FLUID CONTROLS®

DIN CONNECTORS



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FLUID CONTROLS DIN CONNECTORS

Fluid Controls® DIN Connectors provide leak-proof torque-free corrosion-resistant joints for tubing connections. They eliminate hazardous leaks in Hydraulic, Instrumentation, Process, and Pneumatic systems which could otherwise turn out to be costly to the installation.



The Fluid Controls® DIN Connector is a three piece connector consisting of a Nut, Progressive Ring (ferrule) and Body. The progressive ring is case hardened by a **proprietary patented process** and the edge of the ferrule bites into the tube. This "biting" or "crimping" action is the heart of the connector and is a combination of geometry and metallurgy.

The Single or Twin cutting edge of the progressive ring has a sequential action which overcomes variations in the wall thickness and provides a leak-free joint which can withstand heavy impulse and vibration in pressure systems.

Fluid Controls® DIN Connectors are easy to install and require no special tools in the process. They are as re-usable, as joints can be re-made.













APPLICATIONS AND ADVANTAGES

Fluid Controls® DIN Connectors have a wide variety of applications and are widely used in hydraulics and pneumatic systems across industries.

Some advantages offered are:

- The connectors are versatile and available in a series of designs for various pressure rating (LL, L, and S). This ensures that the appropriate connector is used for the application requirement.
- DIN connectors offer a variety of connections points such as progressive rings, elastomer sealing or tube flaring connections. This provides flexibility each can be combined with the body to suit the application.
- The connection can be re-assembled many times which is beneficial for servicing and maintenance.

STANDARDS & CERTIFICATIONS

DIN Connectors are governed by both design and performance standards:

- Design Standard: ISO 8434-1 (which replaced DIN 2353), DIN 3861 and DIN 3859
- Performance Standard: ISO 19879 and ISO 8434-5

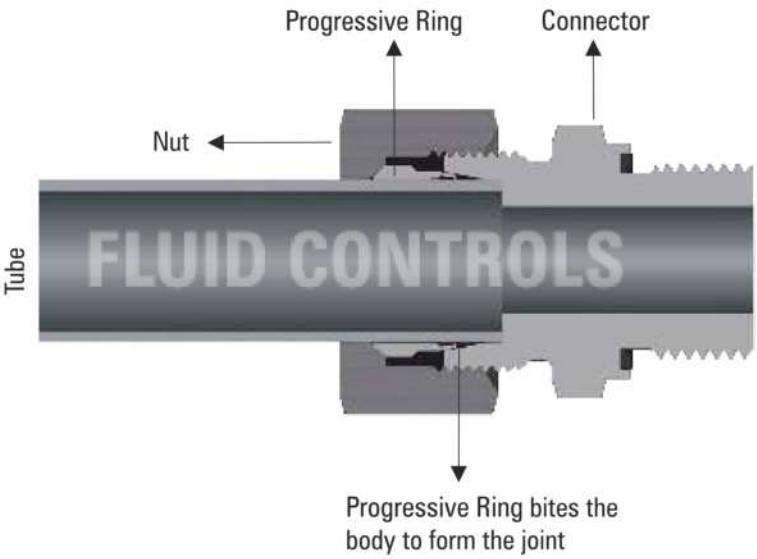
Fluid Controls DIN Connectors are certified to the following standards for both design and performance:

- Design Verification (DRIV) to ISO 8434-1 by TUV Performance Type Test Certification to ISO 19879 for carbon steel and stainless steel connectors by DNV and TUV
- Pull Out Test to IACS P211:2011
- Salt Mist Test Performance to ISO 9227
- Vibration Test to IEC 61373

WORKING MECHANISM OF DIN CONNECTORS

Fluid Controls® DIN Connectors have a body, progressive ring and nut. The progressive ring design can be with a single or double cutting edge which is specially designed and is a combination of metallurgy and geometry.

During installation, as the nut rotates, it starts pushing the progressive ring onto the tube which in turn starts "biting" into the tube periphery. The biting action provides sealing for high pressure and vibration performance and provides a leak-free fluid connection.



A single ferrule bites into the tube to create a joint ("bite type connector"). The cutting edge of the progressive ring is case hardened by a proprietary patented process and the edge bites into the tube during installation. This "biting" or "crimping" action is the heart of the connector and is a combination of geometry and metallurgy.

Fluid Controls® DIN Progressive Rings are available in two options:

- **Single Bite (SB)**
  Progressive rings for use across applications



- **Double Bite (DB)**
  Progressive rings can be used for higher pressures and high vibration environments



TECHNICAL OVERVIEW

DESIGN STANDARDS

Tube connection side	: DIN 3861 and ISO 8434-1
Male studs and port tapping's for Metric and BSP thread	: DIN 3852, parts 1 and 2
NPT thread	: ANSI/ASME B1.20.1-1983
UN/UNF thread	: SAE J514/SAE J1926
Metric thread with O-ring seal	: ISO 6149 and DIN 3852, part 3
Swivel nuts and weld connector	: DIN 3865
Technical terms for tube connector	: As per DIN 3859

PROGRESSIVE RING (FERRULE) DESIGN

The design of the progressive ring provides a leak free connection. The basic function of ring is to bite the tube to form a rigid joint. The leading edge of the progressive ring is case hardened by a proprietary patented process.

THREADS & PORTS

LIGHT DUTY (L)										
Tube OF	**6**	**8**	**10**	**12**	**15**	**18**	**22**	**28**	**35**	**42**
BSP/NPT/ BSPT Metric	1/8" M10x1	1/4" M12x1.5	1/4" M14x1.5	3/8", 1/4" M16x1.5	1/2" M18x1.5	1/2" M22x1.5	3/4" M26x1.5	1" M33x2	1 1/2", M42x2	1 1/2" M48x2

HEAVY DUTY (S)										
Tube OF	**6**	**8**	**10**	**12**	**14**	**16**	**20**	**25**	**30**	**38**
BSP/NPT/ BSPT Metric	1/4" M12x1.5	1/4" M14x1.5	3/8", 1/4" M16x1.5	3/8" M18x1.5	1/2" M20x1.5	1/2" M22x1.5	3/4" M27x1.5	1" M33x2	1 1/2" M42x2	1 1/2" M48x2

SIZES AND PRESSURE RATINGS

Series	Carbon Steel / Brass*		(1.4571) SS316	
	Size (mm)	Pressure	Size (mm)	Pressure
LL	4-8	100 Bar	4-8	100 Bar
L	6-18	315 Bar	6-15	250 Bar
	-	-	18-22	160 Bar
	22-42	160 Bar	28-42	100 Bar
S	6-14	630 Bar	6-14	630 Bar
	16-30	400 Bar	16-25	400 Bar
	32-38	315 Bar	30-38	315 Bar

- Pressure Range for Brass would be 30% less than carbon Steel
- The Nominal Working (NP) pressures indicated are as in accordance with DIN 2401, Part 1

OPERATING TEMPERATURE

Permissible operating temperature range for connector material:

Steel : -40°C to +120°C (-40°F to +250°F) DIN 3859
Brass : -60°C to +175°C (-75°F to +350°F)
Stainless Steel : -60°C to +400°C (-75°F to +750°F) DIN 17440, AD W10

SEALING MATERIAL

For sealing materials, specification in the "Pressure reduction" section of DIN 8434 are followed:

NBR : -35°C to 100°C (-30°F to +212°F)
FPM : -25°C to +200°C (-15°F to +400°F)
PTFE : -60°C to +200°C (-75°F to +400°F) for banjo connector
POM : -40°C to +80°C (-40°F to 175°F) for ball valves

TUBE SELECTION

Proper selection, handling, installation of tubing when combined with the proportion of the Fluid Controls® DIN Connectors is essential for a reliable tubing system. Fluid Controls® will be happy to assist in the selection of tubing.

Tube selection criteria are material, hardness, wall thickness and surface finish. The ASTM specifications for tubes cover material, hardness and wall thickness but do not give details on the surface finish. Fluid Controls recommends that the surface finish of the tubes be smooth and free from any scratches (axial or circumferential) which will allow leakage paths along the joints.

The recommended specifications for tubing to be used with Fluid Controls® DIN Connectors are outlined below:

Tube Material	Material No.	Applicable Standard	Tolerance/ Wall Thickness
Carbon Steel	1.0255,1.0580	DIN2391/DIN1630	DIN 2391-1-C
Stainless Steel	1.4571, 1.4541	DIN2391/ DIN17458-M	DIN 2391-1

Tube hardness recommendation:

- Steel connectors : Max. hardness HRB 75
- Stainless Steel connectors : Max. hardness HRB 90

ASSEMBLY

Fluid Controls® DIN Connectors come to you completely assembled in finger-tight condition. The connectors are installed in three easy steps and guidelines are as per DIN3859-2.

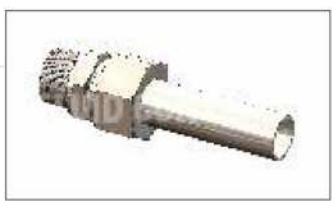
TUBE PREPARATION

- Tube to be deburred & cut perpendicularly.
- The minimum distance to be maintained between 2 nuts is 2.5x to 3x the nut total length. Between a bend and a nut, the distance is 2x the total nut length.



MANUAL ASSEMBLY

Step 1



Lubricate the internal nut threads and body external threads. Insert the tubing into the Fluid Controls® DIN Connector. Make sure that the tubing rests firmly on the shoulders of the connector and that the nut is snug tight. In this position the tube does not rotate by hand.

If a pre-set tool (PST) is to be used, hold the PST in the vice & insert the tubing into PST. Make sure that the tubing rests firmly on the shoulders of the PST and that the nut is snug tight. In this position the tube does not rotate by hand.



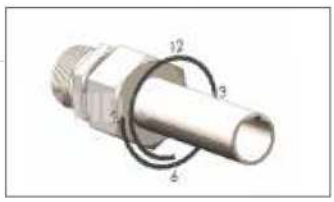
Step 2

Before tightening the Fluid Controls® nut, scribe the nut at the 6.00 o'clock position.



Step 3

Now while holding the connector body steady with a backup wrench, tighten the nut. The DIN SB/DB progressive ring will bite the circumference of tube and form Metal to Metal joint.



Step 4

For final assembly, screw the tube end back together with the connector body. Tighten the nut with a spanner until there is a clear increase in resistance. Mark the position of the nut so future turns can be controlled. Tighten the nut 1/4 turn, over the point of force feeling.

ASSEMBLY BY CRIMPING MACHINE

Fluid Controls® DIN Connector assembly can be performed by a manual or electrical crimping machine. When using a crimping machine, the Fluid Controls Connector needs to be validated against the pressure table provided by the manufacturer of the crimping machine. The validation should also cover the pressure setting for corresponding tube diameters, material, and types of the progressive ring "D/DPR/B4". The cone must be also be burr-free and smooth.

Fluid Controls® Progressive Rings have a unique design and work with crimping machines of leading manufacturers. To ensure synergy, Fluid Controls® provides customized dies to ensure flawless assembly.

Step-1

Cut the correct length of the tube perpendicularly and slip the cutting ring with the nut into the correct position. Spray the progressive ring, the tube, and the assembly tool with lubricant. Choose the appropriate die and observe the pressure setting. Press the tube end firmly into the assembly cone until it rests on the bottom surface. Hold the tube firmly and press the "START" button.

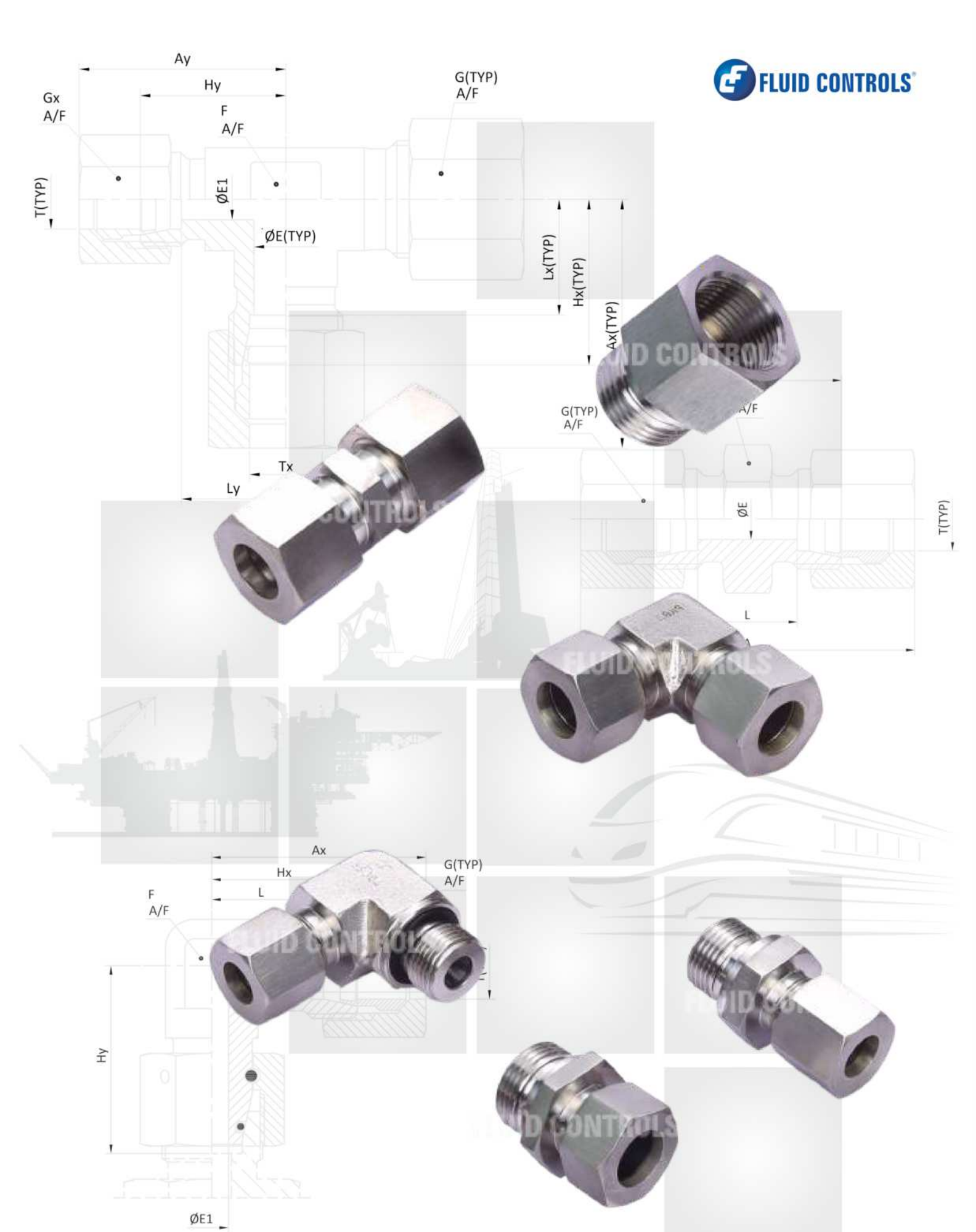
Step-2

For final assembly, screw the tube end back together with the connector body. Tighten the nut with a spanner till the recommended torque is achieved.

USE OF REINFORCEMENT SLEEVES

For low working pressures, thin-walled tubes are often used which have lower material strength and wall thickness. These tubes are unable to withstand the radial force of the cutting ring generated during assembly. To overcome these, thin-walled or soft metal tube reinforcing sleeves need to be used. Please contact Fluid Controls for more details of tube inserts..




Ay
Hy
Gx
A/F
F
A/F
T(TYP)
ØE1
ØE(TYP)
G(TYP)
A/F
Lx(TYP)
Hx(TYP)
Ax(TYP)
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F
A/F
Hy
ØE1

FLUID CONTROLS

ORDERING CODES

I - II - III - IV - V

XX-XX - XXX-XXX - XXX-XXX - X - XX

I

PART FAMILY DESIGNATOR		PRESSURE CLASS DESIGNATOR	
XX		XX	
DETAILS	FCPL PART FAMILY	SERIES PRESSURE CLASS	
S	SINGLE BITE TYPE FERRULE	LL	Extra Light Duty
D	DOUBLE BITE TYPE FERRULE	L	Light Duty
N	BITE TYPE NUT	S	Heavy Duty
EF	ELASTOMERIC FERRULE	(Blank)	No class
C	CONNECTOR		
E	ELBOW		
E4	45 DEGREE ELBOW		
BC	BORE THROUGH CONNECTOR		
CT	BORE THROUGH BULKHEAD		
UT	UNION TEE		
BT	BRANCH TEE		
RT	RUN TEE		
K	CROSS		
CM	MALE CONNECTOR		
CB	BULKHEAD CONNECTOR		
EB	BULKHEAD ELBOW		
CG	ROUND CONNECTOR		
WC	WELD ON STRAIGHT CONNECTOR		
FC	FITTING END CLOSURE		
AE	ASSEMBLED ELBOW		
AR	ASSEMBLED RUN TEE		
AB	ASSEMBLED BRANCH TEE		
CF	FEMALE CONNECTOR		
A	ADAPTER		
FM	FEMALE MANOMETER		
CP	CLOSURE PLUG		
TC	TUBE END CLOSURE		
SP	STAND PIPE		
BE	BANJO ELBOW		
TB	BANJO TEE		
RS	REINFORCING SLEEVE		
CW	COPPER WASHER		
BS	BONDED SEAL		
ED	ED-SEAL		
RB	REDUCING BUSHING		
CH	CHECKNUT		
TI	TUBE INSERT		
PT	POSITIONABLE TEE		
BM	BULKHEAD MALE CONNECTOR		
PE	POSITIONABLE ELBOW		
MT	MISCELLANEOUS TEE		
VP	VENT PROTECTOR		
PC	PORT CONNECTOR		

II

END CONNECTIONS	
XXX	
DETAILS	END CONFECTIONS
A	SINGLE BITE TYPE FERRULE
DB	DOUBLE BITE TYPE FERRULE
C	MALE NPT AS PER ANSI B 1.20.1
D	FEMALE NPT AS PER ANSI B 1.20.1
E	MALE BSPT AS PER BS 20.1 / ISO 7-1
F	FEMALE BSPT AS PER BS 20.1 / ISO 7-1
G	FEMALE BSPP PORT ENDS, AS PER ISO 1179-1
H	MALE BSPP STUD ENDS, WITH ELASTOMERIC SEAL AS PER ISO 1179-2
I	MALE BSPP POSITIONABLE STUD ENDS, AS PER ISO 1179-3
J	MALE BSPP STUD ENDS, METAL TO METAL SEAL AS PER ISO 1179-4
K	MALE BSPP STUD ENDS, AS PER DIN 3852
L	FEMALE METRIC PORT ENDS, AS PER ISO 9974-1
M	MALE METRIC STUD ENDS, WITH ELASTOMERIC SEAL AS PER ISO 9974-2
N	MALE METRIC STUD ENDS, METAL TO METAL SEAL AS PER ISO 9974-3
O	METRIC MALE STUD ENDS, WITH O RING ON GROOVE AS PER ISO 6149-3
P	FEMALE SAE PORT ENDS, AS PER ISO 11926-1
Q	MALE SAE POSITIONABLE STUD ENDS, AS PER ISO 11926-2 (S SERIES)
R	JIC 37° FLARE, AS PER SAE J 514
S	JIC FEMALE SWIVEL, AS PER SAE J 514
V	DKO/SWIVEL END AS PER 8434-1
W	STAND PIPE - WITH NUT & FERRULE
Y	FEMALE BSPP PORT ENDS, FOR MANOMETER
Z	TUBE STUB OD
A1	ELASTOMERIC FERRULE
A2	FEMALE BSPP PORT ENDS, AS PER DIN 3852
A3	MALE BSPP STUD ENDS, WITH ED-SEAL & O-RING AS PER ISO 1179-3
A4	MALE STUD ENDS, WITH O-RING (S SERIES) AS PER ISO 11926-2
A5	MALE STUD ENDS, WITH O-RING (L SERIES) AS PER ISO 11926-3
A6	MALE BSPP STUD ENDS, AS PER DIN 3852
A7	MALE SAE POSITIONAL STUD ENDS, AS PER ISO 11926-3 (L SERIES)
A8	METRIC MALE STUD ENDS, AS PER FCPL
A9	BSPP MALE STUD ENDS, AS PER FCPL
A10	60° WELD ON END CONNECTION AS PER ISO 8434-1
A11	COMPRESSION TYPE TUBE END
A12	60° HOSE BSPP STUD END AS PER ISO 8434-6
A13	FLANGED SLEEVE OLIVE END AS PER SAE J246 (NTA)
A14	O-RING FACE SEAL AS PER SAE J1453
A15	SAE O-RING BOSS, AS PER SAE J1453
A16	MALE NPTF AS PER SAE J476
A17	FEMALE NPTF AS PER SAE J476
A18	ISO 6149-2, S SERIES POSITIONABLE END
A19	ISO 6149-3, L SERIES POSITIONABLE END
A25	DIN 3852-2, MALE BSP TAPER TYPE C
A26	DIN 3852-1, MALE METRIC TAPER TYPE C
A27	DKO WITH MALE CONNECTOR ED-SEAL METRIC MALE
A28	DKO WITH MALE CONNECTOR ED-SEAL BSPP MALE
A29	DKO WITH MALE CONNECTOR METAL TO METAL METRIC MALE
A30	DKO WITH MALE CONNECTOR METAL TO METAL BSPP MALE
A31	STANDPIPE WITH MALE CONNECTOR ED-SEAL METRIC MALE
A32	STANDPIPE WITH MALE CONNECTOR ED-SEAL BSPP MALE
A33	STANDPIPE WITH MALE CONNECTOR METAL TO METAL METRIC MALE
A34	STANDPIPE WITH MALE CONNECTOR METAL TO METAL BSPP MALE

III

SIZE

XXX

DETAILS	METRIC TUBE OD SIZE
4M	04
5M	05
6M	06
8M	08
10M	10
12M	12
15M	15
16M	16
18M	18
20M	20
22M	22
25M	25
28M	28
30M	30
35M	35
38M	38
42M	42

DETAILS	FRACTIONAL TUBE OD SIZE/ THREADING
01	1/16
02	1/8
03	3/16
04	1/4
05	5/16
06	3/8
08	1/2
10	5/8
12	3/4
14	7/8
16	1
18	1-1/8
20	1-1/4
24	1-1/2
32	2

DETAILS	METRIC / UN THREADING
M1	M10x1
M2	M10x1.5
M3	M10x2
M4	M12x1
M5	M12x1.5
M6	M12x2
M7	M14x1.5
M8	M14x2
M9	M16x1.5
M10	M16x2
M11	M18x1.5
M12	M18x2
M13	M20x1.5
M14	M20x2
M15	M22x1.5
M16	M22x2
M17	M26x1.5
M18	M26x2
M19	M27x1.5
M20	M27x2
M21	M30x1.5
M22	M30x2
M23	M33x1.5
M24	M33x2
M25	M37x1.5
M26	M37x2
M27	M42x2
M28	M48x2
M29	M50x2
U1	3/8-24
U2	7/16-20
U3	1/2-20
U4	9/16-18
U5	3/4-16
U6	7/8-14
U7	1-1/16-12
U8	1-3/16-12
U9	1-5/16-12
U10	1-5/8-12
U11	1-7/8-12

IV

FITTING MATERIAL

X

DETAILS	MATERIALS
1	STAINLESS STEEL
2	STEEL Cr6-free
3	BRASS
4	STEEL, BLACK PHOSPHATED

V

ASSEMBLY DESIGNATOR

XX

DETAILS	DESCRIPTION
(Blank)	COMPLETE ASSEMBLY
B	ONLY BODY
BA	BODY WITH ACCESSORIES
SP	SPARE



SEQUENCE OF NOMENCLATURE

PARTCODE BUILD UP FOR ORDERING:

ASSEMBLES

ORDER CODE DESCRIPTION

CM-L-A-H-10M-8-1 MALE CONNECTOR 10 MM OD x 1/2" MALE BSPP, L SERIES WITH ED-SEAL IN STAINLESS STEEL

CM-S-A-H-10M-8-1 MALE CONNECTOR 10 MM OD x 1/2" MALE BSPP, S SERIES WITH ED-SEAL IN STAINLESS STEEL

ONLY BODIES:

CM-L-A-H-10M-8-1-B MALE CONNECTOR BODY 10 MM OD x 1/2" MALE BSPP, L SERIES IN STAINLESS STEEL

BODIES WITH ACCESSORIES :

CM-S-A-H-10M-8-1-BA MALE CONNECTOR BODY 10 MM OD x 1/2" MALE BSPP, S SERIES WITH ACCESSORIES IN STAINLESS STEEL

STANDARD SEAL MATERIAL

MATERIAL	SUFFIX SURFACE AND MATERIAL	MATERIAL EXAMPLE	SEAL
STAINLESS STEEL	1	CM-L-A-H-10M-8-1	VIT
STEEL Cr6-free	2	CM-L-A-H-10M-8-2	NBR
BRASS	3	CM-L-A-H-10M-8-3	NBR

NOTE :-

IF REQUIRED, ALTERNATIVE SEALING MATERIAL TO BE MENTIONED

FLUID CONTROLS

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TUBE TO TUBE - Equal and Reducing Union

• Union 24° Cone Ends	18
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• Equal Elbow 24° Cone Ends	20
• Equal Tee 24° Cone Ends	21
• Reducing Branch Tee 24° Cone Ends	22
• Reducing Run Tee 24° Cone Ends	23
• Union Cross 24° Cone Ends	24
• Bulkhead Union 24° Cone Ends	25
• Bulkhead Elbow 24° Cone Ends	26

TUBE TO TUBE / THREADS - Swivel Connector

• Swivel Union 24° DKO Swivel Ends	27
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• Reducing Swivel Connector 24° Cone x 24° DKO Swivel	29
• Swivel Reducer 24° DKO Swivel Ends	31
• Swivel 45° Elbow 24° Cone x 24° DKO Swivel	32
• Swivel Elbow 24° Cone x 24° DKO Swivel	33
• Swivel Branch Tee 24° Cone x 24° DKO Swivel	34
• Swivel Run Tee 24° Cone x 24° DKO Swivel	35
• Standpipe Elbow 24° Cone	36
• Standpipe Branch Tee 24° Cone	37
• Standpipe Run Tee 24° Cone	38

TUBE TO THREADS MALE CONNECTOR - Straight

• O Seal Male Connector 24° Cone x Metric Thread With O Ring	39
• Male Connector 24° Cone x Metric Thread, With Elastomeric Seal	40
• Male Connector 24° Cone x BSPP Thread, With Elastomeric Seal	41
• Male Connector 24° Cone x BSPP Thread, With Metal to Metal Sealing	43
• Male Connector 24° Cone x BSPT Thread	45
• Male Connector 24° Cone x Metric Thread, With Metal to Metal Sealing	46
• Male Connector 24° Cone x NPT Thread	47

TUBE TO THREADS - Swivel Male Connector

• Swivel Male Connector 24° DKO Swivel x BSPP Thread, With Elastomeric Sealing	49
• Swivel Male Connector 24° DKO Swivel x Metric Thread, With Elastomeric Sealing	50

ASSEMBLED ADJUSTABLE SWIVEL

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ASSEMBLED ADJUSTABLE STANDPIPE

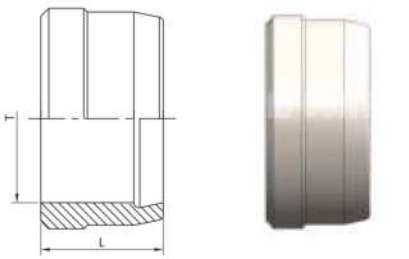
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• Assembled Adjustable Standpipe Branch Tee 24° Cone x Metric Thread Metal to Metal Sealing	59
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• Assembled Adjustable Standpipe Run Tee 24° Cone x Metric Thread Metal to Metal Sealing	61
• Assembled Adjustable Standpipe Run Tee 24° Cone x BSPP Thread Metal to Metal Sealing	62
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MALE CONNECTOR – Angle

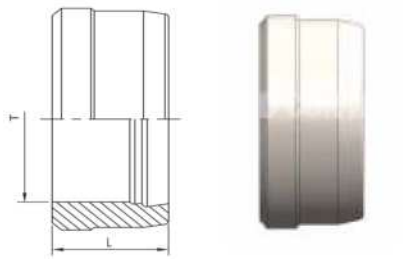
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• Female Connector 24° Cone x Metric Thread	70
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• Blanking Plug Metric Thread with ED Seal	77
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SB – Single Bite Ferrule
(Single Cutting Edge)



