



Marine Fittings and Valves

*Catalog 3520
Summer 2006*



The World Standard



OTSEGO, MICHIGAN



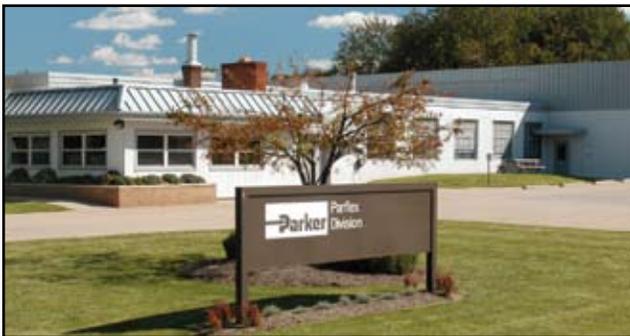
ANNEMASSE, FRANCE



ALBION, INDIANA



LAKEVIEW, MICHIGAN



KENT, OHIO

WARNING

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

Before selecting or using any Parker hose or fittings or related accessories, it is important that you read and follow Parker Safety Guide for Selecting and Using Hose, Fittings, and Related Accessories (Parker Publication No. 4400-B.1).

This document and other information from Parker Hannifin Corporation, its subsidiaries and authorized distributors provide product and/or system options for further investigation by users having technical expertise. It is important that you analyze all aspects of your application and review the information concerning the product or system, in the current catalog. Due to the variety of operating conditions and applications for these products or systems, the user, through its own analysis and testing, is solely responsible for making the final selection of the products and systems and assuring that all performance, safety and warning requirements are met.

The products described herein, including without limitation, product features, specifications, designs, availability and pricing, are subject to change by Parker Hannifin Corporation and its subsidiaries at any time without notice.

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 on the separate page of this document entitled "Offer of Sale".

© Copyright 1997, Parker Hannifin Corporation, All Rights Reserved



Parker Hannifin Corporation
Fluid Connectors Group
Otsego, Michigan

Table of Contents

Hose Barb Fittings	3
Pipe Fittings.....	5
Flare Fittings.....	7
Inverted Flare Fittings.....	9
Compression Fittings.....	10
Compress–Align® Fittings	12
TrueSeal™	14
Fast & Tite®	16
Par-Barb	18
Ball Valves	19
Garden Hose Fittings.....	22
Needle Valves & Drain Cocks	23
Numerical Index.....	25
Parker Safety Guide	26
Offer of Sale	28

Hose Barb Fittings

- Use with Hose Clamp
- Beaded & Standard Hose Barbs
- 150 PSI
- -40°to +160°F



Beaded Hose Barb to Male Pipe

PART NO.	HOSE SIZE	PIPE SIZE
68HB-6-6	3/8	3/8
68HB-8-4	1/2	1/4
68HB-8-6	1/2	3/8
68HB-8-8	1/2	1/2
68HB-10-6	5/8	3/8
68HB-10-8	5/8	1/2
68HB-12-8	3/4	1/2
68HB-12-12	3/4	3/4
68HB-16-12	1	3/4
68HB-16-16	1	1



Beaded Hose Barb to SAE Straight Thread

PART NO.	HOSE SIZE	STRAIGHT THREAD
685HB-4-4	1/4	7-16-20
685HB-6-4	3/8	7/16-20
685HB-8-8	1/2	3/4-16
685HB-10-8	5/8	3/4-16
685HB-12-8	3/4	3/4-16
685HB-12-12	3/4	1 1/16-12
685HB-16-8	1	3/4-16
685HB-16-12	1	1 1/16-12



Hose Barb to Male Pipe

PART NO.	HOSE SIZE I.D.	PIPE THREAD
125HB-2-2	1/8	1/8
125HB-3-2	3/16	1/8
125HB-3-4	3/16	1/4
125HBL-4-2	1/4	1/8
125HBL-4-4	1/4	1/4
125HBL-4-6	1/4	3/8
125HBL-5-2	5/16	1/8
125HBL-5-4	5/16	1/4
125HBL-5-6	5/16	3/8
125HBL-6-2	3/8	1/8
125HBL-6-4	3/8	1/4
125HBL-6-6	3/8	3/8
125HBL-6-8	3/8	1/2
125HBL-8-4	1/2	1/4
125HBL-8-6	1/2	3/8
125HBL-8-8	1/2	1/2
125HBL-8-12	1/2	3/4
125HBL-10-6	5/8	3/8
125HBL-10-8	5/8	1/2
125HBL-10-12	5/8	3/4
125HBL-12-8	3/4	1/2
125HBL-12-12	3/4	3/4
125HBL-16-12	1	3/4
125HBL-16-16	1	1



Stainless Steel Worm Drive Clamp

PART NO.	MAX.	MIN.
97HC-3	0.62	0.25
97HC-6	0.87	0.38
97HC-8	1.00	0.44
97HC-12	1.25	0.50



Male Swivel Hose Barb

PART NO.	HOSE SIZE I.D.	PIPE THREAD
125HBLSV-4-4	1/4	1/4
125HBLSV-6-4	3/8	1/4
125HBLSV-6-6	3/8	3/8
125HBLSV-8-8	1/2	1/2



Hose Mender

PART NO.	HOSE SIZE I.D.
122HB-3	3/16
122HBL-4	1/4
122HBL-5	5/16
122HBL-6	3/8
122HBL-8	1/2
122HBL-12	3/4



Hose Barb to Female Pipe

PART NO.	HOSE SIZE I.D.	PIPE THREAD
126HBL-4-2	1/4	1/8
126HBL-4-4	1/4	1/4
126HBL-5-4	5/16	1/4
126HBL-6-2	3/8	1/8
126HBL-6-4	3/8	1/4
126HBL-6-6	3/8	3/8
126HBL-8-6	1/2	3/8
126HBL-8-8	1/2	1/2
126HBL-12-12	3/4	3/4



Hose Barb to Swivel Female Ball-End

PART NO.	HOSE SIZE I.D.	PIPE THREAD
128HBLSV-4-4	1/4	1/4
128HBLSV-5-4	5/16	1/4
128HBLSV-6-4	3/8	1/4
128HBLSV-6-6	3/8	3/8
128HBLSV-8-8	1/2	1/2



Hose Barb Tee to SAE Straight Thread

PART NO.	HOSE SIZE	STRAIGHT THREAD
1725HB-6-6	3/8	9/16-18



Hose Barb 90° Elbow to Male Pipe

PART NO.	HOSE SIZE I.D.	PIPE THREAD
129HB-3-2	3/16	1/8
129HB-4-2	1/4	1/8
129HB-4-4	1/4	1/4
129HB-4-6	1/4	3/8
129HB-5-2	5/16	1/8
129HB-5-4	5/16	1/4
129HB-5-6	5/16	3/8
129HB-6-2	3/8	1/8
129HB-6-4	3/8	1/4
129HB-6-6	3/8	3/8
129HB-6-8	3/8	1/2
129HB-8-4	1/2	1/4
129HB-8-6	1/2	3/8
129HB-8-8	1/2	1/2
129HB-12-12	3/4	3/4



Hose Barb Tee to Male Pipe

PART NO.	HOSE SIZE I.D.	PIPE THREAD
171HB-4-4	1/4	1/4



Beaded Hose Barb 45° Elbow to Male Pipe

PART NO.	HOSE SIZE I.D.	PIPE THREAD
179HB-6-4	3/8	1/4
179HB-6-6	3/8	3/8
179HB-10-8	5/8	1/2
179HB-12-8	3/4	1/2



Hose Barb Elbow to SAE Straight Thread

PART NO.	HOSE SIZE	STRAIGHT THREAD
1295HB-6-6	3/8	9/16-18



Beaded Hose Barb 45° Elbow to SAE Straight Thread

PART NO.	HOSE SIZE	STRAIGHT THREAD
1795HB-8-8	1/2	3/4-16
1795HB-10-8	5/8	3/4-16
1795HB-12-8	3/4	3/4-16
1795HB-12-12	3/4	1 1/16-12
1795HB-16-12	1	1 1/16-12
1795HB-16-14	1	1 3/16-12



Hose Barb 45° Elbow to Male Pipe

PART NO.	HOSE SIZE I.D.	PIPE THREAD
139HB-4-2	1/4	1/8
139HB-4-4	1/4	1/4
139HB-6-4	3/8	1/4



Beaded Hose Barb 90° Elbow to Male Pipe

PART NO.	HOSE SIZE I.D.	PIPE THREAD
269HB-6-6	3/8	3/8
269HB-8-4	1/2	1/4
269HB-8-6	1/2	3/8
269HB-8-8	1/2	1/2
269HB-10-4	5/8	1/4
269HB-10-6	5/8	3/8
269HB-10-8	5/8	1/2
269HB-12-8	3/4	1/2
269HB-12-12	3/4	3/4



Hose Barb to Swivel 45° Female Flare

PART NO.	HOSE SIZE	STRAIGHT THREAD
146HBLFSV-4-4	1/4	7/16-20
146HBLFSV-4-6	1/4	5/8-18
146HBLFSV-6-6	3/8	5/8-18



Beaded Hose Barb Elbow to SAE Straight Thread

PART NO.	HOSE SIZE	STRAIGHT THREAD
1695HB-6-4	3/8	7/16-20
1695HB-8-6	1/2	9/16-18
1695HB-8-8	1/2	3/4-16
1695HB-10-8	5/8	3/4-16
1695HB-10-10	5/8	7/8-14
1695HB-12-8	3/4	3/4-16
1695HB-12-10	3/4	7/8-14
1695HB-12-12	3/4	1 1/16-12
1695HB-16-12	1	1 1/16-12



Pipe Fittings

- SAE Standards
- Dryseal Threads
- 1,000 PSI
- -65° to +250°F



Anchor Coupling 207ACBH

PART NO.	PIPE SIZE
207ACBH-4	1/4
207ACBHS-4	1/4
207ACBH-6	3/8
207ACBH-8	1/2
207ACBH-12	3/4
207ACBH-16	1



Coupling 207P

PART NO.	PIPE SIZE
207P-4	1/4
207P-6	3/8
207P-8	1/2
207P-12	3/4



Reducer Coupling 208P

PART NO.	PIPE SIZE
208P-4-2	1/4 x 1/8
208P-6-4	3/8 x 1/4
208P-8-4	1/2 x 1/4
208P-8-6	1/2 x 3/8
208P-12-6	3/4 x 3/8
208P-12-8	3/4 x 1/2



