



KOSTEVO COMPRESSION  
TUBE FITTINGS



**KOSTEVO Valves & Fittings Co.**, is the designer and manufacturer of stainless steel (SS) Valve Manifolds, Needle valves, Tube Fittings, Pipe Fittings, Ball Valves, Isolation Valves and Special Accessories used in Instrumentation, Hydraulics, Pneumatics with great care to meet the specifications required for a wide range of applications in Oil & Gas Industries, Chemical and Petro- chemicals, Power generation, Agrochemicals, Pharmaceuticals & Vacuum Applications.

Kostevo Valves and Fitting co. based in Mumbai, Maharashtra, the financial capital of India.

#### **MISSION**

The mission of **Kostevo Valves & Fittings Co.**, having commitment to deliver products and services to customers to meet their requirements and expectation by providing quality products and very timely service. We are focusing on long term commitment to the industry and our customers, which is achievable through collective Experience, Quality, Reliability and Improvement.

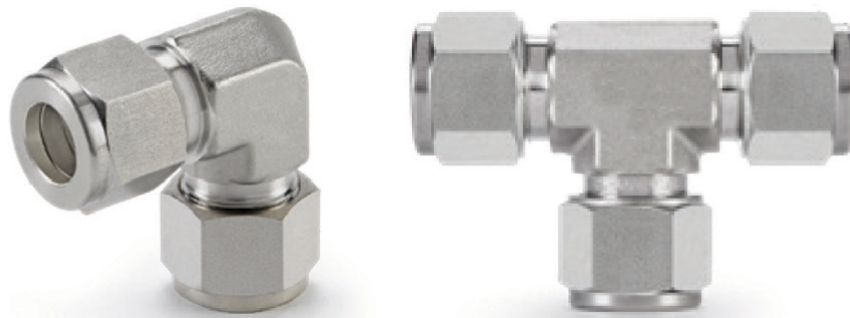
#### **VISION**

**Kostevo Valves & Fittings Co.**, has a vision based on its commitment of continuous improvement and product innovation to meet industry requirements through customer feedback. The Company committed to provide the best possible solution to customer by quality products and services.

We offer a wide range of service to our clients. Procurement of raw materials from qualified and approved vendors and with complete traceability and test certificates. **Kostevo Valves and Fitting Co.**, is the one – stop for all your valves & fittings needs; our marketing and manufacturing experience will help our customer to achieve the accurate and anticipated solution swiftly.

**KOSTEVO** products are undergone stringent quality control test under qualified personals using inhouse laboratory facilities. All valves tested according to AN-SI-B16.5 by using test medium the air, hydrogen and helium.

## TUBE FITTINGS

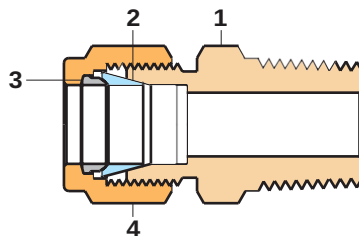


**KOSTEVO** tube fittings have an advanced mechanism to seal and grip tubing which gives a proven seal assembly. **KOSTEVO** fittings undergone through special processes such as burnishing, cold hardening, thread rolling and case hardening of back ferrule for better swaging. Silver coating of nut threads are preventing from cold welding of threads. **KOSTEVO** tube fittings are undergone stringent tolerance test for pressure,

vacuum and temperature. These fittings are manufactured by using the most advanced cutting edge computerized machine with high precision level, assure that high reliability and trouble free service for long time under rigorous and adverse operating environment. Easy identifications are provided for tube fittings, such as step shoulder on hexagonal body and nuts for metric size fittings.

## WORK PRINCIPLE OF Kostevo FITTINGS

**KOSTEVO** tube fittings having a mechanism to seal and to grip tubes that give technical advantage and geometry of such kind of fitting guaranteed a leak free seal assembly.

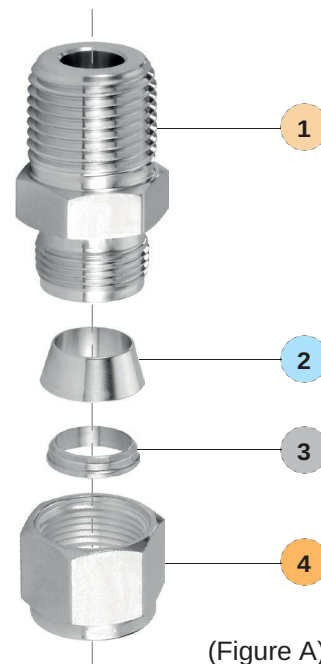


Tube Fitting consist of four major parts (Fig. A)

1. BODY
2. FRONT FERRULE
3. REAR FERRULE
4. NUT

Fittings are assembled as follows:

- A. Insert the tube into the complete assembly until the tube end reaches the shoulder of the fitting body (1)
- B. Finger tight the fitting assembly.
- C. Turn the nut clockwise 1 1/4 turn or 3/4 turn depend on size of the tube from the finger tight position.
- D. Both ferrules are move axially between the nut (4) and fitting body (1) due to the mechanical force created by rotating the nut clockwise. The rear ferrule (3) is driven against the tapered rear of the front ferrule (2) and the front ferrule will be forced into the tapered mouth of the body. The back ferrule is swaged radially inwards on the tube while lifting the front ferrule out to form a full faced seal on the tapered surface of the body. The axial movement of the ferrules does not allow any torque transfer from the fitting to tubes and maintained the mechanical properties of the tube.



(Figure A)

# FITTINGS INSTALLATION INSTRUCTIONS

## PRE-INSTALLATION PROCEDURES

### A. Tubing

Tubing are available in variety of materials and wide range of wall thickness can be used with **KOSTEVO** double ferrule tube fittings. Specification, selection and handling of tubing is highly important to achieve reliable, safe and leak free installation.

Some important general rules shall be ensured on selection of tubing as follows:

- The tubing material shall be compatible with process medium.
- The tubing shall be fully annealed and softer than the fitting material (Hardness  $\leq$  Rockwell Rb90).
- The tubing surfaces shall be smooth finish and free from defects such as weld seams and scratches.
- The tubing shall be lowest tolerance in outside diameter, wall thickness and its ovality.
- The tubing with proper wall thickness shall be selected to withstand temperature, positive and vacuum pressure, shock and vibration of the installation.
- Ensure the tubing end shall be cut squarely and properly de-burred.

### B. Tube cutting

Following methods are commonly used for tube cutting.

#### 1. Cut by using Tube Cutter

Use a quality tube cutter with a blade properly adapted to the tubing material. The tube must be cut squarely in order to achieve leak free connection.

Avoid excessive deepening of cut in each turn to prevent cold hardening of tube end.

De-burr the tube end by a suitable de-burring tool to prevent the fitting damage and to ensure that the tube end reaches the fitting bottom.

#### 2. Cut by using Hacksaw

Use guide blocks to cut the tube with Hacksaw for obtaining square ends and de-burr the cut end by suitable de-burring tool.

### C. Tube Bends

For a leak free installation, tube bends shall not be very close to the fitting. Recommended minimum strait length of tube measured from the tube end to the bend shall be as follows:

Tube OD in Inch.	1/8	1/4	3/8	1/2	3/4	1
Min. Length in mm	19	21	24	30	32	39

Also the minimum bending radius of the tube shall not be too short of bending radius recommended by tube and tube bender manufacturer. Short bending radius affect the performance of the installation.

#### ▲WARNING

Avoid holding the tube in a vise at the area where it enters in the fitting. The holding pressure may create a splat mark on the tube and increase tube ovality leads to a leak. Avoid dragging of tubes in tube rack or on the floor.

## INSERTION OF TUBE IN TO KOSTEVO FITTING

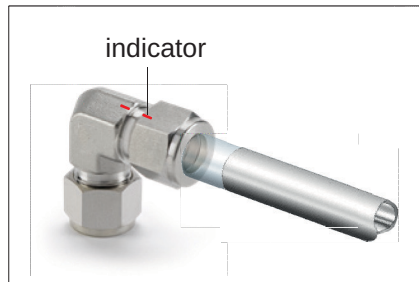


Illustration-1

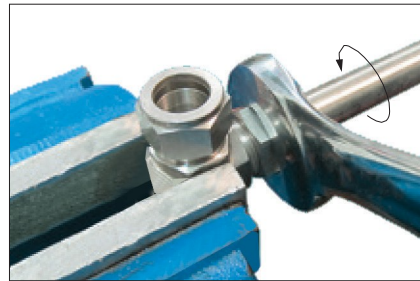
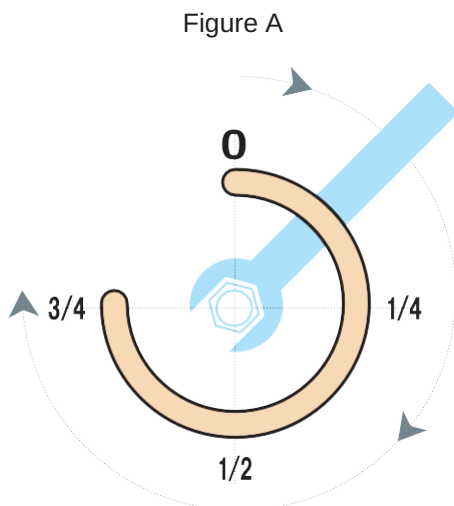


Illustration-2

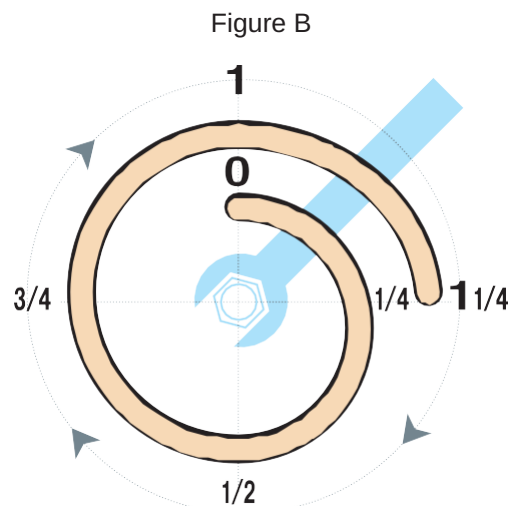
Insert the tube completely in to the fittings & make sure that the tube rests firmly on the shoulder of the fitting body and nut is finger tightened. Mark a short line on the nut hex and it extended to fitting body. That mark will help as an indicator for starting point for nut tightening.

Tighten the nut with the help of a wrench as shown in illustration-2.

### TIGHTENING



For 3/16, 4mm or lower size of tube, tighten the nut by a 3/4 turn from finger tight position. (Refer Figure A).



For 1/4, 6mm or higher size of tube, tighten the nut by 1 1/4 turn from finger tight position. (Refer Figure B).

### DISASSEMBLY / REASSEMBLY

- Before disassembling the position of nut in relation to the fitting body shall be marked.
- When reassembling, ensure that there is no foreign particles on the sealing diagonal face of the fitting body and the front ferrule. Tighten the nut to its original position by using a wrench.
- After reassembly tighten the nut further until slightly increase of tightening torque is felt.

# PHYSICAL DIFFERENCES AND MARKING

## METRIC Fittings:

Union Tee (Refer Fig.1)  
 Body: Stepped Shoulder  
 Marked: **KOSTEVO** IVUT-12M-SS 316  
 Nut: (Refer Figs. 1 & 2) Stepped Shoulder  
 Marked: **KOSTEVO** 12M-SS 316

Straight Connector-Union: (Refer Fig 2)  
 Body: Stepped Shoulder  
 Marked: **KOSTEVO** IVU-12M-SS 316  
 Nut: (Refer Figs. 1 & 2) Stepped Shoulder  
 Marked: **KOSTEVO** 12M-SS 316



Figure 1

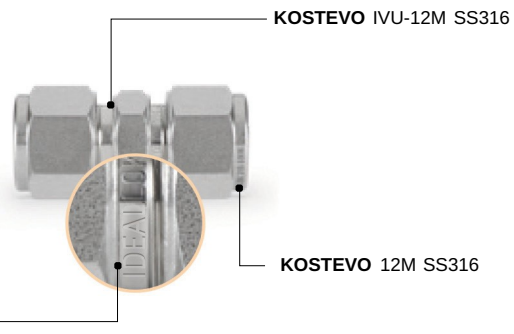


Figure 2

## INCH Fittings:

Union Tee (Refer Fig 3)  
 Body Marked: **KOSTEVO** IVUT-8-SS 316  
 Nut: (Refer Fig. 3 & 4)  
 Shoulder Marked: **KOSTEVO** 1/2"-SS 316

Straight Connector- Union (Refer Fig-4)  
 Body: Marked- **KOSTEVO** IVU-8-SS 316  
 Nut: (Refer Fig. 3 & 4)  
 Shoulder Marked: **KOSTEVO** 1/2"-SS 316

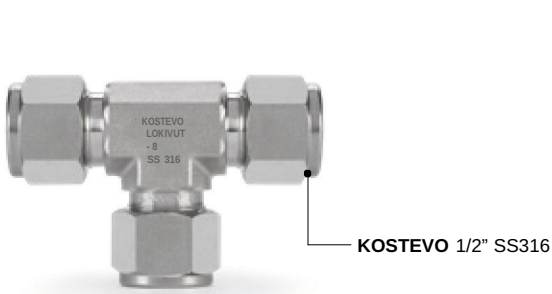


Figure 3

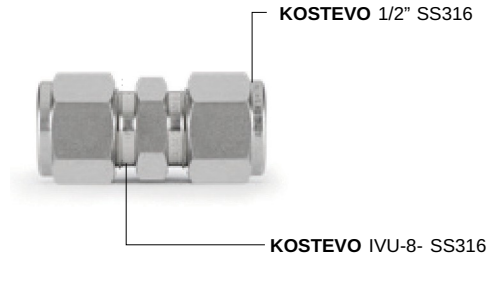


Figure 4

# FITTINGS MODEL NUMBERING

The model numbering of **KOSTEVO** fittings are established as following manner:

A letter “M” following the first numeral identifies the mm size, e.g.6M denotes 6mm OD tube. If the first numeral is not followed by “M”, the number denotes the OD of the tube size in sixteenths of an inch, e.g. 2 denotes 1/8”.

As with the thread sizes are expressed in 16<sup>th</sup> of an inch, thus stud thread sizes are follows:

Thread Size.	1/8"	1/4"	3/8"	1/2"	5/8"	3/4"	7/8"	1"
Denotation	2	4	6	8	10	12	14	16

**Note:** Please state whether NPT, BSPT or BSPP threads are required. For ordering use our Part Numbers.

## Materials and Standards

Table 1

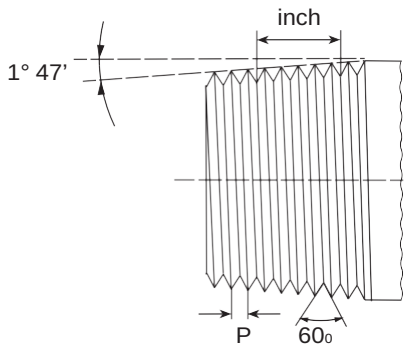
Material Specification		
Material	Bar Stock	Forging
Stainless Steel-316	ASTM A 479	ASTM A 182
	ASME SA 479	ASME SA 182
Stainless Steel-304	ASTM A 479	ASTM A 182
	ASME SA 479	ASME SA 182
Alloy 20	ASTM B 473	ASTM B 462
Alloy C276	ASTM B 574	ASTM B 564
Alloy 400	ASTM B 164	ASTM B 564
	ASME SB 164	ASME SB 564
Carbon Steel	ASTM A 108	ASTM A 576

## Thread Standards

Table 2

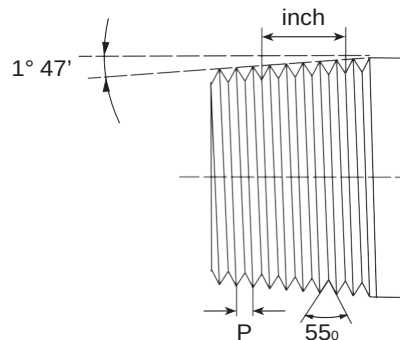
Thread Standards	
Thread Type	Ref. Standard
NPT	ASME 131.20.1, SAE AS 71051
ISO/BSPP	ISO 228, BS 2779, JIS B 0202
ISO/BSPT	ISO 7, BS 21, JIS B 0203
ISO/BSP (Gauge) Unified (SAE)	ISO 228, BS 2779, ASME B1. 1

### Thread NPT



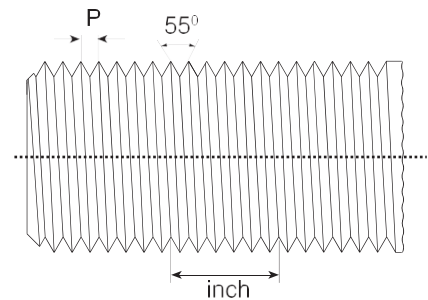
Pitch measured in Inches  
Thread Designator-M

### Thread ISO/BSPT



Pitch measured in Inches  
Thread Designator-R

### Thread ISO/BSPP



Pitch measured in Inches  
Thread Designator-G

**Note:**

1. Dimensions are in Millimeter or in Inches
2. A thread sealant shall always be used when assembling tapered thread fittings.

All **KOSTEVO** fitting and components are delivered cleaned and free from grease, oil, dirt and loosen material particles. We adopting ultrasonic cleaning process and oxygen cleaning process for specific fittings.

## TUBE SELECTION

When selecting tube for use with **KOSTEVO** fitting, some important point shall be considered.

- Tube material and method of manufacturing.
- Tube OD and wall thickness and the tolerance.
- Tube ovality.
- Suitability for bending and flaring.
- Tube Hardness.
- Tube surface finish.

### Stainless Steel Tubes:

Stainless steel tubes 304 or 316 must comply with the standard ASTM A 213 and ASTM A 269, seamless and fully annealed. Selected tube shall having the Ultimate Tensile strength of 75000 psi and suitable for temperature range between -20°F and 100° F (-29°C and 37°C).

The hardness of the Tubes shall be lower than that of fitting material hardness, it is preferably lesser than Rockwell RB 90.

### Moel Tubes:

Fully annealed seamless Alloy 400 tube shall complied with standard ASTM B 165 or equivalent with hardness lower than Rockwell RB 75.

## TUBE OD TOLERANCE LIMIT

Metric Tubing

Table 3

Tube OD in mm	Tolerance in mm
3	± 0.076
6	± 0.127
8	± 0.127
10	± 0.127
12	± 0.127
14	± 0.127
16	± 0.127
18	± 0.127
20	± 0.127
22	± 0.127
25	± 0.127

Fractional Tubing

Table 4

Tube OD in inch	Tolerance in inch
1/8	± 0.003
3/16	± 0.005
1/4	± 0.005
5/16	± 0.005
3/8	± 0.005
1/2	± 0.005
5/8	± 0.005
3/4	± 0.005
7/8	± 0.005
1	± 0.005



# TUBING DATA

**Table-5: Allowable working Pressure for wall thickness  
Stainless Steel Tubing (SS 304 / 304 L and SS 316 / 316 L) - Inch Size**

Tube OD in inch	Wall Thickness of Tube in Inch												
	0.010	0.012	0.014	0.016	0.020	0.028	0.035	0.049	0.065	0.083	0.095	0.109	0.120
1/16	5600	6860	8150	9480	11890								
1/8						8550	10750						
3/16						5500	7100	10150					
1/4						4100	5200	7600	10150				
5/16							4100	5900	7900				
3/8							3350	4850	6500				
1/2							2650	3750	5150	6600			
5/8								2950	4050	5250	5950		
3/4								2450	3350	4250	4950	5650	
7/8								2050	2850	3650	4250	4800	
1									2400	3100	3600	4200	4700

Working Pressure for seamless Tubing in psi

**Table-6: Allowable working Pressure for wall thickness  
Stainless Steel Tubing (SS 304 / 304 L and SS 316 / 316 L) - Metric Size**

Tube OD in mm	Wall Thickness of Tube in mm									
	0.8	1.0	1.2	1.5	1.8	2.0	2.2	2.5	2.8	3.0
3	720									
6	330	420	540	680						
8		310	380	490						
10		240	300	380	470					
12		200	240	330	410	470				
14		180	220	280	340	390	430			
15		170	200	260	320	360	400			
16			190	240	300	330	370	430		
18			170	210	260	290	320	370		
20			140	180	230	260	290	330	380	
22			120	160	210	240	260	300	320	
25				150	180	200	230	260	290	320

Working Pressure for Seamless Tubing in bar

- Allowable working pressure for the ambient temperature between -20oF and 100oF (29oC and 37oC) use Table 5 and 6.
- Multiply pressure rating by de-rating factor 0.80 for single welded tubing and 0.85 for double welded tubing for weld integrity.
- To convert pressure in bar - multiply PSI by 0.068948

**▲ WARNING**

The data given here are not for design purpose but for reference only. The system designer and the user have the sole responsibility to select product suitable for their intended application requirements and ensure the proper installation, operation and maintenance of product. Improper selection or usage of products may cause personal injury or property damage or may happened both. Manufacturer is not liable for in-accuracy of information provided here.

## TEMPERATURE DERATING

The working pressure varies depending on the temperature changes. The working pressure can be obtained at various temperature by multiplying the working pressure with temperature derating factor at ambient temperature between -20°F and 100°F (-29°C and 37°C). Refer Table-7.

Table-7: Temperature Derating Factor

Temperature Derating Factor			
Temperature		SS 316	SS 304
°F	°C		
100	37	1.00	1.00
200	93	1.00	1.00
300	149	1.00	1.00
400	204	0.96	0.94
500	260	0.90	0.88
600	316	0.85	0.82
700	371	0.82	0.80
800	427	0.79	0.76
900	482	0.78	0.73
1000	538	0.76	0.69
1100	593	0.62	0.49
1200	649	0.37	0.30

- Example for estimating allowable pressure at high temperature: Tubing 316 Stainless Steel of size 3/4" OD x 0.095" Wall Thickness at 600°F (316°C) is equivalent to: 4950 psi x 0.85 = 4207.50 psi.

## TUBING FOR GAS APPLICATION

For gas applications, it is recommended to use tubes with higher wall thickness because the gases molecules are comparatively smaller in size which may escape through the smallest leak path created by surface imperfection. This can be overcome by using heavy wall thickness tubing as it resists the ferrule action more than that of thin wall tubing does.

### Gas Application Tubing

Table-8: Fractional Tubing

Tube OD In inch	Min. Nominal wall Thick- ness	Tube OD In inch	Min. Nominal wall Thick- ness
1/8	0.028"	1/2	0.049"
3/16	0.028"	5/8	0.065"
1/4	0.028"	3/4	0.065"
5/16	0.035"	7/8	0.083"
3/8	0.035"	1	0.083"

Table-9: Metric Tubing

Tube OD In mm	Min. Nominal wall Thick- ness	Tube OD In mm	Min. Nominal wall Thick- ness
3	0.8mm	16	1.5mm
6	0.8mm	18	1.5mm
8	1.0mm	20	1.8mm
10	1.0mm	22	2.0mm
12	1.0mm	25	2.20mm
14	1.2mm		

## PIPE END PRESSURE RATING

Pressure ratings for the fitting that have both Tube fitting and Pipe thread ends are determined by the lowest Pressure rating of the end connections. The chart of Pipe End Pressure Rating exhibit the pressure rating for both male and female pipe thread ends. For female and male pipe threads haven't the same pressure rating for the same nominal pipe size. If the female thread rating need to be the same as of male thread would require a heavier wall on female side and consequently the fitting too large and bulky.

Table-10: Pipe End Thread Pressure Rating

NPT / ISO 7 Pipe Size	SS 316	
	Male-psi	Female-psi
1/16"	11000	6650
1/8"	10000	6400
1/4"	7900	6550
3/8"	7700	5200
1/2"	7600	4800
3/4"	7250	4550
1"	5200	4300

Table-11: Pressure Rating for End Fitting

SAE J1926 (S) Thread Size-inch	SS 316
	psi
5/16-24	4500
7/16-20	4500
1/ 2-20	4500
9/16-18	4500
3/ 4-16	4500
7/8-14	3600
1.1/16-12	3600

## TECHNICAL SPECIFICATIONS FOR THE FITTINGS

The following two standards which are applicable to single compression fittings.

1. BS 4368: Part IV, 1984
2. IS 10103: 1982

### Proof Pressure Test

Fitting assemblies are to be subjected to a pressure of 1.5 times the maximum working pressure of the fitting, applied at the rate of 200Kg/cm<sup>2</sup> per minute and maintained at the maximum pressure for five minutes without leakage.

### Static Vacuum Pressure Test

Fitting assemblies satisfactorily Proof Pressure tested are subjected to vacuum pressure of up to 700 mbar and then isolated from the vacuum source. The assemblies must maintain the vacuum pressure of 700 mbar for 15 minutes. The fitting assemblies are to be suitably degreed before this test and total exhausted volume should not exceed 20% of the total assembly volume.

### Burst Pressure Test

Fitting assemblies are subjected to Hydrostatic Pressure up to a maximum of four times the working pressure, applied at the rate not exceeding 200Kg/ cm<sup>2</sup> per minute and maintain maximum pressure for five minutes without leakage.

### Dismantling and Reassemble Test

Fitting assemblies successfully completing the Proof Pressure Test are disassembled and assembled again twenty five times after which operation it must pass Proof Pressure Test.



















### Impulse Vibration Test

Test assemblies suitably proof pressure tested are connected to a Hydrostatic Pressure Impulse and Vibration test bench and subjected simultaneously to Pressure impulse at 30 to 100 cycles per minute and vibration in two mutually perpendicular planes at 1300 to 2820 cycles per minute for a minimum of 5x10<sup>6</sup> pressure impulses and 20x10<sup>6</sup> vibration cycles. The method of choosing the displacement and the cycle is described in these standards. The only permissible re-tightening is allowed after the first 1,000 pressure impulses to allow for bedding – in. When subjected to the test described, this coupling should not leak in the assembly. Couplings that fail shall be examined for signs of cracking due to fatigue stress.




















