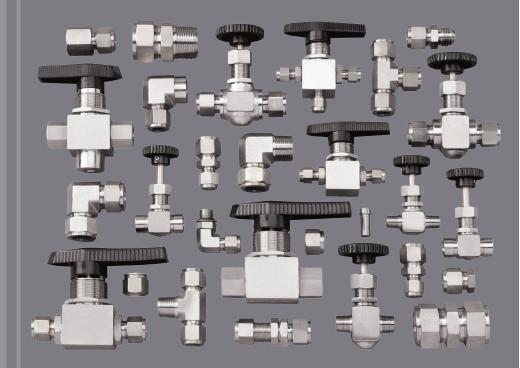
# MERIT BRASS Stainless Steel Tubing, Tube Fittings And Valves





### **INTRODUCTION TO MERIT TUBE FITTINGS & VALVES**

Since 1937, Merit's mission is to give you, our customers, the ability to provide competitive and consistently high quality materials and services to your customers. Each product we have added over the years has had to undergo an extensive quality assurance examination to ensure that your needs are met. We are proud to enhance our offering once more with our stainless steel instrumentation tube fittings and valves which complement our stainless steel tubing line.

#### Some of the Benefits of Tube Fittings:

- At all tubing connections, they provide leak-proof torque-free seals.
- Eliminate potentially hazardous and expensive leaks in instrumentation, process, pneumatic, hydraulic, gas and other tubing systems.

#### What Comprises a Double-Ferrule Tube Fitting?

There are four pieces within Double-Ferrule tube fittings: the nut, back ferrule, front ferrule and the body.

#### Benefits of the double-ferrule design:

- Combines geometry and metallurgy.
- All action in the fitting is an axial movement along the tube instead of a rotary motion to create the joint.
  - Axial movement prevents transmission of torque from a fitting to the tubing.
- The tubing does not weaken since there's no initial strain in the tubing.
- Swaging action of the twin ferrules overcomes variations in tubing wall thickness, hardness and dimensional tolerance.
- Self-aligning.
- Vibration resistant.
- Reusable several times.
- In both vacuum and pressure systems, it can withstand heavy impulse.

#### At Installation:

- A solid, leak-free joint is formed as these fittings become a five-piece connection with the addition of the tubing.
- As the two ferrules grasp tightly around the tube, the tube wall is not damaged.
- The tubing will yield before the double-ferrule joint starts leaking as proven in multiple, comprehensive tests.

Welcome to Merit's line of instrumentation tube fittings and valves where INTERCHANGEABILITY is KEY!

These double ferrule tube fittings are manufactured to be fully component intermixable and totally interchangeable with brands such as Swagelok<sup>®</sup>, Parker A-LOK<sup>®</sup> and more...

#### Tube Fitting Features:

- All fittings are certified for ASTM F1387.
- Machined from cold-finished bar stock in accordance with ASTM Specifications.
- Shaped bodies are machined from close-grained forgings in accordance with ASTM Specifications.
- Function with thick and thin wall tubing.
- Interact with a variety of tube materials.
- For thermal compatibility and corrosion resistance, all components are made from the same material.
- Resistant to temperature cycling.
- Compensate for the variables encountered in the materials and tube.
- Flow area is minimally reduced.

#### **Tube Fitting Performance:**

- Works at low pressures, high pressures and in vacuums.
- Seals at low cryogenic and elevated temperatures rated for the tube.
- When making or remaking, the fitting repeatedly seals.
- Pressure resistant beyond the tubing burst point.

#### Assembly:

- For uniformity of make-up, use geometry rather than torque (To complete the joint, it requires only a 1-1/4 turn after snug-tightening).
- Does not require disassembly and inspection of ferrule swaging at every make-up.
- Does not require any special tools for assembly.