DB – Double Bite Ferrule
(Double Cutting Edge)

SINGLE BITE PROGRESSIVE RING

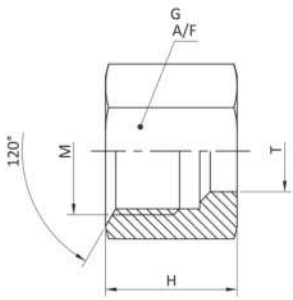
SERIES	FC PART NUMBER	T TUBE OD (MM)	L
LL	S-LL-4M	4	6
	S-LL-5M	5	7
	S-LL-6M	6	7
	S-LL-8M	8	7
L	S-L-6M	6	9
	S-L-8M	8	9
	S-L-10M	10	10
	S-L-12M	12	10
	S-L-15M	15	1
	S-L-18M	18	10
	S-L-22M	22	10.5
	S-L-28M	28	10.5
	S-L-35M	35	13
	S-L-42M	42	13.5
S	S-S-6M	6	9.0
	S-S-8M	8	9.0
	S-S-10M	10	10
	S-S-12M	12	10
	S-S-16M	16	10.5
	S-S-20M	20	12.5
	S-S-25M	25	12.5
	S-S-30M	30	13.0
	S-S-38M	38	13.5

SERIES	BRASS	SS	CS
Extra Light Duty (LL)	SB	SB	DB
Light Duty (L)	SB	SB	DB
Heavy Duty (S)	SB	SB	DB

DOUBLE BITE PROGRESSIVE RING

SERIES	FC PART NUMBER	T TUBE OD (MM)	L
LL	D-LL-4M	4	6
	D-LL-5M	5	7
	D-LL-6M	6	7
	D-LL-8M	8	7
L	D-L-6M	6	9.5
	D-L-8M	8	9.5
	D-L-10M	10	10
	D-L-12M	12	10
	D-L-15M	15	10
	D-L-18M	18	10
	D-L-22M	22	10.5
	D-L-28M	28	10.5
	D-L-35M	35	13
	D-L-42M	42	13
S	D-S-6M	6	9.5
	D-S-8M	8	9.5
	D-S-10M	10	10
	D-S-12M	12	10
	D-S-16M	16	10
	D-S-20M	20	13.0
	D-S-25M	25	13
	D-S-30M	30	13
	D-S-38M	38	13

SERIES	BRASS	SS	CS
Extra Light Duty (LL)	SB	SB	DB
Light Duty (L)	SB	SB	DB
Heavy Duty (S)	SB	SB	DB

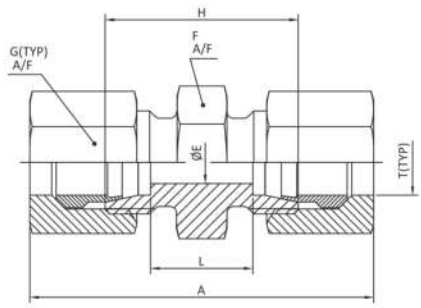




NUT 24° CONE

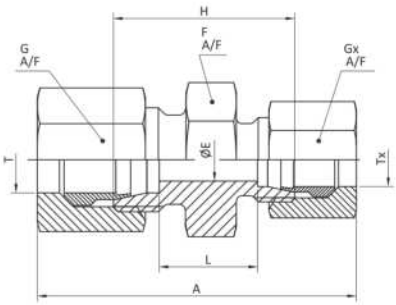
SERIES	FC PART NUMBER	T TUBE OD IN MM	M	H	G A/F
LL	N-LL-4M	4	M8x1	11.5	10
	N-LL-5M	5	M10x1	12	12
	N-LL-6M	6	M10x1	12	12
	N-LL-8M	8	M12x1	12.5	14
L	N-L-6M	6	M12x1.5	15	14
	N-L-8M	8	M14x1.5	15	17
	N-L-10M	10	M16x1.5	16	19
	N-L-12M	12	M18x1.5	16	22
	N-L-15M	15	M22x1.5	17.5	27
	N-L-18M	18	M26x1.5	18.5	32
	N-L-22M	22	M30x2	20.5	36
	N-L-28M	28	M36x2	21.5	41
	N-L-35M	35	M45x2	24.5	50
	N-L-42M	42	M52x2	24.5	60
S	N-S-6M	6	M14x1.5	17	17
	N-S-8M	8	M16x1.5	17	19
	N-S-10M	10	M18x1.5	18	22
	N-S-12M	12	M20x1.5	18	24
	N-S-16M	16	M24x1.5	21	30
	N-S-20M	20	M30x2	24.5	36
	N-S-25M	25	M36x2	27.5	46
	N-S-30M	30	M42x2	29.5	50
	N-S-38M	38	M52x2	33	60





UNION 24° CONE ENDS

SERIES	FC PART NUMBER	T TUBE OD IN (MM)	A	ØE	L	H	F A/F	G A/F
LL	C-LL-A-A-4M-4M	4	33	3	12	20	9	10
	C-LL-A-A-5M-5M	5	33	3.5	9	20	11	12
	C-LL-A-A-6M-6M	6	33	4.5	9	20	11	12
	C-LL-A-A-8M-8M	8	36	6	12	23	12	14
L	C-L-A-A-6M-6M	6	39	4	10	24	12	14
	C-L-A-A-8M-8M	8	41	6	11	25	14	17
	C-L-A-A-10M-10M	10	43	8	13	27	17	19
	C-L-A-A-12M-12M	12	43	10	14	28	19	22
	C-L-A-A-15M-15M	15	47	12	16	30	24	27
	C-L-A-A-18M-18M	18	49	15	16	31	27	32
	C-L-A-A-22M-22M	22	53	19	20	35	32	36
	C-L-A-A-28M-28M	28	54	24	21	36	41	41
	C-L-A-A-35M-35M	35	63	30	20	41	46	50
	C-L-A-A-42M-42M	42	67	36	21	43	55	60
S	C-S-A-A-6M-6M	6	46	4	16	30	14	17
	C-S-A-A-8M-8M	8	48	5	18	32	17	19
	C-S-A-A-10M-10M	10	49	7	17	32	19	22
	C-S-A-A-12M-12M	12	51	8	19	34	22	24
	C-S-A-A-16M-16M	16	58	12	21	38	27	30
	C-S-A-A-20M-20M	20	66	16	23	44	32	36
	C-S-A-A-25M-25M	25	74	20	26	50	41	46
	C-S-A-A-30M-30M	30	80	25	27	54	46	50
	C-S-A-A-38M-38M	38	91	32	29	61	55	60

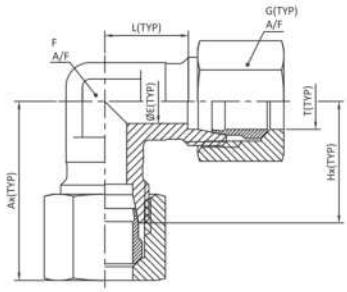




REDUCING UNION 24° CONE ENDS

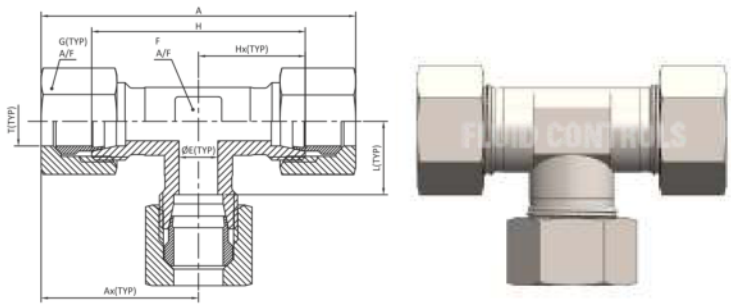
SERIES	FC PART NUMBER	T TUBE OD IN MM	Tx TUBE OD IN MM	ØE	F A/F	G A/F	Gx A/F	H	A	L
LL	C-LL-A-A-6M-4M	6	4	3	11	12	10	20	33	10.5
	C-LL-A-A-8M-4M	8	4	3	12	14	10	22	35	12.5
	C-LL-A-A-8M-6M	8	6	4.5	12	14	12	22	35	11
L	C-L-A-A-8M-6M	8	6	4	14	17	14	25	40.5	11
	C-L-A-A-10M-6M	10	6	4	17	19	14	26	41.5	12
	C-L-A-A-10M-8M	10	8	6	17	19	17	26	42	12
	C-L-A-A-12M-6M	12	6	4	19	22	14	27	42	13
	C-L-A-A-12M-8M	12	8	6	19	22	17	27	42.5	13
	C-L-A-A-12M-10M	12	10	8	19	22	19	28	43.5	14
	C-L-A-A-15M-6M	15	6	4	24	27	14	29	45	15
	C-L-A-A-15M-8M	15	8	6	24	27	17	29	45.5	15
	C-L-A-A-15M-10M	15	10	8	19	27	19	29	45.5	15
	C-L-A-A-15M-12M	15	12	10	24	27	22	29	45	15
	C-L-A-A-18M-8M	18	8	6	27	32	17	29	46	14.5
	C-L-A-A-18M-10M	18	10	8	27	32	19	30	47	15.5
	C-L-A-A-18M-12M	18	12	10	27	32	22	30	46.5	15.5
	C-L-A-A-18M-15M	18	15	12	27	32	27	31	48.5	16.5
	C-L-A-A-22M-12M	22	12	10	32	36	22	32	48.5	17.5
	C-L-A-A-22M-15M	22	15	12	32	36	27	33	50.5	18.5
	C-L-A-A-22M-18M	22	18	15	32	36	32	33	51	18
	C-L-A-A-28M-10M	28	10	8	41	41	19	33	50	18.5
	C-L-A-A-28M-15M	28	15	12	41	41	27	34	51.5	19.5
	C-L-A-A-28M-18M	28	18	15	41	41	32	34	52	19
	C-L-A-A-28M-22M	28	22	19	41	41	36	36	54	21
	C-L-A-A-35M-22M	35	22	19	46	50	36	39	59	21
	C-L-A-A-35M-28M	35	28	24	46	50	41	39	59	21
S	C-S-A-A-8M-6M	8	6	4	17	19	17	32	48	18
	C-S-A-A-10M-6M	10	6	4	19	22	17	32	48.5	17.5
	C-S-A-A-10M-8M	10	8	5	19	22	19	32	48.5	17.5
	C-S-A-A-12M-6M	12	6	4	22	24	17	34	50.5	19.5
	C-S-A-A-12M-8M	12	8	5	22	24	19	34	50.5	19.5
	C-S-A-A-12M-10M	12	10	7	22	24	22	34	51	19
	C-S-A-A-16M-10M	16	10	7	27	30	22	36	54.5	20
	C-S-A-A-16M-12M	16	12	8	27	30	24	36	54.5	20
	C-S-A-A-20M-10M	20	10	7	32	36	22	40	59.5	22
	C-S-A-A-20M-12M	20	12	8	32	36	24	40	59.5	22
	C-S-A-A-20M-16M	20	16	12	32	36	30	42	63	23
	C-S-A-A-25M-16M	25	16	12	41	46	30	46	68	25.5
	C-S-A-A-25M-20M	25	20	16	41	46	36	48	71	25.5
	C-S-A-A-30M-20M	30	20	16	46	50	36	50	74	26
	C-S-A-A-30M-25M	30	25	20	46	50	46	52	77	26.5
	C-S-A-A-38M-30M	38	30	25	55	60	50	59	87	29.5





UNION ELBOW 24° CONE ENDS

SERIES	FC PART NUMBER	T TUBE OD IN MM	Ax	ØE	L	F A/F	G A/F	Hx
LL	E-LL-A-A-4M-4M	4	21.5	3	11	9	10	15
	E-LL-A-A-5M-5M	5	21.5	3.5	9.5	9	12	15
	E-LL-A-A-6M-6M	6	21.5	4.5	9.5	9	12	15
	E-LL-A-A-8M-8M	8	23.5	6	11.5	12	14	17
L	E-L-A-A-6M-6M	6	26.5	4	12	12	14	19
	E-L-A-A-8M-8M	8	29	6	14	12	17	21
	E-L-A-A-10M-10M	10	30	8	15	14	19	22
	E-L-A-A-12M-12M	12	31.5	10	17	17	22	24
	E-L-A-A-15M-15M	15	36.5	12	21	19	27	28
	E-L-A-A-18M-18M	18	40	15	23.5	24	32	31
	E-L-A-A-22M-22M	22	44	19	27.5	27	36	35
	E-L-A-A-28M-28M	28	47	24	30.5	36	41	38
	E-L-A-A-35M-35M	35	56	30	34.5	41	50	45
	E-L-A-A-42M-42M	42	63	36	40	50	60	51
S	E-S-A-A-6M-6M	6	31	4	16	12	17	23
	E-S-A-A-8M-8M	8	32	5	17	14	19	24
	E-S-A-A-10M-10M	10	33.5	7	17.5	17	22	25
	E-S-A-A-12M-12M	12	37.5	8	21.5	17	24	29
	E-S-A-A-16M-16M	16	43	12	24.5	24	30	33
	E-S-A-A-20M-20M	20	48	16	26.5	27	36	37
	E-S-A-A-25M-25M	25	54	20	30	36	46	42
	E-S-A-A-30M-30M	30	62	25	35.5	41	50	49
	E-S-A-A-38M-38M	38	72	32	41	50	60	57

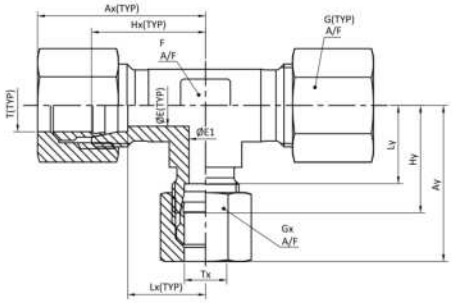


EQUAL TEE 24° CONE ENDS

SERIES	FC PART NUMBER	T TUBE OD IN MM	A	Ax	ØE	L	F A/F	G A/F	Hx	H
LL	UT-LL-A-A-4M-4M	4	43	21.5	3	11	9	10	15	30
	UT-LL-A-A-5M-5M	5	43	21.5	3.5	9.5	9	12	15	30
	UT-LL-A-A-6M-6M	6	43	21.5	4.5	9.5	9	12	15	30
	UT-LL-A-A-8M-8M	8	47	23.5	6	11.5	12	14	17	34
L	UT-L-A-A-6M-6M	6	53	26.5	4	12	12	14	19	38
	UT-L-A-A-8M-8M	8	58	29	6	14	12	17	21	42
	UT-L-A-A-10M-10M	10	60	30	8	15	14	19	22	44
	UT-L-A-A-12M-12M	12	63	31.5	10	17	17	22	24	48
	UT-L-A-A-15M-15M	15	73	36.5	12	21	19	27	28	56
	UT-L-A-A-18M-18M	18	80	40	15	23.5	24	32	31	62
	UT-L-A-A-22M-22M	22	88	44	19	27.5	27	36	35	70
	UT-L-A-A-28M-28M	28	94	47	24	30.5	36	41	38	76
	UT-L-A-A-35M-35M	35	112	56	30	34.5	41	50	45	90
	UT-L-A-A-42M-42M	42	126	63	36	40	50	60	51	102
S	UT-S-A-A-6M-6M	6	62	31	4	16	12	17	23	46
	UT-S-A-A-8M-8M	8	64	32	5	17	14	19	24	48
	UT-S-A-A-10M-10M	10	67	33.5	7	17.5	17	22	25	50
	UT-S-A-A-12M-12M	12	75	37.5	8	21.5	17	24	29	58
	UT-S-A-A-16M-16M	16	86	43	12	24.5	24	30	33	66
	UT-S-A-A-20M-20M	20	96	48	16	26.5	27	36	37	74
	UT-S-A-A-25M-25M	25	108	54	20	30	36	46	42	84
	UT-S-A-A-30M-30M	30	124	62	25	35.5	41	50	49	98
	UT-S-A-A-38M-38M	38	144	72	32	41	50	60	57	114

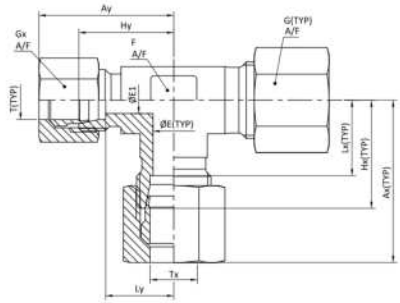
FLUID CONTROLS





REDUCING BRANCH TEE 24° CONE ENDS

SERIES	FC PART NUMBER	T TUBE OD IN MM	TX TUBE OD IN MM	T TUBE OD IN MM	ØE	ØE1	F A/F	G A/F	Gx A/F	Hx	Hy	Ax	Ay	Lx	Ly
LL	BT-LL-A-A-4M-8M	4	4	8	3	6	12	10	14	17	17	23.5	23.5	13	11.5
	BT-LL-A-A-6M-4M	6	6	4	4.5	3	9	12	10	15	15	21.5	21.5	9.5	11
L	BT-L-A-A-6M-8M	6	6	8	4	6	12	14	17	21	21	28.5	29	14	14
	BT-L-A-A-6M-10M	6	6	10	4	8	14	14	19	22	22	29.5	30	15	15
	BT-L-A-A-8M-6M	8	8	6	6	4	12	17	14	21	21	29	28.5	14	14
	BT-L-A-A-8M-10M	8	8	10	6	8	14	17	19	22	22	30	30	15	15
	BT-L-A-A-8M-12M	8	8	12	6	10	17	17	22	24	24	32	31.5	17	17
	BT-L-A-A-10M-6M	10	10	6	8	4	14	19	14	22	22	30	29.5	15	15
	BT-L-A-A-10M-8M	10	10	8	8	6	14	19	17	22	22	30	30	15	15
	BT-L-A-A-10M-15M	10	10	15	8	12	19	19	27	28	28	36	36.5	21	21
	BT-L-A-A-12M-6M	12	12	6	10	4	17	22	14	24	24	31.5	31.5	17	17
	BT-L-A-A-12M-8M	12	12	8	10	6	17	22	17	24	24	31.5	32	17	17
	BT-L-A-A-12M-10M	12	12	10	10	8.	17	22	19	24	24	31.5	32	17	17
	BT-L-A-A-12M-15M	12	12	15	10	12	19	22	27	28	28	35.5	36.5	21	21
	BT-L-A-A-12M-18M	12	12	18	10	15	24	22	32	31	31	38.5	40	24	23.5
	BT-L-A-A-15M-6M	15	15	6	12	4.	19	27	14	28	28	36.5	35.5	21	21
	BT-L-A-A-15M-10M	15	15	10	12	8	19	27	19	28	28	36.5	36	21	21
	BT-L-A-A-15M-12M	15	15	12	12	10	19	27	22	28	28	36.5	35.5	21	21
	BT-L-A-A-15M-18M	15	15	18	12	15	24	27	32	31	31	39.5	40	24	23.5
	BT-L-A-A-18M-10M	18	18	10	15	8	24	32	19	31	31	40	39	23.5	24
	BT-L-A-A-18M-12M	18	18	12	15	10	24	32	22	31	31	40	38.5	23.5	24
	BT-L-A-A-18M-15M	18	18	15	15	12	24	32	27	31	31	40	39.5	23.5	24
	BT-L-A-A-22M-10M	22	22	10	19	8	27	36	19	35	35	44	43	27.5	28
	BT-L-A-A-22M-12M	22	22	12	19	10	27	36	22	35	35	44	42.5	27.5	28
	BT-L-A-A-22M-15M	22	22	15	19	12	27	36	27	35	35	44	43.5	27.5	28
	BT-L-A-A-22M-18M	22	22	18	19	15	27	36	32	35	35	44	44	27.5	27.5
	BT-L-A-A-28M-10M	28	28	10	24	8	36	41	19.	38	38	47	46	30.5	31
	BT-L-A-A-28M-12M	28	28	12	24	10	36	41	22	38	38	47	45.5	30.5	31
	BT-L-A-A-28M-15M	28	28	15	24	12	36	41	27	38	38	47	46.5	30.5	31
	BT-L-A-A-28M-18M	28	28	18	24	15	36	41	32	38	38	47	47	30.5	30.5
	BT-L-A-A-28M-22M	28	28	22	24	19	36	41	36	38	38	47	47	30.5	30.5
	BT-L-A-A-35M-18M	35	35	18	30	15	41	50	32	45	45	56	54	34.5	37.5
	BT-L-A-A-35M-22M	35	35	22	30	19	41	50	36	45	45	56	54	34.5	37.5
	BT-L-A-A-35M-28M	35	35	28	30	24	41	50	41	45	45	56	54	34.5	37.5
	BT-L-A-A-42M-22M	42	42	22	36	19	50	60	36	51	51	63	60	40	43.5
	BT-L-A-A-42M-28M	42	42	28	36	24	50	60	41	51	51	63	60	40	43.5
	BT-L-A-A-42M-35M	42	42	35	36	30	50	60	50	51	51	63	62	40	40.5
S	BT-S-A-A-10M-6M	10	10	6	7	4	17	22	17	25	25	25	25	9	10
	BT-S-A-A-12M-8M	12	12	8	8	5	17	24	19	29	29	29	29	13	14
	BT-S-A-A-12M-10M	12	12	10	8	7	17	24	22	29	29	29	29	13	13
	BT-S-A-A-12M-16M	12	12	16	8	12	17	24	30	29	29	29	29	13	10.5
	BT-S-A-A-16M-6M	16	16	6	12	4	24	30	17	33	33	33	33	14.5	18
	BT-S-A-A-16M-8M	16	16	8	12	5	24	30	19	33	33	33	33	14.5	18
	BT-S-A-A-16M-10M	16	16	10	12	7	24	30	22	33	33	33	33	14.5	17
	BT-S-A-A-16M-12M	16	16	12	12	8	24	30	24	33	33	33	33	14.5	17
	BT-S-A-A-16M-20M	16	16	20	12	16	24	30	36	33	33	33	33	14.5	11.5
	BT-S-A-A-20M-10M	20	20	10	16	7	27	36	22	37	37	37	37	15.5	21
	BT-S-A-A-20M-12M	20	20	12	16	8	27	36	24	37	37	37	37	15.5	21
	BT-S-A-A-20M-16M	20	20	16	16	12	27	36	30	37	37	37	37	15.5	18.5
	BT-S-A-A-20M-25M	20	20	25	16	20	27	36	46	37	37	37	37	15.5	13
	BT-S-A-A-25M-16M	25	25	16	20	12	36	46	30	42	42	42	42	18	23.5
	BT-S-A-A-25M-20M	25	25	20	20	16.	36	46	36	42	42	42	42	18	20.5
	BT-S-A-A-25M-30M	25	25	30	20	25	36	46	50	42	42	42	42	18	15.5
	BT-S-A-A-30M-20M	30	30	20	25	16	41	50	36	49	49	49	49	22.5	27.5
	BT-S-A-A-38M-25M	38	38	25	32	20	50	60	46	57	57	57	57	26	33
	BT-S-A-A-38M-30M	38	38	30	32	25	50	60	50	57	57	57	57	26	30.5

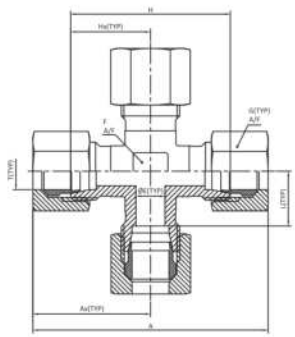




REDUCING RUN TEE 24° CONE ENDS

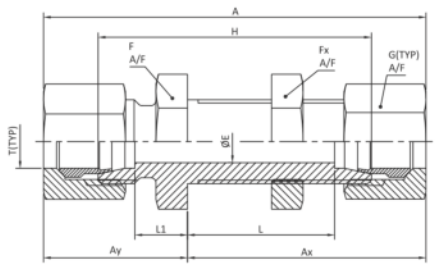
SERIES	FC PART NUMBER	T TUBE OD IN MM	TX TUBE OD IN MM	T TUBE OD IN MM	ØE	ØE1	F A/F	G A/F	Gx	Hx	Hy	Ax	Ay	Lx	Ly
L	RT-L-A-A-8M-12M	8	12	8	6	10	17	17	22	24	24	32	31.5	17	17
	RT-L-A-A-10M-6M	10	6	10	8	4	14	19	14	22	22	30	29.5	15	15
	RT-L-A-A-10M-12M	10	12	10	8	10	17	19	22	24	24	32	31.5	17	17
	RT-L-A-A-10M-18M	10	18	10	8	15	24	19	32	31	31	39	40	24	23.5
	RT-L-A-A-12M-8M	12	8	12	10	6	17	22	17	24	24	31.5	32	17	17
	RT-L-A-A-12M-10M	12	10	12	10	8	17	22	19	24	24	31.5	32	17	17
	RT-L-A-A-12M-15M	12	15	12	10	12	19	22	27	28	28	35.5	36.5	21	21
	RT-L-A-A-15M-12M	15	12	15	12	10	19	27	22	28	28	36.5	35.5	21	21
	RT-L-A-A-15M-22M	15	22	15	12	19	19	27	36	28	28	36.5	37	21	20.5
	RT-L-A-A-18M-10M	18	10	18	15	8	24	32	19	31	31	40	39	23.5	24
	RT-L-A-A-18M-22M	18	22	18	15	19	24	32	36	31	31	40	40	23.5	23.5
	RT-L-A-A-22M-15M	22	15	22	19	12	27	36	27	35	35	44	43.5	27.5	28
	RT-L-A-A-22M-18M	22	18	22	19	15	27	36	32	35	35	44	44	27.5	27.5
	RT-L-A-A-22M-28M	22	28	22	19	24	36	36	41	38	38	47	47	30.5	30.5





UNION CROSS 24° CONE ENDS

SERIES	FC PART NUMBER	T TUBE OD IN MM	A	Ax	ØE	L	F A/F	G A/F	Hx	H
LL	K-LL-A-A-4M-4M	4	43	21.5	3	11	9	10	15	30
	K-LL-A-A-5M-5M	5	43	21.5	3.5	9.5	9	12	15	30
	K-LL-A-A-6M-6M	6	43	21.5	4.5	9.5	9	12	15	30
	K-LL-A-A-8M-8M	8	47	23.5	6	11.5	12	14	17	34
L	K-L-A-A-6M-6M	6	53	26.5	4	12	12	14	19	38
	K-L-A-A-8M-8M	8	58	29	6	14	12	17	21	42
	K-L-A-A-10M-10M	10	60	30	8	15	14	19	22	44
	K-L-A-A-12M-12M	12	63	31.5	10	17	17	22	24	48
	K-L-A-A-15M-15M	15	73	36.5	12	21	19	27	28	56
	K-L-A-A-18M-18M	18	80	40	15	23.5	24	32	31	62
	K-L-A-A-22M-22M	22	88	44	19	27.5	27	36	35	70
	K-L-A-A-28M-28M	28	94	47	24	30.5	36	41	38	76
	K-L-A-A-35M-35M	35	112	56	30	34.5	41	50	45	90
	K-L-A-A-42M-42M	42	126	63	36	40	50	60	51	102
S	K-S-A-A-6M-6M	6	62	31	4	16	12	17	23	46
	K-S-A-A-8M-8M	8	64	32	5	17	14	19	24	48
	K-S-A-A-10M-10M	10	67	33.5	7	17.5	17	22	25	50
	K-S-A-A-12M-12M	12	75	37.5	8	21.5	17	24	29	58
	K-S-A-A-16M-16M	16	86	43	12	24.5	24	30	33	66
	K-S-A-A-20M-20M	20	96	48	16	26.5	27	36	37	74
	K-S-A-A-25M-25M	25	108	54	20	30	36	46	42	84
	K-S-A-A-30M-30M	30	124	62	25	35.5	41	50	49	98
	K-S-A-A-38M-38M	38	144	72	32	41	50	60	57	114