**Note:** The above mentioned two standards can be adapted for double compression fittings.



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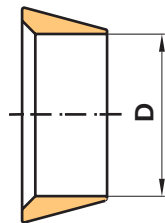
 <p>FRONT FERRULE <b>IVFF</b></p> <p><b>14</b></p>	 <p>BACK FERRULE <b>IVBF</b></p> <p><b>15</b></p>	 <p>NUT <b>IVN</b></p> <p><b>15</b></p>
 <p>UNION <b>IVU</b></p> <p><b>16</b></p>	 <p>REDUCING UNION <b>IVRU</b></p> <p><b>17-18</b></p>	 <p>UNION ELBOW <b>IVUE</b></p> <p><b>19</b></p>
 <p>UNION TEE <b>IVUT</b></p> <p><b>20</b></p>	 <p>REDUCING UNION TEE <b>IVRUT</b></p> <p><b>21-22</b></p>	 <p>UNION CROSS <b>IVUC</b></p> <p><b>23</b></p>
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 <p>MALE RUN TEE <b>IVMRT</b></p> <p><b>39-40</b></p>	 <p>MALE BRANCH TEE <b>IVMBT</b></p> <p><b>41-42</b></p>	 <p>MALE ADAPTER (NPT) <b>IVMA-N</b></p> <p><b>43</b></p>
 <p>MALE ADAPTER (BSPT) <b>IVMA-R</b></p> <p><b>44</b></p>	 <p>MALE ADAPTER (BSPP) <b>IVMA-G</b></p> <p><b>45</b></p>	 <p>FEMALE ELBOW <b>IVFE</b></p> <p><b>46-47</b></p>
 <p>FEMALE RUN TEE <b>IVFRT</b></p> <p><b>48</b></p>	 <p>FEMALE BRANCH TEE <b>IVFBT</b></p> <p><b>49</b></p>	 <p>FEMALE CONNECTOR (NPT) <b>IVFC-N</b></p> <p><b>50-51</b></p>
 <p>FEMALE CONNECTOR (BSPT) <b>IVFC-R</b></p> <p><b>52-53</b></p>	 <p>BULKHEAD FEMALE CON- NECTOR <b>IVBFC</b></p> <p><b>54</b></p>	 <p>FEMALE ADAPTER <b>IVFA</b></p> <p><b>55-56</b></p>
 <p>REDUCER <b>IVR</b></p> <p><b>57-59</b></p>	 <p>TUBE END CAP <b>IVTEC</b></p> <p><b>60</b></p>	 <p>FITTING END PLUG <b>IVFEP</b></p> <p><b>61</b></p>
 <p>AN UNION <b>IVU-AN</b></p> <p><b>62</b></p>	 <p>AN BULKHEAD UNION <b>IVBU-AN</b></p> <p><b>62</b></p>	 <p>AN FEMALE ADAPTER <b>IVFA-AN</b></p> <p><b>63</b></p>
 <p>AN MALE ADAPTER <b>IVMA-AN</b></p> <p><b>63</b></p>	<p>Example of item ordering 'Reducing Union Tee' (Page no. 21)            Material*&gt; Product code**&gt; Tube end (inch /metric) &gt; Fitting size &gt; Fitting size  <b>SS316 &gt; IVRUT &gt; 10M &gt; 10M &gt; 6M</b>            *Materials - SS 304, SS316, Alloy 20, Alloy C 276, Alloy 400, etc...            **Product code eg IVRUT, IVUC, etc...</p>	

# DOUBLE FERRULE TUBE FITTINGS

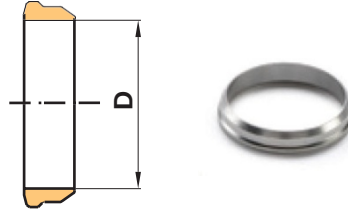
## FRONT FERRULE IVFF



Part Number	INCH	
	Inch	D-Tube OD mm
IVFF -1	1/16	1.58
IVFF -2	1/8	3.17
IVFF -4	1/4	6.35
IVFF -5	5/16	7.93
IVFF -6	3/8	9.52
IVFF -8	1/2	12.70
IVFF -10	5/8	15.87
IVFF -12	3/4	19.05
IVFF -14	7/8	22.22
IVFF -16	1.0	25.40

METRIC	
Part Number	D-Tube OD-mm
IVFF -3M	3
IVFF -6M	6
IVFF -8M	8
IVFF -10M	10
IVFF -12M	12
IVFF -14M	14
IVFF -15M	15
IVFF -16M	16
IVFF -18M	18
IVFF -20M	20
IVFF -22M	22
IVFF -25M	25

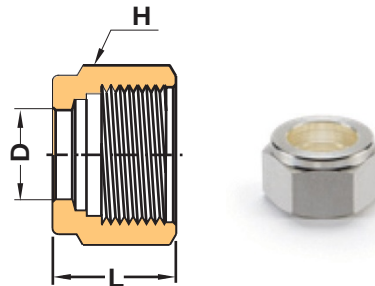
## BACK FERRULE IVBF



Part Number	INCH	
	Inch	D-Tube OD mm
IVBF - 1	1/16	1.58
IVBF - 2	1/8	3.17
IVBF - 4	1/4	6.35
IVBF - 5	5/16	7.93
IVBF - 6	3/8	9.52
IVBF - 8	1/2	12.70
IVBF - 10	5/8	15.87
IVBF - 12	3/4	19.05
IVBF - 14	7/8	22.22
IVBF - 16	1.0	25.40

Part Number	METRIC	
	D-Tube OD-mm	
IVBF -3M	3	
IVBF -6M	6	
IVBF -8M	8	
IVBF -10M	10	
IVBF -12M	12	
IVBF -14M	14	
IVBF -15M	15	
IVBF -16M	16	
IVBF -18M	18	
IVBF -20M	20	
IVBF -22M	22	
IVBF -25M	25	

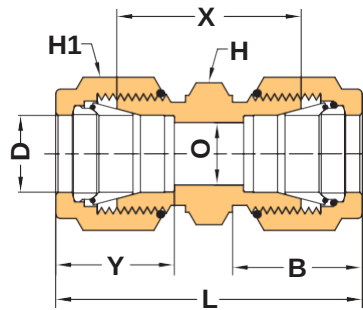
## NUT IVN



Part Number	INCH		
	D-Tube OD inch	H-Hex width mm	L mm
IVN- 1	1/16	7.94	7.90
IVN- 2	1/8	11.11	11.93
IVN- 4	1/4	14.28	12.70
IVN- 5	5/16	15.87	13.46
IVN- 6	3/8	17.46	14.22
IVN- 8	1/2	22.22	17.52
IVN- 10	5/8	25.40	17.52
IVN- 12	3/4	28.57	17.52
IVN- 14	7/8	31.75	17.52
IVN- 16	1.0	38.10	20.57

Part Number	METRIC		
	D-Tube OD mm	H-Hex width mm	L mm
IVN-3M	3	12.0	11.90
IVN-6M	6	14.0	12.7
IVN-8M	8	16.0	13.5
IVN-10M	10	19.0	15.1
IVN-12M	12	22.0	17.4
IVN-14M	14	25.0	17.4
IVN-15M	15	25.0	17.4
IVN-16M	16	25.0	17.4
IVN-18M	18	30.0	17.4
IVN-20M	20	32.0	17.4
IVN-22M	22	32.0	17.4
IVN-25M	25	38.0	20.6

# UNION IVU



## TUBE OD (INCH x INCH)

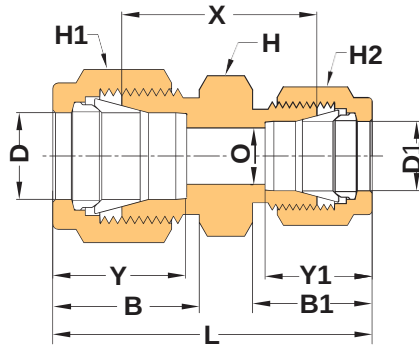
Part Number	D-Tube OD inch	L mm	B mm	Y mm	O-min. mm	H-Hex width mm	H1-Hex width mm	X mm
IVU-1	1/16	25.10	11.00	8.60	1.30	8.00	8.00	17.50
IVU-2	1/8	35.60	15.30	12.70	2.40	11.00	11.00	22.40
IVU-4	1/4	40.90	17.80	15.30	4.80	14.00	14.00	26.20
IVU-5	5/16	42.90	18.50	16.30	6.30	14.00	16.00	28.20
IVU-6	3/8	45.00	19.30	16.80	7.10	16.00	17.00	30.20
IVU-8	1/2	51.30	21.80	22.90	10.40	20.50	22.00	31.00
IVU-10	5/8	52.00	21.80	24.40	12.70	24.00	25.00	31.80
IVU-12	3/4	53.60	21.80	24.40	15.80	27.00	28.50	33.30
IVU-14	7/8	55.20	21.80	25.90	18.20	30.00	32.00	34.80
IVU-16	1.0	64.80	26.40	31.20	22.30	35.00	38.00	40.40

## TUBE OD (METRIC x METRIC)

Part Number	D-Tube OD mm	L mm	B mm	Y mm	O-min. mm	H-Hex width mm	H1-Hex width mm	X mm
IVU-3M	3	35.30	15.30	12.90	2.40	11.0	11.00	22.10
IVU-6M	6	41.00	17.70	15.30	4.80	14.00	14.00	26.20
IVU-8M	8	43.20	18.60	16.20	6.30	16.00	16.00	28.20
IVU-10M	10	46.20	19.50	17.20	7.90	17.00	19.00	31.00
IVU-12M	12	51.20	22.00	22.80	9.50	20.50	22.00	31.00
IVU-14M	14	52.00	22.00	24.40	11.10	24.00	25.00	31.00
IVU-15M	15	52.00	22.00	24.40	11.90	24.00	25.00	31.80
IVU-16M	16	52.00	22.00	24.40	12.70	24.00	25.00	31.80
IVU-18M	18	53.50	22.00	24.40	15.10	27.00	30.00	33.30
IVU-20M	20	55.00	22.00	26.00	15.90	30.00	32.00	34.80
IVU-22M	22	55.00	22.00	26.00	18.30	30.00	32.00	34.80
IVU-25M	25	65.00	26.50	31.30	21.80	35.00	38.00	40.40



# REDUCING UNION IVRU



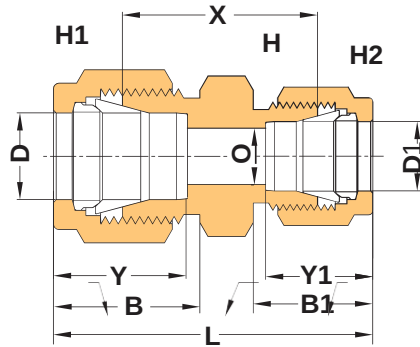
## TUBE OD (INCH x INCH)

Part Number	D-Tube OD inch	D1-Tube OD inch	L mm	B mm	B1 mm	Y mm	Y1 mm	O-min. mm	H-Hex width mm	H1-Hex width mm	H2-Hex width mm	X mm
IVRU-4-2	1/4	1/8	38.60	17.80	15.30	15.30	12.70	2.40	14.00	14.00	11.00	24.60
IVRU-5-2	5/16	1/8	39.60	18.60	15.30	16.30	12.70	2.40	14.00	16.00	11.00	25.70
IVRU-5-4	5/16	1/4	42.20	18.60	17.80	16.30	15.30	4.80	14.00	16.00	14.00	27.50
IVRU-6-2	3/8	1/8	40.90	19.30	15.30	16.80	12.70	2.40	16.00	17.00	11.00	26.90
IVRU-6-4	3/8	1/4	43.20	19.30	17.80	16.80	15.30	4.80	16.00	17.00	14.00	28.50
IVRU-8-2	1/2	1/8	45.20	21.80	15.30	22.90	12.70	2.40	20.50	22.00	11.00	28.50
IVRU-8-4	1/2	1/4	47.00	21.80	17.80	22.90	15.30	4.80	20.50	22.00	14.00	29.50
IVRU-8-6	1/2	3/8	48.50	21.80	19.30	22.90	16.80	7.10	20.50	22.00	17.00	31.00
IVRU-10-6	5/8	3/8	49.30	21.80	19.30	24.40	16.80	7.10	24.00	25.00	17.00	31.80
IVRU-10-8	5/8	1/2	52.00	21.80	21.80	24.40	22.90	10.40	24.00	25.00	22.00	31.80
IVRU-12-4	3/4	1/4	49.30	21.80	17.80	24.40	15.30	4.80	27.00	28.500	14.00	31.80
IVRU-12-6	3/4	3/8	50.80	21.80	19.30	24.40	16.80	7.10	27.00	28.50	17.00	33.30
IVRU-12-8	3/4	1/2	53.60	21.80	21.80	24.40	22.90	10.40	27.00	28.50	22.00	33.30
IVRU-16-8	1.0	1/2	60.50	26.50	21.80	31.20	22.90	10.40	35.00	38.00	22.00	38.10
IVRU-16-12	1.0	3/4	60.50	26.50	21.80	31.20	24.40	15.80	35.00	38.00	28.50	38.10

## TUBE OD (METRIC x METRIC)

Part Number	D-Tube OD mm	D1-Tube OD mm	L mm	B mm	B1 mm	Y mm	Y1 mm	O-min. mm	H-Hex width mm	H1-Hex width mm	H2-Hex width mm	X mm
IVRU-6M-3M	6.00	3.00	38.60	17.70	15.30	15.30	12.90	2.40	14.00	14.00	11.00	24.60
IVRU-8M-6M	8.00	6.00	42.30	18.60	17.70	16.20	15.30	4.80	14.00	16.00	14.00	27.40
IVRU-10M-6M	10.00	6.00	44.50	19.50	17.70	17.20	15.30	4.80	17.00	19.00	14.00	29.50
IVRU-10M-8M	10.00	8.00	45.10	19.50	18.60	17.20	16.20	6.30	17.00	19.00	16.00	30.00
IVRU-12M-6M	12.00	6.00	47.00	22.00	17.70	22.80	15.30	4.80	20.50	22.00	14.00	29.50
IVRU-12M-8M	12.00	8.00	47.80	22.00	18.60	22.80	16.20	6.40	20.50	22.00	16.00	30.20
IVRU-12M-10M	12.00	10.00	48.70	22.00	19.50	22.80	17.20	7.90	24.00	25.00	19.00	31.80
IVRU-16M-10M	16.00	10.00	49.50	22.00	19.50	24.40	17.20	7.90	24.00	25.00	19.00	31.80
IVRU-16M-12M	16.00	12.00	52.00	22.00	22.00	24.40	22.80	9.50	24.00	25.00	22.00	31.80
IVRU-22M-18M	22.00	18.00	55.00	22.00	22.00	26.00	24.40	15.10	30.00	32.00	30.00	34.80
IVRU-22M-20M	22.00	20.00	55.00	22.00	22.00	26.00	26.00	15.90	30.00	32.00	32.00	34.80
IVRU-25M-12M	25.00	12.00	65.00	26.00	22.00	31.30	22.80	9.50	35.00	38.00	22.00	40.40
IVRU-25M-20M	25.00	20.00	65.00	26.00	22.00	31.30	26.00	15.90	35.00	38.00	32.00	40.00

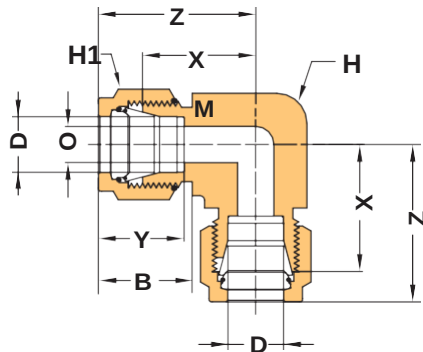
# REDUCING UNION IVRU



## TUBE OD (METRIC x INCH)

Part Number	D-Tube OD mm	D1-Tube OD inch	L mm	B mm	B1 mm	Y mm	Y1 mm	O-min. mm	H-Hex width mm	H1-Hex width mm	H2-Hex width mm	X mm
IVRU-3M-2	3	1/8	35.20	15.30	15.20	12.90	12.80	2.30	12.00	12.00	11.10	22.10
IVRU-6M-2	6	1/8	38.50	17.70	15.20	15.30	12.80	2.30	14.00	14.00	11.10	24.60
IVRU-6M-4	6	1/4	41.00	17.70	17.70	15.30	15.30	4.80	14.00	14.00	14.30	26.20
IVRU-6M-5	6	5/16	42.30	17.70	18.60	15.30	16.20	4.80	14.20	14.00	15.90	27.40
IVRU-8M-4	8	1/4	42.30	18.60	17.70	16.20	15.30	4.80	15.00	16.00	14.30	27.40
IVRU-10M-2	10	1/8	41.80	19.50	15.20	17.20	12.80	2.30	18.00	19.00	11.10	27.7
IVRU-10M-4	10	1/4	44.50	19.50	17.70	17.20	15.30	4.80	18.00	19.00	14.30	29.50
IVRU-10M-5	10	5/16	45.10	19.50	18.60	17.20	16.20	6.30	18.00	19.00	15.90	30.30
IVRU-10M-6	10	3/8	46.00	19.50	19.20	17.20	16.90	7.10	18.00	19.00	17.50	31.00
IVRU-12M-5	12	5/16	47.80	22.00	18.60	22.80	16.20	6.30	22.00	22.00	15.90	30.30
IVRU-12M-6	12	3/8	48.40	22.00	19.20	22.80	16.90	7.10	22.00	22.00	17.50	31.00
IVRU-12M-8	12	1/2	51.20	22.00	22.00	22.80	22.80	9.50	22.00	22.00	22.20	31.00
IVRU-16M-10	16	5/8	52.00	22.00	22.00	24.40	24.40	12.70	24.00	25.00	25.40	31.80
IVRU-18M-12	18	3/4	53.50	22.00	22.00	24.40	24.40	15.10	27.00	30.00	28.60	33.330
IVRU-20M-12	20	3/4	54.90	22.00	22.00	26.00	24.40	15.70	30.00	32.00	28.60	34.80
IVRU-20M-16	20	1.0	60.30	22.00	26.40	26.00	31.20	15.90	34.90	32.00	38.10	38.00
IVRU-22M-16	22	1.0	60.30	22.00	26.40	26.00	31.20	18.30	34.90	32.00	38.10	38.20

# UNION ELBOW IVUE



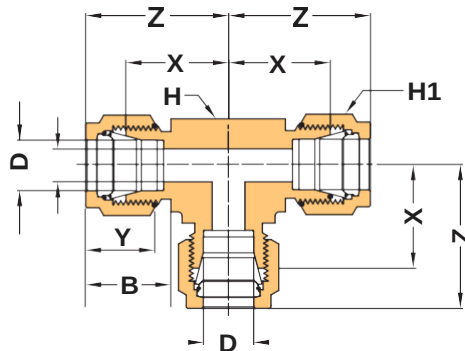
## TUBE OD (INCH x INCH)

Part Number	D-Tube OD inch	Z mm	B mm	Y mm	O-min. mm	H-Hex width mm	H1-Hex width mm	X mm
IVUE-1	1/16	17.80	11.00	8.60	1.30	11.00	8.00	14.00
IVUE-2	1/8	22.40	15.30	12.70	2.40	11.00	11.00	15.80
IVUE-4	1/4	26.90	17.80	15.30	4.80	14.00	14.00	19.60
IVUE-5	5/16	28.70	18.50	16.30	6.30	16.00	16.00	21.30
IVUE-6	3/8	30.50	19.30	16.80	7.10	17.00	17.00	23.20
IVUE-8	1/2	36.00	21.80	22.90	10.40	20.50	22.00	25.90
IVUE-10	5/8	38.10	21.80	24.40	12.70	24.00	25.00	27.90
IVUE-12	3/4	39.90	21.80	24.40	15.80	27.00	28.50	29.70
IVUE-14	7/8	44.70	21.80	25.90	18.20	35.00	32.00	34.60
IVUE-16	1.0	49.00	26.40	31.20	22.30	35.00	38.00	36.80

## TUBE OD (METRIC x METRIC)

Part Number	D-Tube OD mm	Z mm	B mm	Y mm	O-min. mm	H-Hex width mm	H1-Hex width mm	X mm
IVUE-3M	3	22.30	15.30	12.90	2.40	11.00	11.00	15.70
IVUE-6M	6	27.00	17.70	15.30	4.80	14.00	14.00	19.60
IVUE-8M	8	28.80	18.60	16.20	6.30	16.00	16.00	21.30
IVUE-10M	10	31.50	19.50	17.20	7.90	17.00	19.00	23.90
IVUE-12M	12	36.00	22.00	22.80	9.50	20.50	22.00	25.90
IVUE-14M	14	38.00	22.00	24.40	11.10	24.00	25.00	27.90
IVUE-16M	16	38.00	22.00	24.40	12.70	24.00	25.00	27.90
IVUE-18M	18	39.80	22.00	24.40	15.10	27.00	30.00	29.70
IVUE-20M	20	44.60	22.00	26.00	18.30	32.00	32.00	34.50
IVUE-22M	22	44.60	22.00	26.00	18.30	32.00	32.00	34.50
IVUE-25M	25	49.10	26.50	31.30	21.80	41.00	46.00	43.50

# UNION TEE IVUT



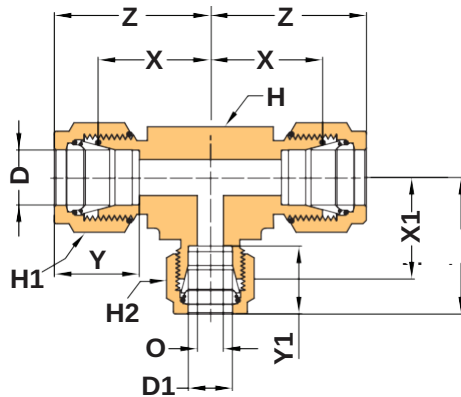
## TUBE OD (ALL INCH)

Part Number	D-Tube OD inch	Z mm	B mm	Y mm	O-min. mm	H-Hex width mm	H1-Hex width mm	X mm
IVUT-1	1/16	17.80	11.00	8.60	1.30	11.00	8.00	14.00
IVUT-2	1/8	22.40	15.30	12.70	2.40	11.00	11.00	15.80
IVUT-4	1/4	26.90	17.80	15.30	4.80	14.00	14.00	19.60
IVUT-5	5/16	28.70	18.50	16.30	7.10	17.00	17.00	23.20
IVUT-6	3/8	30.50	19.30	16.80	7.10	17.00	17.00	23.20
IVUT-8	1/2	36.00	21.80	22.90	10.40	20.50	22.00	25.90
IVUT-10	5/8	38.10	21.80	24.40	12.70	24.00	25.00	27.90
IVUT-12	3/4	39.90	21.80	24.40	15.80	27.00	28.50	29.70
IVUT-14	7/8	44.70	21.80	25.90	18.20	35.00	32.00	34.60
IVUT-16	1.0	49.00	26.40	31.20	22.30	35.00	38.00	36.80

## TUBE OD (ALL METRIC)

Part Number	D-Tube OD mm	Z mm	B mm	Y mm	O-min. mm	H-Hex width mm	H1-Hex width mm	X mm
IVUT-3M	3	22.30	15.30	12.90	2.40	11.00	11.00	15.70
IVUT-6M	6	27.00	17.70	15.30	4.80	14.00	14.00	19.60
IVUT-8M	8	28.80	18.60	16.20	6.30	16.00	16.00	21.30
IVUT-10M	10	31.50	19.50	17.20	7.90	17.00	19.00	23.90
IVUT-12M	12	36.00	22.00	22.80	9.50	20.50	22.00	25.90
IVUT-14M	14	38.00	22.00	24.40	11.10	24.00	25.00	27.90
IVUT-15M	15	38.00	22.00	24.40	11.90	24.00	25.00	27.90
IVUT-16M	16	38.00	22.00	24.40	12.70	24.00	25.00	27.90
IVUT-18M	18	39.80	22.00	24.40	15.10	27.00	30.00	29.70
IVUT-20M	20	44.60	22.00	26.00	15.90	32.00	32.00	34.50
IVUT-22M	22	44.60	22.00	26.00	18.30	32.00	32.00	34.50
IVUT-25M	25	49.10	26.50	31.30	21.80	35.00	38.00	36.80

