

W e . s u p p o r t . t h e
i n n o v a t i o n s . o f . c u s t o m e r s

Leak - Proof Flow & Control Solution Partner

The Best Partner
for Value Creation

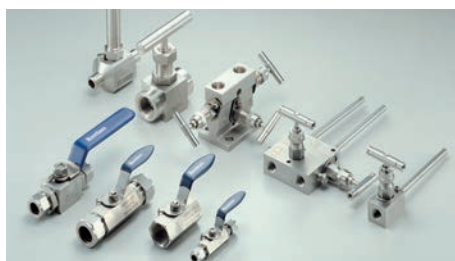
BITE - JIS B2351 Tube Fittings

HanSun

한선엔지니어링(주)
HANSUN ENGINEERING CO., LTD.







Certificate List



GOOD DESIGN
Good design



N



NPT



NS



API Spec.Q1



API Monogram



API ISO/TS 29001



KS



ABS



Lloyd's



DNV

GENERAL INFORMATION FOR OUR BITE TYPE TUBE FITTINGS.

HANSUN bite type tube fittings are precision-machined, under strict quality control. HANSUN bite type tube fittings are the flareless tube fitting with the visible bite. This added safety feature makes them the preferred fitting for non-flared tube connections.

How Do They Work?

The bite type flareless hydraulic tube fitting is designed to work on medium to heavy wall tubing that is hard to flare. It consists of three parts:

1. body, 2. sleeve, 3. nut. (As shown in Fig-1)

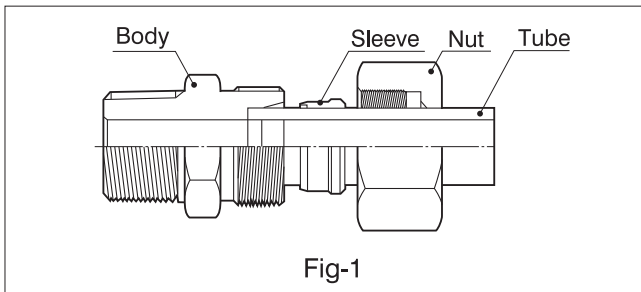


Fig-1

The sleeve is driven forward on the tube by the nut. As the sleeve moves forward it meets the seal seat angle of the body which causes the sleeve to cam inward into the tube. The sleeve then bites into the tube causing a small ridge of tube material to be pushed up in front of the biting edge of the sleeve. (As shown in Fig-2 & 3)

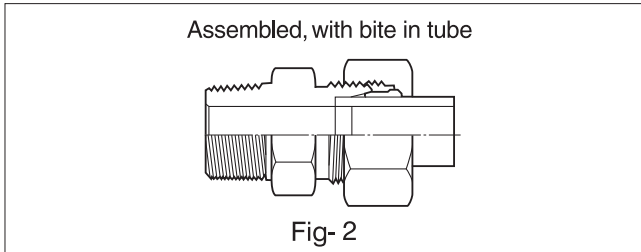


Fig-2

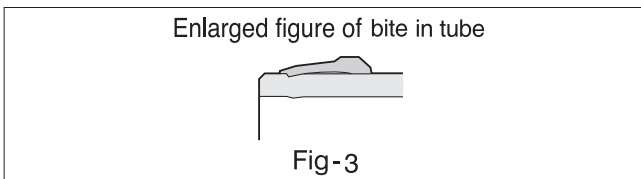


Fig-3

The make-up of the fitting is critical in that the tube must be bottomed against the tube stop in the body or presetting tool during make up. If it is not bottomed the tube will move forward with the sleeve and a bite will not be achieved. Make sure the tube is bottomed.

A check is possible to see if the tube is bottomed during make up. To make this check inspect the end of the tube and see if a circular appearing ring has been impressed into the tube end face. This impression may be caused by the tube stop which has a slight reverse angle rather than a flat face.

Material Specifications

Parts	Steel	Stainless Steel	Brass
Forged Body	S20C-S48C	SUS316	C3771
Bar Stock Body	S20C-S48C	SUS316	C3604
Cold Formed Nut	S10C-S20C		
Bar Stock Nut	S20C-S48C	SUS316-SUS304	C3604
Sleeve	S10C	SUS316-SUS304	C3604

Applicable Pressure Rating

Our standard specifications of the fittings are as follows.

Fitting Size (applicable Tube O.D)	4~15	16~22	25~28	30~38	40~45
Rated pressure (kgf/cm ²)	500	400	350	250	210
Max. working temperature (°C)	300				

The Rated Pressure for the fittings are determined based on the results of the design specification confirmed by severe repetitive tests; the rated pressures are determined for each size of fittings while the safety factor of as much as 4 is taken into account in the design.

Suitable Tubing Materials

Common material of tubing includes :

Steel - Seamless, fully annealed, also welded and redrawn type suitable for bending. Maximum hardness, Rockwell B72.

Stainless Steel - Seamless, fully annealed and welded redrawn, fully annealed suitable for bending. Maximum hardness. Rockwell B90.

Copper - Seamless coils. soft or light annealed, maximum hardness Rockwell F55. Straight lengths. light drawn and general purpose. Maximum hardness of 60 on Rockwell 30T scale.

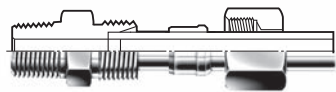
ASSEMBLY INSTRUCTIONS

Cutting The Tube

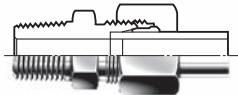
Cut tube squarely and de-burr lightly the end both internally and externally.

Sleeve Placement

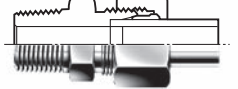
Slip nut and sleeve onto tubing. Be sure the long straight end of the sleeve points toward tube end.



Nut and sleeve on tube



Tube bottomed in fitting



Assembled with bite on tube

Lubrication

Lightly lubricate threads on tool or body as well as the tail and lead end of the sleeve with extreme friction lubricant.

Pre-Setting

Insert tube end into tool or fittings until it sits on the shoulder (to hold tube motionless during pre-setting) and screw the nut down with finger tight.

Final Setting

Wrench nut down 1-1/4 turns to pre-set the sleeve (Reliable make-up of all flareless tube fittings is dependent upon the sleeve traveling a prescribed distance into tapered fitting throat in order to bite into the tube and effect a positive grip and seal.

REASSEMBLE FOR FINAL INSTALLATION

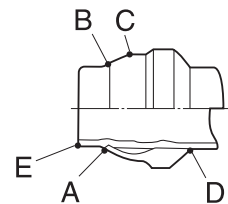
Insert the tube into the fitting body and wrench the nut down until a sudden increase in torque occurs. From this point turn the nut an additional 1/4 to 1/3 turn (1-1/2 to 2 wrench flats) to again spring the sleeve into place to seal against the tubing and the fitting body.

INSPECTION OF BITE

All HANSUN bite type tube fittings must be disassembled and inspected for proper make-up before final assembly. Detailed inspection procedures are outlined below and must be followed regardless of the method used to pre-set the sleeve to the tube.

You Should Make Certain That

1. A ridge of metal has been raised above the tube surfaces, to a height of at least 50% of the thickness of the sleeve leading edge, completely around the tube (A)
2. While the leading edge of the sleeve may be coined flat (B) there is a slight bow to the balance of the pilot section (C)
3. The tail or back end of the sleeve is snugged against the tube (D)
4. There is a slight indentation all around the end of the tube (E) that indicates the tube was bottomed in the tool or fitting during pre-setting (unless evidence of this complete contact is visible the sleeve cannot be considered properly pre-set).



5. Avoid rotating the sleeve. Steel sleeve should not be capable of moving back and forth along tube, beyond the bite area (stainless steel sleeve will move more than steel because of its spring back characteristics).

TROUBLE SHOOTING

Problems with bite type hydraulic fittings are most often traced to faulty make-up procedures. Look for the following:

1. **Tube not bottomed** - Check for the indentation on the tube end or compare length from end of tube to the front end of the sleeve with that of a known good assembly.
2. **Lack of bite** - Inspect for turned up ridge of material. A failure to achieve this ridge can be traced either to the fact that the nut was not tightened enough or that the tube was not bottomed against the stop which allowed the tube to travel forward with the sleeve
3. **Sleeve cocked on tube** - The sleeve is cocked on the tube when the tube assembly is off axis with that of the body. Generally this condition is caused by faulty tube bending. All bent tube assemblies should drop into the fitting body prior to make up.
4. **No bite** - If all of the above checks have been made and the sleeve still shows no sign of biting the tube, it may be that the tube is too hard.

BU

Straight Union



7

BL

Union Elbow



7

BT

Union Tee



8

BBU

Straight Bulkhead Union



8

BBL

Bulkhead Elbow



9

BLMC

Long Male Connector



9

BMC-R

Male Connector



10

BMC-G

Male Connector



11

BOMMale Connector
(For O-Ring)

12

BLM

Male Elbow



13

BLLM

Long Male Elbow



14

BOLM

O-Seal Male Elbow



14

BSLM

Banjo Elbow



15

BBTM

Male Branch Tee



15

BRTM

Male Run Tee



16

BBFC

Bulkhead Female Connector



16

BFC

Female Connector



17

BGC

Gauge Connector



17

BLF

Female Elbow



18

BBTF

Female Branch Tee



18

BRTF

Female Run Tee



19

BJ

Jig



19

BC

Cap



20

BP

Plug



20

BN

Nut



21

BS

Sleeve



21

BHUM

Hose Male Union



22

BHUF

Hose Female Union



22

BHBM

Hose Bulkhead Male Union



23

BHBF

Hose Bulkhead Female Union



23

BHLM

Hose Male Elbow



24

BHLF

Hose Female Elbow



24

BHBLM

Hose Bulkhead Male Elbow



25

BHBLF

Hose Bulkhead Female Elbow



25

BCW

Welding Connector



26

BBUW

Welding Bulkhead Union



26

BA-R

Adapter



27

BA-GAdapter
(For Copper Gasket)

27

BR

Reducer



28

BLA

Positionable Elbow



28

BBTA

Positionable Branch Tee



29

BRTA

Positionable Run Tee



29

BAP-1Air Purge Valve
(Tube End)

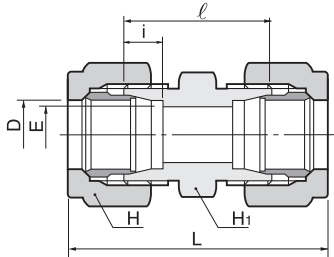
30

BAP-2Air Purge Valve
(Thread End)

30

BU

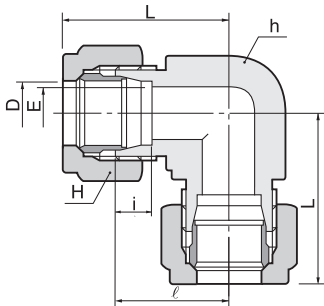
Straight Union



Designations	Tube O.D.		E	Width across flat		i	l	Approx L
	D			H ₁	H			
BU-06	6		4	14	14	7	30	51
BU-08	8		6	17	17	7	31	52
BU-10	10		8	17	19	7	31	54
BU-12	12		10	19	22	7	31	54
BU-15	15		12	24	27	7.5	36	61
BU-16	16		13	27	30	7.5	36	61
BU-18	18		14	27	32	8	36	61
BU-20	20		17	30	36	8	38	63
BU-22	22		18	32	36	9	38	63
BU-25	25		20	36	41	10	38	66
BU-28	28		22	41	46	10	43	71
BU-30	30		25	41	46	10	43	72
BU-32	32		26	46	50	11	44	73
BU-35	35		28	46	55	11	44	79
BU-38	38		32	50	60	12	46	85
BU-40	40		32	55	60	12	55	94
BU-42	42		34	55	60	12	55	94
BU-06A	1/8	10.5	8	17	19	7	31	54
BU-08A	1/4	13.8	11	22	24	7.5	38	60
BU-10A	3/8	17.3	14	27	32	8	38	61
BU-15A	1/2	21.7	18	32	36	9	38	63
BU-20A	3/4	27.2	22	41	46	10	43	71
BU-25A	1	34.0	28	46	55	11	44	79
BU-32A	1-1/4	42.7	34	60	65	12	57	98
BU-40A	1-1/2	48.6	40	65	75	12	60	103

BL

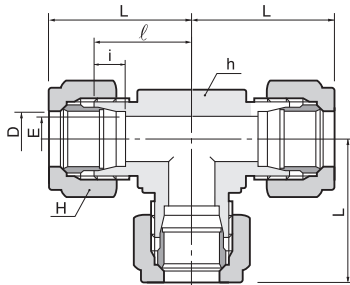
Union Elbow



Designations	Tube O.D.		E	Width across flat		i	l	Approx L
	D			h	H			
BL-06	6		4	14	14	7	20	30.5
BL-08	8		6	17	17	7	23	33.5
BL-10	10		8	17	19	7	23	34.5
BL-12	12		10	19	22	7	24	35.5
BL-15	15		12	24	27	7.5	29	41.5
BL-16	16		13	27	30	7.5	32	44.5
BL-18	18		14	27	32	8	32	44.5
BL-20	20		17	30	36	8	33	45.5
BL-22	22		18	32	36	9	34	46.5
BL-25	25		20	36	41	10	36	49.5
BL-28	28		22	41	46	10	41	55
BL-30	30		25	41	46	10	41	55.5
BL-32	32		26	46	50	11	45	59.5
BL-35	35		28	46	55	11	48	63.5
BL-38	38		32	50	60	12	50	69.5
BL-40	40		32	55	60	12	55	74.5
BL-42	42		34	55	60	12	55	74.5
BL-06A	1/8	10.5	8	17	19	7	23	34.5
BL-08A	1/4	13.8	11	22	24	7.5	28	40
BL-10A	3/8	17.3	14	27	32	8	32	44.5
BL-15A	1/2	21.7	18	32	36	9	34	46.5
BL-20A	3/4	27.2	22	41	46	10	41	55
BL-25A	1	34.0	28	46	55	11	46	63.5
BL-32A	1-1/4	42.7	34	60	65	12	57	77.5
BL-40A	1-1/2	48.6	40	65	75	12	62	83.5

BT

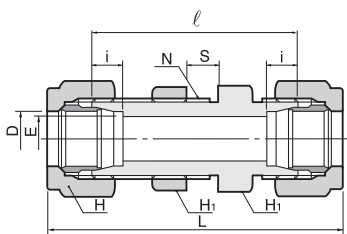
Union Tee



Designations	Tube O.D.		E	Width across flat		i	ℓ	Approx L
	D			h	H			
BT-06	6		4	14	14	7	20	30.5
BT-08	8		6	17	17	7	23	33.5
BT-10	10		8	17	19	7	23	34.5
BT-12	12		10	19	22	7	24	35.5
BT-15	15		12	24	27	7.5	29	41.5
BT-16	16		13	27	30	7.5	32	44.5
BT-18	18		14	27	32	8	32	44.5
BT-20	20		17	30	36	8	33	45.5
BT-22	22		18	32	36	9	34	46.5
BT-25	25		20	36	41	10	36	49.5
BT-28	28		22	41	46	10	41	55
BT-30	30		25	41	46	10	41	55.5
BT-32	32		26	46	50	11	45	59.5
BT-35	35		28	46	55	11	46	63.5
BT-38	38		32	50	60	12	50	69.5
BT-40	40		32	55	60	12	55	74.5
BT-42	42		34	55	60	12	55	74.5
BT-06A	1/8	10.5	8	17	19	7	23	34.5
BT-08A	1/4	13.8	11	22	24	7.5	28	40
BT-10A	3/8	17.3	14	27	32	8	32	44.5
BT-15A	1/2	21.7	18	32	36	9	34	46.5
BT-20A	3/4	27.2	22	41	46	10	41	55
BT-25A	1	34.0	28	46	55	11	46	63.5
BT-32A	1-1/4	42.7	34	60	65	12	57	77.5
BT-40A	1-1/2	48.6	40	65	75	12	62	83.5