Bushing 209P

PART NO.	PIPE SIZE
209P-4-2	1/4 x 1/8
209P-6-2	3/8 x 1/8
209P-6-4	3/8 x 1/4
209P-8-4	1/2 x 1/4
209P-8-6	1/2 x 3/8
209P-12-6	3/4 x 3/8
209P-12-8	3/4 x 1/2
209P-16-8	1 x 1/2
209P-16-12	1 x 3/4



Square-Head Plug 211P

PART NO.	PIPE SIZE
211P-4	1/4
211P-6	3/8
211P-8	1/2
211P-12	3/4



Cap 213P

PART NO.	PIPE SIZE
213P-4	1/4
213P-6	3/8
213P-8	1/2
213P-12	3/4



Close Nipple 215PN

PART NO.	PIPE SIZE
215PN-4	1/4
215PN-6	3/8
215PN-8	1/2
215PN-12	3/4



Long Nipple 215PNL

PART NO.	PIPE SIZE
215PNL-4-15	1/4 x 1.5
215PNL-6-15	3/8 x 1.5
215PNL-8-15	1/2 x 1.5
215PNL-4-20	1/4 x 2
215PNL-6-20	3/8 x 2
215PNL-8-20	1/2 x 2
215PNL-4-25	1/4 x 2.5
215PNL-6-25	3/8 x 2.5
215PNL-8-25	1/2 x 2.5
215PNL-4-30	1/4 x 3
215PNL-6-30	3/8 x 3
215PNL-8-30	1/2 x 3
215PNL-4-35	1/4 x 3.5
215PNL-6-35	3/8 x 3.5
215PNL-8-35	1/2 x 3.5



Hex Nipple 216P

PART NO.	PIPE SIZE
216P-4	1/4
216P-6	3/8
216P-8	1/2
216P-12	3/4



Hex Nipple Reducers 216P

PART NO.	PIPE SIZE
216P-4-2	1/4 x 1/8
216P-6-4	3/8 x 1/4
216P-8-6	1/2 x 3/8
216P-12-8	3/4 x 1/2



Hex-Head Plug 218P

PART NO.	PIPE SIZE
218P-4	1/4
218P-6	3/8
218P-8	1/2
218P-12	3/4



45° Street Elbow 2214P

PART NO.	PIPE SIZE
2214P-4-4	1/4
2214P-6-6	3/8
2214P-8-8	1/2



Countersunk Hex-Head Plug 219P

PART NO.	PIPE SIZE
219P-4	1/4
219P-6	3/8
219P-8	1/2
219P-12	3/4



Adapter 222P

PART NO.	PIPE SIZE
222P-4-2	1/4 x 1/8
222P-4-4	1/4 x 1/4
222P-6-4	3/8 x 1/4
222P-6-6	3/8 x 3/8
222P-8-6	1/2 x 3/8
222P-8-8	1/2 x 1/2
222P-12-8	3/4 x 1/2
222P-12-12	3/4 x 3/4



90° Union Elbow 1200P-2200P

PART NO.	PIPE SIZE
1200P-4-4	1/4
1200P-6-6	3/8
2200P-8-8	1/2



1200P

2200P

90° Street Elbow 1202P - 2202P

PART NO.	PIPE SIZE
2202P-4-2	1/4 x 1/8
1202P-4-4	1/4 x 1/4
2202P-4-6	1/4 x 3/8
1202P-6-4	3/8 x 1/4
1202P-6-6	3/8 x 3/8
1202P-6-8	3/8 x 1/2
1202P-8-6	1/2 x 3/8
2202P-8-8	1/2 x 1/2
2202P-12-8	3/4 x 1/2
2202P-12-12	3/4 x 3/4



1202P

2202P

Union Tee 1203P - 2203P

PART NO.	PIPE SIZE
1203P-4	1/4
2203P-6	3/8
1203P-8	1/2
2202P-12	3/4



1203P

2203P

Male Elbow 1204P

PART NO.	PIPE SIZE
1204P-4	1/4
1204P-6	3/8
1204P-8	1/2



Flare Fittings

- Meets SAE Functional Requirements
- UL Listed
- -65° to +250°F



Swivel Nut Connector

PART NO.	TUBE SIZE
14FSV-4	1/4
14FSV-6	3/8
14FSV-8	1/2
14FSV-10	5/8



Long Nut

PART NO.	TUBE SIZE
41FL-2	1/8
41FL-3	3/16
41FL-4	1/4
41FL-5	5/16
41FL-6	3/8
41FL-8	1/2
41FL-10	5/8
41FL-12	3/4



Short Nut

PART NO.	TUBE SIZE
41FS-2	1/8
41FS-3	3/16
41FS-4	1/4
41FS-5	5/16
41FS-6	3/8
41FS-8	1/2
41FS-10	5/8
41FS-12	3/4



Union

PART NO.	TUBE SIZE
42F-2	1/8
42F-3	3/16
42F-4	1/4
42F-5	5/16
42F-6	3/8
42F-8	1/2
42F-10	5/8
42F-12	3/4



Union Reducers

PART NO.	TUBE SIZE
42F-6-4	3/8 x 1/4
42F-8-6	1/2 x 3/8
42F-10-8	5/8 x 1/2



Female Connector

PART NO.	TUBE SIZE	PIPE THREAD
46F-2-2	1/8	1/8
46F-3-2	3/16	1/8
46F-4-2	1/4	1/8
46F-4-4	1/4	1/4
46F-5-4	5/16	1/4
46F-6-2	3/8	1/8
46F-6-4	3/8	1/4
46F-6-6	3/8	3/8
46F-6-8	3/8	1/2
46F-8-6	1/2	3/8
46F-8-8	1/2	1/2
46F-8-12	1/2	3/4
46F-10-12	5/8	3/4
46F-10-12	5/8	3/4



Male Connector

PART NO.	TUBE SIZE	PIPE THREAD
48F-2-2	1/8	1/8
48F-3-2	3/16	1/8
48F-3-4	3/16	1/4
48F-4-2	1/4	1/8
48F-4-4	1/4	1/4
48F-4-6	1/4	3/8
48F-5-4	5/16	1/4
48F-6-2	3/8	1/8
48F-6-4	3/8	1/4
48F-6-6	3/8	3/8
48F-6-8	3/8	1/2
48F-8-6	1/2	3/8
48F-8-8	1/2	1/2
48F-8-12	1/2	3/4
48F-10-8	5/8	1/2
48F-10-12	5/8	3/4
48F-12-8	3/4	1/2
48F-12-12	3/4	3/4



Union Tee

PART NO.	TUBE SIZE
144F-3	3/16
144F-4	1/4
144F-5	5/16
144F-6	3/8
144F-8	1/2
144F-10	5/8



Union Tee Reducer

PART NO.	TUBE SIZE
144F-6-6-4	3/8 x 3/8 x 1/4
144F-8-8-6	1/2 x 1/2 x 3/8

Male Branch Tee

PART NO.	TUBE SIZE	PIPE THREAD
145F-2-2	1/8	1/8
145F-4-2	1/4	1/8
145F-4-4	1/4	1/4
145F-5-4	5/16	1/4
145F-6-4	3/8	1/4
145F-6-6	3/8	3/8
145F-8-6	1/2	3/8
145F-8-8	1/2	1/2
145F-10-8	5/8	1/2



Male Elbow

PART NO.	TUBE SIZE	PIPE THREAD
149F-2-2	1/8	1/8
149F-3-2	3/16	1/8
149F-4-2	1/4	1/8
149F-4-4	1/4	1/4
149F-4-6	1/4	3/8
149F-5-2	5/16	1/8
149F-5-4	5/16	1/4
149F-6-4	3/8	1/4
149F-6-6	3/8	3/8
149F-6-8	3/8	3/8
149F-8-6	1/2	3/8
149F-8-8	1/2	1/2
149F-8-12	1/2	3/4
149F-10-8	5/8	1/2
149F-10-12	5/8	3/4
149F-12-8	3/4	1/2
149F-12-12	3/4	3/4



Male Run Tee

PART NO.	TUBE SIZE	PIPE THREAD
151F-4-2	1/4	1/8
151F-4-4	1/4	1/4
151F-5-4	5/16	1/4
151F-6-4	3/8	1/4
151F-6-6	3/8	3/8
151F-8-6	1/2	3/8
151F-8-8	1/2	1/2
151F-10-8	5/8	1/2



45° Elbow

PART NO.	TUBE SIZE	PIPE THREAD
159F-4-2	1/4	1/8
159F-4-4	1/4	1/4
159F-5-4	5/16	1/4
159F-6-4	3/8	1/4
159F-6-6	3/8	3/8
159F-8-6	1/2	3/8
159F-8-8	1/2	1/2
159F-10-8	5/8	1/2
159F-12-8	3/4	1/2



Cap Nut

PART NO.	TUBE SIZE
630F-3	3/16
640F-4	1/4
640F-5	5/16
640F-6	3/8
640F-8	1/2
640F-10	5/8



Inverted Flare Fittings

- Economical
- UL listed
- -65° to +250°F



Nut

PART NO.	TUBE SIZE
411F-2	1/8
411F-3	3/16
411F-4	1/4
411F-5	5/16
411F-6	3/8
411F-8	1/2



Union

PART NO.	TUBE SIZE
421FHD-2	1/8
421FHD-3	5/16
421FHD-4	1/4
421FHD-5	5/16
421FHD-6	3/8
421FHD-8	1/2



Male Connector

PART NO.	TUBE SIZE	PIPE THREAD
481FHD-2-2	1/8	1/8
481FHD-3-2	3/16	1/8
481FHD-4-2	1/4	1/8
481FHD-4-4	1/4	1/4
481FHD-5-4	5/16	1/4
481FHD-6-2	3/8	1/8
481FHD-6-4	3/8	1/4
481FHD-6-6	3/8	3/8
481FHD-8-6	1/2	3/8
481FHD-8-8	1/2	1/2
481FHD-12-8	3/4	1/2
481FHD-12-12	3/4	3/4