### TUBE FITTING GALLERY



TUBE PLUG



TUBE NUT



MALE CONNECTOR (JIC) TUBE BY MALE JIC



UNION TUBE X TUBE



MALE CONNECTOR TUBE X MALE



FEMALE CONNECTOR TUBE X FEMALE



**REDUCER TUBE X** MACHINED TUBE STUB



TUBE CAP



PORT CONNECTOR



UNION ELBOW TUBE X TUBE



MALE ELBOW TUBE X MALE



FEMALE ELBOW TUBE X FEMALE



MALE BRANCH TEE TUBE X TUBE X MALE



UNION TEE TUBE X TUBE X TUBE



MALE RUN TEE TUBE X MALE X TUBE



TUBE X TUBE



POSITIONABLE MALE

# **BULKHEAD UNION**



ELBOW TUBE X MALE SAE

### VALVES GALLERY



TUBE X TUBE REDUCED PORT BALL VALVE



FNPT X FNPT FULL PORT BALL VALVE



TUBE X TUBE FULL PORT BALL VALVE



TUBE X TUBE X TUBE 3 WAY FNPT X FNPT X FNPT 3 WAY FNPT X FNPT REGULATING REDUCED PORT BALL VALVE



FULL PORT BALL VALVE



TNVRM

MNPT X MNPT REGULATING NEEDLE VALVE



TUBE X TUBE REGULATING NEEDLE VALVE



MNPT X MNPT VEE-STEM NEEDLE VALVE



FNPT X FNPT VEE-STEM NEEDLE VALVE



TUBE X TUBE VEE-STEM NEEDLE VALVE









### STAINLESS STEEL TUBING GALLERY



### 304 WELDED



#### 316 WELDED

.049 WALL T50



035 WALL T52







304 SEAMLESS



.109 WALL T72



#### 316 SEAMLESS

### STAINLESS STEEL TUBING

### **Specifications**

Seamless and Welded

- Recommend Annealed 304 or 316 stainless steel tubing to ASTM A269 or A213 or equivalent (ERW tubing is not recommended).
- 4-1 safety factor considering tensile strength of 75,000 psi at room temperature.
- Tube hardness should not exceed RB 80. The preferable hardness range is RB 75-80.
- Tubing should be free of any surface defects and imperfections, and should be suitable for bending and flaring. For drawn and welded tubing, a derating factor must be used.



### TUBING WORKING PRESSURE TABLE - WELDED

.120 WALL T72

.134 WALL T72

Table 1 - Wall Thickness of Tube (Inches)

.095 WALL T72

TUBE OD (IN)	0.01	0.012	0.016	0.02	0.028	0.035	0.049	0.065	0.083	0.095	0.109	0.12	0.134	0.156
1/16														
1/8									Worki	ng Pressure	(psig)			
3/16														
1/4				3,000	4,200	5,250	7,350							
5/16				2,396	3,355	4,193	5,871							
3/8				2,000	2,800	3,500	4,900	6,500						
1/2				1,500	2,100	2,625	3,675	4,875	6,225	7,125	8,175			
5/8				1,200	1,680	2,100	2,940	3,900	4,980	5,700	6,540			
3/4				1,000	1,400	1,750	2,450	3,250	4,150	4,750	5,450			
7/8				857	1,200	1,500	2,100	2,786	3,557	4,071	4,671			
1				750	1,050	1,313	1,838	2,438	3,113	3,563	4,088			

The allowable working pressures for 304 stainless steel and 316 stainless steel welded tubing to ASTM A269, ASTM/ASME A249 or equivalent based on the following data: Temperature: -20°F to 100°F. Ultimate tensile strength: 75,000 psi; allowable stress: 20,000 psi as specified by ASME B31.3-2002.

