MINIMATIC® FITTINGS







For ease in construction of pneumatic logic control and fluid power systems, you will find in the Clippard line an extensive choice of useful fittings. **Clippard** fittings are designed for the greatest flexibility, practical usefulness and for savings in time, cost and space.

Why Clippard Miniature Fluid Power Fittings?

While others were thinking about large fittings, Clippard was thinking big about smaller fittings. Smaller valves and cylinders created the need for smaller fittings. Clippard was the first to develop ports utilizing the 10-32 thread. This thread has become an industry standard in the marketplace. Because of their compact size, 10-32 fittings when properly gasketed and/or sealed with anaerobic sealant, can withstand pressures well beyond those required for pneumatic applications.

All Clippard fittings are made to the same high standards as our valves and cylinders. Precision machining and finishing processes insure that all fittings are held to the tightest tolerances. What does this mean to you? It means quality... quality that leads to ease in assembly, and consistent, trouble free performance.

Clippard precision fittings will save you time, space, and money when designing versatile, productive, trouble free, pneumatic circuits. Our endless variety of fittings insure that you find just the right "fit" when plumbing pneumatic circuits or assemblies. These fittings are small in size but large in performance, allowing for streamlining of pneumatic assemblies and eliminating the need for larger, more expensive, cumbersome fittings.

Options

Clippard brass fittings come standard with a bright chromate finish for added corrosion resistance. Most brass fittings are also available with nickel plating. Clippard slip-on fittings come standard with electroless nickel plating. Some fittings are also available with metric threads. Refer to each item in the catalog for available options.

To order a brass fitting with the nickel plating option, add a -NP following the catalog fitting number. To order a fitting with the M5 metric thread option, add a -M5 following the catalog fitting number.

PUSH-QUICK FITTINGS



Clippard Push-Quick Fittings provide a simple method of connecting pneumatic components to each other and system piping. They are designed for use with both flexible hose and stiff tubing made of nylon, urethane, polyethylene or polypropylene.

Push-Quick Fittings generally provide higher flows than

barbed fittings. The Push-Quick fitting allows full flow through the hose/tubing I.D. with no smaller orifice required as in barb fittings. The chart shows the comparison between barb and push in fittings for various tubing/hose sizes. Push-Quick Fittings are available in (4) sizes for 5/32", 6mm, 1/4" and 3/8" O.D. tubing. The 5/32" fittings may also be used with 4mm O.D. tubing.



Installation of Tubing into fitting

- 1. Slowly push a clean and perpendicularly cut tubing into the fitting until it comes to a dead stop.
- 2. Pull the tubing back gently until the Gripper Ring of the fitting grips onto the tubing and has a good seal.

Removal of Tubing from fitting

- 1. Push in evenly on the two long oval sides of the Release Button.
- 2. Pull out the tubing while keeping the Release Button depressed.
- 3. To reuse the tubing; cut off the lodged portion of the previously used tubing evenly and perpendicularly.

Installation of Pipe Fittings with Pre-Applied sealant

- 1. Tighten fitting by hand, then turn it 2 or 3 turns with a wrench until it reaches the desired torque listed.
- 2. If the fitting is used and the sealant coating is not in good condition, apply Teflon sealant tape to the threads.

Durometer (Hardness) Scale Shore A 5060 708090 100

Shore D 20 30 40 50 60 70 80



*6mm size fittings have a green release button

Thread Size	#10-32	1/8 NPT, R1/8	1/4 NPT, R1/4	3/8 NPT
Torque lb ft.	1.0 - 1.5	5.0 - 6.5	8.5 - 10.0	16.0 - 17.5

Tubing Material	Polyurethane	Polyethylene	Polypropylene	Nylon
Specified Size	+/005"	+/004"	+/004"	+/004"
Hardness (Durometer)	Shore A85 or higher	Shore D 44 or higher	Shore D 44 or higher	Shore D 44

see pages 356-361 for hose and tubing

Pressure Range: 0 - 150 psig @ 130° F

Vacuum: 0 - 29.5 in Hg

Temperature Range: 32 - 140° F

Media: Air, Non-corrosive water

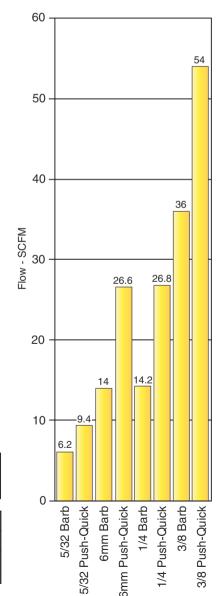
Tube Pull Out Force: 20 lb. @ 75° F

(non-pressurized)