BBU

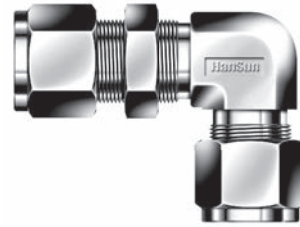
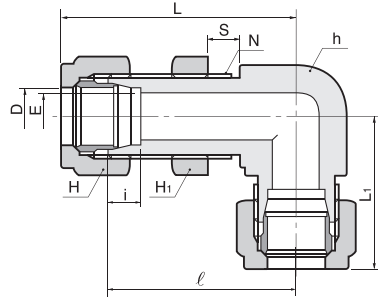
Straight Bulkhead Union



Designations	Tube O.D.		E	Width across flat		i	ℓ	Approx L	Panel Hole	Max.Panel
	D			H ₁	H				Drill Size N	Thickness S
BBU-06	6		4	17	14	7	51	72	12.5	13
BBU-08	8		6	19	17	7	51	72	14.5	13
BBU-10	10		8	22	19	7	52	75	16.5	13
BBU-12	12		10	24	22	7	52	75	18.5	13
BBU-15	15		12	27	27	7.5	59	84	22.5	15
BBU-16	16		13	30	30	7.5	61	86	24.5	15
BBU-18	18		14	32	32	8	63	88	26.5	15
BBU-20	20		17	32	36	8	63	88	28.5	15
BBU-22	22		18	36	36	9	64	89	30.5	15
BBU-25	25		20	41	41	10	64	91	35.5	15
BBU-28	28		22	46	46	10	69	97	38.5	15
BBU-30	30		25	46	46	10	69	98	40.5	15
BBU-32	32		26	50	50	11	73	102	42.5	15
BBU-35	35		28	50	55	11	73	108	45.5	15
BBU-38	38		32	55	60	12	76	115	48.5	15
BBU-40	40		32	60	60	12	87	126	52.5	15
BBU-06A	1/8	10.5	8	22	19	7	52	75	16.5	13
BBU-08A	1/4	13.8	11	27	24	7.5	59	83	20.5	15
BBU-10A	3/8	17.3	14	32	32	8	63	88	26.5	15
BBU-15A	1/2	21.7	18	36	36	9	64	89	30.5	15
BBU-20A	3/4	27.2	22	46	46	10	69	97	38.5	15
BBU-25A	1	34.0	28	50	55	11	73	108	45.5	15
BBU-32A	1-1/4	42.7	34	65	65	12	90	131	56.5	15
BBU-40A	1-1/2	48.6	40	70	75	12	93	136	64.5	15

BBL

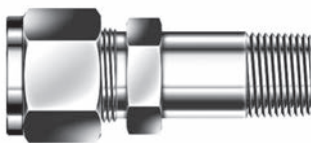
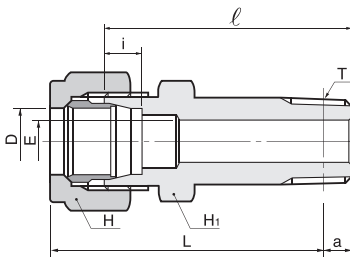
Bulkhead Elbow



Designations	Tube O.D. D	E	Width across flat			i	ℓ	Approx		Panel Hole Drill Size N	Max. Panel Thickness S
			h	H ₁	H			L ₁	L		
BBL-06	6	4	17	17	14	7	45	33.5	55.5	12.5	13
BBL-08	8	6	19	19	17	7	46	34.5	56.5	14.5	13
BBL-10	10	8	22	22	19	7	48	37.5	59.5	16.5	13
BBL-12	12	10	24	24	22	7	49	38.5	60.5	18.5	13
BBL-15	15	12	27	27	27	7.5	57	43.5	69.5	22.5	15
BBL-16	16	13	30	30	30	7.5	59	45.5	71.5	24.5	15
BBL-18	18	14	32	32	32	8	63	45.5	75.5	26.5	15
BBL-20	20	17	32	32	36	8	65	45.5	77.5	28.5	15
BBL-22	22	18	36	36	36	9	65	48.5	77.5	30.5	15
BBL-25	25	20	41	41	41	10	68	52.5	81.5	35.5	15
BBL-28	28	22	41	46	46	10	70	55	84	38.5	15
BBL-30	30	25	46	46	46	10	74	60.5	88.5	40.5	15

BLMC

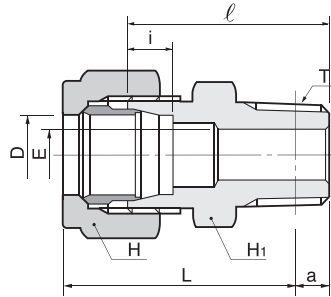
Long Male Connector



Designations	Tube O.D.		(PT) T	E	Basic Gauge length a	Width across flat		i	ℓ	Approx L
	D					H ₁	H			
BLMC-06-01R	6		1/8	4	3.97	14	14	7	63	69.5
BLMC-08-02R	8		1/4	6	6.01	17	17	7	70	74.5
BLMC-10-02R	10		1/4	7	6.01	17	19	7	71	76.5
BLMC-10-03R	10		3/8	8	6.35	19	19	7	72	77
BLMC-12-02R	12		1/4	7	6.01	19	22	7	71	76.5
BLMC-12-03R	12		3/8	9	6.35	19	22	7	72	77
BLMC-15-03R	15		3/8	9	6.35	24	27	7.5	81	87
BLMC-15-04R	15		1/2	12	8.16	24	27	7.5	86	90.5
BLMC-16-04R	16		1/2	12	8.16	27	30	7.5	86	90.5
BLMC-18-04R	18		1/2	12	8.16	27	32	8	86	90.5
BLMC-20-06R	20		3/4	16	9.53	30	36	8	92	95
BLMC-22-06R	22		3/4	16	9.53	32	36	9	93	96
BLMC-25-08R	25		1	20	10.39	36	41	10	99	102
BLMC-28-08R	28		1	22	10.39	41	46	10	104	107.5
BLMC-30-10R	30		1-1/4	25	12.70	46	46	10	109	111
BLMC-32-10R	32		1-1/4	26	12.70	46	50	11	110	112
BLMC-06A-02R	1/8	10.5	1/4	7	6.01	17	19	7	71	76.5
BLMC-08A-03R	1/4	13.8	3/8	9	6.35	22	24	7.5	81	86.5
BLMC-10A-03R	3/8	17.3	3/8	9	6.35	27	32	8	81	87
BLMC-15A-06R	1/2	21.7	3/4	16	9.53	32	36	9	93	96
BLMC-20A-08R	3/4	27.2	1	22	10.39	41	46	10	104	107.5

BMC-R

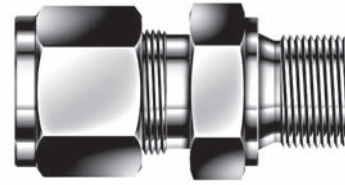
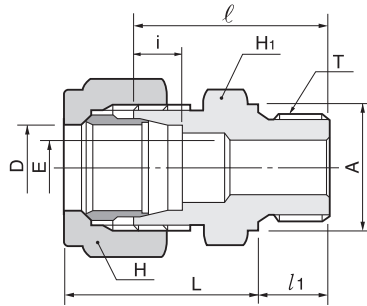
Male Connector



Designations	Tube O.D.		(PT) T	E	Basic Gauge length a	Width across flat		i	ℓ	Approx L
	D					H ₁	H			
BMC-06-01R	6		1/8	4	3.97	14	14	7	28	34.5
BMC-06-02R	6		1/4	4	6.01	17	14	7	33	37.5
BMC-06-03R	6		3/8	4	6.35	17	14	7	34	38.5
BMC-08-01R	8		1/8	4	3.97	17	17	7	29	35.5
BMC-08-02R	8		1/4	6	6.01	17	17	7	33	37.5
BMC-10-02R	10		1/4	7	6.01	17	19	7	33	38.5
BMC-10-03R	10		3/8	8	6.35	19	19	7	34	39
BMC-10-04R	10		1/2	8	8.16	22	19	7	39	42.5
BMC-12-02R	12		1/4	7	6.01	19	22	7	33	38.5
BMC-12-03R	12		3/8	9	6.35	19	22	7	34	39
BMC-12-04R	12		1/2	10	8.16	22	22	7	39	42.5
BMC-15-03R	15		3/8	9	6.35	24	27	7.5	37	43
BMC-15-04R	15		1/2	12	8.16	24	27	7.5	41	45.5
BMC-16-03R	16		3/8	9	6.35	27	30	7.5	37	43
BMC-16-04R	16		1/2	12	8.16	27	30	7.5	41	45.5
BMC-18-04R	18		1/2	12	8.16	27	32	8	41	45.5
BMC-20-04R	20		1/2	12	8.16	30	36	8	43	47.5
BMC-20-06R	20		3/4	16	9.53	30	36	8	45	48
BMC-22-04R	22		1/2	12	8.16	32	36	9	43	47.5
BMC-22-06R	22		3/4	16	9.53	32	36	9	45	48
BMC-25-08R	25		1	20	10.39	36	41	10	49	52
BMC-28-08R	28		1	22	10.39	41	46	10	51	54.5
BMC-30-08R	30		1	22	10.39	41	46	10	51	55
BMC-30-10R	30		1-1/4	25	12.70	46	46	10	55	57
BMC-32-10R	32		1-1/4	26	12.70	46	50	11	55	57
BMC-35-10R	35		1-1/4	28	12.70	46	55	11	55	60
BMC-38-12R	38		1-1/2	32	12.70	50	60	12	57	64
BMC-40-12R	40		1-1/2	32	12.70	55	60	12	62	69
BMC-42-12R	42		1-1/2	34	12.70	55	60	12	62	69
BMC-06A-01R	1/8	10.5	1/8	4	3.97	17	19	7	29	36.5
BMC-06A-02R	1/8	10.5	1/4	7	6.01	17	19	7	33	38.5
BMC-08A-02R	1/4	13.8	1/4	7	6.01	22	24	7.5	36	42
BMC-08A-03R	1/4	13.8	3/8	9	6.35	22	24	7.5	37	42.5
BMC-10A-03R	3/8	17.3	3/8	9	6.35	27	32	8	37	43
BMC-10A-04R	3/8	17.3	1/2	12	8.16	27	32	8	41	45.5
BMC-15A-04R	1/2	21.7	1/2	12	8.16	32	36	9	43	47.5
BMC-15A-06R	1/2	21.7	3/4	16	9.53	32	36	9	45	48
BMC-20A-06R	3/4	27.2	3/4	16	9.53	41	46	10	48	52.5
BMC-20A-08R	3/4	27.2	1	22	10.39	41	46	10	51	54.5
BMC-25A-08R	1	34.0	1	22	10.39	46	55	11	52	59
BMC-25A-10R	1	34.0	1-1/4	28	12.70	46	55	11	55	60
BMC-32A-10R	1-1/4	42.7	1-1/4	31	12.70	60	65	12	64	72
BMC-32A-12R	1-1/4	42.7	1-1/2	34	12.70	60	65	12	64	72
BMC-40A-12R	1-1/2	48.6	1-1/2	36	12.70	65	75	12	67	76
BMC-40A-16R	1-1/2	48.6	2	40	15.88	65	75	12	71	76.5

BMC-G

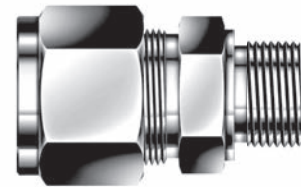
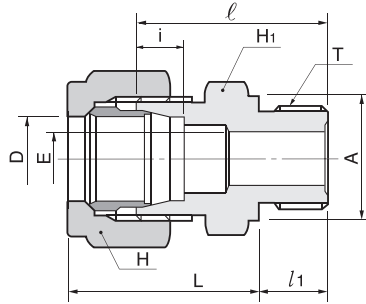
Male Connector



Designations	Tube O.D.		(PF) T	E	Width across flat		i	ℓ	A	l ₁	Approx L
	D				H ₁	H					
BMC-06-01G	6		1/8	4	14	14	7	28	14	8	30.5
BMC-06-02G	6		1/4	4	19	14	7	33	18	12	31.5
BMC-08-01G	8		1/8	4	17	17	7	28	14	8	30.5
BMC-08-02G	8		1/4	6	19	17	7	33	18	12	31.5
BMC-10-02G	10		1/4	6	19	19	7	33	18	12	32.5
BMC-10-03G	10		3/8	8	22	19	7	34	21.5	12	33.5
BMC-12-02G	12		1/4	6	19	22	7	33	18	12	32.5
BMC-12-03G	12		3/8	8	22	22	7	34	21.5	12	33.5
BMC-12-04G	12		1/2	10	27	22	7	39	25.5	14	36.5
BMC-15-03G	15		3/8	8	24	27	7.5	37	21.5	12	37.5
BMC-15-04G	15		1/2	12	27	27	7.5	41	25.5	14	39.5
BMC-16-04G	16		1/2	12	27	30	7.5	41	25.5	14	39.5
BMC-18-04G	18		1/2	12	27	32	8	41	25.5	14	39.5
BMC-20-06G	20		3/4	16	32	36	8	46	31.5	16	42.5
BMC-22-04G	22		1/2	12	32	36	9	43	25.5	14	41.5
BMC-22-06G	22		3/4	16	32	36	9	46	31.5	16	42.5
BMC-25-06G	25		3/4	16	36	41	10	46	31.5	16	43.5
BMC-25-08G	25		1	20	41	41	10	50	38	18	45.5
BMC-28-08G	28		1	22	41	46	10	52	38	18	48
BMC-30-08G	30		1	22	41	46	10	52	38	18	48.5
BMC-30-10G	30		1-1/4	25	50	46	10	57	48.5	20	51.5
BMC-32-10G	32		1-1/4	26	50	50	11	57	48.5	20	51.5
BMC-35-10G	35		1-1/4	28	50	55	11	57	48.5	20	54.5
BMC-38-12G	38		1-1/2	32	55	60	12	58	53.5	21	56.5
BMC-40-12G	40		1-1/2	32	55	60	12	62	53.5	21	60.5
BMC-42-12G	42		1-1/2	34	55	60	12	62	53.5	21	60.5
BMC-06A-01G	1/8	10.5	1/8	4	17	19	7	29	14	8	32.5
BMC-06A-02G	1/8	10.5	1/4	6	19	19	7	33	18	12	32.5
BMC-08A-02G	1/4	13.8	1/4	6	22	24	7.5	36	18	12	36
BMC-08A-03G	1/4	13.8	3/8	8	22	24	7.5	36	21.5	12	36
BMC-10A-03G	3/8	17.3	3/8	8	27	32	8	38	21.5	12	38.5
BMC-10A-04G	3/8	17.3	1/2	12	27	32	8	41	25.5	14	39.5
BMC-15A-04G	1/2	21.7	1/2	12	32	36	9	43	25.5	14	41.5
BMC-15A-06G	1/2	21.7	3/4	16	32	36	9	46	31.5	16	42.5
BMC-20A-06G	3/4	27.2	3/4	16	41	46	10	50	31.5	16	48
BMC-20A-08G	3/4	27.2	1	22	41	46	10	52	38	18	48
BMC-25A-08G	1	34.0	1	22	46	55	11	54	38	18	53.5
BMC-25A-10G	1	34.0	1-1/4	28	50	55	11	57	48.5	20	54.5
BMC-32A-10G	1-1/4	42.7	1-1/4	31	60	65	12	63	48.5	20	63.5
BMC-32A-12G	1-1/4	42.7	1-1/2	34	60	65	12	64	53.5	21	63.5
BMC-40A-12G	1-1/2	48.6	1-1/2	36	65	75	12	65	53.5	21	65.5
BMC-40A-16G	1-1/2	48.6	2	40	70	75	12	73	66	25	69.5