### TUBING WORKING PRESSURE TABLE - SEAMLESS

Table 2 - Wall thickness of Tube (Inches)

TUBE OD (IN)	0.01	0.012	0.016	0.02	0.028	0.035	0.049	0.065	0.083	0.095	0.109	0.12	0.134	0.156
1/16	5,587	6,861	9,593	12,185										
1/8					8,565	10,829			Worki	ing Pressure	(psig)			
3/16					5,474	7,039	10,116							
1/4					4,020	5,132	7,500	10,135						
5/16						4,037	5,848	8,071						
3/8						3,326	4,791	6,566						
1/2						2,611	3,741	5,092	6,696					
5/8							2,951	3,998	5,225	6,075				
3/4							2,436	3,289	4,283	4,966	5,785			
7/8							2,073	2,793	3,628	4,199	4,881			
1							1,804	2,427	3,146	3,637	4,220	4,688		
1-1/4									2,485	2,867	3,321	3,682	4,149	4,900
1-1/2									2,046	2,358	2,726	3,020	3,398	4,003

The allowable working pressures for 304 stainless steel and 316 stainless steel seamless tubing to ASTM A269, ASTM/ASME A213 or equivalent based on the following data: Temperature: -20°F to 100°F. Ultimate tensile strength: 75,000 psi; allowable stress: 20,000 psi as specified by ASME B31.3-2002.

### STRESS FACTOR FOR Elevated Temperatures

	STAINLESS STEEL ASTM A-269				
TEMP(°F)	304	316			
100	1.00	1.00			
200	1.00	1.00			
300	1.00	1.00			
400	0.94	0.97			
500	0.88	0.85			
600	0.82	0.85			
700	0.80	0.82			
800	0.76	0.80			
900	0.73	0.78			
1000	0.69	0.77			

To calculate the maximum allowable working pressure for various tubing materials at elevated temperatures, multiply the maximum allowable working pressure for the tube size and wall thickness found in Tables 1 and 2 by the correct stress factor located in this Table.

#### TO SAFELY SELECT PRODUCT:

Merit Brass Company is not a manufacturer of stainless steel tube or tube fittings, but we must stress the importance of choosing high quality tube and fittings to ensure the safety and reliability of your system. Please review your specific system requirements to ensure that they meet your needs, and that the system designer and user choose product with safety in mind. In designing your system, please consider the entire design and select the products necessary to complete your line safely and with performance that is trouble free. It is the responsibility of the system designer, installer and user to determine the system:

- Function
- Material compatibility
- Adequate ratings
- Proper installation, operation and maintenance

WARNING: Valve components should not be mixed or interchanged with any other manufacturer.

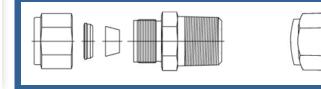
### THREAD SPECIFICATIONS

One or more tubing end connections may exist on a given tube fitting; and therefore, it is important to note that the tube fittings stocked by Merit Brass are supplied with American National Pipe Threads (NPT) unless otherwise described. The reference specification is ASA B2.1; 1960. These threads meet the codified ISO standards as well as individual countries' standards.

Merit can obtain British Standard Pipe Threads (BSP) if you are interested. These BSP threads are available as follows:

- ISO Parallel pipe thread (British Standard Pipe Thread): reference specifications BS2779, ISO 228/1, DIN259, JISB 0202, IS 2643.
- ISO Taper pipe thread (British Standard Pipe Taper Thread): Reference specifications BS 21, ISO 7/1, DIN 2999, JIS B0203, IS 554.

If you are interested in the BSP tube fittings, please contact your sales representative today at mbsales@meritbrass.com or 800.726.9800.



Merit's product offering of stainless steel double-ferrule instrumentation tube fittings are stocked fully assembled, finger-tightened and ready to use immediately. If dirt or foreign materials get into the fitting due to disassembly before use, it can cause leaks.

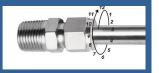
#### There are 3 easy steps to install tube fittings:



**STEP 1:** Insert the tubing into the tube fitting. Make sure that the tubing rests firmly on the shoulders of the fitting and that the nut is snug-tight. The tube does not rotate by hand in this position.



**STEP 2:** Scribe the nut at the 9 o'clock position before tightening the nut.



**STEP 3:** While holding the fitting body steady with a backup wrench, tighten the nut 1-1/4" turns\*. Watch the scribe mark and make one complete revolution. Then continue turning to the 12 o'clock position.

\*For 1/16", 1/8" and 3/16" size tube fittings, only 3/4 turns from finger-tight is required.

