G	12	3/4	9.5	34.92	22.22	22.8	22.0	42.7	15.7	52.8	32.0	
GMC 16M-6G	16	3/8	7.9	23.81	25.40	24.4	22.0	33.8	11.2	43.9	21.8	
GMC 16M-8G	16	1/2	11.9	26.98	25.40	24.4	22.0	38.9	14.2	49.0	26.0	
GMC 18M-8G	18	1/2	11.9	26.98	30.16	24.4	22.0	38.9	14.2	49.0	26.0	
GMC 18M-12G	18	3/4	15.1	34.92	30.16	24.4	22.0	42.7	15.7	52.8	32.0	
GMC 20M-8G	20	1/2	11.9	30.16	31.75	26.0	22.0	40.4	14.2	50.5	26.0	
GMC 20M-12G	20	3/4	15.9	34.92	31.75	26.0	22.0	42.7	15.7	52.8	32.0	
GMC 22M-12G	22	3/4	15.9	34.92	31.75	26.0	22.0	42.7	15.7	52.8	32.0	
GMC 22M-16G	22	1	18.3	41.27	31.75	26.0	22.0	45.2	18.3	55.3	39.0	
GMC 25M-12G	25	3/4	15.9	34.92	38.10	31.3	26.5	45.2	15.7	57.5	32.0	
GMC 25M-16G	25	1	19.8	41.27	38.10	31.3	26.5	47.8	18.3	60.1	39.0	
GMC 28M-16G	28	1	19.8	41.27	46.04	36.6	36.6	49.3	18.3	70.1	39.0	
GMC 28M-20G	28	1-1/4	21.8	49.21	46.04	36.6	36.6	53.1	19.8	73.9	49.0	
GMC 30M-20G	30	1-1/4	22.0	49.21	49.21	39.6	39.2	53.1	19.8	76.5	49.0	
GMC 32M-20G	32	1-1/4	25.0	49.21	49.21	42.0	41.6	55.9	19.8	78.9	49.0	
GMC 38M-24G	38	1-1/2	31.8	55.56	60.32	49.4	47.9	63.2	22.1	90.8	54.7	

GBMC

Bulkhead Male Connector

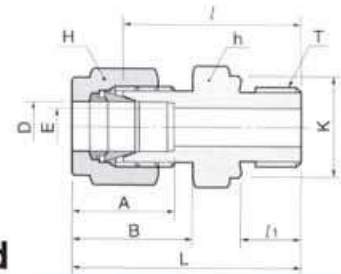


Connects fractional tube to female NPT thread

Part No.	Tube O.D. D		T (NPT)	E Min.	Width across flat						A	ℓ	ℓ ₁	L	L ₁	Panel Hole Drill size	Panel Max Thickness
	in	mm			h	h ₁	H	h	h ₁	H							
GBMC 2-2N	1/8	3.17	1/8	2.28	1/2	12.70	1/2	12.70	7/16	11.11	12.70	39.87	24.63	46.48	31.24	8.3	12.70
GBMC 4-2N	1/4	6.35	1/8	4.28	5/8	15.87	5/8	15.87	9/16	14.28	15.24	42.16	26.16	49.53	33.52	11.5	10.16
GBMC 4-4N	1/4	6.35	1/4	4.28	5/8	15.87	5/8	15.87	9/16	14.28	15.24	45.97	26.16	53.34	33.52	11.5	10.16
GBMC 6-4N	3/8	9.52	1/4	7.11	3/4	19.05	3/4	19.05	11/16	17.46	16.76	50.03	29.46	57.40	36.83	14.7	11.17
GBMC 6-6N	3/8	9.52	3/8	7.11	3/4	19.05	3/4	19.05	11/16	17.46	16.76	50.03	29.46	57.40	36.83	14.7	11.17
GBMC 6-8N	3/8	9.52	1/2	7.11	7/8	22.22	3/4	19.05	11/16	17.46	16.76	56.38	29.46	68.75	36.83	14.7	11.17
GBMC 8-6N	1/2	12.70	3/8	9.39	15/16	23.81	15/16	23.81	7/8	22.22	22.86	53.08	31.75	63.24	41.91	19.4	12.70
GBMC 8-8N	1/2	12.70	1/2	10.41	15/16	23.81	15/16	23.81	7/8	22.22	22.86	58.67	31.75	68.83	41.91	19.4	12.70
GBMC 12-12N	3/4	19.05	3/4	15.74	1-3/16	30.16	1-3/16	30.16	1-1/8	28.58	24.38	66.04	37.33	76.20	47.49	25.8	16.76
GBMC 16-16N	1	25.40	1	22.35	1-5/8	41.28	1-5/8	41.28	1-1/2	38.10	31.24	81.02	45.21	93.21	57.40	33.7	19.05
GBMC 20-20N	1-1/4	31.75	1-1/4	27.68	1-7/8	47.63	1-7/8	47.63	1-7/8	47.63	41.14	85.97	47.75	108.07	69.85	42.0	19.05
GBMC 24-24N	1-1/2	38.10	1-1/2	34.03	2-1/4	57.15	2-1/4	57.15	2-1/4	57.15	50.03	93.03	49.27	120.21	76.45	50.0	19.05
GBMC 32-32N	2	50.80	2	45.97	2-3/4	69.85	2-3/4	69.85	3	76.20	67.56	107.29	56.38	144.62	93.71	58.0	19.05

GMC-M

Male Connector for Metal Gasket



Connects fractional tube to female ISO parallel thread

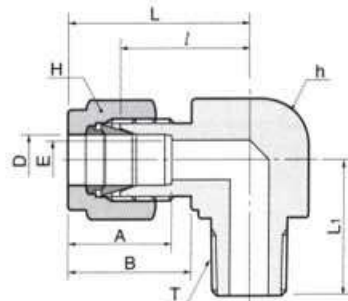
Part No.	Tube O.D. D		T M(PF)	E Min.	Width across flat				A	B	ℓ	ℓ1	L	K
	in	mm			h	H	in	mm						
GMC 2-2M	1/8	3.17	1/8	2.28	9/16	14.28	7/16	11.11	12.70	15.24	23.37	7.11	29.97	13.72
GMC 2-4M	1/8	3.17	1/4	2.28	3/4	19.05	7/16	11.11	12.70	15.24	28.70	11.18	35.31	18.03
GMC 2-6M	1/8	3.17	3/8	2.28	7/8	22.22	7/16	11.11	12.70	15.24	29.72	11.18	36.21	21.84
GMC 4-2M	1/4	6.35	1/8	2.28	9/16	14.28	9/16	14.28	15.24	17.78	24.89	7.11	32.26	13.72
GMC 4-4M	1/4	6.35	1/4	4.28	3/4	19.05	9/16	14.28	15.24	17.78	30.23	11.18	37.59	18.03
GMC 4-6M	1/4	6.35	3/8	4.28	7/8	22.22	9/16	14.28	15.24	17.78	31.50	11.18	38.86	21.84
GMC 4-8M	1/4	6.35	1/2	4.28	1-1/16	26.98	9/16	14.28	15.24	17.78	37.34	14.22	44.70	25.91
GMC 6-4M	3/8	9.53	1/4	4.28	3/4	19.05	11/16	17.46	16.76	19.30	31.75	11.18	39.12	18.03
GMC 6-6M	3/8	9.53	3/8	7.11	7/8	22.22	11/16	17.46	16.76	19.30	33.02	11.18	40.39	21.84
GMC 6-8M	3/8	9.53	1/2	7.11	1-1/16	26.98	11/16	17.46	16.76	19.30	38.86	14.22	46.23	25.91
GMC 8-4M	1/2	12.70	1/4	7.11	13/16	20.64	7/8	22.22	22.86	21.84	32.51	11.18	42.67	18.03
GMC 8-6M	1/2	12.70	3/8	9.65	7/8	22.22	7/8	22.22	22.86	21.84	33.02	11.18	43.18	21.84
GMC 8-8M	1/2	12.70	1/2	10.41	1-1/16	26.98	7/8	22.22	22.86	21.84	38.86	14.22	49.02	25.91
GMC 12-8M	3/4	19.05	1/2	11.93	1-1/16	26.98	1-1/8	28.58	24.38	21.84	38.86	14.22	49.02	25.91
GMC 12-12M	3/4	19.05	3/4	15.74	1-5/16	33.33	1-1/8	28.58	24.38	21.84	42.67	15.75	52.83	32.00
GMC 16-8M	1	25.40	1/2	11.93	1-3/8	34.92	1-1/2	38.10	31.24	26.41	43.69	14.22	55.88	25.91
GMC 16-16M	1	25.40	1	22.35	1-5/8	41.27	1-1/2	38.10	31.24	26.41	47.75	18.29	59.94	39.12
GMC 20-20M	1-1/4	31.75	1-1/4	27.68	2	50.80	1-7/8	47.63	41.14	38.86	51.16	20.00	73.26	49.00
GMC 24-24M	1-1/2	38.10	1-1/2	34.03	2-1/4	57.15	2-1/4	57.15	50.03	45.21	57.57	22.00	84.75	55.00

Connects metric tube to female ISO parallel thread

Part No.	Tube O.D. D(mm)	T M(PF)	E Min	Width across flat		A	B	ℓ	ℓ1	L	K
				h	H						
GMC 3M-2M	3	1/8	2.4	14.28	11.11	12.9	15.3	23.4	7.1	30.0	13.8
GMC 3M-4M	3	1/4	2.4	19.05	11.11	12.9	15.3	28.7	11.2	35.3	18.0
GMC 4M-2M	4	1/8	2.4	14.28	12.70	13.7	16.1	24.1	7.1	30.7	13.8
GMC 6M-2M	6	1/8	4.0	14.28	14.28	15.3	17.7	24.9	7.1	32.3	13.8
GMC 6M-4M	6	1/4	4.8	19.05	14.28	15.3	17.7	30.2	11.2	37.6	18.0
GMC 6M-6M	6	3/8	4.8	22.22	14.28	15.3	17.7	31.5	11.2	38.9	21.8
GMC 6M-8M	6	1/2	4.8	26.98	14.28	15.3	17.7	37.3	14.2	44.7	26.0
GMC 8M-2M	8	1/8	4.0	15.87	15.87	16.2	18.6	25.7	7.1	33.2	13.8
GMC 8M-4M	8	1/4	6.4	19.05	15.87	16.2	18.6	31.0	11.2	38.5	13.8
GMC 8M-6M	8	3/8	6.4	22.22	15.87	16.2	18.6	32.3	11.2	39.8	21.8
GMC 8M-8M	8	1/2	6.4	26.98	15.87	16.2	18.6	38.1	14.2	45.6	26.0
GMC 10M-4M	10	1/4	5.9	19.05	19.05	17.2	19.5	31.8	11.2	39.4	18.0
GMC 10M-6M	10	3/8	7.9	22.22	19.05	17.2	19.5	33.0	11.2	40.6	21.8
GMC 10M-8M	10	1/2	7.9	26.98	19.05	17.2	19.5	38.9	14.2	46.5	26.0
GMC 12M-4M	12	1/4	5.9	22.22	22.22	22.8	22.0	32.5	11.2	42.6	18.0
GMC 12M-6M	12	3/8	7.9	22.22	22.22	22.8	22.0	33.0	11.2	43.1	21.8
GMC 12M-8M	12	1/2	9.5	26.98	22.22	22.8	22.0	38.9	14.2	49.0	26.0
GMC 12M-12M	12	3/4	9.5	31.75	22.22	22.8	22.0	42.7	15.7	52.8	32.0
GMC 15M-8M	15	1/2	11.9	26.98	25.4	24.4	22.0	33.9	14.2	49.0	26.0
GMC 16M-6M	16	3/8	7.9	23.81	25.4	24.4	22.0	33.8	11.2	43.9	21.8
GMC 16M-8M	16	1/2	11.9	26.98	25.4	24.4	22.0	38.9	14.2	49.0	26.0
GMC 18M-8M	18	1/2	11.9	26.98	30.16	24.4	22.0	38.9	14.2	49.0	26.0
GMC 18M-12M	18	3/4	15.1	34.92	30.16	24.4	22.0	42.7	15.7	52.8	32.0
GMC 20M-8M	20	1/2	11.9	30.16	31.75	26.0	22.0	40.4	14.2	50.5	26.0
GMC 20M-12M	20	3/4	15.9	34.92	31.75	26.0	22.0	42.7	15.7	52.8	32.0
GMC 22M-12M	22	3/4	15.9	34.92	31.75	26.0	22.0	42.7	15.7	52.8	32.0
GMC 22M-16M	22	1	18.3	41.27	31.75	26.0	22.0	45.2	18.3	55.3	39.0
GMC 25M-12M	25	3/4	15.9	34.92	38.10	31.3	26.5	45.2	15.7	57.5	32.0
GMC 25M-16M	25	1	19.8	41.27	38.10	31.3	26.5	47.8	18.3	60.1	39.0
GMC 28M-16M	28	1	19.8	41.27	46.04	36.6	36.6	49.3	18.3	70.1	39.0
GMC 28M-20M	28	1-1/4	21.8	46.04	46.04	36.6	36.6	53.1	19.8	73.9	49.0
GMC 32M-20M	32	1-1/4	28.6	46.04	49.21	42.0	41.6	55.9	19.8	78.9	49.0
GMC 38M-24M	38	1-1/2	31.8	55.56	60.32	49.4	47.9	61.7	20.6	89.3	54.7

GME

Male Elbow



Connects fractional tube to female NPT thread

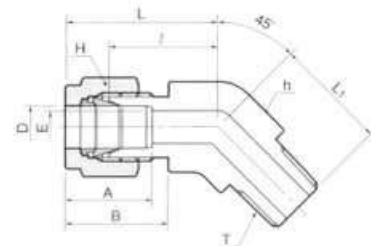
Part No.	Tube O.D.		T (NPT)	E Min.	Width across flat				A	B	ℓ	L	L1
	in	mm			h		H						
					in	mm	in	mm					
GME 1-1N	1/16	1.59	1/16	1.27	7/16	11.11	5/16	7.93	8.63	10.92	15.24	19.05	17.78
GME 1-2N	1/16	1.59	1/8	1.27	7/16	11.11	5/16	7.93	8.63	10.92	15.24	19.05	17.78
GME 2-2N	1/8	3.17	1/8	2.28	1/2	12.07	7/16	11.11	12.70	15.24	18.30	24.91	18.90
GME 2-4N	1/8	3.17	1/4	2.28	1/2	12.07	7/16	11.11	12.70	15.24	18.30	24.91	23.36
GME 3-2N	3/16	4.76	1/8	3.04	1/2	12.07	1/2	12.70	13.71	16.00	18.79	25.40	18.79
GME 3-4N	3/16	4.76	1/4	3.04	1/2	12.07	1/2	12.70	13.71	16.00	18.79	25.40	23.36
GME 4-1N	1/4	6.35	1/16	3.04	1/2	12.07	9/16	14.28	15.24	17.78	19.55	26.47	18.79
GME 4-2N	1/4	6.35	1/8	4.82	1/2	12.07	9/16	14.28	15.24	17.78	19.55	26.90	18.79
GME 4-4N	1/4	6.35	1/4	4.82	1/2	12.07	9/16	14.28	15.24	17.78	19.81	27.18	23.87
GME 4-6N	1/4	6.35	3/8	4.82	11/16	17.46	9/16	14.28	15.24	17.78	22.35	29.71	26.20
GME 4-8N	1/4	6.35	1/2	4.82	13/16	20.64	9/16	14.28	15.24	17.78	24.60	31.97	33.02
GME 5-2N	5/16	7.93	1/8	4.82	9/16	14.28	5/8	15.87	16.25	18.54	21.33	28.70	19.81
GME 5-4N	5/16	7.93	1/4	6.35	9/16	14.28	5/8	15.87	16.25	18.54	21.33	29.77	24.50
GME 5-6N	5/16	7.93	3/8	6.35	11/16	17.46	5/8	15.87	16.25	18.54	23.11	30.48	26.20
GME 6-2N	3/8	9.52	1/8	4.82	5/8	15.87	11/16	17.46	16.76	19.30	23.11	30.48	20.60
GME 6-4N	3/8	9.52	1/4	7.11	5/8	15.87	11/16	17.46	16.76	19.30	23.11	30.48	25.40
GME 6-6N	3/8	9.52	3/8	7.11	11/16	17.46	11/16	17.46	16.76	19.30	23.87	31.24	26.20
GME 6-8N	3/8	9.52	1/2	7.11	13/16	20.64	11/16	17.46	16.76	19.30	25.90	31.24	33.02
GME 6-12N	3/8	9.52	3/4	7.11	1-1/16	26.98	11/16	17.46	16.76	19.30	29.71	37.08	36.83
GME 8-4N	1/2	12.70	1/4	7.11	13/16	20.64	7/8	22.22	22.86	21.84	25.90	36.06	28.30
GME 8-6N	1/2	12.70	3/8	9.65	13/16	20.64	7/8	22.22	22.86	21.84	25.90	36.06	28.30
GME 8-8N	1/2	12.70	1/2	10.41	13/16	20.64	7/8	22.22	22.86	21.84	25.90	36.06	33.02
GME 8-12N	1/2	12.70	3/4	10.41	1-1/16	26.98	7/8	22.22	22.86	21.84	29.71	39.87	36.83
GME 10-6N	5/8	15.87	3/8	9.65	15/16	23.81	1	25.40	24.38	21.84	28.00	37.06	30.22
GME 10-8N	5/8	15.87	1/2	11.93	15/16	23.81	1	25.40	24.38	21.84	28.00	37.06	35.10
GME 10-12N	5/8	15.87	3/4	12.70	1-1/16	26.98	1	25.40	24.38	21.84	29.71	39.87	36.83
GME 12-8N	3/4	19.05	1/2	11.93	1-1/16	26.98	1-1/8	28.57	24.38	21.84	29.71	39.87	37.00
GME 12-12N	3/4	19.05	3/4	15.74	1-1/16	26.98	1-1/8	28.57	24.38	21.84	29.71	39.87	36.83
GME 14-12N	7/8	22.22	3/4	15.74	1-3/8	34.92	1-1/4	31.75	25.90	21.84	34.54	44.70	41.65
GME 16-12N	1	25.40	3/4	15.74	1-3/8	34.92	1-1/2	38.10	31.24	26.41	36.83	49.02	42.20
GME 16-16N	1	25.40	1	22.35	1-3/8	34.92	1-1/2	38.10	31.24	26.41	36.83	49.02	46.70
GME 20-20N	1-1/4	31.75	1-1/4	27.68	1-11/16	42.86	1-7/8	47.63	41.14	38.86	44.50	66.54	47.75
GME 24-24N	1-1/2	38.10	1-1/2	34.03	2	50.80	2-1/4	57.15	50.03	45.21	50.80	77.97	60.45
GME 32-32N	2	50.80	2	45.97	2-3/4	69.85	3	76.20	62.73	63.73	69.80	107.18	70.61

Connects metric tube to female ISO tapered thread

Part No.	Tube O.D. D(mm)	T (PT)	E Min	Width across flat		A	B	ℓ	L	L1
				h	H					
GME 3M-2R	3	1/8	2.4	12.70	11.11	12.9	15.3	17.0	23.6	17.8
GME 3M-4R	3	1/4	2.4	12.70	11.11	12.9	15.3	18.0	24.6	23.4
GME 4M-2R	4	1/8	2.4	12.70	12.70	13.7	16.1	18.8	25.4	18.8
GME 4M-4R	4	1/4	2.4	12.70	12.70	13.7	16.1	18.8	25.4	23.4
GME 6M-2R	6	1/8	4.8	12.70	14.28	15.3	17.7	19.6	27.0	18.8
GME 6M-4R	6	1/4	4.8	12.70	14.28	15.3	17.7	19.6	27.0	23.4
GME 6M-6R	6	3/8	4.8	17.46	14.28	15.3	17.7	22.4	29.8	26.2
GME 6M-8R	6	1/2	4.8	20.63	14.28	15.3	17.7	24.4	31.8	33.0
GME 8M-2R	8	1/8	4.8	14.28	15.87	16.2	18.6	21.3	28.8	19.8
GME 8M-4R	8	1/4	6.4	14.28	15.87	16.2	18.6	21.3	28.8	24.4
GME 8M-6R	8	3/8	6.4	17.46	15.87	16.2	18.6	23.1	30.6	26.2
GME 8M-8R	8	1/2	6.4	20.63	15.87	16.2	18.6	25.1	32.6	33.0
GME 10M-2R	10	1/8	4.8	17.46	19.05	17.2	19.5	23.9	31.5	23.6
GME 10M-4R	10	1/4	7.1	17.46	19.05	17.2	19.5	23.9	31.5	26.2
GME 10M-6R	10	3/8	7.9	17.46	19.05	17.2	19.5	23.9	31.5	26.2
GME 10M-8R	10	1/2	7.9	20.63	19.05	17.2	19.5	25.9	33.5	33.0
GME 12M-2R	12	1/8	4.8	20.63	22.22	22.8	22.0	25.9	36.0	23.6
GME 12M-4R	12	1/4	7.1	20.63	22.22	22.8	22.0	25.9	36.0	28.2
GME 12M-6R	12	3/8	9.5	20.63	22.22	22.8	22.0	25.9	36.0	28.2
GME 12M-8R	12	1/2	9.5	20.63	22.22	22.8	22.0	25.9	36.0	33.0
GME 12M-12R	12	3/4	9.5	26.98	22.22	22.8	22.0	29.7	39.8	36.8
GME 16M-6R	16	3/8	9.5	25.40	25.40	24.4	22.0	27.9	38.0	30.2
GME 16M-8R	16	1/2	11.9	25.40	25.40	24.4	22.0	27.9	38.0	35.1
GME 16M-12R	16	3/4	12.7	26.98	25.40	24.4	22.0	29.7	39.8	36.8
GME 18M-8R	18	1/2	11.9	26.98	30.16	24.4	22.0	29.7	39.8	36.8
GME 18M-12R	18	3/4	15.1	26.98	30.16	24.4	22.0	29.7	39.8	36.8
GME 20M-8R	20	1/2	11.9	31.75	31.75	26.0	22.0	34.5	44.6	41.7
GME 20M-12R	20	3/4	15.9	31.75	31.75	26.0	22.0	34.5	44.6	41.7
GME 22M-12R	22	3/4	15.9	34.92	31.75	26.0	22.0	34.5	44.6	41.7
GME 22M-16R	22	1	18.3	34.92	31.75	26.0	22.0	34.5	44.6	46.5
GME 25M-12R	25	3/4	15.9	34.92	38.10	31.3	26.5	36.8	49.1	41.7
GME 25M-16R	25	1	21.8	34.92	38.10	31.3	26.5	36.8	49.1	46.5

GME45D

45° Male Elbow

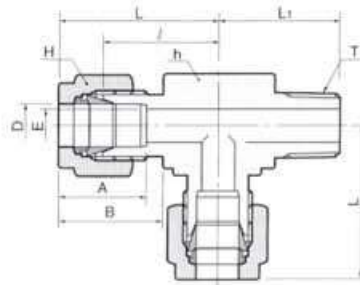


Connects fractional tube to female NPT thread

Part No.	Tube O.D.		T (NPT)	E Min.	Width across flat				A	B	ℓ	L	L1
	in	mm			h		H						
					in	mm	in	mm					
GME45D 4-2N	1/4	6.35	1/8	4.82	1/2	12.70	9/16	14.28	15.24	17.78	17.27	24.63	16.51
GME45D 4-4N	1/4	6.35	1/4	4.82	1/2	12.70	9/16	14.28	15.24	17.78	17.27	24.63	21.08
GME45D 6-2N	3/8	9.52	1/8	4.82	5/8	15.87	11/16	17.46	16.76	19.30	20.57	27.94	18.28
GME45D 6-4N	3/8	9.52	1/4	7.11	5/8	15.87	11/16	17.46	16.76	19.30	20.57	27.94	22.86
GME45D 6-6N	3/8	9.52	3/8	7.11	13/16	20.63	11/16	17.46	16.76	19.30	21.84	29.21	24.13
GME45D 8-6N	1/2	12.70	3/8	9.65	13/16	20.63	7/8	22.22	22.86	21.84	21.84	32.00	24.13
GME45D 8-8N	1/2	12.70	1/2	10.41	13/16	20.63	7/8	22.22	22.86	21.84	21.84	32.00	28.95
GME45D 12-12N	3/4	19.05	3/4	15.74	1-1/8	28.57	1-1/8	28.57	24.38	21.84	23.87	34.03	30.98
GME45D 16-16N	1	25.40	1	22.35	1-3/8	34.92	1-1/2	38.10	31.24	26.41	28.19	40.38	37.84

GMRT

Male Run Tee

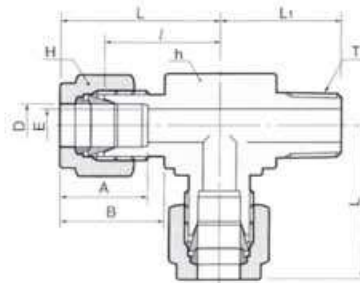


Connects fractional tube to female NPT thread

Part No.	Tube O.D.		T (NPT)	E Min.	Width across flat				A	B	ℓ	L	L ₁
	D				h		H						
	in	mm			in	mm	in	mm					
GMRT 1-1N	1/16	1.59	1/16	1.27	7/16	11.11	5/16	7.93	8.63	10.92	15.24	19.05	17.78
GMRT 1-2N	1/16	1.59	1/8	1.27	7/16	11.11	5/16	7.93	8.63	10.92	15.24	19.05	17.78
GMRT 2-2N	1/8	3.17	1/8	2.28	1/2	12.70	7/16	11.11	12.70	15.24	18.30	24.91	18.90
GMRT 2-4N	1/8	3.17	1/4	2.28	1/2	12.70	7/16	11.11	12.70	15.24	18.30	24.91	23.36
GMRT 3-2N	3/16	4.76	1/8	3.04	1/2	12.70	1/2	12.70	13.71	16.00	18.79	24.38	18.79
GMRT 3-4N	3/16	4.76	1/4	3.04	1/2	12.70	1/2	12.70	13.71	16.00	18.79	25.40	23.36
GMRT 4-1N	1/4	6.35	1/16	3.04	1/2	12.70	9/16	14.28	15.24	17.78	19.55	26.90	18.79
GMRT 4-2N	1/4	6.35	1/8	4.82	1/2	12.70	9/16	14.28	15.24	17.78	19.55	26.92	18.79
GMRT 4-4N	1/4	6.35	1/4	4.82	1/2	12.70	9/16	14.28	15.24	17.78	19.55	27.08	23.87
GMRT 4-6N	1/4	6.35	3/8	4.82	11/16	17.46	9/16	14.28	15.24	17.78	22.35	29.71	28.40
GMRT 4-8N	1/4	6.35	1/2	4.82	13/16	20.64	9/16	14.28	15.24	17.78	24.60	31.97	35.10
GMRT 5-2N	5/16	7.93	1/8	4.82	9/16	14.28	5/8	15.87	16.25	18.54	22.35	29.71	19.81
GMRT 5-4N	5/16	7.93	1/4	6.35	9/16	14.28	5/8	15.87	16.25	18.54	22.35	29.77	24.50
GMRT 5-6N	5/16	7.93	3/8	6.35	11/16	17.46	5/8	15.87	16.25	18.54	23.11	30.48	28.40
GMRT 6-4N	3/8	9.52	1/4	7.11	5/8	15.87	1/16	17.46	16.76	19.30	23.11	30.48	25.40
GMRT 6-6N	3/8	9.52	3/8	7.11	11/16	17.46	11/16	17.46	16.76	19.30	23.87	31.24	28.44
GMRT 6-8N	3/8	9.52	1/2	7.11	13/16	20.63	11/16	17.46	16.76	19.30	25.90	33.27	33.02
GMRT 6-12N	3/8	9.52	3/4	7.11	1-1/16	26.98	11/16	17.46	16.76	19.30	29.71	37.08	36.83
GMRT 8-4N	1/2	12.70	1/4	7.11	13/16	20.63	7/8	22.22	22.86	21.84	25.90	36.06	28.30
GMRT 8-6N	1/2	12.70	3/8	9.65	13/16	20.63	7/8	22.22	22.86	21.84	25.90	36.06	28.30
GMRT 8-8N	1/2	12.70	1/2	10.41	13/16	20.63	7/8	22.22	22.86	21.84	25.90	36.06	33.02
GMRT 8-12N	1/2	12.70	3/4	10.41	1-1/16	26.98	7/8	22.22	22.86	21.84	25.90	39.84	36.83
GMRT 10-6N	5/8	15.87	3/8	9.65	15/16	23.81	1	25.40	24.38	21.84	27.90	38.10	29.40
GMRT 10-8N	5/8	15.87	1/2	11.93	15/16	23.81	1	25.40	24.38	21.84	27.90	38.10	34.00
GMRT 10-12N	5/8	15.87	3/4	12.70	1-1/16	26.98	1	25.40	24.38	21.84	29.71	39.87	36.83
GMRT 12-8N	3/4	19.05	1/2	11.93	1-1/16	26.98	1-1/8	28.57	24.38	21.84	29.71	39.87	37.00
GMRT 12-12N	3/4	19.05	3/4	15.74	1-1/16	26.98	1-1/8	28.57	24.38	21.84	29.71	39.87	36.83
GMRT 14-12N	7/8	22.22	3/4	15.74	1-3/8	34.92	1-1/4	31.75	25.90	21.84	34.54	44.70	41.65
GMRT 16-12N	1	25.40	3/4	15.74	1-3/8	34.92	1-1/2	38.10	31.24	26.41	36.83	49.02	42.20
GMRT 16-16N	1	25.40	1	22.35	1-3/8	34.92	1-1/2	38.10	31.24	26.41	36.83	49.02	46.70
GMRT 20-20N	1-1/4	31.75	1-1/4	27.68	1-11/16	42.86	1-7/8	47.63	41.14	38.86	44.50	66.54	47.75
GMRT 24-24N	1-1/2	38.10	1-1/2	34.03	2	50.80	2-1/4	57.15	50.03	45.21	50.80	77.97	60.45
GMRT 32-32N	2	50.80	2	45.97	2-3/4	69.85	3	76.20	67.56	62.73	69.80	107.18	70.61