# REDUCING UNION TEE IVRUT

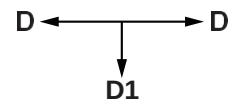


## TUBE OD (ALL INCH)

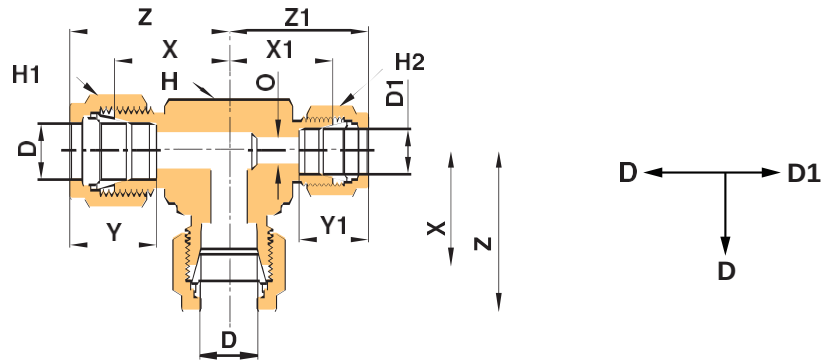
Part Number	D-Tube OD inch	D1-Tube OD inch	Z mm	Z1 mm	Y mm	Y1 mm	O-min. mm	H-Hex width mm	H1-Hex width mm	H2-Hex width mm	X mm	X1 mm
IVRUT-6-6-4	3/8	1/4	30.50	29.00	16.80	15.30	4.80	16.00	17.00	14.00	23.10	21.60
IVRUT-8-8-4	1/2	1/4	36.00	31.80	22.90	15.30	4.80	20.50	22.00	14.00	25.90	24.40
IVRUT-8-8-6	1/2	3/8	36.00	33.30	22.90	16.80	7.10	20.50	22.00	17.00	25.90	25.90
IVRUT-12-12-6	3/4	3/8	39.90	37.00	24.40	16.80	7.10	27.00	28.50	17.00	29.70	29.70
IVRUT-12-12-8	3/4	1/2	39.90	39.90	24.40	22.90	10.40	27.00	28.50	22.00	29.70	29.70
IVRUT-16-16-6	1.0	3/8	49.00	41.90	31.20	16.80	7.10	35.00	38.00	17.00	36.80	34.50
IVRUT-16-16-8	1.0	1/2	49.00	44.70	31.20	21.80	10.40	35.00	38.00	22.00	36.80	34.50
IVRUT-16-16-12	1.0	3/4	49.00	44.70	31.20	24.40	15.80	35.00	38.00	28.50	36.80	34.50

## TUBE OD (ALL METRIC)

Part Number	D-Tube OD mm	D1-Tube OD mm	Z mm	Z1 mm	Y mm	Y1 mm	O-min. mm	H-Hex width mm	H1-Hex width mm	H2-Hex width mm	X mm	X1 mm
IVRUT-8M-8M-6M	8	6	29.90	29.80	16.20	15.30	4.80	16.00	16.00	14.00	22.40	22.40
IVRUT-10M-10M-6M	10	6	31.50	31.30	17.20	15.30	4.80	17.50	19.00	14.00	23.90	23.90
IVRUT-12M-12M-6M	12	6	36.00	31.80	22.80	15.30	4.80	20.50	22.00	14.00	25.90	24.40
IVRUT-12M-12M-10M	12	10	36.00	33.50	22.80	17.20	7.90	20.50	22.00	19.00	25.90	25.90
IVRUT-14M-14M-10M	14	10	38.80	36.30	24.40	17.20	7.90	23.80	25.00	19.00	28.70	28.70
IVRUT-18M-18M-12M	18	12	39.80	39.80	24.40	22.80	9.50	27.00	30.00	22.00	29.70	29.70

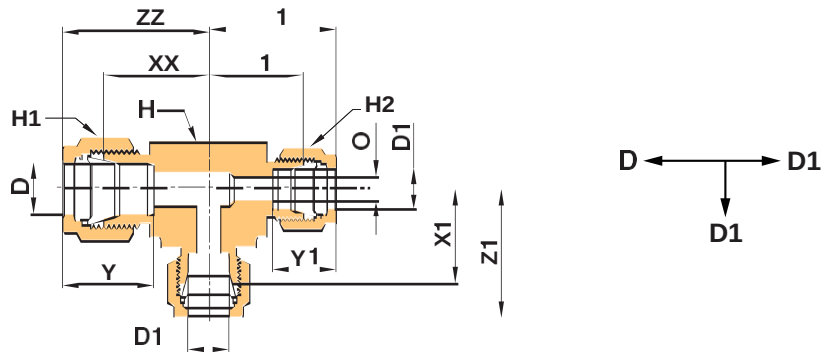


# REDUCING UNION TEE IVRUT



TUBE OD (ALL INCH)

Part Number	D-Tube OD inch	D1-Tube OD inch	Z mm	Z1 mm	Y mm	Y1 mm	O-min. mm	H-Hex width mm	H1-Hex width mm	H2-Hex width mm	X mm	X1 mm
IVRUT-6-4-6	3/8	1/4	30.50	29.00	16.80		4.80	16.00	17.00	14.00	23.10	21.60
IVRUT-8-4-8	1/2	1/4	36.00	31.70	22.90	15.30	4.80	20.50	22.00	14.00	25.90	24.30
IVRUT-8-6-8	1/2	3/8	36.00	33.30	22.90	16.80	7.10	20.50	22.00	17.00	25.90	25.90
IVRUT-12-6-12	3/4	3/8	39.90	21.80	22.90	10.40	7.10	27.00	28.50	17.00	29.70	29.70
IVRUT-12-8-12	3/4	1/2	39.90	39.90	24.40	22.90	10.40	27.00	28.50	22.00	29.70	29.70
IVRUT-16-6-16	1.0	3/8	49.00	41.90	31.20	16.80	7.10	35.00	38.00	17.00	36.80	34.50
IVRUT-16-8-16	1.0	1/2	49.00	44.70	31.20	21.80	10.40	35.00	38.00	22.00	36.80	34.50
IVRUT-16-12-16	1.0	3/4	49.00	44.70	31.20	24.40	15.80	35.00	38.00	28.50	36.80	34.50

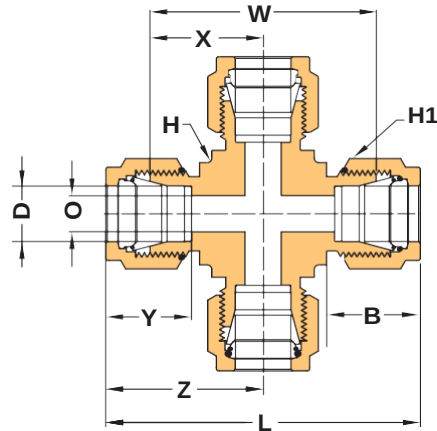


TUBE OD (ALL INCH)

Part Number	D-Tube OD inch	D1-Tube OD inch	Z mm	Z1 mm	Y mm	Y1 mm	O-min. mm	H-Hex width mm	H1-Hex width mm	H2-Hex width mm	X mm	X1 mm
IVRUT-6-4-4	3/8	1/4	30.60	29.00	16.80		4.80	16.00	17.00	14.00	23.20	21.60
IVRUT-8-4-4	1/2	1/4	36.00	31.70	22.90	15.30	4.80	20.50	22.00	14.00	25.90	24.30
IVRUT-8-6-6	1/2	3/8	36.00	33.20	22.90	16.80	7.10	20.50	22.00	17.00	25.90	25.90
IVRUT-12-6-6	3/4	3/8	38.90	37.00	24.40	16.80	7.10	27.00	28.50	17.00	29.70	29.70
IVRUT-12-8-8	3/4	1/2	39.90	39.90	24.40	22.90	10.40	27.00	28.50	22.00	29.70	29.70
IVRUT-16-6-6	1.0	3/8	39.90	41.90	31.20	16.80	7.10	35.00	38.00	17.00	36.80	34.50
IVRUT-16-8-8	1.0	1/2	49.00	44.70	31.20	21.80	10.40	35.00	38.00	22.00	36.80	34.50
IVRUT-16-12-12	1.0	3/4	49.00	44.70	31.20	24.40	15.80	35.00	38.00	28.50	36.80	34.50

Note: Above shown combinations are representations of various possibilities. Other combinations are available on request.

# UNION CROSS IVUC



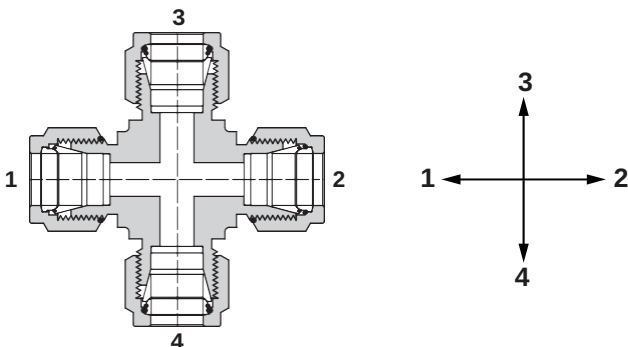
## TUBE OD (ALL INCH)

Part Number	D-Tube OD inch	L mm	Z mm	B mm	Y mm	O-min. mm	H-Hex width mm	H1-Hex width mm	W mm	X mm
IVUC-2	1/8	44.80	22.40	15.30	12.70	2.40	11.00	11.00	31.60	15.80
IVUC-4	1/4	53.80	26.90	17.80	15.30	4.80	14.00	14.00	39.20	19.60
IVUC-6	3/8	61.00	30.50	19.30	16.80	7.10	17.00	17.00	46.40	23.20
IVUC-8	1/2	72.00	36.00	21.80	22.90	10.40	20.50	22.00	51.80	25.90
IVUC-12	3/4	79.80	39.90	21.80	24.40	15.80	27.00	28.50	59.40	29.70
IVUC-16	1.0	98.00	49.00	26.40	31.20	22.30	35.00	38.00	73.60	36.80

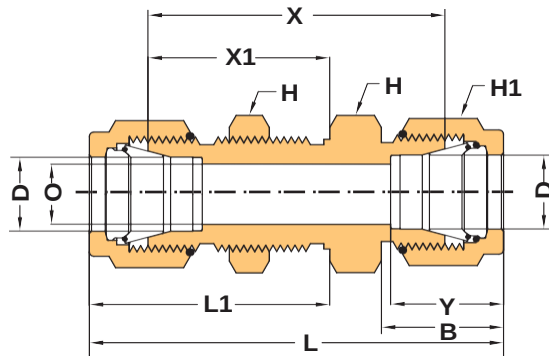
## TUBE OD (ALL METRIC)

Part Number	D-Tube OD mm	L mm	Z mm	B mm	Y mm	O-min. mm	H-Hex width mm	H1-Hex width mm	W mm	X mm
IVUC-3M	3	44.60	22.30	15.30	12.90	2.40	11.00	11.00	31.40	15.70
IVUC-6M	6	54.00	27.00	17.70	15.30	4.80	14.00	14.00	39.20	19.60
IVUC-8M	8	57.60	28.80	18.60	16.20	6.30	16.00	16.00	42.60	21.30
IVUC-10M	10	63.00	31.50	19.50	17.20	7.90	17.00	19.00	47.80	23.90
IVUC-12M	12	72.00	36.00	22.00	22.80	9.50	20.50	22.00	51.80	25.90
IVUC-16M	16	76.00	38.00	22.00	24.40	12.70	24.00	25.00	55.80	27.90
IVUC-22M	22	89.20	44.60	22.00	26.00	18.30	32.00	32.00	69.00	34.50
IVUC-25M	25	98.20	49.10	26.50	31.30	21.80	35.00	38.00	73.60	36.80

**Note:** Reducing Cross with various tube size combinations are available and the tube sizes are designated in the order given below.



# BULKHEAD UNION IVBU



## TUBE OD (ALL INCH)

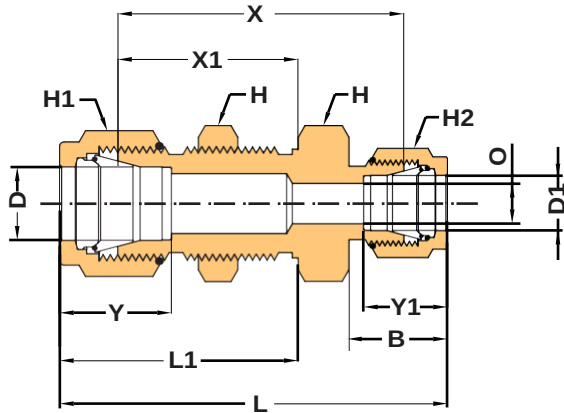
Part Number	D-Tube OD inch	L mm	L1 mm	B mm	Y mm	O-Min. mm	H-Hex width mm	H1-Hex width mm	X mm	X1 mm	Panel-Hole Drill Size mm	Max. Panel Thickness mm
IVBU-1	1/16	31.50	17.30	11.00	8.60	1.30	11.00	8.00	23.80	13.50	5.20	3.00
IVBU-2	1/8	51.30	31.20	15.30	12.70	2.40	11.00	11.00	38.10	24.60	8.30	12.70
IVBU-4	1/4	57.60	33.60	17.80	15.30	4.80	16.00	14.00	43.00	26.20	11.50	10.10
IVBU-5	5/16	60.70	35.80	18.50	16.30	6.30	17.00	16.00	46.00	28.50	13.00	11.10
IVBU-6	3/8	62.20	36.80	19.30	7.10	7.10	22.00	17.00	47.50	29.50	14.60	11.10
IVBU-8	1/2	71.10	41.90	21.80	24.40	12.70	27.00	25.00	52.30	32.50	22.60	12.70
IVBU-10	5/8	72.60	42.70	21.80	24.40	12.70	27.00	25.00	52.30	32.50	22.60	12.70
IVBU-12	3/4	79.00	47.50	21.80	24.40	16.00	30.00	28.50	58.60	37.40	25.80	16.80
IVBU-16	1	95.60	57.40	26.40	31.20	22.30	35.00	38.00	71.00	45.20	33.70	19.00

## TUBE OD (ALL METRIC)

Part Number	D-Tube OD mm	L mm	L1 mm	B mm	Y mm	O-Min. mm	H-Hex width mm	H1-Hex width mm	X mm	X1 mm	Panel-Hole Drill Size mm	Max. Panel Thickness mm
IVBU-3M	3	51.30	31.20	15.30	12.90	2.40	14.00	11.00	38.10	24.60	8.30	12.70
IVBU-6M	6	57.70	33.60	17.70	15.30	4.80	16.00	14.00	42.90	26.20	11.50	10.20
IVBU-8M	8	61.00	36.10	18.60	16.20	6.30	17.00	16.00	46.00	28.60	13.10	11.20
IVBU-10M	10	63.70	37.00	19.50	17.20	7.90	22.00	19.00	48.50	29.40	16.30	11.20
IVBU-12M	12	71.00	41.90	22.00	22.80	9.50	20.50	22.00	50.80	31.80	19.50	12.70
IVBU-14M	14	72.50	42.60	22.00	24.40	11.90	27.00	25.00	52.30	32.50	22.80	12.70
IVBU-15M	15	72.50	42.60	22.00	24.40	12.70	27.00	25.00	52.30	32.50	22.80	12.70
IVBU-16M	16	72.50	42.60	22.00	24.40	12.70	27.00	25.00	52.30	32.50	22.80	12.70
IVBU-18M	18	78.90	47.40	22.00	24.40	15.10	30.00	30.00	58.70	37.30	26.00	16.80
IVBU-20M	20	84.50	53.00	22.00	26.00	15.80	35.00	32.00	64.30	42.90	29.00	19.00
IVBU-25M	25	95.60	57.40	26.40	31.20	22.30	35.00	38.00	71.30	45.20	33.70	19.00



# BULKHEAD REDUCING UNION IVBRU



TUBE OD (ALL INCH)

Part Number	D Tube OD inch	D1 Tube OD inch	L mm	L1 mm	B mm	Y mm	Y1 mm	O Min. mm	H Hex width mm	H1 Hex width mm	H2 Hex width mm	X mm	X1 mm	Panel- Hole Drill Size mm	Max. Panel Thick- ness mm
IVBRU-4-2	1/4	1/8	55.20	33.50	15.30	15.30	12.70	2.40	16.00	14.00	11.00	41.20	26.20	11.50	10.20
IVBRU-6-4	3/8	1/4	60.70	36.60	17.80	16.80	15.30	4.80	22.00	17.00	14.00	46.00	29.50	14.60	11.20
IVBRU-8-4	1/2	1/4	66.80	41.90	17.80	22.40	15.30	4.80	24.00	22.00	14.00	49.20	31.80	19.50	12.70
IVBRU-8-6	1/2	3/8	66.80	41.90	19.30	22.40	16.80	7.10	24.00	22.00	17.00	49.20	31.80	19.50	12.70

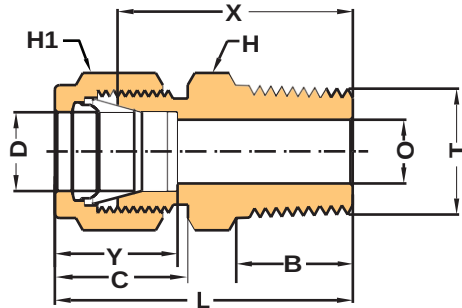
TUBE OD (ALL METRIC)

Part Number	D Tube OD mm	D1 Tube OD mm	L mm	L1 mm	B mm	Y mm	Y1 mm	O Min. mm	H Hex width mm	H1 Hex width mm	H2 Hex width mm	X mm	X1 mm	Panel- Hole Drill Size mm	Max. Panel Thick- ness mm
IVBRU-6M-3M	6	3	56.00	33.60	17.70	15.30	12.90	2.40	16.00	14.00	11.00	41.20	26.20	11.50	10.20
IVBRU-8M-6M	8	6	61.00	36.10	18.60	16.20	15.30	4.80	17.00	16.00	14.00	48.00	28.60	13.10	11.20
IVBRU-10M-6M	10	6	63.70	37.00	19.50	17.20	15.30	4.80	22.00	19.00	14.00	48.50	29.40	16.30	11.20
IVBRU-12M-6M	12	6	71.00	41.90	22.00	22.80	15.30	4.80	24.00	22.00	14.00	50.80	31.80	19.50	12.70
IVBRU-12M-10M	12	10	71.00	41.90	22.00	22.80	17.20	7.90	24.00	22.00	17.00	50.80	31.80	19.50	12.70

TUBE OD (METRIC x INCH)

Part Number	D Tube OD mm	D1 Tube OD inch	L mm	L1 mm	B mm	Y mm	Y1 mm	O Min. mm	H Hex width mm	H1 Hex width mm	H2 Hex width mm	X mm	X1 mm	Panel- Hole Drill Size mm	Max. Panel Thick- ness mm
IVBRU-6M-2	6	1/8	55.20	33.60	15.30	15.30	12.70	2.40	16.00	14.00	11.00	41.20	26.20	11.50	10.20
IVBRU-6M-4	6	1/4	57.70	33.60	17.80	15.30	15.30	4.80	16.00	14.00	14.00	42.90	26.20	11.50	10.20
IVBRU-12M-8	12	1/2	71.10	41.90	21.80	22.80	22.90	9.50	24.00	22.00	22.00	50.80	31.80	19.50	12.70
IVBRU-18M-12	18	3/4	79.00	47.40	21.80	24.40	24.40	15.10	30.00	30.00	28.50	58.70	37.30	26.00	16.80

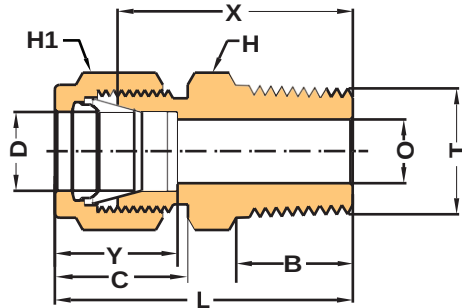
## MALE CONNECTOR (NPT) IVMC-N



TUBE OD (INCH) x MALE NPT THREADS

Part Number	D-Tube OD inch	T-NPT inch	L mm	B mm	C mm	Y mm	O-Min. mm	H-Hex width mm	H1-Hex width mm	X mm
IVMC-N-1-1N	1/16	1/16	23.90	9.60	11.00	8.60	1.30	8.00	8.00	20.00
IVMC-N-1-2N	1/16	1/8	26.20	9.60	11.00	8.60	1.30	11.00	8.00	22.40
IVMC-N-2-2N	1/8	1/8	30.50	9.60	15.30	12.70	2.40	11.00	11.00	23.90
IVMC-N-1-4N	1/8	1/4	35.60	14.30	15.30	12.70	2.40	14.00	11.00	29.00
IVMC-N-4-2N	1/4	1/8	32.80	9.60	17.80	15.30	4.80	14.00	14.00	25.40
IVMC-N-4-4N	1/4	1/4	37.80	14.30	17.80	15.30	4.80	14.00	14.00	30.50
IVMC-N-4-6N	1/4	3/8	38.40	14.30	17.80	15.30	4.80	19.00	14.00	31.00
IVMC-N-4-8N	1/4	1/2	44.70	19.10	17.80	15.30	4.80	22.00	14.00	37.40
IVMC-N-5-4N	5/16	1/4	38.60	14.30	18.50	16.30	6.30	14.00	16.00	31.20
IVMC-N-6-2N	3/8	1/8	35.30	9.60	19.30	16.80	4.80	16.00	17.00	27.90
IVMC-N-6-4N	3/8	1/4	39.80	14.30	19.30	16.80	7.10	16.00	17.00	32.50
IVMC-N-6-6N	3/8	3/8	39.80	14.30	19.30	16.80	7.10	19.00	17.00	32.50
IVMC-N-6-8N	3/8	1/2	41.20	19.10	19.300	16.80	7.10	22.00	17.00	38.90
IVMC-N-8-4N	1/2	1/4	43.40	14.30	21.8	22.90	7.10	22.00	22.00	33.30
IVMC-N-8-6N	1/2	3/8	43.40	14.30	21.80	22.90	9.60	22.00	22.00	33.30
IVMC-N-8-8N	1/2	1/2	49.00	19.10	21.80	22.90	10.40	22.00	22.00	38.90
IVMC-N-8-12N	1/2	3/4	50.50	19.10	21.80	22.90	10.40	27.00	22.00	40.40
IVMC-N-8-16N	1/2	1	57.10	23.80	21.80	22.90	10.40	35.00	22.00	47.00
IVMC-N-10-6N	5/8	3/8	44.20	14.30	21.80	24.40	9.60	24.00	25.00	34.00
IVMC-N-10-8N	5/8	1/2	49.00	19.10	21.80	24.40	10.40	24.00	25.00	38.90
IVMC-N-12-8N	3/4	1/2	50.50	19.10	21.80	24.40	10.40	27.00	28.50	40.40
IVMC-N-12-12N	3/4	3/4	50.50	19.10	21.80	24.40	15.80	27.00	28.50	40.40
IVMC-N-12-16N	3/4	1	57.10	23.80	21.80	24.40	15.80	35.00	28.50	47.00
IVMC-N-14-12N	7/8	3/4	50.50	19.10	21.80	26.00	15.80	30.00	32.00	40.40
IVMC-N-16-8N	1	1/2	57.40	19.10	26.40	31.20	10.40	35.00	38.00	45.20
IVMC-N-16-12N	1	3/4	57.40	19.10	26.40	31.20	15.80	35.00	38.00	45.20
IVMC-N-16-16N	1	1	62.20	23.80	26.40	31.20	22.30	35.00	38.00	50.00

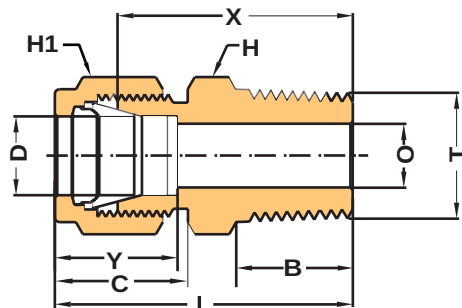
## MALE CONNECTOR (NPT) IVMC-N



TUBE OD (METRIC) x MALE NPT THREADS

Part Number	D-Tube OD mm	T-NPT inch	L mm	B mm	C mm	Y mm	O-Min. mm	H-Hex width mm	H1-Hex width mm	X mm
IVMC-N-3M-2N	3	1/8	30.50	9.60	15.30	12.90	2.40	11.00	11.00	23.90
IVMC-N-3M-4N	3	1/4	35.60	14.30	15.30	12.90	2.40	14.00	11.00	29.00
IVMC-N-6M-2N	6	1/8	32.80	9.60	17.70	15.30	4.80	14.00	14.00	25.40
IVMC-N-6M-4N	6	1/4	37.90	14.30	17.70	15.30	4.80	14.00	14.00	30.50
IVMC-N-6M-6N	6	3/8	38.40	14.30	17.70	15.30	4.80	19.00	14.00	31.00
IVMC-N-6M-8N	6	1/2	44.70	19.10	17.70	15.30	4.80	22.00	14.00	37.30
IVMC-N-6M-2N	8	1/8	34.20	9.60	18.60	16.20	4.80	14.00	16.00	26.70
IVMC-N-8M-4N	8	1/4	38.70	14.30	18.60	16.20	6.30	14.00	16.00	31.20
IVMC-N-8M-6N	8	3/8	39.30	14.30	18.60	16.20	6.30	19.00	16.00	31.80
IVMC-N-8M-8N	8	1/2	45.60	19.10	18.60	16.20	6.30	22.00	16.00	38.10
IVMC-N-10M-2N	10	1/8	36.30	9.60	19.50	17.20	4.80	17.00	19.00	28.70
IVMC-N-10M-4N	10	1/4	40.90	14.30	19.50	17.20	7.90	19.00	19.00	33.30
IVMC-N-10M-6N	10	3/8	40.90	14.30	19.50	17.20	7.90	19.00	19.00	33.30
IVMC-N-10M-8N	10	1/2	46.50	19.10	19.50	17.20	7.90	22.00	19.00	38.90
IVMC-N-12M-4N	12	1/4	43.40	14.30	22.00	22.80	7.10	22.00	22.00	33.30
IVMC-N-12M-6N	12	3/8	43.40	14.30	22.00	22.80	9.50	22.00	22.00	33.30
IVMC-N-12M-8N	12	1/2	49.00	19.10	22.00	22.80	9.50	22.00	22.00	38.90
IVMC-N-12M-12N	12	3/4	50.50	19.10	22.00	22.80	9.50	27.00	22.00	40.40
IVMC-N-12M-16N	12	1	57.10	23.80	22.00	22.80	9.50	35.00	22.00	47.00
IVMC-N-14M-4N	14	1/4	44.10	14.30	22.00	24.40	7.10	24.00	25.00	34.00
IVMC-N-14M-6N	14	3/8	44.10	14.30	22.00	24.40	9.50	24.00	25.00	34.00
IVMC-N-14M-8N	14	1/2	49.00	19.10	22.00	24.40	11.10	24.00	25.00	38.90
IVMC-N-15M-8N	15	1/2	49.00	19.10	22.00	24.40	11.90	24.00	25.00	38.90
IVMC-N-16M-6N	16	3/8	44.10	14.30	22.00	24.40	9.50	24.00	25.00	34.00
IVMC-N-16M-8N	16	1/2	49.00	19.10	22.00	24.40	11.90	24.00	25.00	38.90
IVMC-N-16M-12N	16	3/4	50.50	19.10	22.00	24.40	12.70	27.00	25.00	40.40
IVMC-N-18M-8N	18	1/2	50.50	19.10	22.00	24.40	11.90	27.00	30.00	40.40
IVMC-N-18M-12N	18	3/4	50.50	19.10	22.00	24.40	15.10	27.00	30.00	40.40
IVMC-N-20M-8N	20	1/2	52.30	19.10	22.00	26.00	11.90	30.00	32.00	42.20
IVMC-N-20M-12N	20	3/4	52.30	19.10	22.00	26.00	15.90	30.00	32.00	42.20
IVMC-N-22M-12N	22	3/4	52.30	19.10	22.00	26.00	15.90	30.00	32.00	42.20
IVMC-N-22M-16N	22	1	57.10	23.80	22.00	26.00	18.30	35.00	32.00	47.00
IVMC-N-25M-8N	25	1/2	57.50	19.10	26.50	31.30	11.90	35.00	38.00	45.20
IVMC-N-25M-12N	25	3/4	57.50	19.10	26.50	31.30	15.80	35.00	38.40	45.20
IVMC-N-25M-16N	25	1	62.3	23.8	26.5	31.30	21.80	35.00	38.00	50.00

