



# MiniButtweld™ Fittings

September 2010

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ENGINEERING YOUR SUCCESS.

# MiniButtweld™ Fittings

## Parker Veriflo Division



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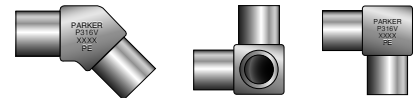
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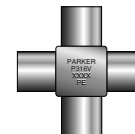
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### ⚠ WARNING – USER RESPONSIBILITY

**FAILURE OR IMPROPER SELECTION OR IMPROPER USE OF THE PRODUCTS DESCRIBED HEREIN OR RELATED ITEMS CAN CAUSE DEATH, PERSONAL INJURY AND PROPERTY DAMAGE.**

This document and other information from Parker-Hannifin Corporation, its subsidiaries and authorized distributors provide product or system options for further investigation by users having technical expertise.

The user, through its own analysis and testing, is solely responsible for making the final selection of the system and components and assuring that all performance, endurance, maintenance, safety and warning requirements of the application are met. The user must analyze all aspects of the application, follow applicable industry standards, and follow the information concerning the product in the current product catalog and in any other materials provided from Parker or its subsidiaries or authorized distributors.

To the extent that Parker or its subsidiaries or authorized distributors provide component or system options based upon data or specifications provided by the user, the user is responsible for determining that such data and specifications are suitable and sufficient for all applications and reasonably foreseeable uses of the components or systems.

Proposition 65 Warning: This product contains chemicals known to the state of California to cause cancer or birth defects or other reproductive harm.

### Offer of Sale

The items described in this document are hereby offered for sale by Parker-Hannifin Corporation, its subsidiaries or its authorized distributors. This offer and its acceptance are governed by the provisions stated in the detailed "Offer of Sale" elsewhere in this document or available at [www.parker.com/veriflo](http://www.parker.com/veriflo).

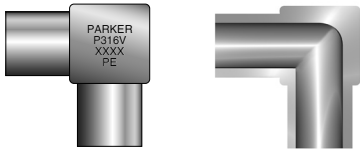
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## Introduction

Parker UHP fittings are designed as leak-free components for applications where ultra-high pure applications are required. MiniButtweld™ fittings provide compact ultra-high pure designs for use with orbital weld equipment. Their unique machining and surface enhancement prevent outgassing and inhibit corrosion.

## Standard Features

- 316L VIM/VAR Material
- Permanently Heat Code marked; traceable to original mill certificate of test.
- Components permanently marked with designator PE on cube have controlled surface finishes to meet requirements of ultra-high purity systems.
- Critical surfaces are 100% visually inspected using magnification and lighting.
- Material composition printed on bag.



## Materials

- 316L VIM/VAR Material complies with ASTM A276 and ASME SA479. Recommended tubing specifications include ASME SA213, ASTM A213, ASTM A249, ASTM A269, MIL T8504, and MIL T8506.

## Specifications

- Pressure Ratings will be governed by the tubing selected for a particular application. Working Pressures are calculated below for tubing using maximum allowable stress levels in accordance with ASME/ANSI B31.3, at ambient temperature.

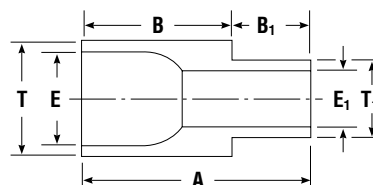
Tube O.D.	Pressure Rating		Normal Wall Thickness
	psig	bar	
1/8 in.	8500	580	.028 in.
1/4 in.	5100	350	.035 in.
3/8 in.	3300	220	.035 in.
1/2 in.	3500	240	.049 in.
6mm	6600	460	1 mm

- Dimensions are for reference only and are subject to change.
- Internal Surface Finishes: Standard finish MiniButtweld™ fittings have an internal Surface Roughness of 15 µinch Ra. PE MiniButtweld fittings have an internal Surface Roughness of 5 µinch Ra.
- Cleaning and Packaging: Ultra-High Purity cleaning and packaging in a Class 100 Clean Room environment, is standard for all components. Consult your local Parker Distributor or the factory for more information.