GMRT

Male Run Tee

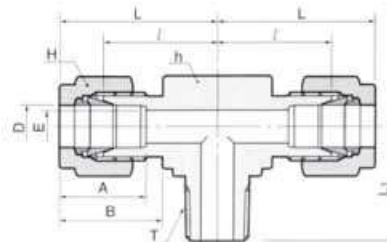


Connects metric tube to ISO tapered thread

Part No.	Tube O.D. D	T (PT)	E Min	Width across flat		A	B	ℓ	L	L1
				h	H					
GMRT 3M-2R	3	1/8	2.4	12.70	11.11	12.9	15.3	17.0	23.6	17.8
GMRT 3M-4R	3	1/4	2.4	12.70	11.11	12.9	15.3	18.0	24.6	23.4
GMRT 4M-2R	4	1/8	2.4	12.70	12.70	13.7	16.1	18.8	25.4	18.8
GMRT 4M-4R	4	1/4	2.4	12.70	12.70	13.7	16.1	18.8	25.4	23.4
GMRT 6M-2R	6	1/8	4.8	12.70	14.28	15.3	17.7	19.6	27.0	18.8
GMRT 6M-4R	6	1/4	4.8	14.28	14.28	15.3	17.7	19.6	27.0	23.4
GMRT 6M-6R	6	3/8	4.8	17.46	14.28	15.3	17.7	22.4	29.8	26.2
GMRT 6M-8R	6	1/2	4.8	20.63	14.28	15.3	17.7	24.4	31.8	33.0
GMRT 8M-2R	8	1/8	4.8	14.28	15.87	16.2	18.6	21.3	28.8	19.8
GMRT 8M-4R	8	1/4	6.4	14.28	15.87	16.2	18.6	21.3	28.8	24.4
GMRT 8M-6R	8	3/8	6.4	17.46	15.87	16.2	18.6	23.1	30.6	26.2
GMRT 8M-8R	8	1/2	6.4	20.63	15.87	16.2	18.6	25.1	32.6	33.0
GMRT 10M-2R	10	1/8	4.8	17.46	19.05	17.2	19.5	23.9	31.5	23.6
GMRT 10M-4R	10	1/4	7.1	17.46	19.05	17.2	19.5	23.9	31.5	26.2
GMRT 10M-6R	10	3/8	7.9	17.46	19.05	17.2	19.5	23.9	31.5	26.2
GMRT 10M-8R	10	1/2	7.9	20.63	19.05	17.2	19.5	25.9	33.5	33.0
GMRT 12M-2R	12	1/8	4.8	20.63	22.22	22.8	22.0	25.9	36.0	23.6
GMRT 12M-4R	12	1/4	7.1	20.63	22.22	22.8	22.0	25.9	36.0	28.2
GMRT 12M-6R	12	3/8	9.5	20.63	22.22	22.8	22.0	25.9	36.0	28.2
GMRT 12M-8R	12	1/2	9.5	20.63	22.22	22.8	22.0	25.9	36.0	33.0
GMRT 12M-12R	12	3/4	9.5	26.98	22.22	22.8	22.0	29.7	39.8	36.8
GMRT 16M-6R	16	3/8	9.5	25.40	25.40	24.4	22.0	27.9	38.0	30.2
GMRT 16M-8R	16	1/2	11.9	25.40	25.40	24.4	22.0	27.9	38.0	35.1
GMRT 16M-12R	16	3/4	12.7	26.98	25.40	24.4	22.0	29.7	39.8	36.8
GMRT 18M-8R	18	1/2	11.9	26.98	30.16	24.4	22.0	29.7	39.8	36.8
GMRT 18M-12R	18	3/4	15.1	26.98	30.16	24.4	22.0	29.7	39.8	36.8
GMRT 20M-8R	20	1/2	11.9	31.75	31.75	26.0	22.0	34.5	44.6	41.7
GMRT 20M-12R	20	3/4	15.9	31.75	31.75	26.0	22.0	34.5	44.6	41.7
GMRT 22M-12R	22	3/4	15.9	34.92	31.75	26.0	22.0	34.5	44.6	41.7
GMRT 22M-16R	22	1	18.3	34.92	31.75	26.0	22.0	34.5	44.6	46.5
GMRT 25M-12R	25	3/4	15.9	34.92	38.10	31.3	26.5	36.8	49.1	41.7
GMRT 25M-16R	25	1	21.8	34.92	38.10	31.3	26.5	36.8	49.1	46.5

GMBT

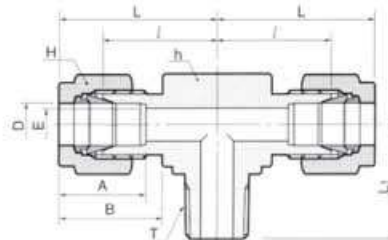
Male Branch Tee



Connects fractional tube to female NPT thread

Part No.	Tube O.D. D		T (NPT)	E Min.	Width across flat				A	B	ℓ	L	L1
	in	mm			h		H						
					in	mm	in	mm					
GMBT 1-1N	1/16	1.59	1/16	1.27	7/16	11.11	5/16	7.93	8.63	10.92	15.24	19.05	17.78
GMBT 1-2N	1/16	1.59	1/8	1.27	7/16	11.11	5/16	7.93	8.63	10.92	15.24	19.05	17.78
GMBT 2-2N	1/8	3.17	1/8	2.28	1/2	12.70	7/16	11.11	12.70	15.24	18.30	24.91	18.90
GMBT 2-4N	1/8	3.17	1/4	2.28	1/2	12.70	7/16	11.11	12.70	15.24	18.30	24.91	23.36
GMBT 3-2N	3/16	4.76	1/8	3.04	1/2	12.70	1/2	12.70	13.71	16.00	18.79	24.38	18.79
GMBT 3-4N	3/16	4.76	1/4	3.04	1/2	12.70	1/2	12.70	13.71	16.00	18.79	25.40	23.36
GMBT 4-1N	1/4	6.35	1/16	3.04	1/2	12.70	9/16	14.28	15.24	17.78	19.55	26.90	18.79
GMBT 4-2N	1/4	6.35	1/8	4.82	1/2	12.70	9/16	14.28	15.24	17.78	19.55	26.92	18.79
GMBT 4-4N	1/4	6.35	1/4	4.82	1/2	12.70	9/16	14.28	15.24	17.78	19.55	27.08	23.87
GMBT 4-6N	1/4	6.35	3/8	4.82	11/16	17.46	9/16	14.28	15.24	17.78	22.35	29.71	28.40
GMBT 4-8N	1/4	6.35	1/2	4.82	13/16	20.64	9/16	14.28	15.24	17.78	24.60	31.97	35.10
GMBT 5-2N	5/16	7.93	1/8	4.82	9/16	14.28	5/8	15.87	16.25	18.54	22.35	29.71	19.81
GMBT 5-4N	5/16	7.93	1/4	6.35	9/16	14.28	5/8	15.87	16.25	18.54	22.35	29.77	24.50
GMBT 5-6N	5/16	7.93	3/8	6.35	11/16	17.46	5/8	15.87	16.25	18.54	23.11	30.48	28.40
GMBT 6-4N	3/8	9.52	1/4	7.11	5/8	15.87	11/16	17.46	16.76	19.30	23.11	30.48	25.40
GMBT 6-6N	3/8	9.52	3/8	7.11	11/16	17.46	11/16	17.46	16.76	19.30	23.87	31.24	28.44
GMBT 6-8N	3/8	9.52	1/2	7.11	13/16	20.64	11/16	17.46	16.76	19.30	25.90	33.27	33.02
GMBT 6-12N	3/8	9.52	3/4	7.11	1-1/16	26.98	11/16	17.46	16.76	19.30	29.71	37.08	36.83
GMBT 8-4N	1/2	12.70	1/4	7.11	13/16	20.64	7/8	22.22	22.86	21.84	25.90	36.06	28.30
GMBT 8-6N	1/2	12.70	3/8	9.65	13/16	20.64	7/8	22.22	22.86	21.84	25.90	36.06	28.30
GMBT 8-8N	1/2	12.70	1/2	10.41	13/16	20.64	7/8	22.22	22.86	21.84	25.90	36.06	33.02
GMBT 8-12N	1/2	12.70	3/4	10.41	1-1/16	26.98	7/8	22.22	22.86	21.84	29.71	39.84	36.83
GMBT 10-6N	5/8	15.87	3/8	9.65	15/16	23.81	1	25.40	24.38	21.84	27.90	38.10	29.40
GMBT 10-8N	5/8	15.87	1/2	11.93	15/16	23.81	1	25.40	24.38	21.84	27.90	38.10	34.00
GMBT 10-12N	5/8	15.87	3/4	12.70	1-1/16	26.98	1	25.40	24.38	21.84	29.71	39.87	36.83
GMBT 12-8N	3/4	19.05	1/2	11.93	1-1/16	26.98	1-1/8	28.57	24.38	21.84	29.71	39.87	37.00
GMBT 12-12N	3/4	19.05	3/4	15.74	1-1/16	26.98	1-1/8	28.57	24.38	21.84	29.71	39.87	36.83
GMBT 14-12N	7/8	22.22	3/4	15.74	1-3/8	34.92	1-1/4	31.75	25.90	21.84	34.54	44.70	41.65
GMBT 16-12N	1	25.40	3/4	15.74	1-3/8	34.92	1-1/2	38.10	31.24	26.41	36.83	49.02	42.20
GMBT 16-16N	1	25.40	1	22.35	1-3/8	34.92	1-1/2	38.10	31.24	26.41	36.83	49.02	46.70
GMBT 20-20N	1-1/4	31.75	1-1/4	27.68	1-11/16	40.86	1-7/8	47.63	41.14	38.86	44.50	66.54	47.75
GMBT 24-24N	1-1/2	38.10	1-1/2	34.03	2	50.80	2-1/4	57.15	50.03	45.21	50.80	77.97	60.45
GMBT 32-32N	2	50.80	2	45.97	2-3/4	69.85	3	76.20	67.56	62.73	69.80	107.18	70.61

GMBT Male Branch Tee

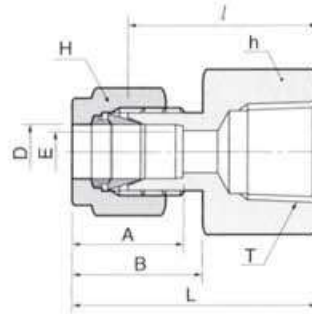


Connects metric tube to female ISO tapered thread

Part No.	Tube O.D. D(mm)	T (PT)	E Min	Width across flat		A	B	ℓ	L	L1
				h	H					
GMBT 3M-2R	3	1/8	2.4	12.70	11.11	12.9	15.3	17.0	23.6	17.8
GMBT 3M-4R	3	1/4	2.4	12.70	11.11	12.9	15.3	18.0	24.6	23.4
GMBT 4M-2R	4	1/8	2.4	12.70	12.70	13.7	16.1	18.8	25.4	18.8
GMBT 4M-4R	4	1/4	2.4	12.70	12.70	13.7	16.1	18.8	25.4	23.4
GMBT 6M-2R	6	1/8	4.8	12.70	14.28	15.3	17.7	19.6	27.0	18.8
GMBT 6M-4R	6	1/4	4.8	12.70	14.28	15.3	17.7	19.6	27.0	23.4
GMBT 6M-6R	6	3/8	4.8	17.46	14.28	15.3	17.7	22.4	29.8	26.2
GMBT 6M-8R	6	1/2	4.8	20.63	14.28	15.3	17.7	24.4	31.8	33.0
GMBT 8M-2R	8	1/8	4.8	14.28	15.87	16.2	18.6	21.3	28.8	19.8
GMBT 8M-4R	8	1/4	6.4	14.28	15.87	16.2	18.6	21.3	28.8	24.4
GMBT 8M-6R	8	3/8	6.4	17.46	15.87	16.2	18.6	23.1	30.6	26.2
GMBT 8M-8R	8	1/2	6.4	20.63	15.87	16.2	18.6	25.1	32.6	33.0
GMBT 10M-2R	10	1/8	4.8	17.46	19.05	17.2	19.5	23.9	31.5	23.6
GMBT 10M-4R	10	1/4	7.1	17.46	19.05	17.2	19.5	23.9	31.5	26.2
GMBT 10M-6R	10	3/8	7.9	17.46	19.05	17.2	19.5	23.9	31.5	26.2
GMBT 10M-8R	10	1/2	7.9	20.63	19.05	17.2	19.5	25.9	33.5	33.0
GMBT 12M-2R	12	1/8	4.8	20.63	22.22	22.8	22.0	25.9	36.0	23.6
GMBT 12M-4R	12	1/4	7.1	20.63	22.22	22.8	22.0	25.9	36.0	28.2
GMBT 12M-6R	12	3/8	9.5	20.63	22.22	22.8	22.0	25.9	36.0	28.2
GMBT 12M-8R	12	1/2	9.5	20.63	22.22	22.8	22.0	25.9	36.0	33.0
GMBT 12M-12R	12	3/4	9.5	26.98	22.22	22.8	22.0	29.7	39.8	36.8
GMBT 16M-6R	16	3/8	9.5	25.40	25.40	24.4	22.0	27.9	38.0	30.2
GMBT 16M-8R	16	1/2	11.9	25.40	25.40	24.4	22.0	27.9	38.0	35.1
GMBT 16M-12R	16	3/4	12.7	26.98	25.40	24.4	22.0	29.7	39.8	36.8
GMBT 18M-8R	18	1/2	11.9	26.98	30.16	24.4	22.0	29.7	39.8	36.8
GMBT 18M-12R	18	3/4	15.1	26.98	30.16	24.4	22.0	29.7	39.8	36.8
GMBT 20M-8R	20	1/2	11.9	31.75	31.75	26.0	22.0	34.5	44.6	41.7
GMBT 20M-12R	20	3/4	15.9	31.75	31.75	26.0	22.0	34.5	44.6	41.7
GMBT 22M-12R	22	3/4	15.9	34.92	31.75	26.0	22.0	34.5	44.6	41.7
GMBT 22M-16R	22	1	18.3	34.92	31.75	26.0	22.0	34.5	44.6	46.5
GMBT 25M-12R	25	3/4	15.9	34.92	38.10	31.3	26.5	36.8	49.1	41.7
GMBT 25M-16R	25	1	21.8	34.92	38.10	31.3	26.5	36.8	49.1	46.5

GFC

Female Connector

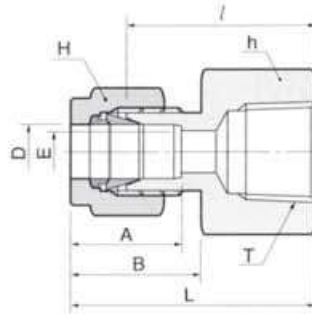


Connects fractional tube to male NPT thread

Part No.	Tube O.D.		T (NPT)	E Min.	Width across flat				A	B	ℓ	L
	D				h		H					
	in	mm			in	mm	in	mm				
GFC 1-1N	1/16	1.59	1/16	1.27	7/16	11.11	5/16	7.93	8.63	10.92	19.81	23.62
GFC 1-2N	1/16	1.59	1/8	1.27	9/16	14.28	5/16	7.93	8.63	10.92	20.57	24.38
GFC 2-2N	1/8	3.17	1/8	2.28	9/16	14.28	7/16	11.11	12.70	15.24	22.09	28.70
GFC 2-4N	1/8	3.17	1/4	2.28	3/4	19.05	7/16	11.11	12.70	15.24	26.92	33.52
GFC 3-2N	3/16	4.76	1/8	3.04	9/16	14.28	1/2	12.70	13.71	16.00	23.11	29.71
GFC 4-2N	1/4	6.35	1/8	4.82	9/16	14.28	9/16	14.28	15.24	17.78	23.87	31.24
GFC 4-4N	1/4	6.35	1/4	4.82	3/4	19.05	9/16	14.28	15.24	17.78	28.44	35.81
GFC 4-6N	1/4	6.35	3/8	4.82	7/8	22.22	9/16	14.28	15.24	17.78	30.22	37.59
GFC 4-8N	1/4	6.35	1/2	4.82	1-1/16	26.98	9/16	14.28	15.24	17.78	35.05	42.41
GFC 5-2N	5/16	7.93	1/8	6.35	9/16	14.28	5/8	15.87	16.25	18.54	24.63	32.00
GFC 5-4N	5/16	7.93	1/4	6.35	3/4	19.05	5/8	15.87	16.25	18.54	29.46	36.83
GFC 6-2N	3/8	9.52	1/8	7.11	5/8	15.87	11/16	17.46	16.76	19.30	25.40	32.76
GFC 6-4N	3/8	9.52	1/4	7.11	3/4	19.05	11/16	17.46	16.76	19.30	30.22	37.59
GFC 6-6N	3/8	9.52	3/8	7.11	7/8	22.22	11/16	17.46	16.76	19.30	31.75	39.11
GFC 6-8N	3/8	9.52	1/2	7.11	1-1/16	26.98	11/16	17.46	16.76	19.30	36.57	43.94
GFC 6-12N	3/8	9.52	3/4	7.11	1-5/16	33.33	11/16	17.46	16.76	19.30	40.38	47.75
GFC 8-4N	1/2	12.70	1/4	10.41	1-3/16	20.64	7/8	22.22	22.86	21.84	30.22	40.38
GFC 8-6N	1/2	12.70	3/8	10.41	7/8	22.22	7/8	22.22	22.86	21.84	31.75	41.91
GFC 8-8N	1/2	12.70	1/2	10.41	1-1/16	26.98	7/8	22.22	22.86	21.84	36.57	46.73
GFC 8-12N	1/2	12.70	3/4	10.41	1-5/16	33.33	7/8	22.22	22.86	21.84	38.10	48.26
GFC 10-6N	5/8	15.87	3/8	12.70	15/16	23.81	1	25.40	24.38	21.84	31.75	41.91
GFC 10-8N	5/8	15.87	1/2	12.70	1-1/16	26.98	1	25.40	24.38	21.84	36.57	46.73
GFC 10-12N	5/8	15.87	3/4	12.70	1-5/16	33.33	1	25.40	24.38	21.84	38.10	48.26
GFC 12-8N	3/4	19.05	1/2	15.74	1-1/16	26.98	1-1/8	28.57	24.38	21.84	36.57	46.73
GFC 12-12N	3/4	19.05	3/4	15.74	1-5/16	33.33	1-1/8	28.57	24.38	21.84	38.10	48.26
GFC 14-12N	7/8	22.22	3/4	18.28	1-5/16	33.33	1-1/4	31.75	25.90	21.84	39.62	49.78
GFC 16-12N	1	25.40	3/4	22.35	1-3/8	34.92	1-1/2	38.10	31.24	26.41	41.14	53.34
GFC 16-16N	1	25.40	1	22.35	1-5/8	41.27	1-1/2	38.10	31.24	26.41	50.03	62.23
GFC 20-20N	1-1/4	31.75	1-1/4	27.68	2-1/8	53.98	1-7/8	41.63	41.14	38.86	52.57	74.67
GFC 24-24N	1-1/2	38.10	1-1/2	34.03	2-3/8	60.33	2-1/4	57.15	50.03	45.21	56.13	83.31
GFC 32-32N	2	50.80	2	45.97	2-1/8	73.03	3	76.20	67.56	62.73	64.26	101.60

GFC

Female Connector

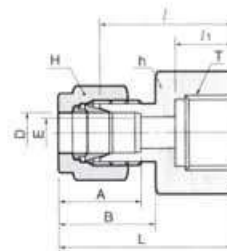


Connects metric tube to male ISO tapered thread

Part No.	Tube O.D. D(mm)	T (PT)	E Min	Width across flat		A	B	ℓ	L
				h	H				
GFC 3M-2R	3	1/8	2.4	14.28	11.11	12.9	15.3	22.1	28.7
GFC 3M-4R	3	1/4	2.4	19.05	11.11	12.9	15.3	26.9	33.5
GFC 4M-2R	4	1/8	2.4	14.28	12.70	13.7	16.1	23.1	29.7
GFC 6M-2R	6	1/8	4.8	14.28	14.28	15.3	17.7	23.9	31.3
GFC 6M-4R	6	1/4	4.8	19.05	14.28	15.3	17.7	28.4	35.8
GFC 6M-6R	6	3/8	4.8	22.22	14.28	15.3	17.7	29.5	36.9
GFC 6M-8R	6	1/2	4.8	26.98	14.28	15.3	17.7	35.1	42.5
GFC 8M-2R	8	1/8	6.4	14.28	15.87	16.2	18.6	24.6	32.1
GFC 8M-4R	8	1/4	6.4	19.05	15.87	16.2	18.6	29.5	37.0
GFC 8M-6R	8	3/8	6.4	22.22	15.87	16.2	18.6	30.2	37.7
GFC 8M-8R	8	1/2	6.4	26.98	15.87	16.2	18.6	35.8	43.3
GFC 10M-2R	10	1/8	7.9	17.46	19.05	17.2	19.5	25.4	33.0
GFC 10M-4R	10	1/4	7.9	19.05	19.05	17.2	19.5	30.2	37.8
GFC 10M-6R	10	3/8	7.9	22.22	19.05	17.2	19.5	31.0	38.6
GFC 10M-8R	10	1/2	7.9	26.98	19.05	17.2	19.5	36.6	44.2
GFC 12M-2R	12	1/8	8.3	22.22	22.22	22.8	22.0	28.4	38.5
GFC 12M-4R	12	1/4	9.5	22.22	22.22	22.8	22.0	30.2	40.3
GFC 12M-6R	12	3/8	9.5	22.22	22.22	22.8	22.0	31.0	41.1
GFC 12M-8R	12	1/2	9.5	26.98	22.22	22.8	22.0	36.6	46.7
GFC 12M-12R	12	3/4	9.5	33.33	22.22	22.8	22.0	38.9	49.0
GFC 15M-8R	15	1/2	11.9	26.98	25.40	24.4	22.0	36.6	46.7
GFC 16M-8R	16	1/2	12.7	26.98	25.40	24.4	22.0	36.8	46.9
GFC 20M-8R	20	1/2	15.9	30.16	31.75	26.0	22.0	37.8	47.9
GFC 20M-12R	20	3/4	15.9	34.92	31.75	26.0	22.0	39.6	49.7
GFC 22M-12R	22	3/4	18.3	34.92	31.75	26.0	22.0	39.6	49.7
GFC 22M-16R	22	1	18.3	41.27	31.75	26.0	22.0	47.8	57.9
GFC 25M-12R	25	3/4	21.8	34.92	38.10	31.3	26.5	41.1	53.4
GFC 25M-16R	25	1	21.8	41.27	38.10	31.3	26.5	50.0	62.3

GGC

Gauge Connector



Connects fractional tube to ISO parallel thread (gauge)

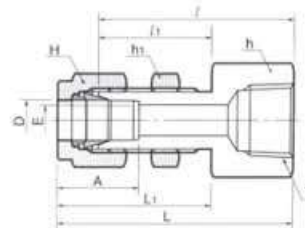
Part No.	Tube O.D. D		T G(PF)	E Min.	Width across flat				A	B	ℓ	ℓ ₁	L
	in	mm			h		H						
					in	mm	in	mm					
GGC 4-2G	1/4	6.35	1/8	4.82	9/16	14.28	9/16	14.28	15.24	17.78	26.30	12.00	33.55
GFC 4-4G	1/4	6.35	1/4	4.82	3/4	19.05	9/16	14.28	15.24	17.78	30.22	13.00	37.59
GFC 4-6G	1/4	6.35	3/8	4.82	15/16	23.81	9/16	14.28	15.24	17.78	30.22	14.22	37.59
GFC 4-8G	1/4	6.35	1/2	4.82	1-1/16	26.98	9/16	14.28	15.24	17.78	30.07	18.80	43.43
GFC 5-4G	5/16	7.93	1/4	5.58	3/4	19.05	5/8	15.87	16.25	18.54	30.98	13.00	38.35
GFC 5-8G	5/16	7.93	1/2	7.11	1-1/16	26.98	5/8	15.87	16.25	18.54	33.02	18.80	40.38
GFC 6-4G	3/8	9.52	1/4	5.58	3/4	19.05	11/16	17.46	16.76	19.30	31.75	12.95	39.12
GFC 6-6G	3/8	9.52	3/8	6.60	15/16	23.81	11/16	17.46	16.76	19.30	31.24	14.22	38.61
GFC 6-8G	3/8	9.52	1/2	7.11	1-1/16	26.98	11/16	17.46	16.76	19.30	34.54	18.80	41.91
GFC 8-4G	1/2	12.70	1/4	5.50	7/8	22.22	7/8	22.22	22.86	21.84	31.80	13.00	41.95
GFC 8-6G	1/2	12.70	3/8	6.60	15/16	23.81	7/8	22.22	22.86	21.84	34.29	14.24	44.45
GFC 8-8G	1/2	12.70	1/2	7.11	1-1/16	26.98	7/8	22.22	22.86	21.84	38.10	18.80	48.26

Connects metric tube to ISO parallel thread (gauge)

Part No.	Tube O.D. D(mm)	T G(PF)	E Min	Width across flat		A	B	ℓ	ℓ ₁	L
				h	H					
GFC 3M-4G	3	1/4	2.4	19.05	11.11	12.9	15.3	28.7	13.0	35.3
GFC 6M-4G	6	1/4	4.8	19.05	14.28	15.3	17.7	30.2	13.0	37.6
GFC 6M-6G	6	3/8	4.8	23.81	14.28	15.3	17.7	30.2	14.0	37.6
GFC 6M-8G	6	1/2	4.8	26.98	14.28	15.3	17.7	36.3	19.0	43.0
GFC 8M-4G	8	1/4	5.5	19.05	15.87	16.2	18.6	31.0	13.0	38.5
GFC 8M-6G	8	3/8	6.5	23.81	15.87	16.2	18.6	28.7	14.0	36.2
GFC 8M-8G	8	1/2	7.0	26.98	15.87	16.2	18.6	33.0	19.0	40.5
GFC 10M-4G	10	1/4	5.5	19.05	19.05	17.2	19.5	31.8	13.0	39.4
GFC 10M-6G	10	3/8	6.5	23.81	19.05	17.2	19.5	31.2	14.0	38.8
GFC 10M-8G	10	1/2	7.0	26.98	19.05	17.2	19.5	33.8	19.0	41.4
GFC 12M-4G	12	1/4	5.5	22.22	22.22	22.8	22.0	31.8	13.0	41.9
GFC 12M-6G	12	3/8	6.5	23.81	22.22	22.8	22.0	34.3	14.0	44.4
GFC 12M-8G	12	1/2	7.0	26.98	22.22	22.8	22.0	38.1	19.0	48.2
GFC 20M-8G	20	1/2	7.0	30.16	31.75	26.0	22.0	44.2	19.0	54.3
GFC 22M-8G	22	1/2	7.0	30.16	31.75	26.0	22.0	44.2	19.0	54.3

GBFC

Bulkhead Female Connector



Connects fractional tube to male NPT thread

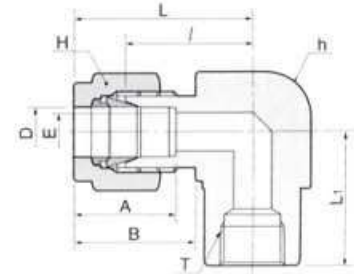
Part No.	Tube O.D. D		T (NPT)	E Min.	Width across flat						A	ℓ	ℓ ₁	L	L ₁	Panel Hole Drill size	Panel Max Thickness
	in	mm			h		h ₁		H								
					in	mm	in	mm	in	mm							
GBFC 2-2N	1/8	3.17	1/8	2.28	9/16	14.28	1/2	12.70	7/16	11.11	12.70	38.10	24.63	44.70	31.24	8.30	12.70
GBFC 4-2N	1/4	6.35	1/8	4.82	5/8	15.87	5/8	15.87	9/16	14.28	15.24	39.62	26.16	46.99	33.52	11.50	10.16
GBFC 4-4N	1/4	6.35	1/4	4.82	3/4	19.05	5/8	15.87	9/16	14.28	15.24	44.45	26.16	51.81	33.52	11.50	10.16
GBFC 6-4N	3/8	9.52	1/4	7.11	3/4	19.05	3/4	19.05	11/16	17.46	16.76	47.75	29.46	55.11	36.83	14.70	11.17
GBFC 6-6N	3/8	9.52	3/8	7.11	7/8	22.22	3/4	19.05	11/16	17.46	16.76	49.41	29.46	56.77	36.83	14.70	11.17
GBFC 8-6N	1/2	12.70	3/8	10.41	15/16	23.81	15/16	23.81	7/8	22.22	22.86	51.56	31.75	61.72	41.91	19.40	12.70
GBFC 8-8N	1/2	12.70	1/2	10.41	1-1/16	26.98	15/16	23.81	7/8	22.22	22.86	56.38	31.75	66.54	41.91	19.40	12.70
GBFC 12-12N	3/4	19.05	3/4	15.74	1-1/4	31.75	1-3/16	30.16	1-1/8	28.57	24.38	63.60	38.30	73.51	47.21	25.80	16.76
GBFC 16-16N	1	25.40	1	22.35	1-5/8	41.27	1-5/8	41.27	1-1/2	38.10	31.24	81.04	45.21	93.23	57.40	33.70	19.05
GBFC 20-20N	1-1/4	31.75	1-1/4	27.68	1-7/8	47.63	1-7/8	47.63	1-7/8	47.63	41.14	83.49	47.75	105.59	69.85	41.70	19.05
GBFC 24-24N	1-1/2	38.10	1-1/2	34.03	1-1/4	57.15	2-1/4	57.15	2-1/4	57.15	50.03	87.39	49.27	114.57	76.45	49.60	19.05
GBFC 32-32N	2	50.80	2	45.97	1-3/4	69.85	2-3/4	69.85	3	76.20	67.56	95.30	56.38	132.63	93.71	57.90	19.05

Connects metric tube to male ISO tapered thread

Part No.	Tube O.D. D(mm)	T (PT)	E Min.	Width across flat			A	ℓ	ℓ ₁	L	L ₁	Panel Hole Drill size	Panel Max Thickness
				h	h ₁	H							
				GBFC 6M-2R	6	1/8								4.8	15.87	15.87	14.28	15.3	39.6	26.2	46.90	35.00	11.5	10.2
GBFC 6M-4R	6	1/4	4.8	19.05	15.87	14.28	15.3	44.4	26.2	51.80	33.60	11.5	10.2
GBFC 8M-4R	8	1/4	6.3	19.05	17.46	15.87	16.2	46.7	28.6	53.85	35.55	13.1	11.2
GBFC 12M-8R	12	1/2	9.5	26.98	23.81	22.22	22.8	56.4	31.8	66.50	41.90	19.5	12.7

GFE

Female Elbow



Connects fractional tube to male NPT thread

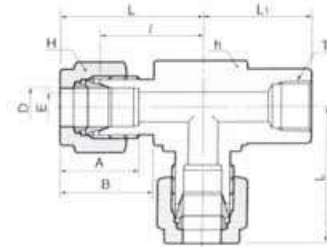
Part No.	Tube O.D.		T (NPT)	E Min.	Width across flat				A	B	ℓ	L	L1
	D				h		H						
	in	mm			in	mm	in	mm					
GFE 2-2N	1/8	3.17	1/8	2.28	1/2	12.70	7/16	11.11	12.70	15.24	18.03	24.63	19.05
GFE 2-4N	1/8	3.17	1/4	2.28	11/16	17.46	7/16	11.11	12.70	15.24	20.82	27.43	22.35
GFE 3-2N	3/16	4.76	1/8	3.04	1/2	12.70	1/2	12.70	13.71	16.00	18.79	25.40	19.05
GFE 4-2N	1/4	6.35	1/8	4.82	1/2	12.70	9/16	14.28	15.24	17.78	19.55	26.92	19.05
GFE 4-4N	1/4	6.35	1/4	4.82	11/16	17.46	9/16	14.28	15.24	17.78	22.35	29.71	22.35
GFE 4-6N	1/4	6.35	3/8	4.82	13/16	20.63	9/16	14.28	15.24	17.78	24.38	31.75	22.35
GFE 4-8N	1/4	6.35	1/2	4.82	1	25.40	9/16	14.28	15.24	17.78	27.17	34.54	28.44
GFE 5-2N	5/16	7.93	1/8	6.35	9/16	14.28	5/8	15.87	16.25	18.54	21.33	28.70	19.05
GFE 5-4N	5/16	7.93	1/4	6.35	11/16	17.46	5/8	15.87	16.25	18.54	23.11	30.48	22.35
GFE 6-2N	3/8	9.52	1/8	7.11	5/8	15.87	11/16	17.46	16.76	19.30	23.11	30.48	19.05
GFE 6-4N	3/8	9.52	1/4	7.11	11/16	17.46	11/16	17.46	16.76	19.30	23.87	31.24	22.35
GFE 6-6N	3/8	9.52	3/8	7.11	13/16	20.63	11/16	17.46	16.76	19.30	25.90	33.27	22.35
GFE 6-8N	3/8	9.52	1/2	7.11	1	25.40	11/16	17.46	16.76	19.30	28.70	36.06	28.44
GFE 8-4N	1/2	12.70	1/4	10.41	13/16	20.63	7/8	22.22	22.86	21.84	25.90	36.06	22.35
GFE 8-6N	1/2	12.70	3/8	10.41	13/16	20.63	7/8	22.22	22.86	21.84	25.90	36.06	22.35
GFE 8-8N	1/2	12.70	1/2	10.41	1	25.40	7/8	22.22	22.86	21.84	28.70	38.86	28.44
GFE 10-6N	5/8	15.87	3/8	12.70	15/16	23.81	1	25.40	24.38	21.84	27.94	38.10	22.35
GFE 10-8N	5/8	15.87	1/2	12.70	1	25.40	1	25.40	24.38	21.84	29.71	39.87	28.44
GFE 12-8N	3/4	19.05	1/2	15.74	1-1/16	26.98	1-1/8	28.57	24.38	21.84	29.71	39.87	28.44
GFE 12-12N	3/4	19.05	3/4	15.74	1-1/4	31.75	1-1/8	28.57	24.38	21.84	34.54	44.70	31.75
GFE 14-12N	7/8	22.22	3/4	18.28	1-1/4	31.75	1-1/4	31.75	25.90	21.84	34.54	44.70	31.75
GFE 16-12N	1	25.40	3/4	22.35	1-3/8	34.92	1-1/2	38.10	31.24	26.41	36.83	49.02	31.75
GFE 16-16N	1	25.40	1	22.35	1-11/16	42.86	1-1/2	38.10	31.24	26.41	41.40	50.29	38.10

