



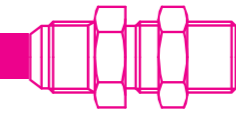
**30°/37° STANDARD FITTINGS & SWIVEL ADAPTERS**



These excellent products assembled with specially heat treated sleeves and bodies made from low carbon steel(S10C to S25C)to prevent leaks. These fittings are available with various end sizes.

SIZE		PRESS MPa	TORQUE N-m
6	1/4	34.5	25
9	3/8	34.5	34
12	1/2	34.5	64
19	3/4	27.5	132
25	1	20.5	196
32	1 1/4	17.0	225
38	1 1/2	10.5	255
50	2	10.5	316

Working Pressure & Recommended Tightening Torque JIS B8363



## DESIGNATION PART NUMBER SYSTEM

The symbols in the part column on each page represent the shape and size of individual fittings.

### Part Number Examples

**Example 1**

**SNA 08 N -14U**

Name of Fitting (Straight Nipple "A"Type)

Part (1) Thread Designations (1/2")

Part(2) Thread Designations (UNF 7/8 -14)

Thread Symbol (NPT)

**Example 2**

**UT - 07U**

Name of Fitting (Union tee)

Part(1),(2),(3) Thread Designations (UNF 7/16 - 20)

Tube O.D Designations									
Nom. Size	1/8	1/4	3/8	1/2	3/4	1	1 1/4	1 1/2	2
Designation	02R	04R	06R	08R	12R	16R	20R	24R	32R

Pipe Thread Designations									
Nom. Size	1/8	1/4	3/8	1/2	3/4	1	1 1/4	1 1/2	2
Designation	02G	04G	06G	08G	12G	16G	20G	24G	32G

Unified Fine Screw Thread Designations											
Nom. Size	7/16	1/2	9/16	3/4	7/8	1 1/16	1 3/16	1 5/16	1 5/8	1 7/8	2 1/2
Designation	07U	08U	09U	12U	14U	17U	19U	21U	26U	30U	40U

### Material Indication System

Specify material by part number suffix lettered : Empty = Steel, -SS = Stainless Steel, -B = Brass

**Example 1**

**SNA 12 R-17U X**

Carbon Steel

**Example 2**

**ELA 12 R-21U-SS**

Stainless Steel

**Example 3**

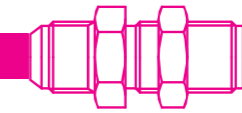
**UT - 07U - B**

Brass

Listed Part numbers are for complete fitting (body, nut and washer)

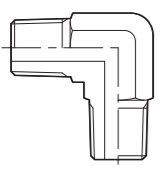
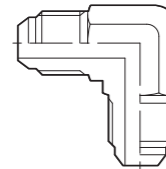
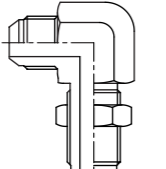
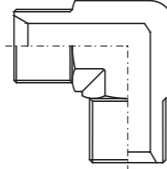
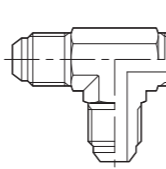
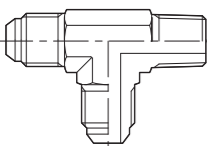
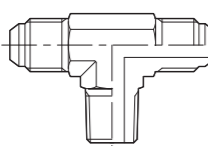
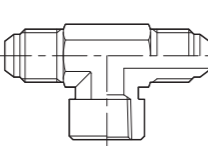
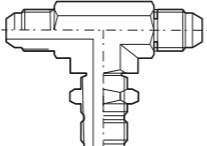
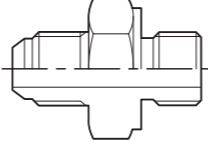
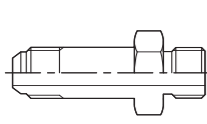
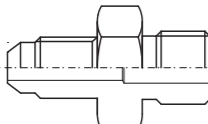
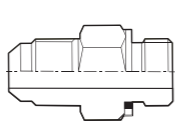
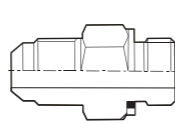

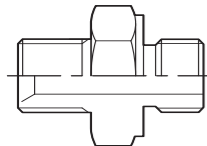
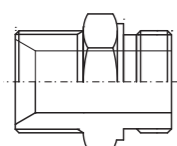
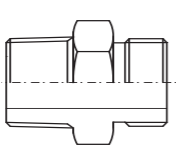
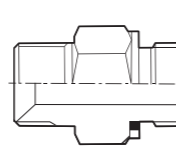
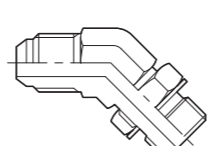
Thread Form							
Type	A	B	C	D	E	F	G
Thread Designations	UNF	PF(JIS)	PF(CORN)	BOTH SIDE PT	BOTH SIDE UNF	BOTH SIDE PF(CORN)	BOTH SIDE PF(JIS)

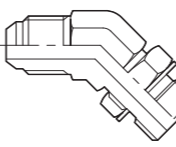
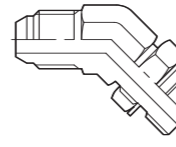
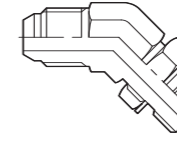
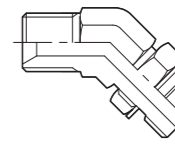
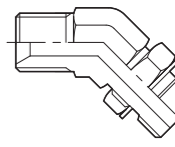
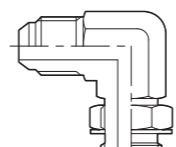
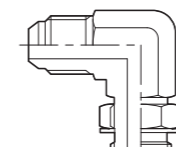
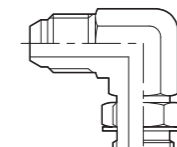
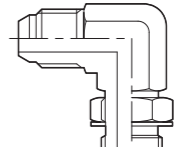
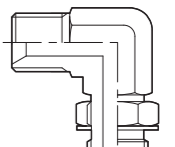
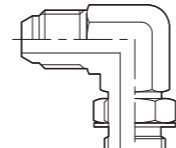
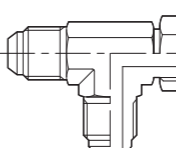
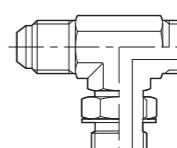
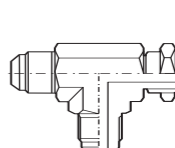
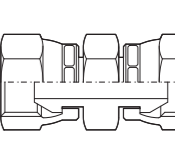
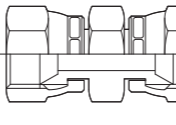
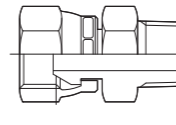
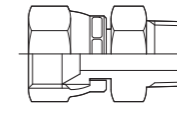
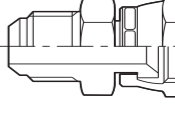

<b>SNA</b>	<b>SNB</b>	<b>SNC</b>	<b>SND</b>	<b>SNE</b>
P.68	P.69	P.69	P.70	P.71
<b>SBHU-U</b>	<b>SBHU-G</b>	<b>SNF</b>	<b>SNF-G</b>	<b>SNG</b>
P.71	P.72	P.72	P.73	P.74
<b>EWA</b>	<b>EWB</b>	<b>EWC</b>	<b>EWD</b>	<b>EWBHU</b>
P.74	P.75	P.75	P.76	P.76
<b>ELA</b>	<b>ELLA</b>	<b>ELB</b>	<b>ELLB</b>	<b>ELC</b>
P.77	P.78	P.78	P.79	P.79

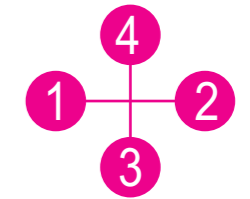
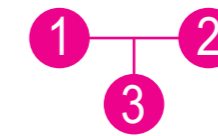
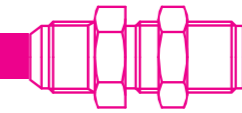


ADAPTERS

ADAPTERS

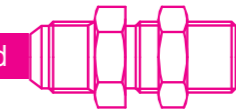
<b>ELD</b>	<b>ELE</b>	<b>ELBHU</b>	<b>ELF</b>	<b>UT</b>
				
P.80	P.80	P.81	P.81	P.82
<b>RT</b>	<b>MBT</b>	<b>TFB</b>	<b>TBHU</b>	<b>OBA</b>
				
P.82	P.83	P.84	P.84	P.85
<b>OBAL</b>	<b>OBAB</b>	<b>OBAE</b>	<b>OBME</b>	<b>OBB</b>
				
P.86	P.87	P.88	P.89	P.90
<b>OBC</b>	<b>OBCA</b>	<b>OBD</b>	<b>EOC</b>	<b>EWOA</b>
				
P.91	P.92	P.93	P.94	P.95

<b>EWOAB</b>	<b>EWOB</b>	<b>EWOBA</b>	<b>EWOC</b>	<b>EWOCA</b>
				
P.96	P.97	P.97	P.98	P.98
<b>ELOA</b>	<b>ELOAB</b>	<b>ELOB</b>	<b>ELOBA</b>	<b>ELOC</b>
				
P.99	P.100	P.101	P.101	P.102
<b>ELOCA</b>	<b>TOR</b>	<b>TOB</b>	<b>TRBHU</b>	<b>US-G</b>
				
P.102	P.103	P.103	P.104	P.105
<b>US-U</b>	<b>SMT-G</b>	<b>SMT-U</b>	<b>SNS</b>	<b>SFT</b>
				
P.105	P.106	P.106	P.107	P.108

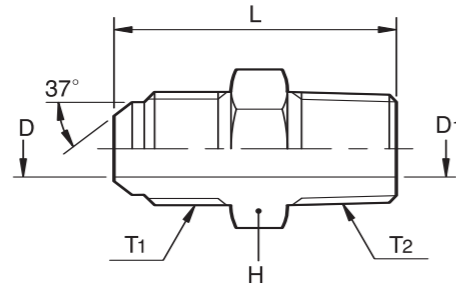


SAE	SME45-G	SME45-U	EWS	EUS
P.109	P.110	P.110	P.111	P.111
SME-G	SME-U	ELS	STS	RTS
P.112	P.112	P.113	P.113	P.114
BTS	FTEN	FTES	JN	JS
P.115	P.116	P.116	P.117	P.117
LN	BONDED SEAL			
P.118	P.118			

NAME	Thread(1)	Thread(2)	Thread(3)	Thread(4)
SNA	PT or NPT	UNF		
SNB	PT or NPT	PF(JIS)		
SNC	PT or NPT	PF(CORN)		
SND	PT or NPT	PT or NPT		
SNE	UNF	UNF		
SNF	PF(CORN)	PF(CORN)		
SNG	PF(JIS)	PF(JIS)		
OBA	UNF	UNF(O-RING)		
OBAL	UNF	UNF(O-RING)		
OB	PF(JIS)	PF(O-RING)		
SBHU	UNF	UNF(BULKHEAD)		
OBC	PF(CORN)	PF(O-RING)		
ELLA	PT or NPT	UNF		
ELLB	PT or NPT	PF(JIS)		
ELA	PT or NPT	UNF		
ELB	PT or NPT	PF(JIS)		
ELC	PT or NPT	PF(CORN)		
ELD	PT or NPT	PT or NPT		
ELE	UNF	UNF		
EWA	PT or NPT	UNF		
EWB	PT or NPT	PF(JIS)		
EWC	PT or NPT	PF(CORN)		
SEL	PT or NPT	Female PT or NPT		
ELOA	UNF	UNF(O-RING)		
ELOAB	UNF	PF(O-RING)		
ELOB	PF(JIS)	PF(O-RING)		
ELOBA	PF(JIS)	UNF(O-RING)		
ELOC	PF(CORN)	PF(O-RING)		
ELOCA	PF(CORN)	UNF(O-RING)		
EWOA	UNF	UNF(O-RING)		
EWOAB	UNF	PF(O-RING)		
EWOB	PF(JIS)	PF(O-RING)		
EWOBA	PF(JIS)	UNF(O-RING)		
EWOC	PF(CORN)	PF(O-RING)		
EWOCA	PF(CORN)	UNF(O-RING)		
EWBHU	UNF	UNF(B/H)		
UT	UNF	UNF	UNF	
RT	UNF	PT or NPT	UNF	
MBT	UNF	UNF	PT or NPT	
TFB	UNF	UNF	Female PT or NPT	
TOR	UNF	UNF(O-RING)	UNF	
TOB	UNF	UNF	UNF(O-RING)	
TBHU	UNF	UNF	UNF(B/H)	
TRBHU	UNF	UNF(B/H)	UNF	
US	PF(S/W)	PF(S/W)		
SMT	PT or NPT	PF or NPSM(S/W)		
SFT	Female PT or NPT	PF or NPSM(S/W)		
SME	PT or NPT	PF or NPSM(S/W)		
OBAE	UNF	PF(ED)		
OBME	UNF	METRIC(ED)		
SAE		PF(ED)/	UNF(S/W)	
ELS	UNF	UNF(S/W)		
EWS	UNF	UNF(S/W)		
RTS				
ST	UNF	UNF(S/W)	UNF	
BTS	UNF	UNF	UNF(S/W)	
ELBHU	UNF	UNF(BULKHEAD)		
PA	UNF			
SPA	UNF(S/W)			
SPC	PF(S/W)			
SNS	UNF	UNF(S/W)		
PC	PF(CORN)			
PCG				
FTEN				
FTES				
JN				
JS				

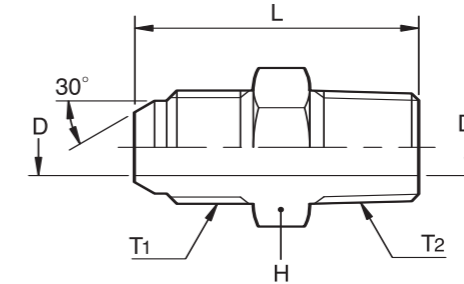


## STRAIGHT NIPPLE 'A' TYPE SNA



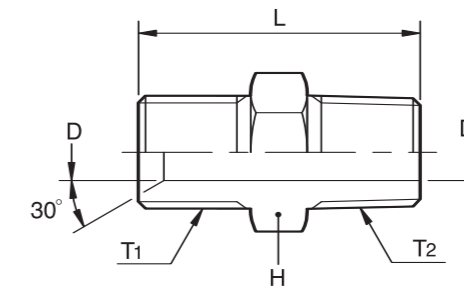
Part No.	T <sub>1</sub> (UNF)	T <sub>2</sub> (BSPT)	D	D <sub>1</sub>	H	L
SNA 02R-07U	7/16	1/8	4.5	4.5	12	31
SNA 02R-08U	1/2	1/8	4.5	4.5	14	32
SNA 02R-09U	9/16	1/8	4.5	4.5	14	34.5
SNA 04R-07U	7/16	1/4	4.5	4.5	14	34
SNA 04R-08U	1/2	1/4	5.5	5.5	14	35
SNA 04R-09U	9/16	1/4	7	7	14	36
SNA 04R-12U	3/4	1/4	8	5.5	19	39
SNA 06R-08U	1/2	3/8	5.5	9	19	38.5
SNA 06R-09U	9/16	3/8	7	8	19	39
SNA 06R-12U	3/4	3/8	10	10	19	42
SNA 06R-14U	7/8	3/8	11.5	10	22	44
SNA 08R-09U	9/16	1/2	7	11.5	22	44
SNA 08R-12U	3/4	1/2	10	11.5	22	43
SNA 08R-14U	7/8	1/2	11.5	11.5	22	46
SNA 08R-17U	1 1/16	1/2	16	11.5	27	50
SNA 12R-14U	7/8	3/4	11.5	16	27	50
SNA 12R-17U	1 1/16	3/4	16	16	27	51
SNA 12R-21U	1 5/16	3/4	20	16	35	57
SNA 16R-17U	1 1/16	1	16	20	35	59
SNA 16R-21U	1 5/16	1	20	21	35	60
SNA 16R-26U	1 5/8	1	27.5	20	43	65
SNA 20R-21U	1 5/16	1 1/4	21	27	43	65
SNA 20R-26U	1 5/8	1 1/4	27	27	44	65.5
SNA 20R-30U	1 7/8	1 1/4	33	27	50	71
SNA 24R-26U	1 5/8	1 1/2	27.5	33	50	71
SNA 24R-30U	1 7/8	1 1/2	33	33	50	71
SNA 24R-40U	2 1/2	1 1/2	43	33	65	80
SNA 32R-30U	1 7/8	2	33	43	65	80
SNA 32R-40U	2 1/2	2	43	43	65	86

## STRAIGHT NIPPLE 'B' TYPE SNB

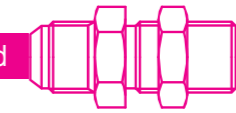


Part No.	T <sub>1</sub> (BSPP)	T <sub>2</sub> (BSPT)	D	D <sub>1</sub>	H	L
SNB 04R-04G	1/4	1/4	5.5	5.5	14	35
SNB 06R-06G	3/8	3/8	8	8	19	41
SNB 08R-08G	1/2	1/2	11.5	11.5	22	45
SNB 12R-12G	3/4	3/4	15.5	15.5	27	52
SNB 16R-16G	1	1	20	20	35	59
SNB 20R-20G	1 1/4	1 1/4	27	27	44	65
SNB 24R-24G	1 1/2	1 1/2	33	33	50	71
SNB 32R-32G	2	2	43	43	65	86