# MiniButtweld™ Fittings

## Reducing Union

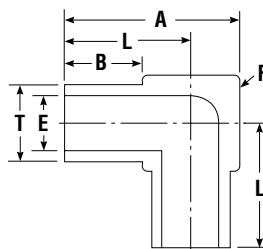
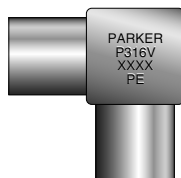
For fractional tube



T Tube O.D.	T <sub>1</sub> Tube O.D.	Parker Part Number	A		B		B <sub>1</sub>		E		E <sub>1</sub>	
			in.	mm	in.	mm	in.	mm	in.	mm.	in.	mm.
1/4	1/8	<b>4-2 MHM-SSV .035 .028</b>	0.75	19.1	0.50	12.7	0.25	6.4	0.18	4.6	0.07	1.8
3/8	1/4	<b>6-4 MHM-SSV .035</b>	0.75	19.1	0.50	12.7	0.25	6.4	0.30	7.7	0.18	4.6
1/2	1/4	<b>8-4 MHM-SSV .049 .035</b>	0.75	19.1	0.50	12.7	0.25	6.4	0.40	10.2	0.18	4.6
1/2	3/8	<b>8-6 MHM-SSV .049 .035</b>	0.75	19.1	0.50	12.7	0.25	6.4	0.40	10.2	0.30	7.7

## 90° Union Elbow

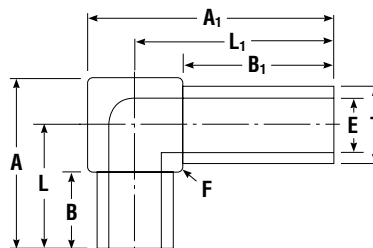
For fractional tube



T Tube O.D.	Parker Part Number	A		B		E		F Body Cube	L	
		in.	mm	in.	mm	in.	mm.		in.	mm.
1/8	<b>2-2 MEM-SSV .028</b>	0.56	14.2	0.25	6.4	0.07	1.8	5/16	0.41	10.4
1/4	<b>4-4 MEM-SSV .035</b>	0.56	14.2	0.25	6.4	0.18	4.6	5/16	0.41	10.4
3/8	<b>6-6 MEM-SSV .035</b>	0.69	17.5	0.25	6.4	0.30	7.7	7/16	0.47	11.9
1/2	<b>8-8 MEM-SSV .049</b>	0.81	20.6	0.25	6.4	0.40	10.2	9/16	0.53	13.5
6 mm	<b>6M-6M MEM-SSV</b>	0.56	14.2	0.25	6.4	0.16	4.1	5/16	0.41	10.4