Connects metric tube to male ISO tapered thread

Part No.	Tube O.D. D(mm)	T (PT)	E Min	Width across flat		A	B	ℓ	L	L1
				h	H					
GFE 6M-2R	6	1/8	4.8	12.70	14.28	15.3	17.7	19.6	27.0	19.00
GFE 6M-4R	6	1/4	4.8	17.46	14.28	15.3	17.7	22.4	29.8	22.40
GFE 6M-6R	6	3/8	4.8	20.63	14.28	15.3	17.7	24.4	31.7	22.40
GFE 6M-8R	6	1/2	4.8	25.40	14.28	15.3	17.7	27.2	34.6	28.40
GFE 8M-2R	8	1/8	6.4	15.87	15.87	16.2	18.6	23.1	29.9	19.00
GFE 8M-4R	8	1/4	6.4	17.46	15.87	16.2	18.6	23.1	30.6	22.40
GFE 8M-8R	8	1/2	6.4	25.40	15.87	16.2	18.6	28.0	35.0	28.40
GFE 10M-2R	10	1/8	7.9	17.46	19.05	17.2	19.5	25.9	33.5	19.00
GFE 10M-4R	10	1/4	7.9	17.46	19.05	17.2	19.5	25.9	33.5	22.40
GFE 10M-6R	10	3/8	7.9	20.63	19.05	17.2	19.5	25.9	33.5	22.40
GFE 10M-8R	10	1/2	7.9	25.40	19.05	17.2	19.5	28.7	36.1	28.40
GFE 12M-4R	12	1/4	9.5	20.63	22.22	22.8	22.0	25.9	36.1	22.40
GFE 12M-6R	12	3/8	9.5	20.63	22.22	22.8	22.0	25.9	36.2	22.40
GFE 12M-8R	12	1/2	9.5	25.40	22.22	22.8	22.0	28.7	38.8	28.40
GFE 16M-8R	16	1/2	12.7	26.98	25.40	24.4	22.0	29.7	39.5	28.40

GFRT

Female Run Tee



Connects fractional tube to male NPT thread

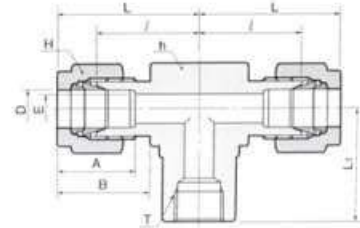
Part No.	Tube O.D.		T (NPT)	E Min.	Width across flat				A	B	ℓ	L	L1
	D				h		H						
	in	mm			in	mm	in	mm					
GFRT 2-2N	1/8	3.17	1/8	2.28	1/2	12.70	7/16	11.11	12.70	15.24	18.03	24.63	19.05
GFRT 2-4N	1/8	3.17	1/4	2.28	11/16	17.46	7/16	11.11	12.70	15.24	20.82	27.43	22.35
GFRT 3-2N	3/16	4.76	1/8	3.04	1/2	12.70	1/2	12.70	13.71	16.00	18.79	25.40	19.05
GFRT 4-2N	1/4	6.35	1/8	4.82	1/2	12.70	9/16	14.28	15.24	17.78	19.55	26.92	19.05
GFRT 4-4N	1/4	6.35	1/4	4.82	11/16	17.46	9/16	14.28	15.24	17.78	22.86	29.71	22.35
GFRT 4-6N	1/4	6.35	3/8	4.82	13/16	20.63	9/16	14.28	15.24	17.78	24.38	31.75	22.35
GFRT 4-8N	1/4	6.35	1/2	4.82	1	25.40	9/16	14.28	15.24	17.78	27.17	34.54	28.44
GFRT 5-2N	5/16	7.93	1/8	6.35	9/16	14.28	5/8	15.87	16.25	18.54	21.33	28.70	19.05
GFRT 5-4N	5/16	7.93	1/4	6.35	11/16	17.46	5/8	15.87	16.25	18.54	23.11	30.48	22.35
GFRT 6-2N	3/8	9.52	1/8	7.11	5/8	15.87	11/16	17.46	16.76	19.30	23.11	30.48	19.05
GFRT 6-4N	3/8	9.52	1/4	7.11	11/16	17.46	11/16	17.46	16.76	19.30	23.87	31.24	22.35
GFRT 6-6N	3/8	9.52	3/8	6.35	13/16	20.63	11/16	17.46	16.76	19.30	25.90	33.27	22.35
GFRT 6-8N	3/8	9.52	1/2	7.11	1	25.40	11/16	17.46	16.76	19.30	28.70	36.06	28.44
GFRT 8-4N	1/2	12.70	1/4	10.41	13/16	20.63	7/8	22.22	22.86	21.84	25.90	36.06	22.35
GFRT 8-6N	1/2	12.70	3/8	10.41	13/16	20.63	7/8	22.22	22.86	21.84	25.90	36.06	22.35
GFRT 8-8N	1/2	12.70	1/2	10.41	1	25.40	7/8	22.22	22.86	21.84	29.71	39.87	28.44
GFRT 10-6N	5/8	15.87	3/8	12.70	15/16	23.81	1	25.40	24.38	21.84	27.94	38.10	22.35
GFRT 10-8N	5/8	15.87	1/2	12.70	1	25.40	1	25.40	24.38	21.84	28.70	38.86	28.44
GFRT 12-8N	3/4	19.05	1/2	15.74	1-1/16	26.98	1-1/8	28.57	24.38	21.84	29.71	39.87	28.44
GFRT 12-12N	3/4	19.05	3/4	15.74	1-1/4	31.75	1-1/8	28.57	24.38	21.84	34.54	44.70	31.75
GFRT 14-12N	7/8	22.22	3/4	18.28	1-1/4	31.75	1-1/4	31.75	31.75	21.84	34.54	44.70	31.75
GFRT 16-12N	1	25.40	3/4	22.35	1-3/8	34.92	1-1/2	38.10	38.10	26.41	36.83	49.02	31.75
GFRT 16-16N	1	25.40	1	22.35	1-1/16	42.86	1-1/2	38.10	38.10	26.41	41.40	50.29	38.10

Connects metric tube to male ISO tapered thread

Part No.	Tube O.D. D(mm)	T (PT)	E Min	Width across flat		A	B	ℓ	L	L1
				h	H					
GFRT 6M-2R	6	1/8	4.8	12.70	14.28	15.3	17.7	19.6	27.0	19.00
GFRT 6M-4R	6	1/4	4.8	17.46	14.28	15.3	17.7	22.4	29.8	22.40
GFRT 6M-6R	6	1/8	4.8	20.63	14.28	15.3	17.7	24.4	31.7	22.40
GFRT 6M-8R	6	1/2	4.8	25.40	14.28	15.3	17.7	27.2	34.5	28.40
GFRT 8M-2R	8	1/8	6.4	15.87	15.87	16.2	18.6	22.4	29.9	19.00
GFRT 8M-4R	8	1/4	6.4	17.46	15.87	16.2	18.6	23.1	30.6	22.40
GFRT 8M-6R	8	3/8	6.4	20.63	15.87	16.2	18.6	25.2	32.4	22.40
GFRT 8M-8R	8	1/2	6.4	25.40	15.87	16.2	18.6	28.0	35.2	28.40
GFRT 10M-2R	10	1/8	7.9	20.63	19.05	17.2	19.5	22.4	31.5	19.00
GFRT 10M-4R	10	1/4	7.9	20.63	19.05	17.2	19.5	25.9	33.6	22.40
GFRT 10M-6R	10	3/8	7.9	20.63	19.05	17.2	19.5	25.9	33.6	22.40
GFRT 10M-8R	10	1/2	7.9	25.40	19.05	17.2	19.5	26.2	33.6	28.40
GFRT 12M-4R	12	1/4	9.5	20.63	22.22	22.8	22.0	25.9	36.0	22.40
GFRT 12M-6R	12	3/8	9.5	20.63	22.22	22.8	22.0	25.9	36.0	22.40
GFRT 12M-8R	12	1/2	9.5	25.40	22.22	22.8	22.0	29.7	40.0	28.40
GFRT 16M-8R	16	1/2	12	25.40	25.40	24.4	22.0	29.7	40.0	28.40

GFBT

Female Branch Tee

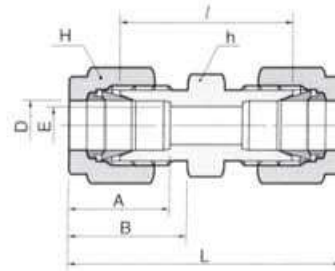


Connects fractional tube to male NPT thread

Part No.	Tube O.D. D		T (NPT)	E Min.	Width across flat				A	B	ℓ	L	L ₁
	in	mm			h		H						
					in	mm	in	mm					
GFBT 2-2N	1/8	3.17	1/8	2.28	1/2	12.70	7/16	11.11	12.70	15.24	18.03	24.38	19.05
GFBT 2-4N	1/8	3.17	1/4	2.28	11/16	17.46	7/16	11.11	12.70	15.24	20.82	27.43	22.35
GFBT 3-2N	3/16	4.76	1/8	3.04	1/2	12.70	1/2	12.70	13.71	16.00	18.79	25.40	19.05
GFBT 4-2N	1/4	6.35	1/8	4.82	1/2	12.70	9/16	14.28	15.24	17.78	19.55	26.92	19.05
GFBT 4-4N	1/4	6.35	1/4	4.82	11/16	17.46	9/16	14.28	15.24	17.78	22.35	29.71	22.35
GFBT 4-6N	1/4	6.35	3/8	4.82	13/16	20.63	9/16	14.28	15.24	17.78	24.38	31.75	22.35
GFBT 4-8N	1/4	6.35	1/2	4.82	1	25.40	9/16	14.28	15.24	17.78	27.17	34.54	28.44
GFBT 5-2N	5/16	7.93	1/8	6.35	9/16	14.28	5/8	15.87	16.25	18.54	21.33	28.70	19.05
GFBT 5-4N	5/16	7.93	1/4	6.35	11/16	17.46	5/8	15.87	16.25	18.54	23.11	30.48	22.35
GFBT 6-2N	3/8	9.52	1/8	7.11	5/8	15.78	11/16	17.46	16.76	19.30	23.11	30.48	19.05
GFBT 6-4N	3/8	9.52	1/4	7.11	11/16	17.46	11/16	17.46	16.76	19.30	23.87	31.24	22.35
GFBT 6-6N	3/8	9.52	3/8	6.35	13/16	20.63	11/16	17.46	16.76	19.30	25.90	33.27	22.35
GFBT 6-8N	3/8	9.52	1/2	7.11	1	25.40	11/16	17.46	16.76	19.30	28.70	36.06	28.44
GFBT 8-4N	1/2	12.70	1/4	10.41	13/16	20.63	7/8	22.22	22.86	21.84	25.90	36.06	22.35
GFBT 8-6N	1/2	12.70	3/8	10.41	13/16	20.63	7/8	22.22	22.86	21.84	25.90	36.06	22.35
GFBT 8-8N	1/2	12.70	1/2	10.41	1	25.40	7/8	22.22	22.86	21.84	29.71	39.87	28.44
GFBT 10-6N	5/8	15.87	3/8	12.70	15/16	23.81	1	25.40	24.38	21.84	27.94	38.10	22.35
GFBT 10-8N	5/8	15.87	1/2	12.70	1	25.40	1	25.40	24.38	21.84	28.70	38.86	28.44
GFBT 12-8N	3/4	19.05	1/2	15.74	1-1/16	26.98	1-1/8	28.57	24.38	21.84	29.71	39.87	28.44
GFBT 12-12N	3/4	19.05	3/4	15.74	1-1/4	31.75	1-1/8	28.57	24.38	21.84	34.54	44.70	31.75
GFBT 14-12N	7/8	22.22	3/4	18.28	1-1/4	31.75	1-1/4	31.75	25.90	21.84	34.54	44.70	31.75
GFBT 16-12N	1	25.40	3/4	22.35	1-3/8	34.92	1-1/2	38.10	31.24	26.41	36.83	49.02	31.75
GFBT 16-16N	1	25.40	1	22.35	1-11/16	42.86	1-1/2	38.10	31.24	26.41	41.40	53.59	38.10

Connects metric tube to male ISO tapered thread

Part No.	Tube O.D. D(mm)	T (PT)	E Min	Width across flat		A	B	ℓ	L	L ₁
				h	H					
GFBT 6M-2R	6	1/8	4.8	12.70	14.28	15.3	17.7	19.6	27.0	19.00
GFBT 6M-4R	6	1/4	4.8	17.46	14.28	15.3	17.7	22.4	29.8	22.40
GFBT 6M-6R	6	3/8	4.8	20.63	14.28	15.3	17.7	24.4	31.7	22.40
GFBT 6M-8R	6	1/2	4.8	25.40	14.28	15.3	17.7	27.2	34.5	28.40
GFBT 8M-2R	8	1/8	6.4	15.87	15.87	16.2	18.6	22.4	29.9	19.00
GFBT 8M-4R	8	1/4	6.4	17.46	15.87	16.2	18.6	23.1	30.6	22.40
GFBT 8M-6R	8	3/8	6.4	20.63	15.87	16.2	18.6	25.2	32.4	22.40
GFBT 8M-8R	8	1/2	6.4	25.40	15.87	16.2	18.6	28.0	35.2	28.40
GFBT 10M-2R	10	1/8	7.9	17.46	19.05	17.2	19.5	23.9	31.5	19.00
GFBT 10M-4R	10	1/4	7.9	17.46	19.05	17.2	19.5	25.9	33.5	22.40
GFBT 10M-6R	10	3/8	7.9	20.63	19.05	17.2	19.5	25.9	33.5	22.40
GFBT 10M-8R	10	1/2	9.5	25.40	19.05	17.2	19.5	26.2	33.6	28.40
GFBT 12M-4R	12	1/4	9.5	20.63	22.22	22.8	22.0	25.9	36.0	22.40
GFBT 12M-6R	12	3/8	9.5	20.63	22.22	22.8	22.0	25.9	36.0	22.40
GFBT 12M-8R	12	1/2	9.5	25.40	22.22	22.8	22.0	29.7	40.0	28.40
GFBT 16M-8R	16	1/2	12.7	25.40	25.40	24.4	22.0	29.7	40.0	28.70



Connects fractional tube

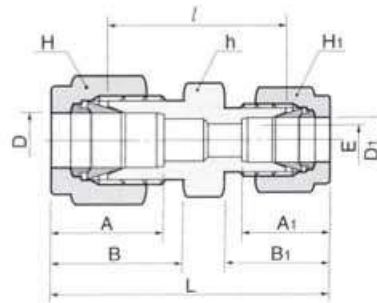
Part No.	Tube O.D. D		E Min.	Width across flat				A	B	ℓ	L
	in	mm		h		H					
				in	mm	in	mm				
GU-1	1/16	1.59	1.27	5/16	7.93	5/16	7.93	8.63	10.92	17.50	25.15
GU-2	1/8	3.17	2.28	7/16	11.11	7/16	11.11	12.70	15.24	22.35	35.56
GU-3	3/16	4.76	3.04	7/16	11.11	1/2	12.70	13.71	16.00	24.13	37.33
GU-4	1/4	6.35	4.82	1/2	12.70	9/16	14.28	15.24	17.78	26.16	40.89
GU-5	5/16	7.93	6.35	9/16	14.28	5/8	15.87	16.25	18.54	28.19	42.92
GU-6	3/8	9.52	7.11	5/8	15.87	11/16	17.46	16.76	19.30	30.22	44.95
GU-8	1/2	12.70	10.41	13/16	20.63	7/8	22.22	22.86	21.84	30.98	51.30
GU-10	5/8	15.87	12.70	15/16	23.81	1	25.40	24.38	21.84	31.75	52.07
GU-12	3/4	19.05	15.74	1-1/16	26.98	1-1/8	28.58	24.38	21.84	31.27	53.59
GU-14	7/8	22.22	18.28	1-3/16	30.16	1-1/4	31.75	25.90	21.84	35.05	55.37
GU-16	1	25.40	22.35	1-3/8	34.92	1-1/2	38.10	31.24	26.41	40.38	64.77
GU-20	1-1/4	31.75	27.68	1-3/4	44.45	1-7/8	47.63	41.14	38.86	48.00	92.20
GU-24	1-1/2	38.10	34.03	2-1/8	53.97	2-1/4	57.15	50.03	45.21	53.60	107.95
GU-32	2	50.80	45.97	2-3/4	69.85	3	76.20	67.56	62.73	74.70	149.35

Connects metric tube

Part No.	Tube O.D. D(mm)	E Min	Width across flat		A	B	ℓ	L
			h	H				
GU-2M	2	1.7	11.11	11.11	12.9	15.3	22.1	35.6
GU-3M	3	2.4	11.11	11.11	12.9	15.3	22.1	35.3
GU-4M	4	2.4	11.11	12.70	13.7	16.1	24.1	37.3
GU-6M	6	4.8	14.28	14.28	15.3	17.7	26.2	41.0
GU-8M	8	6.4	14.28	15.87	16.2	18.6	28.2	43.2
GU-10M	10	7.9	17.46	19.05	17.2	19.5	31.0	46.2
GU-12M	12	9.5	20.63	22.22	22.8	22.0	31.0	51.2
GU-15M	15	11.9	23.81	25.40	24.4	22.0	31.8	52.0
GU-16M	16	12.7	23.81	25.40	24.4	22.0	31.8	52.0
GU-18M	18	15.1	26.98	30.16	24.4	22.0	33.3	53.5
GU-20M	20	15.9	30.16	31.75	26.0	22.0	34.8	55.0
GU-22M	22	18.3	30.16	31.75	26.0	22.0	34.8	55.0
GU-25M	25	21.8	34.92	38.10	31.3	26.5	40.4	65.0
GU-28M	28	21.8	41.27	46.04	36.6	36.6	43.4	85.0
GU-30M	30	26.0	46.04	49.21	39.6	39.2	49.5	92.7
GU-32M	32	28.6	46.04	49.21	42.0	41.6	51.3	97.3
GU-38M	38	33.7	55.56	60.32	49.4	47.9	58.4	113.6

GRU

Reducing Union

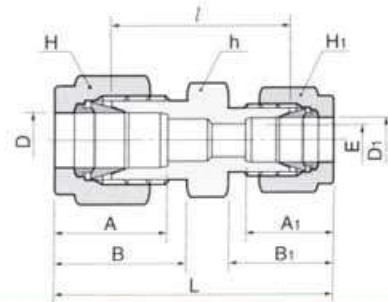


Connects fractional tube

Part No.	Tube O.D.				E Min.	Width across flat						A	A ₁	B	B ₁	ℓ	L
	D		D ₁			h		H		H _i							
	in	mm	in	mm		in	mm	in	mm	in	mm						
GRU 2-1	1/8	3.17	1/16	1.59	1.27	7/16	11.11	7/16	11.11	5/16	7.93	12.70	8.63	15.24	10.92	20.60	30.91
GRU 3-1	3/16	4.76	1/16	1.59	1.27	7/16	11.11	1/2	12.70	5/16	7.93	13.71	8.63	16.00	10.92	21.84	32.25
GRU 3-2	3/16	4.76	1/8	3.17	2.28	7/16	11.11	1/2	12.70	7/16	11.11	13.71	12.70	16.00	15.24	23.36	36.57
GRU 4-1	1/4	6.35	1/16	1.59	1.27	1/2	12.70	9/16	14.28	5/16	7.93	15.24	8.63	17.78	10.92	23.11	34.29
GRU 4-2	1/4	6.35	1/8	3.17	2.28	1/2	12.70	9/16	14.28	7/16	11.11	15.24	12.70	17.78	15.24	24.63	38.60
GRU 4-3	1/4	6.35	3/16	4.76	3.04	1/2	12.70	9/16	14.28	1/2	12.70	15.24	13.71	17.78	16.00	25.40	39.37
GRU 5-2	5/16	7.93	1/8	3.17	2.28	9/16	14.28	5/8	15.87	7/16	11.11	16.25	12.70	18.54	15.24	25.90	39.87
GRU 5-4	5/16	7.93	1/4	6.35	4.82	9/16	14.28	5/8	15.87	9/16	14.28	16.25	15.24	18.54	17.78	27.43	42.16
GRU 6-1	3/8	9.52	1/16	1.59	1.27	5/8	15.87	11/16	17.46	5/16	7.93	16.76	8.63	19.30	10.92	25.40	36.57
GRU 6-2	3/8	9.52	1/8	3.17	2.28	5/8	15.87	11/16	17.46	7/16	11.11	16.76	12.70	19.30	15.24	26.92	40.89
GRU 6-4	3/8	9.52	1/4	6.35	4.82	5/8	15.87	11/16	17.46	9/16	14.28	16.76	15.24	19.30	17.78	28.44	43.18
GRU 6-5	3/8	9.52	5/16	7.93	6.35	5/8	15.87	11/16	17.46	5/8	15.87	16.76	16.25	19.30	18.54	29.46	44.19
GRU 8-2	1/2	12.70	1/8	3.17	2.28	13/16	20.63	7/8	22.22	7/16	11.11	22.86	12.70	21.84	15.24	28.44	45.21
GRU 8-4	1/2	12.70	1/4	6.35	4.82	13/16	20.63	7/8	22.22	9/16	14.28	22.86	15.24	21.84	17.78	29.46	46.99
GRU 8-6	1/2	12.70	3/8	9.52	7.11	13/16	20.63	7/8	22.22	11/16	17.46	22.86	16.76	21.84	19.30	30.98	48.51
GRU 10-6	5/8	15.87	3/8	9.52	7.11	15/16	23.81	1	25.40	11/16	17.46	24.38	16.76	21.84	19.30	31.75	49.27
GRU 10-8	5/8	15.87	1/2	12.70	10.41	15/16	23.81	1	25.40	7/8	22.22	24.38	22.86	21.84	21.84	31.75	52.07
GRU 12-4	3/4	19.05	1/4	6.35	4.82	1-1/16	26.97	1-1/8	28.57	9/16	14.28	24.38	15.24	21.84	17.78	31.75	49.27
GRU 12-6	3/4	19.05	3/8	9.52	7.11	1-1/16	26.97	1-1/8	28.57	11/16	17.46	24.38	16.76	21.84	19.30	33.27	50.80
GRU 12-8	3/4	19.05	1/2	12.70	10.41	1-1/16	26.97	1-1/8	28.57	7/8	22.22	24.38	22.86	21.84	21.84	33.27	53.59
GRU 12-10	3/4	19.05	5/8	15.87	12.70	1-1/16	26.97	1-1/8	28.57	1	25.40	24.38	24.38	21.84	21.84	33.27	53.59
GRU 16-8	1	25.40	1/2	12.70	10.41	1-3/8	34.92	1-1/2	38.10	7/8	22.22	31.24	22.86	26.41	21.84	40.89	63.24
GRU 16-12	1	25.40	3/4	19.05	15.74	1-3/8	34.92	1-1/2	38.10	1-1/8	28.57	31.24	24.38	26.41	21.84	40.89	62.73

GRU

Reducing Union



Connects metric tube

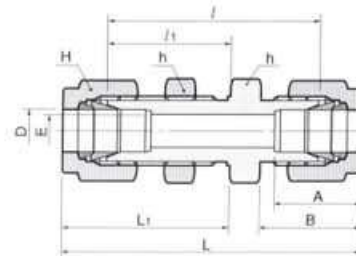
Part No.	Tube O.D.		E Min	Width across flat			A	A ₁	B	B ₁	ℓ	L
	D(mm)	D ₁ (mm)		h	H	H ₁						
GRU 3M-2M	3	2	1.7	12.70	11.11	11.11	12.9	12.9	15.3	15.3	22.1	35.3
GRU 6M-2M	6	2	1.7	14.28	14.28	11.11	15.3	12.9	17.7	15.3	24.6	38.6
GRU 6M-3M	6	3	2.4	14.28	14.28	11.11	15.3	12.9	17.7	15.3	24.6	38.6
GRU 6M-4M	6	4	2.4	14.28	14.28	12.70	15.3	13.7	17.7	16.1	25.4	39.4
GRU 8M-6M	8	6	4.8	15.87	15.87	14.28	16.2	15.3	18.6	17.7	27.4	42.3
GRU 10M-6M	10	6	4.8	17.46	19.05	14.28	17.2	15.3	19.5	17.7	29.5	44.5
GRU 10M-8M	10	8	6.4	17.46	19.05	15.87	17.2	16.2	19.5	18.6	30.0	45.1
GRU 12M-6M	12	6	4.8	22.22	22.22	14.28	22.8	15.3	22.0	17.7	29.5	47.0
GRU 12M-8M	12	8	6.4	22.22	22.22	15.87	22.8	16.2	22.0	18.6	30.2	47.8
GRU 12M-10M	12	10	7.9	22.22	22.22	19.05	22.8	17.2	22.0	19.5	31.0	48.7
GRU 16M-10M	16	10	7.9	23.81	25.40	19.05	24.4	17.2	22.0	19.5	31.8	49.5
GRU 16M-12M	16	12	9.5	23.81	25.40	22.22	24.4	22.8	22.0	22.0	31.8	52.0
GRU 18M-12M	18	12	9.5	26.98	30.16	22.22	24.4	22.8	22.0	22.0	33.3	53.5
GRU 25M-18M	25	18	15.1	34.92	38.10	30.16	31.3	24.4	26.5	22.0	38.6	61.0
GRU 25M-20M	25	20	15.9	34.92	38.10	31.75	31.3	26.0	26.5	22.0	39.9	62.3

Connects metric tube to facational tube

Part No.	Tube O.D.			E Min	Width across flat			A	A ₁	B	B ₁	ℓ	L
	D(mm)	in	mm		h	H	H ₁						
GRU 3M-2	3	1/8	3.17	2.4	11.11	11.11	11.11	12.9	12.8	15.3	15.2	22.1	35.2
GRU 4M-2	4	1/8	3.17	2.4	11.11	12.70	11.11	13.7	12.8	16.1	15.2	23.4	36.5
GRU 4M-4	4	1/4	6.35	2.4	14.28	12.70	14.28	13.7	15.3	16.1	17.7	25.4	39.4
GRU 6M-2	6	1/8	3.17	2.4	14.28	14.28	11.11	15.3	12.8	17.7	15.2	24.6	38.5
GRU 6M-4	6	1/4	6.35	4.8	14.28	14.28	14.28	15.3	15.8	17.7	17.7	26.2	41.0
GRU 6M-5	6	5/16	7.93	4.8	14.28	14.28	15.87	15.3	16.2	17.7	18.6	27.4	42.3
GRU 8M-4	8	1/4	6.35	4.8	14.28	15.87	14.28	16.2	15.3	18.6	17.7	27.4	42.3
GRU 10M-2	10	1/8	3.17	2.4	17.46	19.05	11.11	17.2	12.8	19.5	15.2	27.4	41.8
GRU 10M-4	10	1/4	6.35	4.8	17.46	19.05	14.28	17.2	15.3	19.5	17.7	29.5	44.5
GRU 10M-5	10	5/16	7.93	6.4	17.46	19.05	15.87	17.2	16.2	19.5	18.6	30.3	45.1
GRU 10M-6	10	3/8	9.52	7.1	17.46	19.05	17.46	17.2	16.9	19.5	18.6	31.0	45.9
GRU 12M-5	12	5/16	7.93	6.4	20.63	22.22	15.87	22.8	16.2	22.0	18.6	30.2	47.8
GRU 12M-6	12	3/8	9.52	7.1	20.63	22.22	17.46	22.8	16.9	22.0	19.2	31.0	48.4
GRU 12M-8	12	1/2	12.70	9.5	20.63	22.22	22.22	22.8	22.8	22.0	22.0	31.0	51.2
GRU 15M-8	15	1/2	12.70	10.3	23.81	25.40	22.22	24.4	22.8	22.0	22.0	31.8	52.0
GRU 16M-10	16	5/8	15.87	12.7	23.81	25.40	25.40	24.4	24.4	22.0	22.0	31.8	52.0
GRU 18M-12	18	3/4	19.05	15.1	26.98	30.16	28.57	24.4	24.4	22.0	22.0	33.3	53.5
GRU 20M-12	20	3/4	19.05	15.9	30.16	31.75	28.57	26.0	24.4	22.0	22.0	34.8	54.9
GRU 20M-16	20	1	25.40	15.9	34.92	31.75	38.10	26.0	31.2	22.0	26.4	38.0	60.3
GRU 22M-16	22	1	25.40	18.3	34.92	31.75	38.10	26.0	31.2	22.0	26.4	38.2	60.3

GBU

Bulkhead Union



Connects fractional tube

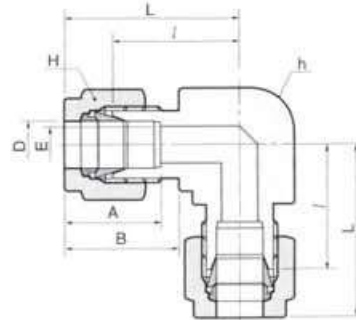
Part No.	Tube O.D. D		E Min.	Width across flat				A	B	l	l ₁	L	L ₁	Panel Hole Drill size	Panel Max Thickness
	in	mm		h	H	in	mm								
GBU-1	1/16	1.59	1.27	5/6	7.93	5/16	7.93	8.63	10.92	23.87	13.46	31.50	17.27	5.2	3.05
GBU-2	1/8	3.17	2.28	1/2	12.70	7/16	11.11	12.70	15.24	38.10	24.63	51.30	31.24	8.3	12.70
GBU-3	3/16	4.76	3.04	9/6	14.28	1/2	12.70	13.71	16.00	40.38	25.40	53.59	32.00	9.9	12.70
GBU-4	1/4	6.35	4.82	5/8	15.87	9/16	14.28	15.24	17.78	42.92	26.16	57.65	33.52	11.5	10.16
GBU-5	5/16	7.93	6.35	11/16	17.46	5/8	15.87	16.25	18.54	45.97	28.44	60.70	35.81	13.1	11.17
GBU-6	3/8	9.52	7.11	3/4	19.05	11/16	17.46	16.76	19.30	47.49	29.46	62.23	36.83	14.7	11.17
GBU-8	1/2	12.70	10.41	15/16	23.81	7/8	22.22	22.86	21.84	50.80	31.75	71.12	41.91	19.4	12.70
GBU-10	5/8	15.87	12.70	1-1/16	26.98	1	25.40	24.38	21.84	52.32	32.51	72.64	42.67	22.6	12.70
GBU-12	3/4	19.05	15.74	1-3/16	30.16	1-1/8	28.58	24.38	21.84	58.67	37.33	78.99	47.49	25.8	16.76
GBU-14	7/8	22.22	18.28	1-3/8	34.92	1-1/4	31.75	25.90	21.84	64.26	42.92	84.58	53.08	29.0	19.05
GBU-16	1	25.40	22.35	1-5/8	41.27	1-1/2	38.10	31.24	26.41	71.37	45.21	95.75	57.40	33.7	19.05
GBU-20	1-1/4	31.75	27.68	1-7/8	47.63	1-7/8	47.63	41.14	38.86	78.99	47.75	123.19	69.85	41.2	19.05
GBU-24	1-1/2	38.10	34.03	2-1/4	57.15	2-1/4	57.15	50.03	45.21	84.83	49.27	139.19	76.45	49.6	19.05
GBU-32	2	50.80	45.97	2-3/4	69.85	3	76.20	67.56	62.73	105.66	56.38	180.34	93.72	57.9	19.05