Burst Pressure: 350 psig @ 75° F

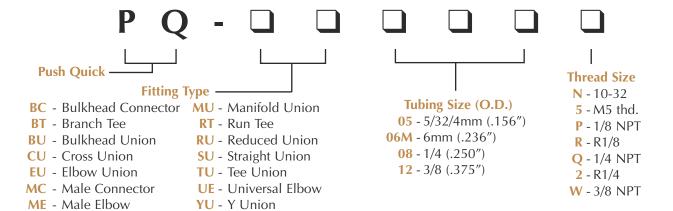
Materials: Body - Plastic Resin Metal Stud - Nickel Plated Brass Gripper Ring - Stainless Steel Seals - Buna N

> Barb vs Push-Quick Fittings Flow Comparison @ 100 PSIG





Push-Quick Fittings



Threaded Fittings							
Tube	Thread	Male Connector MC	Male Elbow ME	Run Tee RT	Branch Tee BT	Universal Elbow UE	Bulkhead Connector BC
5/32 4mm	10/32 M5 thd 1/8 NPT R1/8	PQ-MC05N PQ-MC055 PQ-MC05P PQ-MC05R	PQ-ME05N PQ-ME055 PQ-ME05P PQ-ME05R	PQ-RT05N PQ-RT055 PQ-RT05P PQ-RT05R	PQ-BT05N PQ-BT055 PQ-BT05P PQ-BT05R	PQ-UE05N PQ-UE055 PQ-UE05P PQ-UE05R	PQ-BC05P PQ-BC05R
*6mm	M5 thd R1/8 R1/4	PQ-MC06M5 PQ-MC06MR PQ-MC06M2	PQ-ME06M5 PQ-ME06MR PQ-ME06M2	PQ-RT06M5 PQ-RT06MR PQ-RT06M2	PQ-BT06M5 PQ-BT06MR PQ-BT06M2	PQ-UE06M5 PQ-UE06MR PQ-UE06M2	PQ-BC06MR PQ-BC06M2
1/4	10-32 1/8 NPT 1/4 NPT	PQ-MC08N PQ-MC08P PQ-MC08Q	PQ-ME08N PQ-ME08P PQ-ME08Q	PQ-RT08N PQ-RT08P PQ-RT08Q	PQ-BT08N PQ-BT08P PQ-BT08Q	PQ-UE08N PQ-UE08P PQ-UE08Q	PQ-BC08P PQ-BC08Q
3/8	1/4 NPT 3/8 NPT	PQ-MC12Q PQ-MC12W	PQ-ME12Q PQ-ME12W	PQ-RT12Q PQ-RT12W	PQ-BT12Q PQ-BT12W	PQ-UE12Q PQ-UE12W	PQ-BC12Q PQ-BC12W
					A		(- a)

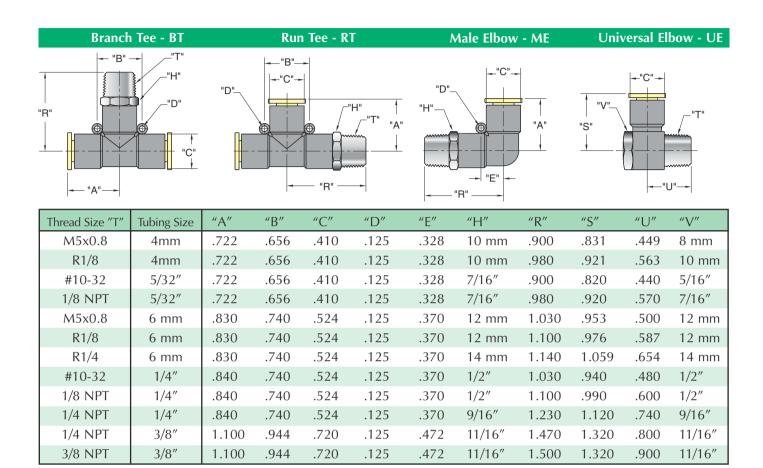
Non- Threaded Fittings		No.			8			
Tube Size	Straight Union SU	Reduced Union RU	Elbow Union EU	Tee Union TU	Y Union YU	Cross Union CU	Bulkhead Union BU	Manifold Union MU
5/32 (4mm)	PQ-SU05		PQ-EU05	PQ-TU05	PQ-YU05	PQ-CU05	PQ-BU05	
*6mm	PQ-SU06M	PQ-RU06M05	PQ-EU06M	PQ-TU06M	PQ-YU06M	PQ-CU06M	PQ-BU06M	PQ-MU06M05
1/4	PQ-SU08	PQ-RU0805	PQ-EU08	PQ-TU08	PQ-YU08	PQ-CU08	PQ-BU08	PQ-MU0805
3/8	PQ-SU12	PQ-RU1208	PQ-EU12	PQ-TU12	PQ-YU12	PQ-CU12	PQ-BU12	