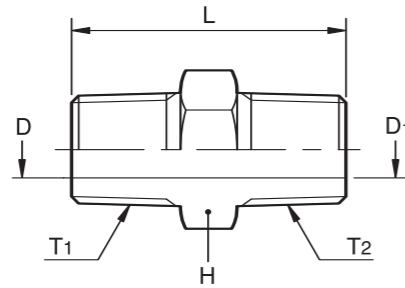
## STRAIGHT NIPPLE 'C' TYPE SNC



Part No.	T <sub>1</sub> (BSPP)	T <sub>2</sub> (BSPT)	D	D <sub>1</sub>	H	L
SNC 04R-04G	1/4	1/4	5.5	5.5	14	35
SNC 04R-06G	1/4	3/8	5.5	8	19	38
SNC 06R-06G	3/8	3/8	8	8	19	41
SNC 08R-08G	1/2	1/2	11.5	11.5	22	44.5
SNC 12R-12G	3/4	3/4	15.5	15.5	27	51
SNC 16R-16G	1	1	20	20	35	57
SNC 20R-20G	1 1/4	1 1/4	27	27	44	65
SNC 24R-24G	1 1/2	1 1/2	33	33	50	71
SNC 32R-32G	2	2	43	43	65	85

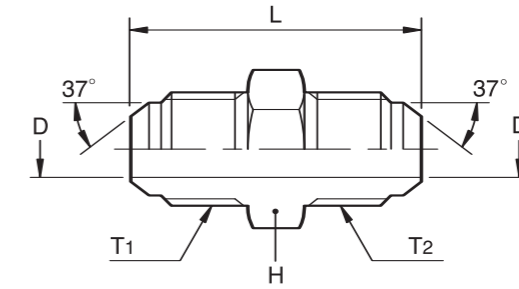


## STRAIGHT NIPPLE 'D' TYPE SND



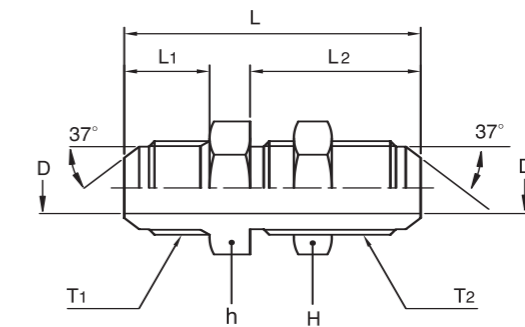
Part No.	T <sub>1</sub> (BSPT)	T <sub>2</sub> (BSPT)	D	D <sub>1</sub>	H	L
SND 02R-02R	1/8	1/8	4.5	4.5	12	28
SND 02R-04R	1/8	1/4	4.5	5.5	14	35
SND 04R-04R	1/4	1/4	5.5	5.5	14	35
SND 04R-06R	1/4	3/8	5.5	9	19	38
SND 04R-08R	1/4	1/2	5.5	11.5	22	44
SND 06R-06R	3/8	3/8	10	10	19	41
SND 06R-08R	3/8	1/2	10	11.5	22	44
SND 06R-12R	3/8	3/4	7	5.5	27	47
SND 08R-08R	1/2	1/2	11.5	11.5	22	44.5
SND 08R-12R	1/2	3/4	11.5	15.5	27	50
SND 08R-16R	1/2	1	11.5	16	27	50
SND 12R-12R	3/4	3/4	15.5	15.5	27	52
SND 12R-16R	3/4	1	15.5	20	35	55
SND 16R-12R	1	3/4	20	16	35	55
SND 16R-16R	1	1	20	20	35	58
SND 16R-20R	1	1 1/4	20	26	43	63
SND 16R-24R	1	1 1/2	21	33	50	69
SND 20R-20R	1 1/4	1 1/4	27	27	44	65
SND 20R-24R	1 1/4	1 1/2	26	33	50	69
SND 24R-24R	1 1/2	1 1/2	33	33	50	71
SND 24R-32R	1 1/2	2	33	43	65	81
SND 32R-32R	2	2	43	43	65	85

## STRAIGHT NIPPLE 'E' TYPE SNE

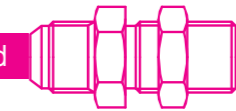


Part No.	T <sub>1</sub> (UNF)	T <sub>2</sub> (UNF)	D	D <sub>1</sub>	H	L
SNE 07U-07U	7/16	7/16	4.5	4.5	12	34
SNE 08U-08U	1/2	1/2	5.5	5.5	14	35
SNE 09U-09U	9/16	9/16	7	7	14	38
SNE 12U-12U	3/4	3/4	10	10	19	41
SNE 14U-14U	7/8	7/8	12	12	22	46
SNE 17U-17U	1 1/16	1 1/16	15.5	15.5	27	52
SNE 21U-21U	1 5/16	1 5/16	21	21	35	60
SNE 26U-26U	1 5/8	1 5/8	27.5	27.5	44	65
SNE 30U-30U	1 7/8	1 7/8	33	33	50	71
SNE 40U-40U	2 1/2	2 1/2	43	43	65	86

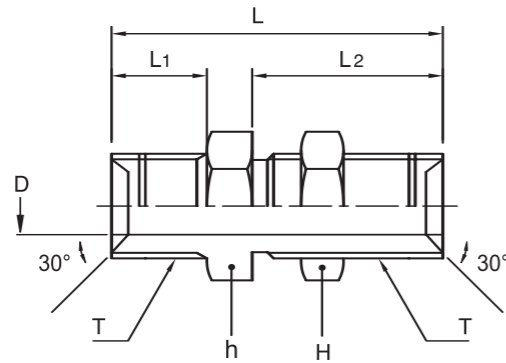
## BULKHEAD UNION SBHU-U



Part No.	T <sub>1</sub> (UNF)	T <sub>2</sub> (UNF)	D	D <sub>1</sub>	h	H	L	L <sub>1</sub>	L <sub>2</sub>
SBHU 07U-07U	7/16	7/16	4.5	4.5	16	16	52.5	14	31.5
SBHU 08U-08U	1/2	1/2	5.5	5.5	16	16	53.5	15	31.5
SBHU 09U-09U	9/16	9/16	7	7	19	19	55.5	16	33.5
SBHU 12U-12U	3/4	3/4	10	10	24	24	62	18.5	37.5
SBHU 14U-14U	7/8	7/8	12	12	27	27	69.5	19.5	41
SBHU 17U-17U	1 1/16	1 1/16	15.5	15.5	32	32	82	22.5	45.5
SBHU 21U-21U	1 5/16	1 5/16	21	21	38	38	80	25	45.5
SBHU 26U-26U	1 5/8	1 5/8	27.5	27.5	50	50	86	28	46.5
SBHU 30U-30U	1 7/8	1 7/8	33	33	55	55	89.5	29	47
SBHU 40U-40U	2 1/2	2 1/2	43	43	70	70	106.5	35	53

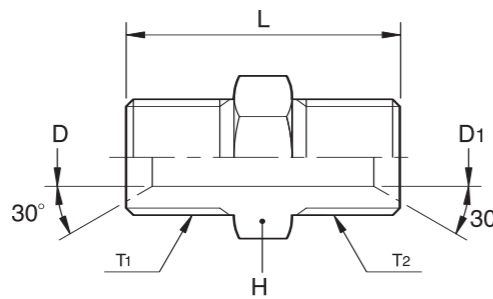


## BULKHEAD UNION SBHU-G



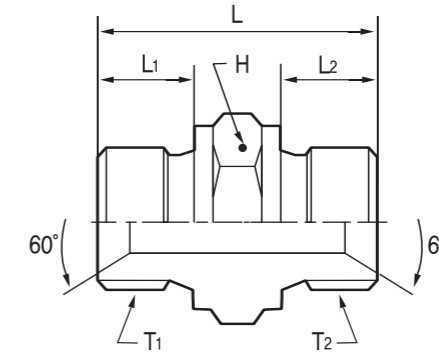
Part No.	T (BSPP)	D	H	L	L1	L2
SBHU 02G-02G	1/8	4.5	14	40	8.5	25
SBHU 04G-04G	1/4	4.5	19	47	11	29
SBHU 06G-06G	3/8	8	22	52	12	31
SBHU 08G-08G	1/2	11	27	60	14	34
SBHU 12G-12G	3/4	16.5	32	64.5	16	38
SBHU 16G-16G	1	22	41	74	19	41
SBHU 20G-20G	1 1/4	27	50	81	20	45
SBHU 24G-24G	1 1/2	33	55	87	22	49
SBHU 32G-32G	2	43	70	94	25	49

## STRAIGHT NIPPLE 'F' TYPE SNF

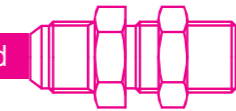


Part No.	T <sub>1</sub> (BSPP)	T <sub>2</sub> (BSPP)	D	D <sub>1</sub>	H	L
SNF 04G-04G	1/4	1/4	5.5	5.5	14	35
SNF 06G-06G	3/8	3/8	8	8	19	41
SNF 08G-08G	1/2	1/2	11.5	11.5	22	38
SNF 12G-12G	3/4	3/4	15.5	15.5	27	48
SNF 16G-16G	1	1	20	20	35	56
SNF 20G-20G	1 1/4	1 1/4	27	27	44	65
SNF 24G-24G	1 1/2	1 1/2	33	33	50	71
SNF 32G-32G	2	2	43	43	65	83

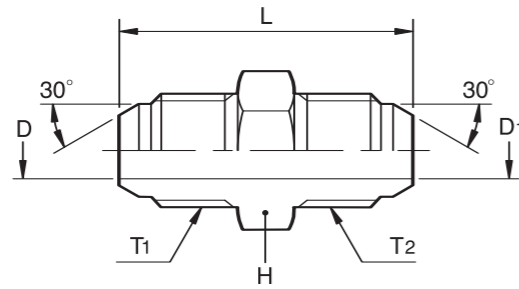
## MALE ADAPTER-G SNF-G



Part No.	Threads		Dimensions mm			
	T <sub>1</sub> (BSPP)	T <sub>2</sub> (BSPP)	L	L <sub>1</sub>	L <sub>2</sub>	H
SNF-G 02G-02G	1/8	1/8	27.5	11.5	11.5	
SNF-G 02G-04G	1/8	1/4	30.5	11.5	13	19
SNF-G 04G-04G	1/4	1/4	32	13	13	19
SNF-G 04G-06G	1/4	3/8	33	13	14	22
SNF-G 04G-08G	1/4	1/2	36.5	13	16.5	27
SNF-G 04G-12G	1/4	3/4	39	13	18.5	32
SNF-G 06G-06G	3/8	3/8	34	14	14	22
SNF-G 06G-08G	3/8	1/2	37	14	16.5	27
SNF-G 06G-12G	3/8	3/4	41	14	19	32
SNF-G 08G-08G	1/2	1/2	39.5	16.5	16.5	27
SNF-G 08G-10G	1/2	5/8	41.5	16.5	18.5	30
SNF-G 08G-12G	1/2	3/4	43.5	16.5	19	32
SNF-G 10G-10G	5/8	5/8	43.5	18.5	18.5	30
SNF-G 10G-12G	5/8	3/4	44.5	18.5	18.5	32
SNF-G 12G-12G	3/4	3/4	44.5	18.5	18.5	32
SNF-G 12G-16G	3/4	1	48.5	18.5	20.5	41
SNF-G 12G-20G	3/4	1 1/4	52.5	18.5	22.5	50
SNF-G 16G-16G	1	1	51.5	20.5	20.5	41
SNF-G 16G-20G	1	1 1/4	55.5	20.5	22.5	50
SNF-G 16G-24G	1	1 1/2	58.5	21.5	24.5	55
SNF-G 20G-20G	1 1/4	1 1/4	56.5	22.5	22.5	50
SNF-G 20G-24G	1 1/4	1 1/2	59.5	22.5	24.5	55
SNF-G 24G-24G	1 1/2	1 1/2	61.5	24.5	24.5	55
SNF-G 24G-32G	1 1/2	2	67.5	24.5	28	70
SNF-G 32G-32G	2	2	70	28	28	70

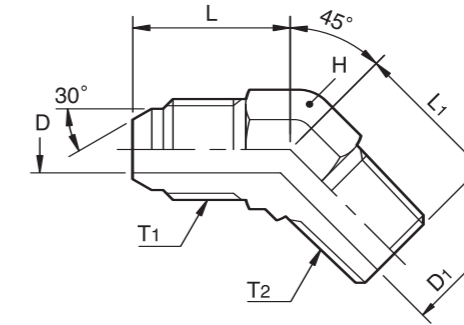


### STRAIGHT NIPPLE 'G' TYPE SNG



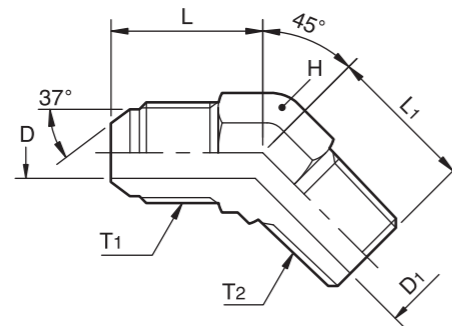
Part No.	T <sub>1</sub> (BSPP)	T <sub>2</sub> (BSPP)	D	D <sub>1</sub>	H	L
SNG 04G-04G	1/4	1/4	5.5	5.5	14	36
SNG 06G-06G	3/8	3/8	8	8	19	42
SNG 08G-08G	1/2	1/2	11.5	11.5	22	48
SNG 12G-12G	3/4	3/4	15.5	15.5	27	54
SNG 16G-16G	1	1	20	20	35	58
SNG 20G-20G	1 1/4	1 1/4	27	27	44	68
SNG 24G-24G	1 1/2	1 1/2	33	33	50	71
SNG 32G-32G	2	2	43	43	65	83

### 45° ELBOW 'B' TYPE EWB



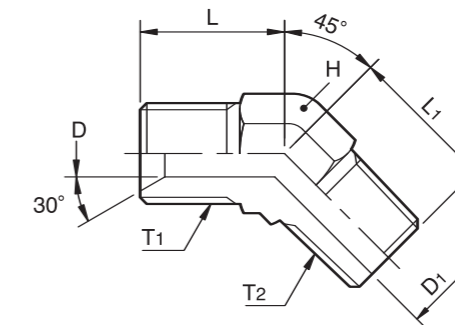
Part No.	T <sub>1</sub> (BSPP)	T <sub>2</sub> (BSPT)	D	D <sub>1</sub>	H	L	L <sub>1</sub>
EWB 04R-04G	1/4	1/4	5.5	5.5	14	22	20
EWB 06R-06G	3/8	3/8	8	9	19	24	24
EWB 08R-08G	1/2	1/2	11.5	11.5	22	27	27
EWB 12R-12G	3/4	3/4	15.5	15.5	27	32	32
EWB 16R-16G	1	1	20	20	35	35	34
EWB 20R-20G	1 1/4	1 1/4	26	26	44	42	40
EWB 24R-24G	1 1/2	1 1/2	33	33	50	45	45
EWB 32R-32G	2	2	43	43	65	56.5	53.5

### 45° ELBOW 'A' TYPE EWA



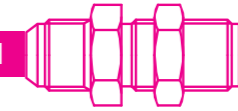
Part No.	T <sub>1</sub> (UNF)	T <sub>2</sub> (BSPT)	D	D <sub>1</sub>	H	L	L <sub>1</sub>
EWA 02R-07U	7/16	1/8	4.5	4.5	14	22	18
EWA 04R-08U	1/2	1/4	5.5	5.5	14	22	21
EWA 04R-09U	9/16	1/4	7	5.5	14	22	21
EWA 06R-12U	3/4	3/8	10	9	19	26	28
EWA 08R-14U	7/8	1/2	12	11.5	22	30	31
EWA 12R-17U	1 1/16	3/4	15.5	15.5	27	32.5	31.5
EWA 16R-21U	1 5/16	1	21	20	35	40	41
EWA 20R-26U	1 5/8	1 1/4	27.5	26	44	46	46
EWA 24R-30U	1 7/8	1 1/2	33	33	50	49	46.5
EWA 32R-40U	2 1/2	2	43	43	65	58	55

### 45° ELBOW 'C' TYPE EWC

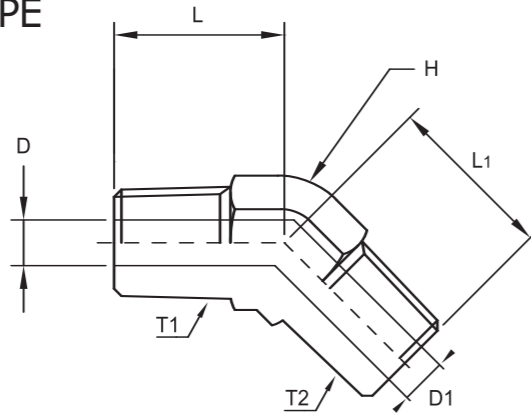


Part No.	T <sub>1</sub> (BSPP)	T <sub>2</sub> (BSPT)	D	D <sub>1</sub>	H	L	L <sub>1</sub>
EWC 04R-04G	1/4	1/4	5.5	5.5	14	21	21
EWC 06R-06G	3/8	3/8	8	9	19	25	28
EWC 08R-08G	1/2	1/2	11.5	11.5	22	28	31
EWC 12R-12G	3/4	3/4	15.5	15.5	27	33	31.5
EWC 16R-16G	1	1	20	20	35	38	41
EWC 20R-20G	1 1/4	1 1/4	26	26	44	45	46
EWC 24R-24G	1 1/2	1 1/2	33	33	50	47	46.5
EWC 32R-32G	2	2	43	43	65	56	55