Union Tee

PART NO.	TUBE SIZE
2441FHD-3	3/16
2441FHD-4	1/4
2441FHD-5	5/16
2441FHD-6	3/8
2441FHD-8	1/2



Male Elbow

PART NO.	TUBE SIZE	PIPE THREAD
2491FHD-2-2	1/8	1/8
2491FHD-3-2	3/16	1/8
2491FHD-4-2	1/4	1/8
2491FHD-4-4	1/4	1/4
2491FHD-5-4	5/16	1/4
2491FHD-6-4	3/8	1/4
2491FHD-6-6	3/8	3/8
2491FHD-8-6	1/2	3/8
2491FHD-8-8	1/2	1/2
2491FHD-10-8	5/8	1/2



Compression Fittings

- Meets SAE Functional Requirements
- UL Listed
- -65° to +250°F



Sleeve

PART NO.	TUBE SIZE
60C-4	1/4
60C-5	5/16
60C-6	3/8
60C-8	1/2
60C-10	5/8
60C-12	3/4



Nut

PART NO.	TUBE SIZE
61C-4	1/4
61C-5	5/16
61C-6	3/8
61C-8	1/2
61C-10	5/8
61C-12	3/4



Long Nut

PART NO.	TUBE SIZE
61CL-4	1/4
61CL-5	5/16
61CL-6	3/8
61CL-8	1/2
61CL-10	5/8
61CL-12	3/4



Union

PART NO.	TUBE SIZE
62C-4	1/4
62C-5	5/16
62C-6	3/8
62C-8	1/2
62C-10	5/8
62C-12	3/4



Union Reducers

PART NO.	TUBE SIZE
62C-4-3	1/4 x 3/16
62C-6-4	3/8 x 1/4
62C-8-6	1/2 x 3/8
62C-10-6	5/8 x 3/8

Bulkhead Union

PART NO.	TUBE SIZE
62CBH-4	1/4
62CBH-6	3/8



Brass Insert

PART NO.	TUBE O.D.	TUBE WALL
63PT-4-40	1/4	.040
63PT-4-62	1/4	.062
63PT-5-40	5/16	.040
63PT-5-62	5/16	.062
63PT-6-62	3/8	.062
63PT-8-62	1/2	.062
63PT-10-62	5/8	.062

Female Connector

PART NO.	TUBE SIZE	PIPE THREAD
66C-4-2	1/4	1/8
66C-4-4	1/4	1/4
66C-5-4	5/16	1/4
66C-6-2	3/8	1/8
66C-6-4	3/8	1/4
66C-6-6	3/8	3/8
66C-8-6	1/2	3/8
66C-8-8	1/2	1/2
66C-10-8	5/8	1/2



Male Connector

PART NO.	TUBE SIZE	PIPE THREAD
68C-4-2	1/4	1/8
68C-4-4	1/4	1/4
68C-4-6	1/4	3/8
68C-5-4	5/16	1/4
68C-6-4	3/8	1/4
68C-6-6	3/8	3/8
68C-8-6	1/2	3/8
68C-8-8	1/2	1/2
68C-10-8	5/8	1/2
68C-10-12	5/8	3/4
68C-12-8	3/4	1/2
68C-12-12	3/4	3/4



Union Tee

PART NO.	TUBE SIZE\
164C-4	1/4
164C-5	5/16
164C-6	3/8
164C-8	1/2
164C-10	5/8
164C-12	3/4



Male Elbow

PART NO.	TUBE SIZE	PIPE THREAD
169C-4-2	1/4	1/8
169C-4-4	1/4	1/4
169C-5-4	5/16	1/4
169C-6-4	3/8	1/4
169C-6-6	3/8	3/8
169C-8-6	1/2	3/8
169C-8-8	1/2	1/2
169C-10-8	5/8	1/2
169C-12-8	3/4	1/2
169C-12-12	3/4	3/4



Male Run Tee

PART NO.	TUBE SIZE	PIPE THREAD
171C-4-2	1/4	1/8
171C-4-4	1/4	1/4
171C-6-4	3/8	1/4



Male Branch Tee

PART NO.	TUBE SIZE	PIPE THREAD
172C-4-2	1/4	1/8
172C-4-4	1/4	1/4
172C-6-4	3/8	1/4
172C-6-6	3/8	3/8
172C-8-6	1/2	3/8



45° Elbow

PART NO.	TUBE SIZE	PIPE THREAD
179C-4-2	1/4	1/8
179C-4-4	1/4	1/4
179C-6-2	3/8	1/8
179C-6-4	3/8	1/4
179C-6-6	3/8	3/8
179C-8-6	1/2	3/8



Compress-Align® Fittings

- Captive Sleeve
- Two Piece
- Pre-assembled
- -65° to +250°F



Nut & Sleeve Assembly

PART NO.	TUBE SIZE
61CA-4	1/4
61CA-5	5/16
61CA-6	3/8
61CA-8	1/2
61CA-10	5/8
61CA-12	3/4
61CA-16	1



Female Connector

PART NO.	TUBE SIZE	PIPE THREAD
66CA-4-2	1/4	1/8
66CA-4-4	1/4	1/4
66CA-5-4	5/16	1/4
66CA-6-4	3/8	1/4
66CA-6-6	3/8	3/8
66CA-8-6	1/2	3/8
66CA-8-8	1/2	1/2
66CA-10-8	5/8	1/2



Union

PART NO.	TUBE SIZE
62CA-4	1/4
62CA-5	5/16
62CA-6	3/8
62CA-8	1/2
62CA-10	5/8
62CA-12	3/4



Male Connector

PART NO.	TUBE SIZE	PIPE THREAD
68CA-4-2	1/4	1/8
68CA-4-4	1/4	1/4
68CA-5-4	5/16	1/4
68CA-6-4	3/8	1/4
68CA-6-6	3/8	3/8
68CA-8-6	1/2	3/8
68CA-8-8	1/2	1/2
68CA-10-8	5/8	1/2
68CA-10-12	5/8	3/4
68CA-12-8	3/4	1/2
68CA-12-12	3/4	3/4
68CA-16-12	1	3/4
68CA-16-16	1	1



Union Reducers

PART NO.	TUBE SIZE
62CA-4-3	1/4 x 3/16
62CA-6-4	3/8 x 1/4
62CA-8-6	1/2 x 3/8
62CA-10-6	5/8 x 3/8

Bulkhead Union

PART NO.	TUBE SIZE
62CABH-4	1/4
62CABH-6	3/8



Bulkhead Union

PART NO.	TUBE SIZE
62PCABH-4	1/4
62PCABH-6	3/8



Union Tee

PART NO.	TUBE SIZE
164CA-4	1/4
164CA-5	5/16
164CA-6	3/8
164CA-8	1/2
164CA-10	5/8
164CA-12	3/4



Male Elbow

PART NO.	TUBE SIZE	PIPE THREAD
169CA-4-2	1/4	1/8
169CA-4-4	1/4	1/4
169CA-5-4	5/16	1/4
169CA-6-4	3/8	1/4
169CA-6-6	3/8	3/8
169CA-8-6	1/2	3/8
169CA-8-8	1/2	1/2
169CA-10-6	5/8	3/8
169CA-10-8	5/8	1/2
169CA-12-8	3/4	1/2
169CA-12-12	3/4	3/4
169CA-16-12	1	3/4



Male Run Tee

PART NO.	TUBE SIZE	PIPE THREAD
171CA-4-2	1/4	1/8
171CA-4-4	1/4	1/4
171CA-6-4	3/8	1/4



Male Branch Tee

PART NO.	TUBE SIZE	PIPE THREAD
172CA-4-2	1/4	1/8
172CA-4-4	1/4	1/4
172CA-6-4	3/8	1/4
172CA-6-6	3/8	3/8
172CA-8-6	1/2	3/8
172CA-12-12	3/4	3/4



45° Elbow

PART NO.	TUBE SIZE	PIPE THREAD
179CA-4-2	1/4	1/8
179CA-4-4	1/4	1/4
179CA-6-2	3/8	1/8
179CA-6-4	3/8	1/4
179CA-6-6	3/8	3/8
179CA-8-6	1/2	3/8



TrueSeal™

- All Plastic Body Design
- FDA Compliant
- NSF-51 & NSF-61 Listed
- 300 PSI for 1/4", 5/16" & 3/8" Sizes, 250 PSI for 1/2"
- -20° to +180°F



Male Connector

ACETAL PART NO.	TUBE SIZE	THREAD SIZE
A4MC4-MG	1/4	1/4
A5MC4-MG	5/16	1/4
A6MC4-MG	3/8	1/4
A6MC6-MG	3/8	3/8
A6MC8-MG	3/8	1/2
A8MC6-MG	1/2	3/8
A8MC8-MG	1/2	1/2



Male Tee Swivel

ACETAL PART NO.	TUBE SIZE	THREAD SIZE
A4MTS4-MG	1/4	1/4
A5MTS4-MG	5/16	1/4
A6MTS4-MG	3/8	1/4
A6MTS6-MG	3/8	3/8
A8MTS6-MG	1/2	3/8
A8MTS8-MG	1/2	1/2



Union Tee

ACETAL PART NO.	TUBE SIZE
A4TU4-MG	1/4
A5TU5-MG	5/16
A6TU4-MG	3/8 x 1/4
A6TU6-MG	3/8
A8TU8-MG	1/2



Union

ACETAL PART NO.	TUBE SIZE
A4UC4-MG	1/4
A5UC4-MG	5/16
A5UC5-MG	5/16
A6UC4-MG	3/8
A6UC5-MG	3/8
A6UC6-MG	3/8
A8UC6-MG	1/2
A8UC8-MG	1/2



Y Union

ACETAL PART NO.	TUBE SIZE
A5WY5-MG	5/16
A6WY4-MG	3/8 x 1/4
A6WY5-MG	3/8 x 5/16
A6WY6-MG	3/8



Faucet Adapter

ACETAL PART NO.	TUBE SIZE	THREAD SIZE
A4FA7-MG	1/4	7/16-24
A5FA7-MG	5/16	7/16-24
A6FA7-MG	3/8	7/16-24



Male Elbow Swivel

ACETAL PART NO.	TUBE SIZE	THREAD SIZE
A4MES4-MG	1/4	1/4
A5MES4-MG	5/16	1/4
A6MES4-MG	3/8	1/4
A6MES6-MG	3/8	3/8
A8MES6-MG	1/2	3/8
A8MES8-MG	1/2	1/2