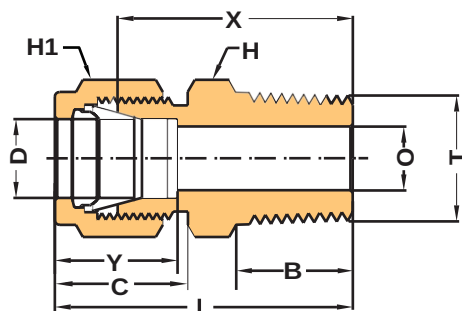
# MALE CONNECTOR (BSPT) IVMC-R



## TUBE OD (INCH) x MALE ISO TAPERED THREADS

Part Number	D-Tube OD inch	T-ISO inch	L mm	B mm	C mm	Y mm	O-Min. mm	H-Hex width mm	H1-Hex width mm	X mm
IVMC-R-2-2R	1/8	1/8	30.50	9.60	15.30	12.70	2.30	11.00	11.00	23.90
IVMC-R-2-4R	1/8	1/4	35.60	14.30	15.30	12.70	2.30	11.00	8.00	28.95
IVMC-R-4-2R	1/4	1/8	32.70	9.60	15.30	15.20	4.80	12.70	14.30	23.90
IVMC-R-4-4R	1/4	1/4	37.80	14.30	17.80	15.20	4.80	14.30	14.30	30.50
IVMC-R-4-6R	1/4	3/8	38.30	14.30	17.80	15.20	4.80	17.40	14.30	31.00
IVMC-R-4-8R	1/4	1/2	44.70	19.10	17.80	15.20	4.80	22.20	14.30	37.30
IVMC-R-5-2R	5/16	1/8	34.00	14.30	17.80	16.20	4.80	14.30	15.90	26.70
IVMC-R-5-4R	5/16	1/4	38.60	14.30	18.50	16.20	6.35	14.30	15.90	31.20
IVMC-R-6-2R	3/8	1/8	35.30	9.60	19.30	16.80	4.80	15.90	17.50	27.90
IVMC-R-6-4R	3/8	1/4	39.90	14.30	19.30	16.80	7.10	15.90	17.50	32.50
IVMC-R-6-6R	3/8	3/8	39.90	14.30	19.30	16.80	7.10	16.00	17.50	32.50
IVMC-R-6-8R	3/8	1/2	46.20	19.10	19.30	16.80	7.10	22.20	17.50	38.90
IVMC-R-6-12R	3/8	3/4	47.70	19.10	21.80	16.80	7.10	27.00	17.50	40.40
IVMC-R-8-4R	1/2	1/4	43.40	14.30	21.8	22.90	7.10	20.70	22.30	33.30
IVMC-R-8-6R	1/2	3/8	43.40	14.30	21.80	22.90	9.60	20.70	22.30	33.30
IVMC-R-8-8R	1/2	1/2	49.00	19.10	21.80	22.90	10.40	22.30	22.30	38.90
IVMC-R-8-12R	1/2	3/4	50.50	19.10	21.80	22.90	10.40	27.00	22.30	40.40
IVMC-R-10-8R	5/8	1/2	49.00	19.10	21.80	24.40	11.90	23.80	25.40	38.90
IVMC-R-12-12R	3/4	3/4	50.50	19.10	21.80	24.40	15.75	27.00	28.60	40.40
IVMC-R-12-16R	3/4	1	57.10	23.80	21.80	24.40	15.75	34.90	28.60	47.00
IVMC-R-16-12R	1	3/4	57.40	19.10	26.40	31.20	15.90	27.00	34.90	38.10
IVMC-R-16-16R	1	1	62.20	23.80	26.40	31.20	22.35	27.00	34.90	38.10

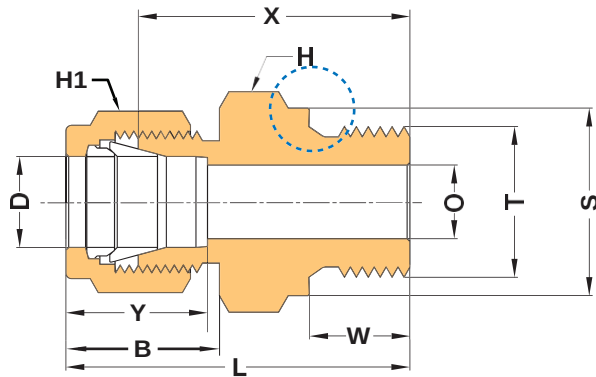
## MALE CONNECTOR (BSPT) IVMC-R



### TUBE OD (METRIC) x MALE ISO TAPERED THREADS

Part Number	D-Tube OD mm	T-ISO inch	L mm	B mm	C mm	Y mm	O-Min. mm	H-Hex width mm	H1-Hex width mm	X mm
IVMC-R-3M-2R	3	1/8	30.50	9.60	15.30	12.90	2.40	12.00	12.00	23.90
IVMC-R-3M-4R	3	1/4	35.60	14.30	15.30	12.90	2.40	14.00	12.00	29.00
IVMC-R-4M-2R	4	1/8	31.20	9.60	16.10	13.70	2.40	12.00	12.00	24.60
IVMC-R-4M-4R	4	1/4	36.30	14.30	16.10	13.70	2.40	14.00	12.00	29.70
IVMC-R-6M-2R	6	1/8	32.80	9.60	17.70	15.30	4.80	14.00	14.00	25.40
IVMC-R-6M-4R	6	1/4	37.90	14.30	17.70	15.30	4.80	14.00	14.00	30.50
IVMC-R-6M-6R	6	3/8	38.40	14.30	17.70	15.30	4.80	17.00	14.00	31.00
IVMC-R-6M-8R	6	1/2	38.40	19.10	17.70	15.30	4.80	22.00	14.00	31.20
IVMC-R-8M-2R	8	1/8	34.20	9.60	18.60	16.20	4.80	14.00	16.00	26.70
IVMC-R-8M-4R	8	1/4	38.70	14.30	18.60	16.20	6.30	14.00	16.00	31.20
IVMC-R-8M-6R	8	3/8	39.20	14.30	18.60	16.20	6.30	17.00	16.00	31.80
IVMC-R-8M-8R	8	1/2	45.60	19.10	18.60	16.20	6.30	22.00	16.00	38.10
IVMC-R-10M-2R	10	1/8	36.30	9.60	19.50	17.20	4.80	17.00	19.00	28.70
IVMC-R-10M-4R	10	1/4	40.90	14.30	19.50	17.20	7.10	17.00	19.00	33.30
IVMC-R-10M-6R	10	3/8	40.90	14.30	19.50	17.20	7.90	17.00	19.00	33.30
IVMC-R-10M-8R	10	1/2	46.50	19.10	19.50	17.20	7.90	22.00	19.00	38.90
IVMC-R-12M-4R	12	1/4	43.40	14.30	22.00	22.80	7.10	22.00	22.00	33.30
IVMC-R-12M-6R	12	3/8	43.40	14.30	22.00	22.80	9.50	22.00	22.00	33.30
IVMC-R-12M-8R	12	1/2	49.00	19.10	22.00	22.80	9.50	22.00	22.00	38.90
IVMC-R-12M-12R	12	3/4	50.50	19.10	22.00	22.80	9.50	27.00	22.00	40.40
IVMC-R-15M-8R	15	1/2	49.00	19.10	22.00	24.40	12.00	24.00	25.00	38.90
IVMC-R-16M-4R	16	1/4	44.10	14.30	22.00	24.40	7.00	24.00	25.00	34.00
IVMC-R-16M-6R	16	3/8	44.10	14.30	22.00	24.40	9.50	24.00	25.00	34.00
IVMC-R-16M-8R	16	1/2	49.00	19.10	22.00	24.40	11.90	24.00	25.00	38.90
IVMC-R-16M-12R	16	3/4	49.00	19.10	22.00	24.40	12.70	27.00	25.00	40.40
IVMC-R-18M-8R	18	1/2	50.50	19.10	22.00	24.40	11.90	27.00	30.00	40.40
IVMC-R-18M-12R	18	3/4	50.50	19.10	22.00	24.40	15.10	27.00	30.00	40.40
IVMC-R-20M-8R	20	1/2	52.30	19.10	22.00	26.00	11.90	30.00	32.00	42.20
IVMC-R-20M-12R	20	3/4	52.30	19.10	22.00	26.00	15.90	30.00	32.00	42.20
IVMC-R-22M-12R	22	3/4	52.30	23.80	22.00	26.00	15.90	30.00	32.00	42.20
IVMC-R-22M-16R	22	1	57.00	23.80	26.50	26.00	18.30	35.00	32.00	47.00
IVMC-R-25M-12R	25	3/4	57.50	19.10	26.50	31.30	15.90	35.00	38.00	45.20
IVMC-R-25M-16R	25	1	62.30	23.8	36.60	31.30	21.80	35.00	38.00	50.00

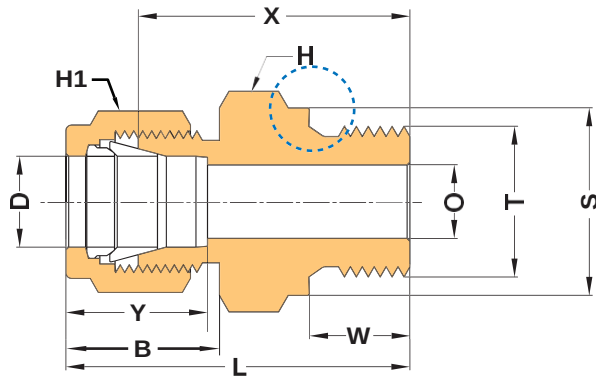
# MALE CONNECTOR (BSPP) BONDED WASHER SEAL IVMC-G



TUBE OD (INCH) x MALE ISO PARALLEL THREADS

Part Number	D-Tube OD inch	T-ISO inch	L mm	S mm	W mm	B mm	Y mm	O-Min. mm	H-Hex width mm	H1-Hex width mm	X mm
IVMC-G-2-2G	1/8	1/8	30.00	13.80	7.10	15.30	12.70	2.40	14.00	11.00	23.40
IVMC-G-2-4G	1/8	1/4	35.30	18.00	11.20	15.30	12.70	2.40	19.00	11.00	28.70
IVMC-G-3-2G	3/16	1/8	30.70	13.80	7.10	16.00	13.70	3.10	14.00	12.00	24.10
IVMC-G-4-2G	1/4	1/8	32.30	13.80	7.10	17.80	15.20	4.00	14.00	14.00	24.90
IVMC-G-4-4G	1/4	1/4	37.60	18.00	11.20	17.80	15.20	4.80	19.00	14.00	30.20
IVMC-G-4-6G	1/4	3/8	38.10	21.80	11.20	17.80	15.20	4.80	22.00	14.00	31.50
IVMC-G-4-8G	1/4	1/2	44.70	26.00	14.20	17.80	15.20	4.80	27.00	14.00	37.30
IVMC-G-6-2G	3/8	1/8	34.00	32.00	7.10	19.30	16.80	4.00	15.00	17.00	26.70
IVMC-G-6-4G	3/8	1/4	39.10	18.00	11.20	19.30	16.80	5.80	19.00	17.00	31.70
IVMC-G-6-6G	3/8	3/8	40.40	21.80	11.20	19.30	16.80	7.00	22.00	17.00	33.00
IVMC-G-6-8G	3/8	1/2	46.20	26.00	14.20	19.30	16.80	7.00	27.00	17.00	38.80
IVMC-G-8-4G	1/2	1/4	42.70	18.00	11.20	21.80	22.90	5.80	20.00	22.00	32.50
IVMC-G-8-6G	1/2	3/8	43.20	21.80	11.20	21.80	22.90	7.90	22.00	22.00	33.00
IVMC-G-8-8G	1/2	1/2	47.60	26.00	14.20	21.80	22.90	10.40	27.00	22.00	37.40
IVMC-G-8-12G	1/2	3/4	52.90	32.00	15.70	21.80	22.90	10.40	33.00	22.00	42.70
IVMC-G-10-6G	5/8	3/8	44.00	21.80	11.20	21.80	24.40	7.90	24.00	25.00	33.80
IVMC-G-10-8G	5/8	1/2	49.10	26.00	14.20	21.80	24.40	11.90	27.00	25.00	38.90
IVMC-G-12-8G	3/4	1/2	49.00	26.00	14.20	21.80	24.40	11.90	27.00	28.50	38.90
IVMC-G-12-12G	3/4	3/4	52.80	32.00	15.70	21.80	24.40	15.80	33.00	28.50	42.70
IVMC-G-16-8G	1	1/2	55.80	26.00	14.20	26.40	31.20	11.90	34.00	38.00	43.70
IVMC-G-16-12G	1	3/4	57.40	32.00	15.70	26.40	31.20	15.90	34.00	38.00	45.20
IVMC-G-16-16G	1	1	60.00	39.00	18.30	26.40	31.20	19.80	41.00	38.00	47.80

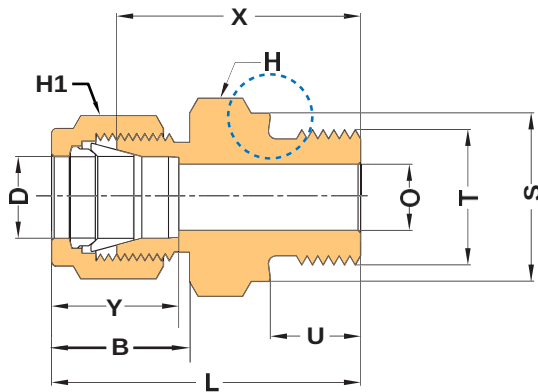
**MALE CONNECTOR (BSPP)  
BONDED WASHER SEAL  
IVMC-G**



TUBE OD (METRIC) x MALE ISO PARALLEL THREADS

Part Number	D-Tube OD mm	T-ISO inch	L mm	S mm	W mm	B mm	Y mm	O-Min. mm	H-Hex width mm	H1-Hex width mm	X mm
IVMC-G-3M-2G	3	1/8	30.00	13.80	7.10	15.30	12.90	2.40	14.00	12.00	23.40
IVMC-G-3M-4G	3	1/4	35.30	18.00	11.20	15.30	12.90	2.40	19.00	12.00	28.70
IVMC-G-4M-2G	4	1/8	30.70	13.80	7.10	16.10	13.70	2.40	14.00	12.00	24.10
IVMC-G-6M-2G	6	1/8	32.30	13.80	7.10	17.70	15.30	4.00	14.00	14.00	24.90
IVMC-G-6M-4G	6	1/4	37.60	18.00	11.20	17.70	15.30	4.80	19.00	14.00	30.20
IVMC-G-6M-6G	6	3/8	38.90	21.80	11.20	17.70	15.30	4.80	22.00	14.00	31.50
IVMC-G-6M-8G	6	1/2	44.70	26.00	14.20	17.70	15.30	4.80	27.00	14.00	37.30
IVMC-G-8M-2G	8	1/8	33.20	13.80	7.10	18.60	16.20	4.00	14.00	16.00	25.70
IVMC-G-8M-4G	8	1/4	38.70	13.80	11.20	18.60	16.20	5.80	19.00	16.00	31.00
IVMC-G-8M-6G	8	3/8	39.80	21.80	11.20	18.60	16.20	6.30	22.00	16.00	32.30
IVMC-G-8M-8G	8	1/2	45.60	26.00	14.20	18.60	16.20	6.30	27.00	16.00	38.00
IVMC-G-10M-4G	10	1/4	39.40	18.00	11.20	19.50	17.20	5.80	19.00	19.00	31.80
IVMC-G-10M-6G	10	3/8	40.90	21.80	11.20	19.50	17.20	7.90	22.00	19.00	33.00
IVMC-G-10M-8G	10	1/2	46.50	26.00	14.20	19.50	17.20	7.90	27.00	19.00	38.90
IVMC-G-12M-4G	12	1/4	42.60	18.00	11.20	22.00	22.80	5.80	22.00	22.00	32.50
IVMC-G-12M-6G	12	3/8	43.10	21.80	11.20	22.00	22.80	7.90	22.00	22.00	33.00
IVMC-G-12M-8G	12	1/2	49.00	26.00	14.20	22.00	22.80	9.50	27.00	22.00	38.90
IVMC-G-12M-12G	12	3/4	52.80	32.00	15.70	22.00	22.80	9.50	35.00	22.00	42.70
IVMC-G-16M-6G	16	3/8	44.00	21.80	11.20	22.00	24.40	7.90	24.00	25.00	33.80
IVMC-G-16M-8G	16	1/2	49.00	26.00	14.20	22.00	24.40	11.90	27.00	25.00	38.90
IVMC-G-18M-8G	18	1/2	49.00	26.00	14.20	22.00	24.40	11.90	27.00	30.00	38.90
IVMC-G-18M-12G	18	3/4	52.80	32.00	15.70	22.00	24.40	15.10	35.00	30.00	42.70
IVMC-G-20M-8G	20	1/2	50.50	26.00	14.20	22.00	26.00	11.90	30.00	32.00	40.40
IVMC-G-20M-12G	20	3/4	52.80	32.00	15.70	22.00	26.00	15.70	35.00	32.00	42.70
IVMC-G-22M-12G	22	3/4	52.80	32.00	15.70	22.00	26.00	15.70	35.00	32.00	42.70
IVMC-G-22M-16G	22	1	55.30	39.00	18.30	26.50	26.00	18.30	41.00	32.00	45.20
IVMC-G-25M-12G	25	3/4	57.50	32.00	15.70	26.50	31.30	15.70	38.00	38.00	45.20
IVMC-G-25M-16G	25	1	60.10	39.00	18.30	26.50	31.30	19.80	38.00	38.00	47.80

# MALE CONNECTOR (BSPP) METAL GASKET SEAL IVMC-M

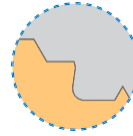
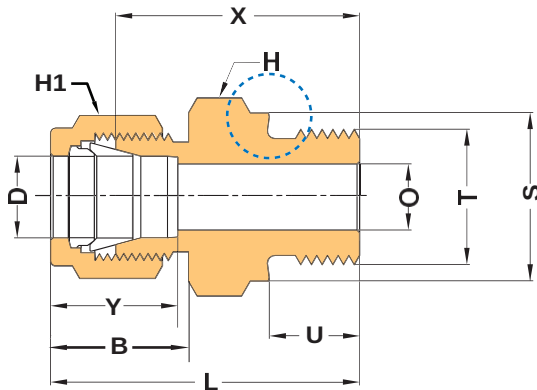


TUBE OD (INCH) x MALE ISO PARALLEL THREADS

Part Number	D-Tube OD inch	T-ISO inch	L mm	S mm	U mm	B mm	Y mm	O-Min. mm	H-Hex width mm	H1-Hex width mm	X mm
IVMC-M-2-2G	1/8	1/8	30.00	13.80	7.10	15.30	12.70	2.40	14.00	11.00	23.40
IVMC-M-2-4G	1/8	1/4	35.30	18.00	11.20	15.30	12.70	2.40	19.00	11.00	28.70
IVMC-M-4-2G	1/4	1/8	32.30	13.80	7.10	17.80	15.20	4.00	14.00	14.00	24.90
IVMC-M-4-4G	1/4	1/4	37.60	18.00	11.20	17.80	15.20	4.80	19.00	14.00	30.20
IVMC-M-6-6G	3/8	3/8	40.40	21.80	11.20	19.30	16.80	7.00	22.00	17.00	33.00
IVMC-M-6-8G	3/8	1/2	46.20	26.00	14.20	19.30	16.80	7.00	27.00	17.00	38.80
IVMC-M-8-6G	1/2	3/8	43.20	21.80	11.20	21.80	22.90	7.90	22.00	22.00	33.00
IVMC-M-8-8G	1/2	1/2	47.60	26.00	14.20	21.80	22.90	10.40	27.00	22.00	37.40
IVMC-M-10-6G	5/8	3/8	44.00	21.80	11.20	21.80	24.40	7.90	24.00	25.00	33.80
IVMC-M-10-8G	5/8	1/2	49.10	26.00	14.20	21.80	24.40	11.90	27.00	25.00	38.90
IVMC-M-12-8G	3/4	1/2	49.00	26.00	14.20	21.80	24.40	11.90	27.00	28.50	38.90
IVMC-M-12-12G	3/4	3/4	52.80	32.00	15.70	21.80	24.40	15.80	33.00	28.50	42.70
IVMC-M-16-12G	1	3/4	57.40	32.00	15.70	26.40	31.20	15.90	34.00	38.00	45.20
IVMC-M-16-16G	1	1	60.00	39.00	18.30	26.40	31.20	19.80	41.00	38.00	47.80



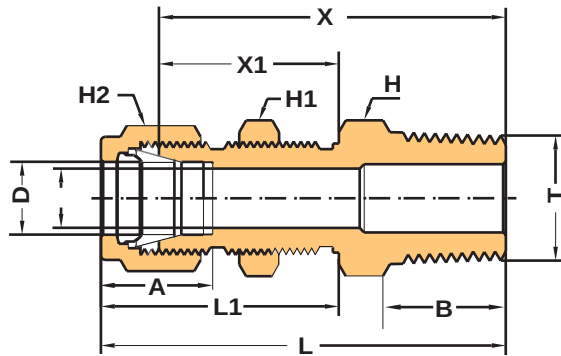
# MALE CONNECTOR (BSPP) METAL GASKET SEAL IVMC-M



TUBE OD (METRIC) x MALE ISO PARALLEL THREADS

Part Number	D-Tube OD mm	T-ISO inch	L mm	S mm	U mm	B mm	Y mm	O-Min. mm	H-Hex width mm	H1-Hex width mm	X mm
IVMC-M-3M-2G	3	1/8	30.00	13.80	7.10	15.30	12.90	2.40	14.00	12.00	23.40
IVMC-M-3M-4G	3	1/4	35.30	18.00	11.20	15.30	12.90	2.40	19.00	12.00	28.70
IVMC-M-4M-2G	4	1/8	30.70	13.80	7.10	16.10	13.70	2.40	14.00	12.00	24.10
IVMC-M-6M-2G	6	1/8	32.30	13.80	7.10	17.70	15.30	4.00	14.00	14.00	24.90
IVMC-M-6M-4G	6	1/4	37.60	18.00	11.20	17.70	15.30	4.80	19.00	14.00	30.20
IVMC-M-6M-6G	6	3/8	38.90	21.80	11.20	17.70	15.30	4.80	22.00	14.00	31.50
IVMC-M-6M-8G	6	1/2	44.70	26.00	14.20	17.70	15.30	4.80	27.00	14.00	37.30
IVMC-M-8M-2G	8	1/8	33.20	13.80	7.10	18.60	16.20	4.00	14.00	16.00	25.70
IVMC-M-8M-4G	8	1/4	38.70	13.80	11.20	18.60	16.20	5.80	19.00	16.00	31.00
IVMC-M-8M-6G	8	3/8	39.80	21.80	11.20	18.60	16.20	6.30	22.00	16.00	32.30
IVMC-M-8M-8G	8	1/2	45.60	26.00	14.20	18.60	16.20	6.30	27.00	16.00	38.00
IVMC-M-10M-4G	10	1/4	39.40	18.00	11.20	19.50	17.20	5.80	19.00	19.00	31.80
IVMC-M-10M-6G	10	3/8	40.90	21.80	11.20	19.50	17.20	7.90	22.00	19.00	33.00
IVMC-M-10M-8G	10	1/2	46.50	26.00	14.20	19.50	17.20	7.90	27.00	19.00	38.90
IVMC-M-12M-4G	12	1/4	42.60	18.00	11.20	22.00	22.80	5.80	22.00	22.00	32.50
IVMC-M-12M-6G	12	3/8	43.10	21.80	11.20	22.00	22.80	7.90	22.00	22.00	33.00
IVMC-M-12M-8G	12	1/2	49.00	26.00	14.20	22.00	22.80	9.50	27.00	22.00	38.90
IVMC-M-12M-12G	12	3/4	52.80	32.00	15.70	22.00	22.80	9.50	35.00	22.00	42.70
IVMC-M-16M-6G	16	3/8	44.00	21.80	11.20	22.00	24.40	7.90	24.00	25.00	33.80
IVMC-M-16M-8G	16	1/2	49.00	26.00	14.20	22.00	24.40	11.90	27.00	25.00	38.90
IVMC-M-18M-8G	18	1/2	49.00	26.00	14.20	22.00	24.40	11.90	27.00	30.00	38.90
IVMC-M-18M-12G	18	3/4	52.80	32.00	15.70	22.00	24.40	15.10	35.00	30.00	42.70
IVMC-M-20M-8G	20	1/2	50.50	26.00	14.20	22.00	26.00	11.90	30.00	32.00	40.40
IVMC-M-20M-12G	20	3/4	52.80	32.00	15.70	22.00	26.00	15.70	35.00	32.00	42.70
IVMC-M-22M-12G	22	3/4	52.80	32.00	15.70	22.00	26.00	15.70	35.00	32.00	42.70
IVMC-M-22M-16G	22	1	55.30	39.00	18.30	26.50	26.00	18.30	41.00	32.00	45.20
IVMC-M-25M-12G	25	3/4	57.50	32.00	15.70	26.50	31.30	15.70	38.00	38.00	45.20
IVMC-M-25M-16G	25	1	60.10	39.00	18.30	26.50	31.30	19.80	38.00	38.00	47.80