BOM

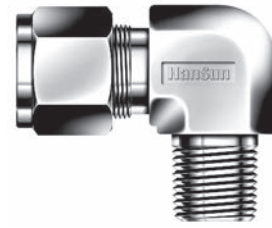
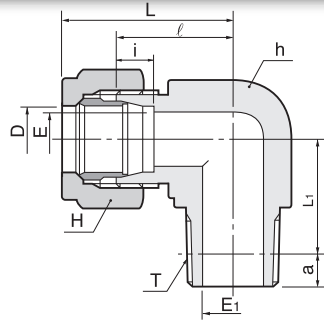
Male Connector (For O-Ring)



Designations	Tube O.D.		(PF) T	E	Width across flat		i	A	l ₁	ℓ	Appr L
	D				H ₁	H					
BOM-06-01G	6		1/8	4	14	14	7	14	8	28	30.5
BOM-06-02G	6		1/4	4	19	14	7	19	12	33	31.5
BOM-08-01G	8		1/8	4	17	17	7	14	8	28	30.5
BOM-08-02G	8		1/4	6	19	17	7	19	12	33	31.5
BOM-10-02G	10		1/4	6	19	19	7	19	12	33	32.5
BOM-10-03G	10		3/8	8	22	19	7	22	12	34	33.5
BOM-12-02G	12		1/4	6	19	22	7	19	12	33	32.5
BOM-12-03G	12		3/8	8	22	22	7	22	12	34	33.5
BOM-12-04G	12		1/2	10	27	22	7	27	14	39	36.5
BOM-15-03G	15		3/8	8	24	27	7.5	22	12	37	37.5
BOM-15-04G	15		1/2	12	27	27	7.5	27	14	41	39.5
BOM-16-04G	16		1/2	12	27	30	7.5	27	14	41	39.5
BOM-18-04G	18		1/2	12	27	32	8	27	14	41	39.5
BOM-20-06G	20		3/4	16	36	36	8	36	16	46	42.5
BOM-22-06G	22		3/4	16	36	36	9	36	16	46	42.5
BOM-25-06G	25		3/4	16	36	41	10	36	16	46	43.5
BOM-25-08G	25		1	20	41	41	10	41	18	50	45.5
BOM-28-08G	28		1	22	41	46	10	41	18	52	48
BOM-30-08G	30		1	22	41	46	10	41	18	52	48.5
BOM-30-10G	30		1-1/4	25	50	46	10	50	20	57	51.5
BOM-32-10G	32		1-1/4	26	50	50	11	50	20	57	51.5
BOM-35-10G	35		1-1/4	28	50	55	11	50	20	57	54.5
BOM-38-12G	38		1-1/2	32	55	60	12	55	21	58	56.5
BOM-40-12G	40		1-1/2	32	55	60	12	55	21	62	60.5
BOM-42-12G	42		1-1/2	34	55	60	12	55	21	62	60.5
BOM-06A-01G	1/8	10.5	1/8	4	17	19	7	14	8	29	32.5
BOM-06A-02G	1/8	10.5	1/4	6	19	19	7	19	12	33	32.5
BOM-08A-02G	1/4	13.8	1/4	6	22	24	7.5	19	12	36	36
BOM-08A-03G	1/4	13.8	3/8	8	22	24	7.5	22	12	36	36
BOM-10A-03G	3/8	17.3	3/8	8	27	32	8	22	12	38	38.5
BOM-10A-04G	3/8	17.3	1/2	12	27	32	8	27	14	41	39.5
BOM-15A-04G	1/2	21.7	1/2	12	32	36	9	27	14	43	41.5
BOM-15A-06G	1/2	21.7	3/4	16	36	36	9	36	16	46	42.5
BOM-20A-06G	3/4	27.2	3/4	16	41	46	10	36	16	50	48
BOM-20A-08G	3/4	27.2	1	22	41	46	10	41	18	52	48
BOM-25A-08G	1	34.0	1	22	46	55	11	41	18	54	53.5
BOM-25A-10G	1	34.0	1-1/4	28	50	55	11	50	20	57	54.5
BOM-32A-10G	1-1/4	42.7	1-1/4	31	60	65	12	50	20	63	63.5
BOM-32A-12G	1-1/4	42.7	1-1/2	34	60	65	12	55	21	64	63.5
BOM-40A-12G	1-1/2	48.6	1-1/2	36	65	75	12	55	21	65	65.5
BOM-40A-16G	1-1/2	48.6	2	40	75	75	12	75	25	73	69.5

BLM

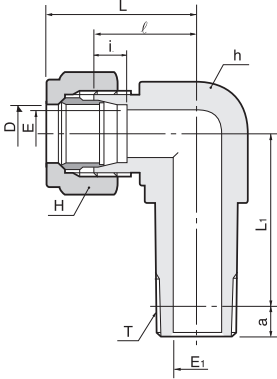
Male Elbow



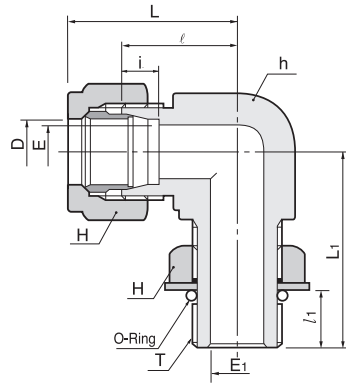
Designations	Tube O.D.		(PT) T	E	E ₁	Basic Gauge length a	Width across flat		i	ℓ	Approx	
	D						h	H			L	L ₁
BLM-06-01R	6		1/8	4	4	3.97	14	14	7	20	30.5	14
BLM-06-02R	6		1/4	4	7	6.01	17	14	7	23	33.5	17
BLM-08-01R	8		1/8	6	4	3.97	17	17	7	23	33.5	16
BLM-08-02R	8		1/4	6	7	6.01	17	17	7	23	33.5	18
BLM-10-02R	10		1/4	8	7	6.01	17	19	7	23	34.5	19
BLM-10-03R	10		3/8	8	9	6.35	19	19	7	24	35.5	19.5
BLM-10-04R	10		1/2	8	12	8.16	22	19	7	29	40.5	26
BLM-12-02R	12		1/4	10	7	6.01	19	22	7	24	35.5	20
BLM-12-03R	12		3/8	10	9	6.35	19	22	7	24	35.5	20.5
BLM-12-04R	12		1/2	10	12	8.16	24	22	7	29	40.5	26
BLM-15-03R	15		3/8	12	9	6.35	24	27	7.5	29	41.5	23.5
BLM-15-04R	15		1/2	12	12	8.16	24	27	7.5	29	41.5	26
BLM-16-03R	16		3/8	13	9	6.35	27	30	7.5	32	44.5	25.5
BLM-16-04R	16		1/2	13	12	8.16	27	30	7.5	32	44.5	27
BLM-18-03R	18		3/8	14	9	6.35	27	32	8	32	44.5	27.5
BLM-18-04R	18		1/2	14	12	8.16	27	32	8	32	44.5	30
BLM-20-04R	20		1/2	17	12	8.16	30	36	8	33	45.5	32
BLM-20-06R	20		3/4	17	16	9.53	30	36	8	33	45.5	30.5
BLM-22-04R	22		1/2	18	12	8.16	32	36	9	34	46.5	32
BLM-22-06R	22		3/4	18	16	9.53	32	36	9	34	46.5	32.5
BLM-25-06R	25		3/4	20	16	9.53	36	41	10	36	49.5	33.5
BLM-25-08R	25		1	20	22	10.39	36	41	10	36	49.5	35.5
BLM-28-06R	28		3/4	22	16	9.53	41	46	10	41	55	37.5
BLM-28-08R	28		1	22	22	10.39	41	46	10	41	55	39.5
BLM-30-08R	30		1	25	22	10.39	41	46	10	41	55.5	39.5
BLM-30-10R	30		1-1/4	25	31	12.70	46	46	10	46	60.5	42.5
BLM-32-10R	32		1-1/4	26	31	12.70	46	50	11	46	60.5	43.5
BLM-35-10R	35		1-1/4	28	31	12.70	46	55	11	46	63.5	45.5
BLM-38-12R	38		1-1/2	32	36	12.70	50	60	12	50	69.5	48.5
BLM-40-12R	40		1-1/2	32	36	12.70	55	60	12	55	74.5	49.5
BLM-42-12R	42		1-1/2	34	36	12.70	55	60	12	55	74.5	49.5
BLM-06A-01R	1/8	10.5	1/8	8	4	3.97	17	19	7	23	34.5	17
BLM-06A-02R	1/8	10.5	1/4	8	7	6.01	17	19	7	23	34.5	19
BLM-08A-02R	1/4	13.8	1/4	11	7	6.01	22	24	7.5	28	40	22
BLM-08A-03R	1/4	13.8	3/8	11	9	6.35	22	24	7.5	28	40	22.5
BLM-10A-03R	3/8	17.3	3/8	14	9	6.35	27	32	8	32	44.5	27.5
BLM-10A-04R	3/8	17.3	1/2	14	12	8.16	27	32	8	32	44.5	30
BLM-15A-04R	1/2	21.7	1/2	18	12	8.16	32	36	9	34	46.5	32
BLM-15A-06R	1/2	21.7	3/4	18	16	9.53	32	36	9	34	46.5	32.5
BLM-20A-06R	3/4	27.2	3/4	22	16	9.53	41	46	10	41	55	37.5
BLM-20A-08R	3/4	27.2	1	22	22	10.39	41	46	10	41	55	39.5
BLM-25A-08R	1	34.0	1	28	22	10.39	46	55	11	46	63.5	44.5
BLM-25A-10R	1	34.0	1-1/4	28	31	12.70	46	55	11	46	63.5	45.5
BLM-32A-10R	1-1/4	42.7	1-1/4	34	31	12.70	60	65	12	57	77.5	51.5
BLM-32A-12R	1-1/4	42.7	1-1/2	34	36	12.70	60	75	12	57	77.5	51.5
BLM-40A-12R	1-1/2	48.6	1-1/2	40	36	12.70	65	75	12	62	83.5	57.5
BLM-40A-16R	1-1/2	48.6	2	40	46	15.88	65	75	12	62	83.5	58

BLLM

Long Male Elbow



Designations	Tube O.D. (PT)		E	E ₁	Basic Gauge length a	Width across flat		i	ℓ	Approx	
	D	T				h	H			L	L ₁
BLLM-06-01R	6	1/8	4	4	3.97	14	14	7	20	30.5	36
BLLM-08-02R	8	1/4	6	7	6.01	17	17	7	23	33.5	43
BLLM-10-02R	10	1/4	8	7	6.01	17	19	7	23	34.5	46
BLLM-12-02R	12	1/4	10	7	6.01	19	22	7	24	35.5	52
BLLM-12-03R	12	3/8	10	9	6.35	19	22	7	24	35.5	53
BLLM-15-03R	15	3/8	12	9	6.35	24	27	7.5	29	41.5	61.5
BLLM-15-04R	15	1/2	12	12	8.16	24	27	7.5	29	41.5	67
BLLM-16-04R	16	1/2	13	12	8.16	27	30	7.5	32	44.5	70
BLLM-18-04R	18	1/2	14	12	8.16	27	32	8	32	44.5	77
BLLM-20-06R	20	3/4	17	16	9.53	30	36	8	33	45.5	82.5
BLLM-22-06R	22	3/4	18	16	9.53	32	36	9	34	46.5	83.5
BLLM-25-06R	25	3/4	20	16	9.53	36	41	10	36	49.5	90.5
BLLM-25-08R	25	1	20	22	10.39	36	41	10	36	49.5	91.5
BLLM-28-08R	28	1	22	22	10.39	41	46	10	41	55	104.5
BLLM-30-10R	30	1-1/4	25	31	12.70	46	46	10	46	60.5	104.5
BLLM-32-10R	32	1-1/4	26	31	12.70	46	50	11	46	60.5	104.5
BLLM-35-10R	35	1-1/4	28	31	12.70	46	55	11	46	63.5	121.5



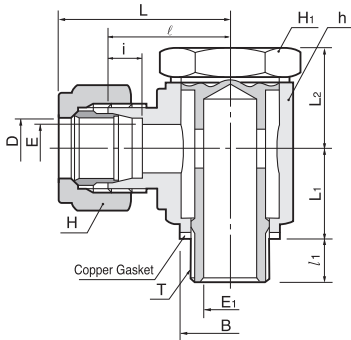
BOLM

O-Seal Male Elbow

Designations	Tube O.D. (PF)		E	E ₁	Width across flat			i	l ₁	ℓ	Approx	
	D	T			h	H ₁	H				L ₁	L
BOLM-06-01G	6	1/8	4	4	14	14	14	7	10	20	30	30.5
BOLM-08-02G	8	1/4	6	6	17	19	17	7	12	23	34	33.5
BOLM-10-02G	10	1/4	8	6	17	19	19	7	12	23	35	34.5
BOLM-12-02G	12	1/4	10	6	19	19	22	7	12	24	36	35.5
BOLM-12-03G	12	3/8	10	9	19	22	22	7	12	24	36	35.5
BOLM-12-04G	12	1/2	10	12	24	27	22	7	16	24	46	35.5
BOLM-15-03G	15	3/8	12	9	24	22	27	7.5	12	29	40	41.5
BOLM-15-04G	15	1/2	12	12	24	27	27	7.5	16	29	46	41.5
BOLM-16-04G	16	1/2	13	12	24	27	30	7.5	16	32	46	44.5
BOLM-18-04G	18	1/2	14	12	30	27	32	8	16	32	52	44.5
BOLM-20-06G	20	3/4	17	16	30	36	36	8	17	33	52	45.5
BOLM-22-06G	22	3/4	18	16	32	36	36	9	17	34	52	46.5
BOLM-25-06G	25	3/4	20	16	36	36	41	10	17	36	60	49.5
BOLM-25-08G	25	1	20	22	36	41	41	10	21	36	62	49.5
BOLM-28-08G	28	1	22	22	41	41	46	10	21	41	62	55
BOLM-30-08G	30	1	25	22	41	41	46	10	21	41	66	55.5
BOLM-30-10G	30	1-1/4	25	31	46	50	46	10	21	44	66	58.5
BOLM-32-10G	32	1-1/4	26	31	46	50	50	11	21	46	66	60.5
BOLM-35-10G	35	1-1/4	28	31	46	50	55	11	21	46	66	63.5
BOLM-38-12G	38	1-1/2	32	36	50	55	60	12	21	50	73	69.5