### PRE-SETTING

Tube fittings at times must be installed in cramped quarters or overhead. For these applications, it is advantageous to use a preset tool on the tubing in an open ground level area, thus pre-swaging the ferrules onto the tubing. The tubing is then removed from the pre-setting tool. The tubing (with nut and pre-swaged ferrules) can now be attached to the fitting by following the reassembly instructions:

- **Step 1:** Assemble the ferrules and nut to the pre-swaging tool. Insert the tubing until it bottoms out in the fitting body. Next tighten the nut 1-1/4 turns.
- **Step 2:** Loosen the nut and remove the tubing with the pre-swaged ferrules from the pre-setting tool.
- **Step 3:** The connection can now be made simply by snug-tightening the nut as described in the retightening instructions.

Merit can special order pre-set tools for all common fractional instrumentation tube fitting sizes.

### **R**ECOMMENDATIONS FOR **PRE-S**ET TOOL USAGE

When installations comprise a large quantity of fittings or are in hard-to-reach areas, Merit recommends using manual pre-set tools for 1/2" and smaller size tubing and fittings.

Merit suggests using a pre-set tool (hydraulic or manual) for 5/8" and larger tubing sizes in all applications in recognition of the heavy wall tubing's intrinsic strength. For these larger tubing size jobs using tubing with a wall thickness of less than 0.065", only a manual pre-set tool is required. In applications where the tubing wall thickness is 0.065" and above hydraulically pre-setting of the ferrules onto the tubing is specifically recommended.