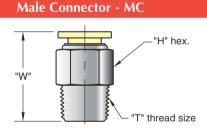
^{*6}mm size fittings have a green release button

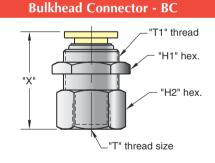
Push-Quick Fittings

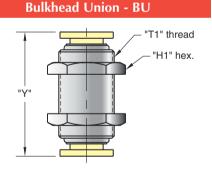










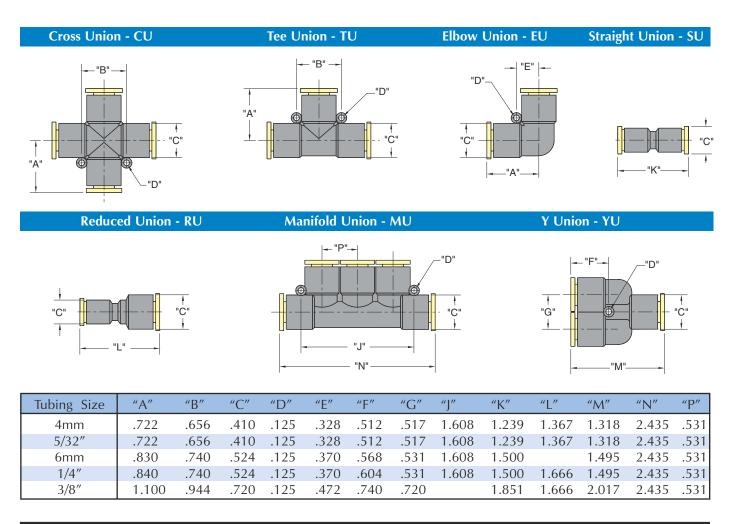


Thread Size "T"	Tubing Size	"W"	"X"	"Y"	"H"	"H1"	"H2"	"T1"
M5x0.8	4 mm	.899		1.370	10 mm			
R1/8	4 mm	.836	1.052	1.370	10 mm	14 mm	14 mm	M12x1
#10-32	5/32"	.899		1.370	7/16"			
1/8 NPT	5/32"	.836	1.052	1.370	7/16"	5/8	5/8	1/2-20
M5x0.8	6 mm	.948		1.390	12 mm			
R1/8	6 mm	.878	1.134	1.390	12 mm	17 mm	17 mm	M14x1
R1/4	6 mm	.873	1.150	1.390	14 mm	17 mm	17 mm	M14x1
#10-32	1/4"	.913		1.421	1/2"			
1/8 NPT	1/4″	.913	1.084	1.421	1/2"	3/4	3/4	5/8-32
1/4 NPT	1/4"	.965	1.209	1.723	9/16"	3/4	3/4	5/8-32
1/4 NPT	3/8"	1.342	1.280	1.723	11/16"	15/16"	15/16	13/16-32
3/8 NPT	3/8"	1.241	1.372	1.723	11/16"	15/16"	15/16	13/16-32



Push-Quick Fittings

Non-Threaded

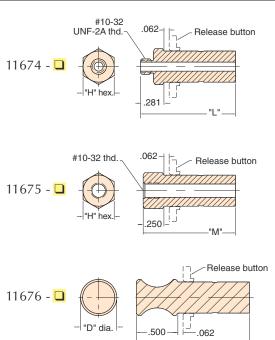


Push-Quick Fitting Adapters

Clippard offers a variety of accessories that are designed for use with Push-Quick Fittings. These include special #10-32 threaded adapters in both male (p/n 11674) and female (p/n 11675) thread configurations and adapters that can be used to plug a Push-Quick fitting.