# BULKHEAD MALE CONNECTOR IVBMC



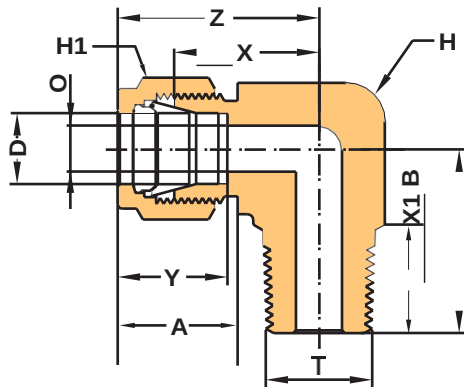
## TUBE OD (INCH) x MALE NPT THREADS

Part Number	D Tube OD inch	T-NPT inch	L mm	L1 mm	B mm	A mm	O Min. mm	H Hex width mm	H1 Hex width mm	H2 Hex width mm	X mm	X1 mm	Panel- Hole Drill Size mm	Max. Panel Thick- ness mm
IVBMC-2-2N	1/8	1/8	46.40	31.20	9.60	12.70	2.40	14.00	12.70	11.00	39.80	24.60	8.30	12.70
IVBMC-4-2N	1/4	1/8	49.50	33.50	9.60	15.30	4.80	16.00	15.90	14.00	42.20	26.20	11.50	10.20
IVBMC-4-4N	1/4	1/4	54.10	33.50	14.30	15.30	4.80	16.00	15.90	14.00	46.70	26.20	11.50	10.20
IVBMC-6-4N	3/8	1/4	57.40	36.80	14.30	16.80	7.10	19.00	19.00	17.00	50.00	29.50	14.70	11.20
IVBMC-6-6N	3/8	3/8	57.40	36.80	14.30	16.80	7.10	19.00	19.00	17.00	50.00	29.50	14.70	11.20
IVBMC-6-8N	3/8	1/2	63.70	36.80	19.10	16.80	7.10	22.00	19.00	17.00	56.50	29.50	14.70	11.20
IVBMC-8-6N	1/2	3/8	63.30	41.90	14.30	22.90	9.60	24.00	23.80	22.00	53.00	31.80	19.50	12.70
IVBMC-8-8N	1/2	1/2	68.80	41.90	19.10	22.90	10.40	24.00	23.80	22.00	58.80	31.80	19.50	12.70
IVBMC-12-12N	3/4	3/4	76.20	47.50	19.10	24.40	15.80	30.00	30.10	28.50	66.90	37.40	25.80	16.80
IVBMC-16-16N	1	1	93.20	57.40	23.90	31.20	22.30	41.00	41.30	38.00	81.00	45.20	33.70	19.00

## TUBE OD (METRIC) x MALE NPT THREADS

Part Number	D Tube OD mm	T-NPT inch	L mm	L1 mm	B mm	A mm	O Min. mm	H Hex width mm	H1 Hex width mm	H2 Hex width mm	X mm	X1 mm	Panel- Hole Drill Size mm	Max. Panel Thick- ness mm
IVBMC-3M-2N	3	1/8	46.40	31.20	9.60	12.90	2.40	11.00	11.00	11.00	39.80	24.60	8.30	12.70
IVBMC-6M-2N	6	1/8	49.50	33.50	9.60	15.30	4.80	16.00	16.00	14.00	42.20	24.20	11.50	10.20
IVBMC-10M-4N	10	1/4	57.40	36.80	14.30	17.20	7.10	19.00	19.00	17.00	50.00	29.50	14.70	11.20
IVBMC-10M-6N	10	3/8	57.40	36.80	14.30	17.20	7.10	19.00	19.00	17.00	50.00	29.50	14.70	11.20
IVBMC-12M-6N	12	3/8	63.30	41.90	14.30	22.00	9.60	24.00	24.00	22.00	53.00	31.80	19.50	12.70
IVBMC-12M-8N	12	1/2	68.80	41.90	19.10	22.00	10.40	24.00	24.00	22.00	58.80	31.80	19.50	12.70
IVBMC-16M-8N	16	1/2	69.60	42.60	19.10	24.40	11.90	27.00	27.00	25.00	59.50	32.50	22.80	12.70
IVBMC-22M-12N	22	3/4	83.30	53.00	19.10	26.00	15.80	35.00	35.00	25.00	73.20	42.90	29.00	19.00
IVBMC-25M-16N	25	1	93.20	57.40	23.90	31.30	22.30	41.00	41.00	38.00	81.00	45.20	33.70	19.00

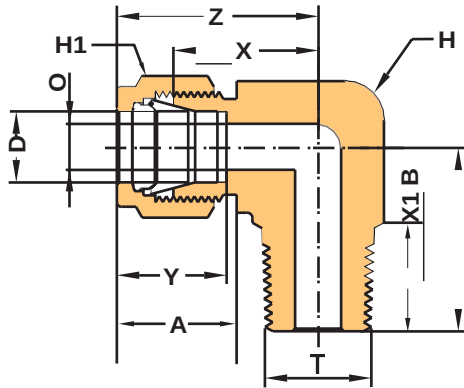
## MALE ELBOW (NPT) IVME-N



TUBE OD (INCH) x MALE NPT THREADS

Part Number	D-Tube OD inch	T-NPT inch	Z mm	B mm	A mm	Y mm	O-Min. mm	H-Hex width mm	H1-Hex width mm	X mm	X1 mm
IVME-N-1-1N	1/16	1/16	19.00	9.60	10.90	8.60	1.30	11.00	11.00	15.30	17.80
IVME-N-1-2N	1/16	1/8	19.00	9.60	10.90	8.60	1.30	11.00	11.00	15.30	17.80
IVME-N-2-2N	1/8	1/8	23.60	9.60	15.30	12.70	2.40	11.00	11.00	17.00	17.80
IVME-N-2-4N	1/8	1/4	24.60	14.30	15.30	12.70	2.40	14.00	11.00	18.00	23.40
IVME-N-4-2N	1/4	1/8	26.90	9.60	17.80	5.30	4.80	14.00	14.00	19.60	18.80
IVME-N-4-4N	1/4	1/4	26.90	14.30	17.80	15.30	4.80	14.00	14.00	19.60	23.40
IVME-N-4-6N	1/4	3/8	29.70	14.30	17.80	15.30	4.80	19.00	14.00	22.40	26.20
IVME-N-4-8N	1/4	1/2	31.80	19.10	17.80	15.30	4.80	22.00	14.00	24.40	33.00
IVME-N-5-4N	5/16	1/4	28.70	9.60	18.50	16.30	6.30	14.00	16.00	21.30	24.10
IVME-N-6-2N	3/8	1/8	30.50	9.60	19.30	16.80	4.80	14.00	17.00	23.10	20.90
IVME-N-6-4N	3/8	1/4	30.50	14.30	19.30	16.80	7.10	17.00	17.00	23.10	25.40
IVME-N-6-6N	3/8	3/8	31.20	14.30	19.30	16.80	7.10	19.00	17.00	23.90	26.20
IVME-N-6-8N	3/8	1/2	33.30	19.10	19.30	16.80	7.10	22.00	17.00	25.90	33.00
IVME-N-8-4N	1/2	1/4	36.00	14.30	21.80	22.90	4.80	20.50	22.00	25.90	28.20
IVME-N-8-6N	1/2	3/8	36.00	14.30	21.80	22.90	9.60	20.50	22.00	25.90	33.00
IVME-N-8-8N	1/2	1/2	36.00	19.10	21.80	22.90	10.40	22.00	22.00	25.90	33.00
IVME-N-8-12N	1/2	3/4	39.90	19.10	21.80	22.90	10.40	27.00	22.00	29.70	36.80
IVME-N-10-8N	5/8	1/2	38.10	19.10	21.80	24.40	11.90	24.00	25.00	27.90	35.00
IVME-N-12-8N	3/4	1/2	39.90	19.10	21.80	24.40	15.80	27.00	28.50	29.70	36.80
IVME-N-12-12N	3/4	3/4	39.90	19.10	21.80	24.40	15.80	27.00	28.50	29.70	36.80
IVME-N-14-12N	7/8	3/4	44.70	19.10	21.80	25.90	15.80	35.00	32.00	34.50	41.60
IVME-N-16-12N	1	3/4	49.00	19.10	26.40	31.20	15.80	35.00	38.00	36.80	41.60
IVME-N-16-16N	1	1	49.00	23.80	26.40	31.20	22.30	35.00	38.00	36.80	46.50

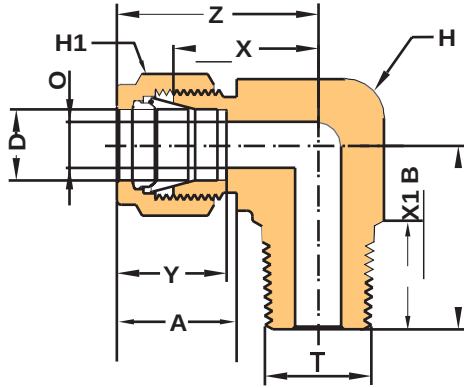
## MALE ELBOW (NPT) IVME-N



TUBE OD (METRIC) x MALE NPT THREADS

Part Number	D-Tube OD mm	T-NPT inch	Z mm	B mm	A mm	Y mm	O-Min. mm	H-Hex width mm	H1-Hex width mm	X mm	X1 mm
IVME-N-3M-2N	3	1/8	23.60	9.60	15.30	12.90	2.40	11.00	11.00	17.00	17.80
IVME-N-3M-4N	3	1/4	24.60	14.30	15.30	12.90	2.40	14.00	11.00	18.00	23.40
IVME-N-6M-2N	6	1/8	27.00	9.60	17.70	15.30	4.80	14.00	14.00	19.60	18.80
IVME-N-6M-4N	6	1/4	27.00	14.30	17.70	15.30	4.80	14.00	14.00	19.60	23.40
IVME-N-6M-6N	6	3/8	29.80	14.30	17.70	15.30	4.80	19.00	14.00	22.40	26.20
IVME-N-6M-8N	6	1/2	31.80	19.10	17.70	15.30	4.80	22.00	14.00	24.40	33.00
IVME-N-8M-2N	8	1/8	28.80	9.60	18.60	16.20	4.80	14.00	16.00	21.30	19.80
IVME-N-8M-4N	8	1/4	28.80	14.30	18.60	16.20	6.30	14.00	16.00	21.30	24.40
IVME-N-8M-6N	8	3/8	30.60	14.30	18.60	16.20	6.30	19.00	16.00	23.10	26.20
IVME-N-8M-8N	8	1/2	32.60	19.10	18.60	16.20	6.30	22.00	16.00	25.10	33.00
IVME-N-10M-2N	10	1/8	31.50	9.60	19.50	17.20	4.80	17.00	19.00	23.90	21.60
IVME-N-10M-4N	10	1/4	31.50	14.30	19.50	17.20	7.10	17.00	19.00	23.90	26.20
IVME-N-10M-6N	10	3/8	31.50	14.30	19.50	17.20	7.90	19.00	19.00	23.90	26.20
IVME-N-10M-8N	10	1/2	33.00	19.10	19.50	17.20	7.90	22.00	19.00	25.90	33.00
IVME-N-12M-4N	12	1/4	36.00	14.30	22.00	22.80	7.10	20.50	22.00	25.90	26.20
IVME-N-12M-6N	12	3/8	36.00	14.30	22.00	22.80	9.50	20.50	22.00	25.90	38.20
IVME-N-12M-8N	12	1/2	36.00	19.10	22.00	22.80	9.50	22.00	22.00	25.90	33.00
IVME-N-12M-12N	12	3/1	39.80	19.10	22.00	22.80	9.50	27.00	22.00	29.70	36.80
IVME-N-15M-8N	15	1/2	38.00	19.10	22.00	24.40	11.90	24.00	25.00	27.90	35.10
IVME-N-16M-8N	16	1/2	38.00	19.10	22.00	24.40	11.90	24.00	25.00	27.90	35.10
IVME-N-16M-12N	16	3/4	39.80	19.10	22.00	24.40	27.70	27.00	25.00	29.70	36.80
IVME-N-18M-8N	18	1/2	39.80	19.10	22.00	24.40	11.90	27.00	30.00	29.70	36.80
IVME-N-18M-12N	18	3/4	39.80	19.10	22.00	24.40	15.10	27.00	30.00	29.70	36.80
IVME-N-20M-8N	20	1/2	44.60	19.10	22.00	26.00	11.90	35.00	32.00	34.50	41.70
IVME-N-20M-12N	20	3/4	44.60	19.10	22.00	26.00	11.90	35.00	32.00	34.50	41.70
IVME-N-22M-12N	22	3/4	44.60	19.10	22.00	26.00	11.90	35.00	32.00	34.50	41.70
IVME-N-22M-16N	22	1	44.60	23.90	22.00	26.00	18.30	35.00	32.00	34.50	46.50
IVME-N-25M-12N	25	3/4	49.10	19.10	26.50	31.30	59.90	35.00	38.00	36.80	41.70
IVME-N-25M-16N	25	1	41.10	23.90	26.50	31.30	21.80	35.00	38.00	36.80	46.50

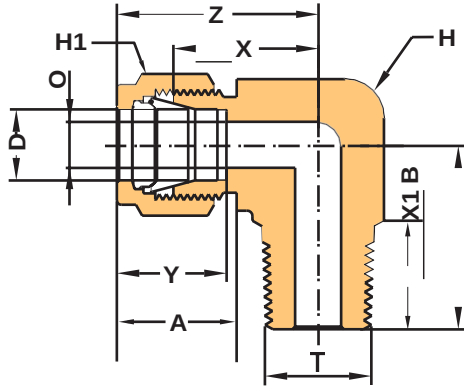
# MALE ELBOW (BSPT) IVME-R



TUBE OD (INCH) x MALE ISO TAPERED THREADS

Part Number	D-Tube OD inch	T-ISO inch	Z mm	B mm	A mm	Y mm	O-Min. mm	H-Hex width mm	H1-Hex width mm	X mm	X1 mm
IVME-R-1-1R	1/16	1/16	19.00	9.60	10.90	8.60	1.30	11.00	11.00	15.30	17.80
IVME-R-1-2R	1/16	1/8	19.00	9.60	10.90	8.60	1.30	11.00	11.00	15.30	17.80
IVME-R-2-2R	1/8	1/8	23.60	9.60	15.30	12.70	2.40	11.00	11.00	17.00	17.80
IVME-R-2-4R	1/8	1/4	24.60	14.30	15.30	12.70	2.40	14.00	11.00	18.00	23.40
IVME-R-4-2R	1/4	1/8	26.90	9.60	17.80	5.30	4.80	14.00	14.00	19.60	18.80
IVME-R-4-4R	1/4	1/4	26.90	14.30	17.80	15.30	4.80	14.00	14.00	19.60	23.40
IVME-R-4-6R	1/4	3/8	29.70	14.30	17.80	15.30	4.80	19.00	14.00	22.40	26.20
IVME-R-4-8R	1/4	1/2	31.80	19.10	17.80	15.30	4.80	22.00	14.00	24.40	33.00
IVME-R-5-4R	5/16	1/4	28.70	9.60	18.50	16.30	6.30	14.00	16.00	21.30	24.10
IVME-R-6-2R	3/8	1/8	30.50	9.60	19.30	16.80	4.80	14.00	17.00	23.10	20.90
IVME-R-6-4R	3/8	1/4	30.50	14.30	19.30	16.80	7.10	17.00	17.00	23.10	25.40
IVME-R-6-6R	3/8	3/8	31.20	14.30	19.30	16.80	7.10	19.00	17.00	23.90	26.20
IVME-R-6-8R	3/8	1/2	33.30	19.10	19.30	16.80	7.10	22.00	17.00	25.90	33.00
IVME-R-8-4R	1/2	1/4	36.00	14.30	21.80	22.90	4.80	20.50	22.00	25.90	28.20
IVME-R-8-6R	1/2	3/8	36.00	14.30	21.80	22.90	9.60	20.50	22.00	25.90	33.00
IVME-R-8-8R	1/2	1/2	36.00	19.10	21.80	22.90	10.40	22.00	22.00	25.90	33.00
IVME-R-8-12R	1/2	3/4	39.90	19.10	21.80	22.90	10.40	27.00	22.00	29.70	36.80
IVME-R-10-8R	5/8	1/2	38.10	19.10	21.80	24.40	11.90	24.00	25.00	27.90	35.00
IVME-R-12-8R	3/4	1/2	39.90	19.10	21.80	24.40	15.80	27.00	28.50	29.70	36.80
IVME-R-12-12R	3/4	3/4	39.90	19.10	21.80	24.40	15.80	27.00	28.50	29.70	36.80
IVME-R-14-12R	7/8	3/4	44.70	19.10	21.80	25.90	15.80	35.00	32.00	34.50	41.60
IVME-R-16-12R	1	3/4	49.00	19.10	26.40	31.20	15.80	35.00	38.00	36.80	41.60
IVME-R-16-16R	1	1	49.00	23.80	26.40	31.20	22.30	35.00	38.00	36.80	46.50

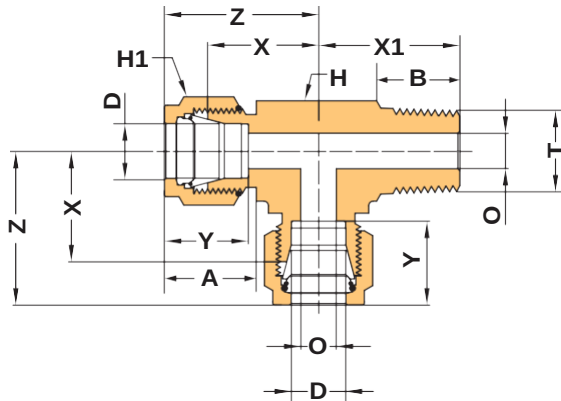
# MALE ELBOW (BSPT) IVME-R



TUBE OD (METRIC) x MALE ISO TAPERED THREADS

Part Number	D-Tube OD mm	T-ISO inch	Z mm	B mm	A mm	Y mm	O-Min. mm	H-Hex width mm	H1-Hex width mm	X mm	X1 mm
IVME-R-3M-2R	3	1/8	23.60	9.60	15.30	12.90	2.40	11.00	11.00	17.00	17.80
IVME-R-3M-4R	3	1/4	24.60	14.30	15.30	12.90	2.40	14.00	11.00	18.00	23.40
IVME-R-6M-2R	6	1/8	27.00	9.60	17.70	15.30	4.80	14.00	14.00	19.60	18.80
IVME-R-6M-4R	6	1/4	27.00	14.30	17.70	15.30	4.80	14.00	14.00	19.60	23.40
IVME-R-6M-6R	6	3/8	29.80	14.30	17.70	15.30	4.80	19.00	14.00	22.40	26.20
IVME-R-6M-8R	6	1/2	31.80	19.10	17.70	15.30	4.80	22.00	14.00	24.40	33.00
IVME-R-8M-2R	8	1/8	28.80	9.60	18.60	16.20	4.80	14.00	16.00	21.30	19.80
IVME-R-8M-4R	8	1/4	28.80	14.30	18.60	16.20	6.30	14.00	16.00	21.30	24.40
IVME-R-8M-6R	8	3/8	30.60	14.30	18.60	16.20	6.30	19.00	16.00	23.10	26.20
IVME-R-8M-8R	8	1/2	32.60	19.10	18.60	16.20	6.30	22.00	16.00	25.10	33.00
IVME-R-10M-2R	10	1/8	31.50	9.60	19.50	17.20	4.80	17.00	19.00	23.90	21.60
IVME-R-10M-4R	10	1/4	31.50	14.30	19.50	17.20	7.10	17.00	19.00	23.90	26.20
IVME-R-10M-6R	10	3/8	31.50	14.30	19.50	17.20	7.90	19.00	19.00	23.90	26.20
IVME-R-10M-8R	10	1/2	33.00	19.10	19.50	17.20	7.90	22.00	19.00	25.90	33.00
IVME-R-12M-4R	12	1/4	36.00	14.30	22.00	22.80	7.10	20.50	22.00	25.90	26.20
IVME-R-12M-6R	12	3/8	36.00	14.30	22.00	22.80	9.50	20.50	22.00	25.90	38.20
IVME-R-12M-8R	12	1/2	36.00	19.10	22.00	22.80	9.50	22.00	22.00	25.90	33.00
IVME-R-12M-12R	12	3/1	39.80	19.10	22.00	22.80	9.50	27.00	22.00	29.70	36.80
IVME-R-15M-8R	15	1/2	38.00	19.10	22.00	24.40	11.90	24.00	25.00	27.90	35.10
IVME-R-16M-8R	16	1/2	38.00	19.10	22.00	24.40	11.90	24.00	25.00	27.90	35.10
IVME-R-16M-12R	16	3/4	39.80	19.10	22.00	24.40	27.70	27.00	25.00	29.70	36.80
IVME-R-18M-8R	18	1/2	39.80	19.10	22.00	24.40	11.90	27.00	30.00	29.70	36.80
IVME-R-18M-12R	18	3/4	39.80	19.10	22.00	24.40	15.10	27.00	30.00	29.70	36.80
IVME-R-20M-8R	20	1/2	44.60	19.10	22.00	26.00	11.90	35.00	32.00	34.50	41.70
IVME-R-20M-12R	20	3/4	44.60	19.10	22.00	26.00	11.90	35.00	32.00	34.50	41.70
IVME-R-22M-12R	22	3/4	44.60	19.10	22.00	26.00	11.90	35.00	32.00	34.50	41.70
IVME-R-22M-16R	22	1	44.60	23.90	22.00	26.00	18.30	35.00	32.00	34.50	46.50
IVME-R-25M-12R	25	3/4	49.10	19.10	26.50	31.30	59.90	35.00	38.00	36.80	41.70
IVME-R-25M-16R	25	1	41.10	23.90	26.50	31.30	21.80	35.00	38.00	36.80	46.50

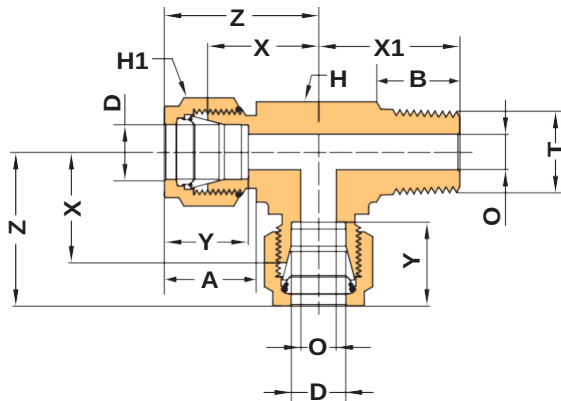
## MALE RUN TEE IVMRT



TUBE OD (INCH) x MALE NPT THREADS

Part Number	D-Tube OD inch	T-NPT inch	Z mm	B mm	A mm	Y mm	O-Min. mm	H-Hex width mm	H1-Hex width mm	X mm	X1 mm
IVMRT-2-2N	1/8	1/8	23.60	9.60	15.30	12.70	2.40	11.00	11.00	17.00	17.80
IVMRT-2-4N	1/8	1/4	24.60	14.30	15.30	12.70	2.40	14.00	11.00	18.00	23.40
IVMRT-4-2N	1/4	1/8	26.90	9.60	17.80	15.30	4.80	14.00	14.00	19.60	18.80
IVMRT-4-4N	1/4	1/4	26.90	14.30	17.80	15.30	4.80	14.00	14.00	19.60	23.40
IVMRT-4-8N	1/4	1/2	31.80	19.10	17.80	15.30	4.80	22.00	14.00	24.40	33.00
IVMRT-6-4N	3/8	1/4	30.50	14.30	19.30	16.80	7.10	17.00	17.00	23.10	25.40
IVMRT-6-6N	3/8	3/8	31.20	14.30	19.30	16.80	7.10	19.00	17.00	23.90	26.20
IVMRT-6-8N	3/8	1/2	33.00	19.10	19.30	16.80	7.10	22.00	12.00	25.90	33.00
IVMRT-8-4N	1/2	1/4	36.00	14.30	21.80	22.90	4.80	20.50	22.00	25.90	28.20
IVMRT-8-6N	1/2	3/8	36.00	14.30	21.80	22.90	9.60	20.50	22.00	25.90	28.20
IVMRT-8-8N	1/2	1/2	36.00	19.10	21.80	22.90	10.40	22.00	22.00	25.90	33.00
IVMRT-10-8N	5/8	1/2	38.10	19.10	21.80	24.40	11.90	22.00	25.00	27.90	35.00
IVMRT-12-8N	3/4	1/2	39.90	19.10	21.80	24.40	11.90	27.00	29.00	29.70	36.80
IVMRT-12-12N	3/4	3/4	39.90	19.10	21.80	24.40	15.80	27.00	29.00	29.70	36.80
IVMRT-16-12N	1	3/4	49.00	19.10	26.40	31.20	15.80	35.00	38.00	36.80	41.60
IVMRT-16-16N	1	1	49.00	23.80	26.40	31.20	22.30	35.00	38.00	36.80	46.50