### CROSS REFERENCE GUIDE

### TUBE FITTINGS CROSS REFERENCE GUIDE

MERIT PART NUMBER	DESCRIPTION	SWAGELOK®	BRENNAN NUMBER
T617-04	1/4" TUBE PLUG	SS-400-P	N0304-04-SS
T617-06	3/8" TUBE PLUG	SS-600-P	N0304-06-SS
T617-08	1/2" TUBE PLUG	SS-810-P	N0304-08-SS
T619-02	1/8" TUBE NUT	SS-202-1	N0318-02-SS
T619-04	1/4" TUBE NUT	SS-402-1	N0318-04-SS
T619-06	3/8" TUBE NUT	SS-602-1	N0318-06-SS
T619-08	1/2" TUBE NUT	SS-812-1	N0318-08-SS
TMJ611-0404	1/4" X 1/4" MALE CONNECTOR (JIC) TUBE BY MALE JIC	SS-400-6-4AN	N2402-04-04-SS
TMJ611-0606	3/8" X 3/8" MALE CONNECTOR (JIC) TUBE BY MALE JIC	SS-600-6-6AN	N2402-06-06-SS
TMJ611-0808 T687-02	1/2" x 1/2" MALE CONNECTOR (JIC)TUBE BY MALE JIC 1/8" X 1/8" UNION TUBE X TUBE	SS-810-6-8AN SS-200-6	N2402-08-08-SS N2403-02-02-SS
T687-0402	1/4" X 1/8" REDUCING UNION TUBE X TUBE	SS-400-6-2	N2403-04-02-SS
T687-04	1/4" X 1/4" UNION TUBE X TUBE	SS-400-6	N2403-04-04-SS
T687-05	5/16" X 5/16" UNION TUBE X TUBE	SS-500-6	N2403-05-05-SS
T687-0604	3/8" X 1/4" REDUCUNG UNION TUBE X TUBE	SS-600-6-4	N2403-06-04-SS
T687-06	3/8" X 3/8" UNION TUBE X TUBE	SS-600-6	N2403-06-06-SS
T687-0806	1/2" X 3/8" REDUCUNG UNION TUBE X TUBE	SS-810-6-6	N2403-08-06-SS
T687-08	1/2" X 1/2" UNION TUBE X TUBE	SS-810-6	N2403-08-08-SS
T687-10	5/8" X 5/8" UNION TUBE X TUBE	SS-1010-6	N2403-10-10-SS
T687-12 T687-16	3/4" X 3/4" UNION TUBE X TUBE 1" X 1" UNION TUBE X TUBE	SS-1210-6 SS-1610-6	N2403-12-12-SS N2403-16-16-SS
TM611-0202	1/8" X 1/8" MALE CONNECTOR TUBE X MALE	SS-1610-6 SS-200-1-2	N2403-16-16-55 N2404-02-02-SS
TM611-0202	1/8" X 1/4" MALE CONNECTOR TOBE X MALE 1/8" X 1/4" MALE CONNECTOR TUBE X MALE	SS-200-1-2 SS-200-1-4	N2404-02-04-SS
TM611-0402	1/4" X 1/4" MALE CONNECTOR TUBE X MALE	SS-400-1-2	N2404-04-02-SS
TM611-0404	1/4" X 1/4" MALE CONNECTOR TUBE X MALE	SS-400-1-4	N2404-04-04-SS
TM611-0406	1/4" X 3/8" MALE CONNECTOR TUBE X MALE	SS-400-1-6	N2404-04-06-SS
TM611-0408	1/4" X 1/2" MALE CONNECTOR TUBE X MALE	SS-400-1-8	N2404-04-08-SS
TM611-0504	5/16" X 1/4" MALE CONNECTOR TUBE X MALE	SS-500-1-4	N2404-05-04-SS
TM611-0602	3/8" X 1/8" MALE CONNECTOR TUBE X MALE	SS-600-1-2	N2404-06-02-SS
TM611-0604	3/8" X 1/4" MALE CONNECTOR TUBE MALE	SS-600-1-4	N2404-06-04-SS N2404-06-06-SS
TM611-0606 TM611-0608	3/8" X 3/8" MALE CONNECTOR TUBE X MALE 3/8" X 1/2" MALE CONNECTOR TUBE X MALE	SS-600-1-6 SS-600-1-8	N2404-06-08-SS
TM611-0804	1/2" X 1/2" MALE CONNECTOR TOBE X MALE	SS-810-1-4	N2404-08-04-SS
TM611-0806	1/2" X 3/8" MALE CONNECTOR TUBE X MALE	SS-810-1-6	N2404-08-06-SS
TM611-0808	1/2" X 1/2" MALE CONNECTOR TUBE X MALE	SS-810-1-8	N2404-08-08-SS
TM611-0812	1/2" X 3/4" MALE CONNECTOR TUBE X MALE	SS-810-1-12	N2404-08-12-SS
TM611-1008	5/8" X 1/2" MALE CONNECTOR TUBE X MALE	SS-1010-1-8	N2404-10-08-SS
TM611-1208	3/4" X 1/2" MALE CONNECTOR TUBE X MALE	SS-1210-1-8	N2404-12-08-SS
TM611-1212	3/4" X 3/4" MALE CONNECTOR TUBE X MALE	SS-1210-1-12	N2404-12-12-SS
TM611-1616	1" X 1" MALE CONNECTOR TUBE X MALE	SS-1610-1-16	N2404-16-16-SS
TF611-0402	1/4" X 1/8" FEMALE CONNECTOR TUBE X FEMALE	SS-400-7-2	N2405-04-02-SS
TF611-0404 TF611-0408	1/4" X 1/4" FEMALE CONNECTOR TUBE X FEMALE 1/4" X 1/2" FEMALE CONNECTOR TUBE X FEMALE	SS-400-7-4 SS-400-7-8	N2405-04-04-SS N2405-04-08-SS
TF611-0408	5/16" X 1/2" FEMALE CONNECTOR TUBE X FEMALE	SS-500-7-4	N2405-05-04-SS
TF611-0604	3/8" X 1/4" FEMALE CONNECTOR TUBE X FEMALE	SS-600-7-4	N2405-06-04-SS
TF611-0606	3/8" X 3/8"FEMALE CONNECTOR TUBE X FEMALE	SS-600-7-6	N2405-06-06-SS
TF611-0608	3/8" X 1/2" FEMALE CONNECTOR TUBE X FEMALE	SS-600-7-8	N2405-06-08-SS
TF611-0804	1/2" X 1/4" FEMALE CONNECTOR TUBE X FEMALE	SS-810-7-4	N2405-08-04-SS
TF611-0806	1/2" X 3/8" FEMALE CONNECTOR TUBE X FEMALE	SS-810-7-6	N2405-08-06-SS
TF611-0808	1/2" x 1/2" FEMALE CONNECTOR TUBE X FEMALE	SS-810-7-8	N2405-08-08-SS
T612-0402	1/4" X 1/8" REDUCER TUBE X MACHINED TUBE STUB	SS-400-R-2	N2406-04-02-SS
T612-0604 T612-0608	3/8" X 1/4" REDUCER TUBE X MACHINED TUBE STUB 3/8" X 1/2" REDUCER TUBE X MACHINED TUBE STUB	SS-600-R-4 SS-600-R-8	N2406-06-04-SS N2406-06-08-SS
T612-0812	1/2" X 3/4" REDUCER TUBE X MACHINED TUBE STUB	SS-810-R-12	N2406-08-12-SS
T612-1208	3/4" X 1/2" REDUCER TUBE X MACHINED TUBE STUB	SS-1210-R-8	N2406-12-08-SS
T616-02	1/8" TUBE CAP	SS-200-C	N2408-02-SS
T616-04	1/4" TUBE CAP	SS-400-C	N2408-04-SS
T616-06	3/8" TUBE CAP	SS-600-C	N2408-06-SS
T616-08	1/2" TUBE CAP	SS-810-C	N2408-08-SS
TPC-06	3/8" PORT CONNECTOR	SS-601-PC	N2440-06-06-SS
T68701-04	1/4" X 1/4" UNION ELBOW TUBE X TUBE	SS-400-9	N2500-04-04-SS
T68701-06	3/8" X 3/8" UNION ELBOW TUBE X TUBE	SS-600-9	N2500-06-06-SS
T68701-08 T68701-12	1/2" X 1/2" UNION ELBOW TUBE X TUBE	SS-810-9 SS-1210-9	N2500-08-08-SS N2500-12-12-SS
TM601-0202	3/4" X 3/4" UNION ELBOW TUBE X TUBE 1/8" X 1/8" MALE ELBOW TUBE X MALE	SS-200-2-2	N2501-02-02-SS
TM601-0402	1/4" X 1/8" MALE ELBOW TUBE X MALE	SS-400-2-2	N2501-04-02-SS
TM601-0404	1/4" X 1/4" MALE ELBOW TOBE X MALE	SS-400-2-4	N2501-04-02-55
TM601-0406	1/4" X 3/8" MALE ELBOW TUBE X MALE	SS-400-2-6	N2501-04-06-SS
TM601-0408	1/4" X 1/2" MALE ELBOW TUBE X MALE	SS-400-2-8	N2501-04-08-SS
TM601-0602	3/8" x 1/8" MALE ELBOW TUBE X MALE	SS-600-2-2	N2501-06-02-SS
TM601-0604	3/8" X 1/4" MALE ELBOW TUBE X MALE	SS-600-2-4	N2501-06-04-SS
TM601-0606	3/8" X 3/8" MALE ELBOW TUBE X MALE	SS-600-2-6	N2501-06-06-SS
TM601-0608	3/8" X 1/2" MALE ELBOW TUBE X MALE	SS-600-2-8	N2501-06-08-SS
TM601-0804	1/2" X 1/4" MALE ELBOW TUBE X MALE	SS-810-2-4	N2501-08-04-SS
TM601-0806	1/2" X 3/8" MALE ELBOW TUBE X MALE	SS-810-2-6	N2501-08-06-SS
TRAC01 0000			
TM601-0808 TM601-1208	1/2" X 1/2" MALE ELBOW TUBE X MALE 3/4" X 1/2" MALE ELBOW TUBE X MALE	SS-810-2-8 SS-1210-2-8	N2501-08-08-SS N2501-12-08-SS