Connects metric tube to

Part No.	Tube O.D. D	E Min	Width across flat		A	B	l	l ₁	L	L ₁	Panel Hole Drill size	Panel Max Thickness
			h	H								
GBU-3M	3	2.4	14.28	11.11	12.9	15.3	38.1	24.6	51.3	31.2	8.3	12.7
GBU-4M	4	2.4	14.28	12.70	13.7	16.1	40.4	25.4	53.6	32.0	9.9	12.7
GBU-6M	6	4.8	15.87	14.28	15.3	17.7	42.9	26.2	57.7	33.6	11.5	10.2
GBU-8M	8	6.4	17.46	15.87	16.2	18.6	46.0	28.6	61.0	36.1	13.1	11.2
GBU-10M	10	7.9	22.22	19.05	17.2	19.5	48.5	29.4	63.7	37.0	16.2	11.2
GBU-12M	12	9.5	23.81	22.22	22.8	22.0	50.8	31.8	71.0	41.9	19.5	12.7
GBU-15M	15	11.9	26.98	25.40	24.4	22.0	52.3	32.5	72.5	42.6	22.8	12.7
GBU-16M	16	12.7	26.98	25.40	24.4	22.0	52.3	32.5	72.5	42.6	22.8	12.7
GBU-18M	18	15.1	30.16	30.16	24.4	22.0	58.7	37.3	78.9	47.4	26.0	16.8
GBU-20M	20	15.9	34.92	31.75	26.0	22.0	64.3	42.9	84.5	53.0	29.0	17.0
GBU-22M	22	18.3	34.92	31.75	26.0	22.0	64.3	42.9	84.5	53.0	29.0	19.1
GBU-25M	25	21.8	41.27	38.10	31.3	26.5	71.4	45.2	95.9	57.5	33.7	19.1
GBU-30M	30	26.0	49.21	49.21	39.6	39.2	80.5	48.6	123.7	69.8	40.0	20.0
GBU-32M	32	28.6	49.21	49.21	42.0	41.6	82.3	49.2	128.3	72.5	42.5	20.0
GBU-38M	38	33.7	60.32	60.32	49.4	47.9	89.4	51.5	144.6	79.1	50.5	20.0

GUE

Union Elbow



Connects fractional tube

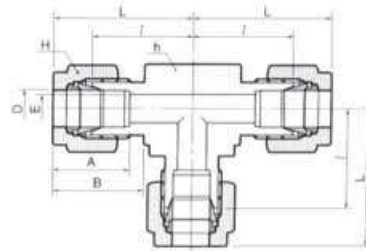
Part No.	Tube O.D. D		E Min.	Width across flat				A	B	ℓ	L
	in	mm		h		H					
				in	mm	in	mm				
GUE-1	1/16	1.59	1.27	3/8	9.52	5/16	7.93	8.63	10.92	14.00	17.88
GUE-2	1/8	3.17	2.28	3/8	9.52	7/16	11.11	12.70	15.24	15.74	22.35
GUE-3	3/16	4.76	3.04	1/2	12.70	1/2	12.70	13.71	16.00	17.78	24.38
GUE-4	1/4	6.35	4.82	1/2	12.70	9/16	14.28	15.24	17.78	19.55	26.92
GUE-5	5/16	7.93	6.35	9/16	14.28	5/8	15.87	16.25	18.54	21.33	28.70
GUE-6	3/8	9.52	7.11	5/8	15.87	11/16	17.46	16.76	19.30	23.11	30.48
GUE-8	1/2	12.70	10.41	13/16	20.63	7/8	22.22	22.86	21.84	25.90	36.06
GUE-10	5/8	15.87	12.70	15/16	23.81	1	25.40	24.38	21.84	28.70	38.80
GUE-12	3/4	19.05	15.74	1-1/16	26.98	1-1/8	28.57	24.38	21.84	29.71	39.87
GUE-14	7/8	22.22	18.28	1-1/4	31.75	1-1/4	31.75	25.90	21.84	34.54	44.70
GUE-16	1	25.40	22.35	1-3/8	34.92	1-1/2	38.10	31.24	26.41	36.83	49.02
GUE-20	1-1/4	31.75	27.68	1-11/16	42.86	1-7/8	47.63	41.14	38.86	44.50	66.54
GUE-24	1-1/2	38.10	34.03	2	50.80	2-1/4	57.15	50.03	45.21	50.80	77.97
GUE-32	2	50.80	45.97	2-3/4	69.85	3	76.20	67.56	62.73	69.80	107.18

Connects metric tube

Part No.	Tube O.D. D(mm)	E Min	Width across flat		A	B	ℓ	L
			h	H				
GUE-2M	2	1.7	9.52	11.11	12.9	15.3	15.7	22.3
GUE-3M	3	2.4	9.52	11.11	12.9	15.3	15.7	22.3
GUE-4M	4	2.4	12.70	12.70	13.7	16.1	18.8	25.4
GUE-6M	6	4.8	12.70	14.28	15.3	17.7	19.6	27.0
GUE-8M	8	6.4	14.28	15.87	16.2	18.6	21.3	28.8
GUE-10M	10	7.9	17.46	19.05	17.2	19.5	23.9	31.5
GUE-12M	12	9.5	20.63	22.22	22.8	22.0	25.9	36.0
GUE-15M	15	11.9	25.40	25.40	24.4	22.0	28.7	38.8
GUE-16M	16	12.7	25.40	25.40	24.4	22.0	28.7	38.8
GUE-18M	18	15.1	26.98	30.16	24.4	22.0	29.7	39.8
GUE-20M	20	15.9	31.75	31.75	26.0	22.0	32.5	42.6
GUE-22M	22	18.3	31.75	31.75	26.0	22.0	32.5	42.6
GUE-25M	25	21.8	34.92	38.10	31.3	26.5	36.8	49.1
GUE-28M	28	21.8	41.27	46.04	36.6	36.6	43.2	64.0
GUE-30M	30	26.0	46.04	49.21	39.6	39.2	48.3	69.9
GUE-32M	32	28.6	46.04	49.21	42.0	41.6	49.3	72.3
GUE-38M	38	33.7	55.56	60.32	49.4	47.9	56.4	84.0

GUT

Union Tee



Connects fractional tube

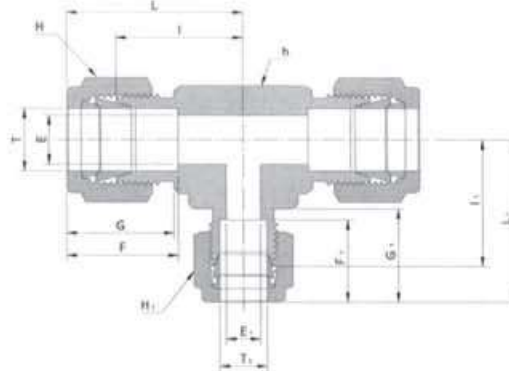
Part No.	Tube O.D. D		E Min.	Width across flat				A	B	ℓ	L
	in	mm		h		H					
				in	mm	in	mm				
GUT-1	1/16	1.59	1.27	3/8	9.52	5/16	7.93	8.63	10.92	14.00	17.88
GUT-2	1/8	3.17	2.28	3/8	9.52	7/16	11.11	12.70	15.24	15.74	22.35
GUT-3	3/16	4.76	3.04	1/2	12.70	1/2	12.70	13.71	16.00	17.78	24.38
GUT-4	1/4	6.35	4.82	1/2	12.70	9/16	14.28	15.24	17.78	19.55	26.92
GUT-5	5/16	7.93	6.35	9/16	14.28	5/8	15.87	16.25	18.54	21.33	28.70
GUT-6	3/8	9.52	7.11	5/8	15.87	11/16	17.46	16.76	19.30	23.11	30.48
GUT-8	1/2	12.70	10.41	13/16	20.63	7/8	22.22	22.86	21.84	25.90	36.06
GUT-10	5/8	15.87	12.70	15/16	23.81	1	25.40	24.38	21.84	28.70	38.80
GUT-12	3/4	19.05	15.74	1-1/16	26.98	1-1/8	28.57	24.38	21.84	29.71	39.87
GUT-14	7/8	22.22	18.28	1-1/4	31.75	1-1/4	31.75	25.90	21.84	34.54	44.70
GUT-16	1	25.40	22.35	1-3/8	34.92	1-1/2	38.10	31.24	26.41	36.83	49.02
GUT-20	1-1/4	31.75	27.68	1-11/16	42.86	1-7/8	47.63	41.14	38.86	44.50	66.54
GUT-24	1-1/2	38.10	34.03	2	50.80	2-1/4	57.15	50.03	45.21	50.80	77.97
GUT-32	2	50.80	45.97	2-3/4	69.85	3	76.20	67.56	62.73	69.80	107.18

Connects metric tube

Part No.	Tube O.D. D(mm)	E Min	Width across flat		A	B	ℓ	L
			h	H				
GUT-2M	2	1.7	9.52	11.11	12.9	15.3	15.7	22.3
GUT-3M	3	2.4	9.52	11.11	12.9	15.3	15.7	22.3
GUT-4M	4	2.4	12.70	12.07	13.7	16.1	18.8	25.4
GUT-6M	6	4.8	12.70	14.28	15.3	17.7	19.6	27.0
GUT-8M	8	6.4	14.28	15.87	16.2	18.6	21.3	28.8
GUT-10M	10	7.9	17.46	19.05	17.2	19.5	23.9	31.5
GUT-12M	12	9.5	20.63	22.22	22.8	22.0	25.9	36.0
GUT-15M	15	11.9	25.40	25.04	24.4	22.0	28.7	38.8
GUT-16M	16	12.7	25.40	25.04	24.4	22.0	28.7	38.8
GUT-18M	18	15.1	26.98	30.16	24.4	22.0	29.7	39.8
GUT-20M	20	15.9	31.75	31.75	26.0	22.0	32.5	42.6
GUT-22M	22	18.3	31.75	31.75	26.0	22.0	32.5	42.6
GUT-25M	25	21.8	34.92	38.10	31.3	26.5	36.8	49.1
GUT-28M	28	21.8	41.27	46.04	36.6	36.6	43.2	64.0
GUT-30M	30	26.0	46.04	49.21	39.6	39.2	48.3	69.9
GUT-32M	32	28.6	46.04	49.21	42.0	41.6	49.3	72.3
GUT-38M	38	33.7	55.56	60.32	49.4	47.9	56.4	84.0

GRBT

Reducing Union Branch Tee

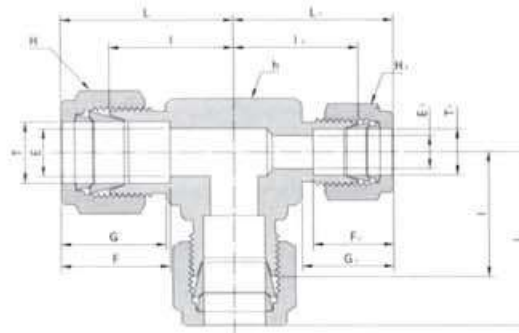


Connects fractional tube

Part No.	Tube O.D. Straight				E Min.	Width across flat						F	F1	G	G1	l	l1	L	L1
	T		T1			h		H		H1									
	in	mm	in	mm		in	mm	in	mm	in	mm								
GRBT 6-4	3/8	9.52	1/4	6.35	4.8	5/8	15.87	11/16	17.46	9/16	14.28	16.8	15.2	19.3	17.8	21.3	19.7	30.5	27.3
GRBT 8-4	1/2	12.70	1/4	6.35	4.8	13/16	20.63	13/16	20.63	9/16	14.28	22.9	15.2	21.8	17.8	25.9	24.3	36.1	31.9
GRBT 8-6	1/2	12.70	3/8	9.52	7.0	13/16	20.63	13/16	20.63	11/16	17.46	22.9	16.8	21.8	19.3	25.9	25.9	36.1	33.4
GRBT 10-6	5/8	15.87	3/8	9.52	7.0	1	25.40	1	25.40	11/16	17.46	24.4	16.8	21.8	19.3	28.7	28.7	38.9	36.2
GRBT 12-6	3/4	19.05	3/8	9.52	7.0	1-1/16	26.98	1-1/8	28.57	11/16	17.46	24.4	16.8	21.8	19.3	29.7	29.7	38.9	37.2
GRBT 12-8	3/4	19.05	1/2	12.70	10.0	1-1/16	26.98	1-1/8	28.57	7/8	22.22	24.4	22.9	21.8	21.8	29.7	29.7	38.9	39.7
GRBT 16-6	1	25.40	3/8	9.52	7.0	1-3/8	34.92	1-1/2	38.10	11/16	17.46	31.2	16.8	26.4	19.3	36.8	34.6	49.0	42.1
GRBT 16-8	1	25.40	1/2	12.70	10.0	1-3/8	34.92	1-1/2	38.10	7/8	22.22	31.2	22.9	26.4	21.8	36.8	34.6	49.0	44.6
GRBT 16-12	1	25.40	3/4	19.05	16.0	1-3/8	34.92	1-1/2	38.10	1-1/8	28.57	31.2	24.4	26.4	21.8	36.8	34.6	49.0	44.6

GRRT

Reducing Union Run Tee

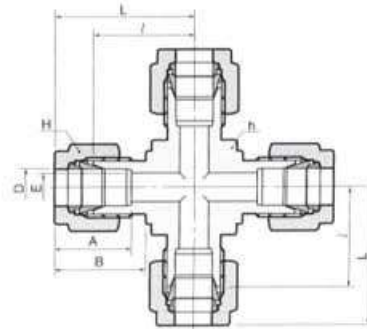


Connects fractional tube

Part No.	Tube O.D. Straight				E Min.	Width across flat						F	F1	G	G1	l	l1	L	L1
	T		T			h		H		H1									
	in	mm	in	mm		in	mm	in	mm	in	mm								
GRRT 6-4	3/8	9.52	1/4	6.35	4.8	5/8	15.87	11/16	17.46	9/16	14.28	16.8	15.2	19.3	17.8	21.3	19.7	30.5	27.3
GRRT 8-4	1/2	12.70	1/4	6.35	4.8	13/16	20.63	13/16	20.63	9/16	14.28	22.9	15.2	21.8	17.8	25.9	24.3	36.1	31.9
GRRT 8-6	1/2	12.70	3/8	9.52	7.0	13/16	20.63	13/16	20.63	11/16	17.46	22.9	16.8	21.8	19.3	25.9	25.9	36.1	33.4
GRRT 10-6	5/8	15.87	3/8	9.52	7.0	1	25.40	1	25.40	11/16	17.46	24.4	16.8	21.8	19.3	28.7	28.7	38.9	36.2
GRRT 12-6	3/4	19.05	3/8	9.52	7.0	1-1/16	26.98	1-1/8	28.57	11/16	17.46	24.4	16.8	21.8	19.3	29.7	29.7	38.9	37.2
GRRT 12-8	3/4	19.05	1/2	12.70	10.0	1-1/16	26.98	1-1/8	28.57	7/8	22.22	24.4	22.9	21.8	21.8	29.7	29.7	38.9	39.7
GRRT 16-6	1	25.40	3/8	9.52	7.0	1-3/8	34.92	1-1/2	38.10	11/16	17.46	31.2	16.8	26.4	19.3	36.8	34.6	49.0	42.1
GRRT 16-8	1	25.40	1/2	12.70	10.0	1-3/8	34.92	1-1/2	38.10	7/8	22.22	31.2	22.9	26.4	21.8	36.8	34.6	49.0	44.6
GRRT 16-12	1	25.40	3/4	19.05	16.0	1-3/8	34.92	1-1/2	38.10	1-1/8	28.57	31.2	24.4	26.4	21.8	36.8	34.6	49.0	44.6

GUC

Union Cross



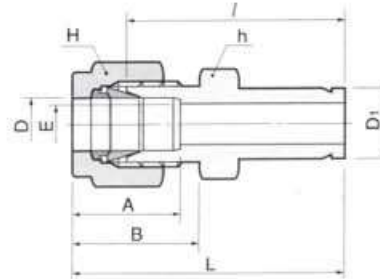
Connects fractional tube

Part No.	Tube O.D.		E Min.	Width across flat				A	B	ℓ	L
	D			h		H					
	in	mm		in	mm	in	mm				
GUC-1	1/16	1.59	1.27	3/8	9.52	5/16	7.93	8.63	10.92	14.00	17.88
GUC-2	1/8	3.17	2.28	3/8	9.52	7/16	11.11	12.70	15.24	15.74	22.35
GUC-3	3/16	4.76	3.04	1/2	12.70	1/2	12.70	13.71	16.00	17.78	24.38
GUC-4	1/4	6.35	4.82	1/2	12.70	9/16	14.28	15.24	17.78	19.55	26.92
GUC-5	5/16	7.93	6.35	9/16	14.28	5/8	15.87	16.25	18.54	21.33	28.70
GUC-6	3/8	9.52	7.11	5/8	15.87	11/16	17.46	16.76	19.30	23.11	30.48
GUC-8	1/2	12.70	10.41	13/16	20.63	7/8	22.22	22.86	21.84	25.90	36.06
GUC-10	5/8	15.87	12.70	15/16	23.81	1	25.40	24.38	21.84	28.70	38.80
GUC-12	3/4	19.05	15.74	1-1/16	26.98	1-1/8	28.57	24.38	21.84	29.71	39.87
GUC-14	7/8	22.22	18.28	1-1/4	31.75	1-1/4	31.75	25.90	21.84	34.54	44.70
GUC-16	1	25.40	22.35	1-3/8	34.92	1-1/2	38.10	31.24	26.41	36.83	49.02
GUC-20	1-1/4	31.75	27.68	1-11/16	42.86	1-7/8	47.63	41.14	38.86	44.50	77.97
GUC-24	1-1/2	38.10	34.03	2	50.80	2-1/4	57.15	50.03	45.21	50.80	77.98
GUC-32	2	50.80	45.97	2-3/4	69.85	3	76.20	67.56	62.73	69.80	107.18

Connects metric tube

Part No.	Tube O.D. D(mm)	E Min	Width across flat		A	B	ℓ	L
			h	H				
GUC-3M	3	2.4	9.52	11.11	12.9	15.3	15.7	22.3
GUC-4M	4	2.4	12.70	12.70	13.7	16.1	18.8	25.4
GUC-6M	6	4.8	12.70	14.28	15.3	17.7	19.6	27.0
GUC-8M	8	6.4	14.28	15.87	16.2	18.6	21.3	28.8
GUC-10M	10	7.9	17.46	19.05	17.2	19.5	23.9	31.5
GUC-12M	12	9.5	20.63	22.22	22.8	22.0	25.9	36.0
GUC-15M	15	11.9	25.40	25.40	24.4	22.0	28.7	38.8
GUC-16M	16	12.7	25.40	25.40	24.4	22.0	28.7	38.8
GUC-18M	18	15.1	26.98	30.16	24.4	22.0	29.7	39.8
GUC-20M	20	15.9	31.75	31.75	26.0	22.0	32.5	42.6
GUC-22M	22	18.3	31.75	31.75	26.0	22.0	32.5	42.6
GUC-25M	25	21.8	34.92	38.10	31.3	26.5	36.8	49.1
GUC-28M	28	21.8	41.27	46.04	36.6	36.6	43.2	64.0
GUC-30M	30	26.0	46.04	49.21	39.6	39.2	48.3	69.9
GUC-32M	32	28.6	46.04	49.21	42.0	41.6	49.3	72.3
GUC-38M	38	33.7	55.56	60.32	49.4	47.9	56.4	84.0

GR Reducer



Connects fractional tube to fractional SG-Lok port

Part No.	Tube O.D.				E Min.	Width across flat				A	B	Ø	L
	D		D1			h		H					
	in.	mm	in.	mm		in.	mm	in.	mm				
GR 1-2	1/16	1.59	1/8	3.17	1.27	5/16	7.93	5/16	7.93	8.63	10.92	25.40	29.21
GR 1-4	1/16	1.59	1/4	6.35	1.27	5/16	7.93	5/16	7.93	8.63	10.92	27.68	31.49
GR 2-1	1/8	3.17	1/16	1.59	1.76	7/16	11.11	7/16	11.11	12.70	15.24	22.35	28.95
GR 2-2	1/8	3.17	1/8	3.17	2.03	7/16	11.11	7/16	11.11	12.70	15.24	26.92	33.52
GR 2-3	1/8	3.17	3/16	4.76	2.28	7/16	11.11	7/16	11.11	12.70	15.24	27.68	34.29
GR 2-4	1/8	3.17	1/4	6.35	2.28	7/16	11.11	7/16	11.11	12.70	15.24	29.46	36.06
GR 2-6	1/8	3.17	3/8	9.52	2.28	7/16	11.11	7/16	11.11	12.70	15.24	30.98	37.59
GR 2-8	1/8	3.17	1/2	12.70	2.28	9/16	14.28	7/16	11.11	12.70	15.24	37.59	44.19
GR 3-2	3/16	4.76	1/8	3.17	2.03	7/16	11.11	1/2	12.70	13.71	16.00	28.19	34.79
GR 3-4	3/16	4.76	1/4	6.35	3.04	7/16	11.11	1/2	12.70	13.71	16.00	30.48	37.08
GR 4-2	1/4	6.35	1/8	3.17	2.03	1/2	12.70	9/16	14.28	15.24	17.78	29.46	36.83
GR 4-3	1/4	6.35	3/16	4.76	3.04	1/2	12.70	9/16	14.28	15.24	17.78	30.22	37.59
GR 4-4	1/4	6.35	1/4	6.35	4.82	1/2	12.70	9/16	14.28	15.24	17.78	31.75	39.11
GR 4-5	1/4	6.35	5/16	7.93	4.82	1/2	12.70	9/16	14.28	15.24	17.78	32.51	39.87
GR 4-6	1/4	6.35	3/8	9.52	4.82	1/2	12.70	9/16	14.28	15.24	17.78	33.27	40.64
GR 4-8	1/4	6.35	1/2	12.70	4.82	9/16	14.28	9/16	14.28	15.24	17.78	38.86	46.22
GR 4-10	1/4	6.35	5/8	15.87	4.82	11/16	17.46	9/16	14.28	15.24	17.78	40.64	48.00
GR 4-12	1/4	6.35	3/4	19.05	4.82	13/16	20.63	9/16	14.28	15.24	17.78	40.38	47.75
GR 5-6	5/16	7.93	3/8	9.52	6.35	9/16	14.28	5/8	15.87	16.25	18.54	34.54	41.91
GR 5-8	5/16	7.93	1/2	12.70	6.35	9/16	14.28	5/8	15.87	16.25	18.54	40.13	47.49
GR 6-4	3/8	9.52	1/4	6.35	4.82	5/8	15.87	11/16	17.46	16.76	19.30	34.03	41.40
GR 6-6	3/8	9.52	3/8	9.52	7.11	5/8	15.87	11/16	17.46	16.76	19.30	35.81	43.18
GR 6-8	3/8	9.52	1/2	12.70	7.11	5/8	15.87	11/16	17.46	16.76	19.30	41.14	48.51
GR 6-10	3/8	9.52	5/8	15.87	7.11	11/16	17.46	11/16	17.46	16.76	19.30	42.92	50.29
GR 6-12	3/8	9.52	3/4	19.05	7.11	13/16	20.63	11/16	17.46	16.76	19.30	42.92	50.29
GR 8-4	1/2	12.70	1/4	6.35	4.82	13/16	20.63	7/8	22.22	22.86	21.84	34.79	44.95
GR 8-6	1/2	12.70	3/8	9.52	7.11	13/16	20.63	7/8	22.22	22.86	21.84	36.57	46.73
GR 8-8	1/2	12.70	1/2	12.70	9.90	13/16	20.63	7/8	22.22	22.86	21.84	42.16	52.32
GR 8-10	1/2	12.70	5/8	15.87	10.41	13/16	20.63	7/8	22.22	22.86	21.84	43.68	53.84
GR 8-12	1/2	12.70	3/4	19.05	10.41	16/16	20.63	7/8	22.22	22.86	21.84	43.68	53.84
GR 8-16	1/2	12.70	1	25.40	10.41	1-1/16	26.98	7/8	22.22	22.86	21.84	50.03	60.19
GR 10-12	5/8	15.87	3/4	19.05	12.70	15/16	23.81	1	25.40	24.38	21.84	44.45	54.61
GR 10-14	5/8	15.87	7/8	22.22	12.70	15/16	23.81	1	25.40	24.38	21.84	45.97	56.13
GR 10-16	5/8	15.87	1	25.40	12.70	1-1/16	26.98	1	25.40	24.38	21.84	50.80	60.96
GR 12-8	3/4	19.05	1/2	12.70	9.90	1-1/16	26.98	1-1/8	28.57	24.38	21.84	44.45	54.61
GR 12-16	3/4	19.05	1	25.40	15.74	1-1/16	26.98	1-1/8	28.57	24.38	21.84	52.32	62.48
GR 16-20	1	25.40	1-1/4	31.75	22.35	1-3/8	34.92	1-1/2	38.10	31.24	26.41	68.32	80.51
GR 16-24	1	25.40	1-1/2	38.10	22.35	1-5/8	41.27	1-1/2	38.10	31.24	26.41	76.96	89.15
GR 16-32	1	25.40	2	50.80	22.35	2-1/8	53.98	1-1/2	38.10	31.24	26.41	100.33	112.52
GR 20-24	1-1/4	31.75	1-1/2	38.10	27.68	1-7/8	47.63	2-1/4	57.15	41.14	38.86	82.04	104.14
GR 20-32	1-1/4	31.75	2	50.80	27.68	1-7/8	47.63	3	76.20	41.14	38.86	103.12	125.22
GR 24-32	1-1/2	38.10	2	50.80	34.03	2-1/4	57.15	3	76.20	50.03	45.21	104.14	131.31

Connects metric tube to fractional SG-Lok port

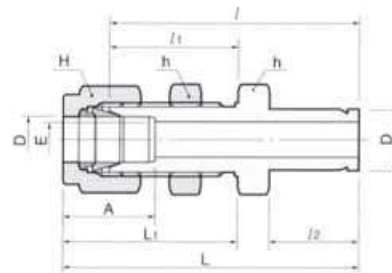
Part No.	Tube O.D.			E Min	Width across flat		A	B	ℓ	L
	D(mm)	D ₁			h	H				
		in	mm							
GR 2M-2	2	1/8	3.17	1.7	12.70	11.11	12.9	15.3	26.9	33.5
GR 3M-2	3	1/8	3.17	1.7	12.70	11.11	12.9	15.3	26.9	33.5
GR 3M-4	3	1/4	6.35	2.4	12.70	11.11	12.9	15.3	29.5	36.1
GR 4M-4	4	1/4	6.35	2.4	12.70	12.70	13.7	16.1	30.5	37.1
GR 6M-2	6	1/8	3.17	2.0	14.28	14.28	15.3	17.7	29.5	36.9
GR 6M-4	6	1/4	6.35	4.8	14.28	14.28	15.3	17.7	31.8	39.2
GR 6M-5	6	5/16	7.93	4.8	14.28	14.28	15.3	17.7	32.5	39.9
GR 6M-6	6	3/8	9.52	4.8	14.28	14.28	15.3	17.7	33.3	40.7
GR 6M-8	6	1/2	12.70	4.8	14.28	14.28	15.3	17.7	38.9	46.3
GR 8M-6	8	3/8	9.52	6.4	15.87	15.87	16.2	18.6	34.5	42.0
GR 8M-8	8	1/2	12.70	6.4	15.87	15.87	16.2	18.6	40.1	47.6
GR 10M-6	10	3/8	9.52	7.1	17.46	19.05	17.2	19.5	36.6	44.2
GR 10M-8	10	1/2	12.70	7.9	17.46	19.05	17.2	19.5	42.2	49.8
GR 12M-8	12	1/2	12.70	9.5	22.22	22.22	22.8	22.0	42.2	52.3
GR 12M-12	12	3/4	19.05	9.5	22.22	22.22	22.8	22.0	43.7	53.8
GR 18M-12	18	3/4	19.05	15.1	26.98	30.16	24.4	22.0	46.0	56.1
GR 18M-16	18	1	25.40	15.1	26.98	30.16	24.4	22.0	52.3	62.4
GR 25M-16	25	1	25.40	20.2	34.92	38.10	31.3	26.5	57.2	69.5

Connects metric tube to metric SG-Lok port

Part No.	Tube O.D.			E Min	Width across flat		A	B	ℓ	L
	D(mm)	D ₁ (mm)			h	H				
GR 2M-3M	2	3	3	1.7	12.70	11.11	12.9	15.3	26.9	35.3
GR 3M-4M	3	4	4	2.4	12.70	11.11	12.9	15.3	28.4	35.0
GR 3M-6M	3	6	6	2.4	12.70	11.11	12.9	15.3	29.5	36.1
GR 3M-10M	3	10	10	2.4	12.70	11.11	12.9	15.3	31.8	38.4
GR 4M-6M	4	6	6	2.4	12.70	12.70	13.7	16.1	30.5	37.1
GR 6M-3M	6	3	3	1.8	14.28	14.28	15.3	17.7	29.5	36.9
GR 6M-8M	6	8	8	4.8	14.28	14.28	15.3	17.7	32.5	39.9
GR 6M-10M	6	10	10	4.8	14.28	14.28	15.3	17.7	33.3	40.7
GR 6M-12M	6	12	12	4.8	14.28	14.28	15.3	17.7	38.9	46.3
GR 8M-6M	8	6	6	4.6	15.87	15.87	16.2	18.6	32.8	40.3
GR 8M-10M	8	10	10	6.4	15.87	15.87	16.2	18.6	34.5	42.0
GR 8M-12M	8	12	12	6.4	15.87	15.87	16.2	18.6	40.1	47.6
GR 10M-6M	10	6	6	4.6	17.46	19.05	17.2	19.5	34.8	42.4
GR 10M-12M	10	12	12	7.9	17.46	19.05	17.2	19.5	42.2	49.8
GR 10M-15M	10	15	15	7.9	17.46	19.05	17.2	19.5	43.7	51.3
GR 10M-18M	10	18	18	7.9	19.05	19.05	17.2	19.5	43.7	51.3
GR 12M-6M	12	6	6	4.6	22.22	22.22	22.8	22.0	34.8	44.9
GR 12M-10M	12	10	10	7.7	22.22	22.22	22.8	22.0	36.6	46.7
GR 12M-16M	12	16	16	9.5	22.22	22.22	22.8	22.0	43.7	53.8
GR 12M-18M	12	18	18	9.5	22.22	22.22	22.8	22.0	43.7	53.8
GR 12M-20M	12	20	20	9.5	22.22	22.22	22.8	22.0	46.0	56.1
GR 12M-22M	12	22	22	9.5	23.81	22.22	22.8	22.0	46.0	56.1
GR 12M-25M	12	25	25	9.5	26.98	22.22	22.8	22.0	52.3	62.4
GR 16M-12M	16	12	12	9.1	23.81	25.40	24.4	22.0	42.9	53.0
GR 18M-12M	18	12	12	9.1	26.98	30.16	24.4	22.0	44.5	54.6
GR 18M-16M	18	16	16	12.7	26.98	30.16	24.4	22.0	46.0	56.1
GR 18M-20M	18	20	20	15.1	26.98	30.16	24.4	22.0	47.5	57.6
GR 18M-22M	18	22	22	15.1	26.98	30.16	24.4	22.0	47.5	57.6
GR 18M-25M	18	25	25	15.1	26.98	30.16	24.4	22.0	52.3	62.4
GR 20M-16M	20	16	16	12.7	30.16	31.75	26.0	22.0	47.8	57.9
GR 20M-18M	20	18	18	13.9	30.16	31.75	26.0	22.0	47.8	57.9
GR 20M-22M	20	22	22	15.8	30.16	31.75	26.0	22.0	49.3	59.4
GR 20M-25M	20	25	25	15.8	30.16	31.75	26.0	22.0	54.1	64.2
GR 22M-18M	22	18	18	13.9	30.16	31.75	26.0	22.0	47.8	57.9
GR 22M-20M	22	20	20	15.1	30.16	31.75	26.0	22.0	49.3	59.4
GR 22M-25M	22	25	25	18.3	30.16	31.75	26.0	22.0	54.1	64.2
GR 25M-18M	25	18	18	13.9	34.92	38.10	31.3	26.5	50.8	63.1
GR 25M-20M	25	20	20	15.1	34.92	38.10	31.3	26.5	52.3	64.6