BSLM

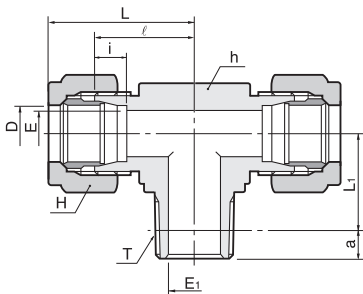
Banjo Elbow



Designations	Tube O.D.	(PF)	E ₁	E	Width across flat			i	l ₁	ℓ	Approx			B
	D	T			h	H ₁	H				L ₁	L ₂	L	
BSLM-06-01G	6	1/8	4	4	17	17	14	7	8	23	13	14	33.5	14
BSLM-08-02G	8	1/4	7	6	22	22	17	7	12	25	16	17	35.5	18
BSLM-10-02G	10	1/4	7	8	22	22	19	7	12	25	16	17	36.5	18
BSLM-12-03G	12	3/8	9	10	27	27	22	7	12	29	19	22	40.5	21.5
BSLM-15-04G	15	1/2	12	12	36	30	27	7.5	14	36	24	28	48.5	25.5
BSLM-16-04G	16	1/2	12	13	36	30	30	7.5	14	36	24	28	48.5	25.5
BSLM-18-04G	18	1/2	12	14	36	30	32	8	14	36	24	28	48.5	25.5
BSLM-20-06G	20	3/4	16	17	41	41	36	8	16	38	28	32	50.5	31.5
BSLM-22-06G	22	3/4	16	18	42	41	36	9	16	38	28	32	50.5	31.5
BSLM-25-08G	25	1	22	20	50	50	41	10	18	42	37	38	55.5	38
BSLM-28-08G	28	1	22	22	50	50	46	10	18	42	37	38	56	38
BSLM-06A-02G	1/8 10.5	1/4	7	8	22	22	19	7	12	25	16	17	36.5	18
BSLM-08A-03G	1/4 13.8	3/8	9	11	27	27	24	7.5	12	29	19	22	41	21.5
BSLM-10A-04G	3/8 17.3	1/2	12	14	36	30	32	8	14	36	24	28	48.5	25.5
BSLM-15A-06G	1/2 21.7	3/4	16	18	41	41	36	9	16	38	28	32	50.5	31.5
BSLM-20A-08G	3/4 27.2	1	22	22	50	50	46	10	18	42	37	38	56	38

BBTM

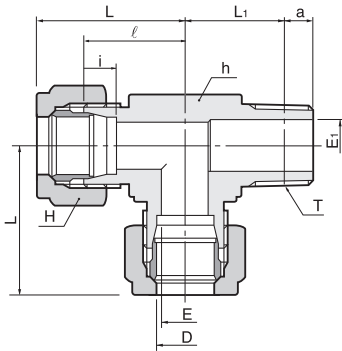
Male Branch Tee



Designations	Tube O.D.	(PT)	E	E ₁	Basic Gauge length	Width across flat		i	ℓ	Approx	
	D	T			a	h	H			L	L ₁
BBTM-06-01R	6	1/8	4	4	3.97	14	14	7	20	30.5	14
BBTM-06-02R	6	1/4	4	7	6.01	17	14	7	23	33.5	17
BBTM-08-01R	8	1/8	6	4	3.97	17	17	7	23	33.5	16
BBTM-08-02R	8	1/4	6	7	6.01	17	17	7	23	33.5	18
BBTM-10-02R	10	1/4	8	7	6.01	17	19	7	23	34.5	19
BBTM-10-03R	10	3/8	8	9	6.35	19	19	7	24	35.5	19.5
BBTM-12-02R	12	1/4	10	7	6.01	19	22	7	24	35.5	18
BBTM-12-03R	12	3/8	10	9	6.35	19	22	7	24	35.5	20.5
BBTM-15-03R	15	3/8	12	9	6.35	24	27	7.5	29	41.5	23.5
BBTM-15-04R	15	1/2	12	12	8.16	24	27	7.5	29	41.5	26
BBTM-16-04R	16	1/2	13	12	8.16	27	30	7.5	32	44.5	27
BBTM-18-04R	18	1/2	14	12	8.16	27	32	8	32	44.5	30
BBTM-20-06R	20	3/4	17	16	9.53	30	36	8	33	45.5	30.5
BBTM-22-06R	22	3/4	18	16	9.53	32	36	9	34	46.5	32.5
BBTM-25-06R	25	3/4	20	16	9.53	36	41	10	36	49.5	33.5
BBTM-25-08R	25	1	20	22	10.39	36	41	10	36	49.5	35.5
BBTM-28-08R	28	1	22	22	10.39	41	46	10	41	55	39.5
BBTM-30-08R	30	1	25	22	10.39	41	46	10	41	55.5	39.5
BBTM-30-10R	30	1-1/4	25	31	12.70	46	46	10	46	60.5	42.5
BBTM-32-10R	32	1-1/4	26	31	12.70	46	50	11	46	60.5	43.5
BBTM-35-10R	35	1-1/4	28	31	12.70	46	55	11	46	63.5	45.5
BBTM-38-12R	38	1-1/2	32	36	12.70	50	60	12	50	69.5	48.5
BBTM-40-12R	40	1-1/2	32	36	12.70	55	60	12	55	74.5	49.5
BBTM-06A-02R	1/8 10.5	1/4	8	7	6.01	17	19	7	23	34.5	19
BBTM-08A-03R	1/4 13.8	3/8	11	9	6.35	22	24	7.5	28	40	22.5
BBTM-10A-04R	3/8 17.3	1/2	14	12	8.16	27	32	8	32	44.5	30
BBTM-15A-06R	1/2 21.7	3/4	18	16	9.53	32	36	9	34	46.5	32.5
BBTM-20A-08R	3/4 27.2	1	22	22	10.39	41	46	10	41	55	39.5
BBTM-25A-10R	1 34.0	1-1/4	28	31	12.70	46	55	11	46	63.5	45.5
BBTM-32A-12R	1-1/4 42.7	1-1/2	34	36	12.70	60	65	12	57	77.5	51.5
BBTM-40A-16R	1-1/2 48.6	2	40	46	15.88	65	75	12	62	83.5	58

BRTM

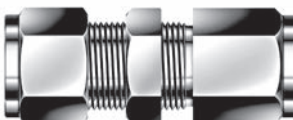
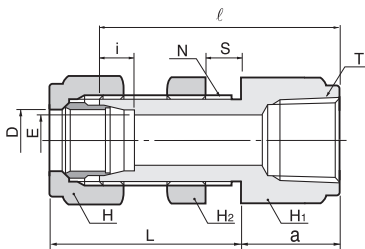
Male Run Tee



Designations	Tube O.D.		(PT) T	E	E ₁	Basic Gauge length a	Width across flat			i	ℓ	Approx	
	D	T					h	H				L	L ₁
BRTM-06-01R	6	1/8	4	4	4	3.97	14	14	7	20	30.5	14	
BRTM-06-02R	6	1/4	4	7	7	6.01	17	14	7	23	33.5	17	
BRTM-08-01R	8	1/8	6	4	4	3.97	17	17	7	23	33.5	16	
BRTM-08-02R	8	1/4	6	7	7	6.01	17	17	7	23	33.5	18	
BRTM-10-02R	10	1/4	8	7	7	6.01	17	19	7	23	34.5	19	
BRTM-10-03R	10	3/8	8	9	9	6.35	19	19	7	24	35.5	19.5	
BRTM-12-02R	12	1/4	10	7	7	6.01	19	22	7	24	35.5	18	
BRTM-12-03R	12	3/8	10	9	9	6.35	19	22	7	24	35.5	20.5	
BRTM-15-03R	15	3/8	12	9	9	6.35	24	27	7.5	29	41.5	23.5	
BRTM-15-04R	15	1/2	12	12	12	8.16	24	27	7.5	29	41.5	26	
BRTM-16-04R	16	1/2	13	12	12	8.16	27	30	7.5	32	44.5	27	
BRTM-18-04R	18	1/2	14	12	12	8.16	27	32	8	32	44.5	30	
BRTM-20-06R	20	3/4	17	16	16	9.53	30	36	8	33	45.5	30.5	
BRTM-22-06R	22	3/4	18	16	16	9.53	32	36	9	34	46.5	32.5	
BRTM-25-06R	25	3/4	20	16	16	9.53	36	41	10	36	49.5	33.5	
BRTM-25-08R	25	1	20	22	22	10.39	36	41	10	36	49.5	35.5	
BRTM-28-08R	28	1	22	22	22	10.39	41	46	10	41	55	39.5	
BRTM-30-08R	30	1	25	22	22	10.39	41	46	10	41	55.5	39.5	
BRTM-30-10R	30	1-1/4	25	31	31	12.70	46	46	10	46	60.5	42.5	
BRTM-32-10R	32	1-1/4	26	31	31	12.70	46	50	11	46	60.5	43.5	
BRTM-35-10R	35	1-1/4	28	31	31	12.70	46	55	11	46	63.5	45.5	
BRTM-38-12R	38	1-1/2	32	36	36	12.70	50	60	12	50	69.5	48.5	
BRTM-40-12R	40	1-1/2	32	36	36	12.70	55	60	12	55	74.5	49.5	
BRTM-06A-02R	1/8	10.5	1/4	8	7	6.01	17	19	7	23	34.5	19	
BRTM-08A-03R	1/4	13.8	3/8	11	9	6.35	22	24	7.5	28	40	22.5	
BRTM-10A-04R	3/8	17.3	1/2	14	12	8.16	27	32	8	32	44.5	30	
BRTM-15A-06R	1/2	21.7	3/4	18	16	9.53	32	36	9	34	46.5	32.5	
BRTM-20A-08R	3/4	27.2	1	22	22	10.39	41	46	10	41	55	39.5	
BRTM-25A-10R	1	34.0	1-1/4	28	31	12.70	46	55	11	46	63.5	45.5	
BRTM-32A-12R	1-1/4	42.7	1-1/2	34	36	12.70	60	65	12	57	77.5	51.5	
BRTM-40A-16R	1-1/2	48.6	2	40	46	15.88	65	75	12	62	83.5	58	

BBFC

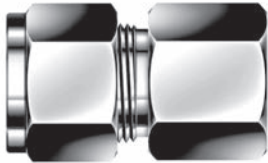
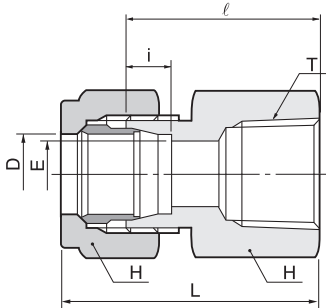
Bulkhead Female Connector



Designations	Tube O.D.		(PT) T	E	Width across flat			i	ℓ	a	Approx L	Panel Hole Drill Size N	Max. Panel Thickness S
	D	T			H ₁	H ₂	H						
BBFC-06-01R	6	1/8	4	17	17	14	7	45	13	42.5	12.5	13	
BBFC-08-02R	8	1/4	6	19	19	17	7	50	18	42.5	14.5	13	
BBFC-10-02R	10	1/4	8	19	22	19	7	50	18	43.5	16.5	13	
BBFC-10-03R	10	3/8	8	24	22	19	7	52	20	43.5	16.5	13	
BBFC-12-02R	12	1/4	10	19	24	22	7	50	18	43.5	18.5	13	
BBFC-12-03R	12	3/8	10	24	24	22	7	52	20	43.5	18.5	13	
BBFC-15-03R	15	3/8	12	27	27	27	7.5	57	20	49.5	22.5	15	
BBFC-15-04R	15	1/2	12	30	27	27	7.5	62	25	49.5	22.5	15	
BBFC-16-04R	16	1/2	13	30	30	30	7.5	62	25	49.5	24.5	15	
BBFC-18-04R	18	1/2	14	30	32	32	8	64	25	51.5	26.5	15	
BBFC-20-06R	20	3/4	17	36	32	36	8	66	27	51.5	28.5	15	
BBFC-22-06R	22	3/4	18	36	36	36	9	66	27	51.5	30.5	15	
BBFC-25-08R	25	1	20	46	41	41	10	70	31	52.5	35.5	15	
BBFC-28-08R	28	1	22	46	46	46	10	72	31	55	38.5	15	
BBFC-30-08R	30	1	25	46	46	46	10	72	31	55.5	40.5	15	
BBFC-32-10R	32	1-1/4	26	55	46	50	11	78	35	57.5	42.5	15	

BFC

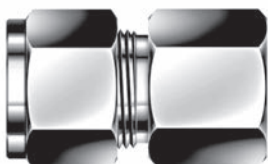
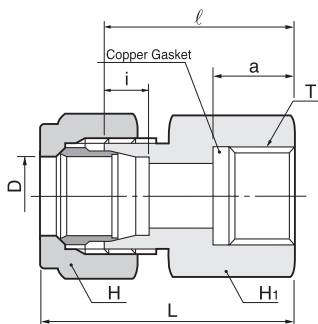
Female Connector



Designations	Tube O.D.		(PT) T	E	Width across flat		i	ℓ	Approx L
	D				H ₁	H			
BFC-06-01R	6		1/8	4	17	14	7	25	35.5
BFC-08-02R	8		1/4	6	19	17	7	30	40.5
BFC-10-02R	10		1/4	8	19	19	7	30	41.5
BFC-10-03R	10		3/8	8	24	19	7	32	43.5
BFC-12-02R	12		1/4	10	19	22	7	30	41.5
BFC-12-03R	12		3/8	10	24	22	7	32	43.5
BFC-15-03R	15		3/8	12	24	27	7.5	34	46.5
BFC-15-04R	15		1/2	12	30	27	7.5	39	51.5
BFC-16-04R	16		1/2	13	30	30	7.5	39	51.5
BFC-18-04R	18		1/2	14	30	32	8	39	51.5
BFC-20-06R	20		3/4	17	36	36	8	41	53.5
BFC-22-06R	22		3/4	18	36	36	9	41	53.5
BFC-25-06R	25		3/4	20	36	41	10	41	54.5
BFC-25-08R	25		1	20	46	41	10	45	58.5
BFC-28-08R	28		1	22	46	46	10	47	61
BFC-30-08R	30		1	25	46	46	10	47	61.5
BFC-30-10R	30		1-1/4	25	55	46	10	51	65.5
BFC-32-10R	32		1-1/4	26	55	50	11	51	65.5
BFC-35-10R	35		1-1/4	28	55	55	11	51	68.5
BFC-38-12R	38		1-1/2	32	65	60	12	51	70.5
BFC-40-12R	40		1-1/2	32	65	60	12	55	74.5
BFC-42-12R	42		1-1/2	34	65	60	12	55	74.5
BFC-06A-02R	1/8	10.5	1/4	8	19	19	7	30	41.5
BFC-08A-03R	1/4	13.8	3/8	11	24	24	7.5	34	46
BFC-10A-04R	3/8	17.3	1/2	14	30	32	8	39	51.5
BFC-15A-06R	1/2	21.7	3/4	18	36	36	9	41	53.5
BFC-20A-08R	3/4	27.2	1	22	46	46	10	47	61
BFC-25A-10R	1	34.0	1-1/4	28	55	55	11	51	68.5
BFC-32A-12R	1-1/4	42.7	1-1/2	34	65	65	12	55	78.5
BFC-40A-16R	1-1/2	48.6	2	40	80	75	12	60	81.5

