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SELF FLARE TUBE FITTINGS

LDI PORT FITTINGS

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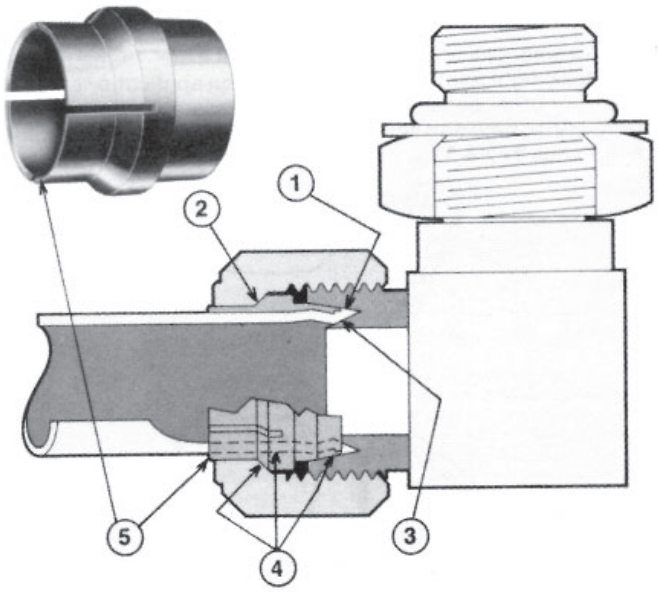
www.ldi-industries.com

SELF FLARE TUBE FITTINGS

FOR USE W/TUBING FROM 1/8 INCH TO 2 INCH O.D.

- **Eliminates Oil Leakage**
- **Gives 4 Points of Seal**
- **Supports the Tube Inside & Outside**
- **Reduces Work Hardening from Vibration & Surge**
- **Cuts Assembly Time & Costs**
- **Increases the Strength of the Joint**
- **Allows Repeated Reassembly**
- **Allows Close Radius Bends**
- **Standard Hand Tools Usually Do the Job**



WHEN PROPERLY TIGHTENED, YOU HAVE PREPARED...

...A LEAK-TIGHT TUBING JOINT:

1

When the Self Flare fitting nut is properly tightened, the end of the tubing is seated firmly against the inner wall of the fitting body and is captured between the hardened Self Flare wedge and the hardened sleeve.

2

The internal bevel, which is machined into the Self Flare nut, mates with the shoulder of the Self Flare sleeve. This allows an equalization of forces and permits the hardened sleeve to be pushed forward with a minimum of resistance.

3

The hardened alloy steel Self Flare wedge is machined with a 25° angle, over which the tubing is pushed and thereby the Self Flare joint is made. Because the Self Flare wedge is inside the fitting body, human error is virtually eliminated because the angle of the flare, the length of the flare and the concentricity of the flare are always correct

4

When in a properly tightened position, the tempered Self Flare sleeve tends to act like a spring and pushes against both the tubing and the fitting nut. This action keeps the nut under tension and minimizes the tendency of the nut to "walk" loose because of shaking, pulsation or vibration. The tubing is supported externally throughout the entire fitting joint by the Self Flare sleeve which absorbs vibration and chatter and adds strength to the entire connection.

5

The Self Flare sleeve protrudes through the nut. Slots in the Self Flare sleeve create gripping fingers which help prevent tube damage by dampening mechanical movement or vibration of the tubing run.

SELF FLARE TUBE FITTINGS

WHY YOU SHOULD SPECIFY SELF FLARE TUBE FITTINGS

(1) SUPERIOR TUBING JOINTS:

The service you get from tubing systems is only as good as the joints which make up the system.

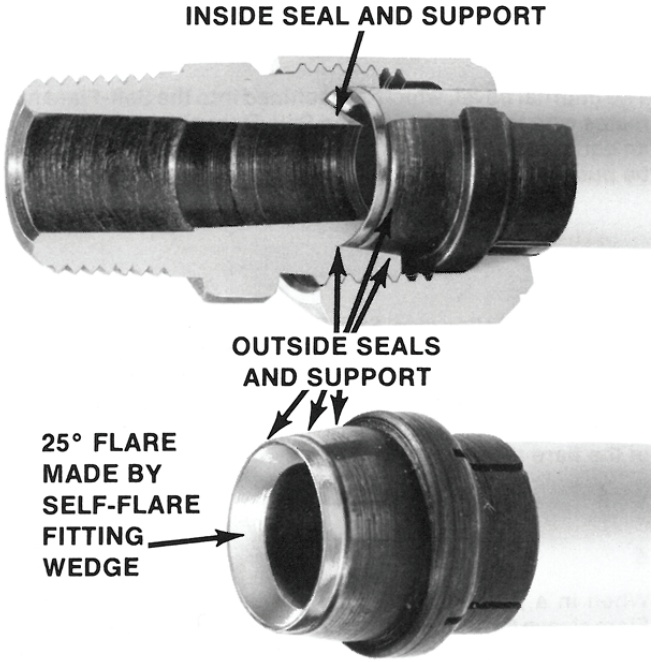
The photographs below show how Self Flare fittings can provide you with the superior performance you require in your tubing systems.

The need for flaring tools is eliminated. Properly made up joints are achieved in virtually the same manner as an ordinary compression fitting. However, the results are vastly different.

Ordinary flare tube joints provide ONE positive sealing area.

Compression or bite-type tube joints provide TWO positive sealing areas.

Self Flare tubing joints provide FOUR positive sealing areas.



(2) OTHER ADVANTAGES OF USING SELF FLARE TUBE FITTINGS:

a. Stronger Joints: Tubing flared only 25° (as with the Self Flare wedge) is stronger than tubing flared 37°. Also, the tubing is reinforced by being captured between the Self Flare wedge and the hardened sleeve.

b. Eliminate Tube Damage: Incurred by pulsation, shock, vibration or surge which causes the tube to chatter in many ordinary compression fittings. Tube damage of this type often is eliminated by the spring-like action of the slotted Self Flare sleeve. When vibration or surge is involved, no other tube fitting performs as well as LDI Industries' Self Flare fittings.

c. Close Radius Bends: The design of the Self Flare fitting allows clearance between the tube and nut for easy movement over close radius bends in the tubing.

d. Self Flare fitting joints have been used successfully on vacuum applications. The Self Flare fittings routinely contain positive pressure to the bursting point of the tubing used. The tubing will burst before the joint will break or leak.

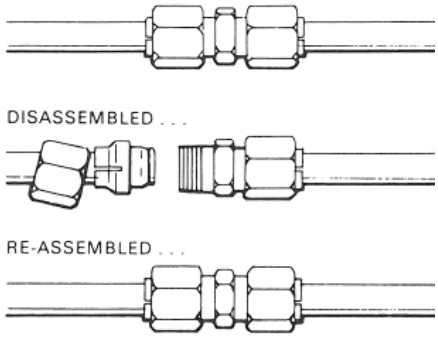
e. Self Flare fittings are being successfully used with tubing with a hardness of 90 Rockwell "B".

(3) REPEATED ASSEMBLY

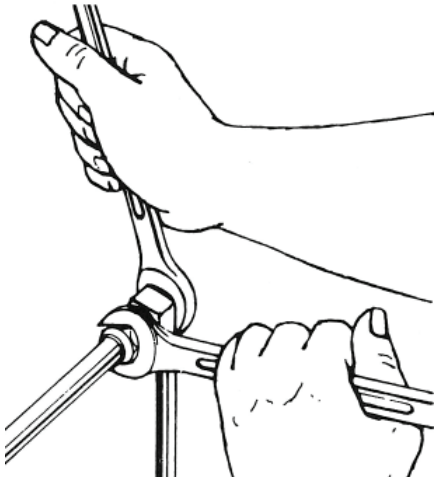
The first time the Self Flare joint is made, a compact 25° angle flare is created on the tube end. The tempered Self Flare sleeve is permanently affixed or "set" on the tube. After the Self Flare joint has been properly made, it may be disassembled and re-assembled with any Self Flare body of the correct size. This procedure may be followed repeatedly.

(4) ONLY ORDINARY TOOLS REQUIRED

With ordinary hand tools you get the best metal-to-metal seal for a leak-tight joint. (For high production applications,

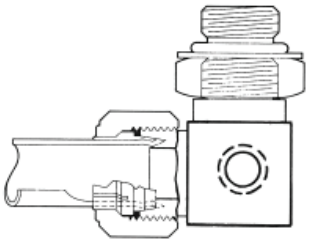


large tubes, or other considerations, bench assembly may be preferred. Vise held and semi-automatic equipment is available. See pages 25 & 22



(5) MACHINED FROM BAR STOCK AND EASY TO TAP

Parting lines found on forgings are nonexistent. The bar stock provides flat pads for easy wrenching. Should you desire an auxiliary port, drilling and tapping are easily done on the flat surfaces of the Self Flare fitting bodies.



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ASSEMBLY INSTRUCTIONS

A TUBING SELECTION

Select the fully annealed and cleaned tubing you consider best for your particular application. Because the Self Flare fittings provide high performance service against tube damage caused by shock, pulsation, vibration or surge, in many applications the need for heavy-walled tubing is eliminated. In most applications tubing with an approximate hardness of 65 Rockwell "B" is used, but alloy tubing with an approximate hardness of 90 Rockwell "B" is also successfully being used.

B PROPER FITTING

Matching of the correct Self Flare with the tubing you selected is mandatory. Information necessary to match the tube to the fitting is explained completely in Chart II on the next page. We recommend using a good grade of fully annealed hydraulic tubing.

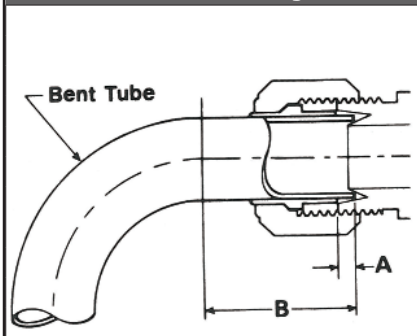
C TUBING PREPARATION

Caution: Improper use of tube cutter, excessive feed, will collapse the tube end and prevent it from fitting over the wedge. Also, the tube end will work hardened.

Saw Cut tubing, square within .02 inches will yield excellent joints.

Insertion Lengths for available sizes are shown in Chart 1.

Chart 1

Straight Tube Length Required For Proper Insertion Into Self Flare® Fitting	Size	A* Body Entry	B Fitting Entry
	2	.12	.69
	3	.12	.69
	4	.12	.75
	5	.19	.81
	6	.19	.88
	8	.19	.91
	10	.22	.94
	12	.22	1.09
	14	.25	1.12
	16	.25	1.16
	20	.25	1.31
	24	.28	1.53
	32	.28	1.62

D DEBURRING

The outer diameter of the tubing must be deburred in order to pass through the Self Flare sleeve. Use of the Self Flare fitting absolutely requires that the tube inner diameter must also be deburred. Figure 1 shows properly cut and deburred tube. Caution: Excessive deburring will weaken the tubing wall. Therefore, while deburring is vital, chamfering, cutting, shaving or otherwise affecting the tube's wall thickness must be avoided.

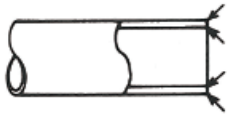


FIGURE 1

E ASSEMBLY

With the slotted end of the sleeve protruding through the nut, assemble the nut, sleeve and body of the fitting into finger-tight position, as shown in Figure 2. Insert the fully deburred tubing into the fitting until it is firmly seated. ***Tubing must be dry and free of any contaminants.**

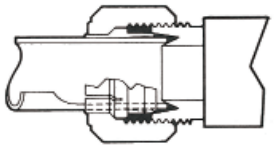


FIGURE 2

F TIGHTENING

Be sure the tubing remains firmly seated while tightening. Wrench tighten 1.50 to 2 turns until a solid feel is obtained. Flare of tube should be .010/.015 greater than original tube O.D. and bite on tube from sleeve should be .070/.100 from tube end.