## MALE RUN TEE IVMRT



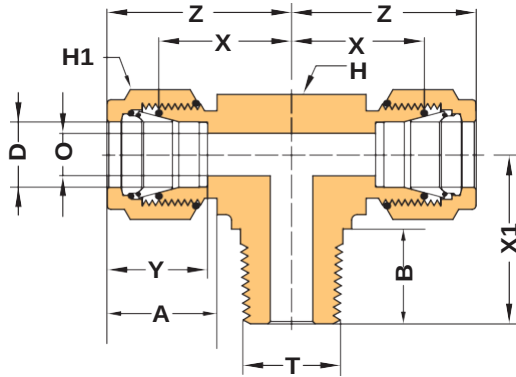
TUBE OD (METRIC) x MALE NPT THREADS

Part Number	D-Tube OD mm	T-NPT inch	Z mm	B mm	A mm	Y mm	O-Min. mm	H-Hex width mm	H1-Hex width mm	X mm	X1 mm
IVMRT-3M-2N	3	1/8	23.60	9.60	15.30	12.90	2.40	11.00	11.00	17.00	17.80
IVMRT-3M-4N	3	1/4	24.60	14.30	15.30	12.90	2.40	14.00	11.00	18.00	23.40
IVMRT-6M-2N	6	1/8	27.00	9.60	17.70	15.30	4.80	14.00	14.00	19.60	18.80
IVMRT-6M-4N	6	1/4	27.00	14.30	17.70	15.30	4.80	14.00	14.00	19.60	23.40
IVMRT-6M-6N	6	3/8	29.80	14.30	17.70	15.30	4.80	19.00	14.00	22.40	26.20
IVMRT-8M-4N	8	1/4	28.80	14.30	18.60	16.20	6.30	14.00	16.00	21.30	24.40
IVMRT-8M-6N	8	3/8	30.60	14.30	18.60	16.20	6.30	19.00	16.00	23.10	26.20
IVMRT-8M-8N	8	1/2	32.60	19.10	18.60	16.20	6.30	22.00	16.00	25.10	33.00
IVMRT-10M-4N	10	1/4	31.50	14.30	19.50	17.20	7.10	17.00	19.00	23.90	26.20
IVMRT-10M-6N	10	3/8	31.50	14.30	19.50	17.20	7.90	19.00	19.00	23.90	26.20
IVMRT-10M-8N	10	1/2	33.50	19.10	19.50	17.20	7.90	22.00	19.00	25.90	33.00
IVMRT-12M-4N	12	1/4	36.00	14.30	22.00	22.80	7.10	20.50	22.00	25.90	26.20
IVMRT-12M-6N	12	3/8	36.00	14.30	22.00	22.80	9.50	20.50	22.00	25.90	28.20
IVMRT-12M-8N	12	1/2	36.00	19.10	22.00	22.80	9.50	22.00	22.00	25.90	33.00
IVMRT-16M-8N	16	1/2	38.00	19.10	22.00	24.00	11.90	24.00	25.00	27.90	35.10
IVMRT-25M-12N	25	3/4	49.10	19.10	26.50	31.30	15.80	35.00	38.00	36.80	41.70
IVMRT-25M-16N	25	1	49.10	23.80	26.50	31.30	21.80	35.00	38.00	36.80	46.50

**Note:** Other than above shown combinations of Tube OD and male threads are available up on request.



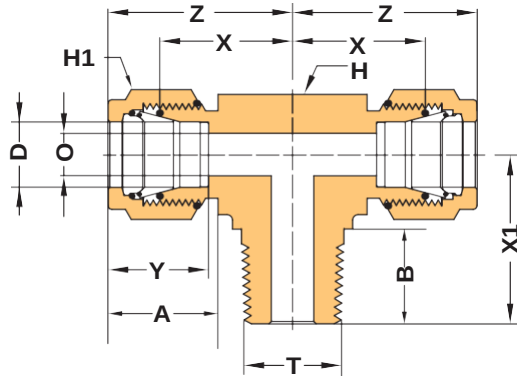
# MALE BRANCH TEE IVMBT



TUBE OD (INCH) x MALE NPT THREADS

Part Number	D-Tube OD inch	T-NPT inch	Z mm	B mm	A mm	Y mm	O-Min. mm	H-Hex width mm	H1-Hex width mm	X mm	X1 mm
IVMBT-2-2N	1/8	1/8	23.60	9.60	15.30	12.70	2.40	11.00	11.00	17.00	17.80
IVMBT-2-4N	1/8	1/4	24.60	14.30	15.30	12.70	2.40	14.00	11.00	18.00	23.40
IVMBT-4-2N	1/4	1/8	26.90	9.60	17.80	5.30	4.80	14.00	14.00	19.60	18.80
IVMBT-4-4N	1/4	1/4	26.90	14.30	17.80	15.30	4.80	14.00	14.00	19.60	23.40
IVMBT-4-6N	1/4	3/8	29.70	14.30	17.80	15.30	4.80	19.00	14.00	22.40	26.20
IVMBT-4-8N	1/4	1/2	31.80	19.10	17.80	15.30	4.80	22.00	14.00	24.40	33.00
IVMBT-6-4N	3/8	1/2	30.50	14.30	19.30	16.80	7.10	17.00	17.00	23.10	25.40
IVMBT-6-6N	3/8	3/8	31.20	14.30	19.30	16.80	7.10	19.00	17.00	23.90	26.20
IVMBT-6-8N	3/8	1/2	33.00	19.10	19.30	16.80	7.10	22.00	17.00	25.90	33.00
IVMBT-8-4N	1/2	1/4	36.00	14.30	21.80	22.90	4.80	20.50	22.00	25.90	28.20
IVMBT-8-6N	1/2	3/8	36.00	14.30	21.80	22.90	9.60	20.50	22.00	25.90	28.20
IVMBT-8-8N	1/2	1/2	36.00	14.30	21.80	22.90	10.40	22.00	22.00	25.90	33.00
IVMBT-10-8N	5/8	1/2	38.10	19.10	21.80	24.40	11.90	27.00	29.00	29.70	36.80
IVMBT-12-8N	3/4	1/2	39.90	19.10	21.80	24.40	11.90	27.00	29.00	29.70	36.80
IVMBT-12-12N	3/4	3/4	39.90	19.10	21.80	24.40	15.80	27.00	29.00	29.70	36.80
IVMBT-16-12N	1	3/4	49.00	19.10	26.40	31.00	15.80	35.00	38.00	36.80	41.60
IVMBT-16-16N	1	1	49.00	23.80	26.40	31.00	22.30	35.00	38.00	36.80	46.50

# MALE BRANCH TEE IVMBT

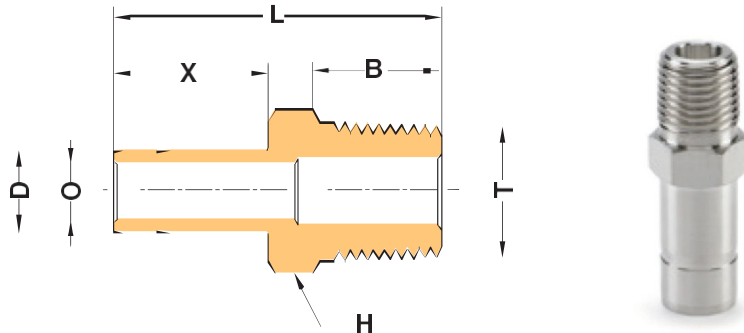


TUBE OD (METRIC) x MALE NPT THREADS

Part Number	D-Tube OD mm	T-NPT inch	Z mm	B mm	A mm	Y mm	O-Min. mm	H-Hex width mm	H1-Hex width mm	X mm	X1 mm
IVMBT-3M-2N	3	1/8	23.60	9.60	15.30	12.90	2.40	11.00	11.00	17.00	17.80
IVMBT-3M-4N	3	1/4	24.60	14.30	15.30	12.90	2.40	14.00	11.00	18.00	23.40
IVMBT-6M-2N	6	1/8	27.00	9.60	17.70	15.30	4.80	14.00	14.00	19.60	18.80
IVMBT-6M-4N	6	1/4	27.00	14.30	17.70	15.30	4.80	14.00	14.00	19.60	23.40
IVMBT-6M-6N	6	3/8	29.80	14.30	17.70	15.30	4.80	19.00	14.00	22.40	26.20
IVMBT-8M-4N	8	1/4	28.80	14.30	18.60	16.20	6.30	14.00	16.00	21.30	24.40
IVMBT-8M-6N	8	3/8	30.60	14.30	18.60	16.20	6.30	19.00	16.00	23.10	26.20
IVMBT-8M-8N	8	1/2	32.60	19.10	18.60	16.20	6.30	22.00	16.00	25.10	33.00
IVMBT-10M-4N	10	1/4	31.50	14.30	19.50	17.20	7.10	17.00	19.00	23.90	26.20
IVMBT-10M-6N	10	3/8	31.50	14.30	19.50	17.20	7.90	19.00	19.00	23.90	26.20
IVMBT-10M-8N	10	1/2	33.50	19.10	19.50	17.20	7.90	22.00	19.00	25.90	33.00
IVMBT-12M-4N	12	1/4	36.00	14.30	22.00	22.80	7.10	20.50	22.00	25.90	26.20
IVMBT-12M-6N	12	3/8	36.00	14.30	22.00	22.80	9.50	20.50	22.00	25.90	28.20
IVMBT-12M-8N	12	1/2	36.00	19.10	22.00	22.80	9.50	22.00	22.00	25.90	33.00
IVMBT-16M-8N	16	1/2	38.00	19.10	22.00	24.00	11.90	24.00	25.00	27.90	35.10
IVMBT-25M-12N	25	3/4	49.10	19.10	26.50	31.30	15.80	35.00	38.00	36.80	41.70
IVMBT-25M-16N	25	1	49.10	23.80	26.50	31.30	21.80	35.00	38.00	36.80	46.50

**Note:** Other than above shown combinations of Tube OD and male threads are available up on request.

## MALE ADAPTER (NPT) IVMA-N



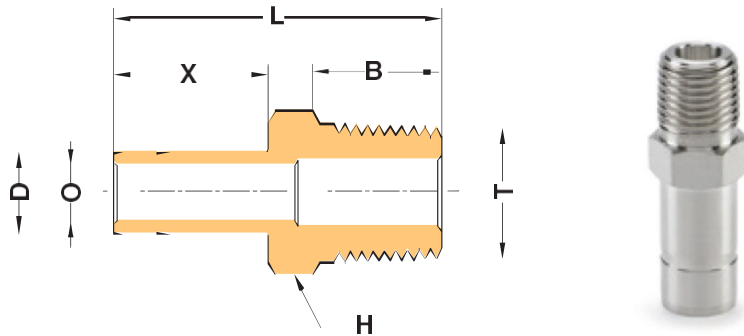
TUBE OD (INCH) x MALE NPT THREADS

Part Number	D-Tube OD inch	T-NPT inch	L mm	B mm	O-Min. mm	H-Hex width mm	X mm
IVMA-N-2-2N	1/8	1/8	29.50	9.60	2.00	11.00	13.50
IVMA-N-2-4N	1/8	1/4	34.80	14.40	2.00	14.00	13.50
IVMA-N-4-2N	1/4	1/8	31.80	9.60	4.80	11.00	15.80
IVMA-N-4-4N	1/4	1/4	37.00	14.30	4.80	14.00	15.80
IVMA-N-4-6N	1/4	3/8	37.80	14.30	4.80	19.00	15.80
IVMA-N-4-8N	1/4	1/2	43.40	19.10	4.80	22.00	15.80
IVMA-N-6-4N	3/8	1/4	38.90	14.30	7.10	14.00	17.50
IVMA-N-6-6N	3/8	3/8	39.60	14.30	7.10	19.00	17.50
IVMA-N-6-8N	3/8	1/2	45.20	19.10	7.10	22.00	17.50
IVMA-N-8-4N	1/2	1/4	44.50	14.30	7.10	14.00	23.10
IVMA-N-8-6N	1/2	3/8	45.20	14.30	9.90	19.00	23.10
IVMA-N-8-8N	1/2	1/2	50.80	19.10	9.90	22.00	23.10
IVMA-N-12-12N	3/4	3/4	52.30	19.10	15.00	27.00	24.70
IVMA-N-16-12N	1	1	66.00	23.80	20.30	35.00	24.70

TUBE OD (METRIC) x MALE NPT THREADS

Part Number	D-Tube OD mm	T-NPT inch	L mm	B mm	O-Min. mm	H-Hex width mm	X mm
IVMA-N-3M-4N	3	1/4	34.80	9.60	2.10	14.00	13.50
IVMA-N-6M-2N	6	1/8	32.80	14.30	4.60	14.00	15.70
IVMA-N-6M-4N	6	1/4	38.10	14.30	4.60	14.00	15.70
IVMA-N-8M-4N	8	1/4	39.10	14.30	6.20	14.00	16.80
IVMA-N-10M-4N	10	1/4	39.90	14.30	7.70	14.00	17.50
IVMA-N-10M-6N	10	3/8	40.60	14.30	7.70	19.00	17.50
IVMA-N-12M-4N	12	1/4	46.50	14.30	7.10	14.00	23.10
IVMA-N-12M-6N	12	3/8	46.50	14.30	9.10	19.00	23.10
IVMA-N-12M-8N	12	1/2	52.00	14.30	9.10	22.00	23.10
IVMA-N-25M-12N	25	3/4	62.00	19.10	15.70	27.00	24.70
IVMA-N-25M-16N	25	1	66.80	23.80	15.70	35.00	24.70

## MALE ADAPTER (BSPT) IVMA-R



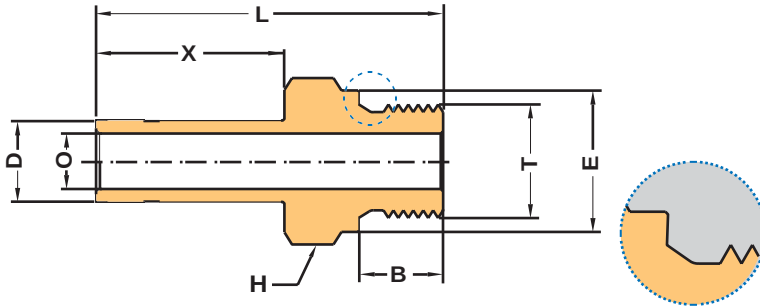
TUBE OD (INCH) x MALE ISO TAPERED THREADS

Part Number	D-Tube OD inch	T-ISO inch	L mm	B mm	O-Min. mm	H-Hex width mm	X mm
IVMA-R-2-2R	1/8	1/8	29.50	9.60	2.00	11.00	13.50
IVMA-R-2-4R	1/8	1/4	34.80	14.40	2.00	14.00	13.50
IVMA-R-4-2R	1/4	1/8	31.80	9.60	4.80	11.00	15.80
IVMA-R-4-4R	1/4	1/4	37.00	14.30	4.80	14.00	15.80
IVMA-R-4-6R	1/4	3/8	37.80	14.30	4.80	19.00	15.80
IVMA-R-4-8R	1/4	1/2	43.40	19.10	4.80	22.00	15.80
IVMA-R-6-4R	3/8	1/4	38.90	14.30	7.10	14.00	17.50
IVMA-R-6-6R	3/8	3/8	39.60	14.30	7.10	19.00	17.50
IVMA-R-6-8R	3/8	1/2	45.20	19.10	7.10	22.00	17.50
IVMA-R-8-4R	1/2	1/4	44.50	14.30	7.10	14.00	23.10
IVMA-R-8-6R	1/2	3/8	45.20	14.30	9.90	19.00	23.10
IVMA-R-8-8R	1/2	1/2	50.80	19.10	9.90	22.00	23.10
IVMA-R-12-12R	3/4	3/4	52.30	19.10	15.00	27.00	24.70
IVMA-R-16-12R	1	1	66.00	23.80	20.30	35.00	24.70

TUBE OD (METRIC) x MALE ISO TAPERED THREADS

Part Number	D-Tube OD mm	T-ISO inch	L mm	B mm	O-Min. mm	H-Hex width mm	X mm
IVMA-R-3M-4R	3	1/4	34.80	9.60	2.10	14.00	13.50
IVMA-R-6M-2R	6	1/8	32.80	14.30	4.60	14.00	15.70
IVMA-R-6M-4R	6	1/4	38.10	14.30	4.60	14.00	15.70
IVMA-R-8M-4R	8	1/4	39.10	14.30	6.20	14.00	16.80
IVMA-R-10M-4R	10	1/4	39.90	14.30	7.70	14.00	17.50
IVMA-R-10M-6R	10	3/8	40.60	14.30	7.70	19.00	17.50
IVMA-R-12M-4R	12	1/4	46.50	14.30	7.10	14.00	23.10
IVMA-R-12M-6R	12	3/8	46.50	14.30	9.10	19.00	23.10
IVMA-R-12M-8R	12	1/2	52.00	14.30	9.10	22.00	23.10
IVMA-R-25M-12R	25	3/4	62.00	19.10	15.70	27.00	24.70
IVMA-R-25M-16R	25	1	66.80	23.80	15.70	35.00	24.70

## MALE ADAPTER (BSPP) IVMA-G



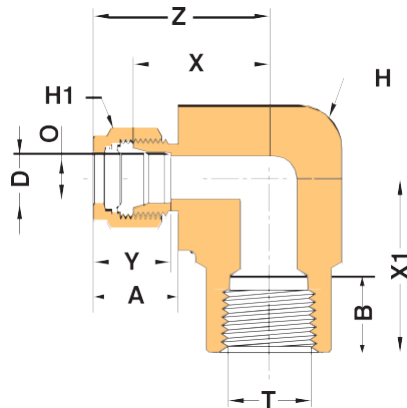
### TUBE OD (INCH) x MALE ISO PARALLEL THREADS

Part Number	D-Tube OD inch	T-ISO inch	L mm	B mm	O-min. mm	H-Hex width mm	X mm	E mm
IVMA-G-2-2G	1/8	1/8	31.00	7.10	2.00	14.00	13.50	13.80
IVMA-G-2-4G	1/8	1/4	35.80	11.20	2.00	19.00	13.50	18.00
IVMA-G-4-2G	1/4	1/8	30.50	7.10	4.80	14.20	15.80	13.80
IVMA-G-4-4G	1/4	1/4	36.00	11.20	4.80	19.00	15.80	18.00
IVMA-G-6-4G	3/8	1/4	40.00	11.20	7.10	19.00	17.50	18.00
IVMA-G-6-6G	3/8	3/8	40.60	11.20	7.10	22.00	17.50	21.80
IVMA-G-8-4G	1/2	1/4	47.00	11.20	7.10	19.00	23.10	18.00
IVMA-G-8-6G	1/2	3/8	47.70	11.20	9.90	22.00	23.10	21.80
IVMA-G-8-8G	1/2	1/2	50.00	14.20	9.90	17.40	23.10	26.00
IVMA-G-12-12G	3/4	3/4	55.00	15.70	15.00	23.00	24.70	32.00
IVMA-G-16-12G	1	1	66.00	18.30	20.30	41.00	24.70	42.00

### TUBE OD (METRIC) x MALE ISO PARALLEL THREADS

Part Number	D-Tube OD mm	T-ISO inch	L mm	B mm	O-min. mm	H-Hex width mm	X mm	E mm
IVMA-G-6M-2G	6	1/8	30.40	7.10	4.60	14.00	15.70	13.80
IVMA-G-6M-4G	6	1/4	39.00	11.20	4.60	19.00	15.70	18.00
IVMA-G-8M-4G	8	1/4	40.00	11.20	6.20	19.00	16.80	18.00
IVMA-G-10M-4G	10	1/4	41.00	11.20	7.70	19.00	17.50	18.00
IVMA-G-10M-6G	10	3/8	41.70	11.20	7.70	22.00	17.50	22.00
IVMA-G-12M-4G	12	1/4	47.00	11.20	7.10	19.00	23.10	18.00
IVMA-G-12M-6G	12	3/8	47.20	11.20	9.10	22.00	23.10	22.00
IVMA-G-12M-8G	12	1/2	50.50	14.30	9.10	27.00	23.10	26.00
IVMA-G-18M-8G	18	1/2	51.30	14.20	15.70	27.00	24.70	26.00
IVMA-G-18M-12G	18	3/4	56.00	15.70	15.70	35.00	24.70	32.00

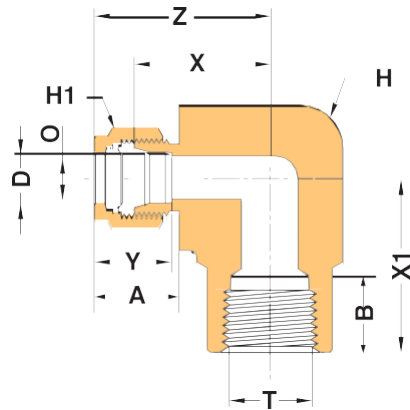
## FEMALE ELBOW IVFE



TUBE OD (INCH) x FEMALE NPT THREADS

Part Number	D-Tube OD inch	T-NPT inch	Z mm	B mm	A mm	Y mm	O-Min. mm	H-Hex width mm	H1-Hex width mm	X mm	X1 mm
IVFE-2-2N	1/8	1/8	24.60	10.40	15.30	12.70	2.40	14.00	11.00	18.00	19.00
IVFE-2-4N	1/8	1/4	27.40	15.00	15.30	12.70	2.40	19.00	11.00	20.80	22.40
IVFE-4-2N	1/4	1/8	26.90	10.40	17.80	15.30	4.80	14.00	14.00	19.60	19.00
IVFE-4-4N	1/4	1/4	29.70	15.00	17.80	15.30	4.80	20.50	14.00	22.40	22.40
IVFE-4-6N	1/4	3/8	31.80	15.00	17.80	15.30	4.80	22.00	14.00	24.40	22.40
IVFE-4-8N	1/4	1/2	34.60	19.80	17.80	15.30	4.80	25.00	14.00	27.20	28.50
IVFE-5-2N	5/16	1/8	28.70	10.40	17.80	15.30	6.30	19.00	14.00	21.40	19.10
IVFE-5-4N	5/16	1/4	30.50	15.00	18.50	16.30	6.30	20.50	16.00	23.20	22.40
IVFE-6-2N	3/8	1/8	30.50	10.40	19.30	16.80	7.10	17.00	17.00	23.20	19.10
IVFE-6-4N	3/8	1/4	31.20	15.00	19.30	16.80	7.10	19.00	17.00	23.90	22.40
IVFE-6-6N	3/8	3/8	33.30	15.00	19.30	16.80	7.10	22.00	17.00	25.90	22.40
IVFE-6-8N	3/8	1/2	36.00	19.80	19.30	16.80	7.10	25.00	17.00	28.70	28.50
IVFE-8-4N	1/2	1/4	36.00	15.00	21.80	22.90	7.10	20.00	22.00	25.90	22.40
IVFE-8-6N	1/2	3/8	38.90	19.80	21.80	22.90	10.40	25.00	22.00	28.70	28.50
IVFE-10-6N	5/8	3/8	38.80	15.00	21.80	22.90	12.70	24.00	22.00	28.00	22.40
IVFE-10-8N	5/8	1/2	39.90	19.80	21.80	24.40	12.70	25.00	25.00	29.70	28.50
IVFE-12-8N	3/4	1/2	39.90	19.80	21.80	24.40	15.80	27.00	28.50	29.70	28.50
IVFE-12-12N	3/4	3/4	44.70	20.60	21.80	24.40	15.80	35.00	28.50	34.60	31.80
IVFE-14-12N	7/8	3/4	44.70	20.60	21.80	25.90	18.20	35.00	32.00	34.60	31.80
IVFE-16-12N	1	3/4	49.00	20.60	26.40	31.20	22.30	35.00	38.00	36.80	31.80
IVFE-16-16N	1	1	53.60	25.40	26.40	31.20	22.30	41.00	38.00	41.40	38.10

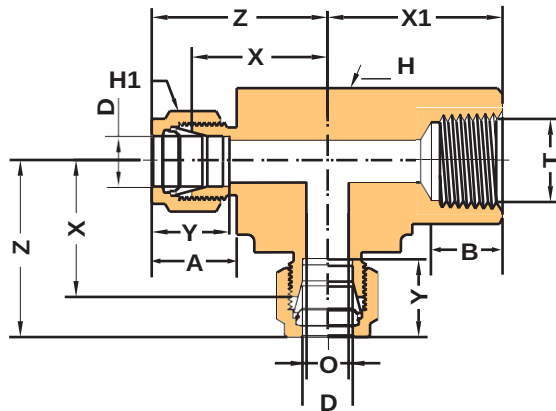
## FEMALE ELBOW IVFE



TUBE OD (METRIC) x FEMALE NPT THREADS

Part Number	D-Tube OD mm	T-NPT inch	Z mm	B mm	A mm	Y mm	O-Min. mm	H-Hex width mm	H1-Hex width mm	X mm	X1 mm
IVFE-3M-2N	3	1/8	24.60	10.40	15.30	12.90	2.40	14.00	11.00	18.00	19.00
IVFE-3M-4N	3	1/4	27.40	15.00	15.30	12.90	2.40	19.00	11.00	20.80	22.40
IVFE-6M-2N	6	1/8	27.00	10.40	17.70	15.30	4.80	14.00	14.00	19.60	19.00
IVFE-6M-4N	6	1/4	29.80	15.00	17.70	15.30	4.80	20.50	14.00	22.40	22.40
IVFE-6M-8N	6	1/2	34.60	19.80	17.70	15.30	4.80	25.00	14.00	27.20	28.50
IVFE-8M-4N	8	1/4	30.60	15.00	18.60	16.20	6.30	20.50	16.00	23.10	22.40
IVFE-8M-6N	8	3/8	32.60	15.00	18.60	16.20	6.30	22.00	16.00	25.10	22.40
IVFE-10M-4N	10	1/4	33.50	15.00	19.50	17.20	7.90	20.50	19.00	25.90	22.40
IVFE-10M-6N	10	3/8	33.50	15.00	19.50	17.20	7.90	22.00	19.00	25.90	22.40
IVFE-12M-4N	12	1/6	36.00	15.00	22.00	22.80	9.50	20.50	22.00	25.90	22.40
IVFE-16M-6N	12	3/8	36.00	15.00	22.00	22.80	9.50	22.00	22.00	25.90	22.40
IVFE-12M-8N	12	1/2	38.80	19.80	22.00	22.80	9.50	25.00	22.00	28.70	28.50
IVFE-16M-8N	16	1/2	39.50	19.80	22.00	24.40	12.70	25.00	25.00	29.70	28.50
IVFE-25M-12N	25	3/4	49.00	20.60	26.50	31.30	22.30	35.00	38.00	36.80	31.80
IVFE-25M-16N	25	1	53.60	25.40	26.50	31.30	22.30	41.00	38.00	41.40	38.10