GBR

Bulkhead Reducer



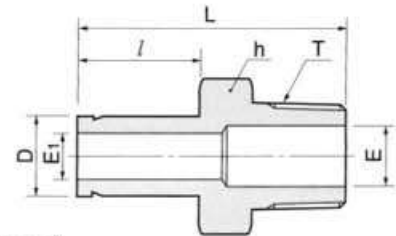
Connects fractional tube to fractional SG-Lok port

Part No.	Tube O.D. D		E Min.	Width across flat				A	ℓ	ℓ ₁	ℓ ₂	L	L ₁	Panel Hole Drill size	Panel Max Thickness
	in	mm		h	H	in	mm								
GBR 2-2	1/8	3.17	2.03	1/2	12.70	7/16	11.11	12.70	42.92	24.63	13.45	49.53	31.24	8.3	12.70
GBR 4-4	1/4	6.35	4.82	5/8	15.87	9/16	14.28	15.24	48.51	26.16	15.74	55.88	33.52	11.5	10.16
GBR 6-6	3/8	9.52	7.11	3/4	19.05	11/16	17.46	16.76	53.84	29.46	17.50	61.21	36.83	14.7	11.17
GBR 8-8	1/2	12.70	10.41	15/16	23.81	7/8	22.22	22.86	62.73	31.75	23.11	72.89	41.91	19.4	12.70
GBR 10-10	5/8	15.87	12.70	1-1/16	26.98	1	25.40	24.38	65.02	32.51	24.70	75.18	42.67	22.6	12.70
GBR 16-16	1	25.40	20.32	1-5/8	41.28	1-1/2	38.10	31.24	88.13	45.21	31.70	100.33	57.40	33.7	19.05
GBR 20-20	1-1/4	31.75	27.68	1-7/8	47.63	1-7/8	47.63	41.14	102.07	47.75	40.00	124.17	69.85	41.7	19.05
GBR 24-24	1-1/2	38.10	34.03	2-1/4	57.15	2-1/4	57.15	50.03	118.33	49.27	51.50	145.51	76.45	49.6	19.05
GBR 32-32	2	50.80	45.97	2-3/4	69.85	3	76.20	67.56	148.79	56.38	68.40	185.82	93.71	57.9	19.05

Connects metric tube to metric SG-Lok port

Part No.	Tube O.D. D	E Min	Width across flat		A	ℓ	ℓ ₁	ℓ ₂	L	L ₁	Panel Hole Drill size	Panel Max Thickness
	mm		h	H								
GBR 3M-3M	3	2.0	12.70	11.11	12.9	43.0	24.6	13.5	49.7	31.2	8.3	12.7
GBR 6M-6M	6	4.8	15.87	14.28	15.3	48.5	26.2	15.9	55.9	33.6	11.5	10.2
GBR 8M-8M	8	6.4	17.46	15.87	16.2	53.1	28.6	16.7	59.1	36.1	13.1	11.2
GBR 12M-12M	12	9.5	23.81	22.22	22.8	62.7	31.8	23.0	72.9	41.9	19.4	12.7

GMA Male Adapter



Connects fractional SG-Lok port to female NPT thread

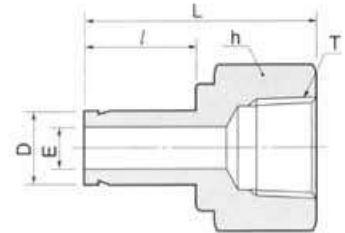
Part No.	Tube O.D. D		T N(NPT)	E Min.	E1	Width across flat h		ℓ	L
	in	mm				in	mm		
GMA 2-2N	1/8	3.17	1/8	4.8	1.77	7/16	11.11	13.45	29.50
GMA 2-4N	1/8	3.17	1/4	7.0	1.77	9/16	14.28	13.45	34.80
GMA 3-2N	3/16	4.76	1/8	4.8	3.04	7/16	11.11	14.20	30.22
GMA 3-4N	3/16	4.76	1/4	7.0	3.04	9/16	14.28	14.20	35.56
GMA 4-2N	1/4	6.35	1/8	4.8	4.57	7/16	11.11	15.75	31.80
GMA 4-4N	1/4	6.35	1/4	7.0	4.57	9/16	14.28	15.75	37.08
GMA 4-6N	1/4	6.35	3/8	10.0	4.57	11/16	17.46	15.75	37.84
GMA 4-8N	1/4	6.35	1/2	12.0	4.57	7/8	22.22	15.75	43.43
GMA 5-2N	5/16	7.93	1/8	4.8	6.35	7/16	11.11	16.80	32.76
GMA 5-4N	5/16	7.93	1/4	7.0	6.35	9/16	14.28	16.80	38.10
GMA 6-2N	3/8	9.52	1/8	4.8	7.11	7/16	11.11	17.50	33.50
GMA 6-4N	3/8	9.52	1/4	7.0	7.11	9/16	14.28	17.50	38.90
GMA 6-6N	3/8	9.52	3/8	10.0	7.11	11/16	17.46	17.50	39.60
GMA 6-8N	3/8	9.52	1/2	12.0	7.11	7/8	22.22	17.50	45.20
GMA 8-4N	1/2	12.70	1/4	7.0	9.90	9/16	14.28	23.20	44.50
GMA 8-6N	1/2	12.70	3/8	10.0	9.90	11/16	17.46	23.20	45.20
GMA 8-8N	1/2	12.70	1/2	12.0	9.90	7/8	22.22	23.20	50.50
GMA 10-6N	5/8	15.87	3/8	10.0	12.70	11/16	17.46	24.70	47.40
GMA 10-8N	5/8	15.87	1/2	12.0	12.70	7/8	22.22	24.70	52.30
GMA 10-12N	5/8	15.87	3/4	18.0	12.70	1-1/16	26.98	24.70	52.30
GMA 12-8N	3/4	19.05	1/2	12.0	14.98	7/8	22.22	24.70	52.30
GMA 12-12N	3/4	19.05	3/4	18.0	14.98	1-1/16	26.98	24.70	52.30
GMA 12-16N	3/4	19.05	1	22.0	14.98	1-3/8	34.92	24.70	57.91
GMA 14-12N	7/8	22.22	3/4	18.0	17.27	1-1/16	26.98	26.70	54.30
GMA 16-12N	1	25.40	3/4	18.0	20.06	1-1/16	26.98	31.70	58.70
GMA 16-16N	1	25.40	1	22.0	20.06	1-3/8	34.92	31.70	66.00
GMA 20-20N	1-1/4	31.75	1-1/4	27.0	-	1-3/4	44.45	40.00	80.26
GMA 24-24N	1-1/2	38.10	1-1/2	33.0	-	2-1/8	53.98	51.50	94.48
GMA 32-32N	2	50.80	2	45.0	-	2-3/4	69.85	68.40	119.38

Connects metric SG-Lok port to female ISO tapered thread

Part No.	Tube O.D. D(mm)	T R(PT)	E Min	E1 Min	Width across flat h	ℓ	L
GMA 3M-2R	3	1/8	4.0	1.8	12	13.15	29.4
GMA 6M-2R	6	1/8	4.8	4.6	12	15.75	32.8
GMA 6M-4R	6	1/4	4.8	4.6	14	15.75	38.1
GMA 8M-4R	8	1/4	6.4	6.3	14	16.50	39.1
GMA 10M-4R	10	1/4	8.0	7.7	14	17.50	39.9
GMA 10M-6R	10	3/8	8.0	7.7	17	17.50	40.6
GMA 10M-8R	10	1/2	12.0	7.07	22	17.50	45.2
GMA 12M-4R	12	1/4	7.0	9.1	14	23.50	46.5
GMA 12M-6R	12	3/8	9.0	9.1	17	23.50	46.5
GMA 12M-8R	12	1/2	12.0	9.1	22	23.50	51.8
GMA 18M-8R	18	1/2	12.0	13.9	22	24.90	53.2
GMA 18M-12R	18	3/4	16.0	13.9	27	24.90	53.2
GMA 28M-16R	28	1	22.0	-	35	31.70	74.7
GMA 28M-20R	28	1-1/4	24.0	-	46	31.70	76.2
GMA 32M-20R	32	1-1/4	27.0	-	46	40.00	81.0
GMA 38M-24R	38	1-1/2	33.0	-	55	51.50	92.2

GFA

Female Adapter



Connects fractional SG-Lok port to male NPT thread

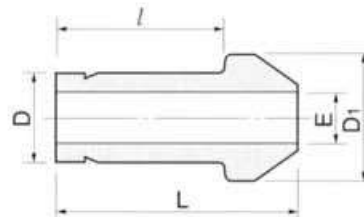
Part No.	Tube O.D.		T N(NPT)	E Min.	Width across flat		ℓ	L
	D				h			
	in	mm			in	mm		
GFA 2-2N	1/8	3.17	1/8	1.8	9/16	14.28	13.45	31.50
GFA 2-4N	1/8	3.17	1/4	1.8	3/4	19.05	13.45	35.30
GFA 3-2N	3/16	4.76	1/8	3.0	9/16	14.28	14.20	32.00
GFA 3-4N	3/16	4.76	1/4	3.0	3/4	19.05	14.20	35.81
GFA 4-2N	1/4	6.35	1/8	4.8	9/16	14.28	15.75	33.02
GFA 4-4N	1/4	6.35	1/4	4.8	3/4	19.05	15.75	37.10
GFA 4-6N	1/4	6.35	3/8	4.8	7/8	22.22	15.75	39.37
GFA 4-8N	1/4	6.35	1/2	4.8	1-1/16	26.98	15.75	45.50
GFA 5-2N	5/16	7.93	1/8	6.4	9/16	14.28	16.80	34.29
GFA 5-4N	5/16	7.93	1/4	6.4	3/4	19.05	16.80	37.59
GFA 6-2N	3/8	9.52	1/8	7.0	9/16	14.28	17.50	34.29
GFA 6-4N	3/8	9.52	1/4	7.0	3/4	19.05	17.50	38.10
GFA 6-6N	3/8	9.52	3/8	7.0	7/8	22.22	17.50	40.38
GFA 6-8N	3/8	9.52	1/2	7.0	1-1/16	26.98	17.50	46.73
GFA 8-4N	1/2	12.70	1/4	10.0	3/4	19.05	23.20	43.43
GFA 8-6N	1/2	12.70	3/8	10.0	7/8	22.22	23.20	45.46
GFA 8-8N	1/2	12.70	1/2	10.0	1-1/16	26.98	23.20	51.80
GFA 10-6N	5/8	15.87	3/8	12.0	7/8	22.22	24.70	48.26
GFA 10-8N	5/8	15.87	1/2	12.0	1-1/16	26.98	24.70	53.84
GFA 10-12N	5/8	15.87	3/4	12.0	1-5/16	33.33	24.70	55.37
GFA 12-8N	3/4	19.05	1/2	15.0	1-1/16	26.98	24.70	52.83
GFA 12-12N	3/4	19.05	3/4	15.0	1-5/16	33.33	24.70	54.86
GFA 12-16N	3/4	19.05	1	15.0	1-5/8	41.27	24.70	58.42
GFA 14-12N	7/8	22.22	3/4	17.0	1-5/16	33.33	26.70	57.15
GFA 16-12N	1	25.40	3/4	20.0	1-5/16	33.33	31.70	60.70
GFA 16-16N	1	25.40	1	20.0	1-5/8	41.27	31.70	64.26
GFA 20-20N	1-1/4	31.75	1-1/4	27.0	2-1/8	53.98	40.00	77.72
GFA 24-24N	1-1/2	38.10	1-1/2	33.0	2-3/8	60.33	51.50	88.90
GFA 32-32N	2	50.80	2	45.0	2-7/8	73.03	68.40	107.44

Connects metric SG-Lok port to male ISO tapered thread

Part No.	Tube O.D. D(mm)	T R(PT)	E Min	Width across flat h	ℓ	L
GFA 3M-2R	3	1/8	1.8	14	13.15	31.15
GFA 6M-2R	6	1/8	4.8	14	15.75	32.50
GFA 8M-4R	8	1/4	4.8	19	15.75	37.10
GFA 8M-4R	8	1/4	6.4	19	16.50	37.60
GFA 10M-4R	10	1/4	6.4	19	17.50	38.10
GFA 10M-6R	10	3/8	8.0	22	17.50	40.10
GFA 10M-8R	10	1/2	8.0	27	17.50	46.50
GFA 12M-4R	12	1/4	9.0	19	23.50	43.70
GFA 12M-6R	12	3/8	9.0	22	23.50	46.00
GFA 12M-8R	12	1/2	9.0	27	23.50	52.30
GFA 18M-12R	18	3/4	14.0	32	24.90	54.80

GPC

Port Connector



Connects two fractional SG-Lok ports

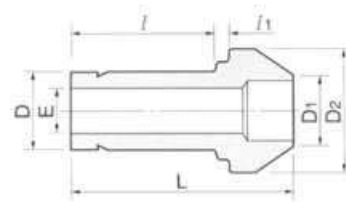
Part No.	Tube O.D. D		E Min.	D ₁	ℓ	L
	in	mm				
GPC-1	1/16	1.59	1.0	3.30	10.66	13.72
GPC-2	1/8	3.17	1.8	6.09	15.75	22.35
GPC-4	1/4	6.35	4.8	9.39	18.79	24.64
GPC-5	5/16	7.93	6.4	10.92	20.06	25.90
GPC-6	3/8	9.52	7.0	12.70	20.32	26.16
GPC-8	1/2	12.70	10.0	15.74	25.90	35.81
GPC-12	3/4	19.05	15.0	22.09	27.68	37.33
GPC-16	1	25.40	20.0	28.44	34.54	48.00

Connects two metric SG-Lok ports

Part No.	Tube O.D. D(mm)	E Min	D ₁	ℓ	L
GPC-3M	3	2.0	6.0	15.70	22.20
GPC-4M	4	2.0	7.0	16.67	25.81
GPC-6M	6	4.8	9.0	18.70	24.60
GPC-8M	8	6.4	11.0	20.00	25.90
GPC-10M	10	8.0	13.1	20.20	26.10
GPC-12M	12	9.0	15.0	26.00	35.80
GPC-15M	15	12.0	19.0	27.78	37.40
GPC-16M	16	12.0	19.0	27.60	37.40
GPC-18M	18	14.0	21.0	27.91	37.40
GPC-20M	20	15.0	23.0	29.20	38.90
GPC-22M	22	18.0	25.0	29.30	39.20
GPC-25M	25	20.0	28.0	34.50	48.00
GPC-28M	28	24.0	34.3	48.30	63.50
GPC-32M	32	27.0	39.5	52.40	69.70
GPC-38M	38	33.0	47.1	61.40	81.90

GRPC

Reducing Port Connector



Connects two fractional SG-Lok ports

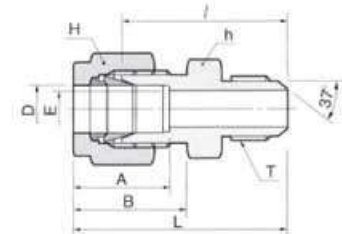
Part No.	Tube O.D.				E Min.	D ₂	ℓ	ℓ ₁	L
	D ₁		D						
	in	mm	in	mm					
GRPC 2-1	1/8	3.17	1/16	1.59	1.0	6.1	8.64	2.03	17.27
GRPC 4-2	1/4	6.35	1/8	3.17	2.3	9.4	13.45	3.30	22.60
GRPC 6-2	3/8	9.52	1/8	3.17	2.3	12.7	13.45	3.81	23.11
GRPC 6-4	3/8	9.52	1/4	6.35	4.8	12.7	15.75	3.30	24.89
GRPC 8-4	1/2	12.70	1/4	6.35	4.8	15.7	15.75	3.81	29.21
GRPC 8-6	1/2	12.70	3/8	9.52	7.0	15.7	17.67	3.30	30.48
GRPC 12-8	3/4	19.05	1/2	12.70	10.0	22.1	23.20	3.81	37.85
GRPC 16-8	1	25.40	1/2	12.70	10.0	28.4	24.47	4.82	42.67
GRPC 16-12	1	25.40	3/4	19.05	15.0	28.4	25.90	4.06	43.43

Connects two metric SG-Lok ports

Part No.	Tube O.D.		E Min	D ₂	ℓ	ℓ ₁	L
	D ₁ (mm)	D ₂ (mm)					
GRPC 6M-3M	6	3	2.3	9.0	13.50	3.2	22.60
GRPC 8M-6M	8	6	4.8	11.0	15.70	3.1	24.70
GRPC 10M-6M	10	6	4.8	13.1	15.70	3.4	25.00
GRPC 10M-8M	10	8	6.4	13.1	16.80	3.1	26.00
GRPC 12M-6M	12	6	4.8	15.0	15.70	3.6	29.10
GRPC 12M-8M	12	8	6.4	15.0	16.80	3.4	29.80
GRPC 12M-10M	12	10	8.0	15.0	17.50	3.1	30.40
GRPC 16M-6M	16	6	4.8	19.0	15.75	3.6	30.40
GRPC 16M-12M	16	12	9.0	19.0	23.10	3.4	36.20
GRPC 28M-25M	28	25	20.0	34.4	33.00	8.2	56.50
GRPC 32M-25M	32	25	20.0	39.5	33.00	9.9	60.30
GRPC 38M-25M	38	25	20.0	47.1	33.00	12.3	65.80

GAU

AN Union

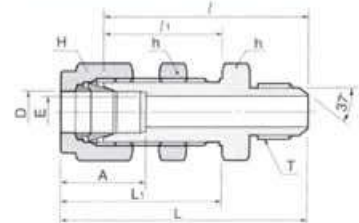


Connects fractional tube to AN flared tube

Part No.	Tube O.D. D		AN Tube Flare Size		Straight Thread T(U)	E Min	Width across flat				A	B	ℓ	L
	in	mm	in	mm			h		H					
							in	mm	in	mm				
GAU 1-2	1/16	1.59	1/8	3.17	5/16-24	1.27	7/16	11.11	5/16	7.93	8.63	10.92	23.36	27.17
GAU 2-2	1/8	3.17	1/8	3.17	5/16-24	1.52	7/16	11.11	7/16	11.11	12.70	15.24	24.89	31.49
GAU 2-4	1/8	3.17	1/4	6.35	7/16-20	2.28	1/2	12.70	7/16	11.11	12.70	15.24	28.44	35.05
GAU 4-4	1/4	6.35	1/4	6.35	7/16-20	4.31	1/2	12.70	9/16	14.28	15.24	17.78	30.22	37.59
GAU 5-5	5/16	7.93	5/16	7.93	1/2-20	5.84	9/16	14.28	5/8	15.87	16.25	18.54	30.98	38.35
GAU 6-4	3/8	9.52	1/4	6.35	7/16-20	4.31	5/8	15.87	11/16	17.46	16.76	19.30	32.25	39.62
GAU 6-6	3/8	9.52	3/8	9.52	9/16-18	7.11	5/8	15.87	11/16	17.46	16.76	19.30	32.25	39.62
GAU 8-8	1/2	12.70	1/2	12.70	3/4-16	9.90	13/16	20.63	7/8	22.22	22.86	21.84	35.81	45.97
GAU 12-12	3/4	19.05	3/4	19.05	1-1/16-12	15.49	1-1/8	28.57	1-1/8	28.57	24.38	21.84	43.18	53.24
GAU 16-16	1	25.40	1	25.40	1-5/16-12	21.33	1-3/8	34.92	1-1/2	38.10	31.24	26.41	49.27	61.46
GAU 20-20	1-1/4	31.75	1-1/4	31.75	1-5/8-12	27.68	1-3/4	44.45	1-7/8	47.63	41.14	38.86	55.46	77.56
GAU 24-24	1-1/2	38.10	1-1/2	38.10	1-7/8-12	34.03	2-1/8	59.97	2-1/4	57.15	50.03	45.21	63.07	90.25
GAU 32-32	2	50.80	2	50.80	2-1/2-12	45.97	2-3/4	69.85	3	76.20	67.56	62.73	83.24	120.57

GABU

AN Bulkhead Union

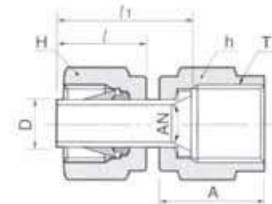


Connects fractional tube to AN flared tube

Part No.	Tube O.D. D		AN Tube Flare Size		Straight Thread T(U)	E Min	Width across flat				A	ℓ	ℓ1	L	L1	Panel Hole Drill size	Panel Max Thickness
	in	mm	in	mm			h		H								
							in	mm	in	mm							
GABU 2-2	1/8	3.17	1/8	3.17	5/16-24	1.77	1/2	12.70	7/16	11.11	13.71	40.85	24.63	47.45	31.23	8.33	12.70
GABU 4-4	1/4	6.35	1/4	6.35	7/16-20	4.31	5/8	15.87	9/16	14.28	15.24	46.48	26.16	53.84	33.52	11.50	10.16
GABU 6-6	3/8	9.52	3/8	9.52	9/16-18	7.11	3/4	19.05	11/16	17.46	16.76	49.78	29.46	57.15	36.83	14.68	11.17
GABU 8-8	1/2	12.70	1/2	12.70	3/4-16	9.90	5/16	23.81	7/8	22.22	22.86	55.62	31.75	65.78	41.91	19.44	12.70
GABU 12-12	3/4	19.05	3/4	19.05	1-1/16-12	15.49	1-3/8	30.16	1-1/8	28.57	24.38	68.83	37.33	78.99	47.49	25.79	16.76
GABU 16-16	1	25.40	1	25.40	1-5/16-12	21.33	1-5/8	41.27	1-1/2	38.10	31.24	80.26	45.21	92.45	57.40	33.73	19.05
GABU 20-20	1-1/4	31.75	1-1/4	31.75	1-5/8-12	27.68	1-7/8	47.63	1-7/8	47.63	41.14	86.37	47.75	108.47	69.85	41.67	19.05
GABU 24-24	1-1/2	38.10	1-1/2	38.10	1-7/8-12	34.03	2-1/4	57.15	2-1/4	57.15	50.03	94.33	49.27	121.51	76.45	49.61	19.05
GABU 32-32	2	50.80	2	50.80	2-1/2-12	45.97	2-3/4	69.85	3	76.20	67.56	114.29	56.38	151.62	93.71	116.27	19.05

GAA

AN Adapter

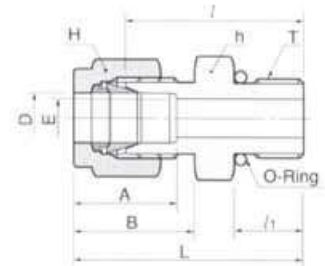


Connects fractional SG-Lok port to male AN

Part No.	Tube O.D. D		AN Tube Flare Size		Straight Thread T(U)	Width across flat				A	ℓ	ℓ1
	in	mm	in	mm		h		H				
						in	mm	in	mm			
GAA 2-2	1/8	3.17	1/8	3.17	5/16-24	3/8	9.52	7/16	11.11	13.71	13.46	18.54
GAA 2-4	1/8	3.17	1/4	6.35	7/16-20	9/16	14.28	7/16	11.11	15.74	13.46	19.05
GAA 4-4	1/4	6.35	1/4	6.35	7/16-20	9/16	14.28	9/16	14.28	15.74	15.74	21.33
GAA 6-6	3/8	9.52	3/8	9.52	9/16-18	11/16	17.46	11/16	17.46	18.28	17.52	24.89
GAA 8-8	1/2	12.70	1/2	12.70	3/4-16	7/8	22.22	7/8	22.22	21.59	23.11	31.75

GSMC

SAE Male Connector

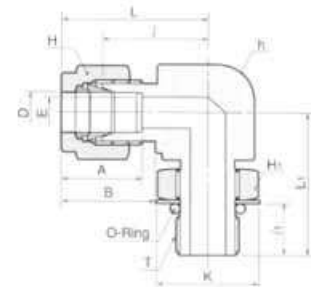


Connects fractional tube to SEA straight thread boss

Part No.	Tube O.D. D		Straight Thread T(U)	E Min.	Width across flat				A	B	L	L1	L	O-Ring Uniform Size Number
	in	mm			h		H							
					in	mm	in	mm						
GSMC 2-2U	1/8	3.17	5/16-24	2.28	7/16	11.11	7/16	11.11	12.70	15.24	23.37	7.62	29.97	-902
GSMC 4-4U	1/4	6.35	7/16-20	4.82	9/16	14.28	9/16	14.28	15.24	17.78	26.67	9.14	34.03	-904
GSMC 4-6U	1/4	6.35	9/16-18	4.82	11/16	17.46	9/16	14.28	15.24	17.78	28.19	9.90	35.56	-906
GSMC 4-8U	1/4	6.35	3/4-16	4.82	7/8	22.22	9/16	14.28	15.24	17.78	30.22	11.17	37.59	-908
GSMC 4-10U	1/4	6.35	7/8-14	4.82	1	25.40	9/16	14.28	15.24	17.78	33.27	12.70	40.64	-910
GSMC 5-5U	5/16	7.93	1/2-20	5.84	5/8	15.87	5/8	15.87	16.25	18.54	27.43	9.14	34.79	-905
GSMC 6-4U	3/8	9.52	7/16-20	5.08	5/8	15.87	11/16	17.46	16.76	19.30	28.19	9.14	35.56	-904
GSMC 6-6U	3/8	9.52	9/16-18	7.11	11/16	17.46	11/16	17.46	16.76	19.30	29.71	9.90	37.08	-906
GSMC 6-8U	3/8	9.52	3/4-16	7.11	7/8	22.22	11/16	17.46	16.76	19.30	31.75	11.17	39.11	-908
GSMC 6-10U	3/8	9.52	7/8-14	7.11	1	25.40	11/16	17.46	16.76	19.30	34.79	12.70	24.16	-910
GSMC 8-6U	1/2	12.70	9/16-18	7.11	13/16	20.63	7/8	22.22	22.86	21.84	28.95	9.90	39.11	-906
GSMC 8-8U	1/2	12.70	3/4-16	10.41	7/8	22.22	7/8	22.22	22.86	21.84	31.75	11.17	41.91	-908
GSMC 8-10U	1/2	12.70	7/8-14	10.41	1	25.40	7/8	22.22	22.86	21.84	34.79	12.70	44.95	-910
GSMC 8-12U	1/2	12.70	1-1/16-12	10.41	1-1/4	31.75	7/8	22.22	22.86	21.84	38.86	14.98	49.02	-912
GSMC 10-8U	5/8	15.87	3/4-16	10.66	15/16	23.81	1	25.40	24.38	21.84	31.75	11.17	41.91	-908
GSMC 10-10U	5/8	15.87	7/8-14	12.70	1	25.40	1	25.40	24.38	21.84	35.05	12.70	45.21	-910
GSMC 12-8U	3/4	19.05	3/4-16	10.56	1-1/16	26.98	1-1/8	28.57	24.38	21.84	35.81	11.17	45.97	-908
GSMC 12-12U	3/4	19.05	1-1/16-12	15.74	1-1/4	31.75	1-1/8	28.57	24.38	21.84	38.86	14.98	49.02	-912
GSMC 14-14U	7/8	22.22	1-3/16-12	18.28	1-3/8	34.92	1-1/4	31.57	25.90	21.84	38.86	14.98	49.02	-914
GSMC 16-12U	1	25.40	1-1/16-12	16.78	1-3/8	34.92	1-1/2	38.10	31.24	26.41	41.14	14.98	53.34	-912
GSMC 16-16U	1	25.40	1-5/16-12	22.35	1-1/2	38.10	1-1/2	38.10	31.24	26.41	42.16	14.98	54.35	-916
GSMC 20-20U	1-1/4	31.75	1-5/8-12	27.68	1-7/8	47.63	1-7/8	47.63	41.14	38.86	46.22	14.98	68.32	-920
GSMC 24-24U	1-1/2	38.10	1-7/8-12	34.03	2-1/8	53.98	2-1/4	57.15	50.03	45.21	50.54	14.98	77.72	-924
GSMC 32-32U	2	50.80	2-1/2-12	45.97	2-3/4	69.85	3	76.20	67.56	62.74	64.26	14.98	101.60	-932

GSME

Positionable SAE Male Elbow

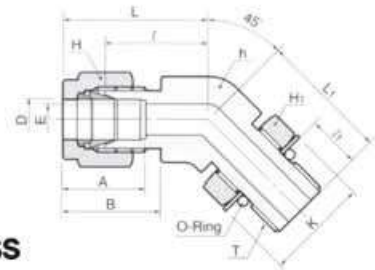


Connects fractional tube to SEA straight thread boss

Part No.	Tube O.D. D		Straight Thread T(U)	E Min.	Width across flat						A	B	L	L1	L	L1	K	O-Ring Uniform Size Number
	in	mm			h		H		H1									
					in	mm	in	mm	in	mm								
GSME 4-4U	1/4	6.35	7/16-20	4.82	1/2	12.70	9/16	14.28	9/16	14.28	15.24	17.78	21.08	9.90	28.44	28.44	16.51	-904
GSME 5-5U	5/16	7.93	1/2-20	5.84	9/16	14.28	5/8	15.87	5/8	15.87	16.25	18.54	22.86	9.90	30.22	29.46	18.28	-905
GSME 6-6U	3/8	9.52	9/16-18	7.11	5/8	15.87	11/16	17.46	11/16	17.46	16.76	19.30	24.63	11.17	32.00	32.25	20.06	-906
GSME 6-8U	3/8	9.52	3/4-16	7.11	13/16	20.63	11/16	17.46	7/8	22.22	16.76	19.30	27.43	12.70	34.79	37.84	25.65	-908
GSME 8-8U	1/2	12.70	3/4-16	10.41	13/16	20.63	7/8	22.22	7/8	22.22	22.86	21.84	27.43	12.70	37.59	37.84	25.65	-908
GSME 10-10U	5/8	15.87	7/8-14	12.70	1	25.40	1	25.40	1	25.40	24.38	21.84	29.46	14.22	39.62	43.43	29.46	-910
GSME 12-12U	3/4	19.05	1-1/16-12	15.74	1-1/16	26.98	1-1/8	28.57	1-1/4	31.75	24.38	21.84	31.24	16.76	41.40	48.76	36.57	-912
GSME 14-14U	7/8	22.22	1-3/16-12	18.28	1-1/4	31.75	1-1/4	31.75	1-3/8	34.92	25.90	21.84	33.02	16.76	43.18	50.54	40.38	-914
GSME 16-16U	1	25.40	1-5/16-12	22.35	1-3/8	34.92	1-1/2	38.10	1-1/2	38.10	31.24	26.41	38.35	16.76	50.54	53.59	43.94	-916
GSME 20-20U	1-1/4	31.75	1-5/8-12	27.68	1-11/16	42.76	1-7/8	47.63	1-7/8	47.63	41.14	38.86	45.72	16.76	67.81	58.16	54.86	-920
GSME 24-24U	1-1/2	38.10	1-7/8-12	34.03	2	50.80	2-1/4	57.15	2-1/8	53.98	50.30	45.21	50.80	16.76	77.97	60.45	62.23	-924
GSME 32-32U	2	50.80	2-1/2-12	45.97	2-3/4	69.85	3	76.20	2-3/4	69.85	67.56	62.73	69.85	16.76	107.18	71.62	80.26	-932