G REPEATED ASSEMBLY

To remake disassembled Self Flare joints, simply reposition the tubing and retighten the nut until it stops. This procedure may be repeated as required.

The preset machine (page 22) is required for larger BAX and all BAXX applications.

Pressure ratings and life expectancy of the assembly are reduced by improper application/installation, mechanical/vibrational damage, corrosion, hydraulic shock, etc. and are the responsibility of the user.

TECHNICAL INFORMATION

MATCH THE SELECTED TUBING WITH THE CORRECT SELF FLARE FITTING

The geometry of the Self Flare tube fitting requires the tubing to be pushed over the Self Flare wedge inside the fitting body. The dimensions of the wedge must be compatible with the tubing in order to make a satisfactory Self Flare joint.

Illustrated below (Fig 1) is the standard tubing, representative of the type used in most conventional applications. This tube and wedge (BA) combination is correct and will allow the tube to be pushed over the wedge and make a satisfactory Self Flare tube joint.

The next illustration (Fig 2) is an incorrect matching of tubing and Self Flare wedge. Obviously the tube, as illustrated, cannot be pushed over the wedge. It is an incorrect application.

The third illustration (Fig 3) shows the same "heavy walled" tubing being used with a Self Flare wedge that has the correct dimensions and will allow the tube to be pushed over the wedge (BAX) and make a satisfactory Self Flare tube joint.

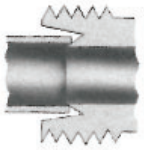


Fig 1

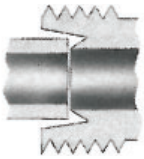


Fig 2
(incorrect)

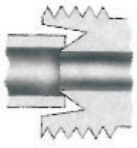


Fig 3

THE CORRECT SELF FLARE WEDGE FOR YOUR TUBING

Part numbers shown for Self Flare fittings throughout this catalog all have a "BA" prefix. These "BA" fittings are supplied with a "Standard Wedge". The chart below states the tubing wall thickness range which will correctly mate with the "BA" wedge of each fitting size.

Also shown in the chart below is the BAX or "**Heavy Wedge**". The range of tubing wall thickness which will correctly mate with the "BAX" wedge of each fitting size is listed. To order Self Flare fittings with the heavy wedge, simply use the prefix "BAX".

"BAXX" wedges may be supplied on applications involving tubing with a wall thickness greater than that listed as maximum for the "Heavy Wedge". For such applications, wall thicknesses of tubing must be specified when ordering.

GENERAL:

Sizes: Self Flare fittings are manufactured for use with tubing ranging in size from 1/8 inch O.D. (size 2) through 2 inch O.D. (size 32)

Material Specifications

Self Flare	Steel ASTM	Steel Type	Stainless Steel ASTM	Stainless Steel Type
Barstock Bodies	A108	12L14	A276	316
Cold Formed Tube Nuts	A576	C1110	A276	316
Barstock Tube Nuts	A108	12L14	A276	316
Tube Sleeves		41L40		17-4-PH

Chart II - Tube Wall Thickness Ranges for Use with Self Flare (inches)

For wall thicknesses not shown, please consult LDI Industries	Size (Tube OD)	-2 (1/8)	-3 (3/16)	-4 (1/4)	-5 (5/16)	-6 (3/8)	-8 (1/2)	-10 (5/8)	-12 (3/4)	-14 (7/8)	-16 (1)	-20 (1 1/4)	-24 (1 1/2)	-32 (2)
STANDARD WEDGE Use prefix BA	Min.	.010	.010	.010	.020	.020	.020	.028	.028	.035	.028	.065	.065	.065
	Max.	.020	.028	.035	.035	.035	.049	.058	.065	.083	.095	.095	.095	.095
HEAVY WEDGE Use prefix BAX	Min.	.016	.022	.022	.028	.035	.042	.049	.058	.065	.083	.083	.095	.095
	Max.	.028	.042	.049	.049	.065	.083	.083	.095	.095	.095	.120	.120	.120

ORDERING BY LDI PART NUMBER
Basic Instructions:
LDI part numbers listed in this section designate completely assembled fittings, including all components such as nuts, sleeves, lock nuts, o-rings and so forth.

The standard material, unless otherwise designated, in which these fittings are supplied is CARBON STEEL.

STAINLESS STEEL (Type 316), Self Flare fittings are ordered by the addition of the suffix SS to listed part numbers. Example: BA1000-6-SS. Current published price lists designate carbon steel products normally carried in factory stock.

OTHER MATERIALS: quoted on request depending on quantity required.

NOTE: Much care has been taken to provide completely accurate information in this catalog. LDI, however, is unable to take responsibility for printing mistakes or omissions. Dimensions shown are for reference only and are subject to modifications without notice. On applications where dimensions are critical, consult the factory before proceeding.

MADE TO ORDER:
For fittings manufactured to your specifications in sizes, configurations or materials not shown in a LDI catalog, send print, drawing, sketch or description including quantity required. Price and delivery information will be quoted upon receipt of your request.

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SELF FLARE TUBE FITTINGS

ABA1000 SERIES

The ABA1000 Series self flare straight adapter consists of a Self Flare tube connection and a male JIC (37°) tube connection on the opposite end. The OD and wall thickness of the tube making the Self Flare connection will determine the dash size and whether a BA or BAX version of the Self Flare fitting is required for the application.

Standard Features:

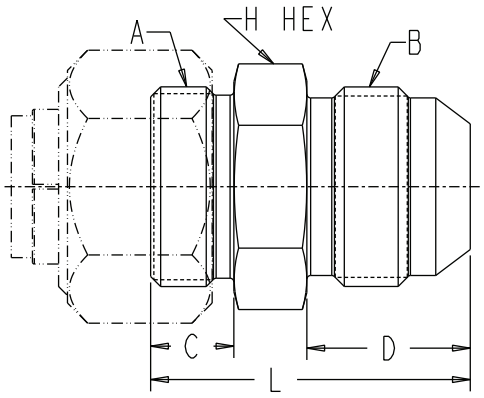
- Tube sizes from -4 (.25 inch) to -32 (2.00 inch)
- ABAX1000 adapters available for applications with heavy wall tubing
- Includes Self Flare swivel tube nut and sleeve

Standard Materials:

- Steel construction
- Black oxide finish on fitting body and Self Flare tube sleeve
- Zinc plated, steel Self Flare swivel tube nut

CAUTION

- System operating conditions and maximum pressures dictate tubing requirements. LDI Self Flare fittings require matching the tube connection on the adapter to the tube wall thickness selected for the application.
- Fully annealed and cleaned tubing is preferred. Consult factory for applications that require alloy tubing or tube wall thicknesses that exceed published limits for BA and BAX tube connections.



ABA1000 Series (inches)

Part No.	Tube OD	A	B	C	D	L	H
ABA1000-4	1/4	1/2-20	7/16-20	0.38	0.55	1.16	1/2
ABA1000-5	5/16	9/16-18	1/2-20	0.41	0.55	1.19	9/16
ABA1000-6	3/8	5/8-18	9/16-18	0.41	0.56	1.23	5/8
ABA1000-8	1/2	3/4-16	3/4-16	0.44	0.66	1.36	13/16
ABA1000-10	5/8	7/8-16	7/8-14	0.44	0.77	1.53	15/16
ABA1000-12	3/4	1 1/16-16	1 1/16-12	0.44	0.86	1.69	1 1/8
ABA1000-14	7/8	1 3/16-16	1 3/16-12	0.44	0.89	1.72	1 1/4
ABA1000-16	1	1 5/16-16	1 5/16-12	0.50	0.91	1.80	1 3/8
ABA1000-20	1 1/4	1 5/8-16	1 5/8-12	0.69	0.95	2.13	1 3/4
ABA1000-24	1 1/2	1 15/16-16	1 7/8-12	0.69	1.08	2.31	2
ABA1000-32	2	2 1/2-12	2 1/2-12	0.69	1.33	2.72	2 5/8

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02/14

SELF FLARE TUBE FITTINGS

BA1000 SERIES

The BA1000 Series self flare straight adapter is made up of a tube connection on one end and a male pipe thread connection on the opposite end. For the tube connection, the OD and wall thickness of the tube to be joined to the self flare fitting will determine the dash size and whether a BA or BAX version of the self flare fitting is required for the application.

Standard Features:

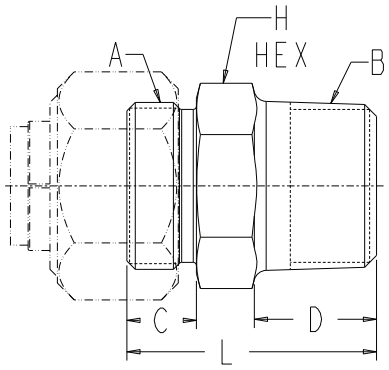
- Numerous jump sizes are available
- BAX1000 adapters available for applications with heavy wall tubing
- Includes swivel tube nut and self flare sleeve

Standard Materials:

- Steel construction
- Black oxide finish on fitting body and tube sleeve
- Zinc plated, steel swivel tube nut

CAUTION

- System operating conditions and maximum pressures dictate tubing requirements. LDI Self Flare fittings require matching the tube connection on the adapter to the tube wall thickness selected for the application.
- Fully annealed and cleaned tubing is preferred. Consult factory for applications that require alloy tubing or tube wall thicknesses that exceed published limits for BA and BAX tube connections.



BA1000 Series (inches)

Part No.	Tube OD	A	B (NPTF)	C	D	L	H
BA1000-2	1/8	5/16-24	1/8-27	0.32	0.38	0.92	7/16
BA1000-2-4	1/8	5/16-24	1/4-18	0.32	0.56	1.14	9/16
BA1000-3	3/16	3/8-24	1/8-27	0.35	0.38	0.95	7/16
BA1000-3-4	3/16	3/8-24	1/4-18	0.35	0.56	1.17	9/16
BA1000-4	1/4	1/2-20	1/8-27	0.38	0.38	0.98	1/2
BA1000-4-4	1/4	1/2-20	1/4-18	0.38	0.56	1.20	9/16
BA1000-5	5/16	9/16-18	1/8-27	0.41	0.38	1.05	9/16
BA1000-5-4	5/16	9/16-18	1/4-18	0.41	0.56	1.26	9/16
BA1000-6	3/8	5/8-18	1/4-18	0.41	0.56	1.23	5/8
BA1000-6-2	3/8	5/8-18	1/8-27	0.41	0.38	1.06	5/8
BA1000-6-6	3/8	5/8-18	3/8-18	0.41	0.56	1.23	3/4
BA1000-6-8	3/8	5/8-18	1/2-14	0.41	0.75	1.48	7/8
BA1000-8	1/2	3/4-16	3/8-18	0.44	0.56	1.27	3/4
BA1000-8-4	1/2	3/4-16	1/4-18	0.44	0.56	1.27	3/4
BA1000-8-8	1/2	3/4-16	1/2-14	0.44	0.75	1.52	7/8
BA1000-8-12	1/2	3/4-16	3/4-14	0.44	0.75	1.58	1 1/8
BA1000-10	5/8	7/8-16	1/2-14	0.44	0.75	1.52	7/8
BA1000-10-6	5/8	7/8-16	3/8-18	0.44	0.56	1.33	7/8
BA1000-10-12	5/8	7/8-16	3/4-14	0.44	0.75	1.58	1 1/8
BA1000-12	3/4	1 1/16-16	3/4-14	0.44	0.75	1.58	1 1/8
BA1000-12-6	3/4	1 1/16-16	3/8-18	0.44	0.56	1.39	1 1/8
BA1000-12-8	3/4	1 1/16-16	1/2-14	0.44	0.75	1.58	1 1/8
BA1000-12-16	3/4	1 1/16-16	1-11 1/2	0.44	0.94	1.77	1 3/8
BA1000-14	7/8	1 3/16-16	3/4-14	0.44	0.75	1.58	1 1/4
BA1000-14-8	7/8	1 3/16-16	1/2-14	0.44	0.75	1.58	1 1/4
BA1000-14-16	7/8	1 3/16-16	1-11 1/2	0.44	0.94	1.77	1 3/8
BA1000-16	1	1 5/16-16	1-11 1/2	0.51	0.94	1.83	1 3/8
BA1000-16-12	1	1 5/16-16	3/4-14	0.51	0.75	1.63	1 3/8
BA1000-16-20	1	1 5/16-16	1 1/4-11 1/2	0.51	0.97	1.95	1 3/4
BA1000-20	1 1/4	1 5/8-16	1 1/4-11 1/2	0.69	0.97	2.14	1 3/4
BA1000-20-16	1 1/4	1 5/8-16	1-11 1/2	0.69	0.94	2.11	1 3/4
BA1000-20-24	1 1/4	1 5/8-16	1 1/2-11 1/2	0.69	1.00	2.23	2
BA1000-24	1 1/2	1 15/16-16	1 1/2-11 1/2	0.69	1.00	2.19	2
BA1000-24-20	1 1/2	1 15/16-16	1 1/4-11 1/2	0.69	0.97	2.17	2
BA1000-24-32	1 1/2	1 15/16-16	2-11 1/2	0.69	1.03	2.42	2 5/8
BA1000-32	2	2 1/2-12	2-11 1/2	0.69	1.03	2.42	2 5/8
BA1000-32-20	2	2 1/2-12	1 1/4-11 1/2	0.69	0.97	2.38	2 5/8
BA1000-32-24	2	2 1/2-12	1 1/2-11 1/2	0.69	1.00	2.39	2 5/8

