



# MiniButtweld™ Fittings

September 2010

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# MiniButtweld™ Fittings

Parker Veriflo Division



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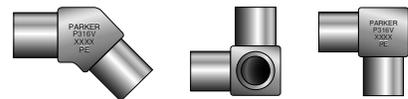
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### WARNING – USER RESPONSIBILITY

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

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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

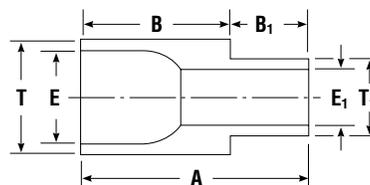
- Pressure Ratings will be governed by the tubing selected for a particular application. Working Pressures are calculated below for tubing using maximum allowable stress levels in accordance with ASME/ANSI B31.3, at ambient temperature.

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.

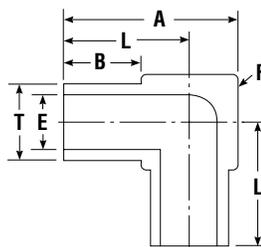
# MiniButtweld™ Fittings

## Reducing Union For fractional tube



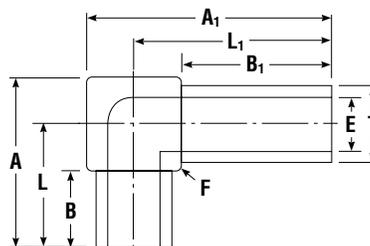
T Tube O.D.	T <sub>1</sub> Tube O.D.	Parker Part Number	A		B		B <sub>1</sub>		E		E <sub>1</sub>	
			in.	mm	in.	mm	in.	mm	in.	mm.	in.	mm.
1/4	1/8	<b>4-2 MHM-SSV .035 .028</b>	0.75	19.1	0.50	12.7	0.25	6.4	0.18	4.6	0.07	1.8
3/8	1/4	<b>6-4 MHM-SSV .035</b>	0.75	19.1	0.50	12.7	0.25	6.4	0.30	7.7	0.18	4.6
1/2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



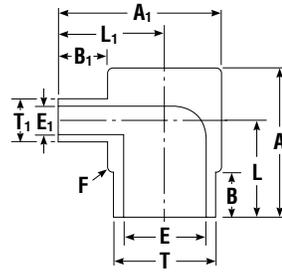
T Tube O.D.	Parker Part Number	A		B		E		F Body Cube	L	
		in.	mm	in.	mm	in.	mm.		in.	mm.
1/8	<b>2-2 MEM-SSV .028</b>	0.56	14.2	0.25	6.4	0.07	1.8	5/16	0.41	10.4
1/4	<b>4-4 MEM-SSV .035</b>	0.56	14.2	0.25	6.4	0.18	4.6	5/16	0.41	10.4
3/8	<b>6-6 MEM-SSV .035</b>	0.69	17.5	0.25	6.4	0.30	7.7	7/16	0.47	11.9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



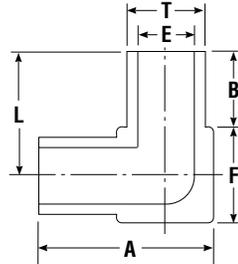
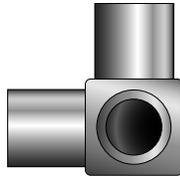
T Tube O.D.	Parker Part Number	A		A <sub>1</sub>		B		B <sub>1</sub>		E		F Body Cube	L		L <sub>1</sub>	
		in.	mm	in.	mm	in.	mm	in.	mm	in.	mm.		in.	mm.	in.	mm.
1/4	<b>4-4 MEM1-SSV .035</b>	0.56	14.2	0.76	19.3	0.25	6.4	.45	0.5	0.18	4.6	5/16	0.41	10.41	0.61	15.5
1/4	<b>4-4 MEM2-SSV .035</b>	0.56	14.2	0.81	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