Female Connector

ACETAL PART NO.	TUBE SIZE	THREAD SIZE
A4FC4-MG	1/4	1/4
A5FC4-MG	5/16	1/4
A6FC4-MG	3/8	1/4
A6FC6-MG	3/8	3/8
A6FC8-MG	3/8	1/2
A8FC6-MG	1/2	3/8
A8FC8-MG	1/2	1/2



Male Run Swivel

ACETAL PART NO.	TUBE SIZE	THREAD SIZE
A4MRS4-MG	1/4	1/4
A5MRS4-MG	5/16	1/4
A6MRS4-MG	3/8	1/4
A6MRS6-MG	3/8	3/8
A8MRS6-MG	1/2	3/8
A8MRS8-MG	1/2	1/2



Tube Stem Adapter

ACETAL PART NO.	TUBE SIZE	THREAD SIZE
A4TMC4	1/4	1/4
A5TMC4	5/16	1/4
A6TMC4	3/8	1/4
A6TMC6	3/8	3/8
A8TMC6	1/2	3/8
A8TMC8	1/2	1/2



Bulkhead Union

ACETAL PART NO.	TUBE SIZE
A4BU4-MG	1/4
A5BU5-MG	5/16
A6BU4-MG	3/8 x 1/4
A6BU6-MG	3/8
A8BU8-MG	1/2



Plug

ACETAL PART NO.	TUBE SIZE
A4TPL	1/4
A6TPL	3/8
A8TPL	1/2



Tube Elbow Union

ACETAL PART NO.	TUBE SIZE
A4TEU4-MG	1/4
A4TEU6-MG	1/4 x 3/8
A5TEU5-MG	5/16
A6TEU4-MG	3/8 x 1/4
A6TEU6-MG	3/8
A8TEU8-MG	1/2



Tube Faucet Adapter - Female Thread

ACETAL PART NO.	TUBE SIZE	THREAD SIZE
AW6TFA7-MG	3/8	7/16-24
AW6TFA8-MG	3/8	1/4-14 NPSM
AW6TFA9-MG	3/8	9/16-24



Tube Reducer

ACETAL PART NO.	TUBE SIZE
A4RD5-MG	1/4 x 5/16
A4RD6-MG	1/4 x 3/8
A5RD6-MG	5/16 x 3/8
A5RD8-MG	5/16 x 1/2
A6RD8-MG	3/8 x 1/2



Tube Faucet Adapter - Male Thread

ACETAL PART NO.	TUBE SIZE	THREAD SIZE
AW6TAF7-MG	3/8	7/16-24
AW6TAF8-MG	3/8	1/4-14 NPSM
AW6TAF9-MG	3/8	9/16-24



Tube Cap

ACETAL PART NO.	TUBE SIZE
A4CAP-MG	1/4
A6CAP-MG	3/8



Safety Clip

PART NO.	TUBE SIZE
SC-4	1/4
SC-5	5/16
SC-6	3/8
SC-8	1/2



Male Elbow

ACETAL PART NO.	TUBE SIZE	THREAD SIZE
A4ME4-MG	1/4	1/4
A5ME4-MG	5/16	1/4
A6ME4-MG	3/8	1/4
A6ME6-MG	3/8	3/8



Tube Supports

NYLON PART NO.	POLYPROPYLENE TUBE SIZE	TUBE SIZE
N4TS3	P4TS3	1/4
N5TS3	P5TS3	5/16
N6TS4	P6TS4	3/8
N8TS6	P8TS6	1/2



Tube-to-Barb Connector

ACETAL PART NO.	TUBE SIZE	TUBE I.D.
A4TCB4	1/4	1/4
A6TCB4	3/8	1/4
A6TCB6	3/8	3/8
A8TCB6	1/2	3/8
A8TCB8	1/2	1/2



Tube Elbow Barb Connector

ACETAL PART NO.	TUBE SIZE	TUBE I.D.
A4TEB4	1/4	1/4
A6TEB6	3/8	3/8
A8TEB8	1/2	1/2



Fast & Tite®

- FDA Compliant
- NSF-51 Listed
- Stainless Steel Grab Ring
- 0° to +212°F for Polypropylene
- -40° to +200°F for Nylon



Male Connector

WHITE POLYPROPYLENE PART NO.	BLACK POLYPROPYLENE PART NO.	WHITE NYLON PART NO.	TUBE SIZE	PIPE SIZE
W4MC4	P4MC4	N4MC4	1/4	1/4
W5MC4(+)	P5MC4	N5MC4	5/16	1/4
W6MC4	P6MC4	N6MC4	3/8	1/4
W6MC6	P6MC6	N6MC6	3/8	3/8
W8MC6	P8MC6	N8MC6	1/2	3/8
W8MC8	P8MC8	N8MC8	1/2	1/2
W10MC8(+)	P10MC8	N10MC8	5/8	1/2
W10MC12(+)	P10MC12	N10MC12	5/8	3/4



Union Connector

WHITE POLYPROPYLENE PART NO.	BLACK POLYPROPYLENE PART NO.	WHITE NYLON PART NO.	TUBE SIZE
W4UC4	P4UC4	N4UC4	1/4
W5UC4(+)	P5UC4	N5UC4	5/16 x 1/4
W5UC5(+)	P5UC5	N5UC5	5/16
W6UC4	P6UC4	N6UC4	3/8 x 1/4
W6UC6	P6UC6	N6UC6	3/8
W8UC6	P8UC6	N8UC6	1/2 x 3/8
W8UC8	P8UC8	N8UC8	1/2
W10UC8(+)	P10UC8	N10UC8	5/8 x 1/2
W10UC10(+)	P10UC10	N10UC10	5/8



Male Elbow

WHITE POLYPROPYLENE PART NO.	BLACK POLYPROPYLENE PART NO.	WHITE NYLON PART NO.	TUBE SIZE	PIPE SIZE
W4ME4	P4ME4	N4ME4	1/4	1/4
W5ME4(+)	P5ME4	N5ME4	5/16	1/4
W6ME4	P6ME4	N6ME4	3/8	1/4
W6ME6	P6ME6	N6ME6	3/8	3/8
W8ME6	P8ME6	N8ME6	1/2	3/8
W8ME8	P8ME8	N8ME8	1/2	1/2
W10ME8(+)	P10ME8	N10ME8	5/8	1/2



Bulkhead Union

WHITE POLYPROPYLENE PART NO.	BLACK POLYPROPYLENE PART NO.	WHITE NYLON PART NO.	TUBE SIZE
W4BU4	P4BU4	N4BU4	1/4
W5BU5(+)	P5BU5	N5BU5	5/16
W6BU6	P6BU6	N6BU6	3/8
W8BU8	P8BU8	N8BU8	1/2



Female Connector

WHITE POLYPROPYLENE PART NO.	BLACK POLYPROPYLENE PART NO.	WHITE NYLON PART NO.	TUBE SIZE	PIPE SIZE
W4FC4	P4FC4	N4FC4	1/4	1/4
W6FC4	P6FC4	N6FC4	3/8	1/4
W6FC6	P6FC6	N6FC6	3/8	3/8
W8FC6	P8FC6	N8FC6	1/2	3/8
W8FC8	P8FC8	N8FC8	1/2	1/2
W10FC8(+)	P10FC8	N10FC8	5/8	1/2



Male Run Tee

WHITE POLYPROPYLENE PART NO.	BLACK POLYPROPYLENE PART NO.	WHITE NYLON PART NO.	TUBE SIZE	PIPE SIZE
W6MR4	P6MR4	N6MR4	3/8	1/4
W8MR6	P8MR6	N8MR6	1/2	3/8
W10MR8(+)	P10MR8	N10MR8	5/8	1/2



Tee Union

WHITE POLYPROPYLENE PART NO.	BLACK POLYPROPYLENE PART NO.	WHITE NYLON PART NO.	TUBE SIZE
W4TU4	P4TU4	N4TU4	1/4
W5TU5(+)	P5TU5	N5TU5	5/16
W6TU6	P6TU6	N6TU6	3/8
W8TU6	P8TU6	N8TU6	1/2 x 3/8
W8TU8	P8TU8	N8TU8	1/2



Male Branch Tee

WHITE POLYPROPYLENE PART NO.	BLACK POLYPROPYLENE PART NO.	WHITE NYLON PART NO.	TUBE SIZE	PIPE SIZE
W4MT4	P4MT4	N4MT4	1/4	1/4
W5MT4(+)	P5MT4	N5MT4	5/16	1/4
W6MT4	P6MT4	N6MT4	3/8	1/4
W6MT6	P6MT6	N6MT6	3/8	3/8
W8MT6	P8MT6	N8MT6	1/2	3/8
W8MT8	P8MT8	N8MT8	1/2	1/2
W10MT8(+)	P10MT8	N10MT8	5/8	1/2



Nut & Spacer Sets

WHITE POLYPROPYLENE PART NO.	BLACK POLYPROPYLENE PART NO.	WHITE NYLON PART NO.	TUBE SIZE
W4NS	P4NS	N4NS	1/4
W5NS	P5NS	N5NS	5/16
W6NS	P6NS	N6NS	3/8
W8NS	P8NS	N8NS	1/2
W10NS	P10NS	N10NS	5/8



Grab Ring

PART NO.	TUBE SIZE
4GR	1/4
5GR	5/16
6GR	3/8
8GR	1/2
10GR	5/8



O-Ring

PART NO.	TUBE SIZE
4OR	1/4
5OR	5/16
6OR	3/8
8OR	1/2
10OR	5/8



Tube Supports

POLYPROPYLENE PART NO.	NYLON PART NO.	TUBE SIZE
P4TS3	N4TS3	1/4
P5TS3	N5TS3	5/16
P6TS4	N6TS4	3/8
P8TS6	N8TS6	1/2
P10TS8	N10TS8	5/8



Par-Barb

- FDA Compliant
- NSF-51 Listed
- High Strength, Chemically Inert
- 125 PSI
- -65° to +190°F for Polyethylene
- -40° to +200°F for Nylon