The threaded adapters insert into Push-Quick Fittings and provide either a male or female thread that can be used to mount any Clippard product with a #10-32 threaded inlet. This allows the direct attachment of the product to a Push-Quick Fitting without hoses or additional fittings.

Part Dash #	Tubing Size	"D"	"H"	"L"	"M"	"N"
- 05	5/32	.312	1/4	.993	.962	1.212
- 08	1/4	.312	1/4	1.003	.972	1.222
- 12	3/8	.437	3/8	1.143	1.112	1.362



"N"

PUSH-QUICK FITTINGS

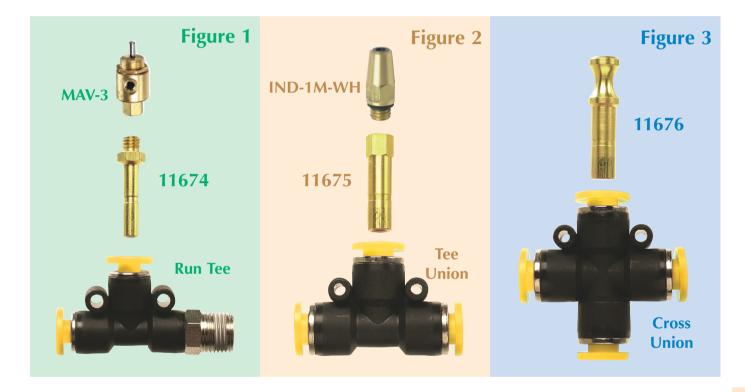


Figure 1 shows an MAV-3 3-Way Valve connected to a PQ-RT05P Run Tee using a 11674-05 Adapter. In this example, the Run Tee is connected to a 1/8 NPT supply pipe.

Figure 2 shows an IND-1M-WH Pressure Indicator connected to a PQ-TU08 Tee Union using a 11675-08 Adapter.

If one of the branches of a Push-Quick Fitting is to be used as a temporary pressure gauge port, the 11676 series of Plugs can be used when the gauge is not in place. Plugs may also be used if Push-Quick Fitting branches are intended for future additions to the circuit, but have no current need.

Figure 3 shows a PQ-CU Cross Union with one branch plugged with a 11676-08 Plug.



Clippard Minimatic[®]

MINIMATIC® SLIP-ON FITTINGS



Minimatic[®] slip-on fittings provide a flexible, easy alternative to ferrule and push-to-connect design fittings.

Clippard Minimatic® slip-on fittings are designed to be used with Clippard urethane hose. The flexibility and strength of urethane hose and the compact design of the fittings are ideal for pneumatic applications where convenience and size are considerations. The Minimatic® slip-on fitting used with Clippard urethane hose will provide a leak free connection that will hold well beyond the working pressure of the hose without the need for additional clamps.

Minimatic® slip-on fittings are available in a wide variety of

configurations in a number of styles including tee, connectors, crosses, swivel, and universal. Barb sizes can be mixed on the same fitting for applications requiring multiple tubing sizes. The electroless nickel plating of Minimatic® slip-on fittings provides corrosion resistance in applications involving high moisture, while enabling the fittings to

Features

- Single barb design for quick and easy positive seal
- Miniature size provides low profile
- Multiple configurations for every need
- Electroless nickel plating
- Available with 1/16" or 1/8" hose barb
- Available with #10-32 thread and 1/8 NPT
- Holds to the burst pressure of polyurethane hose

Material: Brass electroless nickel plated

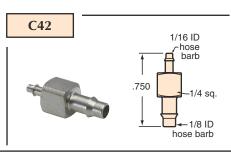
Gasket: Buna-N gasket included with 10-32 threads except when ordered in bulk

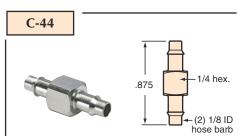
CONNECTOR FITTINGS

retain their original, lustrous appearance.