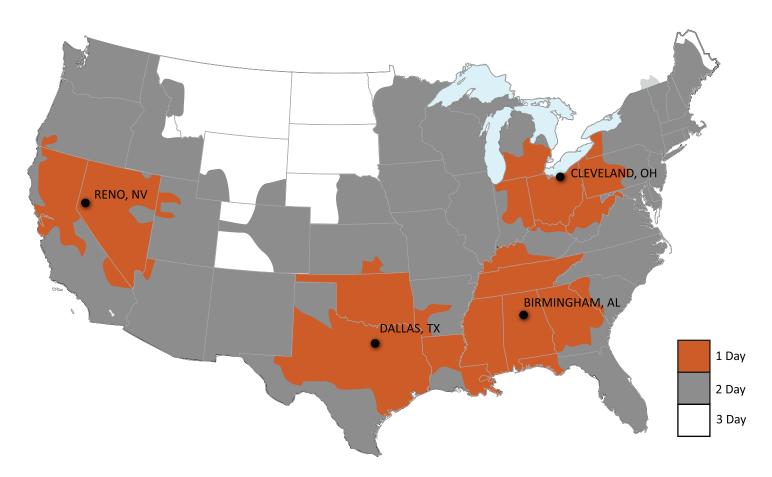
### TUBE FITTINGS CROSS Reference Guide Continued