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BA1100 SERIES

The BA1100 Series self flare straight adapter is made up of a tube connection on one end and a female pipe thread connection on the opposite end. For the tube connection, the OD and wall thickness of the tube to be joined to the self flare fitting will determine the dash size and whether a BA or BAX version of the self flare fitting is required for the application.

Standard Features:

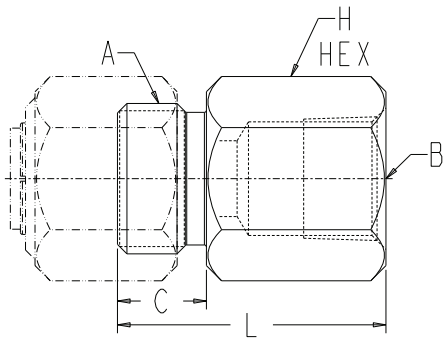
- Numerous jump sizes are available
- BAX1100 adapters available for applications with heavy wall tubing
- Includes swivel tube nut and self flare sleeve

Standard Materials:

- Steel construction
- Black oxide finish on fitting body and tube sleeve
- Zinc plated, steel swivel tube nut

CAUTION

- System operating conditions and maximum pressures dictate tubing requirements. LDI Self Flare fittings require matching the tube connection on the adapter to the tube wall thickness selected for the application.
- Fully annealed and cleaned tubing is preferred. Consult factory for applications that require alloy tubing or tube wall thicknesses that exceed published limits for BA and BAX tube connections.



BA1100 Series (inches)

Part No.	Tube OD	A	B (NPTF)	C	L	H
BA1100-2	1/8	5/16-24	1/8-27	0.32	0.97	9/16
BA1100-3	3/16	3/8-24	1/8-27	0.35	0.99	9/16
BA1100-4	1/4	1/2-20	1/8-27	0.38	1.00	9/16
BA1100-4-4	1/4	1/2-20	1/4-18	0.38	1.20	3/4
BA1100-5	5/16	9/16-18	1/8-27	0.41	1.07	9/16
BA1100-5-4	5/16	9/16-18	1/4-18	0.41	1.24	3/4
BA1100-6	3/8	5/8-18	1/4-18	0.41	1.24	3/4
BA1100-6-6	3/8	5/8-18	3/8-18	0.41	1.25	7/8
BA1100-6-8	3/8	5/8-18	1/2-14	0.41	1.50	1 1/8
BA1100-8	1/2	3/4-16	3/8-18	0.44	1.33	7/8
BA1100-8-4	1/2	3/4-16	1/4-18	0.44	1.27	3/4
BA1100-8-8	1/2	3/4-16	1/2-14	0.44	1.53	1 1/8
BA1100-10	5/8	7/8-16	1/2-14	0.44	1.55	1 1/8
BA1100-10-6	5/8	7/8-16	3/8-18	0.44	1.33	7/8
BA1100-10-12	5/8	7/8-16	3/4-14	0.44	1.63	1 3/8
BA1100-12	3/4	1 1/16-16	3/4-14	0.44	1.63	1 3/8
BA1100-12-8	3/4	1 1/16-16	1/2-14	0.44	1.53	1 1/8
BA1100-14	7/8	1 3/16-16	3/4-14	0.44	1.59	1 3/8
BA1100-16	1	1 5/16-16	1-11 1/2	0.51	1.94	1 5/8
BA1100-20	1 1/4	1 5/8-16	1 1/4-11 1/2	0.69	2.22	2
BA1100-24	1 1/2	1 15/16-16	1 1/2-11 1/2	0.69	2.22	2 3/8
BA1100-32	2	2 1/2-12	2-11 1/2	0.69	2.31	2 3/8

Dimensions and specifications are subject to change without notice. Not all items are Made-To-Stock, contact us for availability.

SELF FLARE TUBE FITTINGS

BA1200 SERIES

The BA1200 Series self flare straight adapter forms a tube to tube connection. The OD and wall thickness of the tubes to be joined to the Self Flare fitting will determine the dash size and whether a BA or BAX version of the Self Flare fitting is required for the application.

Standard Features:

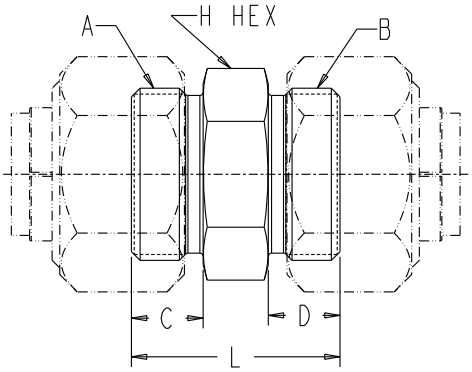
- Tube sizes from -2 (.125 inch) to -32 (2.00 inch)
- Numerous jump sizes are available
- BAX1200 adapters available for applications with heavy wall tubing
- Includes swivel tube nuts and Self Flare sleeves

Standard Materials:

- Steel construction
- Black oxide finish on fitting body and tube sleeves
- Zinc plated, steel swivel tube nuts

CAUTION

- System operating conditions and maximum pressures dictate tubing requirements. LDI Self Flare fittings require matching the tube connection on the adapter to the tube wall thickness selected for the application.
- Fully annealed and cleaned tubing is preferred. Consult factory for applications that require alloy tubing or tube wall thicknesses that exceed published limits for BA and BAX tube connections.



BA1200 Series (inches)

Part No.	Tube OD	Tube OD	A	B	C	D	L	H
BA1200-2	1/8	1/8	5/16-24	5/16-24	0.32	0.32	0.86	7/16
BA1200-3	3/16	3/16	3/8-24	3/8-24	0.35	0.35	0.92	7/16
BA1200-4	1/4	1/4	1/2-20	1/2-20	0.38	0.38	1.02	1/2
BA1200-4-2	1/4	1/8	1/2-20	5/16-24	0.38	0.32	0.92	1/2
BA1200-4-3	1/4	3/16	1/2-20	3/8-24	0.38	0.35	0.95	1/2
BA1200-5	5/16	5/16	9/16-18	9/16-18	0.41	0.41	1.11	9/16
BA1200-6	3/8	3/8	5/8-18	5/8-18	0.41	0.41	1.08	5/8
BA1200-6-4	3/8	1/4	5/8-18	1/2-20	0.41	0.38	1.04	5/8
BA1200-8	1/2	1/2	3/4-16	3/4-16	0.44	0.44	1.14	3/4
BA1200-8-4	1/2	1/4	3/4-16	1/2-20	0.44	0.38	1.08	3/4
BA1200-8-6	1/2	3/8	3/4-16	5/8-18	0.44	0.41	1.11	3/4
BA1200-10	5/8	5/8	7/8-16	7/8-16	0.44	0.44	1.21	7/8
BA1200-10-6	5/8	3/8	7/8-16	5/8-18	0.44	0.41	1.17	7/8
BA1200-10-8	5/8	1/2	7/8-16	3/4-16	0.44	0.44	1.21	7/8
BA1200-12	3/4	3/4	1 1/16-16	1 1/16-16	0.44	0.44	1.28	1 1/8
BA1200-12-6	3/4	3/8	1 1/16-16	5/8-18	0.44	0.41	1.23	1 1/8
BA1200-12-8	3/4	1/2	1 1/16-16	3/4-16	0.44	0.44	1.27	1 1/8
BA1200-12-10	3/4	5/8	1 1/16-16	7/8-16	0.44	0.44	1.27	1 1/8
BA1200-14	7/8	7/8	1 3/16-16	1 3/16-16	0.44	0.44	1.27	1 1/4
BA1200-16	1	1	1 5/16-16	1 5/16-16	0.50	0.50	1.39	1 3/8
BA1200-16-12	1	3/4	1 5/16-16	1 1/16-16	0.50	0.44	1.33	1 3/8
BA1200-20	1 1/4	1 1/4	1 5/8-16	1 5/8-16	0.69	0.69	1.86	1 3/4
BA1200-20-12	1 1/4	3/4	1 5/8-16	1 1/16-16	0.69	0.44	1.61	1 3/4
BA1200-20-16	1 1/4	1	1 5/8-16	1 5/16-16	0.69	0.50	1.67	1 3/4
BA1200-24	1 1/2	1 1/2	1 15/16-16	1 15/16-16	0.69	0.69	1.88	2
BA1200-32	2	2	2 1/2-12	2 1/2-12	0.69	0.69	2.08	2 5/8

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SELF FLARE TUBE FITTINGS

BA18 SERIES

BA18 Series swivel tube nut for use with BA Self Flare fittings.

Standard Features:

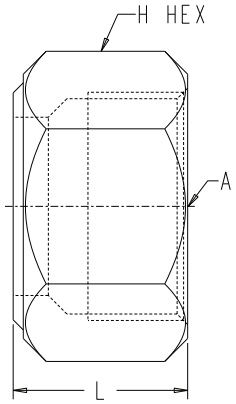
- Mate with tube sizes from -2 (.125 inch) to -32 (2.00 inch)
- Machined from steel bar stock

Standard Materials:

- Steel construction
- Zinc plated

NOTE

- The BA Series swivel tube nuts are specified by nominal tube size and are not dependent on the wall thickness of the tubing being used.



BA18 Series (inches)				
Part No.	Tube OD	A	L	H
BA18-2	1/8	5/16-24	0.48	7/16
BA18-3	3/16	3/8-24	0.50	1/2
BA18-4	1/4	1/2-20	0.63	5/8
BA18-5	5/16	9/16-18	0.66	11/16
BA18-6	3/8	5/8-18	0.69	3/4
BA18-8	1/2	3/4-16	0.75	7/8
BA18-10	5/8	7/8-16	0.75	1
BA18-12	3/4	1 1/16-16	0.81	1 1/4
BA18-14	7/8	1 3/16-16	0.84	1 3/8
BA18-16	1	1 5/16-16	0.91	1 1/2
BA18-20	1 1/4	1 5/8-16	1.19	2
BA18-24	1 1/2	1 15/16-16	1.31	2 1/4
BA18-32	2	2 1/2-12	1.34	2 7/8

BA19 SERIES

BA19 Series tube sleeve for use with BA Self Flare fittings.