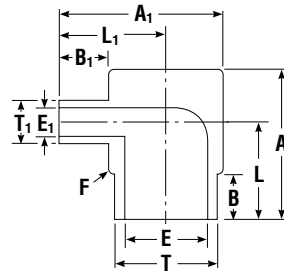
## Extended Leg 90° Union Elbow

For fractional tube



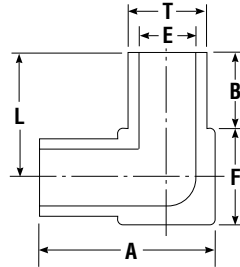
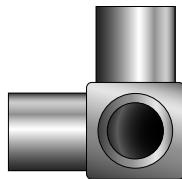
T Tube O.D.	Parker Part Number	A		A <sub>1</sub>		B		B <sub>1</sub>		E		F Body Cube	L		L <sub>1</sub>	
		in.	mm	in.	mm	in.	mm	in.	mm	in.	mm.		in.	mm.	in.	mm.
1/4	<b>4-4 MEM1-SSV .035</b>	0.56	14.2	0.76	19.3	0.25	6.4	.45	0.5	0.18	4.6	5/16	0.41	10.41	0.61	15.5
1/4	<b>4-4 MEM2-SSV .035</b>	0.56	14.2	0.81	20.6	0.25	6.4	.50	0.5	0.18	4.6	5/16	0.41	10.41	0.66	16.8
1/4	<b>4-4 M1EM1-SSV .035</b>	0.76	19.3	0.76	19.3	0.45	11.4	.45	0.5	0.18	4.6	5/16	0.61	15.49	0.61	15.5
1/4	<b>4-4 M2EM2-SSV .035</b>	0.81	20.6	0.81	20.6	0.50	12.7	.50	0.5	0.18	4.6	5/16	0.66	16.76	0.66	16.8

## Reducing Elbow For fractional tube



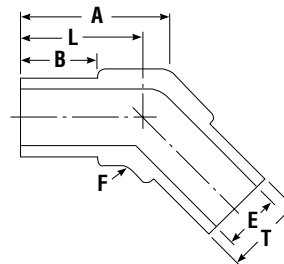
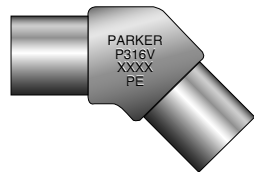
T Tube O.D.	T <sub>1</sub> Tube O.D.	Parker Part Number	A		A <sub>1</sub>		B		B <sub>1</sub>		E		E <sub>1</sub>		F Body Cube	L		L <sub>1</sub>	
			in.	mm	in.	mm	in.	mm	in.	mm	in.	mm	in.	mm		in.	mm	in.	mm
3/8	1/4	<b>6-4 MEM-SSV .035</b>	0.69	17.5	0.69	17.5	0.25	6.4	0.25	6.4	0.30	7.7	0.18	4.6	7/16	0.47	11.9	0.47	11.9
1/2	1/4	<b>8-4 MEM-SSV .049 .035</b>	0.81	20.6	0.81	20.6	0.25	6.4	0.25	6.4	0.40	10.2	0.18	4.6	9/16	0.53	13.5	0.53	13.5
1/2	3/8	<b>8-6 MEM-SSV .049 .035</b>	0.81	20.6	0.81	20.6	0.25	6.4	0.25	6.4	0.40	10.2	0.30	7.7	9/16	0.53	13.5	0.53	13.5

## Tribow For fractional tube



T Tube O.D.	Parker Part Number	A		B		E		F Body Cube	L	
		in.	mm	in.	mm	in.	mm		in.	mm
1/4	<b>4-4-4 MOJM-SSV .035</b>	0.56	14.2	0.25	6.4	0.18	4.6	5/16	0.41	10.4
3/8	<b>6-6-6 MOJM-SSV .035</b>	0.69	17.5	0.25	6.4	0.30	7.7	7/16	0.47	11.9
1/2	<b>8-8-8 MOJM-SSV .049</b>	0.81	20.6	0.25	6.4	0.40	10.2	9/16	0.53	13.5

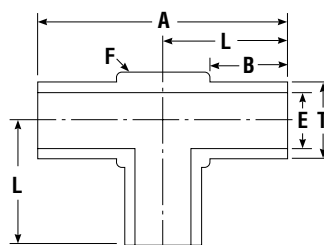
## 45° Union Elbow For fractional tube



T Tube O.D.	Parker Part Number	A		B		E		F Body Cube	L	
		in.	mm	in.	mm	in.	mm		in.	mm
1/4	<b>4-4 MVM-SSV .035</b>	0.47	11.9	0.25	6.4	0.18	4.6	5/16	0.41	10.4
3/8	<b>6-6 MVM-SSV .035</b>	0.56	14.2	0.25	6.4	0.30	7.7	7/16	0.47	11.9
1/2	<b>8-8 MVM-SSV .049</b>	0.64	16.3	0.25	6.4	0.40	10.2	9/16	0.53	13.5