BGC

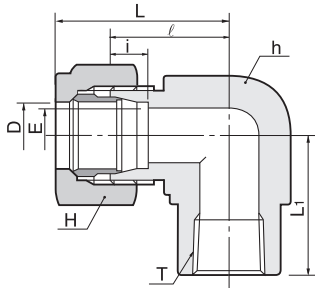
Gauge Connector



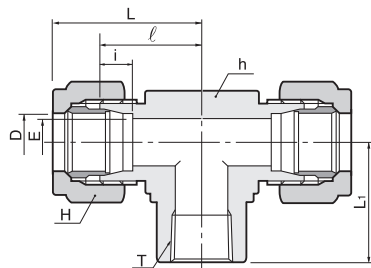
Designations	Tube O.D.		(PF) T	a	Width across flat		i	ℓ	Approx L	Gasket Part No
	D				H ₁	H				
BGC-06-02G	6		1/4	14	19	14	7	32	42.5	BGG-02
BGC-06-03G	6		3/8	15	24	14	7	34	44.5	BGG-03
BGC-06-04G	6		1/2	16	30	14	7	36	46.5	BGG-04
BGC-08-02G	8		1/4	14	19	17	7	32	42.5	BGG-02
BGC-08-03G	8		3/8	15	24	17	7	34	44.5	BGG-03
BGC-08-04G	8		1/2	16	30	17	7	36	46.5	BGG-04
BGC-10-02G	10		1/4	14	19	19	7	32	43.5	BGG-02
BGC-10-03G	10		3/8	15	24	19	7	34	45.5	BGG-03
BGC-10-04G	10		1/2	16	30	19	7	36	47.5	BGG-04
BGC-12-02G	12		1/4	14	19	22	7	32	43.5	BGG-02
BGC-12-03G	12		3/8	15	24	22	7	34	45.5	BGG-03
BGC-12-04G	12		1/2	16	30	22	7	36	47.5	BGG-04

BLF

Female Elbow



Designations	Tube O.D.	(PT)	E	Width across flat		i	ℓ	Approx	
	D	T		h	H			L ₁	L
BLF-08-02R	8	1/4	6	19	17	7	24	24	34.5
BLF-10-02R	10	1/4	8	19	19	7	24	24	35.5
BLF-12-02R	12	1/4	10	19	22	7	24	24	35.5
BLF-12-03R	12	3/8	10	24	22	7	29	29	40.5
BLF-15-03R	15	3/8	12	24	27	7.5	29	29	41.5
BLF-15-04R	15	1/2	12	30	27	7.5	33	33	45.5
BLF-16-04R	16	1/2	13	30	30	7.5	33	33	45.5
BLF-18-04R	18	1/2	14	30	32	8	33	33	45.5
BLF-20-06R	20	3/4	17	36	36	8	36	36	48.5
BLF-22-06R	22	3/4	18	36	36	9	36	36	48.5
BLF-25-06R	25	3/4	20	36	41	10	36	36	49.5
BLF-25-08R	25	1	20	46	41	10	36	46	59.5
BLF-28-08R	28	1	22	46	46	10	46	46	60
BLF-30-10R	30	1-1/4	25	55	46	10	46	55	69.5
BLF-32-10R	32	1-1/4	26	55	50	11	55	55	69.5
BLF-35-10R	35	1-1/4	28	55	55	11	55	55	72.5



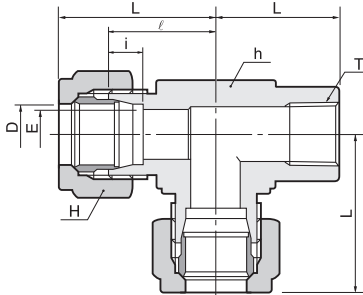
BBTF

Female Branch Tee

Designations	Tube O.D.		(PT)	E	Width across flat		i	ℓ	Approx	
	D		T		h	H			L	L ₁
BBTF-06-01R	6		1/8	4	17	14	7	23	34.5	24
BBTF-08-02R	8		1/4	6	19	17	7	24	34.5	24
BBTF-10-02R	10		1/4	8	19	19	7	24	35.5	24
BBTF-12-02R	12		1/4	10	19	22	7	24	35.5	24
BBTF-12-03R	12		3/8	10	24	22	7	29	40.5	29
BBTF-15-03R	15		3/8	12	24	27	7.5	29	41.5	29
BBTF-15-04R	15		1/2	12	30	27	7.5	33	45.5	33
BBTF-16-04R	16		1/2	13	30	30	7.5	33	45.5	33
BBTF-18-04R	18		1/2	14	30	32	8	33	45.5	33
BBTF-20-06R	20		3/4	17	36	36	8	36	48.5	36
BBTF-22-06R	22		3/4	18	36	36	9	36	48.5	36
BBTF-25-06R	25		3/4	20	36	41	10	36	49.5	36
BBTF-25-08R	25		1	20	46	41	10	46	59.5	46
BBTF-28-08R	28		1	22	46	46	10	46	60	46
BBTF-30-08R	30		1	25	46	46	10	46	60.5	46
BBTF-30-10R	30		1-1/4	25	55	46	10	55	69.5	55
BBTF-32-10R	32		1-1/4	26	55	50	11	55	69.5	55
BBTF-35-10R	35		1-1/4	28	55	55	11	55	72.5	55
BBTF-06A-02R	1/8	10.5	1/4	8	19	19	7	24	35.5	24
BBTF-08A-03R	1/4	13.8	3/8	11	24	24	7.5	29	41	29
BBTF-10A-04R	3/8	17.3	1/2	14	30	32	8	33	45.5	33
BBTF-15A-06R	1/2	21.7	3/4	18	36	36	9	36	48.5	36
BBTF-20A-08R	3/4	27.2	1	22	46	46	10	46	60	46
BBTF-25A-10R	1	34.0	1-1/4	28	55	55	11	55	72.5	55

BRTF

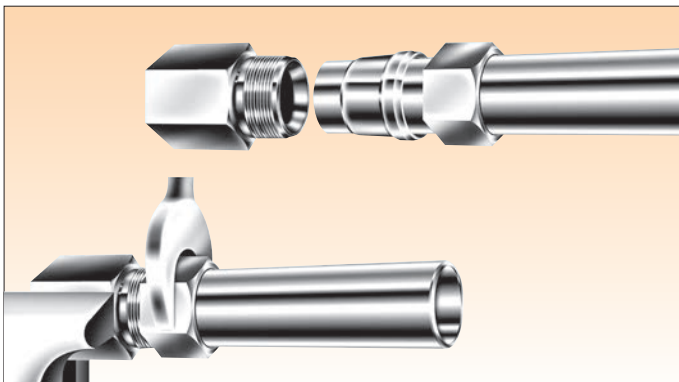
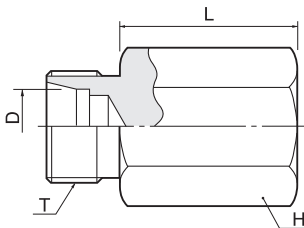
Female Run Tee



Designations	Tube O.D.		(PT) T	E	Width across flat		i	ℓ	Approx	
	D				h	H			L	L ₁
BRTF-08-02R	8		1/4	6	19	17	7	24	34.5	24
BRTF-10-02R	10		1/4	8	19	19	7	24	35.5	24
BRTF-12-02R	12		1/4	10	19	22	7	24	35.5	24
BRTF-12-03R	12		3/8	10	24	22	7	29	40.5	29
BRTF-15-03R	15		3/8	12	24	27	7.5	29	41.5	29
BRTF-15-04R	15		1/2	12	30	27	7.5	33	45.5	33
BRTF-16-04R	16		1/2	13	30	30	7.5	33	45.5	33
BRTF-18-04R	18		1/2	14	30	32	8	33	45.5	33
BRTF-20-06R	20		3/4	17	36	36	8	36	48.5	36
BRTF-22-06R	22		3/4	18	36	36	9	36	48.5	36
BRTF-25-06R	25		3/4	20	36	41	10	36	49.5	36
BRTF-25-08R	25		1	20	46	41	10	46	59.5	46
BRTF-28-08R	28		1	22	46	46	10	46	60	46
BRTF-30-08R	30		1	25	46	46	10	46	60.5	46
BRTF-30-10R	30		1-1/4	25	55	46	10	55	69.5	55
BRTF-32-10R	32		1-1/4	26	55	50	11	55	69.5	55
BRTF-35-10R	35		1-1/4	28	55	55	11	55	72.5	55
BRTF-06A-02R	1/8	10.5	1/4	8	19	19	7	24	35.5	24
BRTF-08A-03R	1/4	13.8	3/8	11	24	24	7.5	29	41	29
BRTF-10A-04R	3/8	17.3	1/2	14	30	32	8	33	45.5	33
BRTF-15A-06R	1/2	21.7	3/4	18	36	36	9	36	48.5	36
BRTF-20A-08R	3/4	27.2	1	22	46	46	10	46	60	46
BRTF-25A-10R	1	34.0	1-1/4	28	55	55	11	55	72.5	55

BJ

Presetting Jig



When assembling Bite type fitting in close corner or in cabinet it may be advantageous to use this jig. It allows presetting sleeve on to the tube in a more open or safe area. After using this jig, follow the reassembly instruction.

Tubing may occasionally stick in the jig after pull-up.

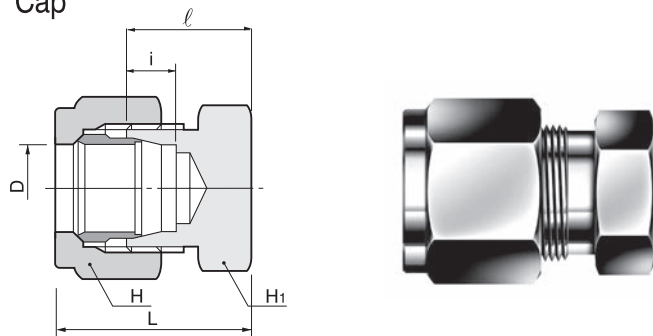
When this happens, loosen the tube by gently rocking back and forth.

Do not rock up and down or turn the tube as this may damage sealing surfaces of fitting.

Designations	Tube O.D.		L	H	T
	D				
BJ-06	6		40	17	M12 x 1.5
BJ-08	8		40	17	M14 x 1.5
BJ-10	10		40	17	M16 x 1.5
BJ-12	12		40	27	M18 x 1.5
BJ-15	15		40	27	M22 x 1.5
BJ-16	16		40	27	M24 x 1.5
BJ-18	18		40	27	M26 x 1.5
BJ-20	20		40	41	M28 x 1.5
BJ-22	22		40	41	M30 x 1.5
BJ-25	25		40	41	M35 x 1.5
BJ-28	28		40	41	M38 x 1.5
BJ-30	30		40	41	M40 x 1.5
BJ-32	32		40	55	M42 x 1.5
BJ-35	35		40	55	M45 x 1.5
BJ-38	38		50	55	M48 x 1.5
BJ-40	40		50	55	M52 x 2.0
BJ-42	42		50	55	M52 x 2.0
BJ-06A	1/8	10.5	40	17	M16 x 1.5
BJ-08A	1/4	13.8	40	27	M20 x 1.5
BJ-10A	3/8	17.3	40	27	M26 x 1.5
BJ-15A	1/2	21.7	40	41	M30 x 1.5
BJ-20A	3/4	27.2	40	41	M38 x 1.5
BJ-25A	1	34.0	40	55	M45 x 1.5
BJ-32A	1-1/4	42.7	50	65	M56 x 2.0
BJ-40A	1-1/2	48.6	50	65	M64 x 2.0

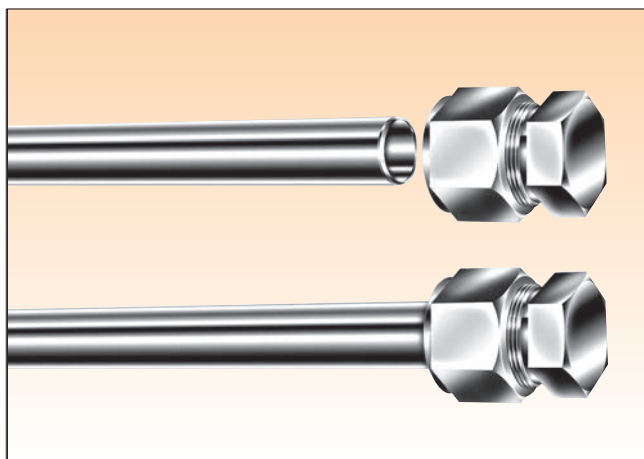
BC

Cap



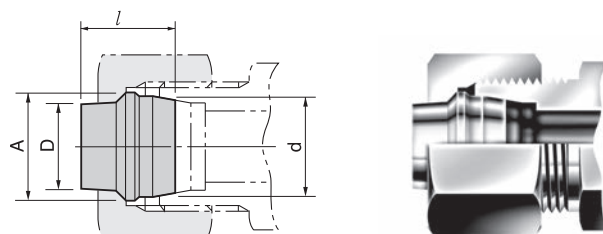
Designations	Tube O.D. D	Width across flat		i	l	Approx L
		H ₁	H			
BC-06	6	14	14	7	18	28.5
BC-08	8	17	17	7	19	29.5
BC-10	10	17	19	7	20	31.5
BC-12	12	19	22	7	20	31.5
BC-15	15	24	27	7.5	22	34.5
BC-16	16	27	30	7.5	24	36.5
BC-18	18	27	32	8	24	36.5
BC-20	20	30	36	8	24	36.5
BC-22	22	32	36	9	25	37.5
BC-25	25	36	41	10	25	38.5
BC-28	28	41	46	10	28	42
BC-30	30	41	46	10	28	42.5
BC-32	32	46	50	11	30	44.5

Cap for tube end



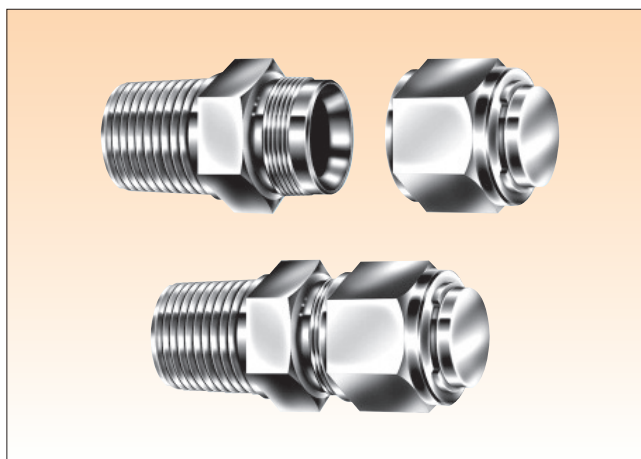
BP

Plug



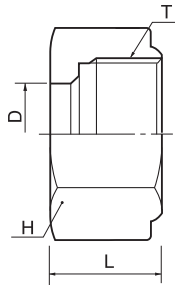
Designations	Tube O.D. D	E	A	l
BP-06	6	8	9	13.5
BP-08	8	10	11	13.5
BP-10	10	12	13	14.5
BP-12	12	14	15	14.5
BP-15	15	17	18	16
BP-16	16	18	19	16
BP-18	18	20	21	17.5
BP-20	20	22	23	17.5
BP-22	22	24	25	17.5
BP-25	25	27.4	28.5	19
BP-28	28	30.4	31.5	19
BP-30	30	32.4	33.5	20
BP-32	32	34.4	35.5	20

Plug for unused Bite type fitting port



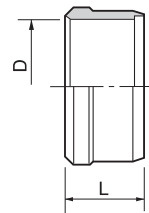
BN

Nut



BS

Sleeve

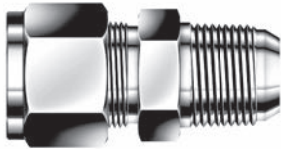
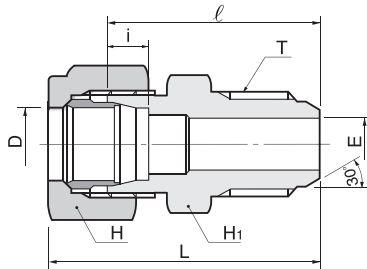