Tee Union

POLYETHYLENE PART NO.	NYLON PART NO.	TUBE SIZE
P3TUB3	N3TUB3	3/16
P4TUB4	N4TUB4	1/4
P5TUB5	N5TUB5	5/16
P6TUB4	N6TUB4	3/8 x 1/4
P6TUB6	N6TUB6	3/8
P8TUB6	N8TUB6	1/2 x 3/8
P8TUB8	N8TUB8	1/2
P10TUB8	N10TUB8	5/8 x 1/2
P10TUB10	N10TUB10	5/8



Male Elbow

POLYETHYLENE PART NO.	NYLON PART NO.	TUBE SIZE	PIPE SIZE
P3MEB2	N3MEB2	3/16	1/8
P4MEB4	N4MEB4	1/4	1/4
P6MEB4	N6MEB4	3/8	1/4
P6MEB6	N6MEB6	3/8	3/8
P8MEB6	N6MEB6	1/2	3/8
P8MEB8	N8MEB8	1/2	1/2
P8MEB12	N8MEB12	1/2	3/4
P10MEB8	N10MEB8	5/8	1/2
P10MEB12	N10MEB12	5/8	3/4
P12MEB8	N12MEB8	3/4	1/2



Elbow Union

POLYETHYLENE PART NO.	NYLON PART NO.	TUBE SIZE
P4EUB4	N4EUB4	1/4
P6EUB6	N6EUB6	3/8
P8EUB8	N8EUB8	1/2
P10EUB10	N10EUB10	5/8



Union Connector

POLYETHYLENE PART NO.	NYLON PART NO.	TUBE SIZE
P3UCB3	N3UCB3	3/16
P4UCB4	N4UCB4	1/4
P5UCB5	N5UCB5	5/16
P6UCB4	N6UCB4	3/8 x 1/4
P6UCB6	N6UCB6	3/8
P8UCB6	N8UCB6	1/2 x 3/8
P8UCB8	N8UCB8	1/2
P10UCB8	N10UCB8	5/8 x 1/2
P10UCB10	N10UCB10	5/8



Male Branch Tee

POLYETHYLENE PART NO.	NYLON PART NO.	TUBE SIZE	PIPE SIZE
P3MTB2	N3MTB2	3/16	1/8
P4MTB4	N4MTB4	1/4	1/4
P6MTB4	N6MTB4	3/8	1/4
P6MTB6	N6MTB6	3/8	3/8
P8MTB6	N8MTB6	1/2	3/8
P8MTB8	N8MTB8	1/2	1/2
P12MTB12	N12MTB12	3/4	3/4



Hex Pipe Nipple

POLYETHYLENE PART NO.	NYLON PART NO.	PIPE SIZE
P4HPN4	N4HPN4	1/4
P6HPN4	N6HPN4	3/8 x 1/4
P6HPN6	N6HPN6	3/8
P8HPN6	N8HPN6	1/2 x 3/8
P8HPN8	N8HPN8	1/2
P12HPN8	N12HPN8	3/4 x 1/2
P10HPN12	N10HPN12	5/8 x 3/4



Hex-Head Pipe Plug

POLYETHYLENE PART NO.	NYLON PART NO.	PIPE SIZE
P2HPL	N2HPL	1/8
P4HPL	N4HPL	1/4
P6HPL	N6HPL	3/8
P8HPL	N8HPL	1/2
P12HPL	N12HPL	3/4



Male Connector

POLYETHYLENE PART NO.	NYLON PART NO.	TUBE SIZE	PIPE SIZE
P3MCB2	N3MCB2	3/16	1/8
P4MCB4	N4MCB4	1/4	1/4
P5MCB4	N5MCB4	5/16	1/4
P6MCB4	N6MCB4	3/8	1/4
P6MCB6	N6MCB6	3/8	3/8
P8MCB6	N8MCB6	1/2	3/8
P8MCB8	N8MCB8	1/2	1/2
P8MCB12	N8MCB12	1/2	3/4
P10MCB8	N10MCB8	5/8	1/2
P10MCB12	N10MCB12	5/8	3/4
P12MCB8	N12MCB8	3/4	1/2
P12MCB12	N12MCB12	3/4	3/4



Ball Valves

- Brass, Stainless & Polypropylene
- UL Listed
- Padlocking & Vented Options
- Handle Options
- Bi-directional



Female - Female Pipe Ends

PART NO.	PIPE THREAD	PRESSURE RATING
XV500P-4	1/4	600 PSI
XV500P-6	3/8	600 PSI
XV500P-8	1/2	600 PSI
XV500P-12	3/4	600 PSI
XV500P-16	1	600 PSI
XV500P-20	1 1/4	600 PSI
XV500P-24	1 1/2	600 PSI
XV500P-24	2	600 PSI



Tee Handle, Male-Female Pipe Ends

PART NO.	PIPE THREAD	PRESSURE RATING
XV501P-4-04	1/4	600 PSI
XV501P-6-04	3/8	600 PSI
XV501P-8-04	1/2	600 PSI
XV501P-12-04	3/4	600 PSI
XV501P-16-04	1	600 PSI



OSHA 29 CFR Part 1910 Vented, Padlock, Female Ends

PART NO.	PIPE THREAD	PRESSURE RATING
XVVP500P-4	1/4	250 PSI
XVVP500P-6	3/8	250 PSI
XVVP500P-8	1/2	250 PSI
XVVP500P-12	3/4	250 PSI
XVVP500P-16	1	250 PSI



Panel Mount, Female Pipe Ends

PART NO.	PIPE THREAD	PRESSURE RATING
XV502P-4	1/4	600 PSI
XV502P-6	3/8	600 PSI
XV502P-8	1/2	600 PSI
XV502P-12	3/4	600 PSI
XV502P-16	1	600 PSI



Tee Handle, Female Pipe Ends

PART NO.	PIPE THREAD	PRESSURE RATING
XV500P-4-04	1/4	600 PSI
XV500P-6-04	3/8	600 PSI
XV500P-8-04	1/2	600 PSI
XV500P-12-04	3/4	600 PSI
XV500P-16-04	1	600 PSI



Padlock, Panel Mount, Female Pipe Ends

PART NO.	PIPE THREAD	PRESSURE RATING
XVP502P-4	1/4	600 PSI
XVP502P-6	3/8	600 PSI
XVP502P-8	1/2	600 PSI
XVP502P-12	3/4	600 PSI
XVP502P-16	1	600 PSI
OSHA 29 CFR Part 1910		



Male-Female Pipe Ends

PART NO.	PIPE THREAD	PRESSURE RATING
XV501P-4	1/4	600 PSI
XV501P-6	3/8	600 PSI
XV501P-8	1/2	600 PSI
XV501P-12	3/4	600 PSI
XV501P-16	1	600 PSI



Vented, Padlock, Panel Mount, Female Pipe Ends

PART NO.	PIPE THREAD	PRESSURE RATING
XVVP502P-4	1/4	250 PSI
XVVP502P-6	3/8	250 PSI
XVVP502P-8	1/2	250 PSI
XVVP502P-12	3/4	250 PSI
XVVP502P-16	1	250 PSI



Padlock, Male-Female Pipe Ends

PART NO.	PIPE THREAD	PRESSURE RATING
XVP501P-4	1/4	600 PSI
XVP501P-6	3/8	600 PSI
XVP501P-8	1/2	600 PSI
XVP501P-12	3/4	600 PSI
XVP501P-16	1	600 PSI



Tee Handle, Panel Mount, Female Pipe Ends

PART NO.	PIPE THREAD	PRESSURE RATING
XV502P-4-04	1/4	600 PSI
XV503P-6-04	3/8	600 PSI
XV502P-8-04	1/2	600 PSI
XV502P-12-04	3/4	600 PSI
XV502P-16-04	1	600 PSI



UL Listed, Female Pipe Ends

PART NO.	PIPE THREAD	PRESSURE RATING
XV500PUL-4	1/4	250 PSI
XV500PUL-6	3/8	250 PSI
XV500PUL-8	1/2	250 PSI
XV500PUL-12	3/4	250 PSI
XV500PUL-16	1	250 PSI



UL Listed, Male-Female Pipe Ends

PART NO.	PIPE THREAD	PRESSURE RATING
XV501PUL-4	1/4	250 PSI
XV501PUL-6	3/8	250 PSI
XV501PUL-8	1/2	250 PSI
XV501PUL-12	3/4	250 PSI
XV501PUL-16	1	250 PSI



Brass Valve, Female Pipe Ends

PART NO.	PIPE THREAD	PRESSURE RATING
XV520P-4	1/4	600 PSI
XV520P-6	3/8	600 PSI
XV520P-8	1/2	600 PSI
XV520P-12	3/4	600 PSI
XV520P-16	1	600 PSI
XV520P-20	1 1/4	600 PSI
XV520P-24	1 1/2	600 PSI
XV520P-32	2	600 PSI
XV520P-40	2 1/2	450 PSI
XV520P-48	3	450 PSI



3-Way Diversion, Female Pipe Ends

PART NO.	PIPE THREAD	PRESSURE RATING
XV533P-4	1/4	400 PSI
XV533P-6	3/8	400 PSI
XV533P-8	1/2	400 PSI
XV533P-12	3/4	400 PSI
XV533P-16	1	400 PSI



4-Way Diversion, Female Pipe Ends

PART NO.	PIPE THREAD	PRESSURE RATING
XV540P-4	1/4	400 PSI



90° Flow, Male-Female Pipe Ends

PART NO.	PIPE THREAD	PRESSURE RATING
XV590P-4	1/4	250 PSI
XV590P-6	3/8	250 PSI
XV590P-8	1/2	250 PSI



90° Flow, Male Pipe Ends

PART NO.	PIPE THREAD	PRESSURE RATING
XV591P-4	1/4	250 PSI
XV591P-6	3/8	250 PSI
XV591P-8	1/2	250 PSI



Brass Hose Barb Valve

PART NO.	PIPE THREAD	PRESSURE RATING
XV500P-12-16HB	3/4 x 1	150 PSI



Six-Port Diversion Valve

PART NO.	PIPE THREAD TOP PORT	PIPE THREAD BOTTOM PORT	PRESSURE RATING
XV600P-8-6	1/2	3/8	150 PSI
XV633P-8-6	1/2	3/8	150 PSI