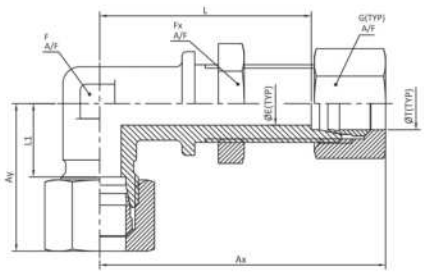




BULKHEAD UNION 24° CONE ENDS

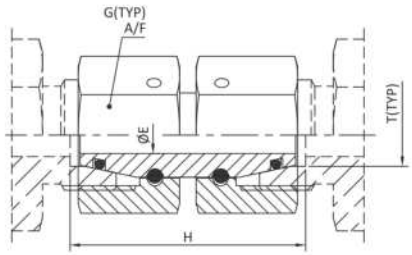
SERIES	FC PART NUMBER	T TUBE OD IN MM	A	Ax	Ay	ØE	F A/F	Fx A/F	G A/F	H	L	L1
L	CB-L-A-A-6M-6M	6	63	41.5	21.5	4	17	17	14	48	27	7
	CB-L-A-A-8M-8M	8	65	42	23	6	19	19	17	49	27	8
	CB-L-A-A-10M-10M	10	68	43	25	8	22	22	19	52	28	10
	CB-L-A-A-12M-12M	12	68	43.5	24.5	10	24	24	22	53	29	10
	CB-L-A-A-15M-15M	15	74	46.5	27.5	12	27	30	27	57	31	12
	CB-L-A-A-18M-18M	18	79	49	30	15	32	36	32	61	32.5	13.5
	CB-L-A-A-22M-22M	22	84	51	33	19	36	41	36	66	34.5	16.5
	CB-L-A-A-28M-28M	28	87	52	35	24	41	46	41	69	35.5	18.5
	CB-L-A-A-35M-35M	35	98	58	40	30	50	55	50	76	36.5	18.5
	CB-L-A-A-42M-42M	42	101	59	42	36	60	65	60	77	36	19
S	CB-S-A-A-6M-6M	6	71	44	27	4	19	19	17	55	29	12
	CB-S-A-A-8M-8M	8	72	44	28	5	22	22	19	56	29	13
	CB-S-A-A-10M-10M	10	76	45.5	30.5	7	24	24	22	59	29.5	14.5
	CB-S-A-A-12M-12M	12	77	46.5	30.5	8	27	27	24	60	30.5	14.5
	CB-S-A-A-16M-16M	16	85	50	35	12	32	32	30	65	31.5	16.5
	CB-S-A-A-20M-20M	20	94	55	39	16	41	41	36	72	33.5	17.5
	CB-S-A-A-25M-25M	25	103	59	44	20	46	46	46	79	35	20
	CB-S-A-A-30M-30M	30	112	64	48	25	50	50	50	86	37.5	21.5
	CB-S-A-A-38M-38M	38	121	68	53	32	65	65	60	91	37	22





BULKHEAD ELBOW 24° CONE ENDS

SERIES	FC PART NUMBER	T TUBE OD IN MM	Ax	Ay	ØE	F A/F	Fx A/F	G A/F	L	L1
L	EB-L-A-A-6M-6M	6	55.5	26.5	4	12	17	14	41	12
	EB-L-A-A-8M-8M	8	59	29	6	12	19	17	44	14
	EB-L-A-A-10M-10M	10	61	30	8	14	22	19	46	15
	EB-L-A-A-12M-12M	12	63.5	31.5	10	17	24	22	49	17
	EB-L-A-A-15M-15M	15	69.5	36.5	12	19	30	27	54	21
	EB-L-A-A-18M-18M	18	73	40	15	24	36	32	56.5	23.5
	EB-L-A-A-22M-22M	22	81	44	19	27	41	36	64.5	27.5
	EB-L-A-A-28M-28M	28	86	47	24	36	46	41	69.5	30.5
	EB-L-A-A-35M-35M	35	97	56	30	41	55	50	75.5	34.5
	EB-L-A-A-42M-42M	42	102	63	36	50	65	60	79	40
S	EB-S-A-A-6M-6M	6	61	31	4	12	19	17	46	16
	EB-S-A-A-8M-8M	8	62	32	5	14	22	19	47	17
	EB-S-A-A-10M-10M	10	65.5	33.5	7	17	24	22	49.5	17.5
	EB-S-A-A-12M-12M	12	67.5	37.5	8	17	27	24	51.5	21.5
	EB-S-A-A-16M-16M	16	74	43	12	24	32	30	55.5	24.5
	EB-S-A-A-20M-20M	20	85	48	16	27	41	36	63.5	26.5
	EB-S-A-A-25M-25M	25	93	54	20	36	46	46	69	30
	EB-S-A-A-30M-30M	30	103	62	25	41	50	50	76.5	35.5
	EB-S-A-A-38M-38M	38	111	72	32	50	65	60	80	41

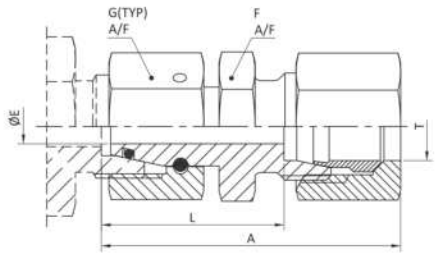




SWIVEL UNION 24° DKO SWIVEL ENDS

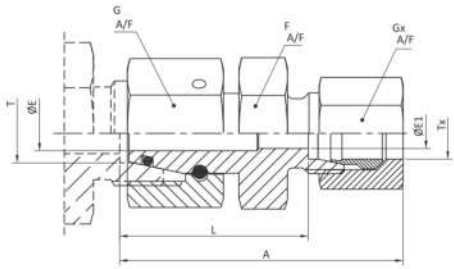
SERIES	FC PART NUMBER	T TUBE OD IN MM	ØE	H	G A/F
L	C-L-V-V-6M-6M	6	2.5	33	14
	C-L-V-V-8M-8M	8	4	33	17
	C-L-V-V-10M-10M	10	6	34	19
	C-L-V-V-12M-12M	12	8	34	22
	C-L-V-V-15M-15M	15	10	39	27
	C-L-V-V-18M-18M	18	13	38	32
	C-L-V-V-22M-22M	22	17	44	36
	C-L-V-V-28M-28M	28	22	48	41
	C-L-V-V-35M-35M	35	28	52	50
	C-L-V-V-42M-42M	42	34	57	60
S	C-S-V-V-6M-6M	6	2.5	33	17
	C-S-V-V-8M-8M	8	4	34	19
	C-S-V-V-10M-10M	10	6	35	22
	C-S-V-V-12M-12M	12	8	38	24
	C-S-V-V-16M-16M	16	11	42	30
	C-S-V-V-20M-20M	20	14	48	36
	C-S-V-V-25M-25M	25	18	53	46
	C-S-V-V-30M-30M	30	23	62	50
	C-S-V-V-38M-38M	38	30	67	60





SWIVEL CONNECTOR 24° CONE x 24° DKO SWIVEL

SERIES	FC PART NUMBER	T TUBE OD IN MM	A	ØE	F A/F	G A/F	L
L	C-L-A-V-6M-6M	6	50.5	2.5	12	14	36
	C-L-A-V-8M-8M	8	51	4	14	17	36
	C-L-A-V-10M-10M	10	51	6	17	19	36
	C-L-A-V-12M-12M	12	50.5	8	19	22	36
	C-L-A-V-15M-15M	15	51.5	10	24	27	36
	C-L-A-V-18M-18M	18	52.5	13	27	32	36
	C-L-A-V-22M-22M	22	56.5	17	32	36	40
	C-L-A-V-28M-28M	28	56.5	22	41	41	40
	C-L-A-V-35M-35M	35	71.5	28	46	50	50
	C-L-A-V-42M-42M	42	83	34	55	60	60
S	C-S-A-V-6M-6M	6	51	2.5	14	17	36
	C-S-A-V-8M-8M	8	51	4	17	19	36
	C-S-A-V-10M-10M	10	52	6	19	22	36
	C-S-A-V-12M-12M	12	52	8	22	24	36
	C-S-A-V-16M-16M	16	58.5	11	27	30	40
	C-S-A-V-20M-20M	20	67.5	14	32	36	46
	C-S-A-V-25M-25M	25	74	18	41	46	50
	C-S-A-V-30M-30M	30	82.5	23	46	50	56
	C-S-A-V-38M-38M	38	91	30	55	60	60

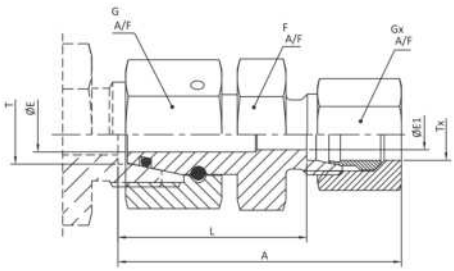




REDUCING SWIVEL CONNECTOR 24° CONE x 24° DKO SWIVEL

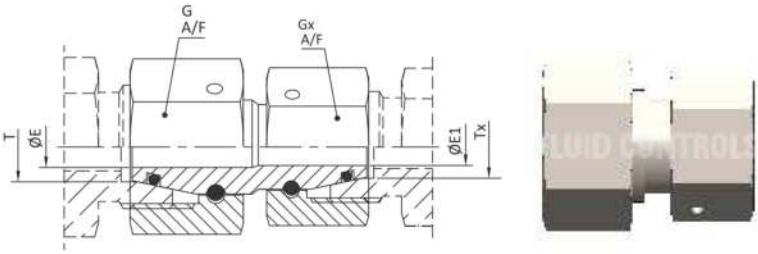
SERIES	FC PART NUMBER	TX TUBE OD IN MM	T SWIVEL OD	A	ØE	ØE1	F A/F	G A/F	Gx A/F	L
	C-L-A-V-6M-8M	6	8	38	4	4	12	17	14	23.5
	C-L-A-V-6M-10M	6	10	39.5	6	4	14	19	14	25
	C-L-A-V-8M-10M	8	10	40	6	6	14	19	17	25
	C-L-A-V-6M-12M	6	12	39.5	8	4	17	22	14	25
	C-L-A-V-8M-12M	8	12	40	8	6	17	22	17	25
	C-L-A-V-10M-12M	10	12	41	8	8	17	22	19	26
	C-L-A-V-6M-15M	6	15	43	10	4	19	27	14	28.5
	C-L-A-V-8M-15M	8	15	43.5	10	6	19	27	17	28.5
	C-L-A-V-10M-15M	10	15	44.5	10	8	19	27	19	29.5
	C-L-A-V-12M-15M	12	15	44	10	10	19	27	22	29.5
	C-L-A-V-6M-18M	6	18	42.5	13	4	24	32	14	28
	C-L-A-V-8M-18M	8	18	43	13	6	24	32	17	28
	C-L-A-V-10M-18M	10	18	44	13	8	24	32	19	29
	C-L-A-V-12M-18M	12	18	43.5	13	10	24	32	22	29
	C-L-A-V-15M-18M	15	18	45.5	13	12	24	32	27	30
	C-L-A-V-6M-22M	6	22	46.5	17	4	27	36	14	32
	C-L-A-V-8M-22M	8	22	47	17	6	27	36	17	32
	C-L-A-V-10M-22M	10	22	48	17	8	27	36	19	33
	C-L-A-V-12M-22M	12	22	47.5	17	10	27	36	22	33
L	C-L-A-V-15M-22M	15	22	49.5	17	12	27	36	27	34
	C-L-A-V-18M-22M	18	22	50	17	15	27	36	32	33.5
	C-L-A-V-6M-28M	6	28	48.5	22	4	32	41	14	34
	C-L-A-V-8M-28M	8	28	49	22	6	32	41	17	34
	C-L-A-V-10M-28M	10	28	50	22	8	32	41	19	35
	C-L-A-V-12M-28M	12	28	49.5	22	10	32	41	22	35
	C-L-A-V-15M-28M	15	28	51.5	22	12	36	41	27	36
	C-L-A-V-18M-28M	18	28	52	22	15	32	41	32	35.5
	C-L-A-V-22M-28M	22	28	54	22	19	36	41	36	37.5
	C-L-A-V-6M-35M	6	35	51.5	28	4	41	50	14	37
	C-L-A-V-8M-35M	8	35	52	28	6	41	50	17	37
	C-L-A-V-10M-35M	10	35	53	28	8	41	50	19	38
	C-L-A-V-12M-35M	12	35	52.5	28	10	41	50	22	38
	C-L-A-V-15M-35M	15	35	54.5	28	12	41	50	27	39
	C-L-A-V-18M-35M	18	35	55	28	15	41	50	32	38.5
	C-L-A-V-22M-35M	22	35	57	28	19	41	50	36	40.5
	C-L-A-V-28M-35M	28	35	57	28	24	41	50	41	40.5
	C-L-A-V-10M-42M	10	42	56.5	34	8	50	60	19	41.5
	C-L-A-V-12M-42M	12	42	56	34	10	50	60	22	41.5
	C-L-A-V-15M-42M	15	42	58	34	12	50	60	27	42.5
	C-L-A-V-18M-42M	18	42	58.5	34	15	50	60	32	42
	C-L-A-V-22M-42M	22	42	60.5	34	19	50	60	36	44
	C-L-A-V-28M-42M	28	42	60.5	34	24	50	60	41	44
	C-L-A-V-35M-42M	35	42	64.5	34	30	50	60	50	43





REDUCING SWIVEL CONNECTOR 24° CONE x 24° DKO SWIVEL

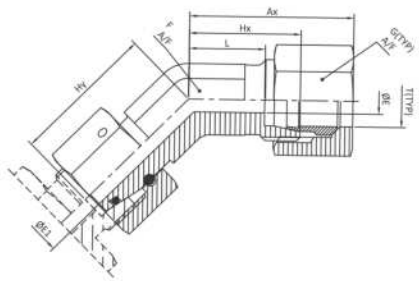
SERIES	FC PART NUMBER	TX TUBE OD IN MM	T SWIVEL OD	A	ØE	ØE1	F A/F	G A/F	Gx	L
	C-S-A-V-6M-8M	6	8	42	4	4	14	19	17	27
	C-S-A-V-6M-10M	6	10	42.5	6	4	17	22	17	27.5
	C-S-A-V-8M-10M	8	10	42.5	6	5	17	22	19	27.5
	C-S-A-V-6M-12M	6	12	44	8	4	17	24	17	29
	C-S-A-V-8M-12M	8	12	44	8	5	17	24	19	29
	C-S-A-V-10M-12M	10	12	45.5	8	7	19	24	22	29.5
	C-S-A-V-6M-16M	6	16	47	11	4	22	30	17	32
	C-S-A-V-8M-16M	8	16	47	11	5	22	30	19	32
	C-S-A-V-10M-16M	10	16	47.5	11	7	22	30	22	31.5
	C-S-A-V-12M-16M	12	16	47.5	11	8	22	30	24	31.5
	C-S-A-V-6M-20M	6	20	51	14	4	27	36	17	36
	C-S-A-V-8M-20M	8	20	51	14	5	27	36	19	36
	C-S-A-V-10M-20M	10	20	51.5	14	7	27	36	22	35.5
	C-S-A-V-12M-20M	12	20	51.5	14	8	27	36	24	35.5
	C-S-A-V-16M-20M	16	20	55	14	12	27	36	30	36.5
	C-S-A-V-6M-25M	6	25	53.5	18	4	32	46	17	38.5
	C-S-A-V-8M-25M	8	25	53.5	18	5	32	46	19	38.5
S	C-S-A-V-10M-25M	10	25	54	18	7	32	46	22	38
	C-S-A-V-12M-25M	12	25	54	18	8	32	46	24	38
	C-S-A-V-16M-25M	16	25	57.5	18	12	32	46	30	39
	C-S-A-V-20M-25M	20	25	60.5	18	16	32	46	36	39
	C-S-A-V-6M-30M	6	30	59	23	4	41	50	17	44
	C-S-A-V-8M-30M	8	30	59	23	5	41	50	19	44
	C-S-A-V-10M-30M	10	30	59.5	23	7	41	50	22	43.5
	C-S-A-V-12M-30M	12	30	59.5	23	8	41	50	24	43.5
	C-S-A-V-16M-30M	16	30	63	23	12	41	50	30	44.5
	C-S-A-V-20M-30M	20	30	66	23	16	41	50	36	44.5
	C-S-A-V-25M-30M	25	30	69	23	20	41	50	46	45
	C-S-A-V-6M-38M	6	38	62.5	30	4	50	60	17	47.5
	C-S-A-V-8M-38M	8	38	62.5	30	5	50	60	19	47.5
	C-S-A-V-10M-38M	10	38	63	30	7	50	60	22	47
	C-S-A-V-12M-38M	12	38	63	30	8	50	60	24	47
	C-S-A-V-16M-38M	16	38	66.5	30	12	50	60	30	48
	C-S-A-V-20M-38M	20	38	69.5	30	16	50	60	36	48
	C-S-A-V-25M-38M	25	38	72.5	30	20	50	60	46	48.5
	C-S-A-V-30M-38M	30	38	75.5	30	25	50	60	50	49



SWIVEL REDUCER 24° DKO SWIVEL ENDS

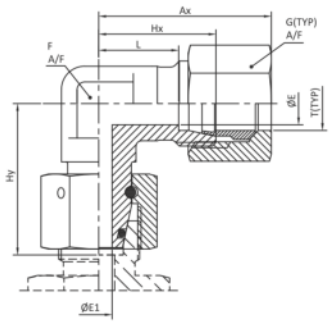
SERIES	FC PART NUMBER	T TUBE OD IN MM	TX TUBE OD IN MM	ØE	ØE1	G A/F	Gx A/F
L	C-L-V-V-8M-6M	8	6	4	2.5	17	14
	C-L-V-V-10M-6M	10	6	6	2.5	19	14
	C-L-V-V-10M-8M	10	8	6	4	19	17
	C-L-V-V-12M-6M	12	6	8	2.5	22	14
	C-L-V-V-12M-8M	12	8	8	4	22	17
	C-L-V-V-12M-10M	12	10	8	6	22	19
	C-L-V-V-15M-8M	15	8	10	4	27	17
	C-L-V-V-15M-10M	15	10	10	6	27	19
	C-L-V-V-15M-12M	15	12	10	8	27	22
	C-L-V-V-18M-10M	18	10	13	6	32	19
	C-L-V-V-18M-12M	18	12	13	8	32	22
	C-L-V-V-18M-15M	18	15	13	10	32	27
	C-L-V-V-22M-12M	22	12	17	8	36	22
	C-L-V-V-22M-15M	22	15	17	10	36	27
	C-L-V-V-22M-18M	22	18	17	13	36	32
	C-L-V-V-28M-15M	28	15	22	10	41	27
	C-L-V-V-28M-18M	28	18	22	13	41	32
	C-L-V-V-28M-22M	28	22	22	17	41	36
	C-L-V-V-35M-18M	35	18	28	13	50	32
	C-L-V-V-35M-22M	35	22	28	17	50	36
	C-L-V-V-35M-28M	35	28	28	22	50	41
	C-L-V-V-42M-22M	42	22	34	17	60	36
	C-L-V-V-42M-28M	42	28	34	22	60	41
	C-L-V-V-42M-35M	42	35	34	28	60	50
S	C-S-V-V-8M-6M	8	6	4	2.5	19	17
	C-S-V-V-10M-6M	10	6	6	2.5	22	17
	C-S-V-V-10M-8M	10	8	6	4	22	19
	C-S-V-V-12M-6M	12	6	8	2.5	24	17
	C-S-V-V-12M-8M	12	8	8	4	24	19
	C-S-V-V-12M-10M	12	10	8	6	24	22
	C-S-V-V-16M-10M	16	10	11	6	30	22
	C-S-V-V-16M-12M	16	12	11	8	30	24
	C-S-V-V-20M-12M	20	12	14	8	36	24
	C-S-V-V-20M-16M	20	16	14	11	36	30
	C-S-V-V-25M-16M	25	16	18	11	46	30
	C-S-V-V-25M-20M	25	20	18	14	46	36
	C-S-V-V-30M-16M	30	16	23	11	50	30
	C-S-V-V-30M-20M	30	20	23	14	50	36
	C-S-V-V-30M-25M	30	25	23	18	50	46
	C-S-V-V-38M-20M	38	20	30	14	60	36
	C-S-V-V-38M-25M	38	25	30	18	60	46
	C-S-V-V-38M-30M	38	30	30	23	60	50





SWIVEL 45° ELBOW 24° CONE x 24° DKO SWIVEL

SERIES	FC PART NUMBER	T TUBE OD IN MM	ØE	ØE1	F A/F	G A/F	Hx	Hy	Ax	L
L	E4-L-A-V-6M-6M	6	4	2.5	14	14	16	26	23.5	9
	E4-L-A-V-8M-8M	8	6	4	14	17	19	27.5	27	12
	E4-L-A-V-10M-10M	10	8	6	19	19	19	29	27	12
	E4-L-A-V-12M-12M	12	10	8	19	22	21	29.5	28.5	14
	E4-L-A-V-15M-15M	15	12	10	22	27	24	32.5	32.5	17
	E4-L-A-V-18M-18M	18	15	13	27	32	24	35.5	33	16.5
	E4-L-A-V-22M-22M	22	19	17	30	36	26	38.5	35	18.5
	E4-L-A-V-28M-28M	28	24	22	36	41	30.5	41.5	39.5	23
	E4-L-A-V-35M-35M	35	30	28	50	50	37	51	48	26.5
	E4-L-A-V-42M-42M	42	36	34	50	60	37	56	49	26
S	E4-S-A-V-6M-6M	6	4	2.5	14	17	16	27	24	9
	E4-S-A-V-8M-8M	8	5	4	19	19	19	27.5	27	12
	E4-S-A-V-10M-10M	10	7	6	19	22	21	30	29.5	13.5
	E4-S-A-V-12M-12M	12	8	8	22	24	24	31	32.5	16.5
	E4-S-A-V-16M-16M	16	12	11	27	30	24	36.5	34	15.5
	E4-S-A-V-20M-20M	20	16	14	30	36	26.5	44.5	37.5	16
	E4-S-A-V-25M-25M	25	20	18	36	46	30.5	50	42.5	18.5
	E4-S-A-V-30M-30M	30	25	23	50	50	37	55	50	23.5
	E4-S-A-V-38M-38M	38	32	30	50	60	37	63	52	21

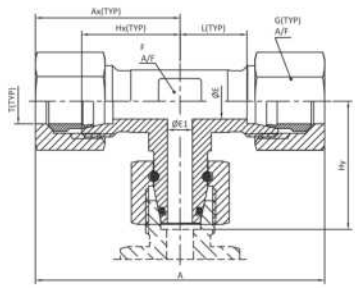




SWIVEL ELBOW 24° CONE x 24° DKO SWIVEL

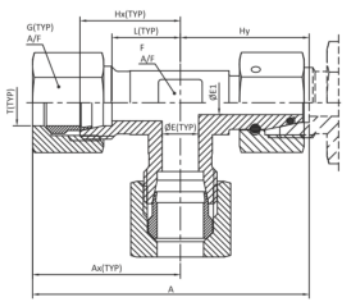
SERIES	FC PART NUMBER	T TUBE OD IN MM	Ax	ØE	ØE1	F A/F	G A/F	Hx	Hy	L
L	E-L-A-V-6M-6M	6	26.5	4	2.5	12	14	19	26	12
	E-L-A-V-8M-8M	8	29	6	4	12	17	21	27.5	14
	E-L-A-V-10M-10M	10	30	8	6	14	19	22	29	15
	E-L-A-V-12M-12M	12	31.5	10	8	17	22	24	29.5	17
	E-L-A-V-15M-15M	15	36.5	12	10	19	27	28	32.5	21
	E-L-A-V-18M-18M	18	40	15	13	24	32	31	35.5	23.5
	E-L-A-V-22M-22M	22	44	19	17	27	36	35	38.5	27.5
	E-L-A-V-28M-28M	28	47	24	22	36	41	38	41.5	30.5
	E-L-A-V-35M-35M	35	56	30	28	41	50	45	51	34.5
	E-L-A-V-42M-42M	42	63	36	34	50	60	51	56	40
S	E-S-A-V-6M-6M	6	31	4	2.5	12	17	23	27	16
	E-S-A-V-8M-8M	8	32	5	4	14	19	24	27.5	17
	E-S-A-V-10M-10M	10	33.5	7	6	17	22	25	30	17.5
	E-S-A-V-12M-12M	12	37.5	8	8	17	24	29	31	21.5
	E-S-A-V-16M-16M	16	43	12	11	24	30	33	36.5	24.5
	E-S-A-V-20M-20M	20	48	16	14	27	36	37	44.5	26.5
	E-S-A-V-25M-25M	25	54	20	18	36	46	42	50	30
	E-S-A-V-30M-30M	30	62	25	23	41	50	49	55	35.5
	E-S-A-V-38M-38M	38	72	32	30	50	60	57	63	41





SWIVEL BRANCH TEE 24° CONE x 24° DKO SWIVEL

SERIES	FC PART NUMBER	T TUBE OD IN MM	A	Ax	ØE	ØE1	F A/F	G A/F	Hx	Hy	L
L	BT-L-A-V-6M-6M	6	106	53	4	2.5	12	14	19	26	12
	BT-L-A-V-8M-8M	8	116	58	6	4	12	17	21	27.5	14
	BT-L-A-V-10M-10M	10	120	60	8	6	14	19	22	29	15
	BT-L-A-V-12M-12M	12	126	63	10	8	17	22	24	29.5	17
	BT-L-A-V-15M-15M	15	146	73	12	10	19	27	28	32.5	21
	BT-L-A-V-18M-18M	18	160	80	15	13	24	32	31	35.5	23.5
	BT-L-A-V-22M-22M	22	176	88	19	17	27	36	35	38.5	27.5
	BT-L-A-V-28M-28M	28	188	94	24	22	36	41	38	41.5	30.5
	BT-L-A-V-35M-35M	35	224	112	30	28	41	50	45	51	34.5
	BT-L-A-V-42M-42M	42	252	126	36	34	50	60	51	56	40
S	BT-S-A-V-6M-6M	6	124	62	4	2.5	12	17	23	27	16
	BT-S-A-V-8M-8M	8	128	64	5	4	14	19	24	27.5	17
	BT-S-A-V-10M-10M	10	134	67	7	6	17	22	25	30	17.5
	BT-S-A-V-12M-12M	12	150	75	8	8	17	24	29	31	21.5
	BT-S-A-V-16M-16M	16	172	86	12	11	24	30	33	36.5	24.5
	BT-S-A-V-20M-20M	20	192	96	16	14	27	36	37	44.5	26.5
	BT-S-A-V-25M-25M	25	216	108	20	18	36	46	42	50	30
	BT-S-A-V-30M-30M	30	248	124	25	23	41	50	49	55	35.5
	BT-S-A-V-38M-38M	38	288	144	32	30	50	60	57	63	41

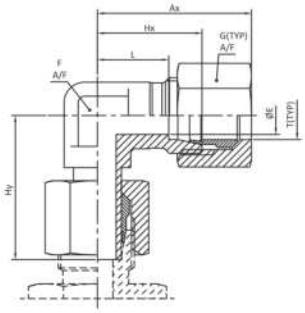




SWIVEL RUN TEE 24° CONE x 24° DKO SWIVEL

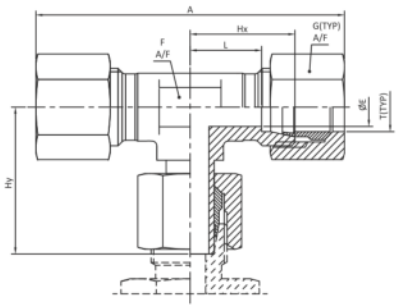
SERIES	FC PART NUMBER	T TUBE OD IN MM	A	Ax	ØE	ØE1	F A/F	G A/F	Hx	Hy	L
L	RT-L-A-V-6M-6M	6	52.5	26.5	4	2.5	12	14	19	26	12
	RT-L-A-V-8M-8M	8	56.5	29	6	4	12	17	21	27.5	14
	RT-L-A-V-10M-10M	10	59	30	8	6	14	19	22	29	15
	RT-L-A-V-12M-12M	12	61	31.5	10	8	17	22	24	29.5	17
	RT-L-A-V-15M-15M	15	69	36.5	12	10	19	27	28	32.5	21
	RT-L-A-V-18M-18M	18	75.5	40	15	13	24	32	31	35.5	23.5
	RT-L-A-V-22M-22M	22	82.5	44	19	17	27	36	35	38.5	27.5
	RT-L-A-V-28M-28M	28	88.5	47	24	22	36	41	38	41.5	30.5
	RT-L-A-V-35M-35M	35	107	56	30	28	41	50	45	51	34.5
	RT-L-A-V-42M-42M	42	119	63	36	34	50	60	51	56	40
S	RT-S-A-V-6M-6M	6	58	31	4	2.5	12	17	23	27	16
	RT-S-A-V-8M-8M	8	59.5	32	5	4	14	19	24	27.5	17
	RT-S-A-V-10M-10M	10	63.5	33.5	7	6	17	22	25	30.0	17.5
	RT-S-A-V-12M-12M	12	68.5	37.5	8	8	17	24	29	31.0	21.5
	RT-S-A-V-16M-16M	16	79.5	43	12	11	24	30	33	36.5	24.5
	RT-S-A-V-20M-20M	20	92.5	48	16	14	27	36	37	44.5	26.5
	RT-S-A-V-25M-25M	25	104.0	54	20	18	36	46	42	50.0	30
	RT-S-A-V-30M-30M	30	117.0	62	25	23	41	50	49	55.0	35.5
	RT-S-A-V-38M-38M	38	135.0	72.0	32	30	50	60	57	63.0	41.0