Hose to Hose Connectors

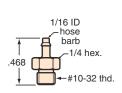
C22 (2) 1/16 ID hose barb 656





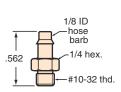
10-32 to Hose Connectors

CT2



CT4 Gasket comes pre-installed



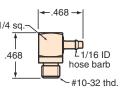


CT0-2

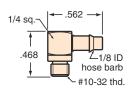
Gasket included. Not installed

Gasket comes pre-installed

1/4 sq. 468



CT0-4



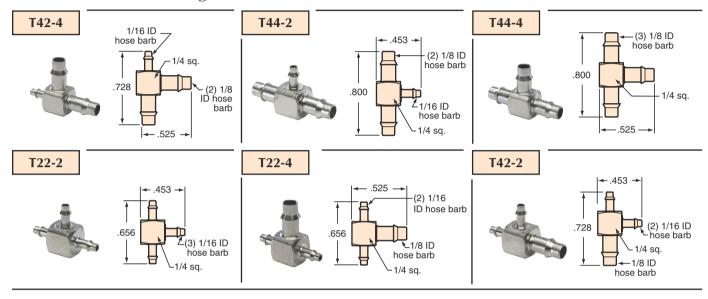
Gasket included. Not installed



"T" FITTINGS

Material: Brass electroless nickel plated
Gasket: Buna-N gasket included with 10-32
threads except when ordered in bulk

Hose to Hose "T" Fittings



10-32 to "T" Fittings

Gasket: Buna-N gasket included (not installed) TT0-202 TT0-402 TT0-404 .728 -1/4 sq. .656 1/16 ID (2) 1/16 ID hose barb 468 hose barb .468 ^Z(2) 1/8 ID #10-32 thd. hose barb 1/8 ID ¹ #10-32 thd. 1/4 sq. #10-32 thd. hose barb TT2-2 TT2-4 TT4-2 .525 .453 → 1/16 1/8 ID ·ID hose barb hose barb .743.671 1/16 ID ^L_{1/8} ID (2) 1/16 ID hose barb hose barb hose barb #10-32 thd. #10-32 thd. $\frac{1}{4} \, \text{sq.}$ ¹ #10-32 thd. ∠_{1/4 sq.} TT4-4

Tip

When assembling 10-32 threaded fittings with gaskets, turn the fitting in until the gasket contacts the surface. Then give the fitting less than a 1/4 turn to achieve a good seal.

#10-32 thd.

仁(2)1/8

.525 -

.743

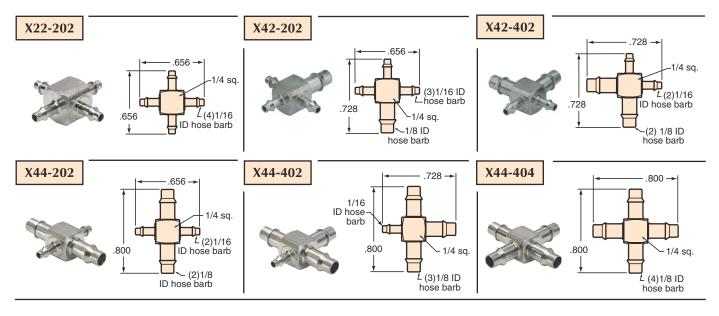
1/4 sq.



"X" FITTINGS

Material: Brass electroless nickel plated
Gasket: Buna-N gasket included with 10-32
threads except when ordered in bulk

Hose to Hose "X" Fittings



10-32 to Hose "X" Fittings

Gasket: Buna-N gasket included (not installed) XT2-202 XT2-402 XT2-404 .728 → .656 — 1/4 sq. hose barb (3)1/16 ID hose -(2)1/16 .671 .671 ID hose barb - harb L (2)1/8 1/4 sq. #10-32 thd. L_{1/8} ID #10-32 thd. #10-32 thd. 1/4 sq.hose barb XT4-202 XT4-402 XT4-404 .728 -.800 – 1/8 ID hose barb 1/4 sq. 1/4 sq. 1/16 ID .743 hose barb - (2)1/16 ID hose barb #10-32 thd. #10-32 thd. L(2)1/8 ID #10-32 thd.