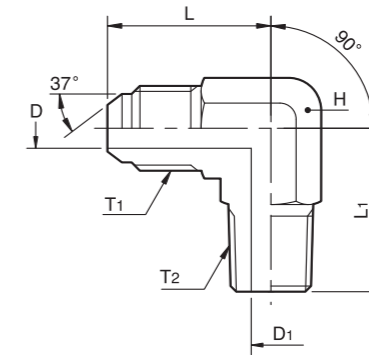


45° ELBOW 'D' TYPE  
**EWD**



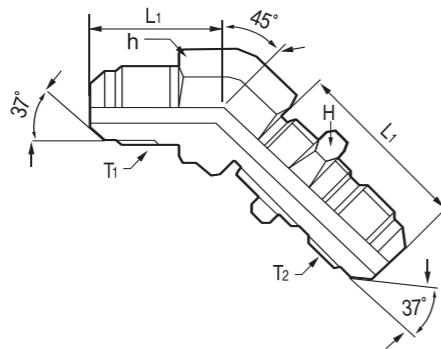
Part No.	T <sub>1</sub> (BSPT)	T <sub>2</sub> (BSPT)	D	D <sub>1</sub>	H	L	L <sub>1</sub>
EWD 02R-02R	1/8	1/8	4.5	4.5	14	18	18
EWD 04R-04R	1/4	1/4	5.5	5.5	14	20.5	20.5
EWD 06R-06R	3/8	3/8	9	9	19	26	26
EWD 08R-08R	1/2	1/2	11.5	11.5	22	28	28
EWD 12R-12R	3/4	3/4	15.5	15.5	27	31.5	31.5
EWD 16R-16R	1	1	20	20	35	41	41
EWD 20R-20R	1 1/4	1 1/4	27	27	44	47.5	47.5
EWD 24R-24R	1 1/2	1 1/2	33	33	50	48	48
EWD 32R-32R	2	2	43	43	65	58	58

90° ELBOW 'A' TYPE  
**ELA**

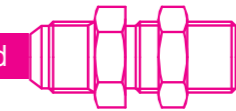


Part No.	T <sub>1</sub> (UNF)	T <sub>2</sub> (BSPT)	D	D <sub>1</sub>	H	L	L <sub>1</sub>
ELA 02R-07U	7/16	1/8	4.5	4.5	12	22.5	21
ELA 02R-08U	1/2	1/8	5.5	4.5	14	25	23
ELA 02R-09U	9/16	1/8	7	4.5	14	26	22
ELA 04R-07U	7/16	1/4	4.5	5.5	14	26	27
ELA 04R-08U	1/2	1/4	5.5	5.5	14	25	26
ELA 04R-09U	9/16	1/4	7	5.5	14	25	26
ELA 04R-12U	3/4	1/4	10	5.5	19	31.5	31
ELA 06R-08U	1/2	3/8	5.5	9	19	28.5	31
ELA 06R-09U	9/16	3/8	7	9	19	29	31
ELA 06R-12U	3/4	3/8	10	9	19	31.5	31
ELA 06R-14U	7/8	3/8	11.5	9	22	35.5	34
ELA 08R-09U	9/16	1/2	7	11.5	22	33	36
ELA 08R-12U	3/4	1/2	10	11.5	22	34	37
ELA 08R-14U	7/8	1/2	12	11.5	22	35.5	35.5
ELA 08R-17U	1 1/16	1/2	15.5	11.5	27	42	40.5
ELA 12R-14U	7/8	3/4	12	15.5	27	39.5	40.5
ELA 12R-17U	1 1/16	3/4	15.5	15.5	27	42	40.5
ELA 12R-21U	1 5/16	3/4	21	15	35	46	46
ELA 16R-17U	1 1/16	1	15.5	21	35	46	48
ELA 16R-21U	1 5/16	1	21	21	35	46	48
ELA 16R-26U	1 5/8	1	27.5	20	41	53	54
ELA 20R-21U	1 5/16	1 1/4	21	27	41	51	57
ELA 20R-26U	1 5/8	1 1/4	27.5	26	41	52	57
ELA 20R-30U	1 7/8	1 1/4	33	26	50	59	65
ELA 24R-26U	1 5/8	1 1/2	27.5	33	50	59	65
ELA 24R-30U	1 7/8	1 1/2	33	33	50	59	65
ELA 24R-40U	2 1/2	1 1/2	43	33	65	75	75
ELA 32R-30U	1 7/8	2	33	43	65	72	74
ELA 32R-40U	2 1/2	2	43	43	65	76	75

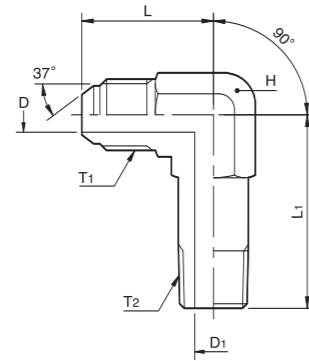
45° BULK ELBOW  
**EWBHU**



Part No.	Threads		Dimensions mm			
	T <sub>1</sub> (UNF)	T <sub>2</sub> (UNF)	h	H	L	L <sub>1</sub>
EWBHU 07U-07U	7/16	7/16	14	16	22	39
EWBHU 08U-08U	1/2	1/2	14	16	22	39
EWBHU 09U-09U	9/16	9/16	14	19	22	42.5
EWBHU 12U-12U	3/4	3/4	19	24	26	49
EWBHU 14U-14U	7/8	7/8	22	27	30	55
EWBHU 17U-17U	1 1/16	1 1/16	27	32	32.5	62
EWBHU 21U-21U	1 5/16	1 5/16	35	38	40	65
EWBHU 26U-26U	1 5/8	1 5/8	41	50	46	67
EWBHU 30U-30U	1 7/8	1 7/8	50	55	49	67.5

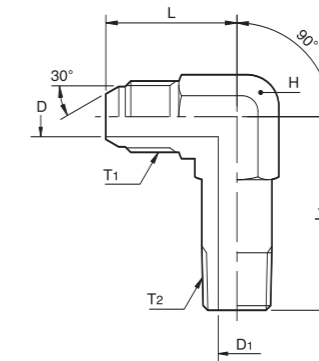


90° LONG ELBOW 'A' TYPE  
**ELLA**



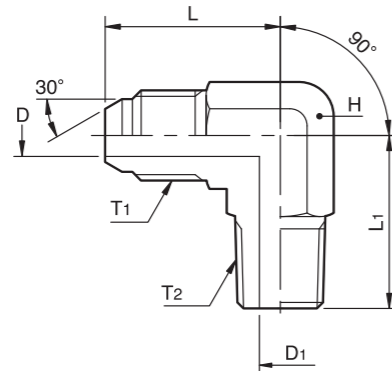
Part No.	T <sub>1</sub> (UNF)	T <sub>2</sub> (BSPT)	D	D <sub>1</sub>	H	L	L <sub>1</sub>
ELLA 02R-07U	7/16	1/8	4.5	4.5	14	24	49
ELLA 04R-07U	7/16	1/4	4.5	5.5	14	24	49
ELLA 04R-08U	1/2	1/4	5.5	5.5	14	25	49
ELLA 04R-09U	9/16	1/4	7	5.5	14	27	49
ELLA 06R-12U	3/4	3/8	10	9	19	31.5	61
ELLA 08R-12U	3/4	1/2	10	11.5	24	34	73
ELLA 08R-14U	7/8	1/2	12	11.5	24	35.5	73
ELLA 12R-17U	1 1/16	3/4	15.5	15.5	27	37	87
ELLA 16R-21U	1 5/16	1	21	20	36	46	107
ELLA 20R-26U	1 5/8	1 1/4	27.5	a26	41	52.5	135

90° LONG ELBOW 'B' TYPE  
**ELLB**



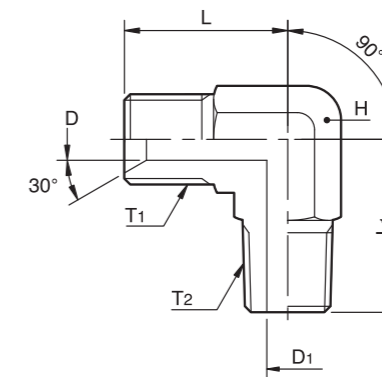
Part No.	T <sub>1</sub> (BSPP)	T <sub>2</sub> (BSPT)	D	D <sub>1</sub>	H	L	L <sub>1</sub>
ELLB 04R-04G	1/4	1/4	5.5	5.5	14	25	50
ELLB 06R-06G	3/8	3/8	8	9	19	30	62
ELLB 08R-08G	1/2	1/2	11.5	11.5	24	34	74
ELLB 12R-12G	3/4	3/4	15.5	15.5	27	40	88
ELLB 16R-16G	1	1	20	20	35	47	10
ELLB 20R-20G	1 1/4	1 1/4	26	26	41	55	135

90° ELBOW 'B' TYPE  
**ELB**

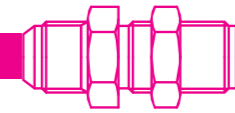


Part No.	T <sub>1</sub> (BSPP)	T <sub>2</sub> (BSPT)	D	D <sub>1</sub>	H	L	L <sub>1</sub>
ELB 04R-04G	1/4	1/4	5.5	5.5	14	24	26.5
ELB 06R-06G	3/8	3/8	8	9	19	25	30
ELB 08R-08G	1/2	1/2	11.5	11.5	22	30	36
ELB 12R-12G	3/4	3/4	15.5	15.5	27	40	43
ELB 16R-16G	1	1	20	20	35	42	46
ELB 20R-20G	1 1/4	1 1/4	26	26	41	50	58
ELB 24R-24G	1 1/2	1 1/2	33	33	50	59	67
ELB 32R-32G	2	2	43	43	65	75	75

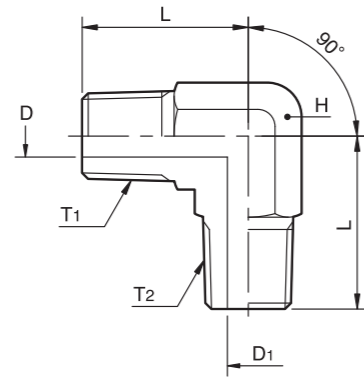
90° ELBOW 'C' TYPE  
**ELC**



Part No.	T <sub>1</sub> (BSPP)	T <sub>2</sub> (BSPT)	D	D <sub>1</sub>	H	L	L <sub>1</sub>
ELC 04R-04G	1/4	1/4	5.5	5.5	14	25	27
ELC 06R-06G	3/8	3/8	8	9	19	35	30
ELC 08R-08G	1/2	1/2	11.5	11.5	22	30	36
ELC 12R-12G	3/4	3/4	15.5	15.5	27	38	42
ELC 16R-16G	1	1	20	20	35	45	48
ELC 20R-20G	1 1/4	1 1/4	26	26	41	52	57
ELC 24R-24G	1 1/2	1 1/2	33	33	50	59	65
ELC 32R-32G	2	2	43	43	65	73	74

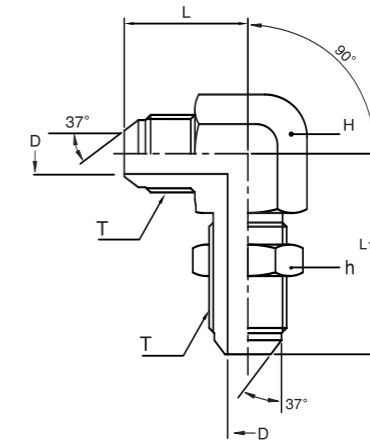


90° ELBOW 'D' TYPE  
**ELD**



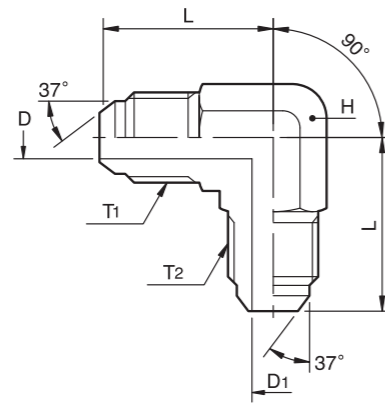
Part No.	T <sub>1</sub> (BSPT)	T <sub>2</sub> (BSPT)	D	D <sub>1</sub>	H	L
ELD 02R-02R	1/8	1/8	4.5	4.5	12	21
ELD 04R-04R	1/4	1/4	5.5	5.5	14	25
ELD 06R-06R	3/8	3/8	9	9	19	31
ELD 08R-08R	1/2	1/2	11.5	11.5	22	35
ELD 12R-12R	3/4	3/4	15.5	15.5	27	41
ELD 16R-16R	1	1	20	20	35	48
ELD 20R-20R	1 1/4	1 1/4	26	26	41	55
ELD 24R-24R	1 1/2	1 1/2	33	33	50	60
ELD 32R-32R	2	2	43	43	65	74

90° ELBOW BULKHEAD UNION  
**ELBHU**



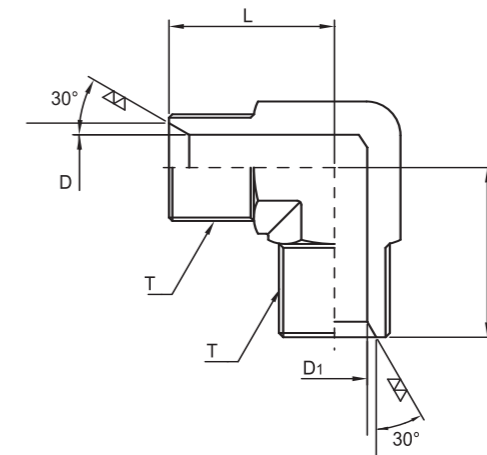
Part No.	T (UNF)	D	h	H	L	L <sub>1</sub>
ELBHU-07U	7/16	4.5	14	16	24	41
ELBHU-08U	1/2	5.5	14	16	26.5	43
ELBHU-09U	9/16	7	14	19	28	45
ELBHU-12U	3/4	10	19	24	34.5	54
ELBHU-14U	7/8	12	22	27	40	60
ELBHU-17U	1 1/16	15.5	27	32	45	68
ELBHU-21U	1 5/16	21	36	38	49	71

90° ELBOW 'E' TYPE  
**ELE**

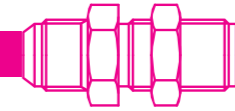


Part No.	T <sub>1</sub> (UNF)	T <sub>2</sub> (UNF)	D	D <sub>1</sub>	H	L
ELE 07U-07U	7/16	7/16	4.5	4.5	12	22.5
ELE 08U-08U	1/2	1/2	5.5	5.5	14	25
ELE 09U-09U	9/16	9/16	7	7	14	27
ELE 12U-12U	3/4	3/4	10	10	19	31.5
ELE 14U-14U	7/8	7/8	12	12	22	36.5
ELE 17U-17U	1 1/16	1 1/16	15.5	15.5	27	42
ELE 21U-21U	1 5/16	1 5/16	21	21	35	46
ELE 26U-26U	1 5/8	1 5/8	27.5	27.5	41	52
ELE 30U-30U	1 7/8	1 7/8	33	33	50	59
ELE 40U-40U	2 1/2	2 1/2	43	43	65	75

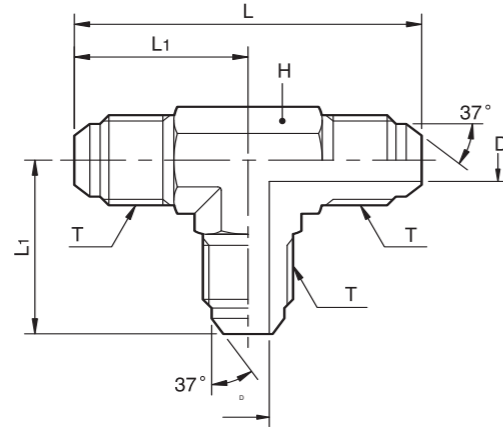
90° ELBOW 'F' TYPE  
**ELF**



Part No.	T (BSPP)	D	H	L
ELF 02G-02G	1/8	4	12	20
ELF 04G-04G	1/4	5.5	14	25
ELF 06G-06G	3/8	8	19	29
ELF 08G-08G	1/2	11.5	22	34
ELF 12G-12G	3/4	15.5	27	38
ELF 16G-16G	1	20	35	45
ELF 20G-20G	1 1/4	27	41	52
ELF 24G-24G	1 1/2	33	50	59
ELF 32G-32G	2	43	65	73