Standard Features:

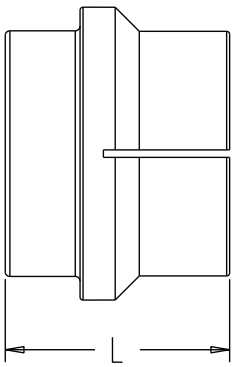
- Mate with tube sizes from -2 (.125 inch) to -32 (2.00 inch)
- Machined from alloy steel bar stock and hardened for optimal flaring of the tube

Standard Materials:

- Steel construction
- Black oxide finish

NOTE

- The BA Series tube sleeves are specified by tube size and are not dependent on the wall thickness of the tubing being used.



BA19 Series (inches)		
Part No.	Tube OD	L
BA19-2	1/8	0.47
BA19-3	3/16	0.47
BA19-4	1/4	0.56
BA19-5	5/16	0.55
BA19-6	3/8	0.59
BA19-8	1/2	0.63
BA19-10	5/8	0.63
BA19-12	3/4	0.75
BA19-14	7/8	0.73
BA19-16	1	0.77
BA19-20	1 1/4	0.86
BA19-24	1 1/2	1.05
BA19-32	2	1.14

NOTE:
Size 2, 3, 4 & 5 sleeves are not slotted

Dimensions and specifications are subject to change without notice. Not all items are Made-To-Stock, contact us for availability.

02/14

SELF FLARE TUBE FITTINGS

BA2000 SERIES

The BA2000 Series self flare 90° elbow adapter is made up of a tube connection on one end and a male pipe thread connection on the other end. For the tube connection, the OD and wall thickness of the tube to be joined to the self flare fitting will determine the dash size and whether a BA or BAX version of the self flare fitting is required for the application.

Standard Features:

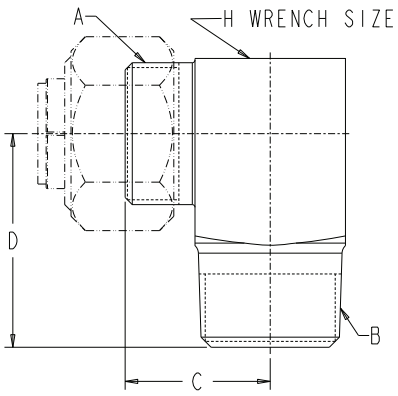
- Tube sizes from -2 (.125 inch) to -32 (2.00 inch)
- Machined from steel bar stock
- Jump sizes are available
- BAX2000 adapters available for applications with heavy wall tubing
- Includes swivel tube nut and self flare sleeve

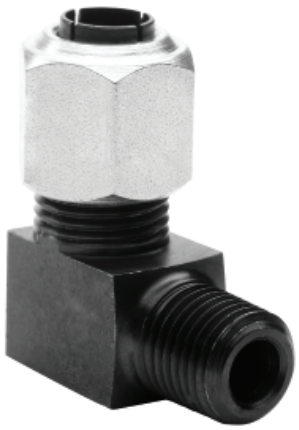
Standard Materials:

- Steel construction
- Black oxide finish on fitting body and tube sleeve
- Zinc plated, steel swivel tube nut

CAUTION

- System operating conditions and maximum pressures dictate tubing requirements. LDI Self Flare fittings require matching the tube connection on the adapter to the tube wall thickness selected for the application.
- Fully annealed and cleaned tubing is preferred. Consult factory for applications that require alloy tubing or tube wall thicknesses that exceed published limits for BA and BAX tube connections.





BA2000 Series (inches)						
Part No.	Tube OD	A	B (NPTF)	C	D	H
BA2000-2	1/8	5/16-24	1/8-27	0.63	0.72	7/16
BA2000-3	3/16	3/8-24	1/8-27	0.63	0.72	7/16
BA2000-4	1/4	1/2-20	1/8-27	0.69	0.78	1/2
BA2000-4-4	1/4	1/2-20	1/4-18	0.75	1.09	9/16
BA2000-5	5/16	9/16-18	1/8-27	0.78	0.78	9/16
BA2000-5-4	5/16	9/16-18	1/4-18	0.82	1.09	9/16
BA2000-6	3/8	5/8-18	1/4-18	0.78	1.09	5/8
BA2000-6-2	3/8	5/8-18	1/8-27	0.78	0.92	5/8
BA2000-6-6	3/8	5/8-18	3/8-18	0.84	1.22	3/4
BA2000-6-8	3/8	5/8-18	1/2-14	0.94	1.47	7/8
BA2000-8	1/2	3/4-16	3/8-18	0.88	1.22	3/4
BA2000-8-4	1/2	3/4-16	1/4-18	0.88	1.16	3/4
BA2000-8-8	1/2	3/4-16	1/2-14	0.97	1.47	7/8
BA2000-8-12	1/2	3/4-16	3/4-14	1.06	1.59	1 1/8
BA2000-10	5/8	7/8-16	1/2-14	0.97	1.47	7/8
BA2000-10-6	5/8	7/8-16	3/8-18	0.97	1.28	7/8
BA2000-10-12	5/8	7/8-16	3/4-14	1.06	1.59	1 1/8
BA2000-12	3/4	1 1/16-16	3/4-14	1.08	1.59	1 1/8
BA2000-12-8	3/4	1 1/16-16	1/2-14	1.08	1.56	1 1/8
BA2000-14	7/8	1 3/16-16	3/4-14	1.13	1.69	1 1/4
BA2000-16	1	1 5/16-16	1-11 1/2	1.27	1.97	1 3/8
BA2000-16-12	1	1 5/16-16	3/4-14	1.27	1.72	1 3/8
BA2000-20	1 1/4	1 5/8-16	1 1/4-11 1/2	1.63	2.38	1 3/4
BA2000-24	1 1/2	1 15/16-16	1 1/2-11 1/2	1.75	2.63	2
BA2000-32	2	2 1/2-12	2-11 1/2	2.00	3.00	2 1/2

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SELF FLARE TUBE FITTINGS

BA2100 SERIES

The BA2100 Series self flare 90° elbow adapter is made up of a tube connection on one end and a female pipe thread connection on the other end. For the tube connection, the OD and wall thickness of the tube to be joined to the Self Flare fitting will determine the dash size and whether a BA or BAX version of the Self Flare fitting is required for the application.

Standard Features:

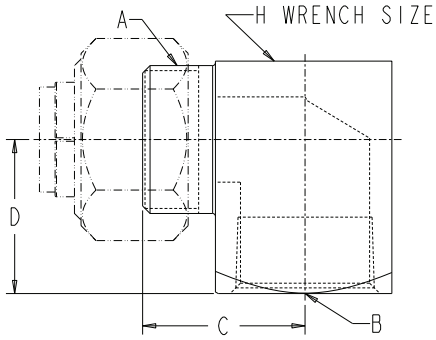
- Tube sizes from -2 (.125 inch) to -32 (2.00 inch)
- Machined from solid steel bar stock - free from brazing, welding and soldering
- Numerous jump sizes are available
- BAX2100 adapters available for applications with heavy wall tubing
- Includes swivel tube nut and Self Flare sleeve

Standard Materials:

- Steel construction
- Black oxide finish on fitting body and tube sleeve
- Zinc plated, steel swivel tube nut

CAUTION

- System operating conditions and maximum pressures dictate tubing requirements. LDI Self Flare fittings require matching the tube connection on the adapter to the tube wall thickness selected for the application.
- Fully annealed and cleaned tubing is preferred. Consult factory for applications that require alloy tubing or tube wall thicknesses that exceed published limits for BA and BAX tube connections.



BA2100 Series (inches)

Part No.	Tube OD	A	B (NPTF)	C	D	H
BA2100-2	1/8	5/16-24	1/8-27	0.67	0.56	9/16
BA2100-3	3/16	3/8-24	1/8-27	0.67	0.56	9/16
BA2100-4	1/4	1/2-20	1/8-27	0.73	0.56	9/16
BA2100-4-4	1/4	1/2-20	1/4-18	0.83	0.72	3/4
BA2100-5	5/16	9/16-18	1/8-27	0.80	0.56	9/16
BA2100-5-4	5/16	9/16-18	1/4-18	0.89	0.72	3/4
BA2100-6	3/8	5/8-18	1/4-18	0.89	0.72	3/4
BA2100-6-2	3/8	5/8-18	1/8-27	0.80	0.59	5/8
BA2100-6-6	3/8	5/8-18	3/8-18	0.92	0.84	7/8
BA2100-8	1/2	3/4-16	3/8-18	0.95	0.84	7/8
BA2100-8-4	1/2	3/4-16	1/4-27	0.89	0.81	3/4
BA2100-8-8	1/2	3/4-16	1/2-14	1.08	1.03	1 1/8
BA2100-10	5/8	7/8-16	1/2-14	1.08	1.03	1 1/8
BA2100-12	3/4	1 1/16-16	3/4-14	1.16	1.10	1 1/4
BA2100-12-8	3/4	1 1/16-16	1/2-14	1.10	1.10	1 1/8
BA2100-14	7/8	1 3/16-16	3/4-14	1.13	1.13	1 1/4
BA2100-16	1	1 5/16-16	1-11 1/2	1.44	1.38	1 3/4
BA2100-20	1 1/4	1 5/8-16	1 1/4-11 1/2	1.75	1.69	2
BA2100-20-16	1 1/4	1 5/8-16	1-11 1/2	1.63	1.38	1 3/4
BA2100-24	1 1/2	1 15/16-16	1 1/2-11 1/2	2.00	2.06	2 1/2
BA2100-32	2	2 1/2-12	2-11 1/2	2.25	2.38	3

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BA2200 SERIES

The BA2200 Series self flare 90° elbow adapter forms a tube to tube connection. The OD and wall thickness of the tubes to be joined to the Self Flare fitting will determine the dash size and whether a BA or BAX version of the Self Flare fitting is required for the application.

Standard Features:

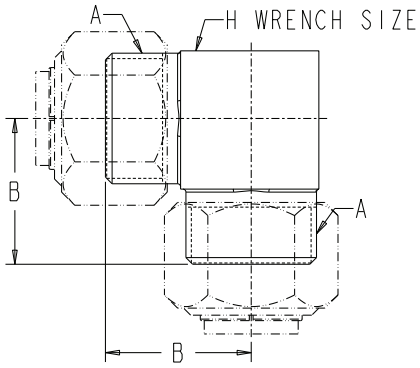
- Tube sizes from -2 (.125 inch) to -32 (2.00 inch)
- Machined from solid steel bar stock - free from brazing, welding and soldering
- BAX2200 adapters available for applications with heavy wall tubing
- Includes swivel tube nuts and Self Flare sleeves

Standard Materials:

- Steel construction
- Black oxide finish on fitting body and tube sleeves
- Zinc plated, steel swivel tube nuts

CAUTION

- System operating conditions and maximum pressures dictate tubing requirements. LDI Self Flare fittings require matching the tube connection on the adapter to the tube wall thickness selected for the application.
- Fully annealed and cleaned tubing is preferred. Consult factory for applications that require alloy tubing or tube wall thicknesses that exceed published limits for BA and BAX tube connections.



BA2200 Series (inches)				
Part No.	Tube OD	A	B	H
BA2200-2	1/8	5/16-24	0.63	7/16
BA2200-3	3/16	3/8-24	0.63	7/16
BA2200-4	1/4	1/2-20	0.72	1/2
BA2200-5	5/16	9/16-18	0.82	9/16
BA2200-6	3/8	5/8-18	0.80	5/8
BA2200-8	1/2	3/4-16	0.91	3/4
BA2200-10	5/8	7/8-16	0.97	7/8
BA2200-12	3/4	1 1/16-16	1.08	1 1/8
BA2200-14	7/8	1 3/16-16	1.13	1 1/4
BA2200-16	1	1 5/16-16	1.27	1 3/8
BA2200-20	1 1/4	1 5/8-16	1.63	1 3/4
BA2200-24	1 1/2	1 15/16-16	1.75	2
BA2200-32	2	2 1/2-12	2.06	2 1/2

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SELF FLARE TUBE FITTINGS

BA3000 SERIES

The BA3000 Series self flare tee shaped adapter is made up of two opposing tube connections and a male pipe thread tee connection. For the tube connections, the OD and wall thickness of the tubes to be joined to the Self Flare fitting will determine the dash size(s) and whether a BA or BAX version of the Self Flare fitting is required for the application.