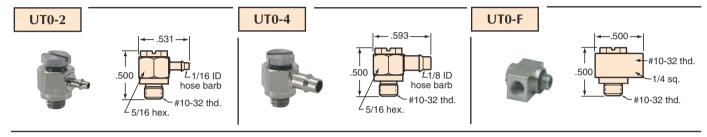


Universal Fittings

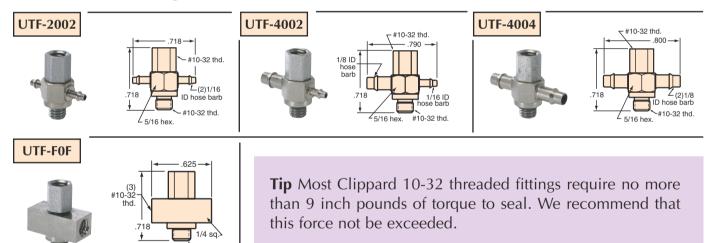
Buna-N o-ring included with universal fittings

Material: Brass electroless nickel plated
Gasket: Buna-N gasket included with 10-32
threads except when ordered in bulk

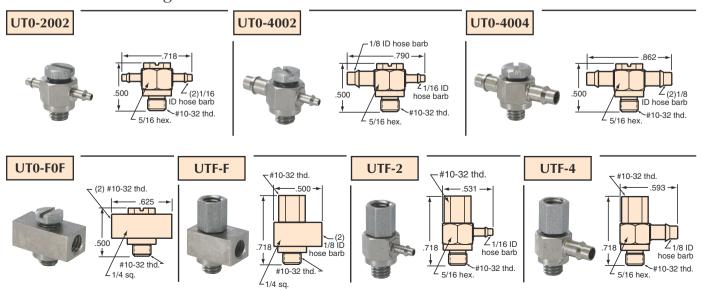
Universal "L" Fittings



Universal "X" Fittings



Universal "T" Fittings

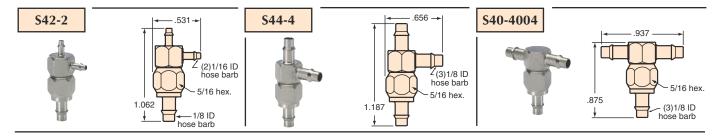




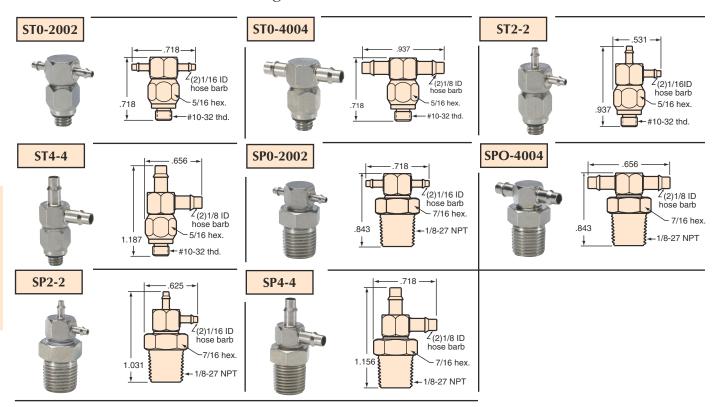
SWIVEL FITTINGS

Material: Brass electroless nickel plated
Gasket: Buna-N gasket included with 10-32
threads except when ordered in bulk