Designations	Tube O.D. D	T	Width across flat H	L
BN-06	6	M12 x 1.5	14	15
BN-08	8	M14 x 1.5	17	15
BN-10	10	M16 x 1.5	19	16
BN-12	12	M18 x 1.5	22	16
BN-15	15	M22 x 1.5	27	19
BN-16	16	M24 x 1.5	30	19
BN-18	18	M26 x 1.5	32	19
BN-20	20	M28 x 1.5	36	19
BN-22	22	M30 x 1.5	36	19
BN-25	25	M35 x 1.5	41	20
BN-28	28	M38 x 1.5	46	21
BN-30	30	M40 x 1.5	46	22
BN-32	32	M42 x 1.5	50	22
BN-35	35	M45 x 1.5	55	25
BN-38	38	M48 x 1.5	60	27
BN-40	40	M52 x 2.0	60	29.5
BN-42	42	M52 x 2.0	60	29.5
BN-06A	1/8 10.5	M16 x 1.5	19	16
BN-08A	1/4 13.8	M20 x 1.5	24	18
BN-10A	3/8 17.3	M26 x 1.5	32	19
BN-15A	1/2 21.7	M30 x 1.5	36	19
BN-20A	3/4 27.2	M38 x 1.5	46	21
BN-25A	1 34.0	M45 x 1.5	55	25
BN-32A	1-1/4 42.7	M56 x 2.0	65	30.5
BN-40A	1-1/2 48.6	M64 x 2.0	75	31.5

Designations	Tube O.D. D	L
BS-06	6	9
BS-08	8	9
BS-10	10	10
BS-12	12	10
BS-15	15	10
BS-16	16	10
BS-18	18	10
BS-20	20	10
BS-22	22	10
BS-25	25	11
BS-28	28	11
BS-30	30	11
BS-32	32	11
BS-35	35	14
BS-38	38	14
BS-40	40	14
BS-42	42	14
BS-06A	1/8 10.5	10
BS-08A	1/4 13.8	10
BS-10A	3/8 17.3	10
BS-15A	1/2 21.7	10
BS-20A	3/4 27.2	11
BS-25A	1 34.0	14
BS-32A	1-1/4 42.7	14
BS-40A	1-1/2 48.6	14

BHUM

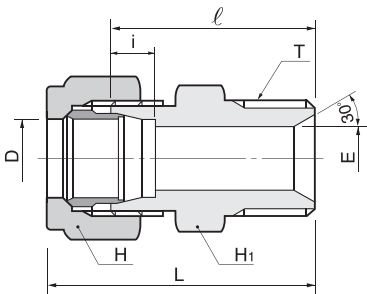
Hose Male Union



Designations	Tube O.D.	(PF)	E	Width across flat		i	ℓ	L
	D	T		H ₁	H			
BHUM-06-01G	6	1/8	4	14	14	7	34	44.5
BHUM-08-02G	8	1/4	6	17	17	7	35	45.5
BHUM-08-03G	8	3/8	6	19	17	7	37	47.5
BHUM-10-02G	10	1/4	6	17	19	7	35	46.5
BHUM-10-03G	10	3/8	8	19	19	7	37	48.5
BHUM-10-04G	10	1/2	8	22	19	7	40	51.5
BHUM-12-02G	12	1/4	6	19	22	7	35	46.5
BHUM-12-03G	12	3/8	9	19	22	7	37	48.5
BHUM-12-04G	12	1/2	10	22	22	7	40	51.5
BHUM-15-03G	15	3/8	9	24	27	7.5	40	52.5
BHUM-15-04G	15	1/2	12	24	27	7.5	42	54.5
BHUM-16-03G	16	3/8	9	27	30	7.5	40	52.5
BHUM-16-04G	16	1/2	12	27	30	7.5	42	54.5
BHUM-18-04G	18	1/2	12	27	32	8	42	54.5
BHUM-20-06G	20	3/4	16	30	36	8	46	58.5
BHUM-22-04G	22	1/2	12	32	36	9	44	56.5
BHUM-22-06G	22	3/4	16	32	36	9	46	58.5
BHUM-25-06G	25	3/4	16	36	41	10	47	60.5
BHUM-25-08G	25	1	20	36	41	10	49	62.5
BHUM-28-06G	28	3/4	16	41	46	10	49	63
BHUM-28-08G	28	1	22	41	46	10	51	65
BHUM-30-06G	30	3/4	16	41	46	10	49	63.5
BHUM-30-08G	30	1	22	41	46	10	51	65.5
BHUM-32-08G	32	1	22	46	50	11	52	66.5
BHUM-32-10G	32	1-1/4	28	46	50	11	56	70.5

BHUF

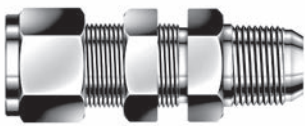
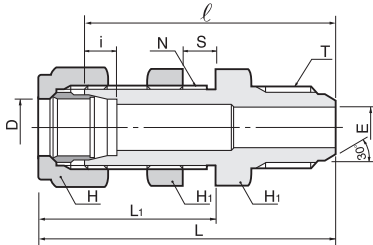
Hose Female Union



Designations	Tube O.D.	(PF)	E	Width across flat		i	ℓ	L
	D	T		H ₁	H			
BHUF-06-01G	6	1/8	4	14	14	7	32	43.5
BHUF-08-02G	8	1/4	6	17	17	7	33	43.5
BHUF-08-03G	8	3/8	6	19	17	7	34	44.5
BHUF-10-02G	10	1/4	6	17	19	7	33	44.5
BHUF-10-03G	10	3/8	8	19	19	7	34	45.5
BHUF-10-04G	10	1/2	8	22	19	7	38	49.5
BHUF-12-02G	12	1/4	6	19	22	7	33	44.5
BHUF-12-03G	12	3/8	9	19	22	7	34	45.5
BHUF-12-04G	12	1/2	10	22	22	7	38	49.5
BHUF-15-03G	15	3/8	9	24	27	7.5	37	49.5
BHUF-15-04G	15	1/2	12	24	27	7.5	40	52.5
BHUF-16-03G	16	3/8	9	27	30	7.5	37	49.5
BHUF-16-04G	16	1/2	12	27	30	7.5	40	52.5
BHUF-18-04G	18	1/2	12	27	32	8	40	52.5
BHUF-20-06G	20	3/4	16	30	36	8	43	55.5
BHUF-22-04G	22	1/2	12	32	36	9	42	54.5
BHUF-22-06G	22	3/4	16	32	36	9	43	55.5
BHUF-25-06G	25	3/4	16	36	41	10	44	57.5
BHUF-25-08G	25	1	20	36	41	10	46	59.5
BHUF-28-06G	28	3/4	16	41	46	10	46	60
BHUF-28-08G	28	1	22	41	46	10	48	62
BHUF-30-06G	30	3/4	16	41	46	10	46	60.5
BHUF-30-08G	30	1	22	41	46	10	48	62.5
BHUF-32-08G	32	1	22	46	50	11	49	63.5
BHUF-32-10G	32	1-1/4	28	46	50	11	55	69.5
BHUF-38-12G	38	1-1/2	32	50	60	12	57	76.5
BHUF-40-12G	40	1-1/2	32	55	60	12	62	81.5

BHBM

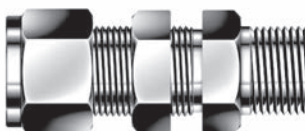
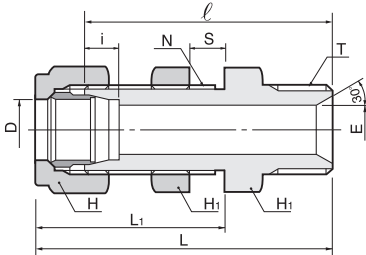
Hose Bulkhead Male Union



Designations	Tube O.D. (PF)		E	Width across flat		i	ℓ	L ₁	L	Panel Hole Drill Size N	Max. Panel Thickness S
	D	T		H ₁	H						
BHBM-06-01G	6	1/8	4	17	14	7	54	42.5	63.5	12.5	13
BHBM-08-02G	8	1/4	6	19	17	7	55	42.5	65.5	14.5	13
BHBM-08-03G	8	3/8	6	19	17	7	57	42.5	67.5	14.5	13
BHBM-10-02G	10	1/4	6	22	19	7	56	43.5	67.5	16.5	13
BHBM-10-03G	10	3/8	8	22	19	7	58	43.5	69.5	16.5	13
BHBM-10-04G	10	1/2	8	22	19	7	60	43.5	71.5	16.5	13
BHBM-12-02G	12	1/4	6	24	22	7	56	43.5	67.5	18.5	13
BHBM-12-03G	12	3/8	9	24	22	7	58	43.5	69.5	18.5	13
BHBM-12-04G	12	1/2	10	24	22	7	60	43.5	71.5	18.5	13
BHBM-15-03G	15	3/8	9	27	27	7.5	63	49.5	75.5	22.5	15
BHBM-15-04G	15	1/2	12	27	27	7.5	65	49.5	77.5	22.5	15
BHBM-16-03G	16	3/8	9	30	30	7.5	65	49.5	77.5	24.5	15
BHBM-16-04G	16	1/2	12	30	30	7.5	67	49.5	79.5	24.5	15
BHBM-18-04G	18	1/2	12	32	32	8	69	51.5	81.5	26.5	15
BHBM-20-06G	20	3/4	16	32	36	8	71	51.5	83.5	28.5	15
BHBM-22-04G	22	1/2	12	36	36	9	70	51.5	82.5	30.5	15
BHBM-22-06G	22	3/4	16	36	36	9	72	51.5	84.5	30.5	15
BHBM-25-06G	25	3/4	16	41	41	10	72	52.5	87.5	35.5	15
BHBM-25-08G	25	1	20	41	41	10	74	52.5	89.5	35.5	15
BHBM-28-06G	28	3/4	16	46	46	10	75	55	89	38.5	15
BHBM-28-08G	28	1	22	46	46	10	77	55	91	38.5	15
BHBM-30-06G	30	3/4	16	46	46	10	75	55.5	89.5	40.5	15
BHBM-30-08G	30	1	22	46	46	10	77	55.5	91.5	40.5	15
BHBM-32-08G	32	1	22	50	50	11	81	57.5	95.5	42.5	15
BHBM-32-10G	32	1-1/4	28	50	50	11	85	57.5	99.5	42.5	15

BHBF

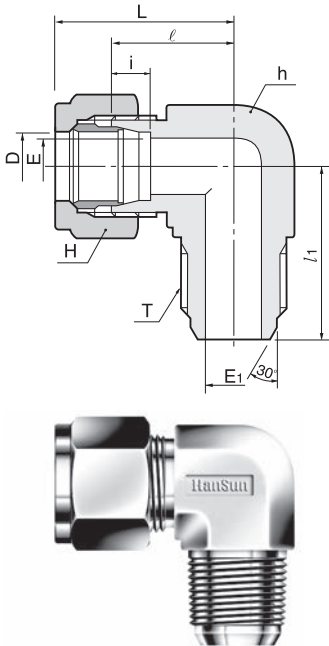
Hose Bulkhead Female Union



Designations	Tube O.D. (PF)		E	Width across flat		i	ℓ	L ₁	L	Panel Hole Drill Size N	Max. Panel Thickness S
	D	T		H ₁	H						
BHBF-06-01G	6	1/8	4	17	14	7	52	42.5	62.5	12.5	13
BHBF-08-02G	8	1/4	6	19	17	7	53	42.5	63.5	14.5	13
BHBF-08-03G	8	3/8	6	19	17	7	54	42.5	64.5	14.5	13
BHBF-10-02G	10	1/4	6	22	19	7	54	43.5	65.5	16.5	13
BHBF-10-03G	10	3/8	8	22	19	7	55	43.5	66.5	16.5	13
BHBF-10-04G	10	1/2	8	22	19	7	58	43.5	69.5	16.5	13
BHBF-12-02G	12	1/4	6	24	22	7	54	43.5	65.5	18.5	13
BHBF-12-03G	12	3/8	9	24	22	7	55	43.5	66.5	18.5	13
BHBF-12-04G	12	1/2	10	24	22	7	58	43.5	69.5	18.5	13
BHBF-15-03G	15	3/8	9	27	27	7.5	60	49.5	72.5	22.5	15
BHBF-15-04G	15	1/2	12	27	27	7.5	63	49.5	75.5	22.5	15
BHBF-16-03G	16	3/8	9	30	30	7.5	62	49.5	74.5	24.5	15
BHBF-16-04G	16	1/2	12	30	30	7.5	65	49.5	77.5	24.5	15
BHBF-18-04G	18	1/2	12	32	32	8	67	51.5	79.5	26.5	15
BHBF-20-06G	20	3/4	16	32	36	8	68	51.5	80.5	28.5	15
BHBF-22-04G	22	1/2	12	36	36	9	68	51.5	80.5	30.5	15
BHBF-22-06G	22	3/4	16	36	36	9	69	51.5	81.5	30.5	15
BHBF-25-06G	25	3/4	16	41	41	10	69	52.5	82.5	35.5	15
BHBF-25-08G	25	1	20	41	41	10	71	52.5	84.5	35.5	15
BHBF-28-08G	28	1	22	46	46	10	74	55	88	38.5	15
BHBF-30-06G	30	3/4	16	46	46	10	72	55.5	86.5	40.5	15
BHBF-30-08G	30	1	22	46	46	10	74	55.5	88.5	40.5	15
BHBF-32-08G	32	1	22	50	50	11	78	57.5	92.5	42.5	15
BHBF-32-10G	32	1-1/4	28	50	50	11	84	57.5	98.5	42.5	15
BHBF-38-12G	38	1-1/2	31	55	60	12	87	64.5	106.5	48.5	15
BHBF-40-12G	40	1-1/2	32	60	60	12	94	69.5	113.5	52.5	15

BHLM

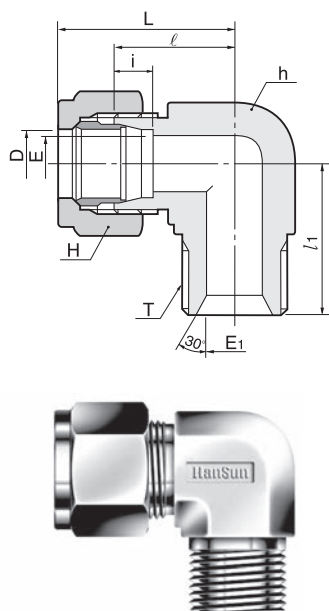
Hose Male Elbow



Designations	Tube O.D. (PF)		E	E ₁	Width across flat		i	ℓ	l ₁	L
	D	T			h	H				
BHLM-06-01G	6	1/8	4	4	14	14	7	20	25	33.5
BHLM-08-02G	8	1/4	6	6	17	17	7	23	25	33.5
BHLM-08-03G	8	3/8	6	9	19	17	7	24	28	34.5
BHLM-10-02G	10	1/4	8	6	19	19	7	24	28	35.5
BHLM-10-03G	10	3/8	8	9	19	19	7	24	28	35.5
BHLM-10-04G	10	1/2	8	12	24	19	7	29	34	40.5
BHLM-12-02G	12	1/4	10	6	19	22	7	24	28	35.5
BHLM-12-03G	12	3/8	10	9	19	22	7	24	28	35.5
BHLM-12-04G	12	1/2	10	12	24	22	7	29	34	40.5
BHLM-15-03G	15	3/8	12	9	24	27	7.5	29	33	41.5
BHLM-15-04G	15	1/2	12	12	24	27	7.5	29	34	41.5
BHLM-16-03G	16	3/8	13	9	27	30	7.5	32	36	44.5
BHLM-16-04G	16	1/2	13	12	27	30	7.5	32	38	44.5
BHLM-18-04G	18	1/2	14	12	27	32	8	32	38	44.5
BHLM-20-06G	20	3/4	17	16	30	36	8	33	41	45.5
BHLM-22-04G	22	1/2	18	12	32	36	9	34	40	46.5
BHLM-22-06G	22	3/4	18	16	32	36	9	34	42	46.5
BHLM-25-06G	25	3/4	20	16	36	41	10	36	44	49.5
BHLM-25-08G	25	1	20	20	36	41	10	36	46	49.5
BHLM-28-06G	28	3/4	22	16	41	46	10	41	47	55
BHLM-28-08G	28	1	22	22	41	46	10	41	49	55
BHLM-30-06G	30	3/4	25	16	41	46	10	41	47	55.5
BHLM-30-08G	30	1	25	22	41	46	10	41	49	55.5
BHLM-32-08G	32	1	26	22	46	50	11	46	54	60.5
BHLM-32-10G	32	1-1/4	26	28	46	50	11	46	56	60.5