MERIT PART			
NUMBER	DESCRIPTION	SWAGELOK®	BRENNAN NUMBER
TM601-12	3/4" X 3/4" MALE ELBOW TUBE X MALE	SS-1210-2-12	N2501-12-12-SS
TF601-0402	1/4" X 1/8" FEMALE ELBOW TUBE X FEMALE	SS-400-8-2	N2502-04-02-SS
TF601-0404	1/4" X 1/4" FEMALE ELBOW TUBE X FEMALE	SS-400-8-4	N2502-04-04-SS
TF601-0604	3/8" X 1/4" FEMALE ELBOW TUBE X FEMALE	SS-600-8-4	N2502-06-04-SS
TF601-0606	3/8" X 3/8" FEMALE ELBOW TUBE X FEMALE	SS-600-8-6	N2502-06-06-SS
TF601-0808	1/2" X 1/2" FEMALE ELBOW TUBE X FEMALE	SS-810-8-8	N2502-08-08-SS
TTM606-040402	1/4" X 1/4" X 1/8" MALE BRANCH TEE TUBE X TUBE X MALE	SS-400-3TTM	N2601-04-04-02-SS
TTM606-040404	1/4" X 1/4" X 1/4" MALE BRANCH TEE TUBE X TUBE X MALE	SS-400-3-4TTM	N2601-04-04-04-SS
TTM606-060604	3/8" X 3/8" X 1/4" MALE BRANCH TEE TUBE X TUBE X MALE	SS-600-3-4TTM	N2601-06-06-04-SS
TTM606-060606	3/8" X 3/8" X 3/8" MALE BRANCH TEE TUBE X TUBE X MALE	SS-600-3-6TTM	N2601-06-06-SS
TTM606-080808	1/2" X 1/2" X 1/2" MALE BRANCH TEE TUBE X TUBE X MALE	SS-810-3-8TTM	N2601-08-08-08-SS
T68706-02	1/8" X 1/8" X 1/8" UNION TEE TUBE X TUBE X TUBE	SS-200-3	N2603-02-02-02-SS
T68706-04	1/4" X 1/4" X 1/4" UNION TEE TUBE X TUBE X TUBE	SS-400-3	N2603-04-04-04-SS
T68706-06	3/8" X 3/8" X 3/8" UNION TEE TUBE X TUBE X TUBE	SS-600-3	N2603-06-06-06-SS
T68706-08	1/2" X 1/2" X 1/2" UNION TEE TUBE X TUBE X TUBE	SS-810-3	N2603-08-08-08-SS
TMT606-040204	1/4" x 1/8" x 1/4" MALE RUN TEE TUBE X MALE X TUBE	SS-400-3TMT	N2605-04-02-04-SS
TMT606-040404	1/4" X 1/4" X 1/4" MALE RUN TEE TUBE X MALE X TUBE	SS-400-3-4TMT	N2605-04-04-04-SS
TMT606-060406	3/8" X 1/4" X 3/8" MALE RUN TEE TUBE X MALE X TUBE	SS-600-3TMT	N2605-06-04-06-SS
TBH687-04	1/4" X 1/4" BULKHEAD UNION TUBE X TUBE	SS-400-61	N2700-LN-04-04-SS
TBH687-06	3/8" X 3/8" BULKHEAD UNION TUBE X TUBE	SS-600-61	N2700-LN-06-06-SS
TBH687-08	1/2" x 1/2" BULKHEAD UNION TUBE X TUBE	SS-810-61	N2700-LN-08-08-SS
TMS601P-0606	3/8" X 3/8" 90 DEGREE POSITIONABLE MALE ELBOW TUBE X MALE SAE	SS-600-2-6ST	N6801-06-06-NWO-SS