STANDPIPE ELBOW 24° CONE

SERIES	FC PART NUMBER	T TUBE OD IN MM	ØE	F A/F	G A/F	Hx	Hy	Ax	L
L	E-L-A-W-6M-6M	6	3.5	12	14	19	26	26.5	12
	E-L-A-W-8M-8M	8	4.5	12	17	21	27.5	29	14
	E-L-A-W-10M-10M	10	7	14	19	22	29	30	15
	E-L-A-W-12M-12M	12	7.5	17	22	24	29.5	31.5	17
	E-L-A-W-15M-15M	15	11	19	27	28	32.5	36.5	21
	E-L-A-W-18M-18M	18	14	24	32	31	35.5	63	23.5
	E-L-A-W-22M-22M	22	18	27	36	35	38.5	44	27.5
	E-L-A-W-28M-28M	28	23	36	41	38	42	47	30.5
	E-L-A-W-35M-35M	35	29.5	41	50	45	51	56	34.5
	E-L-A-W-42M-42M	42	35.5	50	60	51	60	63	40
S	E-S-A-W-6M-6M	6	3.6	12	17	23	27	31	16
	E-S-A-W-8M-8M	8	5	14	19	24	27.5	32	17
	E-S-A-W-10M-10M	10	7	17	22	25	31	33.5	17.5
	E-S-A-W-12M-12M	12	8	17	24	29	31	37.5	21.5
	E-S-A-W-16M-16M	16	12	24	30	33	37.5	43	24.5
	E-S-A-W-20M-20M	20	15.6	27	36	37	44.5	48	26.5
	E-S-A-W-25M-25M	25	20	36	46	42	50	54	30
	E-S-A-W-30M-30M	30	25	41	50	49	55	62	35.5
	E-S-A-W-38M-38M	38	32	50	60	57	66.5	72	41

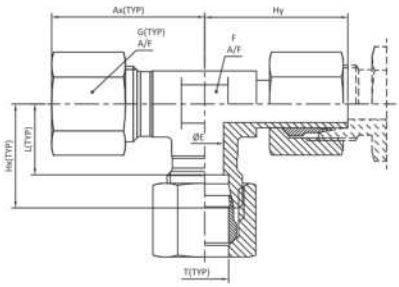




STANDPIPE BRANCH TEE 24° CONE

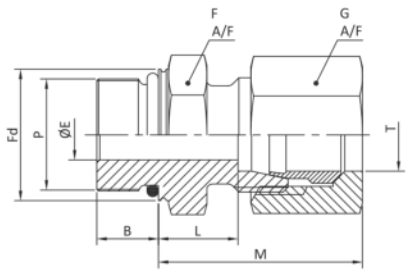
SERIES	FC PART NUMBER	T TUBE OD IN MM	ØE	F A/F	G A/F	Hx	Hy	A	L
L	BT-L-A-W-6M-6M	6	3.5	12	14	19	26	53	12
	BT-L-A-W-8M-8M	8	4.5	12	17	21	27.5	58	14
	BT-L-A-W-10M-10M	10	7	14	19	22	29	60	15
	BT-L-A-W-12M-12M	12	7.5	17	22	24	29.5	63	17
	BT-L-A-W-15M-15M	15	11	19	27	28	32.5	73	21
	BT-L-A-W-18M-18M	18	14	24	32	31	35.5	126	23.5
	BT-L-A-W-22M-22M	22	18	27	36	35	38.5	88	27.5
	BT-L-A-W-28M-28M	28	23	36	41	38	42	94	30.5
	BT-L-A-W-35M-35M	35	29.5	41	50	45	51	112	34.5
	BT-L-A-W-42M-42M	42	35.5	50	60	51	60	126	40
S	BT-S-A-W-6M-6M	6	3.6	12	17	23	27	62	16
	BT-S-A-W-8M-8M	8	5	14	19	24	27.5	64	17
	BT-S-A-W-10M-10M	10	7	17	22	25	31	67	17.5
	BT-S-A-W-12M-12M	12	8	17	24	29	31	75	21.5
	BT-S-A-W-16M-16M	16	12	24	30	33	37.5	86	24.5
	BT-S-A-W-20M-20M	20	15.6	27	36	37	44.5	96	26.5
	BT-S-A-W-25M-25M	25	20	36	46	42	50	108	30
	BT-S-A-W-30M-30M	30	25	41	50	49	55	124	35.5
	BT-S-A-W-38M-38M	38	32	50	60	57	66.5	144	41





STANDPIPE RUN TEE 24° CONE

SERIES	FC PART NUMBER	T TUBE OD IN MM	ØE	F A/F	G A/F	Hx	Hy	Ax	L
L	RT-L-A-W-6M-6M	6	3.5	12	14	19	26	26.5	12
	RT-L-A-W-8M-8M	8	4.5	12	17	21	27.5	29	14
	RT-L-A-W-10M-10M	10	7	14	19	22	29	30	15
	RT-L-A-W-12M-12M	12	7.5	17	22	24	29.5	31.5	17
	RT-L-A-W-15M-15M	15	11	19	27	28	32.5	36.5	21
	RT-L-A-W-18M-18M	18	14	24	32	31	35.5	63	23.5
	RT-L-A-W-22M-22M	22	18	27	36	35	38.5	44	27.5
	RT-L-A-W-28M-28M	28	23	36	41	38	42	47	30.5
	RT-L-A-W-35M-35M	35	29.5	41	50	45	51	56	34.5
	RT-L-A-W-42M-42M	42	35.5	50	60	51	60	63	40
S	RT-S-A-W-6M-6M	6	3.6	12	17	23	27	31	16
	RT-S-A-W-8M-8M	8	5	14	19	24	27.5	32	17
	RT-S-A-W-10M-10M	10	7	17	22	25	31	33.5	17.5
	RT-S-A-W-12M-12M	12	8	17	24	29	31	37.5	21.5
	RT-S-A-W-16M-16M	16	12	24	30	33	37.5	43	24.5
	RT-S-A-W-20M-20M	20	15.6	27	36	37	44.5	48	26.5
	RT-S-A-W-25M-25M	25	20	36	46	42	50	54	30
	RT-S-A-W-30M-30M	30	25	41	50	49	55	62	35.5
	RT-S-A-W-38M-38M	38	32	50	60	57	66.5	72	41



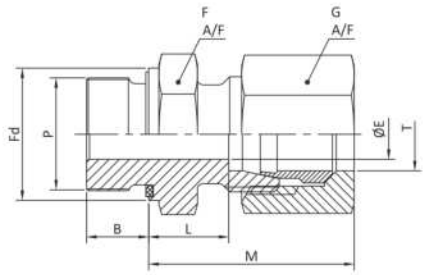


O SEAL MALE CONNECTOR 24° CONE x METRIC THREAD WITH O-RING

SPECIFICATIONS USED:- DIN 2353 / ISO 8434-1 & ISO 6149

SERIES	FC PART NUMBER	T TUBE OD IN MM	P METRIC MM	B	ØE	F A/F	G A/F	Fd	M	L
L	CM-L-A-O-6M-M1	6	M10 x 1	8.5	4	14	14	13.8	27	12.5
	CM-L-A-O-8M-M5	8	M12 x 1.5	11	6	17	17	16.8	25	10
	CM-L-A-O-10M-M7	10	M14 x 1.5	11	7	19	19	18.8	26	11
	CM-L-A-O-12M-M9	12	M16 x 1.5	11.5	9	22	22	21.8	27	12.5
	CM-L-A-O-15M-M11	15	M18 x 1.5	12.5	11	24	27	23.8	29	13.5
	CM-L-A-O-18M-M15	18	M22 x 1.5	13	14	27	32	26.8	31	14.5
	CM-L-A-O-22M-M20	22	M27 x 2	16	18	32	36	31.8	33	16.5
	CM-L-A-O-28M-M24	28	M33 x 2	16	23	41	41	40.8	34	17.5
	CM-L-A-O-35M-M27	35	M42 x 2	16	30	50	50	49.8	39	17.5
	CM-L-A-O-42M-M28	42	M48 x 2	17.5	36	55	60	54.8	42	19
S	CM-S-A-O-6M-M5	6	M12 x 1.5	11	4	17	17	16.8	28	13
	CM-S-A-O-8M-M7	8	M14 x 1.5	11	5	19	19	18.8	30	15
	CM-S-A-O-10M-M9	10	M16 x 1.5	11.5	7	22	22	21.8	32	16
	CM-S-A-O-12M-M11	12	M18 x 1.5	12.5	8	24	24	23.8	34.5	18.5
	CM-S-A-O-16M-M15	16	M22 x 1.5	13	12	27	30	26.8	39	20.5
	CM-S-A-O-20M-M20	20	M27 x 2	16	16	32	36	31.8	44.5	23
	CM-S-A-O-25M-M24	25	M33 x 2	16	20	41	46	40.8	49.5	25.5
	CM-S-A-O-30M-M27	30	M42 x 2	16	25	50	50	49.8	53	26.5
	CM-S-A-O-38M-M28	38	M48 x 2	17.5	32	55	60	54.8	61	30

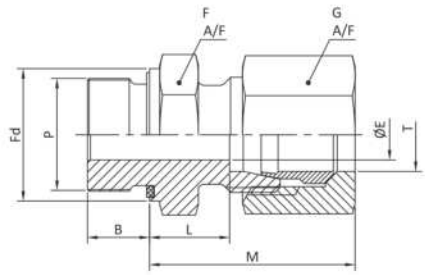




MALE CONNECTOR 24° CONE x METRIC THREAD, ELASTOMERIC SEALING

SPECIFICATIONS USED:- DIN 2353 / ISO 8434-1 & ISO 9974-2

SERIES	FC PART NUMBER	T TUBE OD IN MM	P METRIC (M)	B	ØE	F A/F	G A/F	Fd	M	L
L	CM-L-A-M-6M-M1	6	M10 x 1	8	4	14	14	13.9	23	8.5
	CM-L-A-M-8M-M1	8	M10 x 1	8	4	14	17	13.9	23.5	8.5
	CM-L-A-M-10M-M5	10	M12 x 1.5	12	6	17	19	16.9	26	11
	CM-L-A-M-10M-M7	10	M14 x 1.5	12	7	19	19	18.9	26	11
	CM-L-A-M-10M-M9	10	M16 x 1.5	12	8	22	19	21.9	27.5	12.5
	CM-L-A-M-10M-M11	10	M18 x 1.5	12	8	24	19	23.9	27.5	12.5
	CM-L-A-M-10M-M15	10	M22 x 1.5	14	8	27	19	26.9	29	14
	CM-L-A-M-12-M7	12	M14 x 1.5	12	7	19	22	18.9	25.5	11
	CM-L-A-M-12-M9	12	M16 x 1.5	12	9	22	22	21.9	27	12.5
	CM-L-A-M-12-M11	12	M18 x 1.5	12	10	24	22	23.9	27	12.5
	CM-L-A-M-12-M15	12	M22 x 1.5	14	10	27	22	26.9	28.5	14
	CM-L-A-M-15-M9	15	M16 x 1.5	12	9	24	27	21.9	29	13.5
	CM-L-A-M-15-M11	15	M18 x 1.5	12	11	24	27	23.9	29	13.5
	CM-L-A-M-15-M15	15	M22 x 1.5	14	12	27	27	26.9	30.5	15
	CM-L-A-M-18-M11	18	M18 x 1.5	12	11	27	32	23.9	30.5	14
	CM-L-A-M-18-M15	18	M22 x 1.5	14	14	27	32	26.9	31	14.5
	CM-L-A-M-22-M15	22	M22 x 1.5	14	14	32	36	26.9	33	16.5
	CM-L-A-M-22-M17	22	M26 x 1.5	16	18	32	36	31.9	33	16.5
	CM-L-A-M-28-M24	28	M33 x 2	18	23	41	41	39.9	34	17.5
	CM-L-A-M-35-M27	35	M42 x 2	20	30	50	50	49.9	39	17.5
	CM-L-A-M-42-M28	42	M48 x 2	22	36	55	60	54.9	42	19
S	CM-S-A-M-6-M5	6	M12 x 1.5	12	4	17	17	16.9	28	13
	CM-S-A-M-8-M7	8	M14 x 1.5	12	5	19	19	18.9	30	15
	CM-S-A-M-10-M9	10	M16 x 1.5	12	7	22	22	21.9	31	15
	CM-S-A-M-12-M7	12	M14 x 1.5	12	5	22	24	18.9	32.5	16.5
	CM-S-A-M-12-M11	12	M18 x 1.5	12	8	24	24	23.9	33	17
	CM-S-A-M-12-M15	12	M22 x 1.5	14	8	27	24	26.9	33.5	17.5
	CM-S-A-M-16-M11	16	M18 x 1.5	12	8	24	30	23.9	36.5	18
	CM-S-A-M-16-M15	16	M22 x 1.5	14	12	27	30	26.9	37	18.5
	CM-S-A-M-20-M20	20	M27 x 2	16	16	32	36	31.9	42	20.5
	CM-S-A-M-25-M24	25	M33 x 2	18	20	41	46	39.9	47	23
	CM-S-A-M-30-M27	30	M42 x 2	20	25	50	50	49.9	50	23.5
	CM-S-A-M-38-M28	38	M48 x 2	22	32	55	60	54.9	57	26



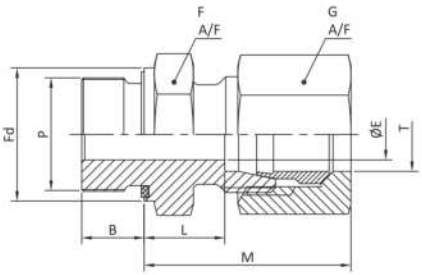


MALE CONNECTOR 24° CONE x BSPP THREAD, ELASTOMERIC SEAL

SPECIFICATIONS USED:- ISO 1179-2

SERIES	FC PART NUMBER	T TUBE OD IN MM	P BSPP (M)	B	ØE	F A/F	G A/F	Fd	M	L
	CM-L-A-H-6M-2	6	1/8	8	4	14	14	13.9	23	8.5
	CM-L-A-H-6M-4	6	1/4	12	4	19	14	18.9	24.5	10
	CM-L-A-H-6M-6	6	3/8	12	4	22	14	21.9	26	11.5
	CM-L-A-H-6M-8	6	1/2	14	4	27	14	26.9	26.5	12
	CM-L-A-H-8M-2	8	1/8	8	4	14	17	13.9	24.5	9.5
	CM-L-A-H-8M-4	8	1/4	12	6	19	17	18.9	25	10
	CM-L-A-H-8M-6	8	3/8	12	6	22	17	21.9	26.5	11.5
	CM-L-A-H-8M-8	8	1/2	14	6	27	17	26.9	27	12
	CM-L-A-H-10M-2	10	1/8	8	4	17	19	13.9	27	12
	CM-L-A-H-10M-4	10	1/4	12	6	19	19	18.9	26	11
	CM-L-A-H-10M-6	10	3/8	12	8	22	19	21.9	27.5	12.5
	CM-L-A-H-10M-8	10	1/2	14	8	27	19	26.9	28	13
	CM-L-A-H-12M-2	12	1/8	8	4	19	22	13.9	26	11.5
	CM-L-A-H-12M-4	12	1/4	12	6	19	22	18.9	26.5	12
	CM-L-A-H-12M-6	12	3/8	12	9	22	22	21.9	27	12.5
	CM-L-A-H-12M-8	12	1/2	14	10	27	22	26.9	27.5	13
L	CM-L-A-H-12M-12	12	3/4	16	10	32	22	31.9	28.5	14
	CM-L-A-H-15M-6	15	1/2	12	9	24	27	21.9	29	13.5
	CM-L-A-H-15M-8	15	3/4	14	12	27	27	26.9	29.5	14
	CM-L-A-H-15M-12	15	3/8	16	12	32	27	31.9	30.5	15
	CM-L-A-H-18M-6	18	1/2	12	9	27	32	21.9	30.5	14
	CM-L-A-H-18M-8	18	3/4	14	14	27	32	26.9	31	14.5
	CM-L-A-H-18M-12	18	1/2	16	15	32	32	31.9	31	14.5
	CM-L-A-H-22M-8	22	3/4	14	14	32	36	26.9	33	16.5
	CM-L-A-H-22M-12	22	3/4	16	18	32	36	31.9	33	16.5
	CM-L-A-H-22M-16	22	1	18	19	41	36	39.9	34	17.5
	CM-L-A-H-28M-12	28	3/4	16	18	41	41	31.9	34	17.5
	CM-L-A-H-28M-16	28	1	18	23	41	41	39.9	34	17.5
	CM-L-A-H-28M-20	28	1 1/4	20	24	50	41	49.9	35	18.5
	CM-L-A-H-35M-16	35	1	18	23	46	50	39.9	39	17.5
	CM-L-A-H-35M-20	35	1 1/4	20	30	50	50	49.9	39	17.5
	CM-L-A-H-35M-24	35	1 1/2	22	30	55	50	54.9	41	19.5
	CM-L-A-H-42M-16	42	1	18	23	55	60	39.9	42	19
	CM-L-A-H-42M-20	42	1 1/4	20	30	55	60	49.9	44	21
	CM-L-A-H-42M-24	42	1 1/2	22	36	55	60	54.9	42	19

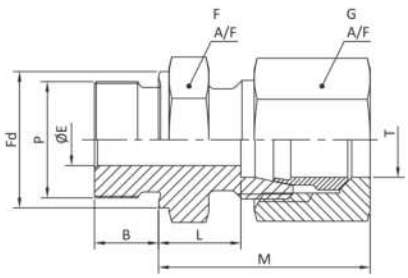




MALE CONNECTOR 24° CONE x BSPP THREAD, ELASTOMERIC SEAL

SPECIFICATIONS USED:- DIN 2353 / ISO 8434-1 & ISO 1179-2

SERIES	FC PART NUMBER	T TUBE OD IN MM	P BSPP (M)	B	ØE	F A/F	G A/F	Fd	M	L
S	CM-S-A-H-6M-4	6	1/4	12	4	19	17	18.9	28	13
	CM-S-A-H-6M-6	6	3/8	12	4	22	17	21.9	30.5	15.5
	CM-S-A-H-6M-8	6	1/2	14	4	27	17	26.9	33	18
	CM-S-A-H-8M-4	8	1/4	12	5	19	19	18.9	30	15
	CM-S-A-H-8M-6	8	3/8	12	5	22	19	21.9	30.5	15.5
	CM-S-A-H-8M-8	8	1/2	14	5	27	19	26.9	33	18
	CM-S-A-H-10M-4	10	1/4	12	5	19	22	18.9	30.5	14.5
	CM-S-A-H-10M-6	10	3/8	12	7	22	22	21.9	31	15
	CM-S-A-H-10M-8	10	1/2	14	7	27	22	26.9	33.5	17.5
	CM-S-A-H-12M-4	12	1/4	12	5	22	24	18.9	32.5	16.5
	CM-S-A-H-12M-6	12	3/8	12	8	22	24	21.9	33	17
	CM-S-A-H-12M-8	12	1/2	14	8	27	24	26.9	33.5	17.5
	CM-S-A-H-16M-6	16	3/8	12	8	27	30	21.9	36.5	18
	CM-S-A-H-16M-8	16	1/2	14	12	27	30	26.9	37	18.5
	CM-S-A-H-16M-12	16	3/4	16	12	32	30	31.9	39	20.5
	CM-S-A-H-20M-8	20	1/2	14	12	32	36	26.9	42	20.5
	CM-S-A-H-20M-12	20	3/4	16	16	32	36	31.9	42	20.5
	CM-S-A-H-20M-16	20	1	18	16	41	36	39.9	44	22.5
	CM-S-A-H-20M-20	20	1.1/4	20	16	50	36	49.9	44	22.5
	CM-S-A-H-25M-8	25	1/2	14	12	41	46	26.9	47	23
	CM-S-A-H-25M-12	25	3/4	16	16	41	46	31.9	47	23
	CM-S-A-H-25M-16	25	1	18	20	41	46	39.9	47	23
	CM-S-A-H-25M-20	25	1.1/4	20	20	50	46	49.9	47	23
	CM-S-A-H-30M-16	30	1	18	20	46	50	39.9	50	23.5
	CM-S-A-H-30M-20	30	1.1/4	20	25	50	50	49.9	50	23.5
	CM-S-A-H-30M-24	30	1.1/2	22	25	55	50	54.9	53	26.5
	CM-S-A-H-38M-20	38	1 1/4	20	25	55	60	49.9	57	26
	CM-S-A-H-38M-24	38	1.1/2	22	32	55	60	54.9	57	26



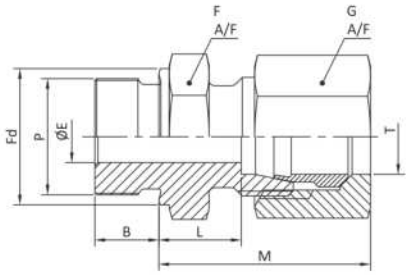


MALE CONNECTOR 24° CONE x BSPP THREAD, METAL TO METAL SEALING

SPECIFICATIONS USED:- DIN 2353 / ISO 8434-1 & ISO 1179-4

SERIES	FC PART NUMBER	T TUBE OD IN MM	P BSPP (M)	B	ØE	F A/F	G A/F	Fd	M	L
	CM-L-A-J-6M-2	6	1/8	8	4	14	14	13.9	23	8.5
	CM-L-A-J-6M-4	6	1/4	12	4	19	14	18.9	24.5	10
	CM-L-A-J-6M-6	6	3/8	12	4	22	14	21.9	26	11.5
	CM-L-A-J-6M-8	6	1/2	14	4	27	14	26.9	26.5	12
	CM-L-A-J-8M-2	8	1/8	8	4	14	17	13.9	24.5	9.5
	CM-L-A-J-8M-4	8	1/4	12	6	19	17	18.9	25	10
	CM-L-A-J-8M-6	8	3/8	12	6	22	17	21.9	26.5	11.5
	CM-L-A-J-8M-8	8	1/2	14	6	27	17	26.9	27	12
	CM-L-A-J-10M-2	10	1/8	8	4	17	19	13.9	25.5	10.5
	CM-L-A-J-10M-4	10	1/4	12	6	19	19	18.9	26	11
	CM-L-A-J-10M-6	10	3/8	12	8	22	19	21.9	27.5	12.5
	CM-L-A-J-10M-8	10	1/2	14	8	27	19	26.9	28	13
	CM-L-A-J-12M-2	12	1/8	8	4	19	22	13.9	26	11.5
	CM-L-A-J-12M-4	12	1/4	12	6	19	22	18.9	26.5	12
	CM-L-A-J-12M-6	12	3/8	12	9	22	22	21.9	27	12.5
L	CM-L-A-J-12M-8	12	1/2	14	10	27	22	26.9	27.5	13
	CM-L-A-J-12M-12	12	3/4	16	10	32	22	31.9	31.5	17
	CM-L-A-J-15M-6	15	3/8	12	9	24	27	21.9	29	13.5
	CM-L-A-J-15M-8	15	1/2	14	12	27	27	26.9	27	11.5
	CM-L-A-J-15M-12	15	3/4	16	12	32	27	31.9	30.5	15
	CM-L-A-J-18M-6	18	3/8	12	9	27	32	21.9	30.5	14
	CM-L-A-J-18M-8	18	1/2	14	14	27	32	26.9	31	14.5
	CM-L-A-J-18M-12	18	3/4	16	15	32	32	31.9	31	14.5
	CM-L-A-J-22M-8	22	1/2	14	14	32	36	26.9	33	16.5
	CM-L-A-J-22M-12	22	3/4	16	18	32	36	31.9	33	16.5
	CM-L-A-J-22M-16	22	1	18	19	41	36	39.9	34	17.5
	CM-L-A-J-28M-8	28	1/2	14	14	41	41	26.9	34	17.5
	CM-L-A-J-28M-12	28	3/4	16	18	41	41	31.9	34	17.5
	CM-L-A-J-28M-16	28	1	18	23	41	41	39.9	34	17.5
	CM-L-A-J-28M-20	28	1.1/4	20	24	50	41	49.9	35	18.5
	CM-L-A-J-35M-16	35	1	18	23	46	50	39.9	39	17.5
	CM-L-A-J-35M-20	35	1.1/4	20	30	50	50	49.9	39	17.5
	CM-L-A-J-35M-24	35	1.1/2	22	30	55	50	54.9	41	19.5
	CM-L-A-J-42M-16	42	1	18	23	55	60	39.9	42	19
	CM-L-A-J-42M-20	42	1.1/4	20	30	55	60	49.9	42	19
	CM-L-A-J-42M-24	42	1.1/2	22	36	55	60	54.9	42	19

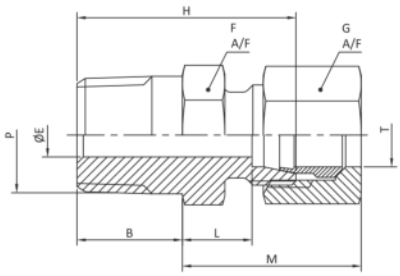




MALE CONNECTOR 24° CONE x BSPP THREAD, METAL TO METAL SEALING

SPECIFICATIONS USED:- DIN 2353 / ISO 8434-1 & ISO 1179-4

SERIES	FC PART NUMBER	T TUBE OD IN MM	P BSPP (M)	B	ØE	F A/F	G A/F	Fd	M	L
S	CM-S-A-J-6M-4	6	1/4	12	4	19	17	18.9	28	13
	CM-S-A-J-6M-6	6	3/8	12	4	22	17	21.9	30.5	15.5
	CM-S-A-J-6M-8	6	1/2	14	4	27	17	26.9	33	18
	CM-S-A-J-8M-4	8	1/4	12	5	19	19	18.9	30	15
	CM-S-A-J-8M-6	8	3/8	12	5	22	19	21.9	30.5	15.5
	CM-S-A-J-8M-8	8	1/2	14	5	27	19	26.9	33	18
	CM-S-A-J-10M-4	10	1/4	12	5	19	22	18.9	30.5	14.5
	CM-S-A-J-10M-6	10	3/8	12	7	22	22	21.9	31	15
	CM-S-A-J-10M-8	10	1/2	14	7	27	22	26.9	33.5	17.5
	CM-S-A-J-12M-4	12	1/4	12	5	22	24	18.9	32.5	16.5
	CM-S-A-J-12M-6	12	3/8	12	8	22	24	21.9	33	17
	CM-S-A-J-12M-8	12	1/2	14	8	27	24	26.9	33.5	17.5
	CM-S-A-J-16M-6	16	3/8	12	8	27	30	21.9	36.5	18
	CM-S-A-J-16M-8	16	1/2	14	12	27	30	26.9	37	18.5
	CM-S-A-J-16M-12	16	3/4	16	12	32	30	31.9	39	20.5
	CM-S-A-J-20M-8	20	1/2	14	12	32	36	26.9	42	20.5
	CM-S-A-J-20M-12	20	3/4	16	16	32	36	31.9	42	20.5
	CM-S-A-J-20M-16	20	1	18	16	41	36	39.9	44	22.5
	CM-S-A-J-25M-12	25	1	16	16	41	46	31.9	47	23
	CM-S-A-J-25M-16	25	1.1/4	18	20	41	46	39.9	47	23
	CM-S-A-J-25M-20	25	1.1/4	20	20	50	46	49.9	47	23
	CM-S-A-J-30M-16	30	1	18	20	46	50	39.9	50	23.5
	CM-S-A-J-30M-20	30	1.1/4	20	25	50	50	49.9	50	23.5
	CM-S-A-J-38M-20	38	1.1/4	20	25	55	60	49.9	57	26
	CM-S-A-J-38M-24	38	1.1/2	22	32	55	60	54.9	57	26