BHLF

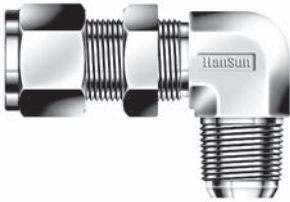
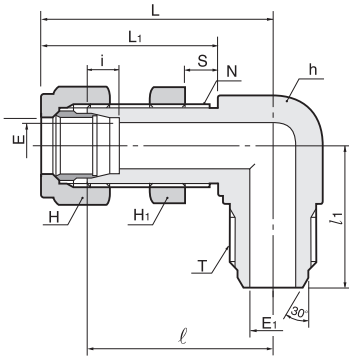
Hose Female Elbow



Designations	Tube O.D. (PF)		E	E ₁	Width across flat		i	ℓ	l ₁	L
	D	T			h	H				
BHLF-08-02G	8	1/4	6	6	17	17	7	23	25	33.5
BHLF-08-03G	8	3/8	6	9	19	17	7	24	27	34.5
BHLF-10-02G	10	1/4	8	6	19	19	7	24	26	35.5
BHLF-10-03G	10	3/8	8	9	19	19	7	24	27	35.5
BHLF-10-04G	10	1/2	8	12	24	19	7	29	23	40.5
BHLF-12-02G	12	1/4	10	6	19	22	7	24	26	35.5
BHLF-12-03G	12	3/8	10	9	19	22	7	24	27	35.5
BHLF-12-04G	12	1/2	10	12	24	22	7	29	33	40.5
BHLF-15-03G	15	3/8	12	9	24	27	7.5	29	30	41.5
BHLF-15-04G	15	1/2	12	12	24	27	7.5	29	33	41.5
BHLF-16-03G	16	3/8	13	9	27	30	7.5	32	33	44.5
BHLF-16-04G	16	1/2	13	12	27	30	7.5	32	36	44.5
BHLF-18-04G	18	1/2	14	12	27	32	8	32	36	44.5
BHLF-20-06G	20	3/4	17	16	30	36	8	33	38	45.5
BHLF-22-04G	22	1/2	18	12	32	36	9	34	38	46.5
BHLF-22-06G	22	3/4	18	16	32	36	9	34	39	46.5
BHLF-25-06G	25	3/4	20	16	36	41	10	36	41	49.5
BHLF-25-08G	25	1	20	20	36	41	10	36	43	49.5
BHLF-28-06G	28	3/4	22	16	41	46	10	41	44	55
BHLF-28-08G	28	1	22	22	41	46	10	41	46	55
BHLF-30-06G	30	3/4	25	16	41	46	10	41	44	55.5
BHLF-30-08G	30	1	25	22	41	46	10	41	46	55.5
BHLF-32-08G	32	1	26	22	46	50	11	46	51	60.5
BHLF-32-10G	32	1-1/4	26	28	46	50	11	46	57	60.5
BHLF-38-12G	38	1-1/2	32	34	50	60	12	50	61	69.5
BHLF-40-12G	40	1-1/2	32	34	55	60	12	55	62	74.5

BHBLM

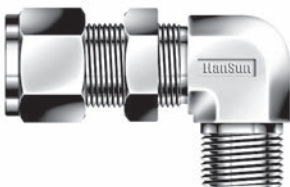
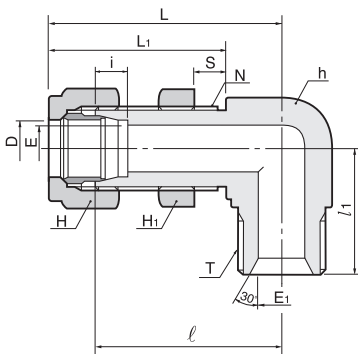
Hose Bulkhead
Male Elbow



Designations	Tube O.D. (PF)		E	E ₁	Width across flat			i	ℓ	l ₁	L ₁	L	Panel Hole	Max. Panel
	D	T			h	H ₁	H						Drill Size N	Thickness S
BHBLM-06-01G	6	1/8	4	4	17	17	14	7	45	28	42.5	56.5	14.5	13
BHBLM-08-02G	8	1/4	6	6	19	19	17	7	46	28	42.5	56.5	14.5	13
BHBLM-08-03G	8	3/8	6	9	19	19	17	7	46	30	42.5	56.5	14.5	13
BHBLM-10-02G	10	1/4	8	6	22	22	19	7	48	28	43.5	59.5	16.5	13
BHBLM-10-03G	10	3/8	8	9	22	22	19	7	48	30	43.5	59.5	16.5	13
BHBLM-10-04G	10	1/2	8	12	24	22	19	7	49	35	43.5	60.5	16.5	13
BHBLM-12-02G	12	1/4	10	6	24	24	22	7	49	31	43.5	60.5	18.5	13
BHBLM-12-03G	12	3/8	10	9	24	24	22	7	49	33	43.5	60.5	18.5	13
BHBLM-12-04G	12	1/2	10	12	24	24	22	7	49	35	43.5	60.5	18.5	13
BHBLM-15-03G	15	3/8	12	9	27	27	27	7.5	57	36	49.5	69.5	22.5	15
BHBLM-15-04G	15	1/2	12	12	27	27	27	7.5	57	37	49.5	69.5	22.5	15
BHBLM-16-03G	16	3/8	13	9	30	30	30	7.5	59	37	49.5	71.5	24.5	15
BHBLM-16-04G	16	1/2	13	12	30	30	30	7.5	59	38	49.5	71.5	24.5	15
BHBLM-18-04G	18	1/2	14	12	32	32	32	8	63	39	51.5	75.5	26.5	15
BHBLM-20-06G	20	3/4	16	16	32	32	36	8	65	40	51.5	77.5	28.5	15
BHBLM-22-04G	22	1/2	18	12	36	36	36	9	65	40	51.5	77.5	30.5	15
BHBLM-22-06G	22	3/4	18	16	36	36	38	9	65	40	51.5	77.5	30.5	15
BHBLM-25-06G	25	3/4	20	16	41	41	41	10	68	43	52.5	81.5	35.5	15
BHBLM-25-08G	25	1	20	20	41	41	41	10	68	43	52.5	81.5	35.5	15
BHBLM-28-06G	28	3/4	22	16	46	46	46	10	74	48	55	88	38.5	15
BHBLM-28-08G	28	1	22	22	46	46	46	10	74	48	55	88	38.5	15
BHBLM-30-06G	30	3/4	25	16	46	46	46	10	74	48	55.5	88.5	40.5	15
BHBLM-30-08G	30	1	25	22	46	46	46	10	74	48	55.5	88.5	40.5	15

BHBLF

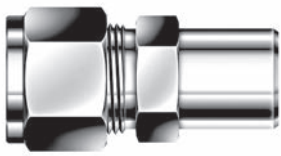
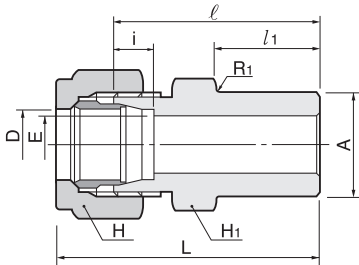
Hose Bulkhead
Female Elbow



Designations	Tube O.D. (PF)		E	E ₁	Width across flat			i	ℓ	l ₁	L ₁	L	Panel Hole	Max. Panel
	D	T			h	H ₁	H						Drill Size N	Thickness S
BHBLF-06-01G	6	1/8	4	4	17	17	14	7	45	26	42.5	56.5	14.5	13
BHBLF-08-02G	8	1/4	6	6	19	19	17	7	46	26	42.5	56.5	14.5	13
BHBLF-08-03G	8	3/8	6	9	19	19	17	7	46	27	42.5	56.5	14.5	13
BHBLF-10-02G	10	1/4	8	6	22	22	19	7	48	28	43.5	59.5	16.5	13
BHBLF-10-03G	10	3/8	8	9	22	22	19	7	48	29	43.5	59.5	16.5	13
BHBLF-10-04G	10	1/2	8	12	24	22	19	7	49	33	43.5	60.5	16.5	13
BHBLF-12-02G	12	1/4	10	6	24	24	22	7	49	30	43.5	60.5	18.5	13
BHBLF-12-03G	12	3/8	10	9	24	24	22	7	49	30	43.5	60.5	18.5	13
BHBLF-12-04G	12	1/2	10	12	24	24	22	7	49	33	43.5	60.5	18.5	13
BHBLF-15-03G	15	3/8	12	9	27	27	27	7.5	57	33	49.5	69.5	22.5	15
BHBLF-15-04G	15	1/2	12	12	27	27	27	7.5	57	36	49.5	69.5	22.5	15
BHBLF-16-03G	16	3/8	13	9	30	30	30	7.5	59	34	49.5	71.5	24.5	15
BHBLF-16-04G	16	1/2	13	12	30	30	30	7.5	59	37	49.5	71.5	24.5	15
BHBLF-18-04G	18	1/2	14	12	32	32	32	8	63	37	51.5	75.5	26.5	15
BHBLF-20-06G	20	3/4	16	16	32	32	36	8	65	40	51.5	77.5	28.5	15
BHBLF-22-04G	22	1/2	18	12	36	36	36	9	65	40	51.5	77.5	30.5	15
BHBLF-22-06G	22	3/4	18	16	36	36	36	9	65	40	51.5	77.5	30.5	15
BHBLF-25-06G	25	3/4	20	16	41	41	41	10	68	43	52.5	81.5	35.5	15
BHBLF-25-08G	25	1	20	20	41	41	41	10	68	43	52.5	81.5	35.5	15
BHBLF-28-06G	28	3/4	22	16	46	46	46	10	74	48	55	88	38.5	15
BHBLF-28-08G	28	1	22	22	46	46	46	10	74	48	55	88	38.5	15
BHBLF-30-06G	30	3/4	25	16	46	46	46	10	74	48	55.5	88.5	40.5	15
BHBLF-30-08G	30	1	25	22	46	46	46	10	74	48	55.5	88.5	40.5	15

BCW

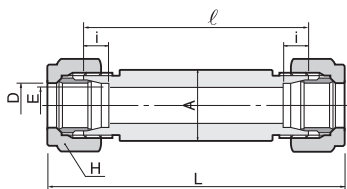
Welding Connector



Designations	Tube O.D.		A	E	Width across flat		ℓ	i	l_1	L
	D				H ₁	H				
BCW-06	6		12	4	14	14	29	7	11	39.5
BCW-08	8		14	6	17	17	34	7	15	44.5
BCW-10	10		16	8	17	19	34	7	15	45.5
BCW-12	12		18	10	19	22	34	7	15	45.5
BCW-15	15		21	12	24	27	40	7.5	18	52.5
BCW-16	16		22	13	27	30	44	7.5	22	56.5
BCW-18	18		25	14	27	32	44	8	22	56.5
BCW-20	20		28	17	30	36	46	8	22	58.5
BCW-22	22		28	18	32	36	46	9	22	58.5
BCW-25	25		33	20	36	41	51	10	26	64.5
BCW-28	28		36	22	41	46	55	10	28	69
BCW-30	30		39	25	41	46	55	10	28	69.5
BCW-32	32		40	26	46	50	56	11	28	70.5
BCW-35	35		43	28	46	55	56	11	28	73.5
BCW-38	38		45	32	50	60	58	12	28	77.5
BCW-40	40		46	32	55	60	65	12	30	84.5
BCW-06A	1/8	10.5	16	8	17	19	34	7	15	45.5
BCW-08A	1/4	13.8	19	11	22	24	40	7.5	18	52
BCW-10A	3/8	17.3	24	14	27	32	44	8	22	56.5
BCW-15A	1/2	21.7	28	18	32	36	46	9	22	58.5
BCW-20A	3/4	27.2	33	22	41	46	52	10	25	66
BCW-25A	1	34.0	40	28	46	55	56	11	28	73.5
BCW-32A	1-1/4	42.7	47	34	60	65	65	12	28	85.5
BCW-40A	1-1/2	48.6	55	40	65	75	70	12	30	91.5

BBUW

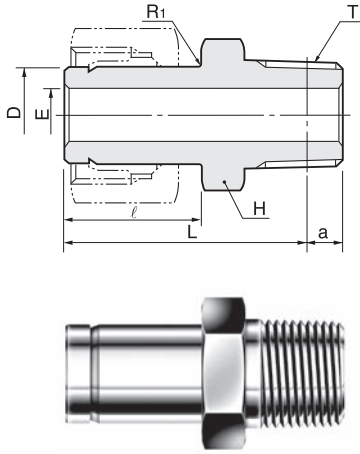
Welding Bulkhead Union



Designations	Tube O.D.		A	E	Width across flat		ℓ	i	L
	D				H				
BBUW-06	6		16	4	14		74	7	95
BBUW-08	8		16	6	17		74	7	95
BBUW-10	10		19	8	19		74	7	97
BBUW-12	12		20	10	22		74	7	97
BBUW-15	15		25	12	27		78	7.5	103
BBUW-16	16		28	13	30		78	7.5	103
BBUW-18	18		28	14	32		78	8	103
BBUW-20	20		32	17	36		78	8	103
BBUW-22	22		32	18	36		78	9	103
BBUW-25	25		38	20	41		78	10	105
BBUW-28	28		39	22	46		82	10	110
BBUW-30	30		46	25	46		82	10	111
BBUW-32	32		46	26	50		82	11	111
BBUW-35	35		46	28	55		82	11	117
BBUW-38	38		55	32	60		82	12	121
BBUW-40	40		55	32	60		90	12	129
BBUW-06A	1/8	10.5	19	8	19		74	7	97
BBUW-08A	1/4	13.8	22	11	24		78	7.5	102
BBUW-10A	3/8	17.3	28	14	32		78	8	103
BBUW-15A	1/2	21.7	32	18	36		78	9	103
BBUW-20A	3/4	27.2	39	22	46		82	10	110
BBUW-25A	1	34.0	46	28	55		82	11	117
BBUW-32A	1-1/4	42.7	58	34	65		90	12	131
BBUW-40A	1-1/2	48.6	65	40	75		90	12	133