Standard Features:

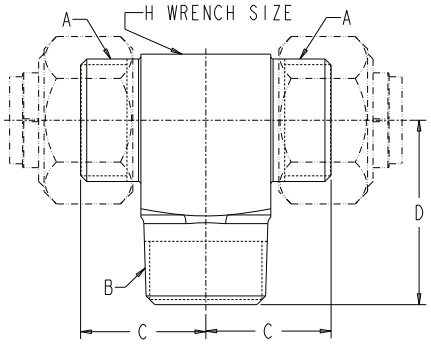
- Tube sizes from -2 (.125 inch) to -32 (2.00 inch)
- Machined from steel bar stock
- Dash 4, 6 and 8 jump sizes are available
- BAX3000 adapters available for applications with heavy wall tubing
- Includes swivel tube nuts and Self Flare sleeves

Standard Materials:

- Steel construction
- Black oxide finish on fitting body and tube sleeves
- Zinc plated, steel swivel tube nuts

CAUTION

- System operating conditions and maximum pressures dictate tubing requirements. LDI Self Flare fittings require matching the tube connection on the adapter to the tube wall thickness selected for the application.
- Fully annealed and cleaned tubing is preferred. Consult factory for applications that require alloy tubing or tube wall thicknesses that exceed published limits for BA and BAX tube connections.



BA3000 Series (inches)						
Part No.	Tube OD	A	B (NPTF)	C	D	H
BA3000-2	1/8	5/16-24	1/8-27	0.63	0.72	7/16
BA3000-3	3/16	3/8-24	1/8-27	0.63	0.72	7/16
BA3000-4	1/4	1/2-20	1/8-27	0.69	0.78	1/2
BA3000-4-4-4	1/4	1/2-20	1/4-18	0.75	1.09	9/16
BA3000-5	5/16	9/16-18	1/8-27	0.78	0.78	9/16
BA3000-6	3/8	5/8-18	1/4-18	0.78	1.09	5/8
BA3000-6-6-6	3/8	5/8-18	3/8-18	0.84	1.22	3/4
BA3000-8	1/2	3/4-16	3/8-18	0.88	1.22	3/4
BA3000-8-8-8	1/2	3/4-16	1/2-14	0.97	1.47	7/8
BA3000-10	5/8	7/8-16	1/2-14	0.97	1.47	7/8
BA3000-12	3/4	1 1/16-16	3/4-14	1.08	1.59	1 1/8
BA3000-14	7/8	1 3/16-16	3/4-14	1.13	1.69	1 1/4
BA3000-16	1	1 5/16-16	1-11 1/2	1.27	1.97	1 3/8
BA3000-20	1 1/4	1 5/8-16	1 1/4-11 1/2	1.63	2.38	1 3/4
BA3000-24	1 1/2	1 15/16-16	1 1/4-11 1/2	1.75	2.63	2
BA3000-32	2	2 1/2-12	2-11 1/2	2.00	3.00	2 1/2

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SELF FLARE TUBE FITTINGS

BA3100 SERIES

The BA3100 Series self flare tee shaped adapter is made up of two opposing tube connections and a female pipe thread tee connection. For the tube connections, the OD and wall thickness of the tubes to be joined to the Self Flare fitting will determine the dash size(s) and whether a BA or BAX version of the Self Flare fitting is required for the application.

Standard Features:

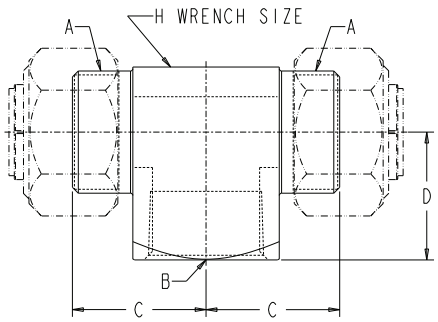
- Tube sizes from -2 (.125 inch) to -32 (2.00 inch)
- Machined from solid steel bar stock - free from brazing, welding and soldering
- BAX3100 adapters available for applications with heavy wall tubing
- Includes swivel tube nuts and Self Flare sleeves

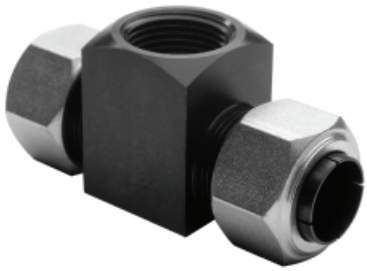
Standard Materials:

- Steel construction
- Black oxide finish on fitting body and tube sleeves
- Zinc plated, steel swivel tube nuts

CAUTION

- System operating conditions and maximum pressures dictate tubing requirements. LDI Self Flare fittings require matching the tube connection on the adapter to the tube wall thickness selected for the application.
- Fully annealed and cleaned tubing is preferred. Consult factory for applications that require alloy tubing or tube wall thicknesses that exceed published limits for BA and BAX tube connections.





BA3100 Series (inches)						
Part No.	Tube OD	A	B (NPTF)	C	D	H
BA3100-2	1/8	5/16-24	1/8-27	0.67	0.56	9/16
BA3100-3	3/16	3/8-24	1/8-27	0.67	0.56	9/16
BA3100-4	1/4	1/2-20	1/8-27	0.73	0.56	9/16
BA3100-5	5/16	9/16-18	1/8-27	0.80	0.56	9/16
BA3100-6	3/8	5/8-18	1/4-18	0.86	0.72	3/4
BA3100-8	1/2	3/4-16	3/8-18	0.95	0.84	7/8
BA3100-10	5/8	7/8-16	1/2-14	1.08	1.03	1 1/8
BA3100-12	3/4	1 1/16-16	3/4-14	1.15	1.09	1 1/4
BA3100-14	7/8	1 3/16-16	3/4-14	1.13	1.13	1 1/4
BA3100-16	1	1 5/16-16	1-11 1/2	1.44	1.38	1 3/4
BA3100-20	1 1/4	1 5/8-16	1 1/4-11 1/2	1.75	1.69	2
BA3100-24	1 1/2	1 15/16-16	1 1/2-11 1/2	2.00	2.06	2 1/2
BA3100-32	2	2 1/2-12	2-11 1/2	2.25	2.38	3

Dimensions and specifications are subject to change without notice. Not all items are Made-To-Stock, contact us for availability.

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SELF FLARE TUBE FITTINGS

BA3200 SERIES

The BA3200 Series self flare tee shaped adapter has three tube connections. The OD and wall thickness of the tubes to be joined to the Self Flare fitting will determine the dash size and whether a BA or BAX version of the Self Flare fitting is required for the application.

Standard Features:

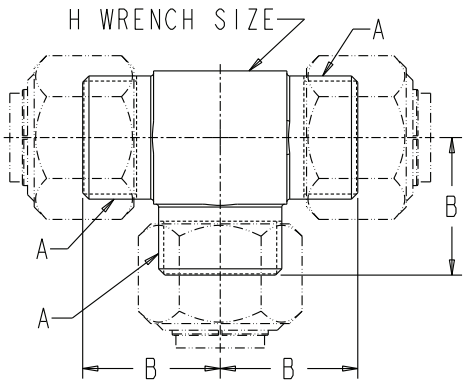
- Tube sizes from -2 (.125 inch) to -32 (2.00 inch)
- Machined from solid steel bar stock - free from brazing, welding and soldering
- BAX3200 adapters available for applications with heavy wall tubing
- Includes swivel tube nuts and Self Flare sleeves

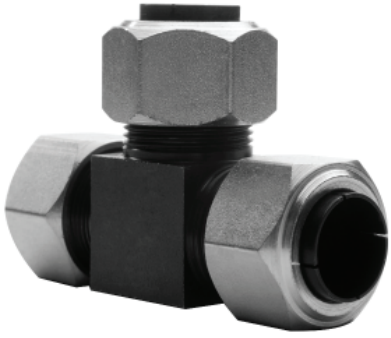
Standard Materials:

- Steel construction
- Black oxide finish on fitting body and tube sleeves
- Zinc plated, steel swivel tube nuts

CAUTION

- System operating conditions and maximum pressures dictate tubing requirements. LDI Self Flare fittings require matching the tube connection on the adapter to the tube wall thickness selected for the application.
- Fully annealed and cleaned tubing is preferred. Consult factory for applications that require alloy tubing or tube wall thicknesses that exceed published limits for BA and BAX tube connections.





BA3200 Series (inches)				
Part No.	Tube OD	A	B	H
BA3200-2	1/8	5/16-24	0.63	7/16
BA3200-3	3/16	3/8-24	0.63	7/16
BA3200-4	1/4	1/2-20	0.72	1/2
BA3200-5	5/16	9/16-18	0.82	9/16
BA3200-6	3/8	5/8-18	0.80	5/8
BA3200-8	1/2	3/4-16	0.91	3/4
BA3200-10	5/8	7/8-16	0.97	7/8
BA3200-12	3/4	1 1/16-16	1.08	1 1/8
BA3200-14	7/8	1 3/16-16	1.13	1 1/4
BA3200-16	1	1 5/16-16	1.27	1 3/8
BA3200-20	1 1/4	1 5/8-16	1.63	1 3/4
BA3200-24	1 1/2	1 15/16-16	1.75	2
BA3200-32	2	2 1/2-12	2.06	2 1/2

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SELF FLARE TUBE FITTINGS

BA3400 SERIES

The BA3400 Series self flare tee shaped adapter is made up of a tube connection opposed by a female pipe thread and another tube connection forming the tee shape. For the tube connections, the OD and wall thickness of the tubes to be joined to the Self Flare fitting will determine the dash size(s) and whether a BA or BAX version of the Self Flare fitting is required for the application.

Standard Features:

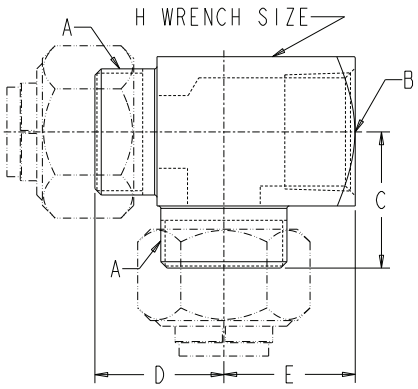
- Tube sizes from -2 (.125 inch) to -32 (2.00 inch)
- Machined from solid steel bar stock - free from brazing, welding and soldering
- BAX3400 adapters available for applications with heavy wall tubing
- Includes swivel tube nuts and Self Flare sleeves

Standard Materials:

- Steel construction
- Black oxide finish on fitting body and tube sleeves
- Zinc plated, steel swivel tube nuts

CAUTION

- System operating conditions and maximum pressures dictate tubing requirements. LDI Self Flare fittings require matching the tube connection on the adapter to the tube wall thickness selected for the application.
- Fully annealed and cleaned tubing is preferred. Consult factory for applications that require alloy tubing or tube wall thicknesses that exceed published limits for BA and BAX tube connections.