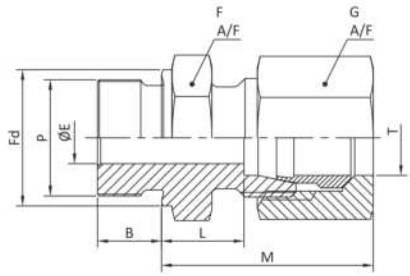


MALE CONNECTOR 24° CONE x BSPT THREAD

SPECIFICATIONS USED:- DIN 2353 / ISO 8434-1 & DIN 3852-2 TYPE-C

SERIES	FC PART NUMBER	T TUBE OD IN MM	P BSP TAPER (M)	B	ØE	F A/F	G A/F	H	L	M
LL	CM-LL-A-A25-4M-2	4	1/8	8	3	11	10	20	16	26.5
	CM-LL-A-A25-6M-2	6	1/8	8	3	11	12	20	14.5	26.5
	CM-LL-A-A25-8M-2	8	1/8	8	3	11	14	22	16.5	28.5
	CM-LL-A-A25-8M-4	8	1/4	12	4.5	14	14	26	20.5	32.5
L	CM-L-A-A25-6M-2	6	1/8	8	3	12	14	22	15	29.5
	CM-L-A-A25-6M-4	6	1/4	12	4	17	14	27	20	34.5
	CM-L-A-A25-8M-2	8	1/8	8	3	17	17	23	16	31
	CM-L-A-A25-8M-4	8	1/4	12	4.5	17	17	27	20	35
	CM-L-A-A25-10M-4	10	1/4	12	4.5	17	19	28	21	36
	CM-L-A-A25-12M-4	12	1/4	12	4.5	19	22	29	22	36.5
	CM-L-A-A25-12M-6	12	3/8	12	6	19	22	29	22	36.5
	CM-L-A-A25-12M-8	12	1/2	14	7	24	22	31	24	38.5
	CM-L-A-A25-15M-6	15	3/8	12	6	24	27	30	23	38.5
	CM-L-A-A25-15M-8	15	1/2	14	7	24	27	32	25	40.5
	CM-L-A-A25-18M-8	18	1/2	14	7	27	32	33	25.5	42
	CM-L-A-A25-22M-12	22	3/4	16	9	32	36	37	29.5	46
	CM-L-A-A25-28M-16	28	1	18	11	41	41	40	32.5	49
	CM-L-A-A25-35M-20	35	1.1/4	20	10	46	50	45	34.5	56
	CM-L-A-A25-42M-24	42	1.1/2	22	14	55	60	49	38	61

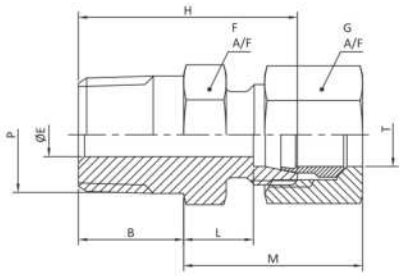




MALE CONNECTOR 24° CONE x METRIC THREAD, METAL TO METAL SEALING

SPECIFICATIONS USED:- DIN 2353 / ISO 8434-1 & ISO 9974-3

SERIES	FC PART NUMBER	T TUBE OD IN MM	P METRIC (M)	B	ØE	F A/F	G A/F	Fd	M	L
L	CM-L-A-N-6M-M1	6	M10 x 1	8	4	14	14	13.9	23	8.5
	CM-L-A-N-8M-M5	8	M12 x 1.5	12	6	17	17	16.9	25	10
	CM-L-A-N-10M-M1	10	M10 x 1	8	4	17	19	13.9	25.5	10.5
	CM-L-A-N-10M-M5	10	M12 x 1.5	12	6	17	19	16.9	26	11
	CM-L-A-N-10M-M7	10	M14 x 1.5	12	7	19	19	18.9	26	11
	CM-L-A-N-10M-M9	10	M16 x 1.5	12	8	22	19	21.9	27.5	12.5
	CM-L-A-N-10M-M11	10	M18 x 1.5	12	8	24	19	23.9	27.5	12.5
	CM-L-A-N-10M-M15	10	M22 x 1.5	14	8	27	19	26.9	29	14
	CM-L-A-N-12M-M5	12	M12 x 1.5	12	6	19	22	16.9	25.5	11
	CM-L-A-N-12M-M9	12	M16 x 1.5	12	9	22	22	21.9	27	12.5
	CM-L-A-N-12M-M11	12	M18 x 1.5	12	10	24	22	23.9	27	12.5
	CM-L-A-N-12M-M15	12	M22 x 1.5	14	10	27	22	26.9	28.5	14
	CM-L-A-N-15M-M9	15	M16 x 1.5	12	9	24	27	21.9	28.5	13
	CM-L-A-N-15M-M11	15	M18 x 1.5	12	11	24	27	23.9	29	13.5
	CM-L-A-N-15M-M15	15	M22 x 1.5	14	12	27	27	26.9	30.5	15
	CM-L-A-N-18M-M11	18	M18 x 1.5	12	11	27	32	23.9	30.5	14
	CM-L-A-N-18M-M15	18	M22 x 1.5	14	14	27	32	26.9	31	14.5
	CM-L-A-N-22M-M15	22	M22 x 1.5	14	14	32	36	26.9	33	16.5
	CM-L-A-N-22M-M17	22	M26 x 1.5	16	18	32	36	31.9	33	16.5
	CM-L-A-N-28M-M24	28	M33 x 2	18	23	41	41	39.9	34	17.5
	CM-L-A-N-35M-M27	35	M42 x 2	20	30	50	50	49.9	39	17.5
	CM-L-A-N-42M-M28	42	M48 x 2	22	36	55	60	54.9	42	19
S	CM-S-A-N-6M-M5	6	M12 x 1.5	12	4	17	17	16.9	28	13
	CM-S-A-N-8M-M7	8	M14 x 1.5	12	5	19	19	18.9	30	15
	CM-S-A-N-10M-M9	10	M16 x 1.5	12	7	22	22	21.9	31	15
	CM-S-A-N-12M-M7	12	M14 x 1.5	12	5	22	24	18.9	32.5	16.5
	CM-S-A-N-12M-M11	12	M18 x 1.5	12	8	24	24	23.9	33	17
	CM-S-A-N-12M-M15	12	M22 x 1.5	14	8	27	24	26.9	33.5	17.5
	CM-S-A-N-16M-M11	16	M18 x 1.5	12	8	27	30	23.9	36.5	18
	CM-S-A-N-16M-M15	16	M22 x 1.5	14	12	27	30	26.9	37	18.5
	CM-S-A-N-20M-M15	20	M22 x 1.5	14	12	32	36	26.9	44	22.5
	CM-S-A-N-20M-M20	20	M27 x 2	16	16	32	36	31.9	42	20.5
	CM-S-A-N-25M-M24	25	M33 x 2	18	20	41	46	39.9	47	23
	CM-S-A-N-30M-M27	30	M42 x 2	20	25	50	50	49.9	50	23.5
	CM-S-A-N-38M-M28	38	M48 x 2	22	32	55	60	54.9	57	26



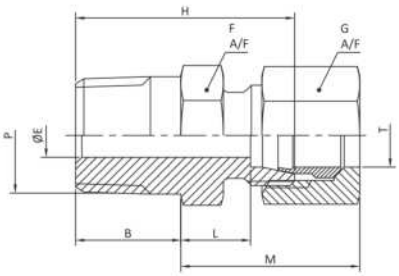


MALE CONNECTOR 24° CONE x NPT THREAD

SPECIFICATIONS USED:- DIN 2353 / ISO 8434-1 & SAE J476

SERIES	FC PART NUMBER	T TUBE OD IN MM	P NPTF (M)	A	B	ØE	F A/F	G A/F	H	M	L
LL	CM-LL-A-A16-4M-2	4	1/8	30.83	9.6	3	11	10	23.1	20	9.5
	CM-LL-A-A16-6M-2	6	1/8	31.05	9.6	4.5	11	12	23.1	20	8
	CM-LL-A-A16-8M-2	8	1/8	32.48	9.6	4.8	14	14	24.1	21	9
L	CM-L-A-A16-6M-2	6	1/8	35.91	9.6	4	12.7	14	25.6	23.5	9
	CM-L-A-A16-6M-4	6	1/4	40.61	14.3	4	14	14	30.3	23.5	9
	CM-L-A-A16-6M-6	6	3/8	40.11	14.3	4	19	14	29.8	23	8.5
	CM-L-A-A16-6M-8	6	1/2	47.91	19.1	4	22	14	37.6	26	11.5
	CM-L-A-A16-8M-2	8	1/8	35.54	9.6	4.8	14	17	24.6	23	8
	CM-L-A-A16-8M-4	8	1/4	40.74	14.3	6	17	17	29.8	23.5	8.5
	CM-L-A-A16-8M-6	8	3/8	40.74	14.3	6	19	17	29.8	23.5	8.5
	CM-L-A-A16-8M-8	8	1/2	46.54	19.1	6	22	17	35.6	24.5	9.5
	CM-L-A-A16-10M-2	10	1/8	35.75	9.6	4.8	17	19	24.6	23	8
	CM-L-A-A16-10M-4	10	1/4	42.95	14.3	7.1	17	19	31.8	25.5	10.5
	CM-L-A-A16-10M-6	10	3/8	42.95	14.3	8	19	19	31.8	25.5	10.5
	CM-L-A-A16-10M-8	10	1/2	47.75	19.1	8	22	19	36.6	25.5	10.5
	CM-L-A-A16-10M-12	10	3/4	48.75	19.1	8	27	19	37.6	26.5	11.5
	CM-L-A-A16-12M-2	12	1/8	36.56	9.6	4.8	19	22	25.6	23.5	9
	CM-L-A-A16-12M-4	12	1/4	42.76	14.3	7.1	19	22	31.8	25	10.5
	CM-L-A-A16-12M-6	12	3/8	42.76	14.3	9.6	19	22	31.8	25	10.5
	CM-L-A-A16-12M-8	12	1/2	47.06	19.1	10	22	22	36.1	24.5	10
	CM-L-A-A16-15M-6	15	3/8	44.74	14.3	9.6	24	27	32.8	27	11.5
	CM-L-A-A16-15M-8	15	1/2	52.54	19.1	11.9	24	27	40.6	30	14.5
	CM-L-A-A16-15M-12	15	3/4	50.54	19.1	12	27	27	38.6	28	12.5
	CM-L-A-A16-15M-16	15	1	56.34	23.9	12	36	27	44.4	29	13.5
	CM-L-A-A16-18M-6	18	3/8	46.46	14.3	9.6	27	32	33.8	28.5	12
	CM-L-A-A16-18M-8	18	1/2	54.26	19.1	11.9	27	32	41.6	31.5	15
	CM-L-A-A16-18M-12	18	3/4	51.26	19.1	15	30	32	38.6	28.5	12
	CM-L-A-A16-18M-16	18	1	57.06	23.9	15	36	32	44.4	29.5	13
	CM-L-A-A16-22M-8	22	1/2	53.96	19.1	11.9	32	36	40.6	30.5	14
	CM-L-A-A16-22M-12	22	3/4	58.96	19.1	15.8	32	36	45.6	35.5	19
	CM-L-A-A16-22M-16	22	1	59.76	23.9	19	36	36	46.4	31.5	15
	CM-L-A-A16-28M-12	28	3/4	55.45	19.1	15.8	41	41	41.6	31.5	15
	CM-L-A-A16-28M-16	28	1	66.75	23.9	22.3	41	41	52.9	38	21.5
	CM-L-A-A16-28M-20	28	1 1/4	61.75	23.9	24	46	41	47.9	33	16.5
	CM-L-A-A16-35M-16	35	1	65.97	23.9	22.3	46	50	49.6	36.7	15.2
	CM-L-A-A16-35M-20	35	1 1/4	72.27	23.9	27.6	46	50	55.9	43	21.5
	CM-L-A-A16-42M-20	42	1 1/4	67.57	23.9	27.6	55	60	51.9	40	17

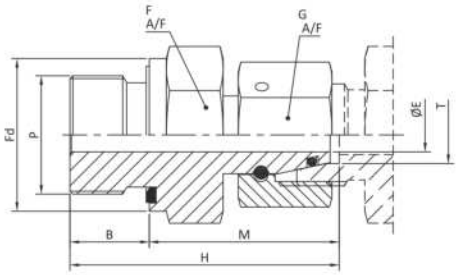




MALE CONNECTOR 24° CONE x NPT THREAD

SPECIFICATIONS USED:- DIN 2353 / ISO 8434-1 & SAE J476

SERIES	FC PART NUMBER	T TUBE OD IN MM	P NPTF (M)	A	B	ØE	F A/F	G A/F	H	M	L
S	CM-S-A-A16-6M-2	6	1/8	38.5	9.6	4	14	17	27.6	26	11
	CM-S-A-A16-6M-4	6	1/4	45.9	14.3	4	17	17	35	28.7	13.7
	CM-S-A-A16-6M-6	6	3/8	43.7	14.3	4	19	17	32.8	26.5	11.5
	CM-S-A-A16-6M-8	6	1/2	52.5	19.1	4	22	17	41.6	30.5	15.5
	CM-S-A-A16-8M-4	8	1/4	45.9	14.3	5	17	19	35	28.7	13.7
	CM-S-A-A16-8M-6	8	3/8	45.7	14.3	5	19	19	34.8	28.5	13.5
	CM-S-A-A16-8M-8	8	1/2	52.5	19.1	5	22	19	41.6	30.5	15.5
	CM-S-A-A16-10M-4	10	1/4	48	14.3	7	19	22	35	29.2	13.2
	CM-S-A-A16-10M-6	10	3/8	48	14.3	7	19	22	35	29.2	13.2
	CM-S-A-A16-10M-8	10	1/2	54.6	19.1	7	22	22	41.6	31	15
	CM-S-A-A16-10M-12	10	3/4	56.6	19.1	7	30	22	43.6	33	17
	CM-S-A-A16-12M-4	12	1/4	49.5	14.3	7.1	22	24	37	31.2	15.2
	CM-S-A-A16-12M-6	12	3/8	49.5	14.3	8	22	24	37	31.2	15.2
	CM-S-A-A16-12M-8	12	1/2	54.5	19.1	8	22	24	42	31.4	15.4
	CM-S-A-A16-12M-12	12	3/4	56.1	19.1	8	30	24	43.6	33	17
	CM-S-A-A16-16M-6	16	3/8	52.8	14.3	9.6	27	30	38.8	34.5	16
	CM-S-A-A16-16M-8	16	1/2	62.0	19.1	11.9	27	30	48	38.9	20.4
	CM-S-A-A16-16M-12	16	3/4	59.6	19.1	12	27	30	45.6	36.5	18
	CM-S-A-A16-20M-8	20	1/2	64	19.1	11.9	32	36	47.6	39.5	18
	CM-S-A-A16-20M-12	20	3/4	64.4	19.1	15.8	32	36	48	39.9	18.4
	CM-S-A-A16-20M-16	20	1	70.8	23.9	16	36	36	54.4	41.5	20
	CM-S-A-A16-25M-12	25	3/4	68.8	19.1	15.8	41	46	51.6	44.5	20.5
	CM-S-A-A16-25M-16	25	1	74.2	23.9	20	41	46	57	45.1	21.1
	CM-S-A-A16-25M-20	25	1 1/4	74.1	23.9	20	46	46	56.9	45	21
	CM-S-A-A16-25M-24	25	1 1/2	78.4	26.2	20	50	50	61.2	47	23
	CM-S-A-A16-30M-16	30	1	77.0	23.9	22.3	46	50	58.4	47.5	21
	CM-S-A-A16-30M-20	30	1 1/4	78.6	23.9	25	46	50	60	49.1	22.6
	CM-S-A-A16-30M-24	30	1 1/2	78.8	26.2	25	50	50	60.2	47	20.5
	CM-S-A-A16-38M-20	38	1 1/4	83.8	23.9	27.6	55	60	63.9	55	24
	CM-S-A-A16-38M-24	38	1 1/2	84.9	26.2	32	55	60	65	53.8	22.8



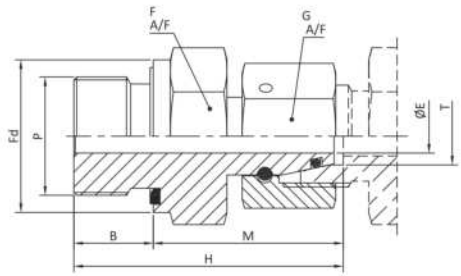


SWIVEL MALE CONNECTOR 24° DKO SWIVEL x BSPP THREAD, ELASTOMERIC SEAL

SPECIFICATIONS USED:- DIN 2353 / ISO 8434-1 & ISO 1179-2

SERIES	FC PART NUMBER	T TUBE OD IN MM	P BSPP MALE IN INCH	B	ØE	F A/F	G A/F	Fd	H	M
L	CM-L-V-H-6M-2	6	1/8	8.0	2.5	14	14	13.9	32.5	24.5
	CM-L-V-H-8M-4	8	1/4	12.0	4.0	19	17	18.9	41.5	29.5
	CM-L-V-H-10M-4	10	1/4	12.0	6.0	19	19	18.9	39.5	27.5
	CM-L-V-H-10M-6	10	3/8	12.0	6.0	22	19	21.9	41.0	29.0
	CM-L-V-H-12M-4	12	1/4	12.0	6.0	19	22	18.9	39.5	27.5
	CM-L-V-H-12M-6	12	3/8	12.0	8.0	22	22	21.9	46.0	34.0
	CM-L-V-H-12M-8	12	1/2	14.0	8.0	27	22	26.9	43.5	29.5
	CM-L-V-H-15M-8	15	1/2	14.0	10.0	27	27	26.9	46.0	32.0
	CM-L-V-H-18M-8	18	1/2	14.0	13.0	27	32	26.9	45.5	31.5
	CM-L-V-H-18M-12	18	3/4	16.0	13.0	32	32	31.9	45.6	29.6
	CM-L-V-H-22M-12	22	3/4	16.0	17.0	32	36	31.9	48.5	32.5
	CM-L-V-H-28M-16	28	1	18.0	22.0	41	41	39.9	53.0	35.0
	CM-L-V-H-35M-20	35	1 1/4	20.0	28.0	50	50	49.9	62.5	42.5
	CM-L-V-H-42M-24	42	1 1/2	22.0	34.0	55	60	54.9	68.5	46.5
S	CM-S-V-H-6M-4	6	1/4	12.0	2.5	19	17	18.9	39.0	27.0
	CM-S-V-H-8M-4	8	1/4	12.0	4.0	19	19	18.9	41.5	29.5
	CM-S-V-H-10M-6	10	3/8	12.0	6.0	22	22	21.9	44.0	32.0
	CM-S-V-H-12M-4	12	1/4	12.0	5.0	19	24	18.9	43.5	31.5
	CM-S-V-H-12M-6	12	3/8	12.0	8.0	22	24	21.9	46.0	34.0
	CM-S-V-H-12M-8	12	1/2	14.0	8.0	27	24	26.9	49.0	35.0
	CM-S-V-H-16M-8	16	1/2	14.0	11.0	27	30	26.9	51.0	37.0
	CM-S-V-H-20M-12	20	3/4	16.0	14.0	32	36	31.9	59.0	43.0
	CM-S-V-H-25M-16	25	1	18.0	18.0	41	46	39.9	66.0	48.0
	CM-S-V-H-30M-20	30	1 1/4	20.0	23.0	50	50	49.9	71.0	51.0
	CM-S-V-H-38M-24	38	1 1/2	22.0	30.0	55	60	54.9	82.0	60.0

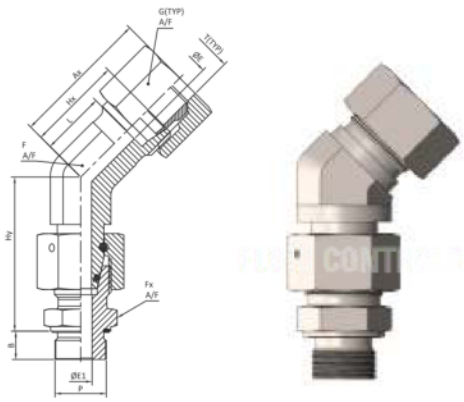




SWIVEL MALE CONNECTOR 24° DKO SWIVEL x METRIC THREAD, ELASTOMERIC SEAL

SPECIFICATIONS USED:- DIN 2353 / ISO 8434-1 & ISO 9974-2

SERIES	FC PART NUMBER	T TUBE OD IN MM	P METRIC MALE	B	ØE	F A/F	G A/F	Fd	H	M
L	CM-L-V-M-6M-M1	6	M10 x 1	12	2.5	14	14	13.9	36.5	24.5
	CM-L-V-M-8M-M5	8	M12 x 1.5	12	4	17	17	16.9	38.5	26.5
	CM-L-V-M-10M-M7	10	M14 x 1.5	14	6	19	19	18.9	41.5	27.5
	CM-L-V-M-12M-M9	12	M16 x 1.5	16	8	22	22	21.9	46.5	30.5
	CM-L-V-M-12M-M15	12	M22 x 1.5	22	8	27	22	26.9	49	27
	CM-L-V-M-15M-M11	15	M18 x 1.5	18	10	24	27	23.9	49.5	31.5
	CM-L-V-M-15M-M15	15	M22 x 1.5	22	10	27	27	26.9	54	32
	CM-L-V-M-18M-M15	18	M22 x 1.5	22	13	27	32	26.9	53.5	31.5
	CM-L-V-M-22M-M17	22	M26 x 1.5	0	17	32	36	31.9	32.5	32.5
	CM-L-V-M-28M-M24	28	M33 x 2	12	22	41	41	39.9	47	35
	CM-L-V-M-35M-M27	35	M42 x 2	12	28	50	50	49.9	54.5	42.5
	CM-L-V-M-42M-M28	42	M48 x 2	14	34	55	60	54.9	60.5	46.5
S	CM-S-V-M-6M-M5	6	M12 x 1.5	12	2.50	17	17	16.9	39	27
	CM-S-V-M-8M-M7	8	M14 x 1.5	14	4	19	19	18.9	43.5	29.5
	CM-S-V-M-10M-M9	10	M16 x 1.5	16	6	22	22	21.9	48	32
	CM-S-V-M-12M-M11	12	M18 x 1.5	18	8	24	24	23.9	52	34.0
	CM-S-V-M-16M-M15	16	M22 x 1.5	22	11	27	30	26.9	59	37
	CM-S-V-M-20M-M20	20	M27 x 2	0	14	32	36	31.9	43	43
	CM-S-V-M-25M-M24	25	M33 x 2	12	18	41	46	39.9	60	48
	CM-S-V-M-30M-M27	30	M42 x 2	12	23	50	50	49.9	63	51
	CM-S-V-M-38M-M28	38	M48 x 2	14	30.	55	60	54.9	74	60

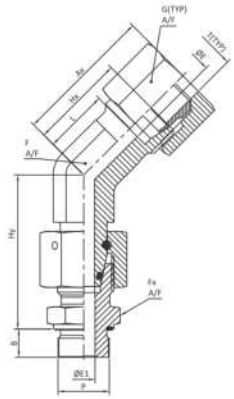


ASSEMBLED SWIVEL 45° ELBOW 24° CONE x BSPP THREAD WITH ED SEAL

SPECIFICATIONS USED:- DIN 2353 / ISO 8434-1 & ISO 1179-2

SERIES	FC PART NUMBER	T TUBE OD IN MM	P MALE BSPP	B	ØE	ØE1	F	G A/F	Gx A/F	Hx	Hy	Ax	L
L	E4-L-A-A28-6M-2	6	1/8	8	4	4	14	14	14	16	34.5	23.5	9
	E4-L-A-A28-8M-4	8	1/4	12	6	6	14	17	19	19	37.5	27	12
	E4-L-A-A28-10M-4	10	1/4	12	8	6	19	19	19	19	40	27	12
	E4-L-A-A28-12M-6	12	3/8	12	10	9	19	22	22	21	42	28.5	14
	E4-L-A-A28-15M-8	15	1/2	14	12	14	22	27	27	24	46.5	32.5	17
	E4-L-A-A28-18M-8	18	1/2	14	15	14	27	32	27	24	50	33	16.5
	E4-L-A-A28-22M-12	22	3/4	16	19	18	30	36	32	26	55	35	18.5
	E4-L-A-A28-28M-16	28	1	18	24	23	36	41	41	30.5	59	39.5	23
	E4-L-A-A28-35M-20	35	1 1/4	20	30	30	50	50	50	37	68.5	48	26.5
	E4-L-A-A28-42M-24	42	1 1/2	22	36	36	50	60	55	37	75	49	26
S	E4-S-A-A28-6M-4	6	1/4	12	4	5	14	17	19	16	40	24	9
	E4-S-A-A28-8M-4	8	1/4	12	5	5	19	19	19	19	42.5	27	12
	E4-S-A-A28-10M-6	10	3/8	12	7	8	19	22	22	21	45	29.5	13.5
	E4-S-A-A28-12M-6	12	3/8	12	8	8	22	24	22	24	48	32.5	16.5
	E4-S-A-A28-16M-8	16	1/2	14	12	12	27	30	27	24	55	34	15.5
	E4-S-A-A28-20M-12	20	3/4	16	16	16	30	36	32	26.5	65	37.5	16
	E4-S-A-A28-25M-16	25	1	18	20	20	36	46	41	30.5	73	42.5	18.5
	E4-S-A-A28-30M-20	30	1 1/4	20	25	25	50	50	50	37	78.5	50	23.5
	E4-S-A-A28-38M-24	38	1 1/2	22	32	32	50	60	55	37	89	52	21

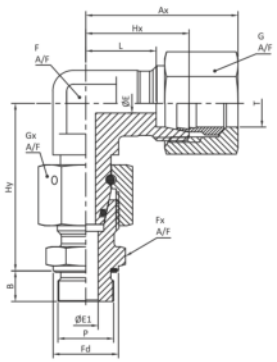




ASSEMBLED SWIVEL 45° ELBOW 24° CONE x METRIC THREAD WITH ED SEAL

SPECIFICATIONS USED:- DIN 2353 / ISO 8434-1 & ISO 9974-2

SERIES	FC PART NUMBER	T TUBE OD IN MM	P MALE METRIC	B	ØE	ØE1	F A/F	G A/F	Gx A/F	Hx	Hy	Ax	L
L	E4-L-A-A27-6M-M1	6	M10 x 1	8	4	4	14	14	14	16	34.5	23.5	9
	E4-L-A-A27-8M-M5	8	M12 x 1.5	12	6	6	14	17	17	19	37.5	27	12
	E4-L-A-A27-10M-M7	10	M14 x 1.5	12	8	7	19	19	19	19	40	27	12
	E4-L-A-A27-12M-M9	12	M16 x 1.5	12	10	9	19	22	22	21	42	28.5	14
	E4-L-A-A27-15M-M11	15	M18 x 1.5	12	12	11	22	27	24	24	46	32.5	17
	E4-L-A-A27-18M-M15	18	M22 x 1.5	14	15	14	27	32	27	24	50	33	16.5
	E4-L-A-A27-22M-M17	22	M26 x 1.5	16	19	18	30	36	32	26	55	35	18.5
	E4-L-A-A27-28M-M24	28	M33 x 2	18	24	23	36	41	41	30.5	59	39.5	23
	E4-L-A-A27-35M-M27	35	M42 x 2	20	30	30	50	50	50	37	68.5	48	26.5
	E4-L-A-A27-42M-M28	42	M48 x 2	22	36	36	50	60	55	37	75	49	26
S	E4-S-A-A27-6M-M5	6	M12 x 1.5	12	4	4	14	17	17	16	40	24	9
	E4-S-A-A27-8M-M7	8	M14 x 1.5	12	5	5	19	19	19	19	42.5	27	12
	E4-S-A-A27-10M-M9	10	M16 x 1.5	12	7	7	19	22	22	21	45	29.5	13.5
	E4-S-A-A27-12M-M11	12	M18 x 1.5	12	8	8	22	24	24	24	48	32.5	16.5
	E4-S-A-A27-16M-M15	16	M22 x 1.5	14	12	12	27	30	27	24	55	34	15.5
	E4-S-A-A27-20M-M20	20	M27 x 2	16	16	16	30	36	32	26.5	65	37.5	16
	E4-S-A-A27-25M-M24	25	M33 x 2	18	20	20	36	46	41	30.5	73	42.5	18.5
	E4-S-A-A27-30M-M27	30	M42 x 2	20	25	25	50	50	50	37	78.5	50	23.5
	E4-S-A-A27-38M-M28	38	M48 x 2	22	32	32	50	60	55	37	89	52	21