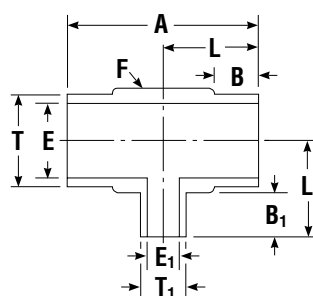
# MiniButtWeld™ Fittings

## Union Tee For fractional tube



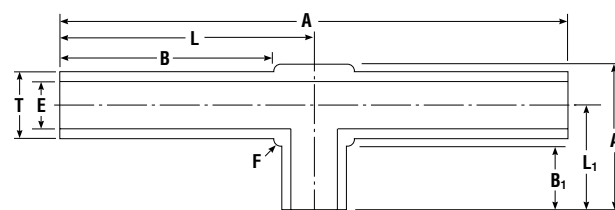
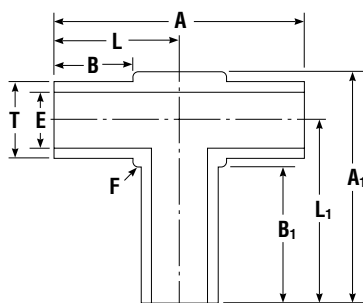
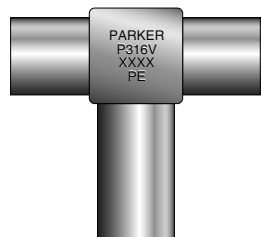
T Tube O.D.	Parker Part Number	A		B		E		F Body Cube	L	
		in.	mm	in.	mm	in.	mm.		in.	mm.
1/8	2-2-2 MJM-SSV .028	0.82	20.8	0.25	6.4	0.07	1.8	5/16	0.41	10.4
1/4	4-4-4 MJM-SSV .035	0.82	20.8	0.25	6.4	0.18	4.6	5/16	0.41	10.4
3/8	6-6-6 MJM-SSV .035	0.94	23.9	0.25	6.4	0.30	7.7	7/16	0.47	11.9
1/2	8-8-8 MJM-SSV .049	1.06	26.9	0.25	6.4	0.40	10.2	9/16	0.53	13.5
6 mm	6M-6M-6M MJM-SSV	0.82	20.8	0.25	6.4	0.16	4.1	5/16	0.41	10.4

## Reducing Tee For fractional tube



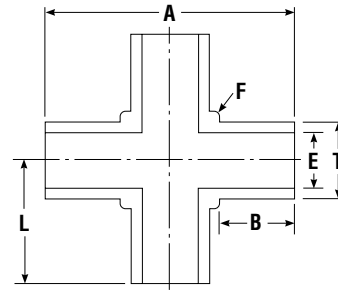
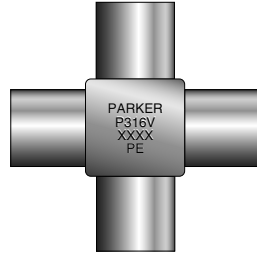
T Tube O.D.	T <sub>1</sub> Tube O.D.	Parker Part Number	A		B		B <sub>1</sub>		E		E <sub>1</sub>		F Body Cube	L		L <sub>1</sub>	
			in.	mm	in.	mm	in.	mm	in.	mm.	in.	mm.		in.	mm	in.	mm.
3/8	1/4	6-6-4 MJM-SSV .035	0.94	23.9	0.25	6.4	0.25	6.4	0.30	7.7	0.18	4.6	7/16	0.47	11.9	0.47	11.9
1/2	1/4	8-8-4 MJM-SSV049049035	1.06	26.9	0.25	6.4	0.25	6.4	0.40	10.2	0.18	4.6	9/16	0.53	13.5	0.53	13.5
1/2	3/8	8-8-6 MJM-SSV049049035	1.06	26.9	0.25	6.4	0.25	6.4	0.40	10.2	0.30	7.7	9/16	0.53	13.5	0.53	13.5