BA3400 Series (inches)							
Part No.	Tube OD	A	B (NPTF)	C	D	E	H
BA3400-2	1/8	5/16-24	1/8-27	0.67	0.63	0.56	9/16
BA3400-3	3/16	3/8-24	1/8-27	0.67	0.63	0.56	9/16
BA3400-4	1/4	1/2-20	1/8-27	0.73	0.72	0.56	9/16
BA3400-5	5/16	9/16-18	1/8-27	0.77	0.82	0.56	9/16
BA3400-6	3/8	5/8-18	1/4-18	0.86	0.80	0.72	3/4
BA3400-8	1/2	3/4-16	3/8-18	0.95	0.91	0.84	7/8
BA3400-10	5/8	7/8-16	1/2-14	1.08	0.97	1.03	1 1/8
BA3400-12	3/4	1 1/16-16	3/4-14	1.14	1.08	1.09	1 1/4
BA3400-14	7/8	1 3/16-16	3/4-14	1.13	1.13	1.13	1 1/4
BA3400-16	1	1 5/16-16	1-11 1/2	1.44	1.27	1.38	1 3/4
BA3400-20	1 1/4	1 5/8-16	1 1/4-11 1/2	1.75	1.63	1.69	2
BA3400-24	1 1/2	1 15/16-16	1 1/2-11 1/2	2.00	1.75	2.06	2 1/2
BA3400-32	2	2 1/2-12	2-11 1/2	2.25	2.06	2.38	3

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BA55 SERIES

The BA55 Series reducer is a straight adapter consisting of a standpipe ready to be flared and a smaller BA Self Flare connection on the opposite end. The OD and wall thickness of the tube to be joined to each end of this adapter will determine the dash size and whether a BA or BAX version of this reducing adapter is required for the application.

Standard Features:

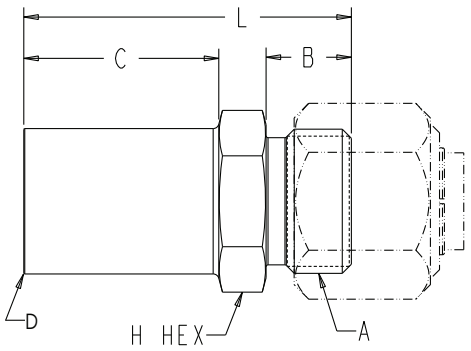
- Tube reductions beginning from -6 (.375 inch) to -32 (2.00 inch) diameter tube
- BAX55 adapters available for applications with heavy wall tubing
- Includes swivel tube nut and Self Flare sleeve

Standard Materials:

- Steel construction
- Black oxide finish on fitting body and tube sleeve
- Zinc plated, steel swivel tube nut

CAUTION

- System operating conditions and maximum pressures dictate tubing requirements. LDI Self Flare fittings require matching the tube connection on the adapter to the tube wall thickness selected for the application.
- Fully annealed and cleaned tubing is preferred. Consult factory for applications that require alloy tubing or tube wall thicknesses that exceed published limits for BA and BAX tube connections.



BA55 Series (inches)

Part No.	Tube (D) OD	Tube (A) OD	A	B	C	L	H
BA55-6-4	3/8	1/4	1/2-20	0.38	0.88	1.50	1/2
BA55-8-4	1/2	1/4	1/2-20	0.38	0.88	1.50	9/16
BA55-8-6	1/2	3/8	5/8-18	0.41	0.88	1.53	5/8
BA55-10-6	5/8	3/8	5/8-18	0.41	1.00	1.66	11/16
BA55-10-8	5/8	1/2	3/4-16	0.44	1.00	1.69	3/4
BA55-12-4	3/4	1/4	1/2-20	0.38	1.00	1.63	13/16
BA55-12-6	3/4	3/8	5/8-18	0.41	1.00	1.66	13/16
BA55-12-8	3/4	1/2	3/4-16	0.44	1.00	1.69	13/16
BA55-12-10	3/4	5/8	7/8-16	0.44	1.00	1.69	7/8
BA55-14-8	7/8	1/2	3/4-16	0.44	1.00	1.69	15/16
BA55-14-10	7/8	5/8	7/8-16	0.44	1.00	1.69	15/16
BA55-16-8	1	1/2	3/4-16	0.44	1.13	1.88	1 1/8
BA55-16-10	1	5/8	7/8-16	0.44	1.13	1.88	1 1/8
BA55-16-12	1	3/4	1 1/16-16	0.44	1.13	1.88	1 1/8
BA55-20-12	1 1/4	3/4	1 1/16-16	0.44	1.13	1.91	1 3/8
BA55-24-12	1 1/2	3/4	1 1/16-16	0.44	1.31	2.13	1 5/8
BA55-24-16	1 1/2	1	1 5/16-16	0.50	1.31	2.19	1 5/8
BA55-24-20	1 1/2	1 1/4	1 5/8-16	0.69	1.31	2.38	1 5/8
BA55-32-14	2	7/8	1 3/16-16	0.44	1.50	2.44	2 1/8
BA55-32-16	2	1	1 5/16-16	0.50	1.50	2.50	2 1/8
BA55-32-20	2	1 1/4	1 5/8-16	0.69	1.50	2.69	2 1/8
BA55-32-24	2	1 1/2	1 15/16-16	0.69	1.50	2.69	2 1/8

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BA66 SERIES

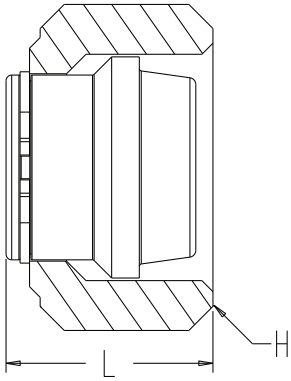
The BA66 Series self flare cap is used on fittings to close off BA Series Self Flare tube connections and is independent of the wall thickness of the tubing that makes the connection.

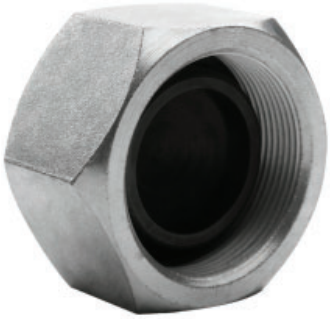
Standard Features:

- On BA Self Flare fittings, closes off connection sizes from -2 (.125 inch) to -32 (2.00 inch)
- Includes swivel nut and solid stem

Standard Materials:

- Steel construction
- Black oxide finish on stem and retainer
- Zinc plated, steel swivel tube nut





BA66 Series (inches)			
Part No.	Tube OD	L	H
BA66-2	1/8	0.48	7/16
BA66-3	3/16	0.50	1/2
BA66-4	1/4	0.63	5/8
BA66-5	5/16	0.66	11/16
BA66-6	3/8	0.69	3/4
BA66-8	1/2	0.75	7/8
BA66-10	5/8	0.75	1
BA66-12	3/4	0.81	1 1/4
BA66-14	7/8	0.84	1 3/8
BA66-16	1	0.91	1 1/2
BA66-20	1 1/4	1.19	2
BA66-24	1 1/2	1.31	2 1/4
BA66-32	2	1.34	2 7/8

BA77 SERIES

The BA77 Series plugs are designed to plug BA style tube assemblies. For the tube assembly, the OD and wall thickness of the tube to be joined to the Self Flare plug will determine the dash size and whether a BA or BAX version of the Self Flare plug is required for the application. The tube assembly must be assembled with the tube sleeve (BA19 Series) and swivel tube nut (BA18 Series).

Standard Features:

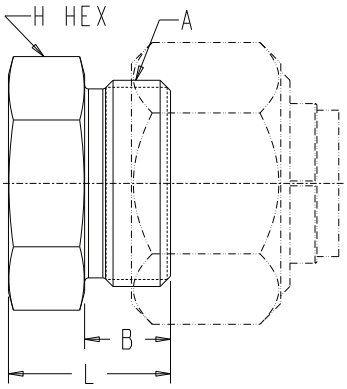
- Tube sizes from -2 (.125 inch) to -32 (2.00 inch)
- BAX77 plugs available for applications with heavy wall tubing

Standard Materials:

- Steel construction
- Black oxide finish on plug body

CAUTION

- System operating conditions and maximum pressures dictate tubing requirements. LDI Self Flare fittings require matching the tube connection on the adapter to the tube wall thickness selected for the application.
- Fully annealed and cleaned tubing is preferred. Consult factory for applications that require alloy tubing or tube wall thicknesses that exceed published limits for BA and BAX tube connections.



BA77 Series (inches)

Part No.	Tube OD	A	B	L	H
BA77-2	1/8	5/16-24	0.31	0.53	7/16
BA77-3	3/16	3/8-24	0.34	0.56	7/16
BA77-4	1/4	1/2-20	0.38	0.59	1/2
BA77-5	5/16	9/16-18	0.41	0.63	9/16
BA77-6	3/8	5/8-18	0.41	0.67	5/8
BA77-8	1/2	3/4-16	0.44	0.70	3/4
BA77-10	5/8	7/8-16	0.44	0.77	7/8
BA77-12	3/4	1 1/16-16	0.44	0.83	1 1/8
BA77-14	7/8	1 3/16-16	0.44	0.83	1 1/4
BA77-16	1	1 5/16-16	0.50	0.89	1 3/8
BA77-20	1 1/4	1 5/8-16	0.69	1.16	1 3/4
BA77-24	1 1/2	1 15/16-16	0.69	1.19	2
BA77-32	2	2 1/2-12	0.69	1.39	2 5/8

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COLLARS & RAM DIES

Collars and Ram Dies are accessories to the Hydraulic Preset Tool and are required to successfully flare tube ends using this tool. Collars are selected based on only the OD of the tube to be flared and are specified by dash size corresponding to that OD. Ram Dies are selected based on both the OD and wall thickness of the tube to be flared. To define a Ram Die, specify the dash size corresponding to the tube OD and either a BA or BAX version of the die dictated by the wall thickness of the tube.

Standard Features:

- Ram dies and collars available for tube sizes from -2 (.125 inch) to -32 (2.00 inch)
- Collars
  - Each collar is designed specific to the tube OD and is independent of the wall thickness of the tube being flared
- Ram Dies
  - Each ram die is specific to the tube OD and a range of tube wall thickness
  - BAXRD ram dies are available for applications with heavy wall tubing

Standard Materials:

- Steel construction
- Black oxide finish

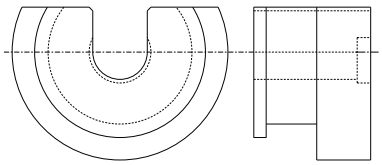
CAUTION

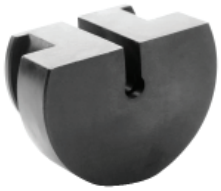
- System operating conditions and maximum pressures dictate tubing requirements. LDI Self Flare fittings require matching the tube connection on the adapter to the tube wall thickness selected for the application.
- Fully annealed and cleaned tubing is preferred. Consult factory for applications that require alloy tubing or tube wall thicknesses that exceed published limits for BA and BAX tube connections.

NOTE

- Hydraulic Preset Tool sold separately

COLLARS (SAME COLLARS FOR BA & BAX)

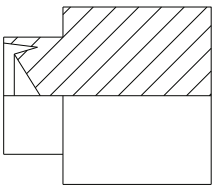




Collars (inches)	
Part No.	Tube OD
P10MC-4	1/4
P10MC-6	3/8
P10MC-8	1/2
P10MC-10	5/8
P10MC-12	3/4
P10MC-14	7/8
P10MC-16	1
P10MC-20	1 1/4
P10MC-24	1 1/2

STANDARD WEDGE (USE PREFIX BA)

Standard Wedge (inches)				
Part No. for BA Tubing	Size	Tube OD	Min.	Max.
BARD-4	4	1/4	.010	.035
BARD-5	5	5/16	.020	.035
BARD-6	6	3/8	.020	.035
BARD-8	8	1/2	.020	.049
BARD-10	10	5/8	.028	.058
BARD-12	12	3/4	.028	.065
BARD-14	14	7/8	.035	.083
BARD-16	16	1	.028	.083
BARD-20	20	1 1/4	.065	.083
BARD-24	24	1 1/2	.065	.095
BARD-32	32	2	.065	.095



HEAVY WEDGE (USE PREFIX BAX)

Heavy Wedge (inches)				
Part No. for BAX Tubing	Size	Tube OD	Min.	Max.
BAXRD-4	4	1/4	.022	.049
BAXRD-5	5	5/16	.028	.049
BAXRD-6	6	3/8	.035	.065
BAXRD-8	8	1/2	.042	.083
BAXRD-10	10	5/8	.049	.083
BAXRD-12	12	3/4	.058	.095
BAXRD-14	14	7/8	.065	.095
BAXRD-16	16	1	.083	.095
BAXRD-20	20	1 1/4	.083	.120
BAXRD-24	24	1 1/2	.095	.120
BAXRD-32	32	2	.095	.120

Dimensions and specifications are subject to change without notice. Not all items are Made-To-Stock, contact us for availability.