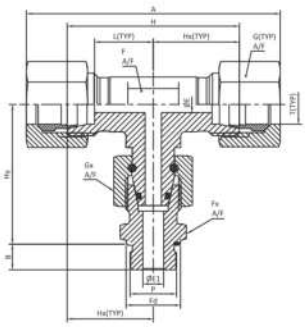


ASSEMBLED SWIVEL ELBOW 24° CONE x BSPP THREAD, ED SEAL

SPECIFICATIONS USED:- DIN 2353 / ISO 8434-1 & ISO 1179-2

SERIES	FC PART NUMBER	T TUBE OD IN MM	P BSPP MALE INCH	A	B	ØE	ØE1	F A/F	Fx A/F	G A/F	Gx A/F	Fd	H	Hx	Hy	L
L	AB-L-A-H-6M-2	6	1/8	53	8	4	4	12	14	14	14	13.9	38	19	34.5	12
	AB-L-A-H-8M-4	8	1/4	58	12	6	6	12	19	17	17	18.9	42	21	37.5	14
	AB-L-A-H-10M-4	10	1/4	60	12	8	6	14	19	19	19	18.9	44	22	40	15
	AB-L-A-H-12M-6	12	3/8	63	12	10	9	17	22	22	22	21.9	48	24	42	17
	AB-L-A-H-15M-8	15	1/2	73	14	12	11	19	27	27	27	26.9	56	28	46	21
	AB-L-A-H-18M-8	18	1/2	80	14	15	14	24	27	32	32	26.9	62	31	50	23.5
	AB-L-A-H-22M-12	22	3/4	88	16	19	18	27	32	36	36	31.9	70	35	55	27.5
	AB-L-A-H-28M-16	28	1	94	18	24	23	36	41	41	41	39.9	76	38	59	30.5
	AB-L-A-H-35M-20	35	1 1/4	112	20	30	30	41	50	50	50	49.9	90	45	68.5	34.5
	AB-L-A-H-42M-24	42	1 1/2	126	22	36	36	50	55	60	60	54.9	102	51	75	40
S	AB-S-A-H-6M-4	6	1/4	62	12	4	4	12	19	17	17	18.9	46	23	40	16
	AB-S-A-H-8M-4	8	1/4	64	12	5	5	14	19	19	19	18.9	48	24	42.5	17
	AB-S-A-H-10M-6	10	3/8	67	12	6	7	17	22	22	22	21.9	50	25	45	17.5
	AB-S-A-H-12M-6	12	3/8	75	12	8	8	17	22	24	24	21.9	58	29	48	21.5
	AB-S-A-H-16M-8	16	1/2	86	14	12	12	24	27	30	30	26.9	66	33	55	24.5
	AB-S-A-H-20M-12	20	3/4	96	16	16	16	27	32	36	36	31.9	74	37	65	26.5
	AB-S-A-H-25M-16	25	1	108	18	20	20	36	41	46	46	39.9	84	42	73	30
	AB-S-A-H-30M-20	30	1 1/4	124	20	25	25	41	50	50	50	49.9	98	49	78.5	35.5
	AB-S-A-H-38M-24	38	1 1/2	144	22	32	32	50	55	60	60	54.9	114	57	89	41

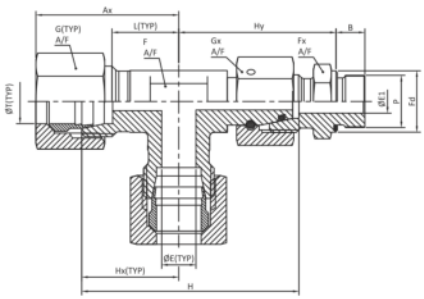




ASSEMBLED SWIVEL BRANCH TEE 24° CONE x METRIC THREAD, ED SEAL

SPECIFICATIONS USED:- DIN 2353 / ISO 8434-1 & ISO 9974-2

SERIES	FC PART NUMBER	T TUBE OD IN MM	P METRIC MALE	Ax	B	ØE	ØE1	F A/F	Fx A/F	G A/F	Gx A/F	Fd	H	Hx	Hy	L
L	AB-L-A-M-6M-M1	6	M10 x 1	53	8	4	4	12	14	14	14	13.9	38	19	34.5	12
	AB-L-A-M-8M-M5	8	M12 x 1.5	58	12	6	6	12	17	17	17	16.9	42	21	37.5	14
	AB-L-A-M-10M-M7	10	M14 x 1.5	60	12	8	7	14	19	19	19	18.9	44	22	40.0	15
	AB-L-A-M-12M-M9	12	M16 x 1.5	63	12	10	9	17	22	22	22	21.9	48	24	42.0	17.0
	AB-L-A-M-15M-M11	15	M18 x 1.5	73	12	12	11	19	24	27	27	23.9	56	28	46.0	21
	AB-L-A-M-18M-M15	18	M22 x 1.5	80	14	15	14	24	27	32	32	26.9	62	31	50.0	23.5
	AB-L-A-M-22M-M17	22	M26 x 1.5	88	16	19	18	27	32	36	36	31.9	70	35	55.0	27.5
	AB-L-A-M-28M-M24	28	M33 x 2	94	18	24	23	36	41	41	41	39.9	76	38	59.0	30.5
	AB-L-A-M-35M-M27	35	M42 x 2	112	20	30	30	41	50	50	50	49.9	90	45	68.5	34.5
	AB-L-A-M-42M-M28	42	M48 x 2	126	22	36	36	50	55	60	60	54.9	102	51	75.0	40
S	AB-S-A-M-6M-M5	6	M12 x 1.5	62	12	4	4	12	17	17	17	16.9	46	23	40.0	16
	AB-S-A-M-8M-M7	8	M14 x 1.5	64	12	5	5	14	19	19	19	18.9	48	24	42.5	17
	AB-S-A-M-10M-M9	10	M16 x 1.5	67	12	7	7	17	22	22	22	21.9	50	25	45.0	17.5
	AB-S-A-M-12M-M11	12	M18 x 1.5	75	12	8	8	17	24	24	24	23.9	58	29	48.0	21.5
	AB-S-A-M-16M-M15	16	M22 x 1.5	86	14	12	12	24	27	30	30	26.9	66	33	55.0	24.5
	AB-S-A-M-20M-M20	20	M27 x 2	96	16	16	16	27	32	36	36	31.9	74	37	65.0	26.5
	AB-S-A-M-25M-M24	25	M33 x 2	108	18	20	20	36	41	46	46	39.9	84	42	73.0	30.0
	AB-S-A-M-30M-M27	30	M42 x 2	124	20	25	25	41	50	50	50	49.9	98	49	78.5	35.5
	AB-S-A-M-38M-M28	38	M48 x 2	144	22	32	32	50	55	60	60	54.9	114	57	89.0	41.0



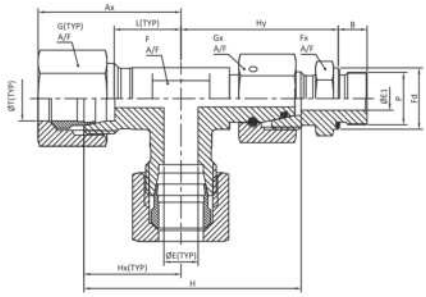


ASSEMBLED SWIVEL RUN TEE 24° CONE x METRIC THREAD, ED SEAL

SPECIFICATIONS USED:- DIN 2353 / ISO 8434-1 & ISO 9974-2

SERIES	FC PART NUMBER	T TUBE OD IN MM	P METRIC MALE	Ax	B	ØE	ØE1	F A/F	Fx A/F	G A/F	Gx A/F	Fd	H	Hx	Hy	L
L	AR-L-A-M-6M-M1	6	M10 x 1	26.5	8	4	4	12	14	14	14	13.9	38	19	34.5	12.0
	AR-L-A-M-8M-M5	8	M12 x 1.5	29.0	12	6	6	12	17	17	17	16.9	42	21	37.5	14.0
	AR-L-A-M-10M-M7	10	M14 x 1.5	30.0	12	8	7	14	19	19	19	18.9	44	22	40.0	15.0
	AR-L-A-M-12M-M9	12	M16 x 1.5	31.5	12	10	9	17	22	22	22	21.9	48	24	42.0	17.0
	AR-L-A-M-15M-M11	15	M18 x 1.5	36.5	12	12	11	19	24	27	27	23.9	56	28	46.0	21.0
	AR-L-A-M-18M-M15	18	M22 x 1.5	40.0	14	15	14	24	27	32	32	26.9	62	31	50.0	23.5
	AR-L-A-M-22M-M17	22	M26 x 1.5	44.0	16	19	18	27	32	36	36	31.9	70	35	55.0	27.5
	AR-L-A-M-28M-M24	28	M33 x 2	47.0	18	24	23	36	41	41	41	39.9	76	38	59.0	30.5
	AR-L-A-M-35M-M27	35	M42 x 2	56.0	20	30	30	41	50	50	50	49.9	90	45	68.5	34.5
	AR-L-A-M-42M-M28	42	M48 x 2	63.0	22	36	36	50	55	60	60	54.9	102	51	75.0	40.0
S	AR-S-A-M-6M-M5	6	M12 x 1.5	31.0	12	4	4	12	17	17	17	16.9	46	23	40.0	16.0
	AR-S-A-M-8M-M7	8	M14 x 1.5	32.0	12	5	5	14	19	19	19	18.9	48	24	42.5	17.0
	AR-S-A-M-10M-M9	10	M16 x 1.5	33.5	12	7	7	17	22	22	22	21.9	50	25	45.0	17.5
	AR-S-A-M-12M-M11	12	M18 x 1.5	37.5	12	8	8	17	24	24	24	23.9	58	29	48.0	21.5
	AR-S-A-M-16M-M15	16	M22 x 1.5	43.0	14	12	12	24	27	30	30	26.9	66	33	55.0	24.5
	AR-S-A-M-20M-M20	20	M27 x 2	48.0	16	16	16	27	32	36	36	31.9	74	37	65.0	26.5
	AR-S-A-M-25M-M24	25	M33 x 2	54.0	18	20	20	36	41	46	46	39.9	84	42	73.0	30.0
	AR-S-A-M-30M-M27	30	M42 x 2	62.0	20	25	25	41	50	50	50	49.9	98	49	78.5	35.5
	AR-S-A-M-38M-M28	38	M48 x 2	72.0	22	32	32	50	55	60	60	54.9	114	57	89.0	41.0

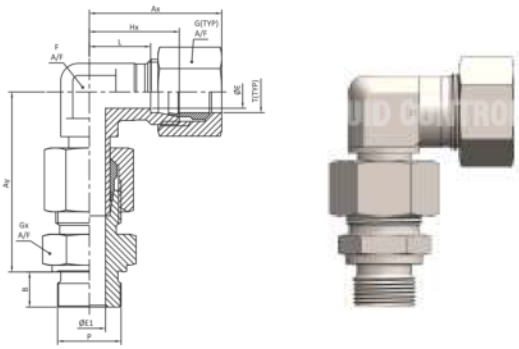




ASSEMBLED SWIVEL RUN TEE 24° CONE x BSPP THREAD, ED SEAL

SPECIFICATIONS USED:- DIN 2353 / ISO 8434-1 & ISO 1179-2

SERIES	FC PART NUMBER	T TUBE OD IN MM	P BSPP MALE INCH	Ax	B	ØE	ØE1	F A/F	Fx A/F	G A/F	Gx A/F	Fd	H	Hx	Hy	L
L	AR-L-A-H-6M-2	6	1/8	26.5	8	4	4	12	14	14	14	13.9	38	19	34.5	12.0
	AR-L-A-H-8M-4	8	1/4	29.0	12	6	6	12	19	17	17	18.9	42	21	37.5	14.0
	AR-L-A-H-10M-4	10	1/4	30.0	12	8	6	14	19	19	19	18.9	44	22	40.0	15.0
	AR-L-A-H-12M-6	12	3/8	31.5	12	10	9	17	22	22	22	21.9	48	24	42.0	17.0
	AR-L-A-H-15M-8	15	1/2	36.5	14	12	14	19	27	27	27	26.9	56	28	46.0	21.0
	AR-L-A-H-18M-8	18	1/2	40.0	14	15	14	24	27	32	32	26.9	62	31	50.0	23.5
	AR-L-A-H-22M-12	22	3/4	44.0	16	19	18	27	32	36	36	31.9	70	35	55.0	27.5
	AR-L-A-H-28M-16	28	1	47.0	18	24	23	36	41	41	41	39.9	76	38	59.0	30.5
	AR-L-A-H-35M-20	35	1 1/4	56.0	20	30	30	41	50	50	50	49.9	90	45	68.5	34.5
	AR-L-A-H-42M-24	42	1 1/2	63.0	22	36	36	50	55	60	60	54.9	102	51	75.0	40.0
S	AR-S-A-H-6M-4	6	1/4	31.0	12	4	5	12	19	17	17	18.9	46	23	40.0	16.0
	AR-S-A-H-8M-4	8	1/4	32.0	12	5	5	14	19	19	19	18.9	48	24	42.5	17.0
	AR-S-A-H-10M-6	10	3/8	33.5	12	7	8	17	22	22	22	21.9	50	25	45.0	17.5
	AR-S-A-H-12M-6	12	3/8	37.5	12	8	8	17	22	24	24	21.9	58	29	48.0	21.5
	AR-S-A-H-16M-8	16	1/2	43.0	14	12	12	24	27	30	30	26.9	66	33	55.0	24.5
	AR-S-A-H-20M-12	20	3/4	48.0	16	16	16	27	32	36	36	31.9	74	37	65.0	26.5
	AR-S-A-H-25M-16	25	1	54.0	18	20	20	36	41	46	46	39.9	84	42	73.0	30.0
	AR-S-A-H-30M-20	30	1 1/4	62.0	20	25	25	41	50	50	50	49.9	98	49	78.5	35.5
	AR-S-A-H-38M-24	38	1 1/2	72.0	22	32	32	50	55	60	60	54.9	114	57	89.0	41.0

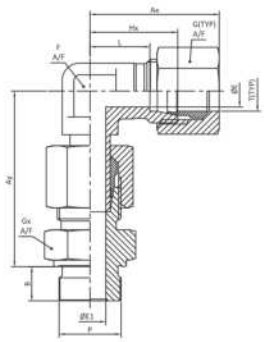


ASSEMBLED ADJUSTABLE STANDPIPE ELBOW 24° CONE x METRIC THREAD METAL TO METAL SEALING

SPECIFICATIONS USED:- DIN 2353 / ISO 8434-1 & ISO 9974-3

SERIES	FC PART NUMBER	T TUBE OD (MM)	P METRIC MALE	Ax	Ay	B	ØE	ØE1 A/F	F A/F	Fx A/F	Gx	Hx	L
L	AE-L-A-A33-6M-M1	6	M10 x 1	26.5	34.5	8	4	4	12	14	14	19	12.0
	AE-L-A-A33-8M-M5	8	M12 x 1.5	29.0	37.5	12	6	6	12	17	17	21	14.0
	AE-L-A-A33-10M-M7	10	M14 x 1.5	30.0	40.0	12	8	7	14	19	19	22	15.0
	AE-L-A-A33-12M-M9	12	M16 x 1.5	31.5	42.0	12	10	9	17	22	22	24	17.0
	AE-L-A-A33-15M-M11	15	M18 x 1.5	36.5	46.0	12	12	11	19	27	24	28	21.0
	AE-L-A-A33-18M-M15	18	M22 x 1.5	63.0	50.0	14	15	14	24	32	27	31	23.5
	AE-L-A-A33-22M-M17	22	M26 x 1.5	44.0	55.0	16	19	18	27	36	32	35	27.5
	AE-L-A-A33-28M-M24	28	M33 x 2	47.0	59.5	18	24	23	36	41	41	38	30.5
	AE-L-A-A33-35M-M27	35	M42 x 2	56.0	68.5	20	30	30	41	50	50	45	34.5
	AE-L-A-A33-42M-M28	42	M48 x 2	63.0	79.0	22	36	36	50	60	55	51	40.0
S	AE-S-A-A33-6M-M5	6	M12 x 1.5	31.0	40.0	12	4	4	12	17	17	23	16.0
	AE-S-A-A33-8M-M7	8	M14 x 1.5	32.0	42.5	12	5	5	14	19	19	24	17.0
	AE-S-A-A33-10M-M9	10	M16 x 1.5	33.5	46.0	12	7	7	17	22	22	25	17.5
	AE-S-A-A33-12M-M11	12	M18 x 1.5	37.5	48.0	12	8	8	17	24	24	29	21.5
	AE-S-A-A33-16M-M22	16	M22 x 1.5	43.0	56.0	14	12	12	24	30	27	33	24.5
	AE-S-A-A33-20M-M20	20	M27 x 2	48.0	65.0	16	16	16	27	36	32	37	26.5
	AE-S-A-A33-25M-M24	25	M33 x 2	54.0	73.0	18	20	20	36	46	41	42	30.0
	AE-S-A-A33-30M-M27	30	M42 x 2	62.0	78.5	20	25	25	41	50	50	49	35.5
	AE-S-A-A33-38M-M28	38	M48 x 2	72.0	92.5	22	32	32	50	60	55	57	41.0

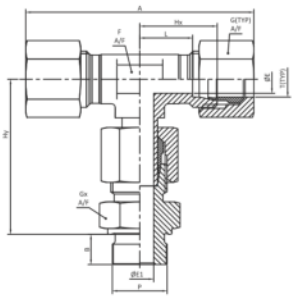




ASSEMBLED ADJUSTABLE STANDPIPE ELBOW 24°CONE x BSPP THREAD METAL TO METAL SEALING

SPECIFICATIONS USED:- DIN 2353 / ISO 8434-1 & ISO 1179-4

SERIES	FC PART NUMBER	T TUBE OD IN MM	P BSPP MALE	Ax	Ay	B	ØE	ØE1 A/F	F A/F	G A/F	Fx A/F	Hx	L
L	AE-L-A-A34-6M-2	6	1/8	26.5	34.5	8	4	4	12	14	14	19	12.0
	AE-L-A-A34-8M-4	8	1/4	29.0	37.5	12	6	6	12	17	19	21	14.0
	AE-L-A-A34-10M-4	10	1/4	30.0	40.0	12	8	6	14	19	19	22	15.0
	AE-L-A-A34-12M-6	12	3/8	31.5	42.0	12	10	9	17	22	22	24	17.0
	AE-L-A-A34-15M-8	15	1/2	36.5	44.0	14	12	14	19	27	27	28	21.0
	AE-L-A-A34-18M-8	18	1/2	40.0	50.0	14	15	14	24	32	27	31	23.5
	AE-L-A-A34-22M-12	22	3/4	44.0	55.0	16	19	18	27	36	32	35	27.5
	AE-L-A-A34-28M-16	28	1	47.0	59.5	18	24	23	36	41	41	38	30.5
	AE-L-A-A34-35M-20	35	1.1/4	56.0	68.5	20	30	30	41	50	50	45	34.5
	AE-L-A-A34-42M-24	42	1.1/2	63.0	79.0	22	36	36	50	60	55	51	40.0
S	AE-S-A-A34-6M-4	6	1/4	31.0	40.0	12	4	5	12	17	19	23	16.0
	AE-S-A-A34-8M-4	8	1/4	32.0	42.5	12	5	5	14	19	19	24	17.0
	AE-S-A-A34-10M-6	10	3/8	33.5	46.0	12	7	8	17	22	22	25	17.5
	AE-S-A-A34-12M-6	12	3/8	37.5	48.0	12	8	8	17	24	22	29	21.5
	AE-S-A-A34-16M-8	16	1/2	43.0	56.0	14	12	12	24	30	27	33	24.5
	AE-S-A-A34-20M-12	20	3/4	48.0	65.0	16	16	16	27	36	32	37	26.5
	AE-S-A-A34-25M-16	25	1	54.0	73.0	18	20	20	36	46	41	42	30.0
	AE-S-A-A34-30M-20	30	1.1/4	62.0	78.5	20	25	25	41	50	50	49	35.5
	AE-S-A-A34-38M-24	38	1.1/2	72.0	92.5	22	32	32	50	60	55	57	41.0



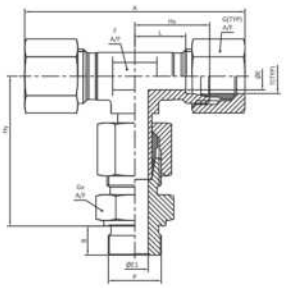


ASSEMBLED ADJUSTABLE STANDPIPE BRANCH TEE 24°CONE x METRIC THREAD METAL TO METAL SEALING

SPECIFICATIONS USED:- DIN 2353 / ISO 8434-1 & ISO 9974-3

SERIES	FC PART NUMBER	T TUBE OD IN MM	P METRIC MALE	Ax	Ay	B	ØE	ØE1 A/F	F A/F	G A/F	Fx A/F	Hx	L
L	BT-L-A-A33-6M-M1	6	M10 x 1	8	4	4	12	14	14	19	34.5	53.0	12.0
	BT-L-A-A33-8M-M5	8	M12 x 1.5	12	6	6	12	17	17	21	37.5	58.0	14.0
	BT-L-A-A33-10M-M7	10	M14 x 1.5	12	8	7	14	19	19	22	40.0	60.0	15.0
	BT-L-A-A33-12M-M9	12	M16 x 1.5	12	10	9	17	22	22	24	42.0	63.0	17.0
	BT-L-A-A33-15M-M11	15	M18 x 1.5	12	12	11	19	27	24	28	46.0	73.0	21.0
	BT-L-A-A33-18M-M15	18	M22 x 1.5	14	15	14	24	32	27	31	50.0	126.0	23.5
	BT-L-A-A33-22M-M17	22	M26 x 1.5	16	19	18	27	36	32	35	55.0	88.0	27.5
	BT-L-A-A33-28M-M24	28	M33 x 2	18	24	23	36	41	41	38	59.5	94.0	30.5
	BT-L-A-A33-35M-M27	35	M42 x 2	20	30	30	41	50	50	45	68.5	112.0	34.5
	BT-L-A-A33-42M-M28	42	M48 x 2	22	36	36	50	60	55	51	79.0	126.0	40.0
S	BT-S-A-A33-6M-M5	6	M12 x 1.5	12	4	4	12	17	17	23	40.0	62.0	16.0
	BT-S-A-A33-8M-M7	8	M14 x 1.5	12	5	5	14	19	19	24	42.5	64.0	17.0
	BT-S-A-A33-10M-M9	10	M16 x 1.5	12	7	7	17	22	22	25	46.0	67.0	17.5
	BT-S-A-A33-12M-M11	12	M18 x 1.5	12	8	8	17	24	24	29	48.0	75.0	21.5
	BT-S-A-A33-16M-M22	16	M22 x 1.5	14	12	12	24	30	27	33	56.0	86.0	24.5
	BT-S-A-A33-20M-M20	20	M27 x 2	16	16	16	27	36	32	37	65.0	96.0	26.5
	BT-S-A-A33-25M-M24	25	M33 x 2	18	20	20	36	46	41	42	73.0	108.0	30.0
	BT-S-A-A33-30M-M27	30	M42 x 2	20	25	25	41	50	50	49	78.5	124.0	35.5
	BT-S-A-A33-38M-M28	38	M48 x 2	22	32	32	50	60	55	57	92.5	144.0	41.0

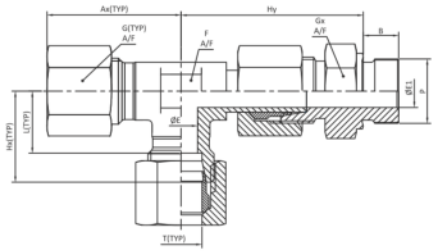




ASSEMBLED ADJUSTABLE STANDPIPE BRANCH TEE 24° CONE x BSPP THREAD METAL TO METAL SEALING

SPECIFICATIONS USED:- DIN 2353 / ISO 8434-1 & ISO 1179-4

SERIES	FC PART NUMBER	T TUBE OD IN MM	P BSPP MALE	B	ØE	ØE1	F A/F A/F	G A/F	Fx A/F	Hx	Hy	A	L
L	BT-L-A-A34-6M-2	6	1/8	8	4	4	12	14	14	19	34.5	53.0	12.0
	BT-L-A-A34-8M-4	8	1/4	12	6	6	12	17	19	21	37.5	58.0	14.0
	BT-L-A-A34-10M-4	10	1/4	12	8	6	14	19	19	22	40.0	60.0	15.0
	BT-L-A-A34-12M-6	12	3/8	12	10	9	17	22	22	24	42.0	63.0	17.0
	BT-L-A-A34-15M-8	15	1/2	14	12	14	19	27	27	28	44.0	73.0	21.0
	BT-L-A-A34-18M-8	18	1/2	14	15	14	24	32	27	31	50.0	80.0	23.5
	BT-L-A-A34-22M-12	22	3/4	16	19	18	27	36	32	35	55.0	88.0	27.5
	BT-L-A-A34-28M-16	28	1	18	24	23	36	41	41	38	59.5	94.0	30.5
	BT-L-A-A34-35M-20	35	1 1/4	20	30	30	41	50	50	45	68.5	112.0	34.5
	BT-L-A-A34-42M-24	42	1 1/2	22	36	36	50	60	55	51	79.0	126.0	40.0
S	BT-S-A-A34-6M-4	6	1/4	12	4	5	12	17	19	23	40.0	62.0	16.0
	BT-S-A-A34-8M-4	8	1/4	12	5	5	14	19	19	24	42.5	64.0	17.0
	BT-S-A-A34-10M-6	10	3/8	12	7	8	17	22	22	25	46.0	67.0	17.5
	BT-S-A-A34-12M-6	12	3/8	12	8	8	17	24	22	29	48.0	75.0	21.5
	BT-S-A-A34-16M-8	16	1/2	14	12	12	24	30	27	33	56.0	86.0	24.5
	BT-S-A-A34-20M-12	20	3/4	16	16	16	27	36	32	37	65.0	96.0	26.5
	BT-S-A-A34-25M-16	25	1	18	20	20	36	46	41	42	73.0	108.0	30.0
	BT-S-A-A34-30M-20	30	1 1/4	20	25	25	41	50	50	49	78.5	124.0	35.5
	BT-S-A-A34-38M-24	38	1 1/2	22	32	32	50	60	55	57	92.5	144.0	41.0