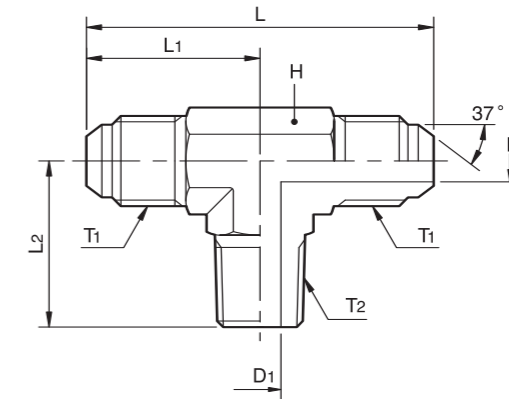


UNION TEE  
**UT**



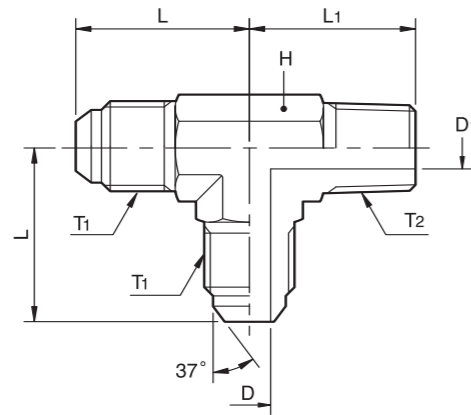
Part No.	T (UNF)	D	H	L	L1
UT 07U	7/16	4.5	12	45	22.5
UT 08U	1/2	5.5	14	50	25
UT 09U	9/16	7	14	54	27
UT 12U	3/4	10	19	63	31.5
UT 14U	7/8	12	22	73	36.5
UT 17U	1 1/16	15.5	27	84	42
UT 21U	1 5/16	21	35	92	46
UT 26U	1 5/8	27.5	41	104	52
UT 30U	1 7/8	33	50	118	59
UT 40U	2 1/2	43	65	155	77.5

MALE BRANCH TEE  
**MBT**

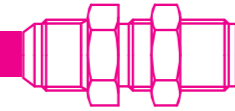


Part No.	T <sub>1</sub> (UNF)	T <sub>2</sub> (BSPT)	D	D <sub>1</sub>	H	L	L <sub>1</sub>	L <sub>2</sub>
MBT 02R-07U	7/16	1/8	4.5	4.5	12	45	22.5	21
MBT 02R-08U	1/2	1/8	5.5	4.5	14	50	25	23
MBT 04R-09U	9/16	1/4	7	5.5	14	54	27	27
MBT 06R-12U	3/4	3/8	10	9	19	63	31.5	31
MBT 08R-14U	7/8	1/2	12	11.5	22	73	36.5	37
MBT 12R-17U	1 1/16	3/4	15.5	15.5	27	84	42	40.5
MBT 16R-21U	1 5/16	1	21	20	35	92	46	46
MBT 20R-26U	1 5/8	1 1/4	27.5	26	41	104	52	54
MBT 24R-30U	1 7/8	1 1/2	33	33	50	118	59	60
MBT 32R-40U	2 1/2	2	43	43	65	155	77.5	76

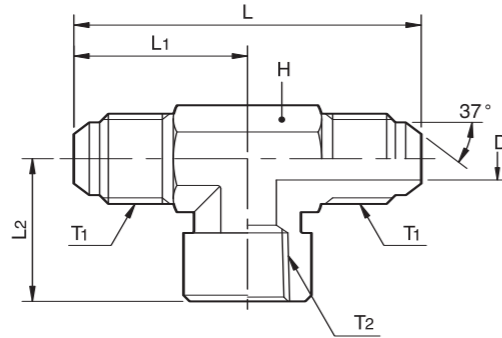
MALE RUN TEE  
**RT**



Part No.	T <sub>1</sub> (UNF)	T <sub>2</sub> (BSPT)	D	D <sub>1</sub>	H	L	L <sub>1</sub>
RT 02R-07U	7/16	1/8	4.5	4.5	12	22.5	21
RT 02R-08U	1/2	1/8	5.5	4.5	14	25	23
RT 04R-09U	9/16	1/4	7	5.5	14	27	27
RT 06R-12U	3/4	3/8	10	9	19	31.5	31
RT 08R-14U	7/8	1/2	12	11.5	22	36.5	37
RT 12R-17U	1 1/16	3/4	15.5	15.5	27	42	40.5
RT 16R-21U	1 5/16	1	21	20	35	46	46
RT 20R-26U	1 5/8	1 1/4	27.5	26	41	52	54
RT 24R-30U	1 7/8	1 1/2	33	33	50	59	60
RT 32R-40U	2 1/2	2	43	43	65	77.5	76

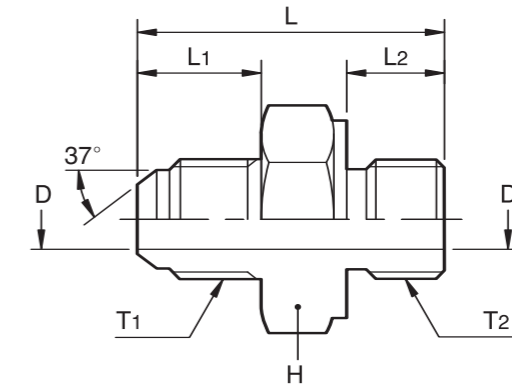


TEE FEMALE BRANCH  
**TFB**



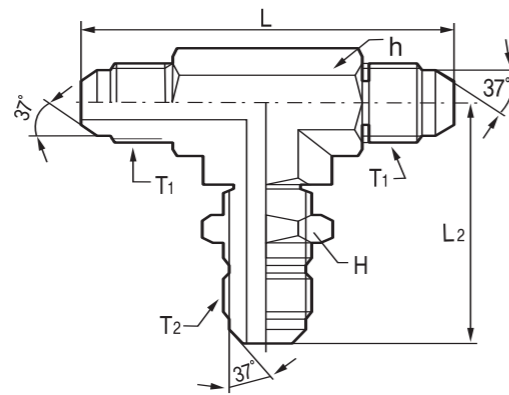
Part No.	T <sub>1</sub> (UNF)	T <sub>2</sub> (BSPT)	D	H	L	L <sub>1</sub>	L <sub>2</sub>
TFB 02R-07U	7/16	1/8	4.5	17	48	27.5	17
TFB 02R-08U	1/2	1/8	5.5	17	50	27.5	19
TFB 04R-09U	9/16	1/4	7	19	57	31	22.5
TFB 06R-12U	3/4	3/8	10	22	68	36	26
TFB 08R-14U	7/8	1/2	12	27	79	41.5	31
TFB 12R-17U	1 1/16	3/4	15.5	35	89	48	34.5
TFB 16R-21U	1 5/16	1	21	41	104	55	41
TFB 20R-26U	1 5/8	1 1/4	27.5	50	118	59	43
TFB 24R-30U	1 7/8	1 1/2	33	65	147	73.5	53
TFB 32R-40U	2 1/2	2	43	72	168	84	61

O-RING BOSS 'A' TYPE  
**OBA**

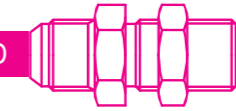


Part No.	T <sub>1</sub> (UNF)	T <sub>2</sub> (UNF)	D	D <sub>1</sub>	H	L	L <sub>1</sub>	L <sub>2</sub>
OBA 07U-07U	7/16	7/16	4.5	4.5	14	31	15	9.5
OBA 07U-08U	7/16	1/2	4.5	5.5	16	31	15	9.5
OBA 07U-09U	7/16	9/16	4.5	7	19	33	15	10
OBA 08U-08U	1/2	1/2	5.5	5.5	16	32	16	9.5
OBA 08U-09U	1/2	9/16	5.5	7	19	34	16	10
OBA 09U-09U	9/16	9/16	7	7	19	35	16	10
OBA 09U-12U	9/16	3/4	7	10	22	36.5	17	11.5
OBA 12U-12U	3/4	3/4	10	10	22	37.5	18	11.5
OBA 12U-14U	3/4	7/8	10	12	27	41.5	18	13
OBA 12U-17U	3/4	1 1/16	10	15.5	32	47.5	19.5	15.5
OBA 14U-12U	7/8	3/4	12	10	22	41.5	20	11.5
OBA 14U-14U	7/8	7/8	12	12	27	43	20	13
OBA 14U-17U	7/8	1 1/16	12	15.5	32	47.5	21	15.5
OBA 17U-12U	1 1/16	3/4	15.5	10	27	45	22.5	11.5
OBA 17U-14U	1 1/16	7/8	15.5	12	27	46.5	22.5	13
OBA 17U-17U	1 1/16	1 1/16	15.5	15.5	32	50	22.5	15.5
OBA 17U-21U	1 1/16	1 5/16	15.5	21	38	52	23	15.5
OBA 21U-17U	1 5/16	1 1/16	21	15.5	35	53	25	15.5
OBA 21U-21U	1 5/16	1 5/16	21	21	38	54	25	15.5
OBA 21U-26U	1 5/16	1 5/8	21	27.5	50	56	25	15.5
OBA 26U-26U	1 5/8	1 5/8	27.5	27.5	50	58.5	28	15.5
OBA 30U-30U	1 7/8	1 7/8	33	33	55	60	29	15.5
OBA 40U-40U	2 1/2	2 1/2	43	43	70	70.5	35	15.5

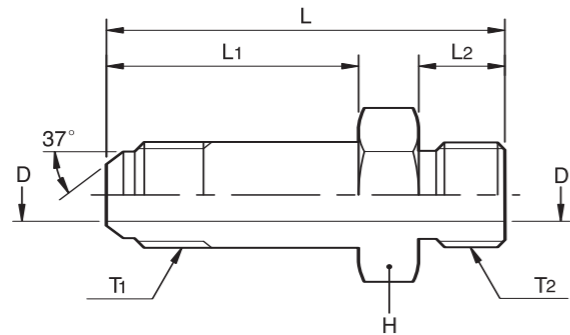
MALE BULK TEE  
**TBHU**



Part No.	Threads		Dimensions mm			
	T <sub>1</sub> (UNF)	T <sub>2</sub> (UNF)	h	H	L	L <sub>2</sub>
TBHU 07U-07U	7/16	7/16	14	16	49	40.5
TBHU 08U-08U	1/2	1/2	14	16	52	41
TBHU 09U-09U	9/16	9/16	14	19	55	46
TBHU 12U-12U	3/4	3/4	19	24	69	53.5
TBHU 14U-14U	7/8	7/8	22	27	79	60.5
TBHU 17U-17U	1 1/16	1 1/16	27	32	90	68
TBHU 21U-21U	1 5/16	1 5/16	35	38	98	71
TBHU 26U-26U	1 5/8	1 5/8	41	50	110	79
TBHU 30U-30U	1 7/8	1 7/8	50	55	118	87

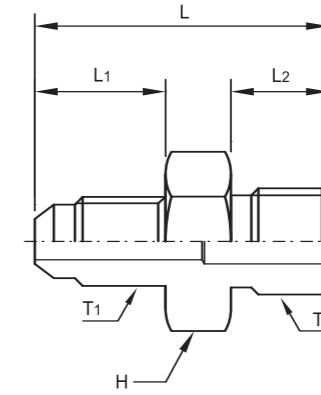


O-RING BOSS 'A' LONG  
**OBAL**

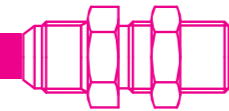


Part No.	T <sub>1</sub> (UNF)	T <sub>2</sub> (UNF)	D	D <sub>1</sub>	H	L	L <sub>1</sub>	L <sub>2</sub>
OBAL 07U-07U	7/16	7/16	4.5	4.5	14	53	35.5	9.5
OBAL 08U-08U	1/2	1/2	5.5	5.5	16	54.5	37	9.5
OBAL 09U-09U	9/16	9/16	7	7	19	58.5	39.5	10
OBAL 12U-12U	3/4	3/4	10	10	22	68.5	48	11.5
OBAL 14U-14U	7/8	7/8	12	12	27	77	53	13
OBAL 17U-17U	1 1/16	1 1/16	15.5	15.5	32	91.5	63.5	15.5
OBAL 21U-21U	1 5/16	1 5/16	21	21	38	101	72	15.5
OBAL 26U-26U	1 5/8	1 5/8	27.5	27.5	50	119	88	15.5
OBAL 30U-30U	1 7/8	1 7/8	33	33	55	130.5	98.5	15.5
OBAL 40U-40U	2 1/2	2 1/2	43	43	70	160	123	15.5

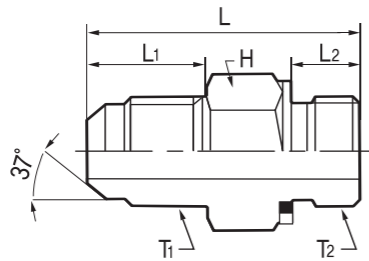
O-RING BOSS 'A-B' TYPE  
**OBAB**



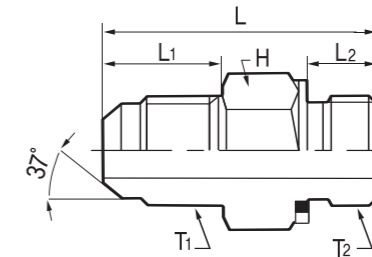
Part No.	T <sub>1</sub> (UNF)	T <sub>2</sub> (BSPP)	H	L	L <sub>1</sub>	L <sub>2</sub>
OBAB 07U-02G	7/16	1/8	14	30	15	8.5
OBAB 07U-04G	7/16	1/4	19	36	16	12
OBAB 07U-06G	7/16	3/8	22	36	16	12
OBAB 07U-08G	7/16	1/2	27	40.5	16.5	14
OBAB 08U-02G	1/2	1/8	14	30	15	8.5
OBAB 08U-04G	1/2	1/4	19	36.5	16	12
OBAB 08U-06G	1/2	3/8	22	36.5	16	12
OBAB 08U-08G	1/2	1/2	27	41	17	14
OBAB 09U-02G	9/16	1/8	14	31	16	8.5
OBAB 09U-04G	9/16	1/4	19	37	16	12
OBAB 09U-06G	9/16	3/8	22	37	17	12
OBAB 12U-04G	3/4	1/4	19	39	18.5	12
OBAB 12U-06G	3/4	3/8	22	39	18.5	12
OBAB 12U-08G	3/4	1/2	27	43	19	14
OBAB 12U-12G	3/4	3/4	32	47	19	16
OBAB 14U-08G	7/8	1/2	27	44	20	14
OBAB 14U-10G	7/8	5/8	27	47	21	16
OBAB 14U-12G	7/8	3/4	32	49	21	16
OBAB 17U-08G	1 1/16	1/2	27	48	24	14
OBAB 17U-10G	1 1/16	5/8	30	50	24	16
OBAB 17U-12G	1 1/16	3/4	32	52	24	16
OBAB 17U-16G	1 1/16	1	41	55	24.5	18
OBAB 19U-12G	1 3/16	3/4	32	52	24	16
OBAB 21U-12G	1 5/16	3/4	35	53	25	16
OBAB 21U-16G	1 5/16	1	41	55	25	18
OBAB 21U-20G	1 5/16	1 1/4	50	60	26	20
OBAB 26U-16G	1 5/8	1	43	59	28	18
OBAB 26U-20G	1 5/8	1 1/4	50	62	28	20
OBAB 30U-20G	1 7/8	1 1/4	50	64	30	20
OBAB 30U-24G	1 7/8	1 1/2	55	67	30	22
OBAB 40U-32G	2	2	72	86	37	24



MALE ADAPTER ED ORING UNF\*PF (ED)  
**OBAE**

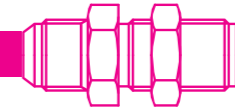


MALE ADAPTER ED  
**OBME**



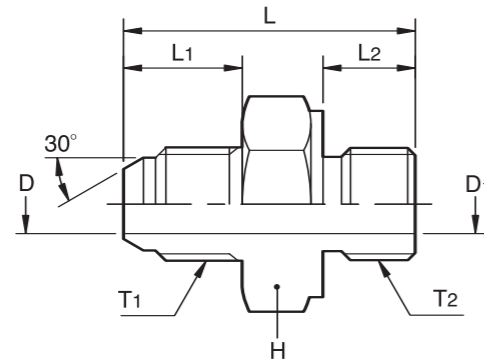
Part No.	Threads		Dimensions mm			
	T <sub>1</sub> (UNF)	T <sub>2</sub> (BSPP)	H	L	L <sub>1</sub>	L <sub>2</sub>
OBAE 07U-02G	7/16	1/8	14	30	15	8.5
OBAE 07U-04G	7/16	1/4	19	36	16	12
OBAE 07U-06G	7/16	3/8	22	36.5	16	12
OBAE 07U-08G	7/16	1/2	27	40.5	16	14
OBAE 08U-02G	1/2	1/8	14	30	15	8.5
OBAE 08U-04G	1/2	1/4	19	36.5	16	12
OBAE 08U-06G	1/2	3/8	22	36.5	16	12
OBAE 09U-04G	9/16	1/4	19	37	16	12
OBAE 09U-06G	9/16	3/8	22	37	17	12
OBAE 09U-08G	9/16	1/2	27	41	17	14
OBAE 12U-04G	3/4	1/4	19	39	18	12
OBAE 12U-06G	3/4	3/8	22	39	18	12
OBAE 12U-08G	3/4	1/2	27	43	19	14
OBAE 12U-12G	3/4	3/4	32	47	19	16
OBAE 14U-06G	7/8	3/8	22	42	21	12
OBAE 14U-08G	7/8	1/2	27	45	21	14
OBAE 14U-12G	7/8	3/4	32	49	21	16
OBAE 17U-08G	1 1/16	1/2	27	48	24	14
OBAE 17U-12G	1 1/16	3/4	32	52	24	16
OBAE 17U-16G	1 1/16	1	41	55	24	18
OBAE 19U-12G	1 3/16	3/4	32	54	23	16
OBAE 21U-12G	1 5/16	3/4	35	53	25	16
OBAE 21U-16G	1 5/16	1	41	55	25	18
OBAE 21U-20G	1 5/16	1 1/4	50	60	26	20
OBAE 26U-16G	1 5/8	1	43	59	28	18
OBAE 26U-20G	1 5/8	1 1/4	50	62	28	20
OBAB 30U-20G	1 7/8	1 1/4	50	64	30	20
OBAB 30U-24G	1 7/8	1 1/2	55	67	30	22