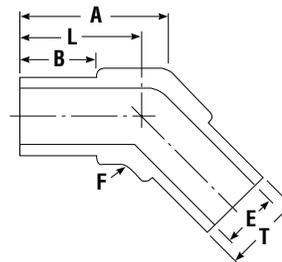
T Tube O.D.	T <sub>1</sub> Tube O.D.	Parker Part Number	A		A <sub>1</sub>		B		B <sub>1</sub>		E		E <sub>1</sub>		F Body Cube	L		L <sub>1</sub>	
			in.	mm	in.	mm	in.	mm	in.	mm	in.	mm	in.	mm		in.	mm	in.	mm
3/8	1/4	<b>6-4 MEM-SSV .035</b>	0.69	17.5	0.69	17.5	0.25	6.4	0.25	6.4	0.30	7.7	0.18	4.6	7/16	0.47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

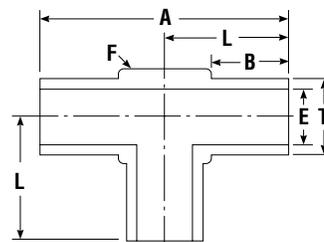
## 45° Union Elbow For fractional tube



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

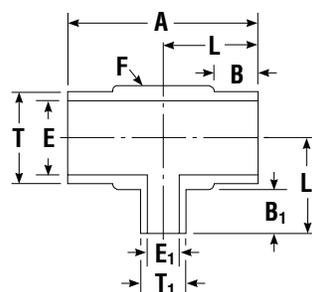
# MiniButtWeld™ Fittings

## Union Tee For fractional tube



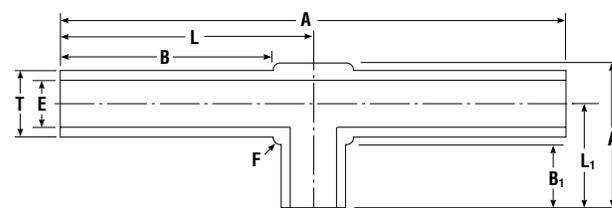
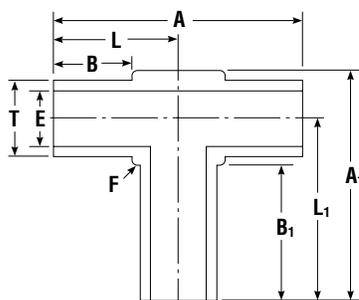
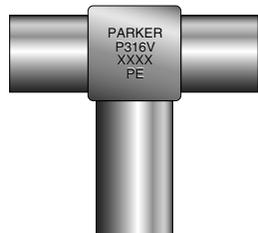
T Tube O.D.	Parker Part Number	A		B		E		F Body Cube	L	
		in.	mm	in.	mm	in.	mm.		in.	mm.
1/8	<b>2-2-2 MJM-SSV .028</b>	0.82	20.8	0.25	6.4	0.07	1.8	5/16	0.41	10.4
1/4	<b>4-4-4 MJM-SSV .035</b>	0.82	20.8	0.25	6.4	0.18	4.6	5/16	0.41	10.4
3/8	<b>6-6-6 MJM-SSV .035</b>	0.94	23.9	0.25	6.4	0.30	7.7	7/16	0.47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

## Reducing Tee For fractional tube



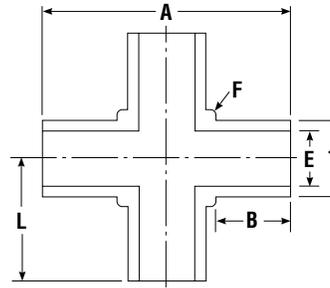
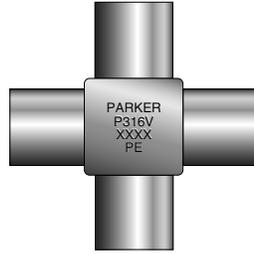
T Tube O.D.	T <sub>1</sub> Tube O.D.	Parker Part Number	A		B		B <sub>1</sub>		E		E <sub>1</sub>		F Body Cube	L		L <sub>1</sub>	
			in.	mm	in.	mm	in.	mm	in.	mm.	in.	mm.		in.	mm.	in.	mm.
3/8	1/4	<b>6-6-4 MJM-SSV .035</b>	0.94	23.9	0.25	6.4	0.25	6.4	0.30	7.7	0.18	4.6	7/16	0.47	11.9	0.47	11.9
1/2	1/4	<b>8-8-4 MJM-SSV049049035</b>	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	<b>8-8-6 MJM-SSV049049035</b>	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	<b>4-4-4 MJM1-SSV .035</b>	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	<b>4-4-4 M3JM-SSV .035</b>	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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