Male-Female Pipe Ends

PART NO.	PIPE THREAD	PRESSURE RATING
XV501SS-4	1/4	2000 PSI
XV501SS-6	3/8	2000 PSI
XV501SS-8	1/2	2000 PSI
XV501SS-12	3/4	2000 PSI
XV501SS-16	1	2000 PSI



Panel Mount, Female Pipe Ends

PART NO.	PIPE THREAD	PRESSURE RATING
XV502SS-4	1/4	2000 PSI
XV502SS-6	3/8	2000 PSI
XV502SS-8	1/2	2000 PSI
XV502SS-12	3/4	2000 PSI
XV502SS-16	1	2000 PSI
XV502SS-20	1 1/4	2000 PSI
XV502SS-24	1 1/2	2000 PSI
XV502SS-32	2	2000 PSI



Padlock, Panel Mount, Female Pipe Ends

PART NO.	PIPE THREAD	PRESSURE RATING
XVP502SS-4	1/4	2000 PSI
XVP502SS-6	3/8	2000 PSI
XVP502SS-8	1/2	2000 PSI
XVP502SS-12	3/4	2000 PSI
XVP502SS-16	1	2000 PSI
XVP502SS-20	1 1/4	2000 PSI
XVP502SS-24	1 1/2	2000 PSI
XVP502SS-32	2	2000 PSI



Mini Ball Valve

PART NO.	PIPE THREAD	PRESSURE RATING
MV708-4	1/4	500 PSI
MV709-4	1/4	500 PSI

MV708



MV709



Mini Valve, Chrome Plated

PART NO.	PIPE THREAD	PRESSURE RATING
MV608-2	1/8	450 PSI
MV608-4	1/4	450 PSI
MV608-6	3/8	450 PSI
MV608-8	1/2	450 PSI



Mini Valve, Chrome Plated

PART NO.	PIPE THREAD	PRESSURE RATING
MV609-2	1/8	450 PSI
MV609-4	1/4	450 PSI
MV609-6	3/8	450 PSI
MV609-8	1/2	450 PSI
MV609-6-4	3/8 x 1/4	450 PSI



Water Supply Valve

PART NO.	TUBE SIZE	PRESSURE RATING
PP6VTU6-MG	3/8	150 PSI



Water Supply Valve Kits

PART NO.	CONNECTS TO
WSV4-Kit	1/4" Compression Valve
WSV6-Kit	3/8" Compression Valve
WSV8-Kit	1/2" NPSM Faucet Stem



Valve Male Elbow

PART NO.	TUBE SIZE	THREAD SIZE	PRESSURE RATING
PP4VME4-MG	1/4	1/4	150 PSI
PP6VME4-MG	3/8	1/4	150 PSI
PP6VME6-MG	3/8	3/8	150 PSI
PP6VME8-MG	3/8	1/2	150 PSI



Valve Female Elbow

PART NO.	TUBE SIZE	THREAD SIZE	PRESSURE RATING
PP4VFE4-MG	1/4	1/4	150 PSI
PP6VFE4-MG	3/8	1/4	150 PSI
PP6VFE6-MG	3/8	3/8	150 PSI



Valve Union Connector

PART NO.	TUBE SIZE	PRESSURE RATING
PP4VUC4-MG	1/4	150 PSI
PP4VUC6-MG	1/4 x 3/8	150 PSI
PP6VUC4-MG	3/8 x 1/4	150 PSI
PP6VUC6-MG	3/8	150 PSI



Valve Elbow Union

PART NO.	TUBE SIZE	PRESSURE RATING
PP4VEU4-MG	1/4	150 PSI
PP4VEU6-MG	1/4 x 3/8	150 PSI
PP6VEU4-MG	3/8 x 1/4	150 PSI
PP6VEU6-MG	3/8	150 PSI



Valve Male Connector

PART NO.	TUBE SIZE	THREAD SIZE	PRESSURE RATING
PP4VMC4-MG	1/4	1/4	150 PSI
PP4VMC6-MG	1/4	3/8	150 PSI
PP6VMC4-MG	3/8	1/4	150 PSI
PP6VMC6-MG	3/8	3/8	150 PSI



Valve Tube Elbow Union

PART NO.	TUBE SIZE	PRESSURE RATING
PP4VTEU6-MG	1/4 x 3/8	150 PSI
PP6VTEU6-MG	3/8	150 PSI



Garden Hose Fittings

- Use with Hose clamp
- Coupler Option
- 75 PSI or Working Pressure of Garden Hose
- +35° to +100°F



Hose Barb to Male Hose Thread

PART NO.	HOSE SIZE I.D.	PIPE SIZE
53GH-8-12	1/2	3/4
54GH-10-12	5/8	3/4
55GH-12-12	3/4	3/4



Knurled Hose Nut

PART NO.	HOSE THREAD
94GH-12	3/4



Male Hose to Male Pipe

PART NO.	HOSE THREAD	PIPE THREAD
69GH-12-4	3/4	1/4
69GH-12-6	3/4	3/8
70GH-12-8	3/4	1/2
71GH-12-12	3/4	3/4



Swivel Connector Female Hose to Female Pipe

PART NO.	HOSE THREAD	PIPE THREAD
98GHSV-12-8	3/4	1/2
99GHSV-12-12	3/4	3/4



Male Hose to Male Hose

PART NO.	HOSE THREAD
75GH-12	3/4



Swivel Nut Connector

PART NO.	HOSE THREAD
101GHSV-12	3/4



Female Hose to Male Pipe

PART NO.	HOSE THREAD	PIPE THREAD
82GH-12-8	3/4	1/2
83GH-12-12	3/4	3/4



Rubber Garden Hose Coupling Washer

PART NO.	HOSE THREAD
901GH-12	3/4



Swivel Connector Female Garden Hose to Male Pipe

PART NO.	HOSE THREAD	PIPE THREAD
88GH-12-4	3/4	1/4
88GH-12-6	3/4	3/8



High Flow Coupler

PART NO.	BODY SIZE
1163-60-BPD	3/4



Swivel Connector Female Garden Hose to Hose Barb

PART NO.	HOSE THREAD	I.D HOSE SIZE
90GH-12-3	3/4	3/16
90GH-12-4	3/4	1/4
90GH-12-6	3/4	3/8
90GH-12-8	3/4	1/2
90GH-10-12	3/4	3/4
90GH-12-12	3/4	3/4



High Flow Nipple

PART NO.	BODY SIZE
1163-61-BPD	3/4



Needle Valves & Drain Cocks

Needle Valves

- Metal to Metal Seats
- All Brass Construction
- 150 PSI
- -45° to +250°F

Drain Cocks

- Economical
- Metal to Metal Seats
- External & Internal Seats
- 150 PSI



Flare to Male Pipe

PART NO.	TUBE SIZE	PIPE THREAD
NV103F-4-2	1/4	1/8
NV103F-6-4	3/8	1/4



Compression to Male Pipe

PART NO.	TUBE SIZE	PIPE THREAD
NC104C-4-2	1/4	1/8
NV104CA-4-2	1/4	1/8
NV104C-4-4	1/4	1/4
NV104C-5-2	5/16	1/8
NV104C-6-4	3/8	1/4



Compression to Compression

PART NO.	TUBE SIZE
NV105C-4	1/4
NV105C-5	5/16
NV105C-6	3/8
NV105CA-4	1/4
NV105CA-6	3/8



Compression to Male Pipe

PART NO.	TUBE SIZE	PIPE THREAD
NV106C-4-2	1/4	1/8
NV106C-4-4	1/4	1/4
NV106C-5-2	5/16	1/8
NV106C-6-4	3/8	1/4
NV106CA-4-2	1/4	1/8
NV106CA-4-4	1/4	1/4
NV106CA-6-4	3/8	1/4



Male Pipe

PART NO.	PIPE THREAD
NV107P-2	1/8
NV107P-4	1/4



Male-Female Pipe

PART NO.	PIPE THREAD
NV108P-2	1/8
NV108P-4	1/4



Female Pipe

PART NO.	PIPE THREAD
NV109P-2	1/8
NV109P-4	1/4



Female Pipe

PART NO.	PIPE THREAD	PRESSURE RATING
V406P-4	1/4	30 PSI
V407P-4	1/4	30 PSI



V406P

V407P

Drain Cock

PART NO.	PIPE THREAD
DCR601-4	1/4



Internal Seal

PART NO.	PIPE THREAD
DC602-2	1/8
DC602-4	1/4



Drain Cock

PART NO.	PIPE THREAD
DC603-2	1/8
DC603-4	1/4
DC603-6	3/8



External Seal

PART NO.	PIPE THREAD
DC604-2	1/8
DC604-4	1/4
DC604-6	3/8



External Seal

PART NO.	PIPE THREAD
DC606-4	1/4



Bib Drain

PART NO.	HOSE SIZE	PIPE THREAD
DC607-4	3/8	1/4



101GHSV 22	2202P 6	DCR601 23	VME 21
1163-60-BPD 22	2203P 6	EUB 18	VTEU 21
1163-61-BPD 22	2214P 6	FA 14	VTU 21
1200P 6	222P 6	FC 14, 17	VUC 21
1202P 6	244IFHD 9	GR 17	WSV-KIT 21
1203P 6	249IFHD 9	HPL 18	WY 14
1204P 6	269HB 4	HPN 18	XV500P 19, 20
122HB 3	41FL 7	MC 14, 16	XV500PUL 20
122HBL 3	41FS 7	MCB 18	XV501P 19
125HB 3	41IF 9	ME 15, 16	XV501PUL 20
125HBL 3	42F 7	MEB 18	XV501SS 20
125HBLSV 3	42IFHD 9	MES 14	XV502P 19
126HBL 3	46F 7	MR 17	XV502SS 20
128HBLSV 4	48F 7	MRS 14	XV520P 20
1295HB 4	48IFHD 9	MT 17	XV533P 20
129HB 4	53GH 22	MTB 18	XV540P 20
139HB 4	60C 10	MTS 14	XV590P 20
144F 8	61C 10	MV608 21	XV591P 20
145F 8	61CA 12	MV609 21	XV600P 20
146HBLFSV 4	61CL 10	MV708 20	XVP501P 19
149F 8	62C 10	NC104C 23	XVP502P 19
14FSV 7	62CA 12	NS 17	XVP502SS 20
151F 8	62CABH 12	NV103F 23	XVVP500P 19
159F 8	62CBH 10	NV104CA 23	XVVP502P 19
164C 11	62PCABH 12	NV105C 23	
164CA 13	630F 8	NV105CA 23	
1695HB 4	63PT 10	NV106C 23	
169C 11	66C 10	NV106CA 23	
169CA 13	66CA 12	NV107P 23	
171C 11	685HB 3	NV108P 23	
171CA 13	68C 10	NV109P 23	
171HB 4	68CA 12	OR 17	
1725HB 4	68HB 3	RD 15	
172C 11	69GH 22	SC 15	
172CA 13	70GH 22	TAF 15	
1795HB 4	75GH 22	TCB 15	
179C 11	82GH 22	TEB 15	
179CA 13	83GH 22	TEU 15	
179HB 4	88GH 22	TFA 15	
207ACBH 5	901GH 22	TMC 14	
207P 5	90GH 22	TPL 15	
208P 5	94GH 22	TS 15, 17	
209P 5	97HC 3	TU 14, 17	
211P 5	98GHSV 22	TUB 18	
213P 5	BU 15, 16	UC 14, 16	
215PN 5	CAP 15	UCB 18	
215PNL 5	DC602 23	V406P 23	
216P 5	DC603 23	V407P 23	
218P 6	DC604 23	VEU 21	
219P 6	DC606 24	VFE 21	
2200P 6	DC607 24	VMC 21	