Hose to Hose Swivel "T" Fittings

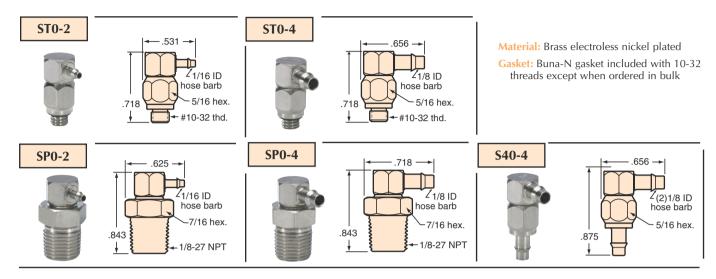


10-32 to Hose Swivel "T" Fittings

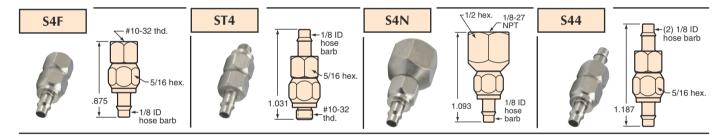




10-32 to Hose Swivel "L" Fittings



Connector Swivel Fittings



Tips On Using Slip-On Fittings

Hose or Tubing Size

The use of different sizes of hose or tubing in your circuits deserves some care and consideration. In general, follow the manufacturer's guide for the size of hose or tubing you use. For air logic circuits, we recommend:

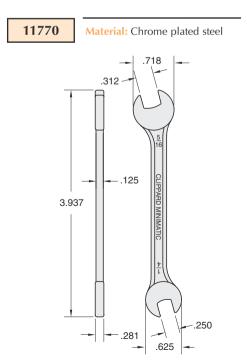
1/16" ID for pilots 1/8" ID for supplies and outputs

Swivel Fittings

Minimatic® swivel connector fittings are very efficient in applications where joints need to be disconnected and reconnected frequently. Made with a threaded connection on one end and a swivel connection on the other, these fittings provide a true cost savings on pneumatic circuit designs. They are valuable also where short lengths of hose are being connected. Note: These are not rotating joints. They are for assembly benefits... not as a constant rotation connection.

Tightening 10-32 Fittings

TIGHTEN WITH CARE. Often a "finger tight" connection between Clippard fittings with anaerobic sealant is all that is required. When using a gasket, most Clippard 10-32 threaded fittings require no more than 9 inch pounds of torque to seal. We recommend that this force not be exceeded. Use wrench #11770 with a 1/4" and 5/16" open-end.





BRASS BARB FITTINGS

11752-1

10-32 to 1/8" ID Hose Fitting

Material: Brass Thread: 10-32



090 dia -thru

Gasket: Buna-N gasket furnished in package only. Not included when ordered in bulk.

For Hose: 1/8" ID

Replacement Gasket: #11761-2

Options: (-NP)



11752-2

10-32 to 1/16" ID Hose Fitting

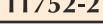
Material: Brass

Thread: 10-32

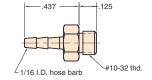
Gasket: Buna-N gasket furnished in package only. Not included when ordered in bulk.











.656

1/8 I.D. hose barb

1.156

#10-32 thd.

11752-3

10-32 to 1/8" ID Hose Fitting

.109 dia.-thru

Material: Brass

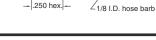
Thread: 10-32

Gasket: Buna-N gasket furnished in package only. Not included when ordered in bulk.

For Hose: 1/8" ID **Options:** (-NP), (-M5)







Material: Brass

Thread: 10-32

Gasket: Buna-N gasket furnished in package only. Not included when ordered in bulk.

For Hose: 1/8 " ID **Options:** (-NP), (-M5)

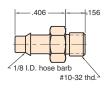




#1 Recommended

10-32 to 1/8" ID Hose Fitting







10-32 to 1/16" ID Hose Fitting



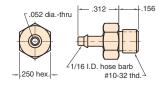
Thread: 10-32

Gasket: Buna-N gasket furnished in package only. Not included when ordered in bulk.

For Hose: 1/16" ID **Options:** (-NP), (-M5)









10-32 to 1/8" OD Tube Compression Fitting

Material: Brass

Thread: 10-32

For Tubing: 3811-1 copper

Gasket: Buna-N gasket furnished in package only. Not included when ordered in bulk.

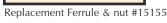
Options: (-NP)

Features: One piece ferrule and nut for fast,

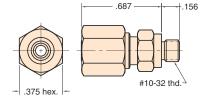
3814-2 nylon

easy insertion of tube





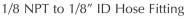


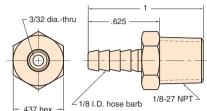


BRASS BARB FITTINGS



11924-1





Material: Brass

Thread: 1/8 NPT

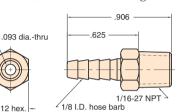
Use: Joins standard pipe to 1/8" ID hose

Options: (-NP), (-MG)



11924-2

1/16 NPT to 1/8" ID Hose Fitting



Material: Brass

Thread: 1/16 NPT

Use: Joins standard pipe to 1/16" ID hose

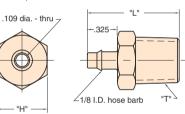
Options: (-NP)





NPT to 1/8" ID Hose Connector

-.312 hex.