BA-R

Adapter

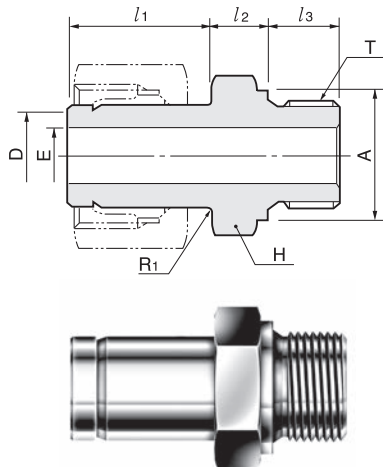


Designations	Tube O.D.		(PT)	E	Basic Gauge length a	Width across f lat	ℓ	L
	D		T			H		
BA-06-01R	6		1/8	3	3.97	12	20	32
BA-08-02R	8		1/4	5	6.01	14	20	35
BA-10-02R	10		1/4	6	6.01	14	21	36
BA-10-03R	10		3/8	6	6.35	19	21	36.5
BA-12-02R	12		1/4	7	6.01	14	22	37
BA-12-03R	12		3/8	8	6.35	19	22	37.5
BA-15-03R	15		3/8	8	6.35	19	24	40.5
BA-15-04R	15		1/2	10	8.16	22	24	43
BA-16-04R	16		1/2	11	8.16	22	24	43
BA-18-04R	18		1/2	12	8.16	22	24	43
BA-20-06R	20		3/4	14	9.53	27	25	46.5
BA-22-06R	22		3/4	14	9.53	27	26	47.5
BA-25-06R	25		3/4	16	9.53	27	28	49.5
BA-25-08R	25		1	17	10.39	36	28	52.5
BA-28-08R	28		1	18	10.39	36	28	52.5
BA-30-08R	30		1	20	10.39	36	29	53.5
BA-30-10R	30		1-1/4	20	12.70	46	29	55
BA-32-10R	32		1-1/4	22	12.70	46	30	56
BA-38-12R	38		1-1/2	26	12.70	50	36	64.5
BA-40-12R	40		1-1/2	28	12.70	50	36	64
BA-06A-02R	1/8	10.5	1/4	6	6.01	14	21	36
BA-08A-03R	1/4	13.8	3/8	9	6.35	19	22	38.5
BA-10A-04R	3/8	17.3	1/2	11	8.16	22	24	43
BA-15A-06R	1/2	21.7	3/4	14	9.53	27	26	47.5
BA-20A-08R	3/4	27.2	1	18	10.39	36	28	52.5
BA-25A-10R	1	34.0	1-1/4	23	12.70	46	33	59
BA-32A-12R	1-1/4	42.7	1-1/2	29	12.70	50	36	67
BA-40A-16R	1-1/2	48.6	2	33	15.88	65	37	72

BA-G

Adapter

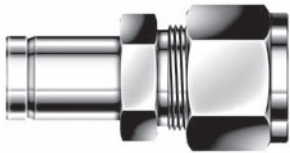
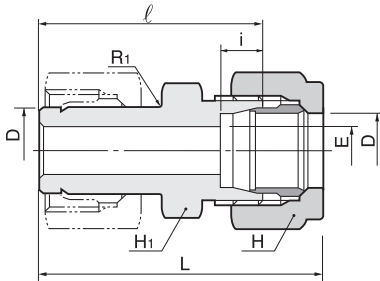
(For Copper Gasket)



Designations	Tube O.D.		(PF) T	E	Width across flat		A	l ₁	l ₂	l ₃
	D				H					
BA-06-01G	6		1/8	3	14		14	20	8	8
BA-08-02G	8		1/4	5	19		18	20	9	12
BA-10-02G	10		1/4	6	19		18	21	9	12
BA-10-03G	10		3/8	6	22		21.5	21	10	12
BA-12-02G	12		1/4	7	19		18	22	9	12
BA-12-03G	12		3/8	8	22		21.5	22	10	12
BA-15-03G	15		3/8	8	22		21.5	24	10	12
BA-15-04G	15		1/2	10	27		25.5	24	13	14
BA-16-04G	16		1/2	11	27		25.5	24	13	14
BA-18-04G	18		1/2	12	27		25.5	24	13	14
BA-20-06G	20		3/4	14	32		31.5	25	16	16
BA-22-06G	22		3/4	14	32		31.5	26	16	16
BA-25-06G	25		3/4	16	32		31.5	28	16	16
BA-25-08G	25		1	17	41		38	28	18	18
BA-28-08G	28		1	18	41		38	28	18	18
BA-30-08G	30		1	20	41		38	29	21	18
BA-30-10G	30		1-1/4	20	50		48.5	29	21	20
BA-32-10G	32		1-1/4	22	50		48.5	30	21	20
BA-38-12G	38		1-1/2	26	55		53.5	36	21	21
BA-40-12G	40		1-1/2	28	55		53.5	36	21	21
BA-06A-02G	1/8	10.5	1/4	6	19		18	21	9	12
BA-08A-03G	1/4	13.8	3/8	9	22		21.5	22	10	12
BA-10A-04G	3/8	17.3	1/2	11	27		25.5	24	13	14
BA-15A-06G	1/2	21.7	3/4	14	32		31.5	26	16	16
BA-20A-08G	3/4	27.2	1	18	41		38	28	18	18
BA-25A-10G	1	34.0	1-1/4	23	50		48.5	33	21	20
BA-32A-12G	1-1/4	42.7	1-1/2	29	55		53.5	36	23	21
BA-40A-16G	1-1/2	48.6	2	33	70		66	37	28	24

BR

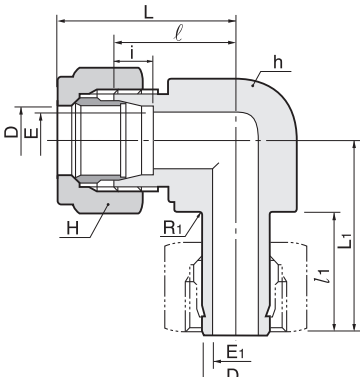
Reducer



Designations	Tube O.D.				E	Width across flat		i	ℓ	L
	D ₁		D			H ₁	H			
BR-08-06		8		6	4	14	14	7	39	49.5
BR-10-06		10		6	4	14	14	7	40	50.5
BR-10-08		10		8	6	17	17	7	40	50.5
BR-12-06		12		6	4	14	14	7	41	51.5
BR-12-08		12		8	6	17	17	7	41	51.5
BR-12-10		12		10	8	17	19	7	41	52.5
BR-15-08		15		8	6	17	17	7	43	53.5
BR-15-10		15		10	8	17	19	7	43	54.5
BR-16-06		16		6	4	17	14	7	43	53.5
BR-16-10		16		10	8	17	19	7	43	54.5
BR-16-12		16		12	10	19	22	7	43	54.5
BR-18-10		18		10	8	19	19	7	44	55.5
BR-18-15		18		15	12	24	27	7.5	45	57.5
BR-20-06		20		6	4	22	14	7	45	55.5
BR-20-12		20		12	10	22	22	7	45	56.5
BR-20-16		20		16	13	27	30	7.5	47	59.5
BR-22-15		22		15	12	24	27	7.5	48	60.5
BR-22-18		22		18	14	27	32	8	48	60.5
BR-25-16		25		16	13	27	30	7.5	50	62.5
BR-25-20		25		20	17	30	36	8	52	64.5
BR-28-18		28		18	14	30	32	8	52	64.5
BR-28-22		28		22	18	32	36	9	52	64.5
BR-30-20		30		20	17	32	36	8	53	65.5
BR-30-25		30		25	20	36	41	10	54	67.5
BR-32-25		32		25	20	36	41	10	55	68.5
BR-35-22		35		22	18	36	36	9	58	70.5
BR-35-28		35		28	22	41	46	10	60	74
BR-38-25		38		25	20	41	41	10	61	74.5
BR-38-30		38		30	25	41	46	10	63	77.5
BR-08A-6A	1/4	13.8	1/8	10.5	8	17	19	7	41	52.5
BR-10A-6A	3/8	17.3	1/8	10.5	8	19	19	7	44	55.5
BR-10A-8A	3/8	17.3	1/4	13.8	11	22	24	7.5	46	58
BR-15A-8A	1/2	21.7	1/4	13.8	11	24	24	7.5	48	60
BR-15A-10A	1/2	21.7	3/8	17.3	14	27	32	8	48	60.5
BR-20A-10A	3/4	27.2	3/8	17.3	14	30	32	8	52	64.5
BR-20A-15A	3/4	27.2	1/2	21.7	18	32	36	9	52	64.5
BR-25A-15A	1	34	1/2	21.7	18	36	36	9	58	70.5
BR-25A-20A	1	34	3/4	27.2	22	41	46	10	60	74

BLA

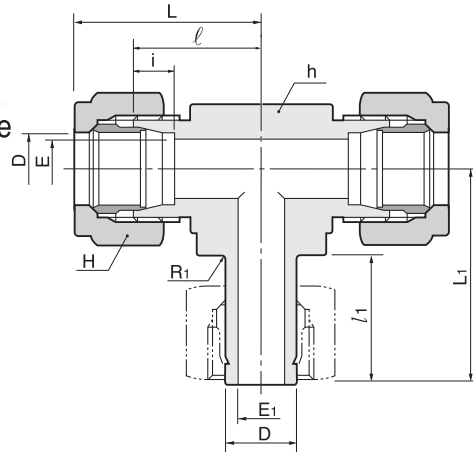
Positionable Elbow



Designations	Tube O.D.	E	E ₁	Width across flat		i	<i>ℓ</i>	<i>l</i> ₁	L	L ₁
	D			h	H					
BLA-10	10	8	6	17	19	7	23	21	34.5	35
BLA-12	12	10	8	19	22	7	24	22	35.5	37
BLA-15	15	12	10	24	27	7.5	29	24	44.5	40
BLA-16	16	13	11	27	30	7.5	32	24	44.5	43
BLA-18	18	14	12	27	32	8	32	24	44.5	43
BLA-20	20	17	14	30	36	8	33	25	45.5	45
BLA-22	22	18	14	32	36	9	34	26	46.5	46
BLA-25	25	20	17	36	41	10	36	28	49.5	49
BLA-28	28	22	18	41	46	10	41	28	55	53
BLA-30	30	25	20	41	46	10	41	29	55.5	54
BLA-32	32	26	22	46	50	11	50	30	64.5	66
BLA-38	38	32	26	50	60	12	50	36	69.5	72

BBTA

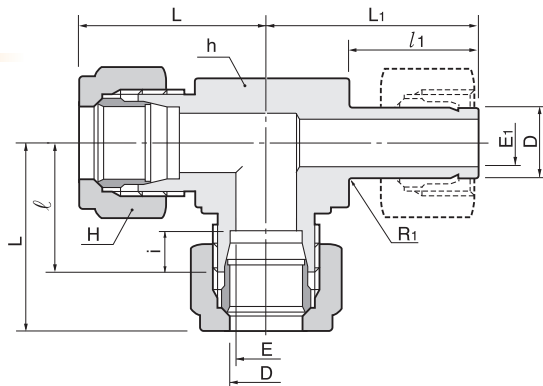
Positionable Branch Tee



Designations	Tube O.D.	E	E ₁	Width across flat		i	l	l ₁	L	L ₁
	D			h	H					
BBTA-10	10	8	6	17	19	7	23	21	34.5	35
BBTA-12	12	10	8	19	22	7	24	22	35.5	37
BBTA-15	15	12	10	24	27	7.5	32	24	44.5	43
BBTA-16	16	13	11	27	30	7.5	32	24	44.5	43
BBTA-18	18	14	12	27	32	8	32	24	44.5	43
BBTA-20	20	17	14	30	36	8	33	25	45.5	45
BBTA-22	22	18	14	32	36	9	34	26	46.5	46
BBTA-25	25	20	17	36	41	10	36	28	49.5	49

BRTA

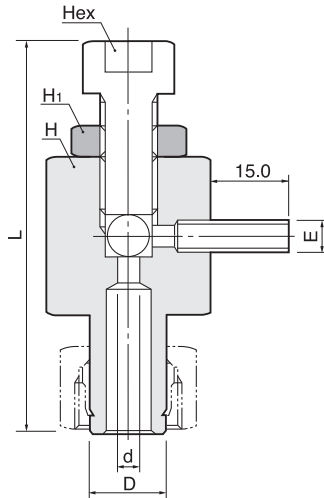
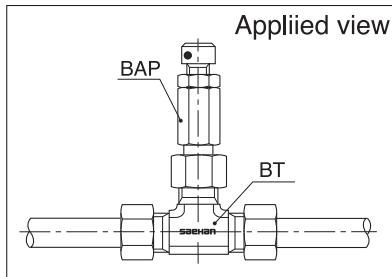
Positionable Run Tee



Designations	Tube O.D.	E	E ₁	Width across flat		i	l	l ₁	L	L ₁
	D			h	H					
BRTA-10	10	8	6	17	19	7	23	21	34.5	35
BRTA-12	12	10	8	19	22	7	24	22	35.5	37
BRTA-15	15	12	10	24	27	7.5	32	24	44.5	43
BRTA-16	16	13	11	27	30	7.5	32	24	44.5	43
BRTA-18	18	14	12	27	32	8	32	24	44.5	43
BRTA-20	20	17	14	30	36	8	33	25	45.5	45
BRTA-22	22	18	14	32	36	9	34	26	46.5	46
BRTA-25	25	20	17	36	41	10	36	28	49.5	49

BAP-1

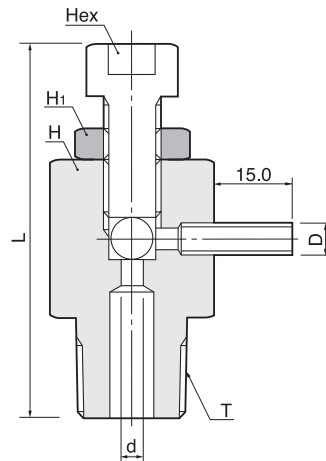
Air Purge Valve (Tube End)



Designations	D	E	d	Width across flat		L	Ball
				H ₁	H		
BAP-06	6	4	3	13	14	56	7/32
BAP-08	8	4	3	13	14	56	7/32
BAP-10	10	4	3	13	14	57	7/32
BAP-12	12	4	3	13	14	58	7/32
BAP-15	15	6	4	19	27	74	5/16
BAP-16	16	6	4	19	27	74	5/16
BAP-18	18	6	4	19	27	74	5/16
BAP-20	20	6	4	19	27	75	5/16
BAP-22	22	6	4	19	27	76	5/16
BAP-25	25	6	4	19	27	78	5/16
BAP-28	28	6	4	19	30	78	5/16
BAP-06A	1/8	10.5	4	13	14	57	7/32
BAP-08A	1/4	13.8	6	19	27	72	5/16
BAP-10A	3/8	17.3	6	19	27	74	5/16
BAP-15A	1/2	21.7	6	19	27	76	5/16
BAP-20A	3/4	27.2	6	19	30	79	5/16

BAP-2

Air Purge Valve (Thread End)



Designations	(PT) T	E	d	Width across flat		L	Ball
				H ₁	H		
BAP-10R	1/8	4	3	13	14	51	7/32
BAP-02R	1/4	4	3	13	14	53	7/32
BAP-03R	3/8	6	4	13	19	54	7/32
BAP-04R	1/2	6	4	19	27	69	5/16



27 Noksansandan361-ro, Gangseo-gu
(Songjeong-dong), Busan, Korea

Tel : +82-51-899-6700, Fax : +82-51-899-6799

E-Mail : overseas@ehansun.co.kr

sales@ehansun.co.kr

Website : www.ehansun.co.kr, www.slok.co.kr