GSME45D

Positionable 45° SAE Male Elbow

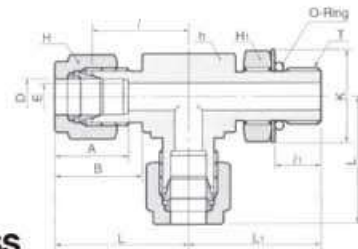


Connects fractional tube to SEA straight thread boss

Part No.	Tube O.D. D		Straight Thread T(U)	E Min.	Width across flat						A	B	ℓ	ℓ ₁	L	L ₁	K	O-Ring Uniform Size Number
	in	mm			h		H		H ₁									
					in	mm	in	mm	in	mm								
GSME45D 4-4U	1-4	6.35	7-16-20	4.82	1/2	12.70	9/16	14.28	9/16	14.28	15.24	17.78	18.28	9.90	25.65	25.65	16.51	-904
GSME45D 6-6U	3/8	9.52	9-16-18	7.11	5/8	15.87	11/16	17.46	11/16	17.46	16.76	19.30	20.57	11.17	27.94	28.19	20.06	-906
GSME45D 8-8U	1/2	12.70	3-4-16	10.41	13/16	20.63	7/8	22.22	7/8	22.22	22.86	21.84	21.84	12.70	32.00	32.25	25.65	-908
GSME45D 12-12U	3/4	19.05	1-1/16-12	15.74	1-1/8	28.57	1-1/8	28.57	1-1/4	31.75	24.38	21.84	29.71	16.76	39.87	47.24	36.57	-912
GSME45D 16-16U	1	25.40	1-5/16-12	22.35	1-3/8	34.92	1-1/2	38.10	1-1/2	38.10	31.24	26.41	35.30	16.76	47.49	50.54	43.94	-916

GSMRT

Positionable SAE Male Run Tee

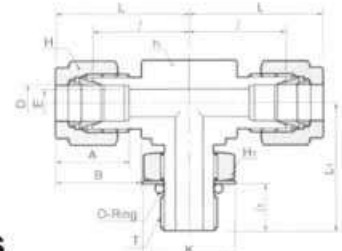


Connects fractional tube to SEA straight thread boss

Part No.	Tube O.D. D		Straight Thread T(U)	E Min.	Width across flat						A	B	ℓ	ℓ ₁	L	L ₁	K	O-Ring Uniform Size Number
	in	mm			h		H		H ₁									
					in	mm	in	mm	in	mm								
GSMRT 4-4U	1/4	6.35	7-16-20	4.82	1/2	12.70	9/16	14.28	9/16	14.28	15.24	17.78	21.08	9.90	28.44	28.44	16.51	-904
GSMRT 6-6U	3/8	9.52	9-16-18	7.11	5/8	15.87	11/16	17.46	11/16	17.46	16.76	19.30	24.63	11.17	32.00	32.25	20.06	-906
GSMRT 8-8U	1/2	12.70	3-4-16	10.41	13/16	20.63	7/8	22.22	7/8	22.22	22.86	21.84	27.43	12.70	37.59	37.84	25.65	-908
GSMRT 12-12U	3/4	19.05	1-1/16-12	15.74	1-1/8	28.57	1-1/8	28.57	1-1/4	31.75	24.38	21.84	31.24	16.76	41.40	48.76	36.57	-912
GSMRT 16-16U	1	25.40	1-5/16-12	22.35	1-3/8	34.92	1-1/2	38.10	1-1/2	38.10	31.24	26.41	38.35	16.76	50.54	50.54	43.94	-916
GSMRT 20-20U	1-1/4	31.75	1-5/8-12	27.68	1-11/16	42.86	1-7/8	47.63	1-7/8	47.63	41.14	38.86	45.72	16.76	67.81	58.61	54.86	-920
GSMRT 24-24U	1-1/2	30.10	1-7/8-12	34.03	2	50.80	2-1/4	57.15	2-1/8	53.98	50.03	45.21	50.80	16.76	77.97	60.45	62.23	-924
GSMRT 32-32U	2	50.80	2-1/2-12	45.97	2-3/4	69.85	3	76.20	2-3/4	69.85	67.56	62.73	69.85	16.76	107.18	71.62	80.26	-932

GSMBT

Positionable SAE Male Branch Tee

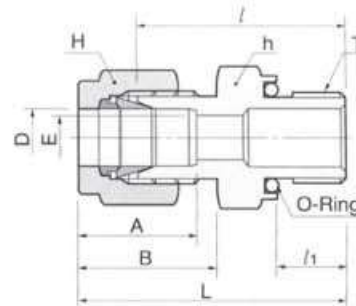


Connects fractional tube to SEA straight thread boss

Part No.	Tube O.D. D		Straight Thread T(U)	E Min.	Width across flat						A	B	ℓ	ℓ ₁	L	L ₁	K	O-Ring Uniform Size Number
	in	mm			h		H		H ₁									
					in	mm	in	mm	in	mm								
GSMBT 4-4U	1/4	6.35	7-16-20	4.82	1/2	12.70	9/16	14.28	9/16	14.28	15.24	17.78	21.08	9.90	28.44	28.44	16.51	-904
GSMBT 6-6U	3/8	9.52	9-16-18	7.11	5/8	15.87	11/16	17.46	11/16	17.46	16.76	19.30	24.63	11.17	32.00	32.25	20.06	-906
GSMBT 8-8U	1/2	12.70	3-4-16	10.41	13/16	20.64	7/8	22.22	7/8	22.22	22.86	21.84	27.43	12.70	37.59	37.84	25.65	-908
GSMBT 12-12U	3/4	19.05	1-1/16-12	15.74	1-1/16	26.98	1-1/8	28.57	1-1/4	31.75	24.38	21.84	31.24	16.76	41.40	48.76	36.57	-912
GSMBT 16-16U	1	25.40	1-5/16-12	22.35	1-3/8	34.92	1-1/2	38.10	1-1/2	38.10	31.24	26.41	38.35	16.76	50.54	53.59	43.94	-916
GSMBT 20-20U	1-1/4	31.75	1-5/8-12	27.68	1-11/16	42.86	1-7/8	47.63	1-7/8	47.63	41.14	38.86	45.72	16.76	67.81	58.61	54.86	-920
GSMBT 24-24U	1-1/2	30.10	1-7/8-12	34.03	2	50.80	2-1/4	57.15	2-1/8	53.98	50.03	45.21	50.80	16.76	77.97	60.45	62.23	-924
GSMBT 32-32U	2	50.80	2-1/2-12	45.97	2-3/4	69.85	3	76.20	2-3/4	69.85	67.56	62.73	69.85	16.76	107.18	71.62	80.26	-932

GMOS

O-Seal Straight Thread Connector

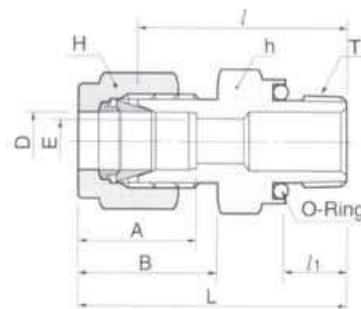


Connects fractional tube to female straight thread

Part No.	Tube O.D. D		Straight Thread T(U)	E Min.	Width across flat				A	B	l	l ₁	L	O-Ring Uniform Size Number
	in	mm			h		H							
GMOS 2-2U	1/8	3.17	5/16-20	2.28	9/16	14.28	7/16	11.11	12.70	15.24	26.16	8.63	32.76	-011
GMOS 3-3U	3-16	4.76	3/8-24	3.04	5/8	15.87	1/2	12.70	13.71	16.00	27.68	9.65	34.29	-012
GMOS 4-4U	1/4	6.35	7/16-20	4.82	3/4	19.05	9/16	14.28	15.24	17.78	30.98	10.41	38.35	-013
GMOS 5-5U	5/16	7.93	1/2-20	6.35	7/8	22.22	5/8	15.87	16.25	18.54	33.27	11.17	40.64	-112
GMOS 6-6U	3/8	9.52	9/16-18	7.11	15/16	23.81	11/16	17.46	16.76	19.30	35.05	11.93	42.41	-113
GMOS 8-8U	1/2	12.70	3/4-16	10.41	1-1/8	28.57	7/8	22.22	22.86	21.84	35.81	11.93	46.97	-116
GMOS 12-12U	3/4	19.05	1-1/16-12	15.74	1-1/2	38.10	1-1/8	28.57	24.38	21.84	42.16	14.22	52.32	-121
GMOS 16-16U	1	25.40	1-5/16-12	22.35	1-3/4	44.45	1-1/2	38.10	31.24	26.41	45.97	14.22	58.16	-125

GMOP

O-Seal Pipe Thread Connector

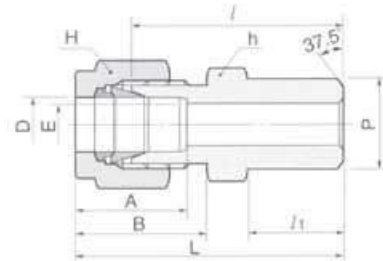


Connects fractional tube to female NPT thread

Part No.	Tube O.D. D		T N(NPT)	E Min.	Width across flat				A	B	l	l ₁	L	O-Ring Uniform Size Number
	in	mm			h		H							
GMOP 2-2N	1/8	3.17	1/8	2.28	3/4	19.05	7/16	11.11	12.70	15.24	26.16	7.11	32.76	-013
GMOP 4-2N	1/4	6.35	1/8	4.28	3/4	19.05	9/16	14.28	15.24	17.78	27.68	7.11	35.05	-013
GMOP 4-4N	1/4	6.35	1/4	4.82	15/16	23.81	9/16	14.28	15.24	17.78	30.98	9.65	38.35	-113
GMOP 6-4N	3/8	9.52	1/4	7.11	15/16	23.81	11/16	17.46	16.76	19.30	32.51	9.65	39.87	-113
GMOP 6-6N	3/8	9.52	3/8	7.11	1-1/8	28.57	11/16	17.46	16.76	19.30	34.03	10.41	41.40	-116
GMOP 6-8N	3/8	9.52	1/2	7.11	1-5/16	33.33	11/16	17.46	16.76	19.30	39.62	13.46	46.99	-118
GMOP 8-8N	1/2	12.70	1/2	10.41	1-5/16	33.33	7/8	22.22	22.86	21.84	39.62	13.46	49.78	-118

GMPWC

Male Pipe Weld Connector



Connects fractional tube to pipe

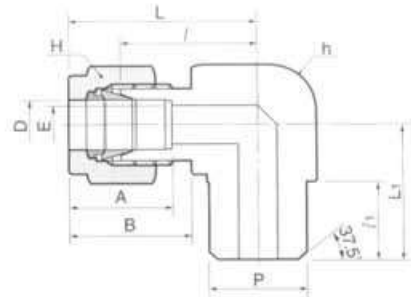
Part No.	Tube O.D.		Male Pipe Size		E Min	Width across flat				A	B	l	l ₁	L
	D		P			h		H						
	in	mm	Nom.	O.D.		in	mm	in	mm					
GMPWC 2-2P	1/8	3.17	1/8	10.29	2.28	7/16	11.11	7/16	11.11	12.70	15.24	23.87	9.65	31.24
GMPWC 3-2P	3/16	4.76	1/8	10.29	3.04	7/16	11.11	1/12	12.70	13.71	16.00	24.63	9.65	31.24
GMPWC 4-2P	1/4	6.35	1/8	10.29	4.82	1/2	12.70	9/16	14.28	15.24	17.78	25.40	9.65	32.76
GMPWC 4-4P	1/4	6.35	1/4	13.72	4.82	9/16	14.28	9/16	14.28	15.24	17.78	30.48	14.22	37.84
GMPWC 5-2P	5/16	7.93	1/8	10.29	5.08	9/16	14.28	5/8	15.87	16.25	18.54	26.67	9.65	34.03
GMPWC 5-4P	5/16	7.93	1/4	13.72	6.35	9/16	14.28	5/8	15.87	16.25	18.54	31.24	14.22	38.60
GMPWC 6-4P	3/8	9.52	1/4	13.72	7.11	5/8	15.87	11/16	17.46	16.76	19.30	32.51	14.22	39.87
GMPWC 6-6P	3/8	9.52	3/8	17.15	7.11	11/16	17.46	11/16	17.46	16.76	19.30	32.51	14.22	39.87
GMPWC 6-8P	3/8	9.52	1/2	21.34	7.11	7/8	22.22	11/16	17.46	16.76	19.30	38.86	11.05	43.23
GMPWC 8-6P	1/2	12.70	3/8	17.15	10.41	13/16	20.63	7/8	22.22	22.86	21.84	33.27	14.22	43.43
GMPWC 8-8P	1/2	12.70	1/2	21.34	10.41	7/8	22.22	7/8	22.22	22.86	21.84	38.86	19.05	49.02
GMPWC 8-12P	1/2	12.70	3/4	26.67	10.41	1-1/16	26.98	7/8	22.22	22.86	21.84	40.38	19.05	50.54
GMPWC 10-8P	5/8	15.87	1/2	21.34	12.70	15/16	23.81	1	25.40	24.38	21.84	38.86	19.05	49.02
GMPWC 12-12P	3/4	19.05	3/4	26.67	15.74	1-1/16	26.98	1-1/8	28.57	24.38	21.84	40.38	19.05	50.54
GMPWC 16-16P	1	25.40	1	33.40	22.35	1-3/8	34.92	1-1/2	38.10	31.24	26.41	50.03	23.87	62.23
GMPWC 20-20P	1-1/4	31.75	1-1/4	42.16	27.68	1-3/4	44.45	2	50.80	41.14	38.86	55.11	23.87	77.21
GMPWC 24-24P	1-1/2	38.10	1-1/2	48.26	34.03	2-1/8	53.98	2-1/4	57.15	50.03	45.21	61.72	26.16	88.90
GMPWC 32-32P	2	50.80	2	60.33	47.75	2-3/4	69.85	3	76.20	67.56	62.73	76.20	26.92	113.53

Connects metric tube to pipe

Part No.	Tube O.D. D(mm)	Male Pipe Size		E Min	Width across flat		A	B	l	l ₁	L
		P			h	H					
		Nom.	O.D.								
GMPWC 3M-2P	3	1/8	10.29	2.4	12.70	11.11	12.9	15.3	23.1	9.7	29.7
GMPWC 4M-2P	4	1/8	10.29	2.4	12.70	12.70	13.7	16.1	24.1	9.7	30.7
GMPWC 6M-2P	6	1/8	10.29	4.8	14.28	14.28	15.3	17.7	25.4	9.7	32.8
GMPWC 6M-4P	6	1/4	13.72	4.8	14.28	14.28	15.3	17.7	30.2	14.2	37.6
GMPWC 8M-2P	8	1/8	10.29	5.1	15.87	15.87	16.2	18.6	26.7	9.7	34.2
GMPWC 8M-4P	8	1/4	13.72	6.4	15.87	15.87	16.2	18.6	31.2	14.2	38.7
GMPWC 8M-8P	8	1/2	21.34	6.4	22.22	15.87	16.2	18.6	37.3	19.0	44.8
GMPWC 10M-4P	10	1/4	13.72	7.1	17.46	19.05	17.2	19.5	33.3	14.2	40.9
GMPWC 10M-6P	10	3/8	17.15	7.9	17.46	19.05	17.2	19.5	32.5	14.2	40.1
GMPWC 10M-8P	10	1/2	21.34	7.9	22.22	19.05	17.2	19.5	38.1	19.0	45.7
GMPWC 12M-4P	12	1/4	13.72	7.1	22.22	22.22	22.8	22.0	33.3	14.2	43.4
GMPWC 12M-6P	12	3/8	17.15	9.5	22.22	22.22	22.8	22.0	33.3	14.2	43.4
GMPWC 12M-8P	12	3/8	21.34	9.5	22.22	22.22	22.8	22.0	38.1	19.0	48.2
GMPWC 14M-6P	14	3/8	17.15	10.3	23.81	25.04	24.4	22.0	34.0	14.2	44.1
GMPWC 15M-8P	15	1/2	21.34	11.9	23.81	25.04	24.4	22.0	38.9	19.0	49.0
GMPWC 16M-8P	16	1/2	21.34	12.7	23.81	25.04	24.4	22.0	38.9	19.0	49.0
GMPWC 18M-8P	18	1/2	21.34	13.5	26.98	30.16	24.4	22.0	40.4	19.0	50.5
GMPWC 32M-20P	32	1-1/4	42.16	28.6	46.04	49.21	42.0	41.6	56.6	23.9	79.6
GMPWC 38M-24P	38	1-1/2	48.26	33.7	55.56	60.32	49.4	47.9	64.0	26.2	91.6

GMPWE

Male Pipe Weld Elbow

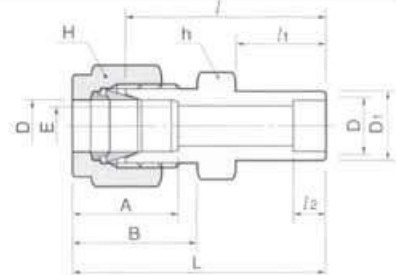


Connects fractional tube to pipe

Part No.	Tube O.D. D		Male Pipe Size P		E Min	Width across flat				A	B	ℓ	ℓ ₁	L	L ₁
	in	mm	Nom.	O.D		h		H							
						in	mm	in	mm						
GMPWE 2-2P	1/8	3.17	1/8	10.29	4.82	1/2	12.70	9/16	14.28	15.24	17.78	19.55	9.65	26.92	18.79
GMPWE 4-4P	1/4	6.35	1/4	13.72	4.82	1/2	12.70	9/16	14.28	15.24	17.78	19.55	14.22	26.92	23.36
GMPWE 6-4P	3/8	9.52	1/4	13.72	7.11	5/8	15.87	11/16	17.46	16.76	19.30	23.11	14.22	30.48	25.40
GMPWE 8-8P	1/2	12.70	1/2	21.34	10.41	13/16	20.63	7/8	22.22	22.86	21.84	25.90	19.05	36.06	33.02
GMPWE 12-12P	3/4	19.05	3/4	26.67	15.74	1-1/16	26.98	1-1/8	28.57	24.38	21.84	29.71	19.05	39.87	36.83

GTSWC

Tube Socket Weld Connector

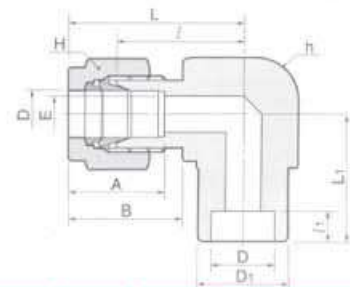


Connects fractional tubes

Part No.	Tube O.D. D		E Min	D ₁	Width across flat				A	B	ℓ	ℓ ₁	ℓ ₂	L
	in	mm			h		H							
					in	mm	in	mm						
GTSWC 2-2	1/8	3.17	2.28	7.87	7/16	11.11	7/16	11.11	12.70	15.24	22.35	8.63	6.35	28.95
GTSWC 4-4	1/4	6.35	4.82	11.17	1/2	12.70	9/16	14.28	15.24	17.78	26.16	10.41	7.87	33.52
GTSWC 6-6	3/8	9.52	7.11	15.74	5/8	15.87	11/16	17.46	16.76	19.30	30.22	11.93	9.65	37.59
GTSWC 8-8	1/2	12.70	10.41	19.05	13/16	20.63	7/8	22.22	22.86	21.84	30.98	11.93	12.70	41.14
GTSWC 12-12	3/4	19.05	15.74	26.67	1-1/16	26.98	1-1/8	28.57	24.38	21.84	33.27	11.93	14.22	43.43
GTSWC 16-16	1	25.40	22.35	33.27	1-3/8	34.92	1-1/2	38.10	31.24	26.41	40.38	14.22	19.05	52.57

GTSWE

Tube Socket Weld Elbow

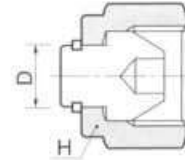


Connects fractional tubes

Part No.	Tube O.D. D		E Min	D ₁	Width across flat				A	B	ℓ	ℓ ₁	L	L ₁
	in	mm			h		H							
					in	mm	in	mm						
GTSWE 4-4	1/4	6.35	4.28	12.70	1/2	12.70	9/16	14.28	15.24	17.78	19.55	7.87	26.92	19.55
GTSWE 6-6	3/8	9.52	7.11	15.74	5/8	15.87	11/16	17.46	16.76	19.30	23.11	9.65	30.48	23.11
GTSWE 8-8	1/2	12.70	10.41	20.57	13/16	20.63	7/8	22.22	22.86	21.84	25.90	12.70	36.06	25.90
GTSWE 12-12	3/4	19.05	15.74	26.92	1-1/16	26.98	1-1/8	28.57	24.38	21.84	29.71	14.22	39.87	29.71
GTSWE 16-16	1	25.40	22.35	35.05	1-3/8	34.92	1-1/2	38.10	31.24	26.41	36.83	19.05	49.02	36.83

GP

Tube Plug



Connects fractional tube

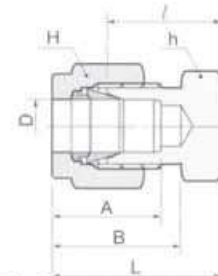
Part No.	Tube O.D. D		Width across flat H	
	in	mm	in	mm
GP-1	1/16	1.59	5/16	7.93
GP-2	1/8	3.17	7/16	11.11
GP-3	3/16	4.76	1/2	12.30
GP-4	1/4	6.35	9/16	14.28
GP-5	5/16	7.93	5/8	15.87
GP-6	3/8	9.52	11/16	17.46
GP-8	1/2	12.70	7/8	22.22
GP-10	5/8	15.87	1	25.40
GP-12	3/4	19.05	1-1/8	28.58
GP-14	7/8	22.22	1-1/4	31.75
GP-16	1	25.40	1-1/2	38.10
GP-20	1-1/4	31.75	1-7/8	47.63
GP-24	1-1/2	38.10	2-1/4	57.15
GP-32	2	50.80	3	76.20

Connects metric tube

Part No.	Tube O.D. D(mm)	Width across flat H
GP -2M	2	11.11
GP -3M	3	11.11
GP -4M	4	12.70
GP -6M	6	14.28
GP -8M	8	15.87
GP -10M	10	19.05
GP -12M	12	22.22
GP -15M	15	25.40
GP -16M	16	25.40
GP -18M	18	30.16
GP -20M	20	31.75
GP -22M	22	31.75
GP -25M	25	38.10
GP -28M	28	46.04
GP -30M	30	49.21
GP -32M	32	49.21
GP -38M	38	60.32

GC

Tube Cap



Connects fractional tube

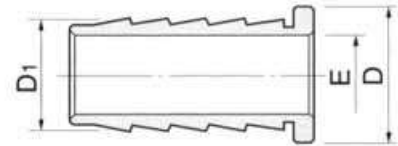
Part No.	Tube O.D. D		Width across flat				A	B	l	L
	in	mm	h		H					
GC-1	1/16	1.59	5/16	7.93	5/16	7.93	8.63	10.92	11.20	14.18
GC-2	1/8	3.17	7/16	11.11	7/16	11.11	12.70	15.24	13.46	20.06
GC-3	3/16	4.76	7/16	11.11	1/2	12.70	13.71	16.00	14.73	21.33
GC-4	1/4	6.35	1/2	12.70	9/16	14.28	15.24	17.78	16.00	23.26
GC-5	5/16	7.93	9/16	14.28	5/8	15.87	16.25	18.54	17.01	24.38
GC-6	3/8	9.52	5/8	15.87	11/16	17.46	16.75	19.30	18.28	25.65
GC-8	1/2	12.70	13/16	20.63	7/8	22.22	22.86	21.84	19.05	29.21
GC-10	5/8	15.87	15/16	23.81	1	25.40	24.38	21.84	19.81	29.97
GC-12	3/4	19.05	1-1/16	26.98	1-1/8	28.57	24.38	21.84	21.33	31.49
GC-14	7/8	22.22	1-3/16	30.16	1-1/4	31.75	25.90	21.84	23.87	34.03
GC-16	1	25.40	1-3/8	34.92	1-1/2	38.10	31.24	26.41	26.16	38.35
GC-20	1-1/4	31.75	1-3/4	44.45	1-7/8	47.63	41.14	38.86	31.24	53.34
GC-24	1-1/2	38.10	2-1/8	53.98	2-1/4	57.15	50.15	45.21	37.33	64.51
GC-32	2	50.80	2-3/4	69.85	3	76.20	67.56	62.73	49.27	86.61

Connects metric tube

Part No.	Tube O.D. D(mm)	Width across flat		A	B	l	L
		h	H				
GC-2M	2	11.11	11.11	12.9	15.3	13.5	20.1
GC-3M	3	11.11	11.11	12.9	15.3	13.5	20.1
GC-4M	4	11.11	12.70	13.7	16.1	14.7	21.3
GC-6M	6	14.28	14.28	15.3	17.7	15.7	23.1
GC-8M	8	15.87	15.87	16.2	18.6	17.0	24.5
GC-10M	10	17.46	19.05	17.2	19.5	19.0	26.6
GC-12M	12	22.22	22.22	22.8	22.0	19.0	29.1
GC-15M	15	23.81	25.40	24.4	22.0	19.8	29.9
GC-16M	16	23.81	25.40	24.4	22.0	19.8	29.9
GC-18M	18	26.98	30.16	24.4	22.0	21.3	31.4
GC-20M	20	30.16	31.75	26.0	22.0	23.9	34.0
GC-22M	22	30.16	31.75	26.0	22.0	23.9	34.0
GC-25M	25	34.92	38.10	31.3	26.5	26.2	38.5
GC-28M	28	41.27	46.04	36.6	36.6	27.7	48.5
GC-30M	30	46.04	49.21	39.6	39.2	31.8	53.4
GC-32M	32	46.04	49.21	36.6	36.6	27.7	48.5
GC-38M	38	55.56	60.32	49.4	47.9	37.8	65.4

GI

Tube Insert



Connects fractional tube

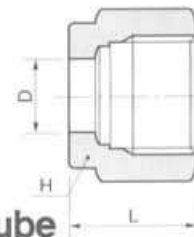
Part No.	Tube O.D.				E
	D		D1		
	in	mm	in	mm	
GI 3-2	3/16	4.76	1/8	3.17	2.2
GI 4-2	1/4	6.35	1/8	3.17	2.2
GI 4-3	1/4	6.35	3/16	4.76	3.5
GI 5-2	5/16	7.93	1/8	3.17	2.2
GI 5-3	5/16	7.93	3/16	4.76	3.0
GI 5-4	5/16	7.93	1/4	6.35	4.8
GI 6-3	3/8	9.52	3/16	4.76	3.0
GI 6-4	3/8	9.52	1/4	6.35	4.8
GI 8-4	1/2	12.70	1/4	6.35	4.8
GI 8-6	1/2	12.70	3/8	9.52	7.9
GI 10-6	5/8	15.87	3/8	9.52	7.9
GI 10-8	5/8	15.87	1/2	12.70	11.2
GI 12-8	3/4	19.05	1/2	12.70	11.2
GI 12-10	3/4	19.05	5/8	15.87	14.0
GI 16-12	1	25.40	3/4	19.05	17.5

Connects metric tube

Part No.	Tube O.D.		E
	D(mm)	D1(mm)	
GI 6M-4M	6	4	2.8
GI 8M-6M	8	6	4.4
GI 10M-8M	10	8	6.4
GI 12M-8M	12	8	6.4
GI 12M-10M	12	10	8.3

GN

Nut



Connects fractional tube

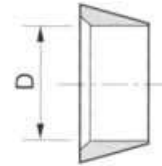
Part No.	Tube O.D.		Width across flat		L
	D		H		
	in	mm	in	mm	
GN-1	1/16	1.59	5/16	7.93	7.9
GN-2	1/8	3.17	7/16	11.11	11.9
GN-3	3/16	4.76	1/2	12.70	11.9
GN-4	1/4	6.35	9/16	14.28	12.7
GN-5	5/16	7.93	5/8	15.87	13.4
GN-6	3/8	9.52	11/16	17.46	14.2
GN-8	1/2	12.70	7/8	22.22	17.5
GN-10	5/8	15.87	1	25.40	17.5
GN-12	3/4	19.05	1-1/8	28.57	17.5
GN-14	7/8	22.22	1-1/4	31.75	17.5
GN-16	1	25.40	1-1/2	38.10	20.6
GN-20	1-1/4	31.75	1-7/8	47.63	31.7
GN-24	1-1/2	38.10	2-1/4	57.15	38.1
GN-32	2	50.80	3	76.20	52.3

Connects metric tube

Part No.	Tube O.D.	Width across flat	L
	D(mm)	H	
GN-2M	2	11.11	11.9
GN-3M	3	11.11	11.9
GN-4M	4	12.70	11.9
GN-6M	6	14.28	12.7
GN-8M	8	15.87	13.4
GN-10M	10	19.05	15.1
GN-12M	12	22.22	17.5
GN-15M	15	25.40	17.5
GN-16M	16	25.40	17.5
GN-18M	18	30.16	17.5
GN-20M	20	31.75	17.5
GN-22M	22	31.75	17.5
GN-25M	25	38.10	20.6
GN-28M	28	46.04	30.6
GN-30M	30	49.21	33.7
GN-32M	32	49.21	34.4
GN-38M	38	60.32	40.6

GFF

Front Ferrule



Connects factional tube

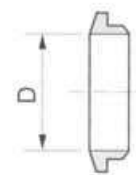
Part No.	Tube O.D. D	
	in	mm
GFF-1	1/16	1.59
GFF-2	1/8	3.17
GFF-3	3/16	4.76
GFF-4	1/4	6.35
GFF-5	5/16	7.93
GFF-6	3/8	9.52
GFF-8	1/2	12.70
GFF-10	5/8	15.87
GFF-12	3/4	19.05
GFF-14	7/8	22.22
GFF-16	1	25.40
GFF-20	1-1/4	31.75
GFF-24	1-1/2	38.10
GFF-32	2	50.80

Connects metric tube

Part No.	Tube O.D. D(mm)
GFF-2M	2
GFF-3M	3
GFF-4M	4
GFF-6M	6
GFF-8M	8
GFF-10M	10
GFF-12M	12
GFF-15M	15
GFF-16M	16
GFF-18M	18
GFF-20M	20
GFF-22M	22
GFF-25M	25
GFF-28M	28
GFF-30M	30
GFF-32M	32
GFF-38M	38

GBF

Back Ferrule



Connects factional tube

Part No.	Tube O.D. D	
	in	mm
GBF-1	1/16	1.59
GBF-2	1/8	3.17
GBF-3	3/16	4.76
GBF-4	1/4	6.35
GBF-5	5/16	7.93
GBF-6	3/8	9.52
GBF-8	1/2	12.70
GBF-10	5/8	15.87
GBF-12	3/4	19.05
GBF-14	7/8	22.22
GBF-16	1	25.40
GBF-20	1-1/4	31.75
GBF-24	1-1/2	38.10
GBF-32	2	50.80

Connects metric tube

Part No.	Tube O.D. D(mm)
GBF-2M	2
GBF-3M	3
GBF-4M	4
GBF-6M	6
GBF-8M	8
GBF-10M	10
GBF-12M	12
GBF-15M	15
GBF-16M	16
GBF-18M	18
GBF-20M	20
GBF-22M	22
GBF-25M	25
GBF-28M	28
GBF-30M	30
GBF-32M	32
GBF-38M	38

TUBE FITTINGS

삼원그린

경기도 시흥시 마유로82번길 113(정왕동) [3마 417-5]

TEL 031-431-3452 FAX 031-431-3460

113, Mayu-ro 82beon-gil, Siheung-si, Gyeonggi-do, Korea

www.sglok.com





www.sglok.com

SG-Lok Instrumentation

NEEDLE VALVES

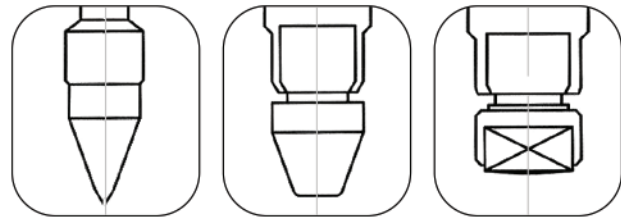


Features

- Pressure rating up to 5000psi(340bar) at 38°C(100°F)
- Temperature rating from -53°C(-65°F) to 232°C(450°F) with standard PTFE packing, up to 315°C(600°F) with Grafoil packing.
- Materials : Standard 316SS and Brass
- Forged body with straight and angle pattern
- Panel mounting without packing disruption
- Wide choices of end connections : SG-Lok Tube Fittings, Male & Female NPT or PT(ISO 7/1) thread, Socket Weld ANSI/ASME B16.11
- Standard lubrication : Nickel anti-seize lubricant (Hydrocarbon carrier)
- Standard seat : Metal to metal / body material
Optional seat : Metal to metal / stellite, hard coating, soft seat(CTFE, Kel-F*)
Kel-F* is the trademark of 3M Co.