Part No.	Threads		Dimensions mm			
	T <sub>1</sub> (UNF)	T <sub>2</sub> (METRIC)	H	L	L <sub>1</sub>	L <sub>2</sub>
OBME 07U-10M	7/16	10 × 1	16	30	15	9
OBME 07U-12M	7/16	12 × 1.5	19	34	15	11
OBME 08U-10M	1/2	10 × 1	16	30	15	9
OBME 08U-12M	1/2	12 × 1.5	19	35	16	11
OBME 08U-14M	1/2	14 × 1.5	19	35	16	11
OBME 08U-18M	1/2	18 × 1.5	22	38	16	14
OBME 09U-14M	9/16	14 × 1.5	19	35	16	11
OBME 09U-16M	9/16	16 × 1.5	22	37.5	17	12.5
OBME 09U-18M	9/16	18 × 1.5	22	39	17	14
OBME 12U-16M	3/4	16 × 1.5	22	39	19	12.5
OBME 12U-18M	3/4	18 × 1.5	24	41	19	14
OBME 14U-18M	7/8	18 × 1.5	24	42	20	14
OBME 14U-22M	7/8	22 × 1.5	27	45	20	15
OBME 17U-22M	1 1/16	22 × 1.5	27	49	24	15
OBME 17U-27M	1 1/16	27 × 2	32	54	24	18.5
OBME 21U-27M	1 5/16	33 × 2	35	55	25	18.5
OBME 21U-33M	1 5/16	42 × 2	41	56	25	18.5
OBME 26U-42M	1 5/8	48 × 2	50	62	28	19
OBME 30U-48M	1 7/8	48 × 2	55	67	30	22



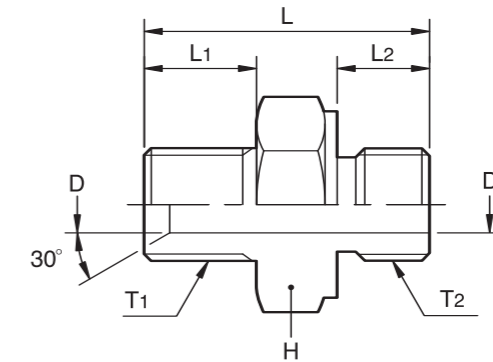
O-RING BOSS 'B' TYPE

**OBB**



O-RING BOSS 'C' TYPE

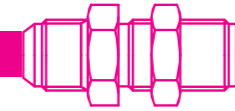
**OBC**



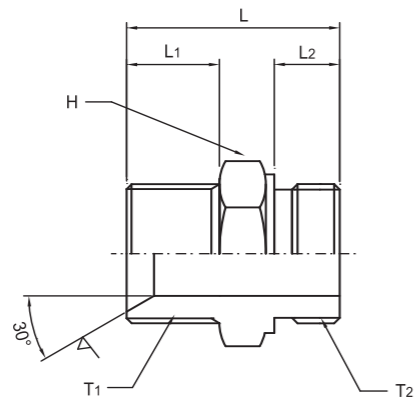
Part No.	T <sub>1</sub> (BSPP)	T <sub>2</sub> (BSPP)	D	D <sub>1</sub>	H	L	L <sub>1</sub>	L <sub>2</sub>
OBB 04G-04G	1/4	1/4	5.5	5.5	19	33	14	11
OBB 04G-06G	1/4	3/8	5.5	9	22	33	14	11
OBB 06G-04G	3/8	1/4	9	5.5	19	35	16	11
OBB 06G-06G	3/8	3/8	8	8	22	35	16	11
OBB 06G-08G	3/8	1/2	8	11.5	27	42	16	15
OBB 08G-06G	1/2	3/8	11.5	8	22	40	19	11
OBB 08G-08G	1/2	1/2	11.5	11.5	27	44	19	15
OBB 08G-12G	1/2	3/4	11.5	15.5	32	45	19	16
OBB 12G-08G	3/4	1/2	15.5	11.5	27	46	21	15
OBB 12G-12G	3/4	3/4	15.5	15.5	32	47	21	16
OBB 12G-16G	3/4	1	15.5	20	38	53	21	20
OBB 16G-12G	1	3/4	20	15.5	35	51	23	16
OBB 16G-16G	1	1	20	20	38	55	23	20
OBB 16G-20G	1	1 1/4	20	26	50	57	23	20
OBB 20G-16G	1 1/4	1	26	20	46	61	27	20
OBB 20G-20G	1 1/4	1 1/4	26	26	50	62	27	20
OBB 24G-20G	1 1/2	1 1/4	33	26	50	62	27	20
OBB 24G-24G	1 1/2	1 1/2	33	33	55	62	27	20

Part No.	T <sub>1</sub> (BSPP)	T <sub>2</sub> (BSPP)	D	D <sub>1</sub>	H	L	L <sub>1</sub>	L <sub>2</sub>
OBC 04G-04G	1/4	1/4	5.5	5.5	19	33	13	12
OBC 04G-06G	1/4	3/8	5.5	9	22	34	13	12
OBC 06G-04G	3/8	1/4	9	5.5	19	36	15	12
OBC 06G-06G	3/8	3/8	8	8	22	36	15	12
OBC 06G-08G	3/8	1/2	8	11.5	27	40	15	14
OBC 08G-06G	1/2	3/8	11.5	8	22	40	18	12
OBC 08G-08G	1/2	1/2	11.5	11.5	27	43	18	14
OBC 08G-12G	1/2	3/4	11.5	15.5	32	46	18	16
OBC 12G-08G	3/4	1/2	15.5	11.5	27	44	20	14
OBC 12G-12G	3/4	3/4	15.5	15.5	32	48	20	16
OBC 12G-16G	3/4	1	15.5	20	41	50	20	18
OBC 16G-12G	1	3/4	20	15.5	35	50	22	16
OBC 16G-16G	1	1	20	20	41	52	22	18
OBC 16G-20G	1	1 1/4	20	26	50	56	22	20
OBC 20G-16G	1 1/4	1	26	20	43	57	26	18
OBC 20G-20G	1 1/4	1 1/4	26	26	50	60	26	20
OBC 24G-20G	1 1/2	1 1/4	33	26	50	60	27	20
OBC 24G-24G	1 1/2	1 1/2	33	33	55	63	27	22

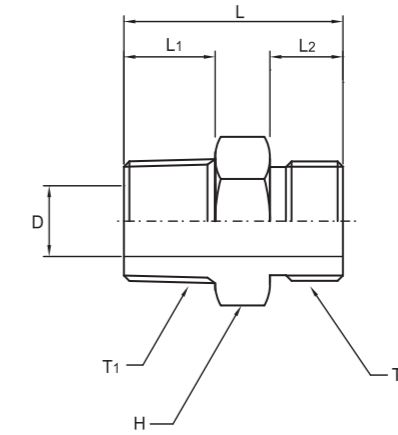




O-RING BOSS 'C-A' TYPE  
**OBCA**

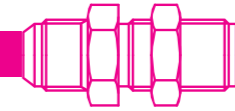


O-RING BOSS 'D' TYPE  
**OBD**

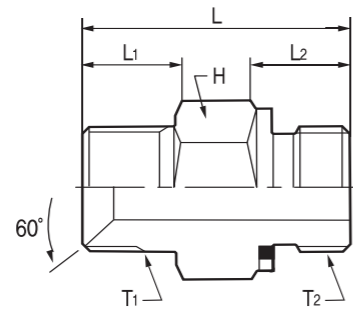


Part No.	T <sub>1</sub> (BSPP)	T <sub>2</sub> (UNF)	H	L	L <sub>1</sub>	L <sub>2</sub>
OBCA 02G-07U	1/8	7/16	14	27	10	9.5
OBCA 04G-08U	1/4	1/2	16	30	13	9.5
OBCA 04G-09U	1/4	9/16	19	32	13	10
OBCA 06G-12U	3/8	3/4	22	35.5	15	11.5
OBCA 08G-14U	1/2	7/8	27	40.5	18	13
OBCA 12G-17U	3/4	1 1/16	32	48	20	15.5
OBCA 16G-21U	1	1 5/16	38	50.5	22	15.5
OBCA 20G-26U	1 1/4	1 5/8	50	56.5	26	15.5
OBCA 24G-30U	1 1/2	1 7/8	55	60	27.5	15.5
OBCA 32G-40U	2	2 1/2	70	75	31	20

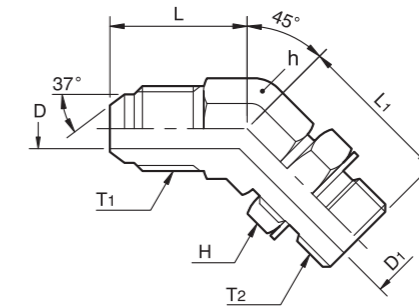
Part No.	T <sub>1</sub> (BSPT)	T <sub>2</sub> (BSPP)	D	H	L	L <sub>1</sub>	L <sub>2</sub>
OBD 02R-02G	1/8	1/8	4	14	26.5	11	9
OBD 04R-04G	1/4	1/4	5.5	19	34	14	12
OBD 06R-06G	3/8	3/8	8	22	36.5	16	12
OBD 08R-08G	1/2	1/2	11.5	27	43	19	14
OBD 12R-12G	3/4	3/4	15.5	32	48	20	16
OBD 16R-16G	1	1	20	41	53.5	23	18
OBD 20R-20G	1 1/4	1 1/4	27.5	50	60	26	20
OBD 24R-24G	1 1/2	1 1/2	33	55	66	29	22
OBD 32R-32G	2	2	43	70	83	34	24



MALE ED ADAPTER  
**EOC**

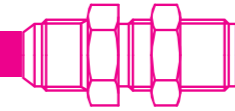


45° O-RING ELBOW 'A' TYPE  
**EWOA**

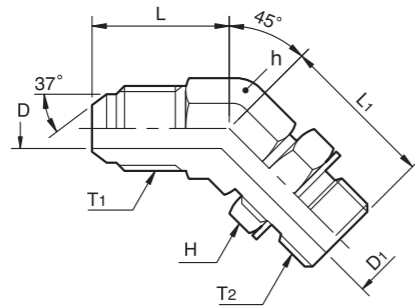


Part No.	Threads		Dimensions mm			
	T <sub>1</sub> (BSPP)	T <sub>2</sub> (BSPP)	H	L	L <sub>1</sub>	L <sub>2</sub>
EOC 04G-04G	1/4	1/4	19	33	13	12
EOC 04G-06G	1/4	3/8	22	34	13	12
EOC 06G-04G	3/8	1/4	19	36	15	12
EOC 06G-06G	3/8	3/8	22	36	15	12
EOC 06G-08G	3/8	1/2	27	39	15	14
EOC 08G-06G	1/2	3/8	22	39	18	12
EOC 08G-08G	1/2	1/2	27	42	18	14
EOC 08G-12G	1/2	3/4	32	46	18	16
EOC 12G-08G	3/4	1/2	27	44	20	14
EOC 12G-12G	3/4	3/4	32	48	20	16
EOC 12G-16G	3/4	1	41	50	20	18
EOC 16G-12G	1	3/4	35	50	22	16
EOC 16G-16G	1	1	41	52	22	18
EOC 16G-20G	1	1 1/4	50	56	22	20
EOC 20G-16G	1 1/4	1	43	57	26	18
EOC 20G-20G	1 1/4	1 1/4	50	60	26	20
EOC 24G-20G	1 1/2	1 1/4	50	60	27	20
EOC 24G-24G	1 1/2	1 1/2	55	63	27	22

Part No.	T <sub>1</sub> (UNF)	T <sub>2</sub> (UNF)	D	D <sub>1</sub>	h	H	L	L <sub>1</sub>
EWOA 07U-07U	7/16	7/16	4.5	4.5	14	16	22	26.5
EWOA 08U-08U	1/2	1/2	5.5	5.5	14	16	22	26.5
EWOA 09U-09U	9/16	9/16	7	7	14	19	22	28
EWOA 12U-12U	3/4	3/4	10	10	19	24	26	33
EWOA 14U-14U	7/8	7/8	12	12	22	27	30	38.5
EWOA 17U-17U	1 1/16	1 1/16	15.5	15.5	27	32	32.5	43
EWOA 21U-21U	1 5/16	1 5/16	21	21	35	38	40	46
EWOA 26U-26U	1 5/8	1 5/8	27.5	27.5	44	50	46	48.5
EWOA 30U-30U	1 7/8	1 7/8	33	33	50	55	46	48.5

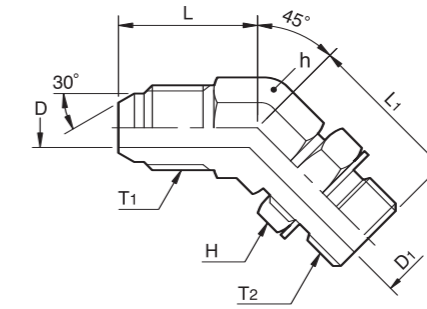


### 45° O-RING ELBOW 'A-B' TYPE EWOAB



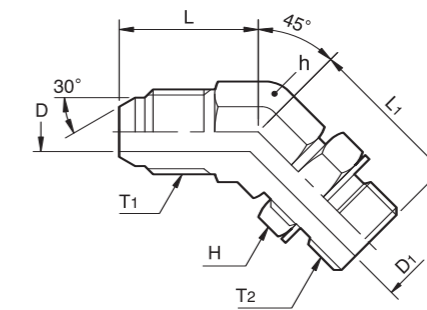
Part No.	T <sub>1</sub> (UNF)	T <sub>2</sub> (BSPP)	D	D <sub>1</sub>	h	H	L	L <sub>1</sub>
EWOAB 07U-02G	7/16	1/8	4.5	4.5	14	14	22	26.5
EWOAB 08U-04G	1/2	1/4	5.5	5.5	14	19	22	28
EWOAB 09U-04G	9/16	1/4	7	5.5	14	19	22	28
EWOAB 12U-06G	3/4	3/8	10	8	19	22	26	33
EWOAB 14U-08G	7/8	1/2	12	11.5	22	27	30	38.5
EWOAB 17U-12G	1 1/16	3/4	15.5	15.5	27	32	32.5	43
EWOAB 21U-16G	1 5/16	1	21	20	35	41	40	46
EWOAB 26U-20G	1 5/8	1 1/4	27.5	26	44	50	46	48.5
EWOAB 30U-24G	1 7/8	1 1/2	33	33	50	55	46	48.5

### 45° O-RING ELBOW 'B' TYPE EWOB

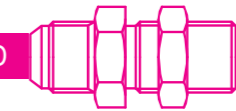


Part No.	T <sub>1</sub> (BSPP)	T <sub>2</sub> (BSPP)	D	D <sub>1</sub>	h	H	L	L <sub>1</sub>
EWOB 04G-04G	1/4	1/4	5.5	5.5	14	19	21	28
EWOB 04G-06G	1/4	3/8	5.5	8	19	22	25	33
EWOB 06G-04G	3/8	1/4	8	5.5	19	19	25	33
EWOB 06G-06G	3/8	3/8	8	8	19	22	25	33
EWOB 06G-08G	3/8	1/2	8	11.5	22	27	28	38.5
EWOB 08G-06G	1/2	3/8	11.5	8	22	22	28	38.5
EWOB 08G-08G	1/2	1/2	11.5	11.5	22	27	28	38.5
EWOB 08G-12G	1/2	3/4	11.5	15.5	27	32	33	43
EWOB 12G-08G	3/4	1/2	15.5	11.5	27	27	33	43
EWOB 12G-12G	3/4	3/4	15.5	15.5	27	32	33	43
EWOB 12G-16G	3/4	1	15.5	20	35	41	37	46
EWOB 16G-12G	1	3/4	20	15.5	35	32	37	46
EWOB 16G-16G	1	1	20	20	35	41	37	46
EWOB 16G-20G	1	1 1/4	20	26	44	50	37	48.5
EWOB 20G-16G	1 1/4	1	26	20	44	41	42	48.5
EWOB 20G-20G	1 1/4	1 1/4	26	26	44	50	42	48.5

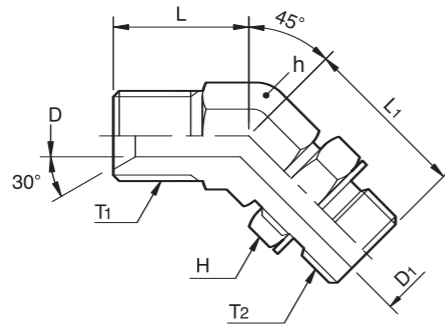
### 45° O-RING ELBOW 'B-A' TYPE EWOBA



Part No.	T <sub>1</sub> (BSPP)	T <sub>2</sub> (UNF)	D	D <sub>1</sub>	h	H	L	L <sub>1</sub>
EWOBA 04G-09U	1/4	9/16	5.5	7	14	19	21	28
EWOBA 06G-12U	3/8	3/4	8	10	19	24	25	33
EWOBA 08G-14U	1/2	7/8	11.5	12	22	27	28	38.5
EWOBA 12G-17U	3/4	1 1/16	15.5	15.5	27	32	33	43
EWOBA 16G-21U	1	1 5/16	20	21	35	38	37	46
EWOBA 20G-26U	1 1/4	1 5/8	26	27.5	44	50	42	48.5