Parker Safety Guide for Selecting and Using Hose, Tubing, Fittings and Related Accessories

Parker Publication No. 4400-B.1
Revised: May, 2002

WARNING: Failure or improper selection or improper use of hose, tubing, fittings, assemblies or related accessories (“Products”) can cause death, personal injury and property damage. Possible consequences of failure or improper selection or improper use of these Products include but are not limited to:

- Fittings thrown off at high speed.
- High velocity fluid discharge.
- Explosion or burning of the conveyed fluid.
- Electrocution from high voltage electric powerlines.
- Contact with suddenly moving or falling objects that are controlled by the conveyed fluid.
- Injections by high-pressure fluid discharge.
- Dangerously whipping Hose.
- Contact with conveyed fluids that may be hot, cold, toxic or otherwise injurious.
- Sparking or explosion caused by static electricity buildup or other sources of electricity.
- Sparking or explosion while spraying paint or flammable liquids.
- Injuries resulting from inhalation, ingestion or exposure to fluids.

Before selecting or using any of these Products, it is important that you read and follow the instructions below. Only Hose from Parker’s Stratoflex Products Division is approved for in flight aerospace applications, and no other Hose can be used for such in flight applications.

1.0 GENERAL INSTRUCTIONS

- 1.1 Scope:** This safety guide provides instructions for selecting and using (including assembling, installing, and maintaining) these Products. For convenience, all rubber and/or thermoplastic products commonly called “hose” or “tubing” are called “Hose” in this safety guide. All assemblies made with Hose are called “Hose Assemblies”. All products commonly called “fittings” or “couplings” are called “Fittings”. All related accessories (including crimping and swaging machines and tooling) are called “Related Accessories”. This safety guide is a supplement to and is to be used with, the specific Parker publications for the specific Hose, Fittings and Related Accessories that are being considered for use.
- 1.2 Fail-Safe:** Hose, and Hose Assemblies and Fittings can and do fail without warning for many reasons. Design all systems and equipment in a fail-safe mode, so that failure of the Hose or Hose Assembly or Fitting will not endanger persons or property.
- 1.3 Distribution:** Provide a copy of this safety guide to each person that is responsible for selecting or using Hose and Fitting products. Do not select or use Parker Hose or Fittings without thoroughly reading and understanding this safety guide as well as the specific Parker publications for the products considered or selected.
- 1.4 User Responsibility:** Due to the wide variety of operating conditions and applications for Hose and Fittings, Parker and its distributors do not represent or warrant that any particular Hose or Fitting is suitable for any specific end use system. This safety guide does not analyze all technical parameters that must be considered in selecting a product. The user, through its own analysis and testing, is solely responsible for:
- Making the final selection of the Hose and Fitting.
 - Assuring that the user’s requirements are met and that the application presents no health or safety hazards.
 - Providing all appropriate health and safety warnings on the equipment on which the Hose and Fittings are used.
 - Assuring compliance with all applicable government and industry standards.

- 1.5 Additional Questions:** Call the appropriate Parker technical service department if you have any questions or require any additional information. See the Parker publication for the product being considered or used, or call 1-800-CPARKER, or go to www.parker.com, for telephone numbers of the appropriate technical service department.

2.0 HOSE AND FITTING SELECTION INSTRUCTIONS

- 2.1 Electrical Conductivity:** Certain applications require that the Hose be nonconductive to prevent electrical current flow. Other applications require the Hose and the Fitting and the Hose/Fitting interface to be sufficiently conductive to drain off static electricity. Extreme care must be exercised when selecting Hose and Fittings for these or any other applications in which electrical conductivity or nonconductivity is a factor.
- The electrical conductivity or nonconductivity of Hose and Fittings is dependent upon many factors and may be susceptible to change. These factors include but are not limited to the various materials used to make the Hose and the Fittings, Fitting finish (some Fitting finishes are electrically conductive while others are nonconductive), manufacturing methods (including moisture control), how the Fittings contact the Hose, age and amount of deterioration or damage or other changes, moisture content of the Hose at any particular time, and other factors.
- The following are considerations for electrically nonconductive and conductive Hose. For other applications consult the individual catalog pages and the appropriate industry or regulatory standards for proper selection.
- 2.1.1 Electrically Nonconductive Hose:** Certain applications require that the Hose be nonconductive to prevent electrical current flow or to maintain electrical isolation. For these applications that require Hose to be electrically nonconductive, including but not limited to applications near high voltage electric lines, only special nonconductive Hose can be used. The manufacturer of the equipment in which the nonconductive Hose is to be used must be consulted to be certain that the Hose and Fittings that are selected are proper for the application. Do not use any Parker Hose or Fitting for any such application requiring nonconductive Hose, including but not limited to applications near high voltage electric lines, unless (i) the application is expressly approved in the Parker technical publication for the product, (ii) the Hose is marked “nonconductive”, and (iii) the manufacturer of the equipment on which the Hose is to be used specifically approves the particular Parker Hose and Fitting for such use.
- 2.1.2 Electrically Conductive Hose:** Parker manufactures special Hose for certain applications that require electrically conductive Hose.
- Parker manufactures special Hose for conveying paint in airless paint spraying applications. This Hose is labeled “Electrically Conductive Airless Paint Spray Hose” on its layline and packaging. This Hose must be properly connected to the appropriate Parker Fittings and properly grounded in order to dissipate dangerous static charge buildup, which occurs in all airless paint spraying applications. Do not use any other Hose for airless paint spraying, even if electrically conductive. Use of any other Hose or failure to properly connect the Hose can cause a fire or an explosion resulting in death, personal injury, and property damage.
- Parker manufactures a special Hose for certain compressed natural gas (“CNG”) applications where static electricity buildup may occur. Parker CNG Hose assemblies comply with AGA

- Requirements 1-93, “Hoses for Natural Gas Vehicles and Fuel Dispensers”. This Hose is labeled “Electrically Conductive for CNG Use” on its layline and packaging. This Hose must be properly connected to the appropriate Parker Fittings and properly grounded in order to dissipate dangerous static charge buildup, which occurs in, for example, high velocity CNG dispensing or transfer. Do not use any other Hose for CNG applications where static charge buildup may occur, even if electrically conductive. Use of other Hoses in CNG applications or failure to properly connect or ground this Hose can cause a fire or an explosion resulting in death, personal injury, and property damage. Care must also be taken to protect against CNG permeation through the Hose wall. See section 2.6, Permeation, for more information. Parker CNG Hose is intended for dispenser and vehicle use at a maximum temperature of 180°F. Parker CNG Hose should not be used in confined spaces or unventilated areas or areas exceeding 180°F. Final assemblies must be tested for leaks. CNG Hose Assemblies should be tested on a monthly basis for conductivity per AGA 1-93.
- Parker manufactures special Hose for aerospace in flight applications. Aerospace in flight applications employing Hose to transmit fuel, lubricating fluids and hydraulic fluids require a special Hose with a conductive inner tube. This Hose for in flight applications is available only from Parker’s Stratoflex Products Division. Do not use any other Parker Hose for in flight applications, even if electrically conductive. Use of other Hoses for in flight applications or failure to properly connect or ground this Hose can cause a fire or an explosion resulting in death, personal injury, and property damage. These Hose assemblies for in flight applications must meet all applicable aerospace industry, aircraft engine, and aircraft requirements.
- 2.2 Pressure:** Hose selection must be made so that the published maximum recommended working pressure of the Hose is equal to or greater than the maximum system pressure. Surge pressures or peak transient pressures in the system must be below the published maximum working pressure for the Hose. Surge pressures and peak pressures can usually only be determined by sensitive electrical instrumentation that measures and indicates pressures at millisecond intervals. Mechanical pressure gauges indicate only average pressures and cannot be used to determine surge pressures or peak transient pressures. Published burst pressure ratings for Hose is for manufacturing test purposes only and is no indication that the Product can be used in applications at the burst pressure or otherwise above the published maximum recommended working pressure.
- 2.3 Suction:** Hoses used for suction applications must be selected to insure that the Hose will withstand the vacuum and pressure of the system. Improperly selected Hose may collapse in suction application.
- 2.4 Temperature:** Be certain that fluid and ambient temperatures, both steady and transient, do not exceed the limitations of the Hose. Temperatures below and above the recommended limit can degrade Hose to a point where a failure may occur and release fluid. Properly insulate and protect the Hose Assembly when routing near hot objects (e.g. manifolds). Do not use any Hose in any application where failure of the Hose could result in the conveyed fluids (or vapors or mist from the conveyed fluids) contacting any open flame, molten metal, or other potential fire ignition source that could cause burning or explosion of the conveyed fluids or vapors.
- 2.5 Fluid Compatibility:** Hose Assembly selection must assure compatibility of the Hose tube, cover, reinforcement, and Fittings with the fluid media used. See the fluid compatibility chart in the Parker publication for the product being considered or used. This information is offered only as a guide. Actual service life can only be determined by the end user by testing under all extreme conditions and other analysis.
- Hose that is chemically compatible with a particular fluid must be assembled using Fittings and adapters containing likewise compatible seals.
- 2.6 Permeation:** Permeation (that is, seepage through the Hose) will occur from inside the Hose to outside when Hose is used with gases, liquid and gas fuels, and refrigerants (including but not limited to such materials as helium, diesel fuel, gasoline, natural gas, or LPG). This permeation may result in high concentrations of vapors which are potentially flammable, explosive, or toxic, and in loss of fluid. Dangerous explosions, fires, and other hazards can result when using the wrong Hose for such applications. The system designer must take into account the fact that this permeation will take place and must not use Hose if this permeation could be hazardous. The system designer must take into account all legal, government, insurance, or any other special regulations which govern the use of fuels and refrigerants. Never use a Hose even though the fluid compatibility is acceptable without considering the potential hazardous effects that can result from permeation through the Hose Assembly.
- Permeation of moisture from outside the Hose to inside the Hose will also occur in Hose assemblies, regardless of internal pressure. If this moisture permeation would have detrimental effects (particularly, but not limited to refrigeration and air conditioning systems), incorporation of sufficient drying capacity in the system or other appropriate system safeguards should be selected and used.
- 2.7 Size:** Transmission of power by means of pressurized fluid varies with pressure and rate of flow. The size of the components must be adequate to keep pressure losses to a minimum and avoid damage due to heat generation or excessive fluid velocity.
- 2.8 Routing:** Attention must be given to optimum routing to minimize inherent problems (kinking