## FEMALE RUN TEE IVFRT



TUBE OD (INCH) x FEMALE NPT THREADS

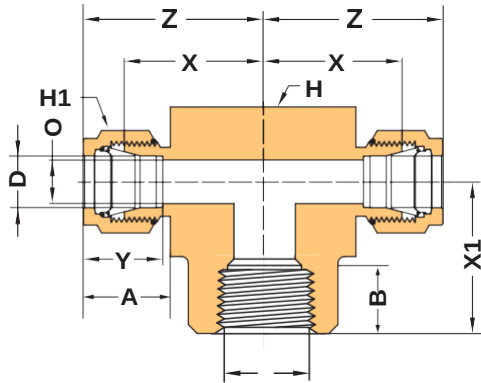
Part Number	D-Tube OD inch	T-NPT inch	Z mm	B mm	A mm	Y mm	O-Min. mm	H-Hex width mm	H1-Hex width mm	X mm	X1 mm
IVFRT-2-2N	1/8	1/8	24.60	10.40	15.30	12.70	2.40	14.00	11.00	18.00	19.00
IVFRT-4-4N	1/4	1/8	26.90	10.40	17.80	15.30	4.80	14.00	14.00	19.60	19.00
IVFRT-4-4N	1/4	1/4	29.70	15.00	17.80	15.30	4.80	20.50	14.00	22.40	22.40
IVFRT-6-4N	3/8	1/4	31.20	15.00	19.30	16.80	7.10	20.50	17.00	23.90	22.40
IVFRT-6-6N	3/8	3/8	33.30	15.00	19.30	16.80	7.10	22.00	17.00	25.90	22.40
IVFRT-8-6N	1/2	3/8	36.00	15.00	21.80	22.90	10.40	22.00	22.00	25.90	22.40
IVFRT-8-8N	1/2	1/2	38.90	19.80	21.80	22.90	10.40	25.00	22.00	28.70	28.50
IVFRT-12-12N	3/4	3/4	44.70	20.60	21.80	24.40	15.80	35.00	29.00	34.60	31.80
IVFRT-16-12N	1	3/4	49.00	20.60	26.40	31.00	22.30	35.00	38.00	36.80	31.80
IVFRT-16-16N	1	1	53.60	25.40	26.40	31.00	22.30	41.00	38.00	41.40	38.10

TUBE OD (METRIC) x FEMALE NPT THREADS

Part Number	D-Tube OD mm	T-NPT inch	Z mm	B mm	A mm	Y mm	O-Min. mm	H-Hex width mm	H1-Hex width mm	X mm	X1 mm
IVFRT-3M-2N	3	1/8	24.60	10.40	15.30	12.90	2.40	14.00	11.00	18.00	19.00
IVFRT-6M-2N	6	1/8	27.00	10.40	17.70	15.30	4.80	14.00	14.00	19.60	19.00
IVFRT-6M-4N	6	1/4	29.80	15.00	17.70	15.30	4.80	20.50	14.00	22.40	22.40
IVFRT-8M-2N	8	1/8	29.90	10.40	18.60	16.20	6.30	16.00	16.00	22.40	19.00
IVFRT-8M-4N	8	1/8	30.60	15.00	18.60	16.20	6.30	20.50	16.00	23.10	22.40
IVFRT-10M-4N	10	1/4	33.50	15.00	19.50	17.20	7.90	20.50	19.00	25.90	22.40
IVFRT-12M-6N	12	3/8	36.00	15.00	22.00	22.80	9.50	22.00	22.00	25.90	22.40
IVFRT-12M-8N	12	1/2	38.80	19.80	22.00	22.80	9.50	25.00	22.00	28.00	28.50
IVFRT-16M-8N	16	1/2	39.50	19.80	22.00	24.00	12.70	25.00	25.00	29.70	28.50
IVFRT-25M-16N	25	1	53.60	25.40	26.50	31.30	22.30	41.00	38.00	41.40	38.10



## FEMALE BRANCH TEE IVFBT



### TUBE OD (INCH) x FEMALE NPT THREADS

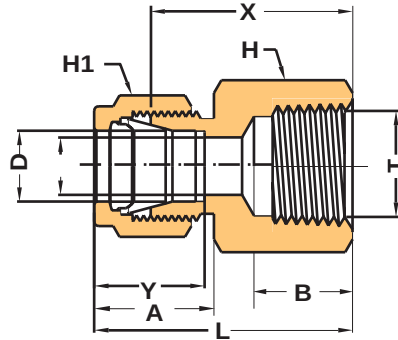
Part Number	D-Tube OD inch	T-NPT inch	Z mm	B mm	A mm	Y mm	O-Min. mm	H-Hex width mm	H1-Hex width mm	X mm	X1 mm
IVFBT-2-2N	1/8	1/8	24.60	10.40	15.30	12.70	2.40	14.00	11.00	18.00	19.00
IVFBT-4-2N	1/4	1/8	26.90	10.40	17.80	15.30	4.80	14.00	14.00	19.60	19.00
IVFBT-4-2N	1/4	1/4	27.90	15.00	17.80	15.30	4.80	20.50	14.00	22.40	22.40
IVFBT-6-4N	3/8	1/4	31.20	15.00	19.30	16.80	7.10	20.50	16.00	23.90	22.40
IVFBT-6-6N	3/8	3/8	33.30	15.00	19.30	16.80	7.10	22.00	16.00	25.90	22.40
IVFBT-8-8N	1/2	3/8	36.00	15.00	21.80	22.90	10.40	22.00	19.00	25.90	22.40
IVFBT-8-8N	1/2	1/2	38.90	19.80	21.80	22.90	10.40	25.00	27.00	28.70	28.50
IVFBT-12-12N	3/4	3/4	44.70	20.60	21.80	24.40	15.80	35.00	22.00	34.60	31.80
IVFBT-16-12N	1	3/4	49.00	20.60	26.40	31.20	22.30	35.00	25.00	36.80	31.80
IVFBT-16-16N	1	1	53.60	25.40	26.40	31.20	22.30	41.00	38.00	41.40	38.10

### TUBE OD (METRIC) x FEMALE NPT THREADS

Part Number	D-Tube OD mm	T-NPT inch	Z mm	B mm	A mm	Y mm	O-Min. mm	H-Hex width mm	H1-Hex width mm	X mm	X1 mm
IVFBT-3M-2N	3	1/8	24.60	10.40	15.30	12.90	2.40	14.00	11.00	18.00	19.00
IVFBT-6M-2N	6	1/8	27.00	10.40	17.70	15.30	4.80	14.00	14.00	19.60	19.00
IVFBT-6M-4N	6	1/4	29.80	15.00	17.70	15.30	4.80	20.50	14.00	22.40	22.40
IVFBT-8M-2N	8	1/8	29.90	10.40	18.60	16.20	6.30	16.00	16.00	22.40	19.00
IVFBT-8M-4N	8	1/8	30.60	15.00	18.60	16.20	6.30	20.50	16.00	23.10	22.40
IVFBT-10M-4N	10	1/4	33.50	15.00	19.50	17.20	7.90	20.50	19.00	25.90	22.40
IVFBT-12M-6N	12	3/8	36.00	15.00	22.00	22.80	9.50	22.00	22.00	25.90	22.40
IVFBT-12M-8N	12	1/2	38.80	19.80	22.00	22.80	9.50	25.00	22.00	28.70	28.50
IVFBT-16M-8N	16	1/2	39.50	19.80	22.00	24.40	12.70	25.00	25.00	29.70	28.50
IVFBT-25M-16N	25	1	53.60	25.40	26.50	31.30	22.30	41.00	38.00	41.40	38.10

**Note:** Other than above shown combinations of Tube OD and female threads are available up on request.

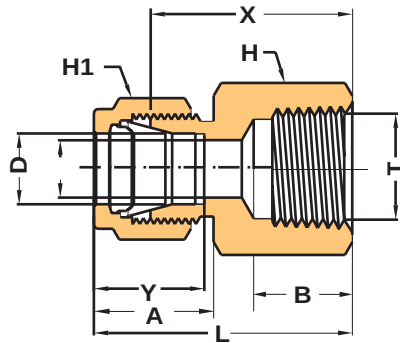
# FEMALE CONNECTOR (NPT) IVFC-N



TUBE OD (INCH) x FEMALE NPT THREADS

Part Number	D-Tube OD inch	T-NPT inch	L mm	B mm	A mm	Y mm	O-Min. mm	H-Hex width mm	H1-Hex width mm	X mm
IVFC-N-1-1N	1/16	1/16	23.60	9.90	11.00	8.60	1.30	11.00	8.00	19.80
IVFC-N-1-2N	1/16	1/8	24.40	10.40	11.00	8.60	1.30	14.00	8.00	20.60
IVFC-N-2-2N	1/8	1/8	28.70	10.40	15.30	12.70	2.40	14.00	11.00	22.10
IVFC-N-2-4N	1/8	1/4	33.60	15.00	15.30	12.70	2.40	20.50	11.00	26.90
IVFC-N-4-2N	1/4	1/8	31.20	9.90	17.80	15.30	4.80	14.00	14.00	23.90
IVFC-N-4-4N	1/4	1/4	35.80	15.00	17.80	15.30	4.80	20.50	14.00	28.50
IVFC-N-4-6N	1/4	3/8	37.60	15.00	17.80	15.30	4.80	22.00	14.00	30.20
IVFC-N-4-8N	1/4	1/2	42.40	19.80	17.80	15.30	4.80	25.00	14.00	35.00
IVFC-N-5-2N	5/16	1/8	32.00	10.40	18.50	16.30	6.30	14.00	16.00	24.60
IVFC-N-5-4N	5/16	1/4	36.80	15.00	18.50	16.30	6.30	20.50	16.00	29.50
IVFC-N-6-2N	3/8	1/8	32.80	10.40	19.30	16.80	7.10	16.00	17.00	25.40
IVFC-N-6-4N	3/8	1/4	37.60	15.00	19.30	16.80	7.10	20.50	17.00	30.20
IVFC-N-6-6N	3/8	3/8	39.10	15.00	19.30	16.80	7.10	22.00	17.00	31.80
IVFC-N-6-8N	3/8	1/2	43.90	19.80	19.30	16.80	7.10	25.00	17.00	36.60
IVFC-N-8-4N	1/2	1/4	40.40	15.00	21.80	22.90	10.40	20.50	22.00	30.20
IVFC-N-8-6N	1/2	3/8	41.90	15.00	21.80	22.90	10.40	22.00	22.00	30.20
IVFC-N-8-8N	1/2	1/2	46.70	19.80	21.80	22.90	10.40	25.00	22.00	36.60
IVFC-N-8-12N	1/2	3/4	48.30	20.60	21.80	22.90	10.40	32.00	22.00	38.10
IVFC-N-10-6N	5/8	3/8	41.90	15.00	21.80	24.40	12.70	22.00	25.00	31.80
IVFC-N-10-8N	5/8	1/2	46.70	19.80	21.80	24.40	12.70	25.00	25.00	36.60
IVFC-N-12-8N	3/4	1/2	46.70	19.80	21.80	24.40	15.80	25.00	28.50	36.60
IVFC-N-12-12N	3/4	3/4	48.30	20.60	21.80	24.40	15.80	35.00	28.50	38.10
IVFC-N-14-12N	7/8	3/4	49.80	20.60	21.80	25.90	18.30	35.00	32.00	39.60
IVFC-N-16-12N	1	3/4	53.40	20.60	26.40	31.20	22.30	35.00	38.00	41.20
IVFC-N-16-16N	1	1	62.30	25.40	26.40	31.20	22.30	41.00	38.00	50.00

## FEMALE CONNECTOR (NPT) IVFC-N

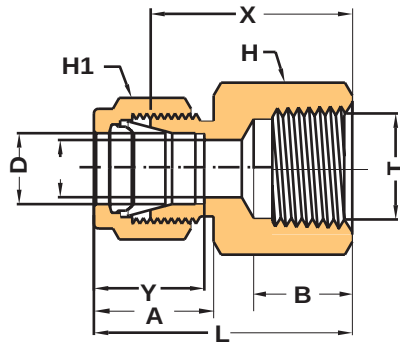


TUBE OD (METRIC) x FEMALE NPT THREADS

Part Number	D-Tube OD mm	T-NPT inch	L mm	B mm	A mm	Y mm	O-Min. mm	H-Hex width mm	H1-Hex width mm	X mm
IVFC-N-3M-4N	3	1/4	35.30	12.90	15.30	12.90	2.40	20.50	11.00	28.70
IVFC-N-6M-4N	6	1/4	37.60	12.90	17.70	15.30	4.80	20.50	14.00	30.20
IVFC-N-6M-6N	6	3/8	37.60	14.10	17.70	15.30	4.80	22.00	14.00	30.20
IVFC-N-6M-8N	6	1/2	43.50	18.90	17.70	15.30	4.80	25.00	14.00	36.10
IVFC-N-8M-4N	8	1/4	38.50	12.90	18.60	16.20	5.50	20.50	16.00	31.00
IVFC-N-8M-6N	8	3/8	36.20	14.10	18.60	16.20	6.50	22.00	16.00	28.70
IVFC-N-8M-8N	8	1/2	41.00	18.90	18.60	16.20	7.10	25.00	16.00	33.50
IVFC-N-10M-4N	10	1/4	39.40	19.50	19.50	17.20	6.50	22.00	19.00	31.20
IVFC-N-10M-6N	10	3/8	38.80	19.50	19.50	17.20	7.10	25.00	19.00	34.50
IVFC-N-12M-4N	12	1/4	41.90	12.90	22.00	22.80	5.50	20.50	22.00	31.80
IVFC-N-12M-6N	12	3/8	44.40	14.10	22.00	22.80	6.50	22.00	22.00	34.30
IVFC-N-12M-8N	12	1/2	48.20	18.90	22.00	22.80	7.10	25.00	22.00	38.10
IVFC-N-16M-8N	16	1/2	48.20	19.80	22.00	24.40	12.00	27.00	25.00	36.80
IVFC-N-20M-12N	20	3/4	50.00	20.60	22.00	26.00	15.90	35.00	32.00	39.60
IVFC-N-22M-12N	22	3/4	50.00	20.60	22.00	26.00	18.00	35.00	32.00	39.60
IVFC-N-25M-12N	25	1	53.50	20.60	26.50	31.30	20.00	35.00	38.00	41.00
IVFC-N-25M-16N	25	1	53.50	25.40	26.50	31.30	20.00	41.00	38.00	50.00

Note: Other than above shown combinations of Tube OD and female threads are available up on request.

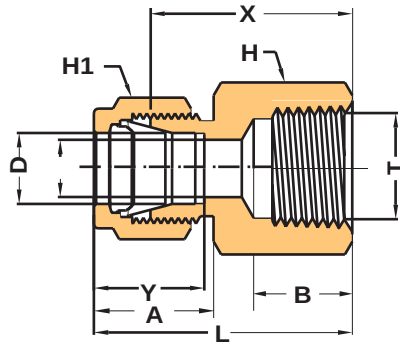
# FEMALE CONNECTOR (BSPT) IVFC-R



TUBE OD (INCH) x FEMALE ISO TAPERED THREADS

Part Number	D-Tube OD inch	T-ISO inch	L mm	B mm	A mm	Y mm	O-Min. mm	H-Hex width mm	H1-Hex width mm	X mm
IVFC-R-1-1R	1/16	1/16	23.60	9.90	11.00	8.60	1.30	11.00	8.00	19.80
IVFC-R-1-2R	1/16	1/8	24.40	10.40	11.00	8.60	1.30	14.00	8.00	20.60
IVFC-R-2-2R	1/8	1/8	28.70	10.40	15.30	12.70	2.40	14.00	11.00	22.10
IVFC-R-2-4R	1/8	1/4	33.60	15.00	15.30	12.70	2.40	20.50	11.00	26.90
IVFC-R-4-2R	1/4	1/8	31.20	9.90	17.80	15.30	4.80	14.00	14.00	23.90
IVFC-R-4-4R	1/4	1/4	35.80	15.00	17.80	15.30	4.80	20.50	14.00	28.50
IVFC-R-4-6R	1/4	3/8	37.60	15.00	17.80	15.30	4.80	22.00	14.00	30.20
IVFC-R-4-8R	1/4	1/2	42.40	19.80	17.80	15.30	4.80	25.00	14.00	35.00
IVFC-R-5-4R	5/16	1/4	36.80	15.00	18.50	16.30	6.30	20.50	16.00	29.50
IVFC-R-6-2R	3/8	1/8	32.80	10.40	19.30	16.80	7.10	16.00	17.00	25.40
IVFC-R-6-4R	3/8	1/4	37.60	15.00	19.30	16.80	7.10	20.50	17.00	30.20
IVFC-R-6-6R	3/8	3/8	39.10	15.00	19.30	16.80	7.10	22.00	17.00	31.80
IVFC-R-6-8R	3/8	1/2	43.90	19.80	19.30	16.80	7.10	25.00	17.00	36.60
IVFC-R-8-4R	1/2	1/4	40.40	15.00	21.80	22.90	10.40	20.50	22.00	30.20
IVFC-R-8-6R	1/2	3/8	41.90	15.00	21.80	22.90	10.40	22.00	22.00	30.20
IVFC-R-8-8R	1/2	1/2	46.70	19.80	21.80	22.90	10.40	25.00	22.00	36.60
IVFC-R-8-12R	1/2	3/4	48.30	20.60	21.80	22.90	10.40	32.00	22.00	38.10
IVFC-R-10-6R	5/8	3/8	41.90	15.00	21.80	24.40	12.70	22.00	25.00	31.80
IVFC-R-10-8R	5/8	1/2	46.70	19.80	21.80	24.40	12.70	25.00	25.00	36.60
IVFC-R-12-8R	3/4	1/2	46.70	19.80	21.80	24.40	15.80	25.00	28.50	36.60
IVFC-R-12-12R	3/4	3/4	48.30	20.60	21.80	24.40	15.80	35.00	28.50	38.10
IVFC-R-14-12R	7/8	3/4	49.80	20.60	21.80	25.90	18.30	35.00	32.00	39.60
IVFC-R-16-12R	1	3/4	53.40	20.60	26.40	31.20	22.30	35.00	38.00	41.20
IVFC-R-16-16R	1	1	62.30	25.40	26.40	31.20	22.30	41.00	38.00	50.00

## FEMALE CONNECTOR (BSPT) IVFC-R

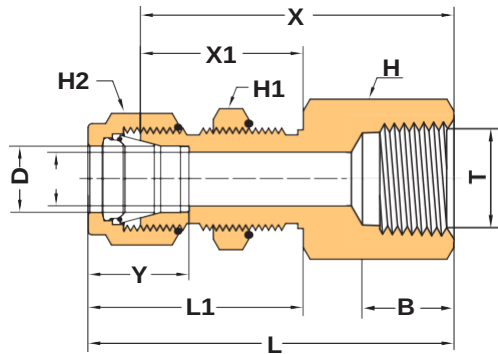


### TUBE OD (METRIC) x FEMALE ISO TAPERED THREADS

Part Number	D-Tube OD mm	T-ISO inch	L mm	B mm	A mm	Y mm	O-Min. mm	H-Hex width mm	H1-Hex width mm	X mm
IVFC-R-3M-4R	3	1/4	35.30	12.90	15.30	12.90	2.40	20.50	11.00	28.70
IVFC-R-6M-4R	6	1/4	37.60	12.90	17.70	15.30	4.80	20.50	14.00	30.20
IVFC-R-6M-6R	6	3/8	37.60	14.10	17.70	15.30	4.80	22.00	14.00	30.20
IVFC-R-6M-8R	6	1/2	43.50	18.90	17.70	15.30	4.80	25.00	14.00	36.10
IVFC-R-8M-4R	8	1/4	38.50	12.90	18.60	16.20	5.50	20.50	16.00	31.00
IVFC-R-8M-6R	8	3/8	36.20	14.10	18.60	16.20	6.50	22.00	16.00	28.70
IVFC-R-8M-8R	8	1/2	41.00	18.90	18.60	16.20	7.10	25.00	16.00	33.50
IVFC-R-10M-4R	10	1/4	39.40	19.50	19.50	17.20	6.50	22.00	19.00	31.20
IVFC-R-10M-6R	10	3/8	38.80	19.50	19.50	17.20	7.10	25.00	19.00	34.50
IVFC-R-12M-4R	12	1/4	41.90	12.90	22.00	22.80	5.50	20.50	22.00	31.80
IVFC-R-12M-6R	12	3/8	44.40	14.10	22.00	22.80	6.50	22.00	22.00	34.30
IVFC-R-12M-8R	12	1/2	48.20	18.90	22.00	22.80	7.10	25.00	22.00	38.10
IVFC-R-16M-8R	16	1/2	48.20	19.80	22.00	24.40	12.00	27.00	25.00	36.80
IVFC-R-20M-12R	20	3/4	50.00	20.60	22.00	26.00	15.90	35.00	32.00	39.60
IVFC-R-22M-12R	22	3/4	50.00	20.60	22.00	26.00	18.00	35.00	32.00	39.60
IVFC-R-25M-12R	25	1	53.50	20.60	26.50	31.30	20.00	35.00	38.00	41.00
IVFC-R-25M-16R	25	1	53.50	25.40	26.50	31.30	20.00	41.00	38.00	50.00

**Note:** Other than above shown combinations of Tube OD and female threads are available up on request.

# BULKHEAD FEMALE CONNECTOR IVBFC



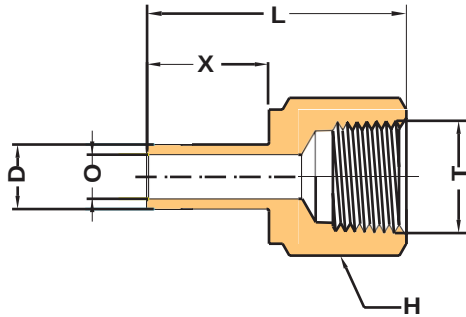
## TUBE OD (INCH) x FEMALE NPT THREADS

Part Number	D Tube OD inch	T-NPT inch	L mm	L1 mm	B mm	Y mm	O Min. mm	H-Hex width mm	H1 Hex width mm	H2 Hex width mm	X mm	X1 mm	Panel-Hole Drill Size mm	Max. Panel Thickness mm
IVBFC-2-2N	1/8	1/8	44.70	31.20	10.40	12.70	2.40	14.00	11.00	11.00	31.80	24.60	8.30	12.70
IVBFC-4-2N	1/4	1/8	47.00	33.50	10.40	15.30	4.80	16.00	14.00	14.00	39.70	26.20	11.50	10.20
IVBFC-4-4N	1/4	1/4	51.50	33.50	15.00	15.30	4.80	20.50	14.00	14.00	44.20	26.20	11.50	10.20
IVBFC-6-4N	3/8	1/4	54.80	36.80	15.00	16.80	7.10	20.50	17.00	17.00	47.50	29.50	14.70	11.20
IVBFC-8-6N	1/2	3/8	61.70	41.90	15.00	22.90	10.40	22.00	22.00	22.00	51.60	31.00	19.50	12.70
IVBFC-8-8N	1/2	1/2	66.70	41.90	19.80	22.90	10.40	25.00	22.00	22.00	56.60	31.00	19.50	12.70
IVBFC-10-8N	5/8	1/2	67.60	42.70	19.80	22.90	12.70	25.00	25.00	25.00	57.40	32.50	22.60	12.70
IVBFC-12-8N	3/4	1/2	72.40	47.50	19.80	24.40	16.00	35.00	28.50	28.50	62.30	37.40	25.80	16.80
IVBFC-12-12N	3/4	3/4	74.70	47.50	20.60	24.40	16.00	35.00	28.50	28.50	64.30	37.40	25.80	16.80
IVBFC-16-12N	1	3/4	84.30	57.40	20.60	31.20	16.00	35.00	38.00	38.00	72.10	45.20	33.70	19.00
IVBFC-16-16N	1	1	93.20	57.40	25.40	31.20	22.20	35.00	38.00	38.00	81.00	45.20	33.70	19.00