Material: Brass

Use: Joins standard pipe to 1/8" ID hose

Options: (-NP), (-MG)



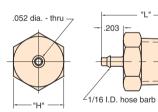


"T" Thread "H" Hex "L" Length	1CJ4	2CP4	4CQ4	6CW4	8CZ4
"T" Thread	1/16 NPT	1/8 NPT	1/4 NPT	3/8 NPT	1/2 NPT
"H" Hex	5/16	7/16	9/16	11/16	13/16
"L" Length	.800	.860	.890	1.020	1.140
					500



5

NPT to 1/16" ID Hose Connector



Material: Brass

Use: Joins standard pipe to 1/16" ID hose

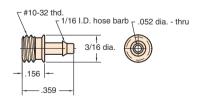
Options: (-NP)

	1CJ2	2CP2	4CQ2	6CW2	8CZ2
"T" Thread	1/16 NPT	1/8 NPT	1/4 NPT	3/8 NPT	1/2 NPT
"H" Hex	5/16	7/16	9/16	11/16	13/16
"L" Length	.490	.740	.770	.890	1.020



12841

10-32 to 1/16" ID hose fitting



Material: Brass

Thread: 10-32

Seals: Gasket not required; use thread sealant

Use: Tighten by hand for flush mounting in

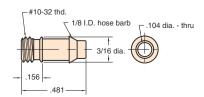
10-32 threaded holes

Options: (-NP)



12842

10-32 to 1/8" ID hose fitting



Material: Brass

Thread: 10-32

Seals: Gasket not required; use thread sealant

Use: Tighten by hand for flush mounting in 10-32 threaded holes

Options: (-NP)



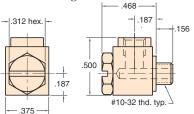


MINIMATIC® X T L FITTINGS

15002-1







Material: Brass body, stainless steel stud

Stud: Stainless steel hex head with screwdriver slot (12292)

Thread: 10-32

Seals: Buna-N o-ring furnished

Use: Permits port to be aimed 360° in one plane, then secured by tightening screw. Also useful in connecting and disconnecting hose in hard-to reach locations.

Options: (-NP)

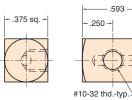
Material: Brass



15002-2



"L" Fitting



Thread: 10-32

∔156

Gasket: Buna-N gasket furnished in package only. Not included when ordered in bulk.

Use: Allows ports to be brought out 90° to the side. For exact positioning use thread sealant

Options: (-NP)

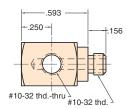


15002-3



"T" Fitting





Material: Brass

Thread: 10-32

Gasket: Buna-N gasket furnished in package only. Not included when ordered in bulk.

Use: Like the "L" fitting, except ports out both sides. For

precise positioning use thread sealant

Options: (-NP)

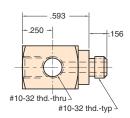


15002-4



"X" Fitting





Material: Brass

Thread: 10-32

Gasket: Buna-N gasket furnished in package only. Not included when ordered in bulk.

Use: May be used as a miniature manifold, or "L" or "T" fitting by plugging unused ports with screw plug 11755. For precise positioning use thread sealant

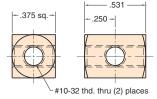
Options: (-NP)



15002-5



"X" Coupling



Material: Brass

Thread: 10-32

Use: Ideal as small manifold.

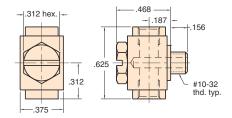
Options: (-NP)



15002-6



Adjustable "T" Fitting



Material: Brass

Thread: 10-32

Stud: Stainless steel hex head with screwdriver slot (12292)

Seals: Buna-N o-ring furnished

Use: Permits ports to be aimed in any direction 360° in one plane then secured by tightening screw. Also useful for connecting or disconnecting hose in tight spots.

Note: Same dimensions as 15002-1 "L" fitting, except length, which is 5/8"

Options: (-NP)