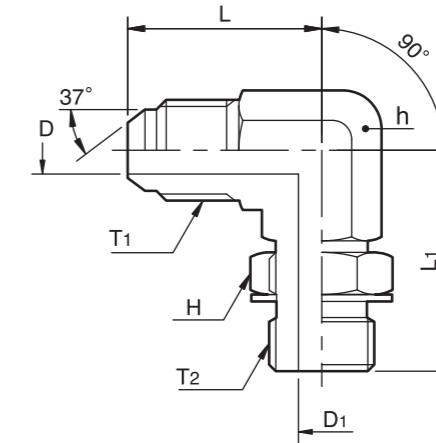


45° O-RING ELBOW 'C' TYPE  
**EWOC**



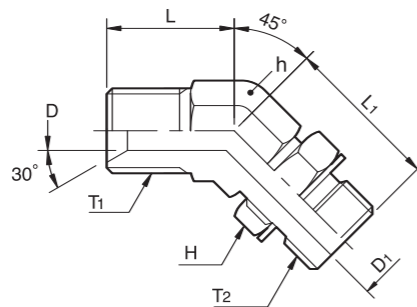
Part No.	T <sub>1</sub> (BSPP)	T <sub>2</sub> (BSPP)	D	D <sub>1</sub>	h	H	L	L <sub>1</sub>
EWOC 04G-04G	1/4	1/4	5.5	5.5	14	19	21	28
EWOC 04G-06G	1/4	3/8	5.5	8	19	22	23	33
EWOC 06G-04G	3/8	1/4	8	5.5	19	19	25	33
EWOC 06G-06G	3/8	3/8	8	8	19	22	25	33
EWOC 06G-08G	3/8	1/2	8	11.5	22	27	26	38.5
EWOC 08G-06G	1/2	3/8	11.5	8	22	22	28	38.5
EWOC 08G-08G	1/2	1/2	11.5	11.5	22	27	28	38.5
EWOC 08G-12G	1/2	3/4	11.5	15.5	27	32	30	43
EWOC 12G-08G	3/4	1/2	15.5	11.5	27	27	33	43
EWOC 12G-12G	3/4	3/4	15.5	15.5	27	32	33	43
EWOC 12G-16G	3/4	1	15.5	20	35	41	35	46
EWOC 16G-12G	1	3/4	20	15.5	35	32	38	46
EWOC 16G-16G	1	1	20	20	35	41	38	46
EWOC 16G-20G	1	1 1/4	20	26	44	50	40	48.5
EWOC 20G-16G	1 1/4	1	26	20	44	41	45	48.5
EWOC 20G-20G	1 1/4	1 1/4	26	26	44	50	45	48.5

90° O-RING ELBOW 'A' TYPE  
**ELOA**

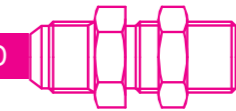


Part No.	T <sub>1</sub> (UNF)	T <sub>2</sub> (UNF)	D	D <sub>1</sub>	h	H	L	L <sub>1</sub>
ELOA 07U-07U	7/16	7/16	4.5	4.5	14	16	24	26
ELOA 07U-09U	7/16	9/16	4.5	7	14	19	24	31.5
ELOA 08U-07U	1/2	7/16	5.5	4.5	14	16	25	26
ELOA 08U-08U	1/2	1/2	5.5	5.5	14	16	25	27.5
ELOA 08U-09U	1/2	9/16	5.5	7	14	19	25	31.5
ELOA 09U-07U	9/16	7/16	7	4.5	14	16	27	30
ELOA 09U-08U	9/16	1/2	7	5.5	14	16	27	30
ELOA 09U-09U	9/16	9/16	7	7	14	19	27	31.5
ELOA 09U-12U	9/16	3/4	7	10	19	24	28.5	36.5
ELOA 09U-14U	9/16	7/8	7	12	22	27	31	43
ELOA 12U-09U	3/4	9/16	10	7	19	19	31.5	34.5
ELOA 12U-12U	3/4	3/4	10	10	19	24	31.5	36.5
ELOA 12U-14U	3/4	7/8	10	12	22	27	34	43
ELOA 12U-17U	3/4	1 1/16	10	15.5	27	32	37	49
ELOA 14U-09U	7/8	9/16	12	7	22	19	36.5	36
ELOA 14U-12U	7/8	3/4	12	10	22	24	36.5	39.5
ELOA 14U-14U	7/8	7/8	12	12	22	27	36.5	43
ELOA 14U-17U	7/8	1 1/16	12	15.5	27	27	39.5	49
ELOA 17U-12U	1 1/16	3/4	15.5	10	27	24	42	42
ELOA 17U-14U	1 1/16	7/8	15.5	12	27	27	42	45.5
ELOA 17U-17U	1 1/16	1 1/16	15.5	15.5	27	27	42	49
ELOA 17U-21U	1 1/16	1 5/16	15.5	21	35	38	44.5	52
ELOA 21U-17U	1 5/16	1 1/16	21	15.5	35	32	46	52
ELOA 21U-21U	1 5/16	1 5/16	21	21	35	38	46	52
ELOA 21U-26U	1 5/16	1 5/8	21	27.5	41	50	52	57
ELOA 26U-21U	1 5/8	1 5/16	27.5	21	41	38	52	57
ELOA 26U-26U	1 5/8	1 5/8	27.5	27.5	41	50	52	57
ELOA 26U-30U	1 5/8	1 7/8	27.5	33	50	55	59	64
ELOA 30U-26U	1 7/8	1 5/8	33	27.5	50	50	59	61
ELOA 30U-30U	1 7/8	1 7/8	33	33	50	55	59	64
ELOA 40U-40U	2 1/2	2 1/2	43	43	65	70	76	76

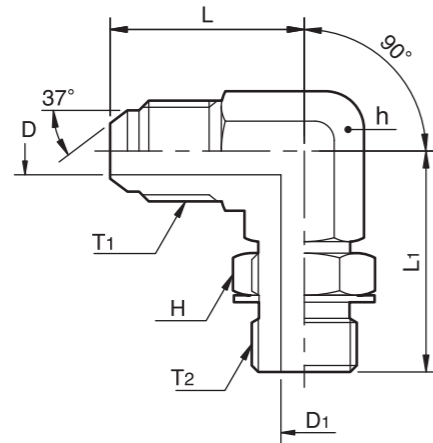
45° O-RING ELBOW 'C-A' TYPE  
**EWOCA**



Part No.	T <sub>1</sub> (BSPP)	T <sub>2</sub> (UNF)	D	D <sub>1</sub>	h	H	L	L <sub>1</sub>
EWOCA 04G-09U	1/4	9/16	5.5	7	14	19	21	28
EWOCA 06G-12U	3/8	3/4	8	10	19	24	25	33
EWOCA 08G-14U	1/2	7/8	11.5	12	22	27	28	38.5
EWOCA 12G-17U	3/4	1 1/16	15.5	15.5	27	32	33	43
EWOCA 16G-21U	1	1 5/16	20	21	35	38	38	46
EWOCA 20G-26U	1 1/4	1 5/8	26	27.5	44	50	45	48.5

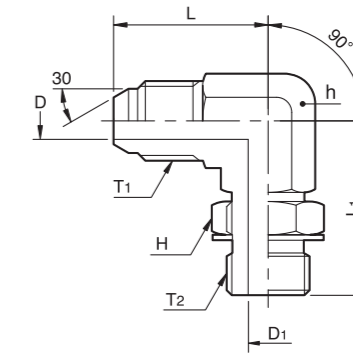


90° O-RING ELBOW 'A-B' TYPE  
**ELOAB**



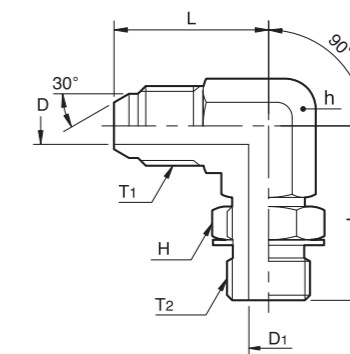
Part No.	T <sub>1</sub> (UNF)	T <sub>2</sub> (BSPP)	D	D <sub>1</sub>	h	H	L	L <sub>1</sub>
ELOAB 07U-02G	7/16	1/8	4.5	4.5	14	14	24	26
ELOAB 07U-04G	7/16	1/4	4.5	5.5	14	19	24	31.5
ELOAB 07U-06G	7/16	3/8	4.5	8	19	22	28.5	36.5
ELOAB 07U-08G	7/16	1/2	4.5	11.5	22	27	31	43
ELOAB 08U-02G	1/2	1/8	5.5	4.5	14	14	25	27.5
ELOAB 08U-04G	1/2	1/4	5.5	5.5	14	19	25	31.5
ELOAB 08U-06G	1/2	3/8	5.5	8	19	22	28.5	36.5
ELOAB 09U-04G	9/16	1/4	7	5.5	14	19	27	31.5
ELOAB 09U-06G	9/16	3/8	7	8	19	22	28.5	36.5
ELOAB 09U-08G	9/16	1/2	7	11.5	22	27	31	43
ELOAB 12U-04G	3/4	1/4	10	5.5	19	19	31.5	33.5
ELOAB 12U-06G	3/4	3/8	10	8	19	22	31.5	36.5
ELOAB 12U-08G	3/4	1/2	10	11.5	22	27	34	43
ELOAB 12U-12G	3/4	3/4	10	15.5	27	32	37	49
ELOAB 14U-06G	7/8	3/8	12	8	22	22	36.5	39.5
ELOAB 14U-08G	7/8	1/2	12	11.5	22	27	36.5	43
ELOAB 14U-12G	7/8	3/4	12	15.5	27	32	39.5	49
ELOAB 17U-08G	1 1/16	1/2	15.5	11.5	27	27	42	45.5
ELOAB 17U-12G	1 1/16	3/4	15.5	15.5	27	32	42	49
ELOAB 17U-16G	1 1/16	1	15.5	20	35	41	44.5	52
ELOAB 21U-12G	1 5/16	3/4	21	15.5	35	32	46	52
ELOAB 21U-16G	1 5/16	1	21	20	35	41	46	52
ELOAB 21U-20G	1 5/16	1 1/4	21	26	41	50	52	57
ELOAB 26U-16G	1 5/8	1	21	20	41	41	52	57
ELOAB 26U-20G	1 5/8	1 1/4	27.5	26	41	50	52	57
ELOAB 30U-20G	1 7/8	1 1/4	33	26	50	50	59	61
ELOAB 30U-24G	1 7/8	1 1/2	33	33	50	55	59	64

90° O-RING ELBOW 'B' TYPE  
**ELOB**

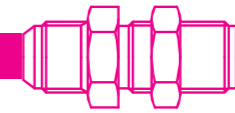


Part No.	T <sub>1</sub> (BSPP)	T <sub>2</sub> (BSPP)	D	D <sub>1</sub>	h	H	L	L <sub>1</sub>
ELOB 04G-04G	1/4	1/4	5.5	5.5	14	19	27	31.5
ELOB 04G-06G	1/4	3/8	5.5	8	19	22	32	36.5
ELOB 06G-04G	3/8	1/4	8	5.5	19	19	32	33.5
ELOB 06G-06G	3/8	3/8	8	8	19	22	32	36.5
ELOB 06G-08G	3/8	1/2	8	11.5	22	27	37	43
ELOB 08G-06G	1/2	3/8	11.5	8	22	22	37	39.5
ELOB 08G-08G	1/2	1/2	11.5	11.5	22	27	37	43
ELOB 08G-12G	1/2	3/4	11.5	15.5	27	32	42	49
ELOB 12G-08G	3/4	1/2	15.5	11.5	27	27	42	45.5
ELOB 12G-12G	3/4	3/4	15.5	15.5	27	32	42	49
ELOB 12G-16G	3/4	1	15.5	20	35	41	46	52
ELOB 16G-12G	1	3/4	20	15.5	35	32	46	52
ELOB 16G-16G	1	1	20	20	35	41	46	52
ELOB 16G-20G	1	1 1/4	20	26	41	50	50	57
ELOB 20G-16G	1 1/4	1	26	20	41	41	52	57
ELOB 20G-20G	1 1/4	1 1/4	26	26	41	50	52	57

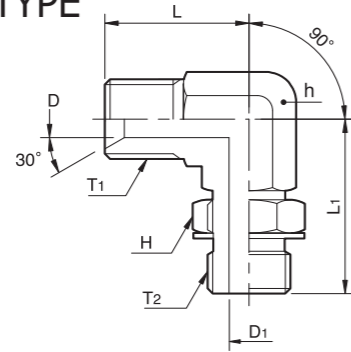
90° O-RING ELBOW 'B-A' TYPE  
**ELOBA**



Part No.	T <sub>1</sub> (BSPP)	T <sub>2</sub> (UNF)	D	D <sub>1</sub>	h	H	L	L <sub>1</sub>
ELOBA 04G-09U	1/4	9/16	5.5	7	14	19	27	31.5
ELOBA 06G-12U	3/8	3/4	8	10	19	24	32	36.5
ELOBA 08G-14U	1/2	7/8	11.5	12	22	27	37	43
ELOBA 12G-17U	3/4	1 1/16	15.5	15.5	27	32	42	49
ELOBA 16G-21U	1	1 5/16	20	21	35	38	46	52
ELOBA 20G-26U	1 1/4	1 5/8	26	27.5	41	50	50	57

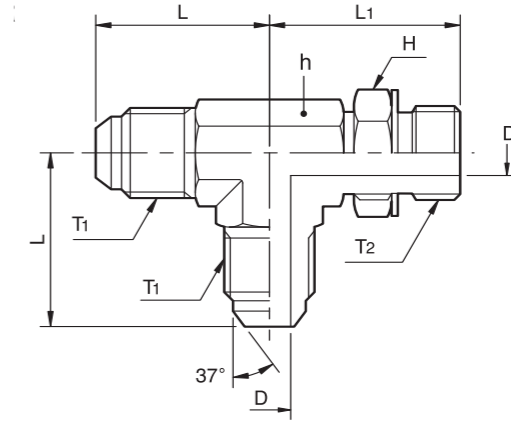


90° O-RING ELBOW 'C' TYPE  
**ELOC**



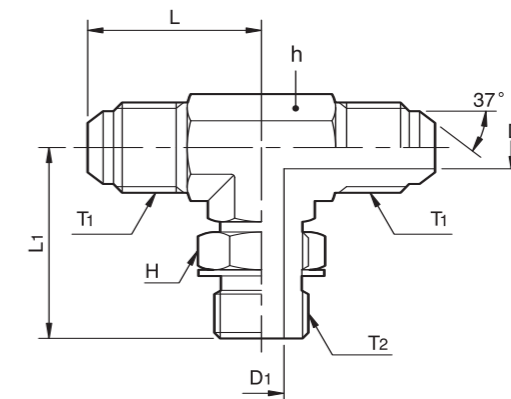
Part No.	T <sub>1</sub> (BSPP)	T <sub>2</sub> (BSPP)	D	D <sub>1</sub>	h	H	L	L <sub>1</sub>
ELOC 04G-04G	1/4	1/4	5.5	5.5	14	19	25	31.5
ELOC 04G-06G	1/4	3/8	5.5	8	19	22	26	36.5
ELOC 06G-04G	3/8	1/4	8	5.5	19	19	29	33.5
ELOC 06G-06G	3/8	3/8	8	8	19	22	29	36.5
ELOC 06G-08G	3/8	1/2	8	11.5	22	27	30	43
ELOC 08G-06G	1/2	3/8	11.5	8	22	22	33	39.5
ELOC 08G-08G	1/2	1/2	11.5	11.5	22	27	33	43
ELOC 08G-12G	1/2	3/4	11.5	15.5	27	32	36	49
ELOC 12G-08G	3/4	1/2	15.5	11.5	27	27	38	45.5
ELOC 12G-12G	3/4	3/4	15.5	15.5	27	32	38	49
ELOC 12G-16G	3/4	1	15.5	20	35	41	42	52
ELOC 16G-12G	1	3/4	20	15.5	35	32	45	52
ELOC 16G-16G	1	1	20	20	35	41	45	52
ELOC 16G-20G	1	1 1/4	20	26	41	50	52	57
ELOC 20G-16G	1 1/4	1	26	20	41	41	52	57
ELOC 20G-20G	1 1/4	1 1/4	26	26	41	50	52	57

O-RING RUN TEE  
**TOR**



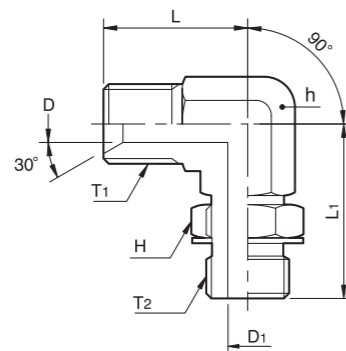
Part No.	T <sub>1</sub> (UNF)	T <sub>2</sub> (UNF)	D	D <sub>1</sub>	h	H	L	L <sub>1</sub>
TOR 07U-07U	7/16	7/16	4.5	4.5	14	16	24	26
TOR 08U-08U	1/2	1/2	5.5	5.5	14	16	25	27.5
TOR 09U-09U	9/16	9/16	7	7	14	19	27	31.5
TOR 12U-12U	3/4	3/4	10	10	19	24	31.5	36.5
TOR 14U-14U	7/8	7/8	12	12	22	27	36.5	43
TOR 17U-17U	1 1/16	1 1/16	15.5	15.5	27	32	42	49
TOR 21U-21U	1 5/16	1 5/16	21	21	35	38	46	52