### TUBE VALVES CROSS REFERENCE GUIDE

MERIT PART#	ITEM DESCRIPTION	SWAGELOK®	BRENNAN
TBVRP-04	1/4" TUBE X 1/4" TUBE REDUCED PORT BALL VALVE	SS-42S4	NVB-1005-SS
TBVFP-04	1/4" TUBE X 1/4" TUBE FULL PORT BALL VALVE	SS-43S4	NVB-1006-SS
TBVFPF-04	1/4" FNPT X 1/4" FNPT FULL PORT BALL VALVE	SS-43F4	NVB-1007-SS
TBVFP-06	3/8" TUBE X 3/8" TUBE FULL PORT BALL VALVE	SS-44S6	NVB-1012-SS
TBVFPF-06	3/8" FNPT X 3/8" FNPT FULL PORT BALL VALVE	SS-44F6	NVB-1013-SS
TBVFP-08	1/2" TUBE X 1/2" TUBE FULL PORT BALL VALVE	SS-45S8	NVB-1014-SS
TBVFPF-08	1/2" FNPT X 1/2" FNPT FULL PORT BALL VALVE	SS-45F8	NVB-1015-SS
TBV3RP-04	1/4" TUBE X 1/4" TUBE X 1/4" TUBE 3 WAY REDUCED PORT BALL VALVE	SS-42XS4	NVB-1104-SS
TBV3FPF-04	1/4" FNPT X 1/4" FNPT X 1/4" FNPT 3 WAY FULL PORT BALL VALVE	SS-44XF4	NVB-1107-SS
TNVR-04	1/4" TUBE X 1/4" TUBE REGULATING NEEDLE VALVE	SS-1RS4	NVN-2007-SS
TNVRF-04	1/4" FNPT X 1/4" FNPT REGULATING NEEDLE VALVE	SS-1RF4	NVN-2008-SS
TNVRM-04	1/4" MNPT X 1/4" MNPT REGULATING NEEDLE VALVE	SS-1RM4	NVN-2009-SS
TNVR-06	3/8" TUBE X 3/8" TUBE REGULATING NEEDLE VALVE	SS-1RS6	NVN-2013-SS
TNVR-08	1/2" TUBE X 1/2" TUBE REGULATING NEEDLE VALVE	SS-1RS8	NVN-2018-SS
TNVVM-04	1/4" MNPT X 1/4" MNPT VEE-STEM NEEDLE VALVE	SS-1VM4	NVN-2031-SS
TNVV-04	1/4" TUBE X 1/4" TUBE VEE-STEM NEEDLE VALVE	SS-1VS4	NVN-2032-SS
TNVVF-04	1/4" FNPT X 1/4" FNPT VEE-STEM NEEDLE VALVE	SS-1VF4	NVN-2033-SS
TNVV-06	3/8" TUBE X 3/8" TUBE VEE-STEM NEEDLE VALVE	SS-1VS6	NVN-2035-SS
TNVVM-06	3/8" MNPT X 3/8" MNPT VEE-STEM NEEDLE VALVE	SS-1VM6	NVN-2037-SS
TNVV-08	1/2" TUBE X 1/2" TUBE VEE-STEM NEEDLE VALVE	SS-1VS8	NVN-2038-SS

## SHIPPING TIMES



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