Choice of Stem

- Vee Stem is standard for pressure tightness even at elevated temperatures. Regulating Stem & Soft-seat Stem are optional.



Vee Stem (Standard)

Regulating Stem

Soft-seat Stem

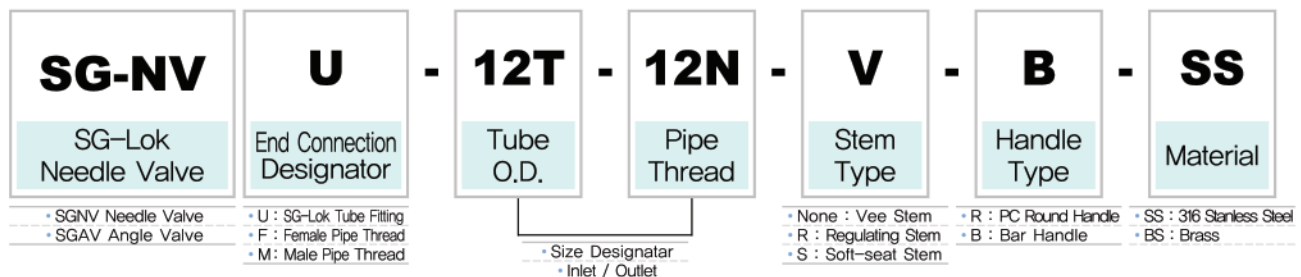
Sour Gas Service

- Materials for wetted valve component are selected in accordance with NACE standard MR 0175-2000 for sulfide stress cracking resistant.

Testing

- Standard Factory Test : Every valve is 100% factory tested with air and nitrogen at 1000psi(69bar) for leakage at the seat and packing. Each test is performed to a maximum allowable leak rate of 0.1scc/min.
- Optional Hydrostatic Test : This hydrostatic shell test is performed with pure water at 1-1/2 times of the working pressure. Other optional tests are available upon request.

How to Order



• Tube

Tube	O.D.(in)	1/4	3/8	1/2	3/4
	Designator	4T	6T	8T	12T
Metric Tube	O.D.(mm)	6	8	10	12
	Designator	6M	8M	10M	12M

• NPT (ISO/BSP)

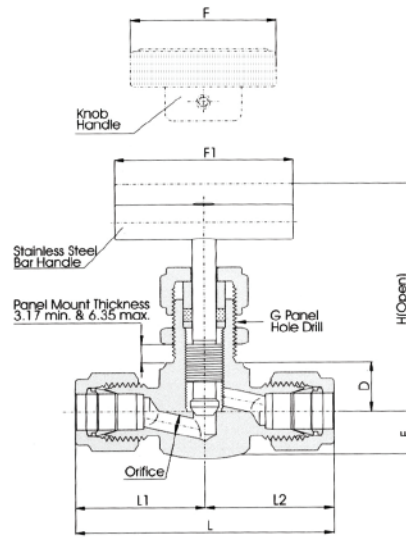
Thread	1/4	3/8	1/2	3/4
Designator	4(N)R	6(N)R	8(N)R	12(N)R

Example;

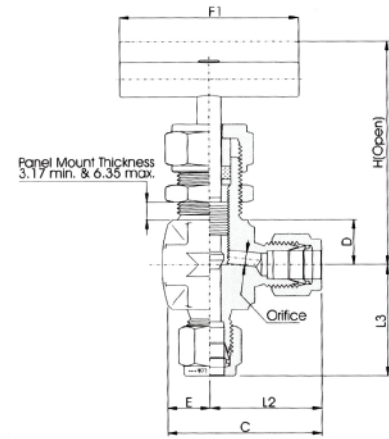
SG-NVU-12T-V-B-SS
Needle Valve, 3/4" OD, Standard Stem, Bar Handle, 316SS

SG-NVF-12N-V-B-SS
Needle Valve, 3/4" Female NPT, Standard Stem Bar Handle, 316SS

SG-AVU-08T-V-R-SS
Angle Valve, 1/2" OD, Standard Stem, Round Handle, 316SS



Straight Pattern



Angle Pattern

Table of Dimensions

Basic Part No.	Orifice	Cv	End Connections		Dimensions										
			Inlet	Outlet	L	L1	L2	L3	C	D	E	F	F1	G	H
F -2N	2.0	0.09	1/8" Female NPT	1/8" Female NPT	42.0	21.0	21.0	21.0	30.5	11.0	9.5	28.0	32.0	13.5	55.0
M -2N			1/8" Male NPT	1/8" Male NPT			20.0									29.5
MU -2N2T			1/8" Male NPT	1/8" SG-Lok	47.0	26.0	35.5								
U -2T			1/8" SG-Lok	1/8" SG-Lok	52.0	26.0	26.0	26.0	35.5						
U -3M			3mm SG-Lok	3mm SG-Lok	52.0	26.0	26.0	26.0	35.5						
F -2N	4.3	0.37	1/8" Female NPT	1/8" Female NPT	42.0	21.0	21.0	21.0	30.5	11.0	9.5	35.0	45.0	13.5	63.0
M -2N			1/8" Male NPT	1/8" Male NPT			25.0									34.5
M -4N			1/4" Male NPT	1/4" SG-Lok	50.0	28.8	25.0	38.3							
MU -4N4T			1/4" Male NPT	1/4" SG-Lok	53.8	28.8	28.8	28.8	38.3						
U -6M			6mm SG-Lok	6mm SG-Lok	57.6	28.8	28.8	28.8	38.3						
U -4T	1/4" SG-Lok	1/4" SG-Lok	57.6	28.8	28.8	28.8	38.3								
U -8M	8mm SG-Lok	8mm SG-Lok	59.2	29.6	29.6	29.6	39.1								
F -4N	6.3	0.73	1/4" Female NPT	1/8" Female NPT	56.0	28.0	28.0	28.0	41.0	13.5	13.0	46.0	64.0	20.0	76.0
F -4R			1/4" Female ISO	1/8" Female ISO											
MF -4N			1/4" Male NPT	1/8" Female NPT	61.2	33.2	46.2								
SG-NV MU -4N6T			1/4" Male NPT	3/8" SG-Lok											
M -6N			3/8" Male NPT	3/8" Male NPT	58.0	29.0	29.0	42.0							
MU -6N6T			3/8" Male NPT	3/8" SG-Lok	62.2	29.0	33.2	29.0	46.2						
MU -6N8T			3/8" Male NPT	1/2" SG-Lok	65.0	36.0	49.0								
U -10M			10mm SG-Lok	10mm SG-Lok	66.4	33.2	33.2	33.2	46.2						
U -6T			3/8" SG-Lok	3/8" SG-Lok	66.4	33.2	33.2	33.2	46.2						
U -12M			12mm SG-Lok	12mm SG-Lok	72.0	36.0	36.0	36.0	49.0						
U -8T	1/2" SG-Lok	1/2" SG-Lok	72.0	36.0	36.0	36.0	49.0								
F -6N	9.5	1.8	3/8" Female NPT	3/8" Female NPT	76.0	38.0	38.0	38.0	57.0	19.0	19.0	55.0	76.0	22.5	100.0
F -6R			3/8" Female ISO	3/8" Female ISO											
F -8N			1/2" Female NPT	1/2" Female NPT	97.0	48.5	48.5	48.5	67.5						
F -8R			1/2" Female ISO	1/2" Female ISO											
M -8N			1/2" Male NPT	1/2" Male NPT											
MF -8N			1/2" Male NPT	1/2" Female NPT											
U -8T			1/2" SG-Lok	1/2" SG-Lok											
U -12T			3/4" SG-Lok	3/4" SG-Lok											

All dimensions in millimeters. Dimensions Shown with SG-Lok nuts in finger-tight position, Where applicable.

Technical Data

Materials of Construction

Description		Grade/ASTM Specification		
		Valve	Body	Materials
		SS 316	Brass	Alloy 400
Handle	Bar	Stainless Steel	-	Stainless Steel
	Knob		Black Phenolic	
Packing Nut		SS 316/A479	Brass 360/B16	Alloy R-405/B164
Packing*			PTFE(TFE)	
Packing Ring		SS 316/A479	Brass 360/B16	Alloy R-405/B164
Stem*	Vee			
	Regulating	SS 316 / A479	Brass 360 / B16	Alloy R-405/B164
	Soft Seat			
Soft Tip*			Kel-F(CTFE)	
Panel Nut		SS 316/A479	Brass 360/B16	SS 316/A276
Body*		SS 316/A182	Brass 377/B283	Alloy R-400/B564

Note : "*" marked are wetted parts.
Nickel anti-seize lubricant on non-wetted parts.

Temperature vs Working Pressure

Body Material	Stem	Temperature Rating	Pressure Rating @-65°F~100°F (-54°C ~ 38°C)
316 Stainless Steel	Vee & Regulating	-65°F ~ 450°F (-54°C ~ 232°C)	5000psig
	Soft Seat (Kel-F)	-65°F ~ 200°F (-54°C ~ 93°C)	
Brass	Vee & Regulating	-65°F ~ 400°F (-54°C ~ 204°C)	3000psig
	Soft Seat (Kel-F)	-65°F ~ 200°F (-54°C ~ 93°C)	
Alloy 400 (Monel)	Vee & Regulating	-65°F ~ 450°F (-54°C ~ 232°C)	3000psig
	Soft Sea (Kel-F)	-65°F ~ 200°F (-54°C ~ 93°C)	

- The above ratings are for a standard valve with PTFE packing. For optional packing materials, refer to the table shown below.
- Extreme temperature fluctuations may require packing adjustment.

Temperature vs Working Pressure

Temperature	Pressure (psig) @ Temperature Rating			
	ANSI Group	2,2	N/A	3,4
	Materials	316SS	Brass	Alloy 400
-65°F(-54°C) to	100°F(38°C)	5000	3000	3000
	200°F(93°C)	4290	2600	2640
	300°F(148°C)	3870	2210	2470
	350°F(176°C)	3710	1470	2430
	400°F(204°C)	3560	740	2390
	450°F(232°C)	3430	-	2380

- To determine KPa, multiply psig by 6.89 and bar by 0.0689
- When valves with SG-Lok Fitting and connections are connected to tubing, the working pressure of tubing must be the considered in the calculation of total system working pressure.

Packing and body Materials vs Temperature and Pressure Rating

Packing Material	Body Material	Temperature	Pressure @ Temp Rating
PTFE (Standard)	316 Stainless	450°F (232°C)	3430 psig
	Steel		
PEEK* (Optional)	316 Stainless	-65°F ~ 600°F (-54°C ~ 315°C)	3130 psig
	Steel		
	Alloy 400	-65°F ~ 500°F (-54°C ~ 260°C)	2370 psig

- ★PEEK is not recommended for service with aromatic heat transfer fluids or concentrated sulfuric and nitric acids. Other limitations may apply.



ISO 9001 · ISO 14001 인증업체

www.sglok.com

SG-Lok Instrumentation

PIPE FITTINGS

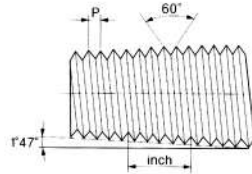
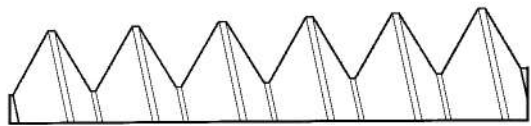


Thread Information

- Threads of many different kinds are used for different purposes in small piping components. The followings are the most common types of pipe threads.

1. NPT Tapered Pipe Threads

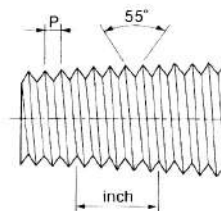
- NPT(National Pipe Tapered) is made to specifications outlined in ANSI B1.2. This is the pipe thread used on the pipe end.



- 60° Thread Angle
- Taper Angle 1° 47'
- Truncation of root and crest are flat.
- Pitch measured in inches.

2. ISO 7/1 Tapered Pipe Threads

- International Organization For Standards(ISO 7/1) Tapered.(P,T) ISO tapered threads are equivalent to DIN 2999, BSP TR, JIS B0203, R 1/8 and R 1/4 Keg.



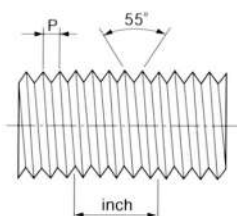
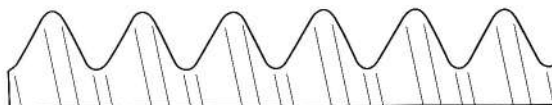
- In application ISO threads are used similar to NPT threads. However, care should be used that ISO and NPT threads are not mixed. ISO threads have a 55° angle versus 60° for NPT. Thread pitch is usually measured in millimeters but may be expressed in inch. In many size the threads-per-inch are different and the root and crest configurations are different from NPT.

- 55° Thread Angle
- Taper Angle 1° 47'
- Truncation of root and crest are round.
- Pitch measured in millimeters.

3. ISO 228/1 Parallel Pipe Threads

- International Organization For Standards(ISO 228/1) Paralle(PF) ISO Parallel threads are equivalent to DIN ISO 228/1, BSP PL, JIS B0202, R 1/8 and R 1/4.

- These pipe threads are similar in configuration to 7/1 threads except there is no taper. Therefore do not work by thread interference like the tapered pipe threads of ISO 7/1 or NPT. A gasket or O-Ring is normally used to seal into the parallel female threaded component.



- 55° Thread Angle
- Diameter measured in inches.
- Truncation of root and crest are round.
- Pitch measured in inches.

Comparison Chart Pipe Threads

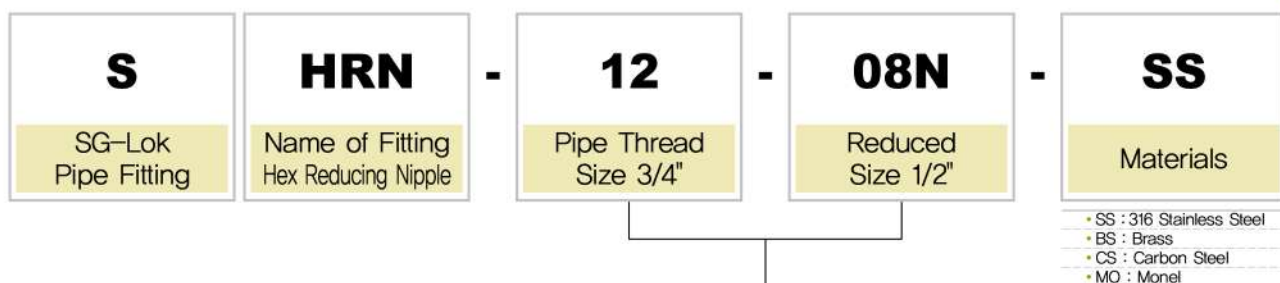
Nominal Size	Threads Per inch	Included Thread Angle	Pitch	Pipe O.D.
1/16"	NPT 27	60°	0.037"	0.312"
	ISO 28	55°	0.036"	0.312"
1/8"	NPT 27	60°	0.037"	0.405"
	ISO 28	55°	0.036"	0.398"
1/4"	NPT 18	60°	0.0556"	0.540"
	ISO 19	55°	0.053"	0.535"
3/8"	NPT 18	60°	0.0556"	0.675"
	ISO 19	55°	0.053"	0.672"
1/2"	NPT 14	60°	0.0714"	0.840"
	ISO 14	55°	0.071"	0.843"
3/4"	NPT 14	60°	0.0714"	1.050"
	ISO 14	55°	0.071"	1.060"
1" NPT	NPT 11-1/2	60°	0.087"	1.315"
	ISO 11	55°	0.091"	1.331"
1-1/4"	NPT 11-1/2	60°	0.087"	1.660"
	ISO 11	55°	0.091"	1.669"
1-1/2"	NPT 11-1/2	60°	0.087"	1.900"
	ISO 11	55°	0.091"	1.900"
2"	NPT 11-1/2	60°	0.087"	2.375"
	ISO 11	55°	0.091"	2.375"

Pressure Ratings

Size Designator	NPT Size	316 Stainless Steel				Brass				Carbon Steel			
		Male		Female		Male		Female		Male		Female	
		psig	bar	psig	bar	psig	bar	psig	bar	psig	bar	psig	bar
1	1/16	11,000	757	6700	461	5500	378	3300	227	11,000	757	6700	461
2	1/8	10,000	689	6500	447	5000	344	3200	220	10,000	689	6500	447
4	1/4	8000	551	6600	454	4000	275	3300	227	8000	551	6600	454
6	3/8	7800	537	5300	365	3900	268	2600	179	7800	537	5300	365
8	1/2	7700	530	4900	337	3800	261	2400	165	7700	530	4900	337
12	3/4	7300	502	4600	316	3600	248	2300	158	7300	502	4600	316
16	1	5300	365	4400	303	2600	179	2200	151	5300	365	4400	303
20	1 1/4	6000	413	5000	344	3000	206	2500	172	6000	413	5000	344
2	1 1/2	5000	344	4600	316	2500	172	2300	158	5000	344	4600	316
32	2	3900	268	3900	268	1900	130	1900	130	3900	268	3900	268

- Working pressures calculated are reference only.
- Working pressures calculated as per Process Piping Code ANSI B31.3 with allowable stress 20,000psi / SS316, 10,000psi / Brass, 20,000psi / Carbon steel and for working pressure in accordance with Power Piping Code ANSI B31.1 simply calculate applying a factor of 0.94(94%) to above chart.
- Due to larger outer diameter of female threads pressure ratings of female are lower than male threads.
- To determine kPa, multiply psig by 6.89
- Pressure ratings of Hex Bushing (SRB) are not covered with this pressure rating table therefore indicated in its dimensional table.

How to Order










Pipe Thread Designator

Nominal Size	1/16"	1/8"	1/4"	3/8"	1/2"	3/4"	1"	1-1/4"	1-1/2"	2"	Applicable Specifications
NPT	1N	2N	4N	6N	8N	12N	16N	20N	24N	32N	ANSI B1. 20. 1 (NPT)
ISO Tapered	1R	2R	4R	6R	8R	12R	16R	20R	24R	32R	JIS B0203(PT), DIN 2999, ISO 7/1, BS 21 (BSPT)
ISO Parallel	1G	2G	4G	6G	8G	12G	16G	20G	24G	32G	JIS B0202(PF), DIN 228/1, BS 2779 (BSPP)
Unified Screw	1U	2U	4U	6U	8U	12U	16U	20U	24U	32U	American Standard Unified Screw Thread

INDEX

Male Pipe to Male Pipe

Close Nipple	SCN		..... 5
Hex Nipple	SHN		..... 5
Hex Long Nipple	SHLN		..... 5
Hex Reducing Nipple	SHRN		..... 6
Long Nipple	SLN		..... 6
Male Elbow	SME		..... 6
Male Tee	SMT		..... 6




Female Pipe to Male Pipe

Adopter	SA		..... 7
Reducing Adapter	SRA		..... 7
Reducing Bushing	SRB		..... 7
Street Elbow	SSE		..... 8
Street Tee	SST		..... 8
Branch Tee	SBT		..... 8



Female Pipe to Female Pipe

Coupling	SC		..... 9
Reducing Coupling	SRC		..... 9
Female Elbow	SFE		.....10
Female Tee	SFT		.....10
Union Ball Joints	SUBJ		.....10

Female Pipe to Welded Systems

Coupling S.W Type	SCSW		..... 11
Reducing Coupling S.W Type	SRCSW		..... 11
Special Coupling	SSC		..... 11

Components

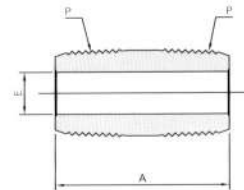
Pipe Cap	SPC		..... 11
Pipe Plug	SPP		..... 11

SCN

Close Nipple

Connects Female Pipe To Female Pipe

Part No.	Pipe Size PT,NPT	Dimensions	
		A	E
SCN-02	1/8	19.1	4.8
SCN-04	1/4	28.4	7.0
SCN-06	3/8	28.4	10.0
SCN-08	1/2	38.1	12.0
SCN-12	3/4	38.1	16.0
SCN-16	1	47.8	22.0

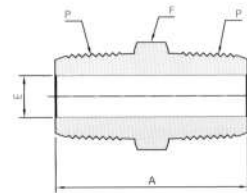


SHN

Hex Nipple

Connects Female Pipe To Female Pipe

Part No.	Pipe Size PT,NPT	Dimensions		
		A	E	F
SHN-02	1/8	25	4.8	7/16
SHN-04	1/4	35	7.0	9/16
SHN-06	3/8	36	10.0	11/16
SHN-08	1/2	47	12.0	7/8
SHN-12	3/4	47	16.0	1-1/16
SHN-16	1	59	22.0	1-3/8

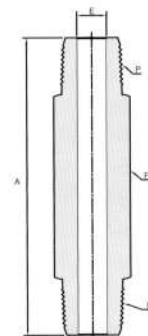


Connects Female Pipe To Female Pipe

Part No.	Pipe Size PT,NPT	Dimensions		
		A	E	F
SHLN-02-1.5	1/8	40	4.8	7/16
SHLN-02-2.0		50		
SHLN-02-2.5		65		
SHLN-02-3.0		75		
SHLN-02-4.0		100		
SHLN-04-1.5	1/4	40	7.0	9/16
SHLN-04-2.0		50		
SHLN-04-2.5		65		
SHLN-04-3.0		75		
SHLN-04-4.0		100		
SHLN-04-6.0	150			
SHLN-06-2.0	3/8	50	10.0	11/16
SHLN-06-3.0		75		
SHLN-06-4.0		100		
SHLN-08-2.0	1/2	50	12.0	7/8
SHLN-08-3.0		75		
SHLN-08-4.0		100		
SHLN-08-6.0		150		
SHLN-12-3.0		3/4			75	16.0	1-1/16
SHLN-12-4.0	100			
SHLN-16-3.0	1	75	22.0	1-3/8
SHLN-16-4.0		100		

SHLN

Hex Long Nipple



Note : Dimensions are reference only, subject to change without prior notice.

Pipe Fittings

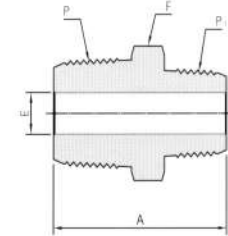
SAM WON GREEN

Connects Female Pipe To Female Pipe

Part No.	Pipe Size		Dimensions		
	P-PT,NPT	P1-PT,NPT	A	E	F
SHRN-04-02	1/4	1/8	31	4.8	9/16
SHRN-06-04	3/8	1/4	36	7.0	11/16
SHRN-08-04	1/2	1/4	42	7.0	7/8
SHRN-08-06	1/2	3/8	42	10.0	7/8
SHRN-12-06	3/4	3/8	44	10.0	7/8
SHRN-12-08	3/4	1/2	49	12.0	1-1/16
SHRN-16-08	1	1/2	54	12.0	1-3/8
SHRN-16-12	1	3/4	54	16.0	1-3/8

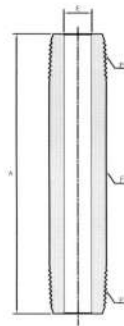
SHRN

Hex Reducing Nipple



SLN

Long Nipple

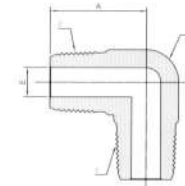


Connects Female Pipe To Female Pipe

Part No.	Pipe Size PT,NPT	Dimensions		
		A	E	F
SLN-02-1.5	1/8	40	5.7	Ø10.5
SLN-02-2.0		50		
SLN-02-2.5		65		
SLN-02-3.0		75		
SLN-02-4.0		100		
SLN-04-1.5	1/4	40	7.8	Ø13.8
SLN-04-2.0		50		
SLN-04-2.5		65		
SLN-04-3.0		75		
SLN-04-4.0		100		
SLN-04-6.0	150			
SLN-06-2.0	3/8	50	10.9	Ø17.3
SLN-06-3.0		75		
SLN-06-4.0		100		
SLN-08-2.0	1/2	50	14.3	Ø21.7
SLN-08-3.0		75		
SLN-08-4.0		100		
SLN-08-6.0		150		
SLN-12-3.0		3/4			75	19.4	Ø27.2
SLN-12-4.0	100			
SLN-16-3.0	1		75	25.0	Ø34.0
SLN-16-4.0		100		

SME

Male Elbow

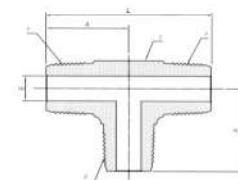


Connects Female Pipe To Female Pipe

Part No.	Pipe Size PT,NPT	Dimensions		
		A	E	F
SME-02	1/8	19.5	4.8	7/16
SME-04	1/4	23.4	7.0	1/2
SME-06	3/8	28.0	10.0	13/16
SME-08	1/2	36.8	12.0	13/16

SMT

Male Tee



Connects Female Pipe To Female Pipe

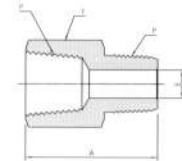
Part N	Pipe Size PT,NPT	Dimensions			
		A	E	L	F
SMT-02	1/8	19.5	4.8	39.0	7/16
SMT-04	1/4	23.0	7.0	46.0	9/16
SMT-06	3/8	28.0	10.0	56.0	11/16
SMT-08	1/2	36.8	12.0	73.6	13/16

SA

Adapter

Connects Male Pipe To Female Pipe

Part No.	Pipe Size		Dimensions		
	PT,NPT		A	E	F
SA-02	1/8		28	4.8	9/16
SA-04	1/4		33	7.0	3/4
SA-06	3/8		36	10.0	7/8
SA-08	1/2		45	12.0	1-1/16
SA-12	3/4		50	16.0	1-1/4
SA-16	1		58	22.0	1-5/8

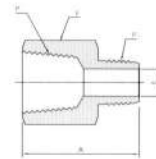


SRA

Reducing Adapter

Connects Male Pipe To Female Pipe

Part No.	Pipe Size		Dimensions		
	P-PT,NPT	PI-PT,NPT	A	E	F
SRA-04-02	1/4	1/8	30	4.8	3/4
SRA-06-04	3/8	1/4	35	7.0	7/8
SRA-08-04	1/2	1/4	39	7.0	1-1/16
SRA-08-06	1/2	3/8	41	10.0	1-1/16
SRA-12-06	3/4	3/8	44	10.0	1-1/4
SRA-12-08	3/4	1/2	48	12.0	1-1/4
SRA-16-08	1	1/2	52	12.0	1-5/8
SRA-16-12	1	3/4	55	16.0	1-5/8

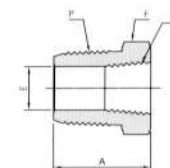


SRB

Reducing Bushing

Connects Female Pipe To Male Pipe

Part No.	Pipe Size		Dimensions		
	P-PT,NPT	PI-PT,NPT	A	E	F
SRB-04-02	1/4	1/8	22	8.0	9/16
SRB-06-04	3/8	1/4	23	11.0	11/16
SRB-08-04	1/2	1/4	28	11.0	7/8
SRB-08-06	1/2	3/8	28	15.0	7/8
SRB-12-04	3/4	1/4	31	11.0	1-1/16
SRB-12-06	3/4	3/8	31	15.0	1-1/16
SRB-12-08	3/4	1/2	31	18.0	1-3/8
SRB-16-08	1	1/2	35	18.0	1-3/8
SRB-16-12	1	3/4	35	22.0	1-3/8

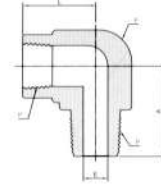


SSE

Street Elbow

Connects Male Pipe To Female Pipe

Part No.	Pipe Size P-PT,NPT	Dimensions			
		A	L	E	F
SSE-02	1/8	26.4	26.4	4.8	1/2
SSE-04	1/2	29.7	29.7	7.0	11/16
SSE-06	3/8	32.0	36.1	10.0	13/16
SSE-08	1/2	39.6	39.6	12.0	1

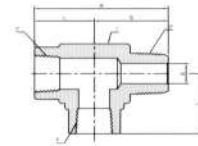


SST

Street Tee

Connects Male Pipe To Female Pipe

Part No.	Pipe Size P-PT,NPT	Dimensions				
		A	L	S	E	F
SST-02	1/8	48.5	26.4	22.1	4.8	1/2
SST-04	1/4	59.4	29.7	29.7	7.0	11/16
SST-06	3/8	68.1	36.1	32.0	10.0	13/16
SST-08	1/2	79.2	39.6	39.6	12.0	1

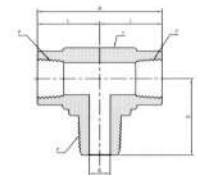


SBT

Branch Tee

Connects Male Pipe To Female Pipe

Part No.	Pipe Size P-PT,NPT	Dimensions				
		A	L	S	E	F
SBT-02	1/8	52.8	26.4	22.1	4.8	1/2
SBT-04	1/4	59.4	29.7	29.7	7.0	11/16
SBT-06	3/8	72.1	36.1	32.0	10.0	13/16
SBT-08	1/2	79.2	39.6	39.6	12.0	1