## Extended Leg Union Tee For fractional tube



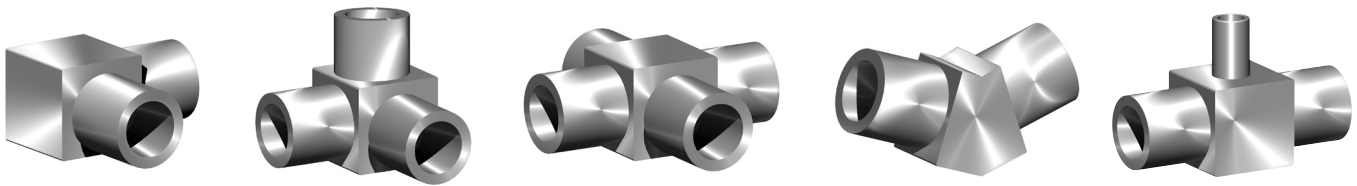
T Tube O.D.	Parker Part Number	A		A <sub>1</sub>		B		B <sub>1</sub>		E		F Body Cube	L		L <sub>1</sub>	
		in.	mm	in.	mm	in.	mm	in.	mm	in.	mm.		in.	mm	in.	mm.
1/4	4-4-4 MJM1-SSV .035	0.82	20.8	0.76	19.3	0.25	6.4	0.45	11.4	0.18	4.6	5/16	0.41	10.4	0.61	15.5
1/4	4-4-4 M3JM-SSV .035	1.97	50.0	0.56	14.2	0.83	21.1	0.25	6.4	0.18	4.6	5/16	0.98	24.9	0.41	10.4

## Union Cross For fractional tube



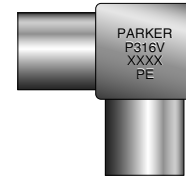
T Tube O.D.	Parker Part Number	A		B		E		F Body Cube	L	
		in.	mm	in.	mm	in.	mm.		in.	mm.
1/8	<b>2 MKM-SSV .028</b>	0.82	20.8	0.25	6.4	0.07	1.8	5/16	0.41	10.4
1/4	<b>4 MKM-SSV .035</b>	0.82	20.8	0.25	6.4	0.18	4.6	5/16	0.41	10.4
3/8	<b>6 MKM-SSV .035</b>	0.94	23.9	0.25	6.4	0.30	7.7	7/16	0.47	11.9
1/2	<b>8 MKM-SSV .049</b>	1.06	26.9	0.25	6.4	0.40	10.2	9/16	0.53	13.5
6 mm	<b>6M MKM-SSV</b>	0.82	20.8	0.25	6.4	0.16	4.1	5/16	0.41	10.4

## Ordering Instructions



**Example:** If your system requires an electropolished 90° Elbow orbital tube weld fitting connecting from 1/4" O.D. tubing to 1/4" O.D. tubing, .035" wall thickness, you would order the following part:

4-4 - MEM - SSV .035 - PE  
 | | | | |  
 Size Type Material Wall Thickness Electropolished  
 5 μinch Ra



**Size:** Tube sizes are designated by the number of sixteenths of an inch. (i.e. 1/4" O.D. tube=4/16"=4) Metric Tube O.D. is designated in millimeters and prefixed by "M". (i.e. 6M-6M MEM-SSV)

**Type:** Designates shape of component: H=Union, E=90° Elbow, V= 45° Elbow, J=Tee, K=Cross, OJ=Tribow.

**Material:** 316L VIM/VAR Stainless Steel. High-purity Nickel and Hastelloy C-22® available upon request.

**Wall Thickness:** Fittings must be specified to match tube wall thicknesses. See page 3 for standard wall thicknesses, other sizes available upon request.

Hastelloy C-22® is a registered trademark of Haynes International, Inc.

**How To Order** — Parker MiniButtWeld™ Components are ordered by Part Number, as listed in this catalog.

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