02/14

HYDRAULIC PRESET TOOL

The Hydraulic Preset Tool is used to flare the tube ends of tube assemblies with BA style flare geometry. The advantage of using this preset tool is the tube ends can be flared on the work bench versus during final assembly of the tubes to the fittings. Confined spaces at final assembly, the need for large diameter or heavy wall tubing and sheer volume of tube assemblies being installed are primary considerations for selecting to flare tube ends prior to installation and selecting the Hydraulic Preset Tool over the Vise Held Preset Tool. The OD of the tube being flared determines the dash size of the collar and ram die to use. The wall thickness of the tube determines whether a BARD or BAXRD version of the ram die is required.

Standard Features:

- Base Hydraulic Preset Tool consists of:
  - Electric powered hydraulic pump (110/115V 50/60 Hz Single Phase)
  - Single acting hydraulic cylinder
  - Steel framed Ram die and collar cradle
- Ram dies and collars available for tube sizes from -2 (.125 inch) to -32 (2.00 inch)
- Each ram die is specific to the tube OD and a range of tube wall thickness
- Each collar is designed specific to the tube OD
- BAXRD ram dies are available for applications with heavy wall tubing

Standard Materials:

- Steel construction
- Black oxide finish

CAUTION

- System operating conditions and maximum pressures dictate tubing requirements. LDI Self Flare fittings require matching the tube connection on the adapter to the tube wall thickness selected for the application.
- Fully annealed and cleaned tubing is preferred. Consult factory for applications that require alloy tubing or tube wall thicknesses that exceed published limits for BA and BAX tube connections.

NOTE

- Ram dies and collars are sold separately

Hydraulic Preset Tool
Part No.
PM10E

Dimensions and specifications are subject to change without notice. Not all items are Made-To-Stock, contact us for availability.

SELF FLARE TUBE FITTINGS

RBA1000 SERIES

The RBA1000 Series self flare straight adapter is made up of a tube connection on one end and a SAE o-ring boss on the opposite end. For the tube connection, the OD and wall thickness of the tube to be joined to the Self Flare fitting will determine the dash size and whether a BA or BAX version of the Self Flare fitting is required for the application. The RBA1000 series adapters connect tubes to straight threaded ports designed to SAE Standard, J1926/1.

Standard Features:

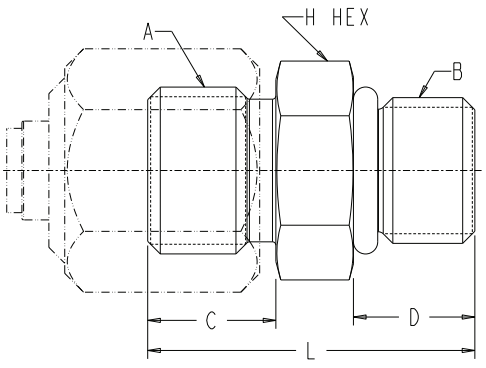
- Tube sizes from -4 (.25 inch) to -32 (2.00 inch)
- O-ring boss sizes from -4 (7/16-20) to -32 (2½-12)
- Several jump sizes are available
- RBAX1000 adapters available for applications with heavy wall tubing
- Includes swivel tube nut and Self Flare sleeve for tube connection
- Includes o-ring for port connection

Standard Materials:

- Steel construction
- Buna N seal
- Black oxide finish on fitting body and tube sleeve
- Zinc plated, steel swivel tube nut

CAUTION

- System operating conditions and maximum pressures dictate tubing requirements. LDI Self Flare fittings require matching the tube connection on the adapter to the tube wall thickness selected for the application.
- Fully annealed and cleaned tubing is preferred. Consult factory for applications that require alloy tubing or tube wall thicknesses that exceed published limits for BA and BAX tube connections.



RBA1000 Series (inches)

Part No.	Tube OD	A	B (NPTF)	C	D	L	H
RBA1000-4	1/4	1/2-20	7/16-20	0.38	0.36	0.97	9/16
RBA1000-4-5	1/4	1/2-20	1/2-20	0.38	0.36	0.97	5/8
RBA1000-5	5/16	9/16-18	1/2-20	0.41	0.36	1.00	5/8
RBA1000-6	3/8	5/8-18	9/16-18	0.41	0.39	1.06	11/16
RBA1000-6-8	3/8	5/8-18	3/4-16	0.41	0.44	1.11	7/8
RBA1000-8	1/2	3/4-16	3/4-16	0.44	0.44	1.14	7/8
RBA1000-8-10	1/2	3/4-16	7/8-14	0.44	0.50	1.27	1
RBA1000-10	5/8	7/8-16	7/8-14	0.44	0.50	1.27	1
RBA1000-12	3/4	1 1/16-16	1 1/16-12	0.44	0.59	1.42	1 1/4
RBA1000-12-16	3/4	1 1/16-16	1 5/16-12	0.44	0.59	1.42	1 1/2
RBA1000-14	7/8	1 3/16-16	1 3/16-12	0.44	0.59	1.42	1 3/8
RBA1000-16	1	1 5/16-16	1 5/16-12	0.50	0.59	1.48	1 1/2
RBA1000-20	1 1/4	1 5/8-16	1 5/8-12	0.69	0.59	1.77	1 7/8
RBA1000-24	1 1/2	1 15/16-16	1 7/8-12	0.69	0.59	1.78	2 1/8
RBA1000-32	2	2 1/2-12	2 1/2-12	0.69	0.59	1.98	2 3/4

Dimensions and specifications are subject to change without notice. Not all items are Made-To-Stock, contact us for availability.

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RBA2000 SERIES

The RBA2000 Series self flare 90° elbow adapter is made up of a tube connection on one end and an adjustable SAE o-ring boss on the other end. For the tube connection, the OD and wall thickness of the tube to be joined to the Self Flare fitting will determine the dash size and whether a BA or BAX version of the Self Flare fitting is required for the application. The RBA2000 series adapters connect tubes to straight threaded ports designed to SAE Standard, J1926/1 and allows full 360° rotation of the adapter to connect to a tube from any direction in the same plane.

Standard Features:

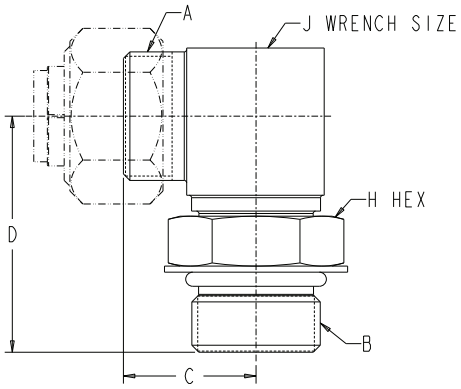
- Tube sizes from -4 (.25 inch) to -32 (2.00 inch)
- Adjustable o-ring boss sizes from -4 (7/16-20) to -32 (2 1/2-12)
- Several jump sizes are available
- RBAX2000 adapters available for applications with heavy wall tubing
- Includes swivel tube nut and Self Flare sleeve for tube connection
- Includes nut, washer and o-ring for adjustable o-ring boss connection

Standard Materials:

- Steel construction
- Buna N seal
- Black oxide finish on fitting body and tube sleeve
- Zinc plated steel nuts and washer

CAUTION

- System operating conditions and maximum pressures dictate tubing requirements. LDI Self Flare fittings require matching the tube connection on the adapter to the tube wall thickness selected for the application.
- Fully annealed and cleaned tubing is preferred. Consult factory for applications that require alloy tubing or tube wall thicknesses that exceed published limits for BA and BAX tube connections.



RBA2000 Series (inches)							
Part No.	Tube OD	A	B (NPTF)	C	D	J	H
RBA2000-4	1/4	1/2-20	7/16-20	0.72	1.02	1/2	9/16
RBA2000-5	5/16	9/16-18	1/2-20	0.78	1.08	9/16	5/8
RBA2000-6	3/8	5/8-18	9/16-18	0.80	1.24	5/8	11/16
RBA2000-8	1/2	3/4-16	3/4-16	0.91	1.44	3/4	7/8
RBA2000-8-10	1/2	3/4-16	7/8-14	0.97	1.69	7/8	1
RBA2000-10	5/8	7/8-16	7/8-14	0.97	1.69	7/8	1
RBA2000-10-12	5/8	7/8-16	1 1/16-12	1.09	1.94	1 1/8	1 1/4
RBA2000-12	3/4	1 1/16-16	1 1/16-12	1.09	1.94	1 1/8	1 1/4
RBA2000-12-10	3/4	1 1/16-16	7/8-14	1.09	1.81	1 1/8	1 1/8
RBA2000-14	7/8	1 3/16-16	1 3/16-12	1.13	1.98	1 1/4	1 3/8
RBA2000-16	1	1 5/16-16	1 5/16-12	1.28	2.03	1 3/8	1 1/2
RBA2000-16-12	1	1 5/16-16	1 1/16-12	1.28	2.03	1 3/8	1 1/4
RBA2000-20	1 1/4	1 5/8-16	1 5/8-12	1.63	2.23	1 3/4	1 7/8
RBA2000-24	1 1/2	1 15/16-16	1 7/8-12	1.75	2.38	2	2 1/8
RBA2000-32	2	2 1/2-12	2 1/2-12	2.06	2.88	2 1/2	2 3/4

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VISE HELD PRESET TOOL

The Vise Held Preset Tool is used to flare the tube ends of tube assemblies with BA style flare geometry. The advantage of using the preset tool is the tube ends can be flared on the work bench versus during final assembly of the tubes to the fittings. Confined spaces at final assembly and the need to use large diameter tubing are primary considerations for selecting to flare tube ends prior to installation. The OD and wall thickness of the tube to be flared determine the dash size and whether a VHPTBA or VHPTBAX version of the tool is required.

Standard Features:

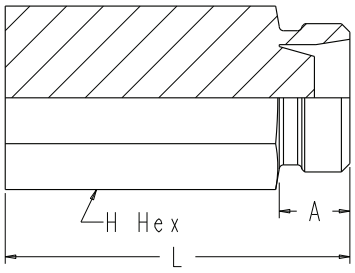
- Preset tools offered for tube sizes from -2 (.125 inch) to -32 (2.00 inch)
- Each tool is designed specific to the tube OD and a defined range of tube wall thickness
- VHPTBAX preset tools are available for applications with heavy wall tubing

Standard Materials:

- Steel construction
- Black oxide finish

CAUTION

- System operating conditions and maximum pressures dictate tubing requirements. LDI Self Flare fittings require matching the tube connection on the adapter to the tube wall thickness selected for the application.
- Fully annealed and cleaned tubing is preferred. Consult factory for applications that require alloy tubing or tube wall thicknesses that exceed published limits for BA and BAX tube connections.