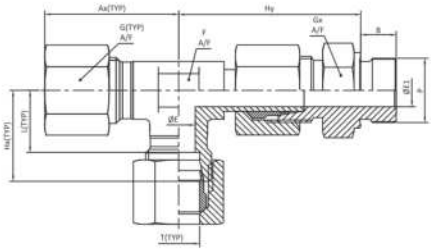


ASSEMBLED ADJUSTABLE STANDPIPE RUN TEE 24° CONE x METRIC THREAD METAL TO METAL SEALING

SPECIFICATIONS USED:- DIN 2353 / ISO 8434-1 & ISO 9974-3

SERIES	FC PART NUMBER	T TUBE OD IN MM	P METRIC MALE	Ax	Ay	B	ØE	ØE1 A/F	F A/F	G A/F	Fx A/F	Hx	L
L	RT-L-A-A33-6M-M1	6	M10 x 1	8	4	4	12	14	14	19	34.5	26.5	12.0
	RT-L-A-A33-8M-M5	8	M12 x 1.5	12	6	6	12	17	17	21	37.5	29.0	14.0
	RT-L-A-A33-10M-M7	10	M14 x 1.5	12	8	7	14	19	19	22	40.0	30.0	15.0
	RT-L-A-A33-12M-M9	12	M16 x 1.5	12	10	9	17	22	22	24	42.0	31.5	17.0
	RT-L-A-A33-15M-M11	15	M18 x 1.5	12	12	11	19	27	24	28	46.0	36.5	21.0
	RT-L-A-A33-18M-M15	18	M22 x 1.5	14	15	14	24	32	27	31	50.0	63.0	23.5
	RT-L-A-A33-22M-M17	22	M26 x 1.5	16	19	18	27	36	32	35	55.0	44.0	27.5
	RT-L-A-A33-28M-M24	28	M33 x 2	18	24	23	36	41	41	38	59.5	47.0	30.5
	RT-L-A-A33-35M-M27	35	M42 x 2	20	30	30	41	50	50	45	68.5	56.0	34.5
	RT-L-A-A33-42M-M28	42	M48 x 2	22	36	36	50	60	55	51	79.0	63.0	40.0
S	RT-S-A-A33-6M-M5	6	M12 x 1.5	12	4	4	12	17	17	23	40.0	31.0	16.0
	RT-S-A-A33-8M-M7	8	M14 x 1.5	12	5	5	14	19	19	24	42.5	32.0	17.0
	RT-S-A-A33-10M-M9	10	M16 x 1.5	12	7	7	17	22	22	25	46.0	33.5	17.5
	RT-S-A-A33-12M-M11	12	M18 x 1.5	12	8	8	17	24	24	29	48.0	37.5	21.5
	RT-S-A-A33-16M-M22	16	M22 x 1.5	14	12	12	24	30	27	33	56.0	43.0	24.5
	RT-S-A-A33-20M-M20	20	M27 x 2	16	16	16	27	36	32	37	65.0	48.0	26.5
	RT-S-A-A33-25M-M24	25	M33 x 2	18	20	20	36	46	41	42	73.0	54.0	30.0
	RT-S-A-A33-30M-M27	30	M42 x 2	20	25	25	41	50	50	49	78.5	62.0	35.5
	RT-S-A-A33-38M-M28	38	M48 x 2	22	32	32	50	60	55	57	92.5	72.0	41.0

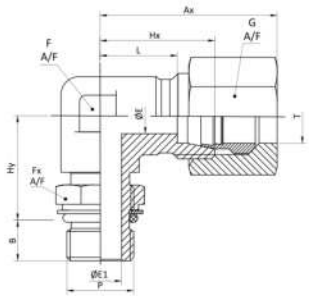




ASSEMBLED ADJUSTABLE STANDPIPE RUN TEE 24°CONE x BSPP THREAD METAL TO METAL SEALING

SPECIFICATIONS USED:- DIN 2353 / ISO 8434-1 & ISO 1179-4

SERIES	FC PART NUMBER	T TUBE OD (MM)	P BSPP MALE	B	ØE	ØE1	F A/F	G A/F	Fx A/F	Hx	Hy	Ax	L
L	RT-L-A-A34-6M-2	6	1/8	8	4	4	12	14	14	19	34.5	26.5	12.0
	RT-L-A-A34-8M-4	8	1/4	12	6	6	12	17	19	21	37.5	29.0	14.0
	RT-L-A-A34-10M-4	10	1/4	12	8	6	14	19	19	22	40.0	30.0	15.0
	RT-L-A-A34-12M-6	12	3/8	12	10	9	17	22	22	24	42.0	31.5	17.0
	RT-L-A-A34-15M-8	15	1/2	14	12	14	19	27	27	28	44.0	36.5	21.0
	RT-L-A-A34-18M-8	18	1/2	14	15	14	24	32	27	31	50.0	40.0	23.5
	RT-L-A-A34-22M-12	22	3/4	16	19	18	27	36	32	35	55.0	44.0	27.5
	RT-L-A-A34-28M-16	28	1	18	24	23	36	41	41	38	59.5	47.0	30.5
	RT-L-A-A34-35M-20	35	1 1/4	20	30	30	41	50	50	45	68.5	56.0	34.5
	RT-L-A-A34-42M-24	42	1 1/2	22	36	36	50	60	55	51	79.0	63.0	40.0
S	RT-S-A-A34-6M-4	6	1/4	12	4	5	12	17	19	23	40.0	31.0	16.0
	RT-S-A-A34-8M-4	8	1/4	12	5	5	14	19	19	24	42.5	32.0	17.0
	RT-S-A-A34-10M-6	10	3/8	12	7	8	17	22	22	25	46.0	33.5	17.5
	RT-S-A-A34-12M-6	12	3/8	12	8	8	17	24	22	29	48.0	37.5	21.5
	RT-S-A-A34-16M-8	16	1/2	14	12	12	24	30	27	33	56.0	43.0	24.5
	RT-S-A-A34-20M-12	20	3/4	16	16	16	27	36	32	37	65.0	48.0	26.5
	RT-S-A-A34-25M-16	25	1	18	20	20	36	46	41	42	73.0	54.0	30.0
	RT-S-A-A34-30M-20	30	1 1/4	20	25	25	41	50	50	49	78.5	62.0	35.5
	RT-S-A-A34-38M-24	38	1 1/2	22	32	32	50	60	55	57	92.5	72.0	41.0



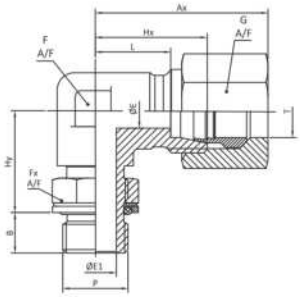


ADJUSTABLE LOCKNUT ELBOW MALE METRIC THREAD WITH O-RING

SPECIFICATIONS USED:- DIN 2353 / ISO 8434-1 & ISO 9974-2

SERIES	FC PART NUMBER	T TUBE OD (MM)	P METRIC MALE	B	ØE	ØE1	F A/F	G A/F	Fx A/F	Hx	Hy	Ax	L
L	PE-L-A-A19-6M-M1	6	M10 x 1	7	4	4.5	14	14	14	21	20	28.5	14
	PE-L-A-A19-8M-M5	8	M12 x 1.5	10	6	6	14	17	17	23	22	31	16
	PE-L-A-A19-M10-M7	10	M14 x 1.5	10	8	7.5	19	19	19	24	24	32	17
	PE-L-A-A19-M12-M9	12	M16 x 1.5	10	10	9	19	22	22	26	25	33.5	19
	PE-L-A-A19-M15-M11	15	M18 x 1.5	11	12	11	22	27	24	28	31	36.5	21
	PE-L-A-A19-M18-M15	18	M22 x 1.5	12	15	14	27	32	27	31	33	40	23.5
	PE-L-A-A19-M22-M20	22	M27 x 2	14	19	18	30	36	32	35	36	44	27.5
	PE-L-A-A19-M28-M24	28	M33 x 2	14	24	23	36	41	41	38	39	47	30.5
	PE-L-A-A19-M35-M27	35	M42 x 2	14	30	30	50	50	50	48	49	59	37.5
	PE-L-A-A19-M42-M28	42	M48 x 2	16	36	36	50	60	55	49	50	61	38
S	PE-S-A-A18-M6-M5	6	M12 x 1.5	10	4	4	14	17	17	22	22	30	15
	PE-S-A-A18-M8-M7	8	M14 x 1.5	10	5	6	19	19	19	24	26	32	17
	PE-S-A-A18-M10-M9	10	M16 x 1.5	11	7	7	19	22	22	25	27	33.5	17.5
	PE-S-A-A18-M12-M11	12	M18 x 1.5	12	8	9	22	24	24	29	31	37.5	21.5
	PE-S-A-A18-M16-M15	16	M22 x 1.5	14	12	12	27	30	27	33	36	43	24.5
	PE-S-A-A18-M20-M15	20	M27 x 2	16	16	15	30	36	32	38	39	49	27.5
	PE-S-A-A18-M25-M24	25	M33 x 2	16	20	20	36	46	41	42	44	54	30
	PE-S-A-A18-M30-M27	30	M42 x 2	17	25	26	50	50	50	49	51	62	35.5
	PE-S-A-A18-M38-M28	38	M48 x 2	19	32	32	50	60	55	50	54	65	34

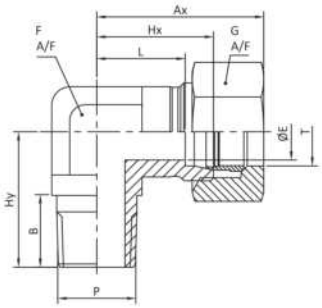




ADJUSTABLE LOCKNUT ELBOW MALE BSPP THREAD WITH O-RING

SPECIFICATIONS USED:- DIN 2353 / ISO 8434-1 & ISO 1179

SERIES	FC PART NUMBER	T TUBE OD IN MM	P BSPP MALE	B	ØE	ØE1	F A/F	G A/F	Fx A/F	Hx	Hy	Ax	L
LL	PE-LL-A-I-4M-2	4	1/8	7.1	3	4.4	11	10	14	15	20	21.5	11
	PE-LL-A-I-6M-2	6	1/8	7.1	4.5	4.4	11	12	14	15	20	21.5	9.5
L	PE-L-A-I-6M-2	6	1/8	7	4	4.4	14	14	14	21	19	28.5	14
	PE-L-A-I-8M-4	8	1/4	9	6	7.5	14	17	19	23	23	31	16
	PE-L-A-I-10M-4	10	1/4	9	8	7.5	19	19	19	24	25	32	17
	PE-L-A-I-12M-6	12	3/8	9	10	9.9	19	22	22	26	28	33.5	19
	PE-L-A-I-15M-8	15	1/2	13	12	12.3	22	27	27	28	30	36.5	21
	PE-L-A-I-18M-8	18	1/2	13	15	12.3	27	32	27	31	36	40	23.5
	PE-L-A-I-22M-12	22	3/4	13	19	15.5	30	36	36	35	36	44	27.5
	PE-L-A-I-28M-16	28	1	15	24	21.5	36	41	41	38	44	47	30.5
	PE-L-A-I-35M-20	35	1 1/4	15	30	27.5	50	50	50	48	50	59	37.5
	PE-L-A-I-42M-24	42	1 1/2	15	36	33	50	60	55	49	52	61	38
S	PE-S-A-I-6M-4	6	1/4	9	4	7.5	14	17	19	22	23	30	15
	PE-S-A-I-8M-4	8	1/4	9	5	7.5	19	19	19	24	27	32	17
	PE-S-A-I-10M-6	10	3/8	9	7	10	19	22	22	25	29	33.5	17.5
	PE-S-A-I-12M-6	12	3/8	9	8	10	22	24	22	29	29	37.5	21.5
	PE-S-A-I-16M-8	16	1/2	13	12	12.5	27	30	27	33	36	43	24.5
	PE-S-A-I-20M-12	20	3/4	12	16	15.5	30	36	36	38	39	49	27.5
	PE-S-A-I-25M-16	25	1	14	20	21.5	36	46	41	42	44	54	30
	PE-S-A-I-30M-20	30	1 1/4	15	25	27.5	50	50	50	49	49	62	35.5
	PE-S-A-I-38M-24	38	1 1/2	15	32	33	50	60	55	50	55	65	34



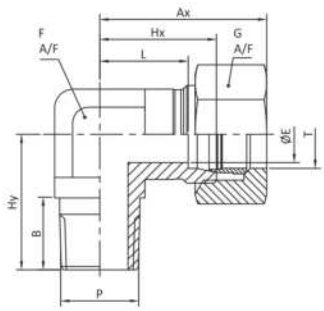


MALE ELBOW 24° CONE x NPT THREAD

SPECIFICATIONS USED:- DIN 2353 / ISO 8434-1 & SAE J476

SERIES	FC PART NUMBER	T TUBE OD IN MM	P NPTF (M) IN INCH	Ax	B	ØE	F A/F	G A/F	Hx	Hy	L
LL	E-LL-A-A16-4M-2	4	1/8	21.5	9.6	3	9	10	15	17	11
	E-LL-A-A16-6M-2	6	1/8	21.5	9.6	4.5	9	12	15	17	9.5
	E-LL-A-A16-8M-2	8	1/8	23.5	9.6	4.8	12	14	17	20	11.5
L	E-L-A-A16-6M-2	6	1/8	26.5	9.6	4	12	14	19	20	12
	E-L-A-A16-6M-4	6	1/4	28.5	14.3	4	12	14	21	26	14
	E-L-A-A16-6M-6	6	3/8	32.5	14.3	4	17	14	25	28	18
	E-L-A-A16-8M-2	8	1/8	29	9.6	4.8	12	17	21	26	14
	E-L-A-A16-8M-4	8	1/4	29	14.3	6	12	17	21	26	14
	E-L-A-A16-10M-4	10	1/4	30	14.3	7.1	14	19	22	27	15
	E-L-A-A16-10M-6	10	3/8	32	14.3	8	17	19	24	28	17
	E-L-A-A16-12M-4	12	1/4	31.5	14.3	7.1	17	22	24	28	17
	E-L-A-A16-12M-6	12	3/8	31.5	14.3	9.6	17	22	24	28	17
	E-L-A-A16-12M-8	12	1/2	35.5	19.1	10	19	22	28	34	21
	E-L-A-A16-15M-8	15	1/2	36.5	19.1	11.9	19	27	28	34	21
	E-L-A-A16-18M-8	18	1/2	63	19.1	11.9	24	32	31	36	23.5
	E-L-A-A16-22M-12	22	3/4	44	19.1	15.8	27	36	35	42	27.5
	E-L-A-A16-28M-16	28	1	47	23.9	22.3	36	41	38	48	30.5
	E-L-A-A16-35M-20	35	1 1/4	56	23.9	27.6	41	50	45	54	34.5
	E-L-A-A16-42M-24	42	1 1/2	63	26.2	34	50	60	51	61	40
S	E-S-A-A16-6M-4	6	1/4	31	14.3	4	12	17	23	26	16
	E-S-A-A16-8M-4	8	1/4	32	14.3	5	14	19	24	27	17
	E-S-A-A16-8M-6	8	3/8	33	14.3	5	17	19	25	28	18
	E-S-A-A16-8M-8	8	1/2	38	19.1	5	19	19	30	34	23
	E-S-A-A16-10M-4	10	1/4	33.5	14.3	7	17	22	25	28	17.5
	E-S-A-A16-10M-6	10	3/8	33.5	14.3	7	17	22	25	28	17.5
	E-S-A-A16-12M-4	12	1/4	37.5	14.3	7.1	17	24	29	29	21.5
	E-S-A-A16-12M-6	12	3/8	37.5	14.3	8	17	24	29	28	21.5
	E-S-A-A16-12M-8	12	1/2	38.5	19.1	8	19	24	30	34	22.5
	E-S-A-A16-16M-8	16	1/2	43	19.1	11.9	24	30	33	36	24.5
	E-S-A-A16-20M-12	20	3/4	48	19.1	15.8	27	36	37	42	26.5
	E-S-A-A16-25M-16	25	1	54	23.9	20	36	46	42	48	30
	E-S-A-A16-30M-20	30	1 1/4	62	23.9	25	41	50	49	54	35.5
	E-S-A-A16-38M-24	38	1 1/2	72	26.2	32	50	60	57	61	41

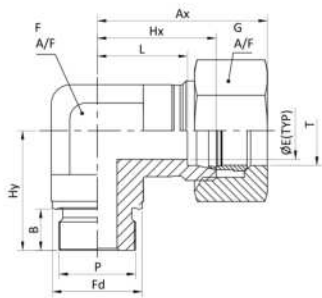




MALE ELBOW 24°CONE x METRIC THREAD

SPECIFICATIONS USED:- DIN 2353 / ISO 8434-1 & DIN 3852-1

SERIES	FC PART NUMBER	T TUBE OD IN MM	P METRIC TAPER (M)	B	ØE	F A/F	G A/F	Hx	Hy	Ax	L
LL	E-LL-A-A26-4M-M0	4	M8 X 1	8	3	9	10	15	17	21.5	11.0
	E-LL-A-A26-6M-M1	6	M10 X 1	8	4.5	9	12	15	17	21.5	9.5
	E-LL-A-A26-8M-M1	8	M10 X 1	8	4.5	12	14	17	20	23.5	11.5
L	E-L-A-A26-6M-M1	6	M10 X 1	8	4	12	14	19	20	26.5	12.0
	E-L-A-A26-8M-M5	8	M12 X 1.5	12	6	12	17	21	26	29.0	14.0
	E-L-A-A26-10M-M7	10	M14 X 1.5	12	7	14	19	22	27	30.0	15.0
	E-L-A-A26-12M-M9	12	M16 X 1.5	12	9	17	22	24	28	31.5	17.0
	E-L-A-A26-15M-M11	15	M18 X 1.5	12	11	19	27	28	32	36.5	21.0
	E-L-A-A26-18M-M15	18	M22 X 1.5	14	14	24	32	31	36	40.0	23.5
S	E-S-A-A26-6M-M5	6	M12 X 1.5	12	4	12	17	23	26	31.0	16.0
	E-S-A-A26-8M-M7	8	M14 X 1.5	12	5	14	19	24	27	32.0	17.0
	E-S-A-A26-10M-M9	10	M16 X 1.5	12	7	17	22	25	28	33.5	17.5
	E-S-A-A26-12M-M11	12	M18 X 1.5	12	8	17	24	29	28	37.5	21.5
	E-S-A-A26-16M-M15	16	M22 X 1.5	14	12	24	30	33	32	43.0	24.5

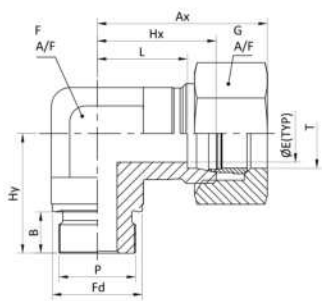




MALE ELBOW 24° CONE x METRIC THREAD METAL TO METAL SEALING

SPECIFICATIONS USED:- DIN 2353 / ISO 8434-1 & ISO 9974

SERIES	FC PART NUMBER	T TUBE OD IN MM	P METRIC (M)	B	ØE	F A/F	G A/F	Hx	Hy	Fd	Ax	L
L	E-L-A-N-22M-M17	22	M26 x 1.5	16	18	27	36	35	42	31	44	27.5
	E-L-A-N-28M-M24	28	M33 x 2	18	23	36	41	38	48	39	47	30.5
	E-L-A-N-35M-M27	35	M42 x 2	20	30	41	50	45	54	49	56	34.5
	E-L-A-N-42M-M28	42	M48 x 2	22	36	50	60	51	61	55	63	40.0
S	E-S-A-N-20M-M20	20	M27 x 2	16	16	27	36	37	42	32	48	26.5
	E-S-A-N-25M-M24	25	M33 x 2	18	20	36	46	42	48	39	54	30.0
	E-S-A-N-30M-M27	30	M42 x 2	20	25	41	50	49	54	49	62	35.5
	E-S-A-N-38M-M28	38	M48 x 2	22	32	50	60	57	61	55	72	41.0



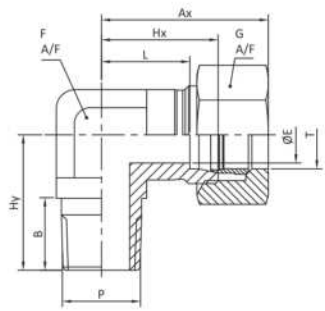


MALE ELBOW 24° CONE x BSPP THREAD, METAL TO METAL SEALING

SPECIFICATIONS USED:- DIN 2353 / ISO 8434-1 & ISO 1179-4

SERIES	FCPL PART NUMBER	T TUBE OD IN MM	P BSPP MALE IN INCH	Ax	B	ØE	F A/F	G A/F	Hx	Hy	Fd	L
L	E-L-A-J-22M-12	22	3/4	44.0	16	18	27	36	35	38.5	31.9	27.5
	E-L-A-J-28M-16	28	1	47.0	18	23	36	41	38	43.5	39.9	30.5
	E-L-A-J-35M-20	35	1.1/4	56.0	20	30	41	50	45	51.0	49.9	34.5
	E-L-A-J-42M-24	42	1.1/2	63.0	22	36	50	60	51	55.5	54.9	40.0
S	E-L-A-J-20M-12	20	3/4	48.0	16	16	27	36	37	38.5	31.9	26.5
	E-L-A-J-25M-16	25	1	54.0	18	20	36	46	42	43.5	39.9	30.0
	E-L-A-J-30M-20	30	1.1/4	62.0	20	25	41	50	49	51.0	49.9	35.5
	E-L-A-J-38M-24	38	1.1/2	72.0	22	32	50	60	57	55.5	54.9	41.0

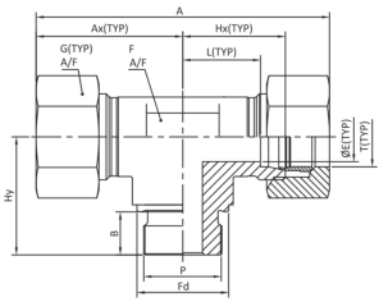




MALE ELBOW 24° CONE x BSPT THREAD

SPECIFICATIONS USED:- DIN 2353 / ISO 8434-1

SERIES	FC PART OD IN MM	T TUBE (M)	P TAPER	Ax	B	ØE	F A/F	G A/F	Hx	Hy	L
LL	E-LL-A-A25-4M-2	4	1/8	8	3	9	10	15	17	21.5	11
	E-LL-A-A25-6M-2	6	1/8	8	4.5	9	12	15	17	21.5	9.5
	E-LL-A-A25-8M-2	8	1/8	8	4.8	12	14	17	20	23.5	11.5
L	E-L-A-A25-6M-2	6	1/8	8	4	12	14	19	20	26.5	12
	E-L-A-A25-6M-4	6	1/4	12	4	12	14	21	26	28.5	14
	E-L-A-A25-8M-2	8	1/8	8	4.8	12	17	21	26	29.0	14
	E-L-A-A25-8M-4	8	1/4	12	6	12	17	21	26	29.0	14
	E-L-A-A25-8M-6	8	3/8	12	6	17	17	24	28	32.0	17
	E-L-A-A25-10M-4	10	1/4	12	7.1	14	19	22	27	30.0	15
	E-L-A-A25-10M-6	10	3/8	12	8	17	19	24	28	32.0	17
	E-L-A-A25-12M-4	12	1/4	12	7.1	17	22	24	27.3	31.5	17
	E-L-A-A25-12M-6	12	3/8	12	9.6	17	22	24	28	31.5	17
	E-L-A-A25-12M-8	12	1/2	14	10	19	22	28	34	35.5	21
	E-L-A-A25-15M-8	15	1/2	14	11.9	19	27	28	34	36.5	21
	E-L-A-A25-18M-8	18	1/2	14	11.9	24	32	31	36.1	40.0	23.5
S	E-S-A-A25-6M-4	6	1/4	12	4	12	17	23	26	31.0	16
	E-S-A-A25-6M-6	6	3/8	12	4.0	17	17	25	28	33.0	18
	E-S-A-A25-8M-4	8	1/4	12	5.0	14	19	24	27	32.0	17
	E-S-A-A25-8M-6	8	3/8	12	5	17	19	25	28	33.0	18
	E-S-A-A25-10M-4	10	1/4	12	7	17	22	25	28	33.5	17.5
	E-S-A-A25-10M-6	10	3/8	12	7	17	22	25	28	33.5	17.5
	E-S-A-A25-10M-8	10	1/2	14	7	19	22	30	32	38.5	22.5
	E-S-A-A25-12M-6	12	3/8	12	8	17	24	29	28	37.5	21.5
	E-S-A-A25-12M-8	12	1/2	14	8	19	24	30	32	38.5	22.5
	E-S-A-A25-16M-8	16	1/2	14	11.9	24	30	33	32	43.0	24.5

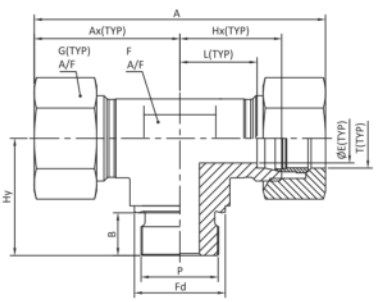




MALE BRANCH TEE 24° CONE x METRIC THREAD

SPECIFICATIONS USED:- DIN 2353 / ISO 8434-1 & ISO 9974

SERIES	FC PART NUMBER	T TUBE OD IN MM	P METRIC MALE	B	ØE	F A/F	G A/F	Hx	Hy	Fd	Ax	A	L
L	BT-L-A-N-22M-M17	22	M26 x 1.5	16	18	27	36	35	42	31	22	44	27.5
	BT-L-A-N-28M-M24	28	M33 x 2	18	23	36	41	38	48	39	23.5	47	30.5
	BT-L-A-N-35M-M27	35	M42 x 2	20	30	41	50	45	54	49	28	56	34.5
	BT-L-A-N-42M-M28	42	M48 x 2	22	36	50	60	51	61	55	31.5	63	40.0
S	BT-S-A-N-20M-M20	20	M27 x 2	16	16	27	36	37	42	32	24	48	26.5
	BT-S-A-N-25M-M24	25	M33 x 2	18	20	36	46	42	48	39	27	54	30.0
	BT-S-A-N-30M-M27	30	M42 x 2	20	25	41	50	49	54	49	31	62	35.5
	BT-S-A-N-38M-M28	38	M48 x 2	22	32	50	60	57	61	55	36	72	41.0

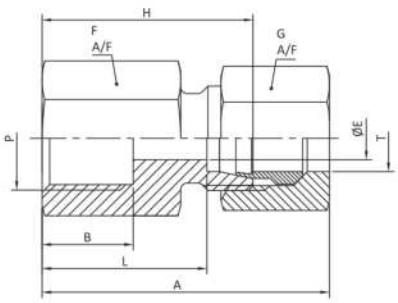




MALE BRANCH TEE 24° CONE x BSPP THREAD, METAL TO METAL SEALING

SERIES	FCPL PART NUMBER	T TUBE OD IN MM	P BSPP MALE	B	ØE	F A/F	G A/F	Hx	Hy	Fd	Ax	A	L
L	BT-L-A-J-22M-12	22	3/4	16	18	27	36	35	42	31.9	86	44	27.5
	BT-L-A-J-28M-16	28	1	18	23	36	41	38	48	39.9	95	47	30.5
	BT-L-A-J-35M-20	35	1 1/4	20	30	41	50	45	54	49.9	110	56	34.5
	BT-L-A-J-42M-24	42	1 1/2	22	36	50	60	51	61	54.9	124	63	40.0
S	BT-S-A-J-20M-12	20	3/4	16	16	27	36	37	42	31.9	90	48	26.5
	BT-S-A-J-25M-16	25	1	18	20	36	46	42	48	39.9	102	54	30.0
	BT-S-A-J-30M-20	30	1 1/4	20	25	41	50	49	54	49.9	116	62	35.5
	BT-S-A-J-38M-24	38	1 1/2	22	32	50	60	57	61	54.9	133	72	41.0