O-RING BRANCH TEE  
**TOB**

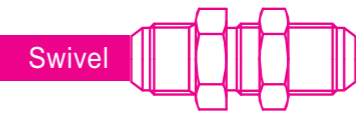


Part No.	T <sub>1</sub> (UNF)	T <sub>2</sub> (UNF)	D	D <sub>1</sub>	h	H	L	L <sub>1</sub>
TOB 07U-07U	7/16	7/16	4.5	4.5	14	16	24	26
TOB 08U-08U	1/2	1/2	5.5	5.5	14	16	25	27.5
TOB 09U-09U	9/16	9/16	7	7	14	19	27	31.5
TOB 12U-12U	3/4	3/4	10	10	19	24	31.5	36.5
TOB 14U-14U	7/8	7/8	12	12	22	27	36.5	43
TOB 17U-17U	1 1/16	1 1/16	15.5	15.5	27	32	42	49
TOB 21U-21U	1 5/16	1 5/16	21	21	35	38	46	52

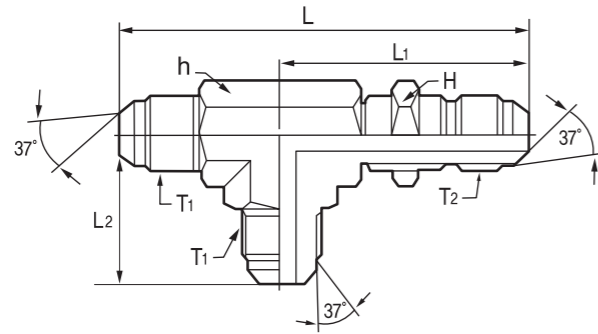
90° O-RING ELBOW 'C-A' TYPE  
**ELOCA**



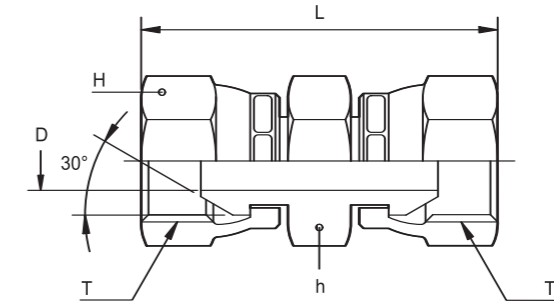
Part No.	T <sub>1</sub> (BSPP)	T <sub>2</sub> (UNF)	D	D <sub>1</sub>	h	H	L	L <sub>1</sub>
ELOCA 04G-09U	1/4	9/16	5.5	7	14	19	25	31.5
ELOCA 06G-12U	3/8	3/4	8	10	19	24	29	36.5
ELOCA 08G-14U	1/2	7/8	11.5	12	22	27	33	43
ELOCA 12G-17U	3/4	1 1/16	15.5	15.5	27	32	38	49
ELOCA 16G-21U	1	1 5/16	20	21	35	38	45	52
ELOCA 20G-26U	1 1/4	1 5/8	26	27.5	41	50	52	57



RUN BULK TEE  
**TRBHU**

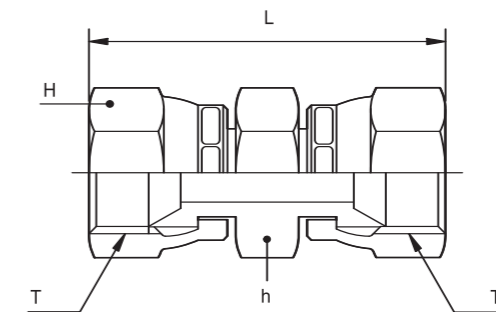


UNION, SWIVEL TYPE  
**US-G**



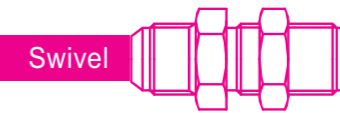
Part No.	T (BSPP)	D	h	H	L
US-04G	1/4	5.5	14	19	42
US-06G	3/8	8	19	22	47
US-08G	1/2	11.5	22	27	54
US-12G	3/4	15.5	27	32	65
US-16G	1	20	35	41	74
US-20G	1 1/4	27	44	50	77
US-24G	1 1/2	33	50	55	85
US-32G	2	43	65	74	102

UNION, SWIVEL TYPE  
**US-U**

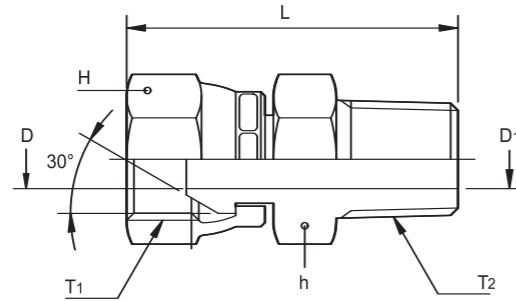


Part No.	Threads		Dimensions mm				
	T <sub>1</sub> (UNF)	T <sub>2</sub> (UNF)	h	H	L	L <sub>1</sub>	L <sub>2</sub>
TRBHU 07U-07U	7/16	7/16	14	16	65	40.5	24.5
TRBHU 08U-08U	1/2	1/2	14	16	67	41	26
TRBHU 09U-09U	9/16	9/16	14	19	73.6	46	27.5
TRBHU 12U-12U	3/4	3/4	19	24	88	53.5	34.5
TRBHU 14U-14U	7/8	7/8	22	27	100	60.5	39.5
TRBHU 17U-17U	1 1/16	1 1/16	27	32	113	68	45
TRBHU 21U-21U	1 5/16	1 5/16	35	38	120	71	49
TRBHU 26U-26U	1 5/8	1 5/8	41	50	134	79	55
TRBHU 30U-30U	1 7/8	1 7/8	50	55	146	87	59

Part No.	T (UMF)	D	h	H	L
US-07U	7/16	4.5	12	16	38.5
US-08U	1/2	5.5	14	16	42
US-12U	3/4	10	19	24	53
US-14U	7/8	12	22	27	57
US-17U	1 1/16	15.5	27	32	63
US-21U	1 5/16	21	35	38	71
US-26U	1 5/8	27.5	44	50	73.5
US-30U	1 7/8	33	50	55	83
US-40U	2 1/2	43	65	75	96

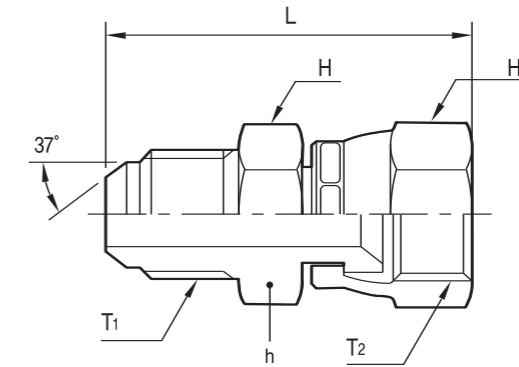


SWIVEL MALE CONNECTOR  
**SMT-G**



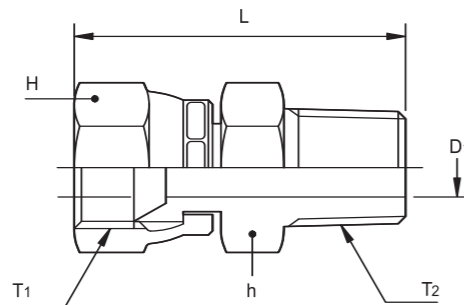
Part No.	T <sub>1</sub> (BSPP)	T <sub>2</sub> (BSPT)	D	D <sub>1</sub>	h	H	L
SMT 04R-04G	1/4	1/4	5.5	5.5	14	19	39
SMT 06R-06G	3/8	3/8	8	8	19	22	44
SMT 08R-08G	1/2	1/2	11.5	11.5	22	27	53
SMT 12R-12G	3/4	3/4	15.5	15.5	27	32	58
SMT 16R-16G	1	1	20	20	35	41	66
SMT 20R-20G	1 1/4	1 1/4	27	27	44	50	72
SMT 24R-24G	1 1/2	1 1/2	33	33	50	55	78
SMT 32R-32G	2	2	43	43	64	74	89

STRAIGHT NIPPLE, SWIVEL NUT TYPE  
**SNS**



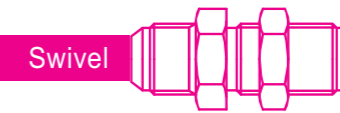
Part No.	T <sub>1</sub> (UNF)	T <sub>2</sub> (UNF)	h	H	L
SNS 07U-09U	7/16	9/16	14	19	42
SNS 07U-12U	7/16	3/4	19	22	46
SNS 07U-14U	7/16	7/8	22	27	51
SNS 07U-17U	7/16	1 1/16	27	32	55
SNS 08U-09U	1/2	9/16	14	19	43
SNS 08U-12U	1/2	3/4	19	22	46
SNS 09U-12U	9/16	3/4	19	22	48
SNS 09U-14U	9/16	7/8	22	27	51
SNS 09U-17U	9/16	1 1/16	27	32	55
SNS 12U-14U	3/4	7/8	22	27	52
SNS 12U-17U	3/4	1 1/16	27	32	56
SNS 14U-17U	7/8	1 1/16	27	32	58
SNS 17U-19U	1 1/16	1 3/16	30	35	65
SNS 17U-21U	1 1/16	1 5/16	35	38	65
SNS 17U-26U	1 1/16	1 5/8	43	50	67
SNS 19U-21U	1 3/16	1 5/16	35	38	68
SNS 19U-26U	1 3/16	1 5/8	43	50	70
SNS 21U-26U	1 5/16	1 5/8	43	50	70
SNS 26U-30U	1 5/8	1 7/8	50	55	78

SWIVEL MALE CONNECTOR  
**SMT-U**

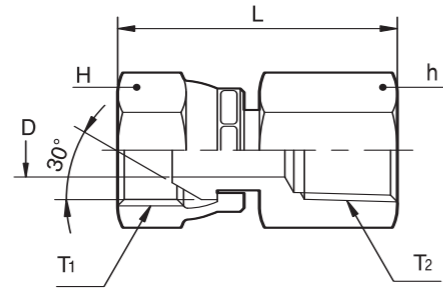


Part No.	T <sub>1</sub> (UNF)	T <sub>2</sub> (BSPT)	D	h	H	L
SMT 04R-08U	1/2	1/4	5.5	14	16	37
SMT 06R-12U	3/4	3/8	10	19	24	46
SMT 08R-14U	7/8	1/2	12	22	27	51.5
SMT 12R-17U	1 1/16	3/4	15.5	27	32	56
SMT 16R-21U	1 5/16	1	21	35	38	64.5
SMT 20R-26U	1 5/8	1 1/4	27.5	44	50	69.5
SMT 24R-30U	1 7/8	1 1/2	33	50	55	78.5



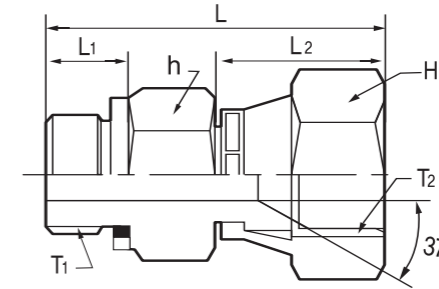


SWIVEL FEMALE CONNECTOR  
**SFT**

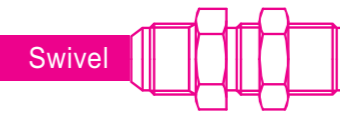


Part No.	T <sub>1</sub> (UNF)	T <sub>2</sub> (BSPT)	D	h	H	L
SFT 04R-08U	1/2	1/4	5.5	19	16	34.5
SFT 06R-12U	3/4	3/8	10	22	24	43.5
SFT 08R-14U	7/8	1/2	12	27	27	48
SFT 12R-17U	1 1/16	3/4	16	35	32	54
SFT 16R-21U	1 5/16	1	21	41	38	62
SFT 20R-26U	1 5/8	1 1/4	27	50	50	67.5
SFT 24R-30U	1 7/8	1 1/2	33	55	55	71.5
SFT 32R-40U	2 1/2	2	43	70	75	77

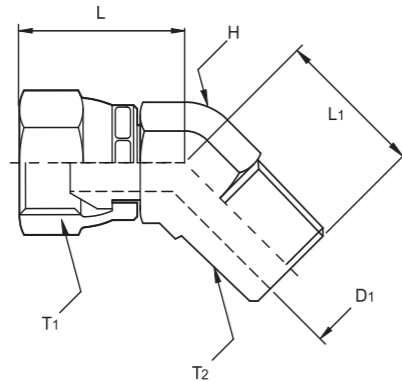
MALE ADAPTER ED SWIVEL  
**SAE**



Part No.	Threads		Dimensions mm				
	T <sub>1</sub> (BSPP)	T <sub>2</sub> (UNF)	h	H	L	L <sub>1</sub>	L <sub>2</sub>
SAE 02G-07U	1/8	7/16	14	16	32	8.5	17
SAE 02G-08U	1/8	1/2	14	16	33	8.5	18
SAE 04G-07U	1/4	7/16	19	16	37	12	17
SAE 04G-08U	1/4	1/2	19	16	38	12	18
SAE 04G-09U	1/4	9/16	19	19	39.5	12	19.5
SAE 04G-12U	1/4	3/4	19	24	43.5	12	23.5
SAE 06G-07U	3/8	7/16	22	16	37	12	17
SAE 06G-08U	3/8	1/2	22	16	38.5	12	18
SAE 06G-09U	3/8	9/16	22	19	40	12	19.5
SAE 06G-12U	3/8	3/4	22	24	43.5	12	23.3
SAE 06G-14U	3/8	7/8	22	27	46	12	25
SAE 08G-07U	1/2	7/16	27	16	41	14	17
SAE 08G-09U	1/2	9/16	27	19	43.5	14	20
SAE 08G-12U	1/2	3/4	27	24	47.5	14	23.5
SAE 08G-14U	1/2	7/8	27	27	49	14	25
SAE 08G-17U	1/2	1 1/16	27	32	51.5	14	27.5
SAE 12G-12U	3/4	3/4	32	22	53	16	23.5
SAE 12G-14U	3/4	7/8	32	27	54	16	25
SAE 12G-17U	3/4	1 1/16	32	32	55.5	16	27.5
SAE 12G-19U	3/4	1 3/16	32	32	55	16	27
SAE 12G-21U	3/4	1 5/16	35	38	54	16	31
SAE 16G-17U	1	1 1/16	41	32	58	18	27.5
SAE 16G-21U	1	1 5/16	41	38	61.5	18	31
SAE 16G-26U	1	1 5/8	43	50	64	18	32
SAE 20G-21U	1 1/4	1 5/16	50	38	66	20	35
SAE 20G-26U	1 1/4	1 5/8	50	50	67	20	32
SAE 20G-30U	1 1/4	1 7/8	50	55	70.5	20	35.5
SAE 24G-30U	1 1/2	1 7/8	55	55	74.5	22	35.5

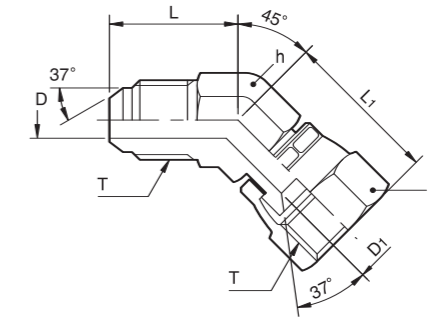


45°ELBOW SWIVEL NUT TYPE  
**SME45-G**



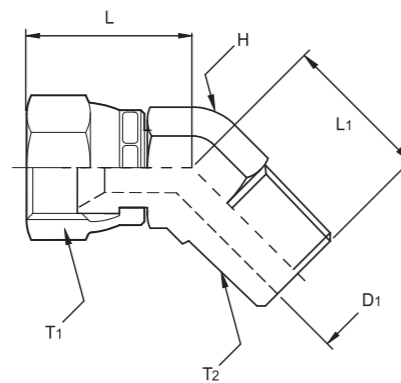
Part No.	T <sub>1</sub> (BSPP)	T <sub>2</sub> (BSPT)	D	D <sub>1</sub>	h	H	L	L <sub>1</sub>
SME 04R-04G	1/4	1/4	5.5	5.5	14	19	20.5	22
SME 06R-06G	3/8	3/8	8	9	19	22	26	26.5
SME 08R-08G	1/2	1/2	11.5	11.5	22	27	28	28
SME 12R-12G	3/4	3/4	15.5	15.5	27	32	31.5	36
SME 16R-16G	1	1	20	20	35	41	41	44.5
SME 20R-20G	1 1/4	1 1/4	27	27	44	50	47.5	50
SME 24R-24G	1 1/2	1 1/2	33	33	50	55	48	53.5
SME 32R-32G	2	2	43	43	65	75	58	59.5