## TUBE OD (METRIC) x FEMALE NPT THREADS

Part Number	D Tube OD mm	T-NPT inch	L mm	L1 mm	B mm	Y mm	O Min. mm	H-Hex width mm	H1 Hex width mm	H2 Hex width mm	X mm	X1 mm	Panel-Hole Drill Size mm	Max. Panel Thickness mm
IVBFC-3M-2N	3	1/8	44.70	31.20	10.40	12.90	2.40	14.00	11.00	11.00	38.10	24.60	8.30	12.70
IVBFC-6M-4N	6	1/4	51.60	33.60	15.00	15.30	4.80	20.50	14.00	14.00	44.20	26.20	11.50	10.20
IVBFC-10M-4N	10	3/8	56.80	37.00	15.00	17.20	7.90	22.00	19.00	19.00	49.20	29.40	16.30	11.20
IVBFC-12M-6N	12	3/8	61.80	41.90	15.00	22.80	9.50	22.00	22.00	22.00	51.70	31.80	19.50	12.70
IVBFC-12M-8N	12	1/2	66.70	41.90	19.80	22.80	9.50	25.00	22.00	22.00	56.60	31.80	19.50	12.70
IVBFC-16M-8N	16	1/2	67.50	42.60	20.60	24.40	12.70	25.00	25.00	25.00	57.40	32.50	22.80	12.70
IVBFC-22M-12N	22	3/4	79.90	53.00	20.60	26.00	15.80	35.00	35.00	35.00	69.80	42.90	29.00	19.00
IVBFC-25M-12N	25	3/4	84.30	57.40	20.60	31.20	15.80	35.00	38.00	38.00	72.10	45.20	33.70	19.00
IVBFC-25M-16N	25	1	93.20	57.40	25.40	31.20	22.30	35.00	38.00	38.00	81.00	45.20	33.70	19.00

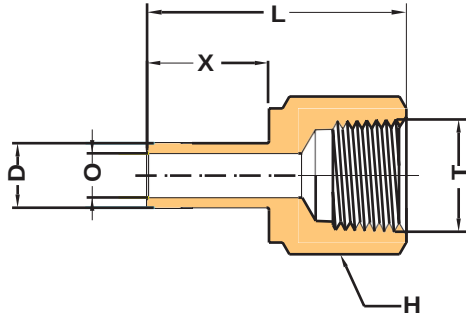
## FEMALE ADAPTER IVFA



TUBE OD (INCH) x FEMALE NPT THREADS

Part Number	D-Tube OD inch	T-NPT inch	O-Min. mm	H-Hex width mm	X mm	L mm
IVFA-2-2N	1/8	1/8	2.00	14.30	13.45	31.50
IVFA-2-4N	1/8	1/4	2.00	19.10	13.45	35.30
IVFA-3-4N	3/16	1/4	3.00	14.30	14.20	35.80
IVFA-4-2N	1/4	1/8	4.30	14.30	15.75	33.00
IVFA-4-4N	1/4	1/4	4.30	19.00	15.75	37.10
IVFA-4-6N	1/4	3/8	4.30	22.20	15.75	39.40
IVFA-4-8N	1/4	1/2	4.30	27.00	15.75	45.50
IVFA-5-4N	5/16	1/4	5.60	19.10	16.75	37.60
IVFA-6-2N	3/8	1/8	6.80	14.30	17.50	34.30
IVFA-6-4N	3/8	1/4	6.80	19.10	17.50	38.10
IVFA-6-6N	3/8	3/8	6.80	22.20	17.50	40.40
IVFA-6-8N	3/8	1/2	6.80	27.00	17.50	46.70
IVFA-8-4N	1/2	1/4	9.40	19.10	23.10	43.40
IVFA-8-6N	1/2	3/8	9.40	22.20	23.10	45.50
IVFA-8-8N	1/2	1/2	9.40	27.00	23.10	52.10
IVFA-10-6N	5/8	3/8	11.90	22.20	24.65	52.10
IVFA-10-8N	5/8	1/2	11.90	27.00	24.65	53.10
IVFA-10-12N	5/8	3/4	11.90	33.30	24.65	54.90
IVFA-12-8N	3/4	1/2	14.70	27.00	24.65	52.80
IVFA-12-12N	3/4	3/4	14.70	33.30	24.65	54.90
IVFA-12-16N	3/4	1	14.70	41.30	24.65	58.40
IVFA-16-12N	1	3/4	20.30	33.30	31.20	60.70
IVFA-16-16N	1	1	20.30	41.30	31.20	64.30

## FEMALE ADAPTER IVFA

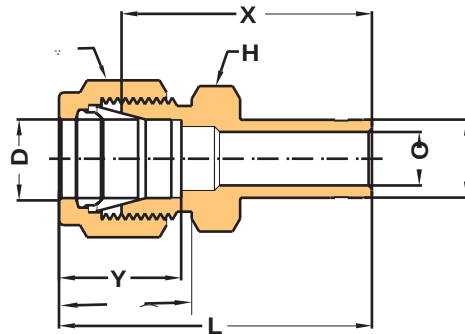


TUBE OD (METRIC) x FEMALE NPT THREADS

Part Number	D-Tube OD mm	T-NPT inch	O-Min. mm	H-Hex width mm	X mm	L mm
IVFA-3M-2N	3	1/8	2.00	14.00	13.45	31.50
IVFA-3M-4N	3	1/4	2.00	19.00	13.45	35.30
IVFA-4M-4N	4	1/4	2.00	19.00	15.75	35.00
IVFA-6M-2N	6	1/8	4.10	14.00	17.50	32.50
IVFA-6M-4N	6	1/4	4.10	19.00	17.50	37.10
IVFA-6M-6N	6	3/8	4.10	22.00	17.50	40.00
IVFA-8M-4N	8	1/4	5.60	19.00	23.10	37.60
IVFA-8M-6N	8	3/8	5.60	22.00	23.10	45.50
IVFA-8M-8N	8	1/2	5.60	27.00	23.10	46.00
IVFA-10M-6N	10	3/8	7.10	22.00	24.65	40.10
IVFA-10M-8N	10	1/2	7.10	27.00	24.65	46.50
IVFA-12M-4N	12	1/4	8.80	19.00	23.10	43.40
IVFA-12M-6N	12	3/8	8.80	22.00	23.10	45.50
IVFA-12M-8N	12	1/2	8.80	27.00	24.65	52.30
IVFA-16M-6N	16	3/8	12.70	33.00	31.20	48.00
IVFA-16M-8N	16	1/2	12.70	41.00	31.20	53.10



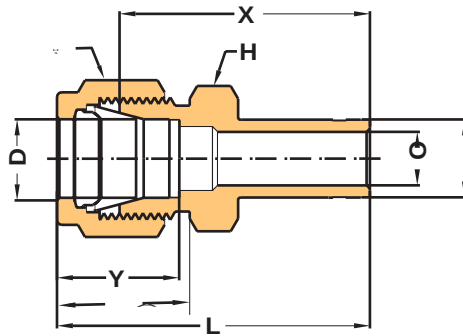
# REDUCER IVR



TUBE OD (INCH) x STUB (INCH)

Part Number	D-Tube OD inch	D1-Tube OD inch	L mm	A mm	Y mm	O-Min. mm	H-Hex width mm	H1-Hex width mm	X mm
IVR-2-2	1/8	1/8	33.50	15.30	12.70	2.00	11.00	11.00	26.90
IVR-2-4	1/8	1/4	36.10	15.30	12.70	2.30	11.00	11.00	29.50
IVR-2-6	1/8	3/8	37.60	15.30	12.70	2.30	11.00	11.00	31.00
IVR-2-8	1/8	1/2	44.20	15.30	12.70	2.30	14.00	11.00	37.60
IVR-4-2	1/4	1/8	36.80	17.80	15.30	2.00	12.70	14.00	29.50
IVR-4-4	1/4	1/4	39.10	17.80	15.30	4.80	12.70	14.00	31.80
IVR-4-6	1/4	3/8	40.60	17.80	15.30	4.80	12.70	14.00	33.30
IVR-4-8	1/4	1/2	46.20	17.80	15.30	4.80	14.00	14.00	38.90
IVR-4-12	1/4	3/4	47.80	17.80	15.30	4.80	20.50	14.00	40.40
IVR-6-4	3/8	1/4	41.40	19.30	16.80	4.80	16.00	17.00	34.00
IVR-6-6	3/8	3/8	43.20	19.30	16.80	7.00	16.00	17.00	35.80
IVR-6-8	3/8	1/2	48.50	19.30	16.80	7.00	16.00	17.00	41.10
IVR-6-12	3/8	3/4	50.30	19.30	16.80	7.00	16.00	17.00	42.90
IVR-8-4	1/2	1/4	45.00	21.80	22.90	4.80	20.50	22.00	34.80
IVR-8-6	1/2	3/8	46.70	21.80	22.90	7.00	20.50	22.00	36.60
IVR-8-8	1/2	1/2	52.30	21.80	22.90	10.00	20.50	22.00	42.20
IVR-8-12	1/2	3/4	53.80	21.80	22.90	10.00	22.00	22.00	43.70
IVR-8-16	1/2	1	60.20	21.80	22.90	10.00	27.00	22.00	50.00
IVR-12-8	3/4	1/2	54.60	21.80	24.40	10.00	27.00	28.00	44.50
IVR-12-16	3/4	1	62.50	21.80	24.40	16.00	27.00	28.00	52.30

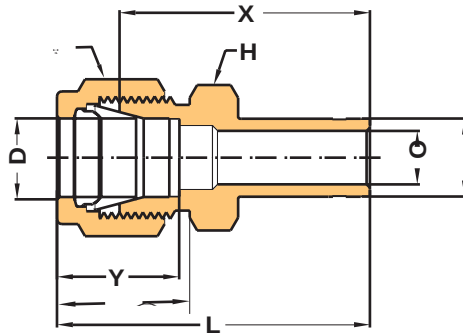
## REDUCER IVR



TUBE OD (METRIC) x STUB (METRIC)

Part Number	D-Tube OD mm	D1-Tube OD mm	L mm	A mm	Y mm	O-Min. mm	H-Hex width mm	H1-Hex width mm	X mm
IVR-2M-3M	2	3	33.50	15.30	12.70	2.00	12.00	12.00	26.90
IVR-3M-4M	3	4	35.00	15.30	12.70	2.30	12.00	12.00	28.40
IVR-3M-6M	3	6	36.10	15.30	12.70	2.30	12.00	12.00	29.50
IVR-4M-6M	4	6	37.10	16.10	13.70	2.30	12.00	12.00	30.50
IVR-6M-3M	6	3	36.90	17.80	15.30	2.00	14.00	14.00	29.50
IVR-6M-8M	6	8	40.00	17.80	15.30	4.80	14.00	14.00	32.50
IVR-6M-10M	6	10	40.70	17.80	15.30	4.80	14.00	14.00	33.30
IVR-6M-12M	6	12	46.30	17.80	15.30	4.80	14.00	14.00	39.00
IVR-8M-6M	8	6	40.30	18.60	16.20	4.10	14.00	16.00	32.80
IVR-8M-10M	8	10	41.80	18.60	16.20	6.30	14.00	16.00	34.50
IVR-8M-12M	8	12	47.50	18.60	16.20	6.30	14.00	16.00	40.10
IVR-10M-6M	10	6	42.50	19.30	17.20	4.10	17.00	19.00	34.80
IVR-10M-12M	10	12	50.00	19.30	17.20	7.90	16.00	19.00	42.20
IVR-10M-18M	10	18	51.30	19.30	17.20	7.90	16.00	19.00	43.70
IVR-12M-6M	12	6	45.00	21.80	22.90	4.10	22.00	22.00	34.80
IVR-12M-10M	12	10	46.70	21.80	22.90	7.10	22.00	22.00	36.60
IVR-12M-16M	12	16	53.80	21.80	22.90	9.50	22.00	22.00	43.80
IVR-12M-18M	12	18	53.80	21.80	22.90	9.50	22.00	22.00	43.80
IVR-12M-20M	12	20	56.10	21.80	22.90	9.50	22.00	22.00	46.00
IVR-12M-22M	12	22	56.10	21.80	22.90	9.50	24.00	22.00	46.00
IVR-12M-25M	12	25	62.40	22.00	22.90	9.50	27.00	22.00	52.30
IVR-16M-12M	16	12	53.00	22.00	24.40	8.80	24.00	25.00	42.90
IVR-18M-12M	18	12	54.60	22.00	24.40	8.80	27.00	30.00	44.50
IVR-18M-16M	18	16	56.10	22.00	24.40	12.00	27.00	30.00	46.00
IVR-18M-20M	18	20	57.60	22.00	24.40	15.00	27.00	30.00	47.50
IVR-18M-22M	18	22	57.60	22.00	24.40	15.00	27.00	30.00	47.50
IVR-18M-25M	18	25	62.40	22.00	24.40	15.00	27.00	30.00	52.30
IVR-20M-16M	20	16	57.90	22.00	26.00	12.00	30.00	32.00	47.80
IVR-20M-18M	20	18	57.90	22.00	26.00	13.90	30.00	32.00	47.80
IVR-22M-18M	22	18	57.90	22.00	26.00	13.90	30.00	32.00	47.80
IVR-22M-20M	22	20	59.40	22.00	26.00	15.50	30.00	32.00	49.30
IVR-25M-18M	25	18	63.10	26.50	31.30	13.90	35.00	38.00	50.80
IVR-25M-20M	25	20	64.60	26.50	31.30	15.50	35.00	38.00	52.30

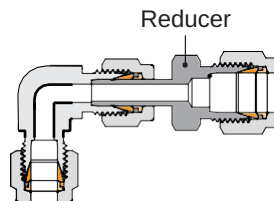
# REDUCER IVR



TUBE OD (METRIC) x STUB (INCH)

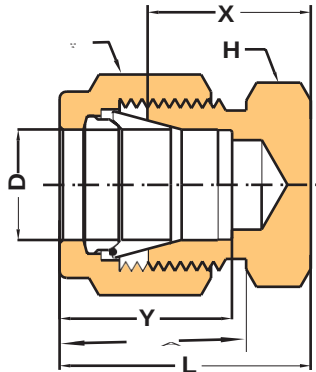
Part Number	D-Tube OD mm	D1-Tube OD inch	L mm	A mm	Y mm	O-Min. mm	H-Hex width mm	H1-Hex width mm	X mm
IVR-3M-2	3	1/8	33.50	15.30	12.70	2.00	11.00	11.00	26.90
IVR-3M-4	3	1/4	36.10	15.30	12.70	2.20	12.70	11.00	29.50
IVR-6M-2	6	1/8	36.90	17.80	15.30	2.20	12.70	14.00	29.50
IVR-6M-4	6	1/4	39.90	17.80	15.30	4.80	12.70	14.00	32.50
IVR-6M-6	6	3/8	40.70	17.80	15.30	4.80	12.70	14.00	33.30
IVR-6M-8	6	1/2	46.30	17.80	15.30	4.80	14.00	14.00	38.90
IVR-8M-6	8	3/8	42.00	19.30	16.80	6.40	15.00	16.00	34.50
IVR-8M-8	8	1/2	47.60	19.30	16.80	6.40	15.00	16.00	40.10
IVR-10M-6	10	3/8	44.20	19.30	16.80	6.90	18.00	17.00	36.60
IVR-10M-8	10	1/2	49.80	19.30	16.80	7.90	18.00	17.00	42.20
IVR-12M-8	12	1/2	52.30	21.80	22.90	9.40	20.50	22.00	42.20
IVR-12M-12	12	3/4	53.80	21.80	22.90	9.50	22.00	22.00	43.70
IVR-18M-16	18	1	62.40	21.80	24.40	15.10	27.00	28.00	52.30
IVR-25M-16	25	1	69.40	26.50	31.30	20.20	36.00	38.00	57.20

## ASSEMBLY INSTRUCTION



Tight the assembly (reducer nut) on the body half a turn (180°) from finger tight position, with a wrench. Insert the reducer stub end to fitting assembly and tight one and quarter turn from finger tight position with wrench.

## TUBE END CAP IVTEC



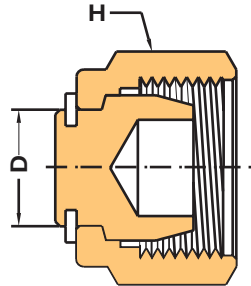
### TUBE OD (INCH)

Part Number	D-Tube OD inch	L mm	A mm	Y mm	H-Hex width mm	H1-Hex width mm	X mm
IVTEC-1	1/16	13.00	11.00	8.60	11.00	8.00	11.20
IVTEC-2	1/8	20.00	15.30	12.70	11.00	11.00	13.50
IVTEC-4	1/4	23.40	17.80	15.30	14.00	14.00	16.00
IVTEC-5	5/16	24.40	18.50	16.30	16.00	16.00	17.00
IVTEC-6	3/8	25.70	19.30	16.80	17.00	17.00	18.30
IVTEC-8	1/2	29.20	21.80	22.90	22.00	22.00	19.00
IVTEC-10	5/8	30.00	21.80	24.40	24.00	25.00	19.80
IVTEC-12	3/4	31.50	21.80	24.40	27.00	28.50	21.40
IVTEC-14	7/8	34.00	21.80	25.90	35.00	32.00	23.90
IVTEC-16	1	38.40	26.40	31.20	35.00	38.00	26.20

### TUBE OD (METRIC)

Part Number	D-Tube OD mm	L mm	A mm	Y mm	H-Hex width mm	H1-Hex width mm	X mm
IVTEC-3M	3	20.10	15.30	12.90	11.00	11.00	13.50
IVTEC-6M	6	23.10	17.70	15.30	14.00	14.00	15.70
IVTEC-8M	8	24.50	18.60	16.20	16.00	16.00	17.00
IVTEC-10M	10	26.60	19.50	17.20	17.00	19.00	19.00
IVTEC-12M	12	29.10	22.00	22.80	20.50	22.00	19.00
IVTEC-14M	14	29.90	22.00	24.40	24.00	25.00	19.80
IVTEC-15M	15	29.90	22.00	24.40	24.00	25.00	19.80
IVTEC-16M	16	29.90	22.00	24.40	24.00	25.00	19.80
IVTEC-18M	18	31.40	22.00	24.40	27.00	30.00	21.30
IVTEC-20M	20	34.00	22.00	26.00	32.00	32.00	23.90
IVTEC-22M	22	34.00	22.00	26.00	32.00	32.00	23.90
IVTEC-25M	25	38.50	26.50	31.30	35.00	38.00	26.20

# FITTING END PLUG IVFEP



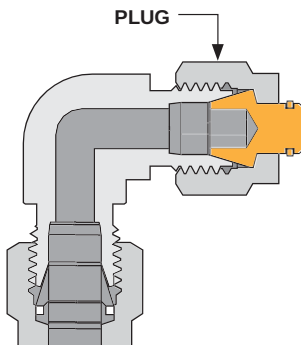
TUBE OD (INCH)

Part Number	D-Tube OD inch	H-Hex width mm
IVFEP-1	1/16	8.00
IVFEP-2	1/8	11.00
IVFEP-4	1/4	14.00
IVFEP-5	5/16	16.00
IVFEP-6	3/8	17.00
IVFEP-8	1/2	22.00
IVFEP-10	5/8	25.00
IVFEP-12	3/4	28.50
IVFEP-14	7/8	32.00
IVFEP-16	1	38.00

TUBE OD (METRIC)

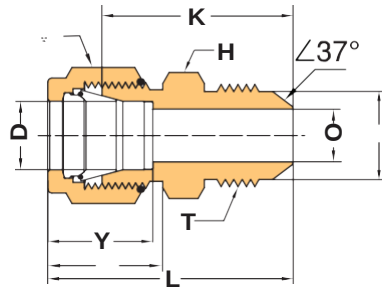
Part Number	D-Tube OD mm	H-Hex width mm
IVFEP-3M	3	11.00
IVFEP-6M	6	14.00
IVFEP-8M	8	16.00
IVFEP-10M	10	19.00
IVFEP-12M	12	22.00
IVFEP-14M	14	25.00
IVFEP-15M	15	25.00
IVFEP-16M	16	25.00
IVFEP-18M	18	30.00
IVFEP-20M	20	32.00
IVFEP-22M	22	32.00
IVFEP-25M	25	38.00

## ASSEMBLY INSTRUCTION



- Nut- 1/8 turn (45°) from finger tight position with wrench for 1/8", 3/16" and 2.00mm, 3.00mm, 4.00mm plug sizes.
- Nut- Half turn (180°) from finger tight position with wrench for 1" and 25mm above plug sizes.
- Nut- Quarter turn (90°) from finger tight position with wrench for other plug sizes.

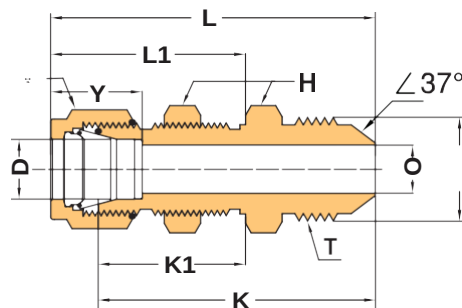
## AN UNION IVU-AN



TUBE OD (INCH) x FLARE TUBE OD (INCH)

Part Number	D-Tube OD inch	F-Tube Flare size inch	O-Min. mm	H-Hex width mm	H1-Hex width mm	T-Straight Thread	L mm	K mm	Y mm	B mm
IVU-AN-2-2	1/8	1/8	1.50	11.10	11.10	5/16-24	31.50	24.90	12.70	15.25
IVU-AN-2-4	1/8	1/8	2.30	12.70	11.10	7/16-20	35.00	28.45	12.70	15.25
IVU-AN-4-4	1/4	1/4	4.30	12.70	14.28	7/16-20	37.60	30.25	15.24	17.80
IVU-AN-6-4	3/8	3/8	4.30	15.87	17.46	7/16-20	39.70	32.25	16.76	19.30
IVU-AN-6-6	3/8	3/8	7.10	15.87	17.46	9/16-18	39.70	32.25	16.76	19.30
IVU-AN-8-8	1/2	1/2	9.90	20.63	22.22	3/4-16	46.00	35.80	22.86	21.85
IVU-AN-12-12	3/4	3/4	15.50	28.63	28.57	1.1/16-12	53.30	43.20	24.38	21.85
IVU-AN-16-16	1	1	21.30	34.92	38.10	1.5/16-12	61.50	49.30	31.25	26.43

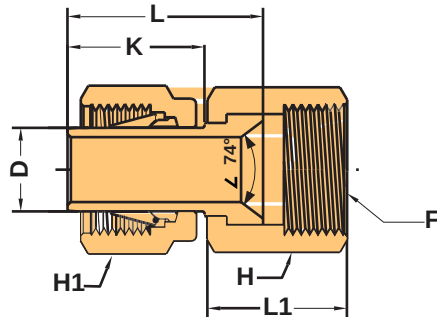
## AN BULKHEAD UNION IVBU-AN



TUBE OD (INCH) x FLARE TUBE OD (INCH)

Part Number	D-Tube OD inch	F-Tube Flare size inch	O-Min. mm	H Hex width mm	H1 Hex width mm	T Straight Thread	L mm	L1 mm	K mm	K1 mm	Y mm	Panel-Hole Drill Size mm	Max. Panel Thickness mm
IVBU-AN-4-4	1/4	1/4	4.30	15.90	14.30	7/16-20	53.84	35.52	46.48	26.16	15.20	11.50	10.15
IVBU-AN-6-6	3/8	3/8	7.10	19.10	17.50	9/16-18	57.15	36.83	49.78	29.46	16.80	14.70	11.15
IVBU-AN-8-8	1/2	1/2	9.90	23.80	22.20	3/4-16	65.80	41.93	55.62	31.75	22.90	19.45	12.70
IVBU-AN-12-12	3/4	3/4	15.45	30.20	28.60	1.1/6-12	80.00	47.50	68.83	37.33	24.40	25.80	16.75
IVBU-AN-16-16	1	1	21.30	41.25	38.10	1.5/16-12	92.45	57.40	80.26	45.21	31.25	33.75	19.00

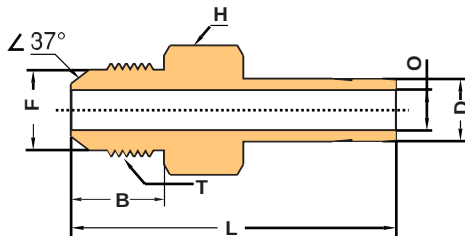
## AN FEMALE ADAPTER IVFA-AN



TUBE OD (INCH) x AN FEMALE

Part Number	D-Tube OD inch	DF-Tube Flare size inch	T-Straight Thread	H-Hex width mm	H1-Hex width mm	L mm	L1 mm	K mm
IVFA-AN-2-2	1/8	1/8	5/16-24	9.52	11.10	18.54	13.70	13.50
IVFA-AN-2-4	1/8	1/8	7/16-20	14.28	11.10	19.10	15.75	13.50
IVFA-AN-4-4	1/4	1/4	7/16-20	14.28	14.28	21.35	15.75	15.78
IVFA-AN-6-6	3/8	3/8	9/16-18	17.46	17.46	24.90	18.30	17.55
IVFA-AN-8-8	1/2	1/2	3/4-16	22.22	22.22	33.00	21.60	23.15

## AN MALE ADAPTER IVMA-AN



TUBE OD (INCH) x FLARE TUBE OD (INCH)

Part Number	D-Tube OD inch	F-Thread Flare size inch	O-Min. mm	H-Hex width mm	L mm	T-Straight Thread	B mm
IVMA-AN-4-4	1/4	1/4	4.20	12.70	37.20	7/16-20	14.30
IVMA-AN-6-4	3/8	3/8	4.20	12.70	38.90	7/16-20	14.30
IVMA-AN-6-6	3/8	3/8	7.10	15.90	39.65	9/16-18	14.30
IVMA-AN-8-8	1/2	1/2	9.80	20.60	48.50	3/4-16	19.10
IVMA-AN-12-12	3/4	3/4	15.00	28.60	56.15	1.1/16-12	19.10
IVMA-AN-16-16	1	1	20.00	34.90	65.55	1.5/16-12	23.80

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