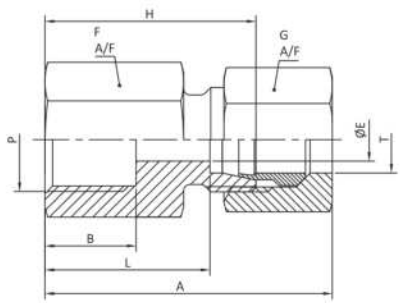




FEMALE CONNECTOR 24° CONE x METRIC THREAD

SPECIFICATIONS USED:- DIN 2353 / ISO 8434-1 & ISO 9974-1

SERIES	FC PART NUMBER	T TUBE OD IN MM	P METRIC (F)	A	B	ØE	F A/F	G A/F	H	L
L	CF-L-A-L-6M-M1	6	M10 x 1	34.0	11.0	4	14	14	26.5	19.5
	CF-L-A-L-8M-M5	8	M12 x 1.5	39.0	16.5	6	17	17	31.0	24.0
	CF-L-A-L-10M-M7	10	M14 x 1.5	40.0	16.5	8	19	19	32.0	25.0
	CF-L-A-L-12M-M9	12	M16 x 1.5	40.5	16.5	10	22	22	33.0	26.0
	CF-L-A-L-15M-M11	15	M18 x 1.5	43.5	17.0	12	24	27	35.0	28.0
	CF-L-A-L-18M-M15	18	M22 x 1.5	46.0	19.5	15	30	32	37.0	29.5
	CF-L-A-L-22M-M17	22	M26 x 1.5	51.0	21.5	19	32	36	42.0	34.5
	CF-L-A-L-28M-M24	28	M33 x 2	54.0	24.5	24	41	41	45.0	37.5
	CF-L-A-L-35M-M27	35	M42 x 2	62.0	26.5	30	55	50	51.0	40.5
	CF-L-A-L-42M-M28	42	M48 x 2	65.0	28.0	36	60	60	53.0	42.0
S	CF-S-A-L-6M-M5	6	M12 x 1.5	41.0	16.5	4	17	17	33.0	26.0
	CF-S-A-L-8M-M7	8	M14 x 1.5	41.0	16.5	5	17	19	33.0	26.0
	CF-S-A-L-10M-M9	10	M16 x 1.5	42.5	16.5	7	22	22	34.0	26.5
	CF-S-A-L-12M-M11	12	M18 x 1.5	43.5	17.0	8	24	24	35.0	27.5
	CF-S-A-L-16M-M15	16	M22 x 1.5	49.0	19.5	12	30	30	39.0	30.5
	CF-S-A-L-20M-M20	20	M27 x2	56.0	22.5	16	36	36	45.0	34.5
	CF-S-A-L-25M-M24	25	M33 x 2	61.0	24.5	20	41	46	49.0	37.0
	CF-S-A-L-30M-M27	30	M42 x 2	68.0	26.5	25	55	50	55.0	41.5
	CF-S-A-L-38M-M28	38	M48 x 2	74.0	28.0	32	60	60	59.0	43.0



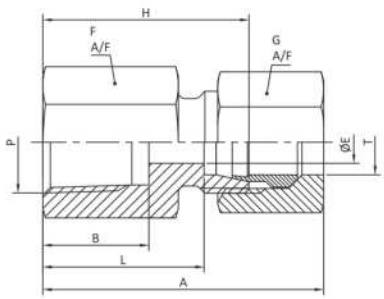


FEMALE CONNECTOR 24° CONE x BSPP THREAD

SPECIFICATIONS USED:- DIN 2353 / ISO 8434-1 & 1179-1

SERIES	FC PART NUMBER	T TUBE OD IN MM	P BSPP (F)	A	B	ØE	F A/F	G A/F	H	L
L	CF-L-A-G-6M-2	6	1/8	33.5	11.5	4	14	14	26.0	19.0
	CF-L-A-G-6M-4	6	1/4	38.5	17.0	4	19	14	31.0	24.0
	CF-L-A-G-8M-4	8	1/4	39.0	17.0	6	19	17	31.0	24.0
	CF-L-A-G-8M-6	8	3/8	40.0	17.5	6	24	17	32.0	25.0
	CF-L-A-G-8M-8	8	1/2	44.0	21.5	6	27	17	36.0	29.0
	CF-L-A-G-10M-4	10	1/4	40.0	17.0	8	19	19	32.0	25.0
	CF-L-A-G-10M-6	10	3/8	41.0	17.5	8	24	19	33.0	26.0
	CF-L-A-G-10M-8	10	1/2	45.0	21.5	8	27	19	37.0	30.0
	CF-L-A-G-12M-6	12	3/8	40.5	17.5	10	24	22	33.0	26.0
	CF-L-A-G-12M-4	12	1/4	40.5	17.5	8	19	22	33.0	26.0
	CF-L-A-G-12M-8	12	1/2	44.5	17.5	10	27	22	37.0	30.0
	CF-L-A-G-15M-8	15	1/2	46.5	21.5	12	27	27	38.0	31.0
	CF-L-A-G-18M-6	18	3/8	43.0	21.5	15	27	32	34.0	26.5
	CF-L-A-G-18M-8	18	1/2	47.0	21.5	15	27	32	38.0	30.5
	CF-L-A-G-22M-12	22	3/4	52.0	23.0	19	36	36	43.0	35.5
	CF-L-A-G-28M-16	28	1	54.5	26.5	24	41	41	45.5	38.0
	CF-L-A-G-35M-20	35	1.1/4	62.5	29.0	30	55	50	51.5	41.0
	CF-L-A-G-42M-24	42	1.1/2	65.5	30.0	36	60	60	53.5	42.5
S	CF-S-A-G-6M-4	6	1/4	41.0	17.0	4	19	17	33.0	26.0
	CF-S-A-G-8M-4	8	1/4	41.0	17.0	5	19	19	33.0	26.0
	CF-S-A-G-10M-6	10	3/8	42.5	17.5	7	24	22	34.0	26.5
	CF-S-A-G-12M-6	12	3/8	42.5	17.5	8	24	24	34.0	26.5
	CF-S-A-G-12M-8	12	1/2	47.0	17.5	8	30	24	38.0	31.0
	CF-S-A-G-16M-8	16	1/2	50.0	21.5	12	30	30	40.0	31.5
	CF-S-A-G-20M-12	20	3/4	56.0	23.0	16	36	36	45.0	34.5
	CF-S-A-G-25M-16	25	1	61.5	26.5	20	41	46	49.5	37.5
	CF-S-A-G-30M-20	30	1.1/4	68.5	29.0	25	55	50	55.5	42.0
	CF-S-A-G-38M-24	38	1.1/2	74.5	30.0	32	60	60	59.5	43.5

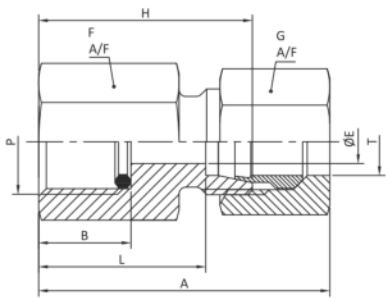




FEMALE CONNECTOR 24° CONE x NPT THREAD

SPECIFICATIONS USED:- DIN 2353 / ISO 8434-1 & SAE J476

SERIES	FC PART NUMBER	T TUBE OD IN MM	P NPT (F)	A	B	ØE	F A/F	G A/F	H	L
L	CF-L-A-A17-6M-2	6	1/8	33.5	10.4	4	14	14	26.0	19.0
	CF-L-A-A17-6M-4	6	1/4	38.0	15.0	4	19	14	30.5	23.5
	CF-L-A-A17-8M-4	8	1/4	38.5	15.0	6	19	17	30.5	23.5
	CF-L-A-A17-10M-4	10	1/4	39.0	15.0	8	19	19	31.0	24.0
	CF-L-A-A17-12M-6	12	3/8	41.5	15.0	10	24	22	34.0	27.0
	CF-L-A-A17-12M-8	12	1/2	43.5	19.8	10	27	22	36.0	29.0
	CF-L-A-A17-15M-8	15	1/2	48.5	19.8	12	27	27	40.0	33.0
	CF-L-A-A17-18M-8	18	1/2	49.0	19.8	15	27	32	40.0	32.5
	CF-L-A-A17-22M-12	22	3/4	52.0	20.6	19	36	36	43.0	35.5
	CF-L-A-A17-28M-16	28	1	57.0	25.4	24	41	41	48.0	40.5
	CF-L-A-A17-35M-20	35	1 1/4	62.0	25.4	30	55	50	51.0	40.5
	CF-L-A-A17-42M-24	42	1 1/2	65.0	27.6	36	60	60	53.0	42.0
S	CF-S-A-A17-6M-2	6	1/8	36.0	10.4	4	14	17	28.0	21.0
	CF-S-A-A17-6M-4	6	1/4	41.0	15.0	4	19	17	33.0	26.0
	CF-S-A-A17-8M-4	8	1/4	41.0	15.0	5	19	19	33.0	26.0
	CF-S-A-A17-10M-6	10	3/8	43.5	15.0	7	24	22	35.0	27.5
	CF-S-A-A17-12M-4	12	1/4	49.5	15.0	8	22	24	41.0	33.5
	CF-S-A-A17-12M-6	12	3/8	43.5	15.0	8	24	24	35.0	27.5
	CF-S-A-A17-12M-8	12	1/2	49.5	19.8	8	27	24	41.0	33.5
	CF-S-A-A17-16M-8	16	1/2	53.0	19.8	12	27	30	43.0	34.5
	CF-S-A-A17-20M-8	20	1/2	55.0	19.8	16	32	36	44.0	33.5
	CF-S-A-A17-20M-12	20	3/4	57.0	20.6	16	36	36	46.0	35.5
	CF-S-A-A17-25M-16	25	1	65.0	25.4	20	41	46	53.0	41.0
	CF-S-A-A17-30M-20	30	1 1/4	70.0	25.4	25	55	50	57.0	43.5
	F-S-A-A17-38M-24	38	1 1/2	74.0	27.6	32	60	60	59.0	43.0



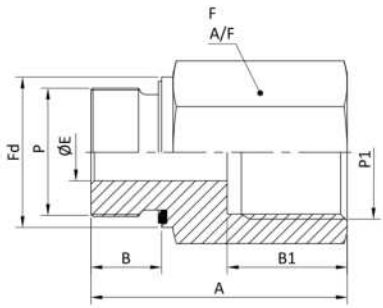


FEMALE MANOMETER 24° CONE x BSPP THREAD WITH GASKET

SPECIFICATIONS USED:- DIN 2353 / ISO 8434-1

SERIES	FC PART NUMBER	T TUBE OD IN MM	P BSPP (F)	A	B	ØE	F A/F	G A/F	H	L
LL	FM-LL-A-Y-4M-4	4	1/4	33.5	14.5	2.5	19	10	27	23.0
	FM-L-A-Y-4M-4	6	1/4	36.5	14.5	2.5	19	14	29	22.0
L	FM-L-A-Y-8M-4	8	1/4	37.0	14.5	5.5	19	17	29	22.0
	FM-L-A-Y-10M-4	10	1/4	38.0	14.5	5.5	19	19	30	23.0
	FM-L-A-Y-12M-4	12	1/4	37.5	14.5	5.5	19	22	30	23.0
S	FM-S-A-Y-6M-8	6	1/2	46.0	20.0	3.5	27	17	38	31.0
	FM-S-A-Y-8M-8	8	1/2	46.0	20.0	3.5	27	19	38	31.0
	FM-S-A-Y-10M-8	10	1/2	46.5	20.0	7.5	27	22	38	30.5
	FM-S-A-Y-12M-8	12	1/2	46.5	20.0	7.5	27	24	38	30.5



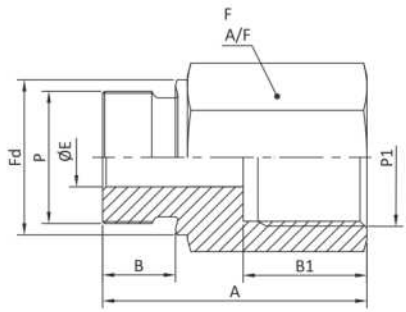


REDUCING BUSHING BSPP MALE x BSPP FEMALE THREAD, ED SEAL

SPECIFICATIONS USED:- DIN 2353 / ISO 8434-1

FC PART NUMBER	P BSPP MALE IN INCH	P1 BSPP (F) IN INCH	A	B	B1	ØE	F A/F	Fd
RB-H-G-4-2	1/4	1/8	29	12	12.0	5	19	18.9
RB-H-G-6-2	3/8	1/8	22.5	12	12.0	4	22	21.9
RB-H-G-6-4	3/8	1/4	36	12	17.0	8	22	21.9
RB-H-G-8-2	1/2	1/8	24	14	12.0	8	27	26.9
RB-H-G-8-4	1/2	1/4	24	14	17.0	8	27	26.9
RB-H-G-8-6	1/2	3/8	37	14	17.0	12	27	26.9
RB-H-G-12-4	3/4	1/4	26	16	17.0	8	32	31.9
RB-H-G-12-6	3/4	3/8	26	16	17.0	12	32	31.9
RB-H-G-12-8	3/4	1/2	43	16	20.0	16	32	31.9
RB-H-G-16-4	1	1/4	29	18	17.0	8	41	39.9
RB-H-G-16-6	1	3/8	29	18	17.0	12	41	39.9
RB-H-G-16-8	1	1/2	29	18	20.0	16	41	39.9
RB-H-G-16-12	1	3/4	49	18	22.0	20	41	39.9
RB-H-G-20-8	1.1/4	1/2	32	20	20.0	16	50	49.9
RB-H-G-20-12	1.1/4	3/4	32	20	22.0	20	50	49.9
RB-H-G-20-16	1.1/4	1	34.5	20	24.5	25	50	49.9
RB-H-G-24-8	1.1/2	1/2	36	22	20.0	16	55	54.9
RB-H-G-24-12	1.1/2	3/4	36	22	22.0	20	55	54.9
RB-H-G-24-16	1.1/2	1	36	22	24.5	25	55	54.9
RB-H-G-24-20	1.1/2	1.1/4	58	22	26.5	32	55	54.9
RB-H-G-32-24	2	1.1/2	65	24	28.5	40	75	74.9

FCPL PART NUMBER	P1 BSPP MALE IN INCH	P BSPP (F) IN INCH	A	B	B1	ØE	F A/F	Fd
A-G-H-4-2	1/4	1/8	31	8	17.0	4	19	14
A-G-H-6-2	3/8	1/8	32	8	17.0	4	24	14
A-G-H-6-4	3/8	1/4	36	12	17.0	5	24	18
A-G-H-8-4	1/2	1/4	40	12	20.0	5	30	18
A-G-H-8-6	1/2	3/8	41	12	20.0	8	30	22
A-G-H-12-4	3/4	1/4	43	12	22.0	5	36	18
A-G-H-12-6	3/4	3/8	44	12	22.0	8	36	22
A-G-H-12-8	3/4	1/2	46	14	22.0	12	36	26
A-G-H-16-8	1	1/2	49	14	24.5	12	41	26
A-G-H-16-12	1	3/4	51	16	24.5	16	41	32
A-G-H-20-8	1 1/4	1/2	53	14	26.5	10	55	26
A-G-H-20-12	1 1/4	3/4	55	16	26.5	16	55	32
A-G-H-20-16	1 1/2	1	57	18	28.5	20	55	39
A-G-H-24-12	1 1/2	3/4	57	16	28.5	16	60	32
A-G-H-24-16	1 1/2	1	59	18	28.5	20	60	39
A-G-H-24-20	1 1/2	1 1/4	60	20	28.5	25	60	49





REDUCING BUSHING BSPP MALE x BSPP FEMALE THREAD, METAL TO METAL SEALING



REDUCING FEMALE ADAPTER BSPP FEMALE x BSPP MALE THREAD

REDUCING BUSHING BSPP MALE x BSPP FEMALE THREAD, METAL TO METAL SEALING

SPECIFICATIONS USED:- ISO 1179-1 & ISO 1179-4

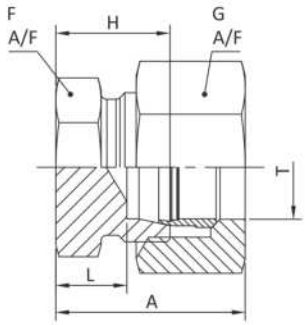
FC PART NUMBER	P BSPP MALE IN INCH	P1 BSPP FEMALE IN INCH	A	B	B1	ØE	F A/F	Fd
RB-J-G-4-2	1/4	1/8	28	12	12	5	19	18.9
RB-J-G-6-2	3/8	1/8	22.5	12	12	4	22	21.9
RB-J-G-6-4	3/8	1/4	36	12	17	8	22	21.9
RB-J-G-8-2	1/2	1/8	24	14	12	8	27	26.9
RB-J-G-8-4	1/2	1/4	24	14	17	8	27	26.9
RB-J-G-8-6	1/2	3/8	36	14	17	12	27	26.9
RB-J-G-12-4	3/4	1/4	26	16	17	8	32	31.9
RB-J-G-12-6	3/4	3/8	26	16	17	12	32	31.9
RB-J-G-12-8	3/4	1/2	41	16	20	14	32	31.9
RB-J-G-16-4	1	1/4	29	18	17	8	41	39.9
RB-J-G-16-6	1	3/8	29	18	17	12	41	39.9
RB-J-G-16-8	1	1/2	29	18	20	16	41	39.9
RB-J-G-16-12	1	3/4	47	18	22	20	41	39.9
RB-J-G-20-8	1.1/4	1/2	32	20	20	16	50	49.9
RB-J-G-20-12	1.1/4	3/4	32	20	22	20	50	49.9
RB-J-G-20-16	1.1/4	1	52	20	24.5	25	50	49.9
RB-J-G-24-8	1.1/2	1/2	36	22	20	16	55	54.9
RB-J-G-24-12	1.1/2	3/4	36	22	22	20	55	54.9
RB-J-G-24-16	1 1/2	1	36	22	24.5	25	55	54.9
RB-J-G-24-20	1.1/2	1.1/4	58	22	26.5	32	55	54.9
RB-J-G-32-24	2	1.1/2	58	24	28.5	32	70	69.9

REDUCING FEMALE ADAPTER BSPP FEMALE x BSPP MALE THREAD

SPECIFICATIONS USED:- ISO 1179-1 & ISO 1179-4

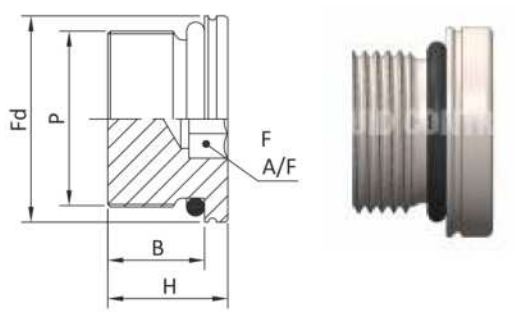
FC PART NUMBER	P1 BSPP MALE IN INCH	P BSPP FEMALE IN INCH	A	B	B1	ØE	F A/F	Fd
A-G-J-4-2	1/4	1/8	31	8	17.0	4	19	14
A-G-J-6-2	3/8	1/8	32	8	17.0	4	24	14
A-G-J-6-4	3/8	1/4	36	12	17.0	5	24	18
A-G-J-8-4	1/2	1/4	40	12	20.0	5	30	18
A-G-J-8-6	1/2	3/8	41	12	20.0	8	30	22
A-G-J-12-4	3/4	1/4	43	12	22.0	5	36	18
A-G-J-12-6	3/4	3/8	44	12	22.0	8	36	22
A-G-J-12-8	3/4	1/2	46	14	22.0	12	36	26
A-G-J-16-8	1	1/2	49	14	24.5	12	41	26
A-G-J-16-12	1	3/4	51	16	24.5	16	41	32
A-G-J-20-8	1 1/4	1/2	53	14	26.5	10	55	26
A-G-J-20-12	1 1/4	3/4	55	16	26.5	16	55	32
A-G-J-20-16	1 1/2	1	57	18	28.5	20	55	39
A-G-J-24-12	1 1/2	3/4	57	16	28.5	16	60	32
A-G-J-24-16	1 1/2	1	59	18	28.5	20	60	39
A-G-J-24-20	1 1/2	1 1/4	60	20	28.5	25	60	49





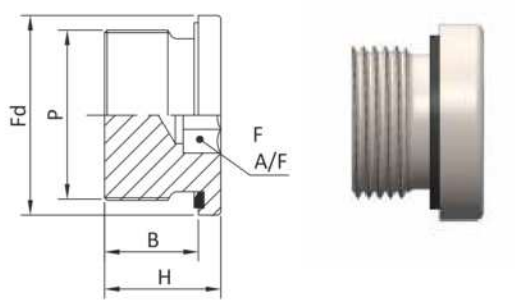
TUBE END CLOSURE 24° CONE END

SPECIFICATIONS USED:- DIN 2353 / ISO 8434-1							
SERIES	FC PART NUMBER	T TUBE OD MM	A	F A/F	G A/F	H	L
LL	TC-LL-A-4M	4	18.5	9	10	12	8.0
	TC-LL-A-6M	6	18.5	11	12	12	6.5
	TC-LL-A-8M	8	20.5	12	14	14	8.5
L	TC-L-A-6M	6	21.5	12	14	14	7.0
	TC-L-A-8M	8	23.0	14	17	15	8.0
	TC-L-A-10M	10	24.0	17	19	16	9.0
	TC-L-A-12M	12	24.5	19	22	17	10.0
	TC-L-A-15M	15	26.5	24	27	18	11.0
	TC-L-A-18M	18	28.0	27	32	19	11.5
	TC-L-A-22M	22	30.0	32	36	21	13.5
	TC-L-A-28M	28	31.0	41	41	22	14.5
	TC-L-A-35M	35	36.0	46	50	25	14.5
	TC-L-A-42M	42	39.0	55	60	27	16.0
S	TC-S-A-6M	6	26.0	14	17	18	11.0
	TC-S-A-8M	8	28.0	17	19	20	13.0
	TC-S-A-10M	10	28.5	19	22	20	12.5
	TC-S-A-12M	12	30.5	22	24	22	14.5
	TC-S-A-16M	16	34.0	27	30	24	15.5
	TC-S-A-20M	20	39.0	32	36	28	17.5
	TC-S-A-25M	25	44.0	41	46	32	20.0
	TC-S-A-30M	30	47.0	46	50	34	20.5
	TC-S-A-38M	38	54.0	55	60	39	23.0



BLANKING PLUG METRIC THREADS WITH O-RING

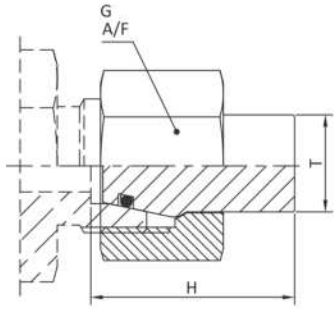
FC PART NUMBER	P	Fd	B	H	F A/F
BP-O-M1	M10X1	13	9.5	13.5	5
BP-O-M5	M12X1.5	17	11.0	15.0	6
BP-O-M7	M14X1.5	19	11.0	16.0	6
BP-O-M9	M16X1.5	21	12.5	17.5	8
BP-O-M11	M18X1.5	23	14.0	19.0	8
BP-O-M15	M22X1.5	27	15.0	20.0	10
BP-O-M17	M26X1.5	31	16.0	21.0	12
BP-O-M20	M27X2	32	18.5	23.5	12
BP-O-M24	M33X2	38	18.5	25.0	14
BP-O-M27	M42X2	48	19.0	25.5	22
BP-O-M28	M48X2	55	21.5	28.0	24



BLANKING PLUG METRIC THREADS WITH ED-SEAL

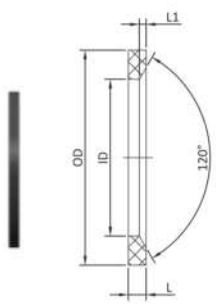
FC PART NUMBER	P	Fd	B	H	F A/F
BP-M-M1	M10X1	14	8	12.3	5
BP-M-M5	M12X1.5	17	12	17.3	6
BP-M-M7	M14X1.5	19	12	17.3	6
BP-M-M9	M16X1.5	22	12	17.3	8
BP-M-M11	M18X1.5	24	12	17.3	8
BP-M-M13	M20X1.5	26	14	19.3	10
BP-M-M15	M22X1.5	27	14	19.3	10
BP-M-M17	M26X1.5	32	16	21.3	12
BP-M-M20	M27X2	32	16	21.3	12
BP-M-M24	M33X2	40	16	22.8	17
BP-M-M27	M42X2	50	16	22.8	22
BP-M-M28	M48X2	55	16	22.8	24





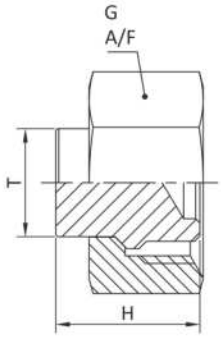
BLANKING PLUG NUT WITH CONE FITTING END CLOSURE 24° CONE

SPECIFICATIONS USED:- DIN 2353 / ISO 8434-1				
SERIES	FC PART NUMBER	T TUBE OD IN MM	G A/F	H
L	FC-L-A-6M	6	14	19.0
	FC-L-A-8M	8	17	19.0
	FC-L-A-10M	10	19	20.5
	FC-L-A-12M	12	22	21.0
	FC-L-A-15M	15	27	21.0
	FC-L-A-18M	18	32	23.5
	FC-L-A-22M	22	36	26.0
	FC-L-A-28M	28	41	26.5
	FC-L-A-35M	35	50	32.0
	FC-L-A-42M	42	60	32.5
S	FC-S-A-6M	6	17	19.0
	FC-S-A-8M	8	19	19.0
	FC-S-A-10M	10	22	21.0
	FC-S-A-12M	12	24	21.5
	FC-S-A-16M	16	30	25.0
	FC-S-A-20M	20	36	30.5
	FC-S-A-25M	25	46	32.5
	FC-S-A-30M	30	50	35.5
	FC-S-A-38M	38	60	40.5



ELASTOMERIC SEAL

FCPL PART NUMBER	BSPP THREAD	OD	ID	L	L1
ED-H-2	1/8	11.9	8.4	1.0	0.5
ED-H-4	1/4	16.5	11.6	1.5	0.8
ED-H-6	3/8	18.9	14.7	1.5	0.8
ED-H-8	1/2	23.9	18.5	1.5	0.8
ED-H-12	3/4	29.2	23.9	1.5	0.8
ED-H-16	1	35.7	29.7	2.0	1
ED-H-20	1.1/4	45.8	38.8	2.0	1
ED-H-24	1.1/2	50.7	44.7	2.0	1

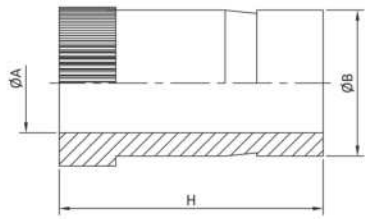




BLANKING PLUG NUT WITH CONE

SPECIFICATIONS USED:- ISO 8434-1				
SERIES	FC PART NUMBER	T TUBE OD IN MM	G A/F	H
L	CP-L-6M	6	14	19.5
	CP-L-8M	8	17	19.5
	CP-L-10M	10	19	21
	CP-L-12M	12	22	21.8
	CP-L-15M	15	27	22
	CP-L-18M	18	32	24
	CP-L-22M	22	36	26
	CP-L-28M	28	41	26.5
	CP-L-35M	35	50	32
	CP-L-42M	42	60	32.5
S	CP-S-6M	6	17	19.5
	CP-S-8M	8	19	19.5
	CP-S-10M	10	22	21
	CP-S-12M	12	24	21.8
	CP-S-16M	16	30	25.5
	CP-S-20M	20	36	30.5
	CP-S-25M	25	46	32.5
	CP-S-30M	30	50	35.5
	CP-S-38M	38	60	40.0





REINFORCING SLEEVE

FC PART NUMBER	T TUBE OD IN MM	A	B	H
RS-4	4	2.6	3.8	14
RS-4.5	4.5	3.1	4.3	14
RS-5	5	3.6	4.8	14
RS-6	6	4.6	5.8	14
RS-6.5	6.5	5.1	6.3	14
RS-7	7.0	5.6	6.8	15.5
RS-8	8.0	6.6	7.8	15.5
RS-9	9	7.6	8.8	15.5
RS-10	10	8.6	9.8	15.5
RS-10.5	10.5	9.1	10.3	15.5
RS-11	11	9.6	10.8	15.5
RS-12	12	10.2	11.8	17
RS-13	13	11.2	12.8	17
RS-14	14	12.2	13.8	17
RS-15	15	13.2	14.8	20
RS-16	16	14.2	15.8	20
RS-17	17	15.2	16.8	20
RS-18	18	16.2	17.8	20
RS-19	19	17.2	18.8	16
RS-20	20	18.2	19.8	21.5
RS-21	21	19.2	20.8	21.5
RS-22	22	20.2	21.8	23.5
RS-23	23	21.2	22.8	23.5
RS-24	24	22.2	23.8	23.5
RS-25	25	23.2	24.8	23.5
RS-26	26	24.2	25.8	23.5
RS-27	27	25.2	26.8	23.5
RS-30	30	27.8	29.8	26.5
RS-31	31	28.8	30.8	26.5
RS-32	32	29.8	31.8	26.5
RS-33	33	30.8	32.8	26.5
RS-34	34	31.8	33.8	26.5
RS-38	38	35.8	37.8	21
RS-39	39	36.8	38.8	21

FC-FI-SF-02-gg

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