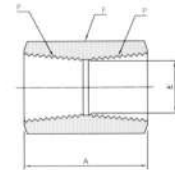


SC

Coupling

Connects Male Pipe To Male Pipe

Part No.	Pipe Size		Dimensions		
	PT,NPT		A	E	F
SC-02	1/8		21	8.0	9/16
SC-04	1/4		30	11.0	3/4
SC-06	3/8		30	15.0	7/8
SC-08	1/2		40	18.0	1-1/16
SC-12	3/4		42	22.0	1-1/4
SC-16	1		51	25.0	1-5/8

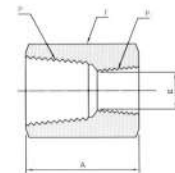
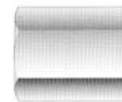


SRC

Reducing Coupling

Connects Male Pipe To Male Pipe

Part No.	Pipe Size		Dimensions		
	P-PT,NPT	P1-PT,NPT	A	E	F
SRC-04-02	1/4	1/8	30	8.0	3/4
SRC-06-04	3/8	1/4	30	11.0	7/8
SRC-08-04	1/2	1/4	40	11.0	1-1/16
SRC-08-06	1/2	3/8	40	15.0	1-1/16
SRC-12-06	3/4	3/8	40	15.0	1-1/16
SRC-12-08	3/4	1/2	42	18.0	1-1/4
SRC-16-08	1	1/2	51	18.0	1-5/8
SRC-16-12	1	3/4	51	22.0	1-5/8

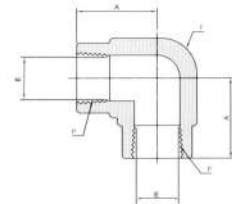


SFE

Female Elbow

Connects Male Pipe To Male Pipe

Part No.	Pipe Size	Dimensions		
	PT,NPT	A	E	F
SFE-02	1/8	26.4	8.6	1/2
SFE-04	1/4	29.7	11.4	11/16
SFE-06	3/8	36.0	14.9	13/16
SFE-08	1/2	39.6	18.5	1

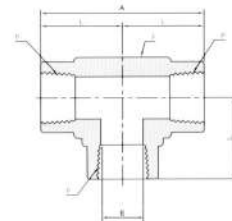


SFT

Female Tee

Connects Male Pipe To Male Pipe

Part No.	Pipe Size	Dimensions			
	P-PT,NPT	A	L	E	F
SFT-02	1/8	52.8	26.4	8.6	1/2
SFT-04	1/4	59.4	29.7	11.4	11/16
SFT-06	3/8	72.2	36.1	15.0	13/16
SFT-08	1/2	79.2	39.6	18.5	1

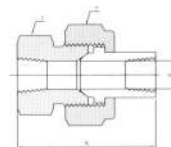
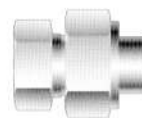


SUBJ

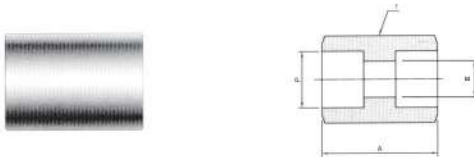
Union Ball Joints

Connects Male Pipe To Male Pipe

Part No.	Pipe Size	Dimensions			
	P-PT,NPT	A	L	F	F ₁
SUBJ-02	1/8	46.0	6.8	1-1/8	15/16
SUBJ-04	1/4	59.4	9.1	1-3/8	1-3/16
SUBJ-06	3/8	63.5	13.2	1-1/2	1-5/16
SUBJ-08	1/2	68.3	15.7	1-3/4	1-5/8
SUBJ-12	3/4	79.2	22.4	2-1/8	1-7/8
SUBJ-16	1	90.4	26.2	2-1/2	2-3/8



SCSW Coupling S.W Type



Connects Both Welded Systems

Part No.	Pipe Size		Dimensions			
	Nom Size	P-SW	A	E	F	
SCSW-08	1/2	22.2	29.5	14.0	Ø32	
SCSW-12	3/4	27.7	35.5	19.0	Ø38	
SCSW-16	1	34.5	38.7	25.0	Ø46	

SRCSW Reducing Coupling S.W Type



Connects Both Welded Systems

Part No.	Pipe Size			Dimensions		
	Nom Size	P-SW	PI-SW	A	E	F
SRCSW-12-08	3/4x1/2	27.7	22.2	32.5	14.0	Ø38
SRCSW-16-08	1x1/2	34.5	22.2	35.7	14.0	Ø46
SRCSW-16-12	1x3/4	34.5	27.7	38.7	19.0	Ø46

SSC Special Coupling



Connects Male Pipe to Welded Systems

Part No.	Pipe Size			Dimensions		
	Nom Size	P-SW	PI-SW	A	E	F
SSC-08-08W	1/2	1/2	22.2	40	14.0	Ø38
SSC-12-12W	3/4	3/4	27.7	43	19.0	Ø46
SSC-16-16W	1	1	34.5	50	25.0	Ø46

SPC Pipe Cap



Connects Male Pipe

Part No.	Pipe Size PT,NPT	Dimensions	
		L	E
SPC-02	1/8	19	9/16
SPC-04	1/4	23	3/4
SPC-06	3/8	23	7/8
SPC-08	1/2	34	1-1/16
SPC-12	3/4	34	1-1/4
SPC-16	1	41	1-5/8

SPP Pipe Plug



Connects Female Pipe To Female Pipe

Part No.	Pipe Size PT,NPT	Dimensions	
		A	E
SPP-02	1/8	19	7/16
SPP-04	1/4	24	9/16
SPP-06	3/8	25	11/16
SPP-08	1/2	31	7/8
SPP-12	3/4	31	1-1/16
SPP-16	1	38	1-3/8

PIPE FITTINGS

삼원그린

경기도 시흥시 마유로20번길 101 [3바 510] (정왕동)

TEL 031-431-3452 FAX 031-431-3460

101, Mayu-ro 20beon-gil, Siheung-si, Gyeonggi-do, Korea

www.sglok.com





www.sglok.com

SG-Lok Instrumentation

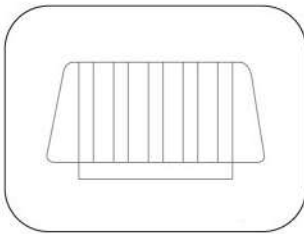
HEX BALL VALVES



Features

- Pressure rating up to 1000psi(69bar)
- Easy to operate owing to low torque quarter turn actuation
- All valve body's made from 316SS Bar Stock to secure the high integrity
- Micro finished 316SS balls not to occur the leakage
- Compact designed one piece hexagonal body
- Selection of Handle : Regular Handle, Lever type as standard, Butterfly type optional
- Wide choices of end connections : SG-Lok Tube Fittings, Male & Female NPT or PT(ISO 7/1) thread.

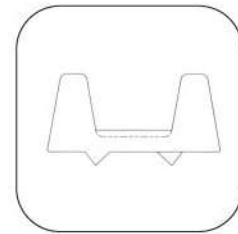
Type of Handle



Regular Handle



Lever Handle

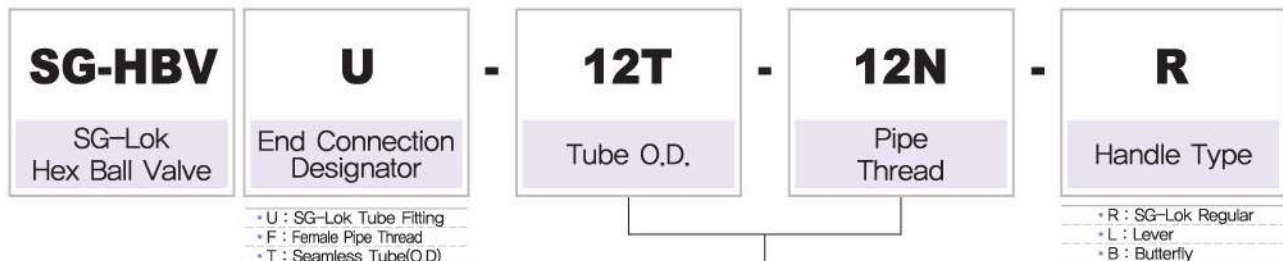


Butterfly Handle

Testing

- Every valve is 100% factory tested with air and nitrogen at 1000psi(69bar) for leakage at the seat and packing. Each test is performed to a maximum allowable leak rate of 0.1scc./min.

How to Order



• Tube

Tube	O.D.(in.)	1/8	1/4	3/8	1/2	3/4	1
	Designator	2T	4T	6T	8T	12T	16T
Metric Tube	O.D.(mm)	3	6	8	10	12	25
	Designator	3M	6M	8M	10M	12M	25M

• NPT (ISO/BSP)

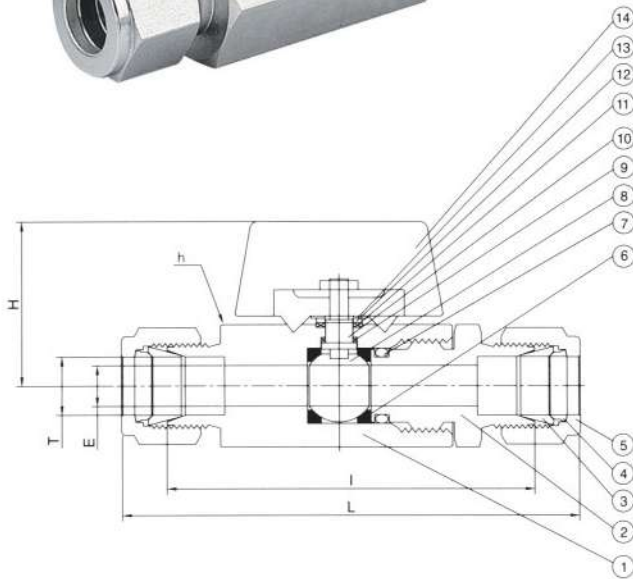
Thread (in.)	1/8	1/4	3/8	1/2	3/4	1
Designator	2(N)R	4(N)R	6(N)R	8(N)R	12(N)R	16(N)R

Example;

SG-HBVU-12T-R
 SG-Lok Hex Ball Valve, 3/4" OD, SG-Lok Regular Handle

SG-HBVF-12N-L
 SG-Lok Hex Ball Valve, 3/4" Female NPT, Lever Handle

● SG-HBVU Type (SG-Lok Tube Fitting)



Specification

Max Operating Pressure : 316SS-1000psi(69Bar)
 Connection : SG-Lok Tube Fitting

Materials of Construction

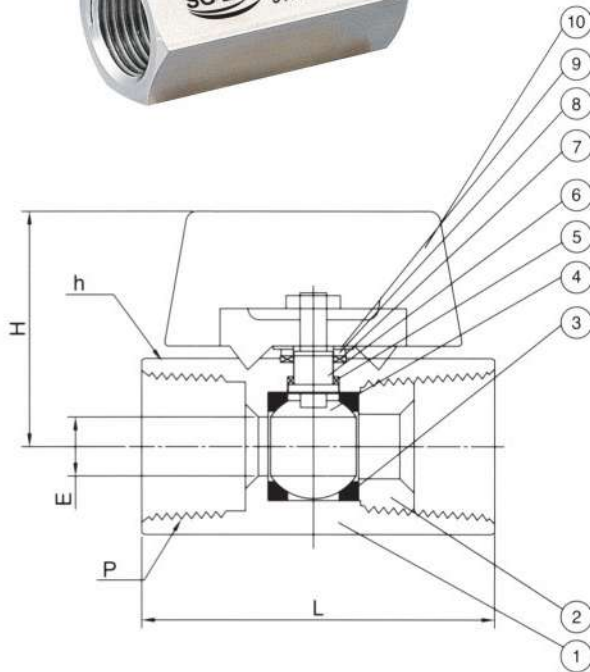
No.	Designation	Materials
1	Body	316SS
2	Connector	316SS
3	Front Ferrule	316SS
4	Back Ferrule	316SS
5	Nut	316SS
6	Ball Seat	PTFE(Glass 30%)
7	O-ring	Viton
8	Ball	316SS
9	Inner Packing	TFE
10	Stem	316SS
11	Outer Packing	TFE
12	Gland	316SS
13	Washer	316SS
14	Handle	STS304+PVC

Table of Dimension

Unit : mm

Part No.	Tube O.D.	Orifice	h(Hex)	L	H
SG-HBVU-04T	1/4"	5.0	17.46	81.0	35.0
SG-HBVU-06T	3/8"	7.5	20.63	90.0	42.0
SG-HBVU-08T	1/2"	9.0	26.98	99.0	49.0
SG-HBVU-12T	3/4"	12.5	31.75	110.0	54.0
SG-HBVU-16T	1"	16.0	38.10	134.0	65.0
SG-HBVU-M06T	6mm	5.0	17.46	81.0	35.0
SG-HBVU-M08T	8mm	5.0	17.46	83.0	35.0
SG-HBVU-M10T	10mm	7.5	20.63	90.0	42.0
SG-HBVU-M12T	12mm	9.0	26.98	99.0	49.0
SG-HBVU-M25T	25mm	16.0	38.10	134.0	65.0

● SG-HBVF Type (Female Therad)



Specification

Max Operating Pressure : 316SS-1000psi(69Bar)
 Connection : Female NPT or PT(ISO 7/1) Thread

Materials of Construction

No.	Designation	Materials
1	Body	316SS
2	Insert	316SS
3	Ball Seat	PTFE(Glass 30%)
4	Ball	316SS
5	Inner Packing	TFE
6	Stem	316SS
7	Outer Packing	TFE
8	Gland	316SS
9	Washer	316SS
10	Handle	STS304+PVC

Materials of Construction

Unit : mm

Part No.	NPT(ISO/BSP)	Orifice	h(Hex)	L	H
SG-HBVF-04N	1/4"	5.0	17.46	40.0	35.0
SG-HBVF-06N	3/8"	7.5	22.22	45.0	42.0
SG-HBVF-08N	1/2"	9.0	26.98	55.0	49.0
SG-HBVF-12N	3/4"	12.5	31.75	61.0	54.0
SG-HBVF-16N	1"	16.0	38.10	75.0	65.0

Male ISO Tapered Threads are available for all fractional SG-HBVF. Add "R" as a suffix instead of "N"
 Note : Dimensions are reference only, subject to change without prior notice.



ISO 9001 · ISO 14001 인증업체

www.sglok.com

SG-Lok Instrumentation

CHECK VALVES



삼원그린
SamWon green

Features

- Pressure rating up to 3000 psi(206 bar) @21°C(70°F)
- Temperature rating from -20°C(-4°F) to +190°C(374°F)with Viton® seal
- Fixed cracking pressure
- 316 Stainless steel
- Wide choices of end connections : SG-Lok Tube Fittings, Male & Female NPT or ISO 7/1 thread.

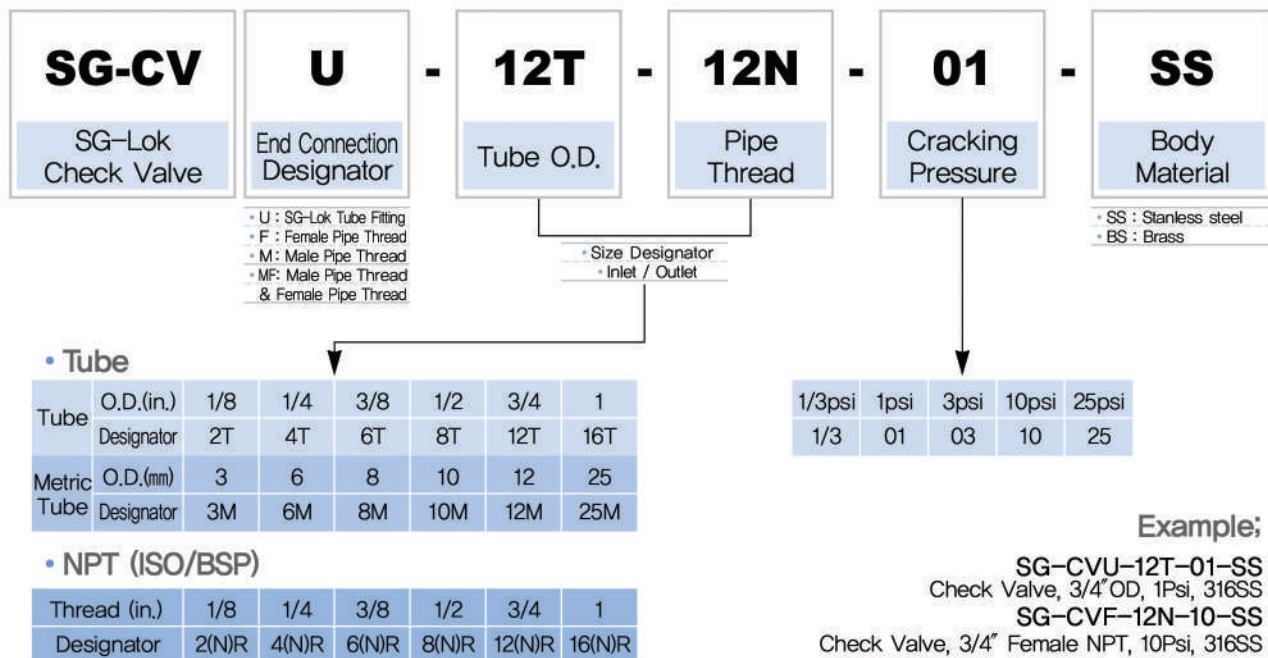
Testing

- Every valve is 100% factory tested with nitrogen for cracking and reseal performance.
- Other optional tests are available upon request.

Safe Valve Selection

- When selecting a valve, the total system design must be considered to ensure safe, trouble-free performance. Valve function, materials compatibility, adequate ratings, proper installation, operation and maintenance are the responsibility of the system designer or user.

How to Order



SG-CVU, SG-CVF, SG-CVM SG-CVMF, SG-CVMU Series

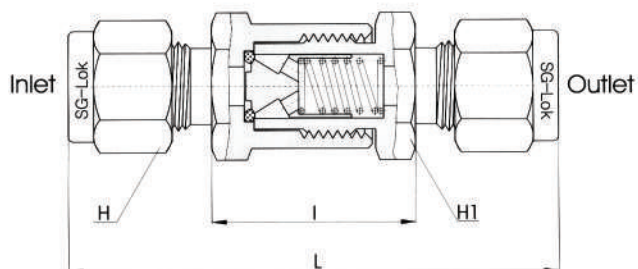


Table of Dimensions

Basic Part No.	Orifice	Cv	End Connections		Dimensions					
			Inlet	Outlet	L	I	H	H1		
SG-CV	U - 2T	4.8	0.16	1/8" SG-Lok	1/8" SG-Lok	55.60	25.00	11.11	15.88	
	M - 2N			1/8" Male NPT	1/8" Male NPT	44.40		-		
	F - 2N			1/8" Female NPT	1/8" Female NPT	46.60		-		
	U - 4T	4.8	0.47	1/4" SG-Lok	1/4" SG-Lok	60.00	25.00	14.28	15.88	
	U - 6M			6mm SG-Lok	6mm SG-Lok	60.00		14.28		
	MU-4N4T			1/4" Male NPT	1/4" SG-Lok	56.40		14.28		
	M - 4N			1/4" Male NPT	1/4" Male NPT	53.40		-		
	F - 4N			1/4" Female NPT	1/4" Female NPT	54.60		-		19.05
	U - 6T			7.1	1.48	3/8" SG-Lok		3/8" SG-Lok		74.80	36.20	17.46	22.22
	U - 10M	10mm SG-Lok	10mm SG-Lok			74.80	36.20	19.05		
	M - 6N	3/8" Male NPT	3/8" Male NPT			64.60	-			
	F - 6N	10.0	1.7	3/8" Female NPT	3/8" Female NPT	63.80	36.20	-	22.22	
	U - 8T			1/2" SG-Lok	1/2" SG-Lok	80.20		36.20		22.22
	U - 12M			12mm SG-Lok	12mm SG-Lok	80.20		36.20		22.22
	M - 8N			1/2" Male NPT	1/2" Male NPT	74.40		-		
	F - 8N	13.5	2.6	1/2" Female NPT	1/2" Female NPT	84.70	-	-	28.58	
U - 10T	5/8" SG-Lok			5/8" SG-Lok	91.80	48.10		25.40		
U - 12T	16.0	5.2	3/4" SG-Lok	3/4" SG-Lok	110.70	67.00	28.58	31.75		
M - 12N			3/4" Male NPT	3/4" Male NPT	105.30		-			
F - 12N			3/4" Female NPT	3/4" Female NPT	103.00		-			
U - 16T	18.0	8.0	1" SG-Lok	1" SG-Lok	121.20	68.40	38.10	34.93		
M - 16N			1" Male NPT	1" Male NPT	116.20		-			
F - 16N			1" Female NPT	1" Female NPT	111.40		-		41.28	

All dimensions in millimeters. Dimensions Shown with SG-Lok nuts in finger-tight position, Where applicable.

Technical Data

End Connection Sizes	1/8", 1/4", 6mm	3/8", 1/2", 5/8", 10mm, 12mm	3/4", 1"
Max. Working Pressure @21°C (70°F)	3000 psig (206 bar)		Brass : 1500 psig (103 bar) 316ss : 2000 psig (137 bar)
Operating Temperature Range	Viton : -10°F to 375°F (-23°C to 191°C) Buna - N : -10°F to 250°F (-23°C to 121°C)		
Nominal Cracking Pressure	1/3, 1, 3, 10, 25, 100psi		1/3, 1, 3, 10, 25
Max Back Pressure	1000psi for 10psi or lower cracking pressure; 3000psi for others	200psi	

CHECK VALVES

삼원그린

경기도 시흥시 마유로20번길 101 [3바 510] (정왕동)

TEL 031-431-3452 FAX 031-431-3460

101, Mayu-ro 20beon-gil, Siheung-si, Gyeonggi-do, Korea

www.sglok.com



SG-HBV-K Series Ball Valve

-Key Lock Ball Valve

General

The SG-HBV-K series are the moderate-pressure ball valves for general service. These valves are compact in size and structure and have relatively large ports for high flow, tight shutoff, long-life service and low operating torque and this series can be used for bi-directional flow. These perform on/off service.

SG-HBV-K series is rated to max. 1000 psig (69 bar) with standard PTFE seat.

- Maximum Allowable Working Pressure : 1000psig (69bar) with PTFE seat
- Maximum Allowable Working Temperature : 38 C (100 F) with PTFE, 170 C (338 F) with PEEK
- Flow Coefficient (Cv) : 1.4 to 17.4
- Size range : 1/4" to 1" or 6mm to 25mm



Features

- Locking handle in on and off position
- Blow-out proof design with internally loaded stem
- Floating Ball design providing seat wear compensation
- Micro-finished ball ensures a leak-tight shut-off on pressure
- Low torque for easy operation
- Compact and one piece ball valve with female configuration

Materials of Construction

No	Component	Q'ty	Materials
1	Handle for Locking	1	Nylon
2	Name Plate	1	AL
3	Key	1	304SS
4	Locking Nut	1	304SS
5	Spring Washer	1	304SS
6	Disc Washer	1	304SS
7	Flat Washer	1	304SS
8	Stem Packing	1	PTFE
9	Stem Seat	1	PTFE
10	Stem	1	316SS
11	Body	1	316SS
12	Ball	1	316SS
13*	Ball Seat	2	PTFE or OTHERS
14	Gasket	1	PTFE
15	Connector	1	316SS
16	Front Ferrule	2	316SS
17	Back Ferrule	2	316SS
18	Nut	2	316SS

13* Ball Seat : PTFE(standard), PCTFE, PEEK(option)

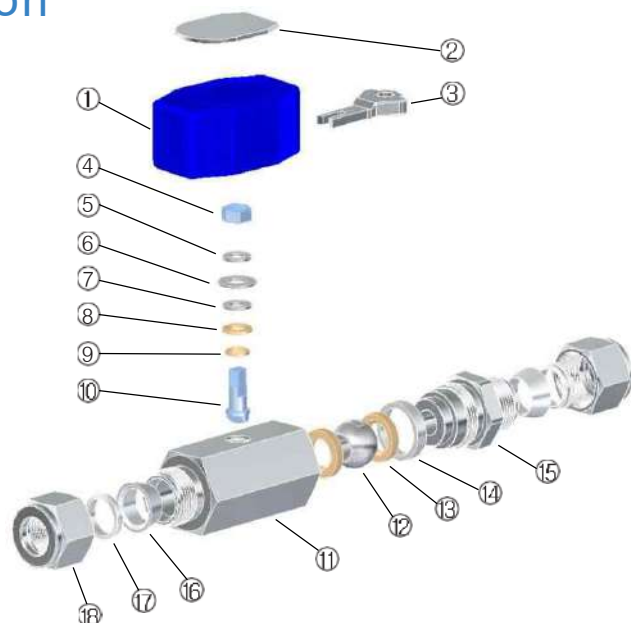
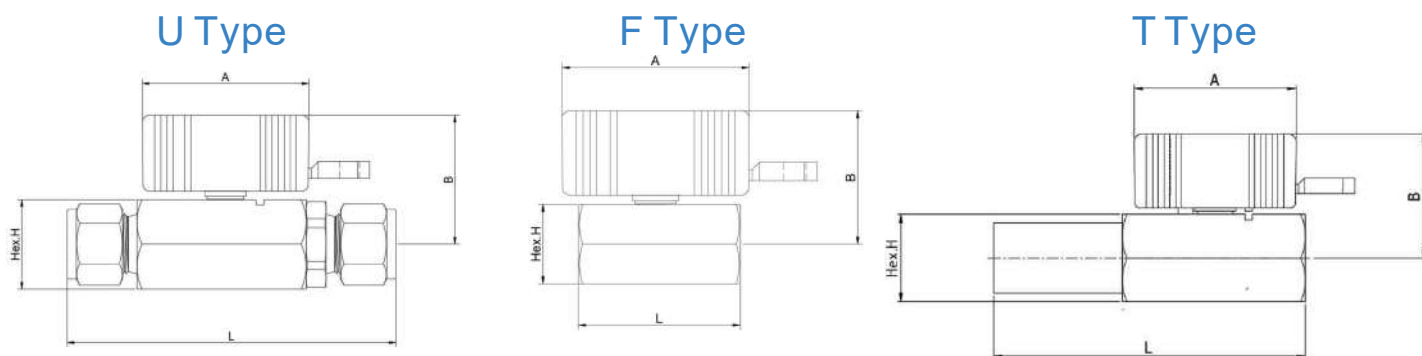


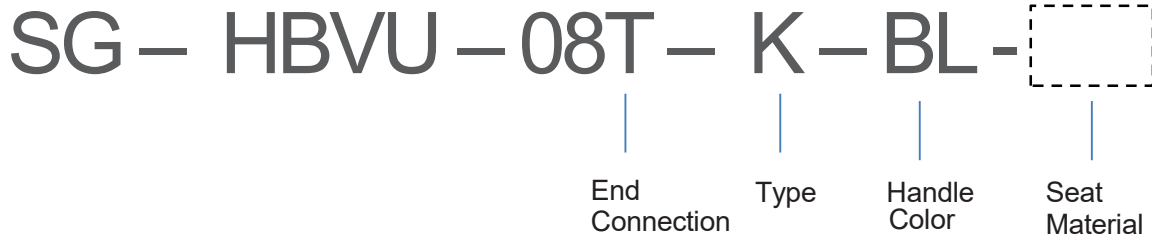
Table of Dimensions



Series	End Connection Type	Designation	Orifice (mm)	Cv	Dimension(mm)				
					L	A	B	H(Hex)	
SG-HBV	U	04T	Tube Fitting 1/4"	5.0	1.4	88.4	50.4	35.5	20.63
		06T	Tube Fitting 3/8"	7.5	2.6	91.3	50.4	35.5	20.63
		08T	Tube Fitting 1/2"	9.0	9.3	101.6	50.4	38.5	26.98
		12T	Tube Fitting 3/4"	12.5	12.7	106.9	50.4	40.9	31.75
		16T	Tube Fitting 1"	16.0	17.4	134.0	50.4	44.5	38.10
		6M	Tube Fitting 6mm	5.0	1.4	88.4	50.4	35.5	20.63
		10M	Tube Fitting 10mm	7.5	2.6	91.3	50.4	35.5	20.63
		12M	Tube Fitting 12mm	9.0	9.3	101.6	50.4	38.5	26.98
		18M	Tube Fitting 18mm	12.5	12.7	106.9	50.4	40.9	31.75
		25M	Tube Fitting 25mm	16.0	17.4	134.0	50.4	44.5	38.10
	F	04R(N)	F-(N)PT 1/4	5.0	1.4	45.0	50.4	35.5	20.63
		06R(N)	F-(N)PT 3/8	7.5	2.6	45.0	50.4	35.5	20.63
		08R(N)	F-(N)PT 1/2	9.0	9.3	56.0	50.4	38.5	26.98
		12R(N)	F-(N)PT 3/4	12.5	12.7	63.0	50.4	40.9	31.75
		16R(N)	F-(N)PT 1	16.0	17.4	78.0	50.4	44.5	38.10
	T	08T-FP(N)	1/2"Tube-F(N)PT 1/2	9.0	9.3	97.0	50.4	38.5	26.98
		12T-FP(N)	3/4"Tube-F(N)PT 3/4	12.5	12.7	99.0	50.4	40.9	31.75
		16T-FP(N)	1"Tube-F(N)PT 1"	16.0	17.4	115.0	50.4	44.5	38.10
15A-FP(N)		1/2"Pipe-F(N)PT 1/2	9.0	9.3	97.0	50.4	38.5	26.98	
20A-FP(N)		3/4"Pipe-F(N)PT 3/4	12.5	12.7	99.0	50.4	40.9	31.75	
25A-FP(N)		1"Pipe-F(N)PT 1	16.0	17.4	115.0	50.4	44.5	38.10	

How To Order

SG-HBV-K series ball valves are ordered by part number as shown as below. The following part number is this series ball valve, 1/2"ODx1/2"OD, Handle Color-Red, PTFE seat, 316SS.



<p>Type</p> <p>U : SG Lok Tube Fitting</p> <p>F : Both Female Thread</p> <p>T : Welding Connection</p>	<p>Inch Tube O.D. & Pipe Size</p> <p>1/4": 04T, 3/8": 06T, 1/2": 08T, 3/4": 12T, 1": 16T</p> <p>Metric Tube O.D.</p> <p>6mm: 6M, 10mm: 10M, 12mm: 12M, 18mm: 18M, 25mm: 25M</p> <p>Weld Tube O.D.</p> <p>1/2": 08T , 3/4": 12T, 1":16T</p> <p>Weld Pipe O.D.</p> <p>1/2": 15A , 3/4": 20A, 1":25A</p>	<p>Pipe Threads</p> <p>N : NPT</p> <p>R : BSPT</p>	<p>Handle Color</p> <p>BL: Blue</p> <p>RD: Red</p> <p>BK : Black</p> <p>Seat Option</p> <p>None : PTFE</p> <p>C : PCTFE</p> <p>P : PEEK</p>
--	---	--	--

Factory Test

Every BVL10 series ball valve is factory tested with nitrogen at 1000 psi (69 bar).

Maximum allowable leakage across seat is 0.1 std cc/min.

Packing Adjustment

Due to the varied service applications of the valve, packing adjustment may be occasionally necessary. Packing is factory adjusted to 1000 psig service. Initial packing adjustment is recommended after installation and prior to start-up. BVL10 series ball valves are designed to be operated in the fully closed or fully open position.