45° ELBOW, SWIVEL NUT TYPE  
**EWS**



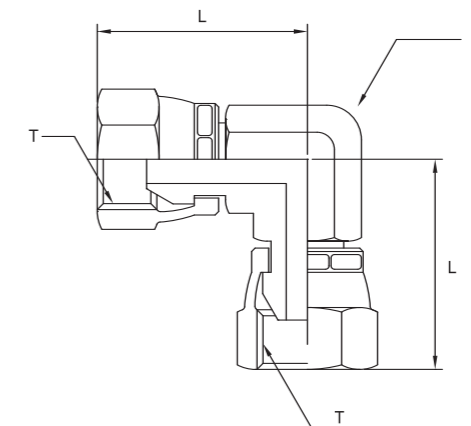
Part No.	T (UNF)	D	D <sub>1</sub>	h	H	L	L <sub>1</sub>
EWS-07U	7/16	4.5	4.5	14	16	22	24.5
EWS-08U	1/2	5.5	5.5	14	16	22	26.5
EWS-09U	9/16	7	7	14	19	22	28.5
EWS-12U	3/4	10	10	19	22	26	32
EWS-14U	7/8	12	12	22	27	30	37
EWS-17U	1 1/16	15.5	15.5	27	32	32.5	38.5
EWS-21U	1 5/16	21	21	35	38	40	45
EWS-26U	1 5/8	27.5	27.5	44	50	46	51.5
EWS-30U	1 7/8	33	33	50	55	49	57.5
EWS-40U	2 1/2	43	43	65	74	56.5	74

45°ELBOW SWIVEL NUT TYPE  
**SME45-U**

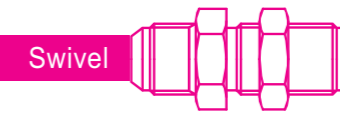


Part No.	T <sub>1</sub> (UNF)	T <sub>2</sub> (BSPT)	D	D <sub>1</sub>	h	H	L	L <sub>1</sub>
SME 04R-08U	1/2	1/4	5.5	5.5	14	16	20.5	26
SME 06R-12U	3/4	3/8	10	9	19	24	26	31
SME 08R-14U	7/8	1/2	12	11.5	22	27	28	36
SME 12R-17U	1 1/16	3/4	15.5	15.5	27	32	31.5	37
SME 16R-21U	1 5/16	1	21	20	35	38	41	40
SME 20R-26U	1 5/8	1 1/4	27.5	27.5	41	50	47.5	50
SME 24R-30U	1 7/8	1 1/2	33	33	50	55	48	56
SME 32R-40U	2 1/2	2	43	43	65	75	58	60

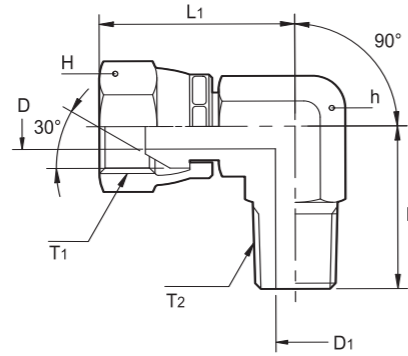
90° ELBOW UNION, SWIVEL NUT TYPE  
**EUS**



Part No.	T (BSPP)	h	H	L
EUS-04G	1/4	14	19	28
EUS-06G	3/8	19	22	31
EUS-08G	1/2	22	27	37
EUS-12G	3/4	27	32	45
EUS-16G	1	35	41	54
EUS-20G	1 1/4	41	50	59.5
EUS-24G	1 1/2	50	55	67

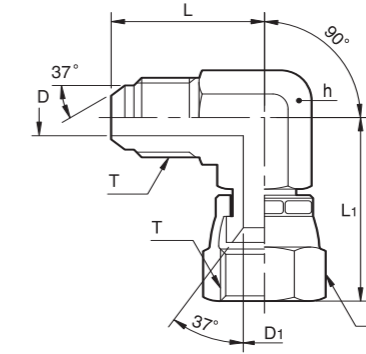


SWIVEL MALE ELBOW  
**SME-G**



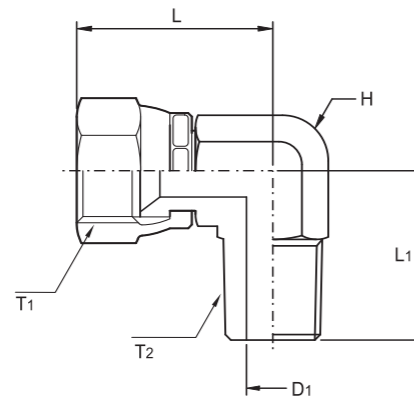
Part No.	T <sub>1</sub> (BSPP)	T <sub>2</sub> (BSPT)	D	D <sub>1</sub>	h	H	L	L <sub>1</sub>
SME 04R-04G	1/4	1/4	5.5	5.5	14	19	27	28
SME 06R-06G	3/8	3/8	8	8	19	22	31	31
SME 08R-08G	1/2	1/2	11.5	11.5	22	27	37	37
SME 12R-12G	3/4	3/4	15.5	15.5	27	32	42	45
SME 16R-16G	1	1	20	20	35	41	48	54
SME 20R-20G	1 1/4	1 1/4	26	26	41	50	57	62
SME 24R-24G	1 1/2	1 1/2	33	33	50	55	65	73
SME 32R-32G	2	2	43	43	65	74	75	86

90° ELBOW, SWIVEL NUT TYPE  
**ELS**



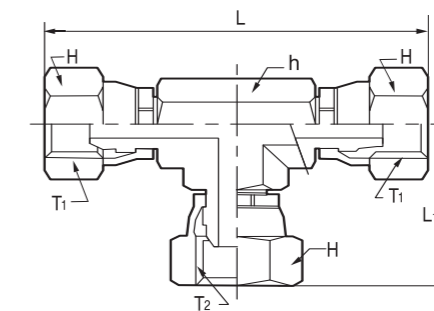
Part No.	T (UNF)	D	D <sub>1</sub>	h	H	L	L <sub>1</sub>
ELS-07U	7/16	4.5	4.5	14	16	24	26
ELS-08U	1/2	5.5	5.5	14	16	25	28
ELS-09U	9/16	7	7	14	19	27	31
ELS-12U	3/4	10	10	19	22	31.5	35.5
ELS-14U	7/8	12	12	22	27	36.5	42
ELS-17U	1 1/16	15.5	15.5	27	32	42	45.5
ELS-21U	1 5/16	21	21	35	38	46	51.5
ELS-26U	1 5/8	27.5	27.5	41	50	52	59
ELS-30U	1 7/8	33	33	50	55	59	67
ELS-40U	2 1/2	43	43	65	74	76	86

SWIVEL MALE ELBOW  
**SME-U**

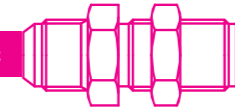


Part No.	T <sub>1</sub> (UNF)	T <sub>2</sub> (BSPT)	D	D <sub>1</sub>	h	H	L	L <sub>1</sub>
SME 04R-08U	1/2	1/4	5.5	5.5	14	16	25	27.5
SME 06R-12U	3/4	3/8	10	9	19	24	29	34.5
SME 08R-14U	7/8	1/2	12	11.5	22	27	34	39
SME 12R-17U	1 1/16	3/4	15.5	15.5	27	32	38	44
SME 16R-21U	1 5/16	1	21	20	35	38	45	51
SME 20R-26U	1 5/8	1 1/4	27.5	27.5	41	50	52	57.5
SME 24R-30U	1 7/8	1 1/2	33	33	50	55	59	65.5
SME 32R-40U	2 1/2	2	43	43	65	75	73	82

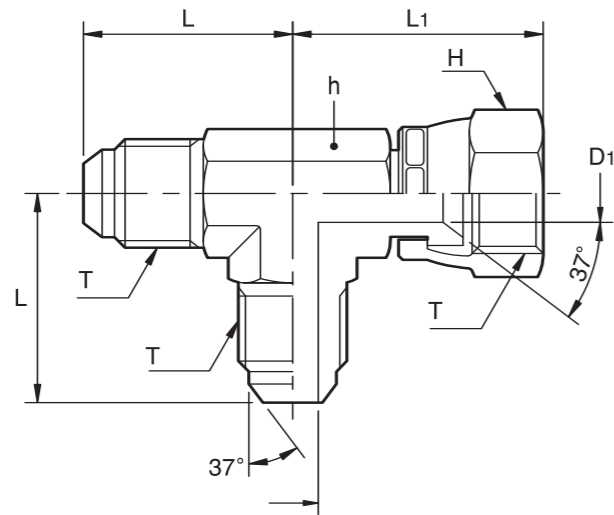
UNION SWIVEL TEE  
**STS**



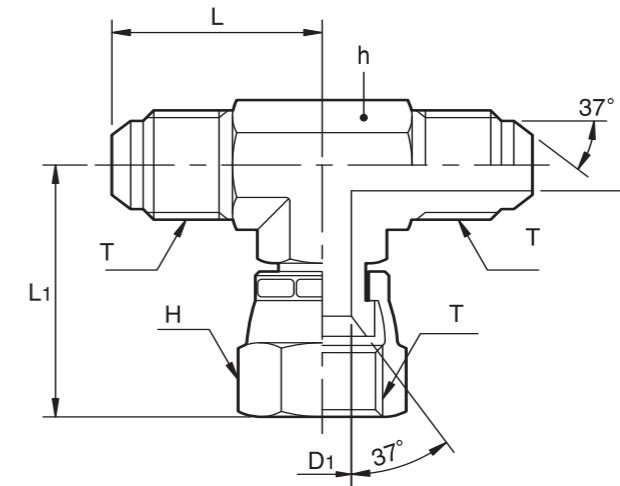
Part No.	Threads		Dimensions mm			
	T <sub>1</sub> (BSPP)	T <sub>2</sub> (BSPP)	h	H	L	L <sub>1</sub>
STS 04G-04G	1/4	1/4	14	19	56	28
STS 06G-06G	3/8	3/8	19	22	62	31
STS 08G-08G	1/2	1/2	22	27	74	37
STS 12G-12G	3/4	3/4	27	32	90	45
STS 16G-16G	1	1	35	41	108	54
STS 20G-20G	1 1/4	1 1/4	41	50	124	62
STS 24G-24G	1 1/2	1 1/2	50	55	146	73



RUN TEE, SWIVEL NUT TYPE  
**RTS**

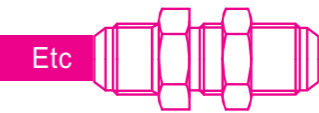


BRANCH TEE, SWIVEL NUT TYPE  
**BTS**

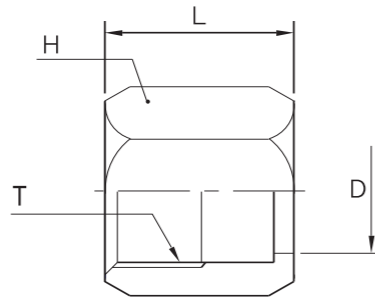


Part No.	T (UNF)	D	D <sub>1</sub>	h	H	L	L <sub>1</sub>
RTS-07U	7/16	4.5	4.5	14	16	24	26
RTS-08U	1/2	5.5	5.5	14	16	25	28
RTS-09U	9/16	7	7	14	19	27	31
RTS-12U	3/4	10	10	19	22	31.5	35.5
RTS-14U	7/8	12	12	22	27	36.5	42
RTS-17U	1 1/16	15.5	15.5	27	32	42	45.5
RTS-21U	1 5/16	21	21	35	38	46	51.5
RTS-26U	1 5/8	27.5	27.5	41	50	52	59
RTS-30U	1 7/8	33	33	50	55	59	67
RTS-40U	2 1/2	43	43	65	74	76	86

Part No.	T (UNF)	D	D <sub>1</sub>	h	H	L	L <sub>1</sub>
BTS-07U	7/16	4.5	4.5	14	16	24	26
BTS-08U	1/2	5.5	5.5	14	16	25	28
BTS-09U	9/16	7	7	14	19	27	31
BTS-12U	3/4	10	10	19	22	31.5	35.5
BTS-14U	7/8	12	12	22	27	36.5	42
BTS-17U	1 1/16	15.5	15.5	27	32	42	45.5
BTS-21U	1 5/16	21	21	35	38	46	51.5
BTS-26U	1 5/8	27.5	27.5	41	50	52	59
BTS-30U	1 7/8	33	33	50	55	59	67
BTS-40U	2 1/2	43	43	65	74	76	86

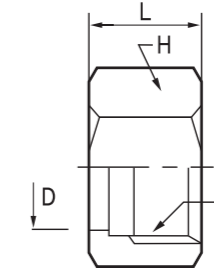


FLARE TUBE END NUT  
**FTEN**



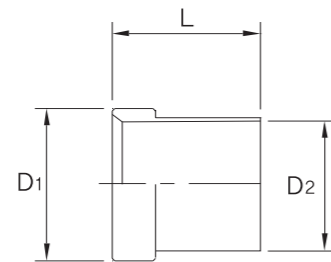
Part No.	Tube O.D D	T (UNF)	D	H	L
FTEN 06-07U	6	7/16	7.72	14	15.5
FTEN 08-08U	8	1/2	9.47	17	17
FTEN 10-09U	10	9/16	11.15	19	18.3
FTEN 12-12U	12	3/4	14.43	22	21.3
FTEN 16-14U	16	7/8	17.68	27	24.6
FTEN 20-17U	20	1 1/16	21.13	32	25.9
FTEN 25-21U	25	1 5/16	27.61	38	28.4
FTEN 32-26U	32	1 5/8	34.14	50	31
FTEN 38-30U	38	1 7/8	41.00	55	35.8
FTEN 50-40U	50	2 1/2	54.97	75	44.2

NUT ORFS  
**JN**



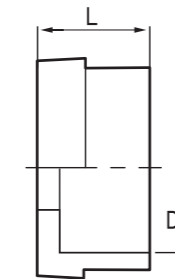
Part No.	O.D.PIPE mm	Threads	Dimensions mm	
	D	T (UNF)	L	H
JN 06-09J	6	9/16	14.5	17
JN 10-11J	10	11/16	17	22
JN 12-13J	12	13/16	21	24
JN 16-16J	16	1	23.5	30
JN 20-19J	20	1 3/16	26	36
JN 25-23J	25	1 7/16	27	41
JN 30-27J	30	1 11/16	28	50
JN 38-32J	38	2	28	60

FLARE TUBE END SLEEVE  
**FTES**



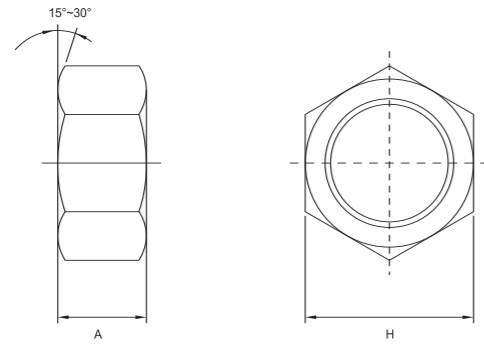
Part No.	Tube O.D D	D <sub>1</sub>	D <sub>2</sub>	L
FTES 06-07U	6	9.65	7.5	10.4
FTES 08-08U	8	11.25	9.25	11.2
FTES 10-09U	10	12.7	10.95	12.7
FTES 12-12U	12	17.25	14.25	14.2
FTES 16-14U	16	20.2	17.45	14.2
FTES 20-17U	20	24.6	20.95	17.3
FTES 25-21U	25	30.95	27.45	19.8
FTES 32-26U	32	38.9	33.95	23.1
FTES 38-30U	38	42.25	40.85	28.4
FTES 50-40U	50	61.1	54.75	30.2

SLEEVE ORFS  
**JS**



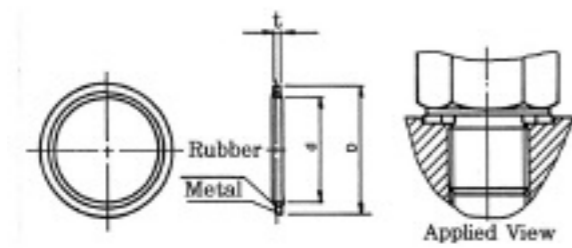
Part No.	O.D.PIPE mm	Dimensions mm
	D	L
JS 06-09J	6	9.5
JS 10-11J	10	9.5
JS 12-13J	12	9.5
JS 16-16J	16	10.5
JS 20-19J	20	14
JS 25-23J	25	15.5
JS 30-27J	30	15.5
JS 38-32J	35	15.5

LOCK NUT  
**LN**



Part No.	T (BSPP)	H	A
LN 02G	1/8	14	6
LN 04G	1/4	19	7
LN 06G	3/8	22	8
LN 08G	1/2	27	9.2
LN 12G	3/4	32	10
LN 16G	1	41	10
LN 20G	1 1/4	50	10
LN 24G	1 1/2	55	11
LN 32G	2	70	14

**BONDED SEAL**



Part No.	Male Thread	d	D	t
KP C-02G	PF 1/8	9.9	17	2
KP C-04G	PF 1/4	13.3	20.5	2
KP C-06G	PF 3/8	16.8	24	2
KP C-08G	PF 1/2	21.1	29	2
KP C-12G	PF 3/4	26.6	34.5	2
KP C-16G	PF 1	33.4	41.5	2.3
KP C-20G	PF 1 1/4	42.1	50.5	2.3
KP C-24G	PF 1 1/2	48.0	57	2.3
KP C-32G	PF 2	59.8	69	2.3