Vise Held Preset Tool (inches)

Part No.	A	L	H
VHPTBA-2	0.31	2.31	9/16
VHPTBA-3	0.34	2.34	9/16
VHPTBA-4	0.38	2.38	9/16
VHPTBA-5	0.41	2.41	7/8
VHPTBA-6	0.41	2.41	7/8
VHPTBA-8	0.44	2.44	7/8
VHPTBA-10	0.44	2.44	1 1/8
VHPTBA-12	0.44	2.44	1 1/8
VHPTBA-14	0.44	2.44	1 3/8
VHPTBA-16	0.50	2.50	1 3/8
VHPTBA-20	0.69	2.69	2
VHPTBA-24	0.69	2.69	2
VHPTBA-32	0.69	2.69	2 5/8

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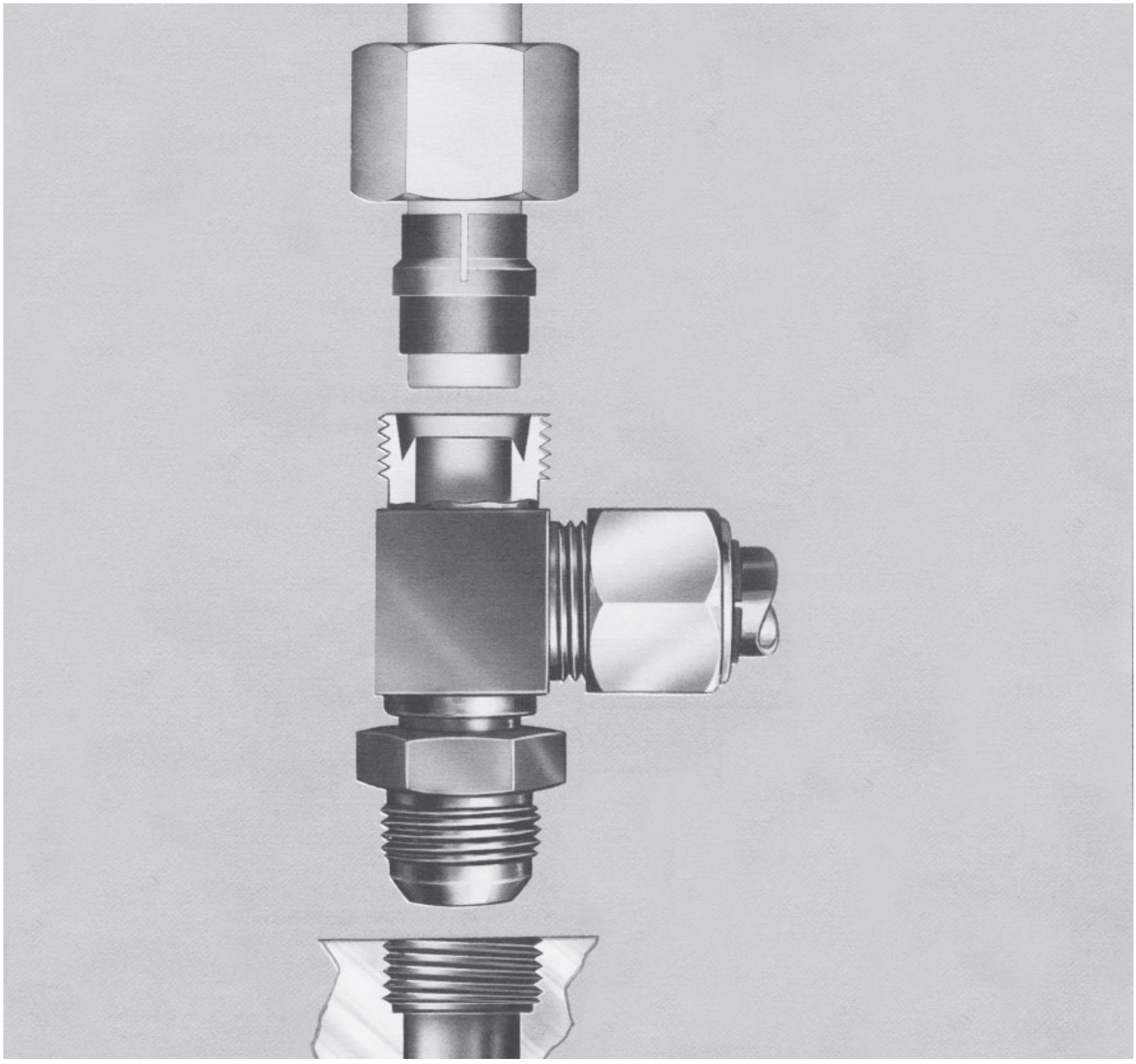

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STANDARD INFORMATION

BAR STOCK DESIGN

Flat wrench pads for easier installation. Neat appearance for modern looking equipment.

Ease of tapping for connecting auxilary lines without welding.

MATERIAL - STEEL

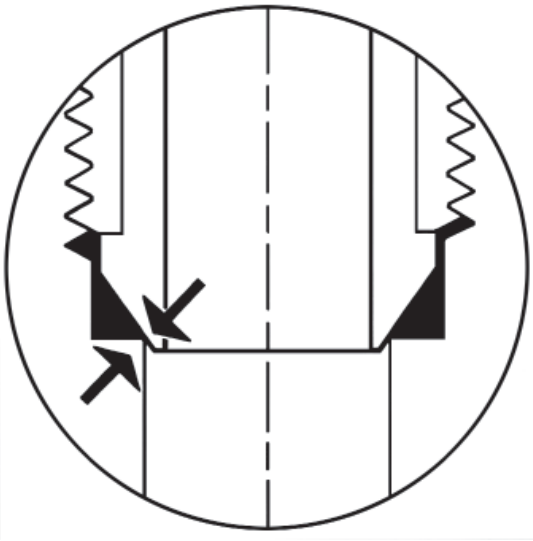
LDI fittings are machined from high quality steel bar stock. (Other materials will be quoted on request)

***All items in the MK Section are non-stock; quoted upon request.**

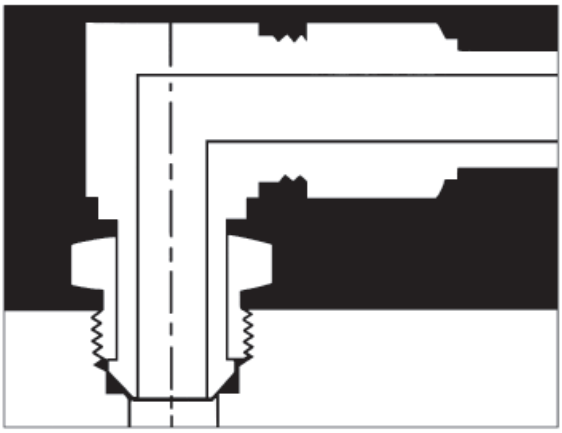
SIZES

(1/4 inch O.D. to 2 inch O.D.)

1 CONNECTION WITH THE COINED METAL SEAL



2 SWIVEL NUT FOR NO-SWING ASSEMBLY



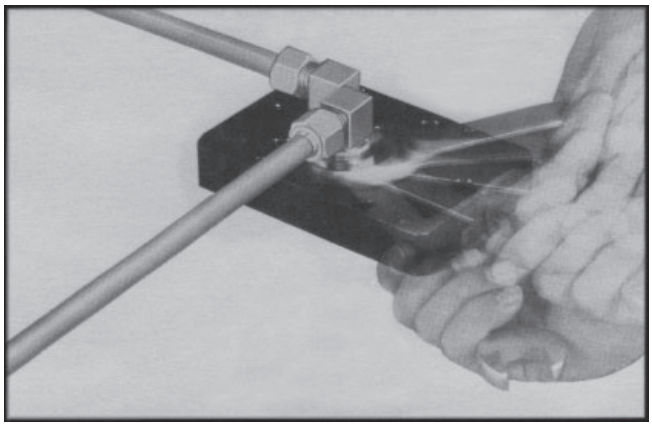
A hardened self-seating stem on the fitting.

A Flodar Port opening with a shoulder ... different, yet easy to prepare.

The hardened self-seating stem coins the shoulder to create a perfect metal-to-metal seal.

... and it only takes, at most, ¼ turn beyond hand-tight to make the seal!

NO-SWING ASSEMBLY



When assembling into a LDI Port, the fitting remains stationary. Only the swivel nut turns

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MAC2000 SERIES

The MAC2000 Series adapter is a 90° elbow consisting of a male 37° JIC tube connection per SAE J514 on one leg with a male LDI Port stem swivel connection on the other leg of the adapter. The swivel connection allows the orientation of the male 37° connection to be fixed while the swivel nut on the LDI Port stem is tightened.

Standard Features:

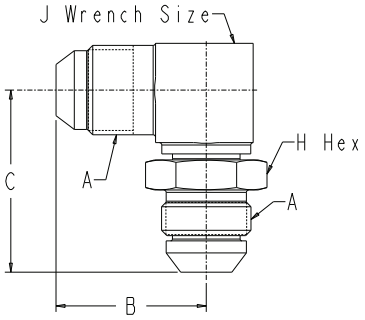
- Tube sizes from -4 (.25 inch) to -32 (2.00 inch)
- Copper brazed construction
- Hardened port stem

Standard Materials:

- Steel construction
- Black oxide finish

CAUTION

- System operating conditions and maximum pressures dictate tubing requirements



MAC2000 Series (inches)						
Part No.	Tube OD	A	B	C	J	H
MAC2000-4	1/4	7/16-20	0.89	1.16	7/16	9/16
MAC2000-6	3/8	9/16-18	1.06	1.36	9/16	11/16
MAC2000-8	1/2	3/4-16	1.25	1.52	3/4	7/8
MAC2000-10	5/8	7/8-14	1.45	1.64	7/8	1
MAC2000-12	3/4	1 1/16-12	1.66	1.91	1 1/8	1 1/4
MAC2000-14	7/8	1 3/16-12	1.72	2.00	1 1/4	1 3/8
MAC2000-16	1	1 5/16-12	1.81	2.16	1 3/8	1 1/2
MAC2000-20	1 1/4	1 5/8-12	2.06	2.50	1 3/4	1 3/4
MAC2000-24	1 1/2	1 7/8-12	2.33	2.73	2	2
MAC2000-32	2	2 1/2-12	3.06	3.33	2 1/2	2 3/4

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MAC3000 SERIES

The MAC3000 Series tee shaped adapter is made up of two opposing male 37°JIC tube connections per SAE J514 and a male LDI Port stem swivel connection forming the leg. The swivel connection allows the orientation of the male 37° connections to be fixed while the swivel nut on the LDI Port stem is tightened.

Standard Features:

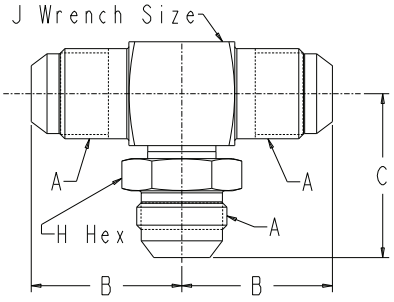
- Tube sizes from -4 (.25 inch) to -32 (2.00 inch)
- Copper brazed construction
- Hardened port stem

Standard Materials:

- Steel construction
- Black oxide finish

CAUTION

- System operating conditions and maximum pressures dictate tubing requirements



MAC3000 Series (inches)						
Part No.	Tube OD	A	B	C	J	H
MAC3000-4	1/4	7/16-20	0.89	1.16	7/16	9/16
MAC3000-6	3/8	9/16-18	1.06	1.36	9/16	11/16
MAC3000-8	1/2	3/4-16	1.25	1.52	3/4	7/8
MAC3000-10	5/8	7/8-14	1.45	1.64	7/8	1
MAC3000-12	3/4	1 1/16-12	1.66	1.91	1 1/8	1 1/4
MAC3000-14	7/8	1 3/16-12	1.72	2.00	1 1/4	1 3/8
MAC3000-16	1	1 5/16-12	1.81	2.16	1 3/8	1 1/2
MAC3000-20	1 1/4	1 5/8-12	2.06	2.50	1 3/4	1 3/4
MAC3000-24	1 1/2	1 7/8-12	2.33	2.73	2	2
MAC3000-32	2	2 1/2-12	3.06	3.33	2 1/2	2 3/4

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