or flow restriction due to Hose collapse, twisting of the Hose, proximity to hot objects or heat sources).

- 2.9 Environment:** Care must be taken to insure that the Hose and Fittings are either compatible with or protected from the environment (that is, surrounding conditions) to which they are exposed. Environmental conditions including but not limited to ultraviolet radiation, sunlight, heat, ozone, moisture, water, salt water, chemicals, and air pollutants can cause degradation and premature failure.
- 2.10 Mechanical Loads:** External forces can significantly reduce Hose life or cause failure. Mechanical loads which must be considered include excessive flexing, twist, kinking, tensile or side loads, bend radius, and vibration. Use of swivel type Fittings or adapters may be required to insure no twist is put into the Hose. Unusual applications may require special testing prior to Hose selection.
- 2.11 Physical Damage:** Care must be taken to protect Hose from wear, snagging, kinking, bending smaller than minimum bend radius, and cutting, any of which can cause premature Hose failure. Any Hose that has been kinked or bent to a radius smaller than the minimum bend radius, and any Hose that has been cut or is cracked or is otherwise damaged, should be removed and discarded.
- 2.12 Proper End Fitting:** See instructions 3.2 through 3.5. These recommendations may be substantiated by testing to industry standards such as SAE J517 for hydraulic applications, or MIL-A-5070, AS1339, or AS3517 for Hoses from Parker's Stratoflex Products Division for aerospace applications.
- 2.13 Length:** When establishing a proper Hose length, motion absorption, Hose length changes due to pressure, and Hose and machine tolerances and movement must be considered.
- 2.14 Specifications and Standards:** When selecting Hose and Fittings, government, industry, and Parker specifications and recommendations must be reviewed and followed as applicable.
- 2.15 Hose Cleanliness:** Hose components may vary in cleanliness levels. Care must be taken to insure that the Hose Assembly selected has an adequate level of cleanliness for the application.
- 2.16 Fire Resistant Fluids:** Some fire resistant fluids that are to be conveyed by Hose require use of the same type of Hose as used with petroleum base fluids. Some such fluids require a special Hose, while a few fluids will not work with any Hose at all. See instructions 2.5 and 1.5. The wrong Hose may fail after a very short service. In addition, all liquids but pure water may burn fiercely under certain conditions, and even pure water leakage may be hazardous.
- 2.17 Radiant Heat:** Hose can be heated to destruction without contact by such nearby items as hot manifolds or molten metal. The same heat source may then initiate a fire. This can occur despite the presence of cool air around the Hose.
- 2.18 Welding or Brazing:** When using a torch or arc-welder in close proximity to hydraulic lines, the hydraulic lines should be removed or shielded with appropriate fire resistant materials. Flame or weld spatter could burn through the Hose and possibly ignite escaping fluid resulting in a catastrophic failure. Heating of plated parts, including Hose Fittings and adapters, above 450°F (232°C) such as during welding, brazing, or soldering may emit deadly gases.
- 2.19 Atomic Radiation:** Atomic radiation affects all materials used in Hose assemblies. Since the long-term effects may be unknown, do not expose Hose assemblies to atomic radiation.
- 2.20 Aerospace Applications:** The only Hose and Fittings that may be used for in flight aerospace applications are those available from Parker's Stratoflex Products Division. Do not use any other Hose or Fittings for in flight applications. Do not use any Hose or Fittings from Parker's Stratoflex Products Division with any other Hose or Fittings, unless expressly approved in writing by the engineering manager or chief engineer of Stratoflex Products Division and verified by the user's own testing and inspection to aerospace industry standards.
- 2.21 Unlocking Couplings:** Ball locking couplings or other couplings with disconnect sleeves can unintentionally disconnect if they are dragged over obstructions or if the sleeve is bumped or moved enough to cause disconnect. Threaded couplings should be considered where there is a potential for accidental uncoupling.
- 3.0 HOSE AND FITTING ASSEMBLY AND INSTALLATION INSTRUCTIONS**
- 3.1 Component Inspection:** Prior to assembly, a careful examination of the Hose and Fittings must be performed. All components must be checked for correct style, size, catalog number, and length. The Hose must be examined for cleanliness, obstructions, blisters, cover looseness, kinks, cracks, cuts or any other visible defects. Inspect the Fitting and sealing surfaces for burrs, nicks, corrosion or other imperfections. Do NOT use any component that displays any signs of nonconformance.
- 3.2 Hose and Fitting Assembly:** Do not assemble a Parker Fitting on a Parker Hose that is not specifically listed by Parker for that Fitting, unless authorized in writing by the engineering manager or chief engineer of the appropriate Parker division. Do not assemble a Parker Fitting on another manufacturer's Hose or a Parker Hose on another manufacturer's Fitting unless (i) the engineering manager or chief engineer of the appropriate Parker division approves the Assembly in writing or that combination is expressly approved in the appropriate Parker literature for the specific Parker product, and (ii) the user verifies the Assembly and the application through analysis and testing. For Parker Hose that does not specify a Parker Fitting, the user is solely responsible for the selection of the proper Fitting and Hose Assembly procedures. See instruction 1.4. The Parker published instructions must be followed for assembling the Fittings on the Hose. These instructions are provided in the Parker Fitting catalog for the specific Parker Fitting being used, or by calling 1-800-CPARKER, or at www.parker.com.
- 3.3 Related Accessories:** Do not crimp or swage any Parker Hose or Fitting with anything but the listed swage or crimp machine and dies in accordance with Parker published instructions. Do not crimp or swage another manufacturer's Fitting with a Parker crimp or swage die unless authorized in writing by the engineering manager or chief engineer of the appropriate Parker division.
- 3.4 Parts:** Do not use any Parker Fitting part (including but not limited to socket, shell, nipple, or insert) except with the correct Parker mating parts, in accordance with Parker published instructions, unless authorized in writing by the engineering manager or chief engineer of the appropriate Parker division.
- 3.5 Reusable/Permanent:** Do not reuse any field attachable (reusable) Hose Fitting that has blown or pulled off a Hose. Do not reuse a Parker permanent Hose Fitting (crimped or swaged) or any part thereof. Complete Hose Assemblies may only be reused after proper inspection under section 4.0. Do not assemble Fittings to any previously used hydraulic Hose that was in service, for use in a fluid power application.
- 3.6 Pre-Installation Inspection:** Prior to installation, a careful examination of the Hose Assembly must be performed. Inspect the Hose Assembly for any damage or defects. Do NOT use any Hose Assembly that displays any signs of nonconformance.
- 3.7 Minimum Bend Radius:** Installation of a Hose at less than the minimum listed bend radius may significantly reduce the Hose life. Particular attention must be given to preclude sharp bending at the Hose to Fitting juncture. Any bending during installation at less than the minimum bend radius must be avoided. If any Hose is kinked during installation, the Hose must be discarded.
- 3.8 Twist Angle and Orientation:** Hose Assembly installation must be such that relative motion of machine components does not produce twisting.
- 3.9 Securement:** In many applications, it may be necessary to restrain, protect, or guide the Hose to protect it from damage by unnecessary flexing, pressure surges, and contact with other mechanical components. Care must be taken to insure such restraints do not introduce additional stress or wear points.
- 3.10 Proper Connection of Ports:** Proper physical installation of the Hose Assembly requires a correctly installed port connection insuring that no twist or torque is transferred to the Hose when the Fittings are being tightened or otherwise during use.
- 3.11 External Damage:** Proper installation is not complete without insuring that tensile loads, side loads, kinking, flattening, potential abrasion, thread damage, or damage to sealing surfaces are corrected or eliminated. See instruction 2.10.
- 3.12 System Checkout:** All air entrapment must be eliminated and the system pressurized to the maximum system pressure (at or below the Hose maximum working pressure) and checked for proper function and freedom from leaks. Personnel must stay out of potential hazardous areas while testing and using.
- 3.13 Routing:** The Hose Assembly should be routed in such a manner so if a failure does occur, the escaping media will not cause personal injury or property damage. In addition, if fluid media comes in contact with hot surfaces, open flame, or sparks, a fire or explosion may occur. See section 2.4.
- 4.0 HOSE AND FITTING MAINTENANCE AND REPLACEMENT INSTRUCTIONS**
- 4.1** Even with proper selection and installation, Hose life may be significantly reduced without a continuing maintenance program. The severity of the application, risk potential from a possible Hose failure, and experience with any Hose failures in the application or in similar applications should determine the frequency of the inspection and the replacement for the Products so that Products are replaced before any failure occurs. A maintenance program must be established and followed by the user and, at minimum, must include instructions 4.2 through 4.7.
- 4.2 Visual Inspection Hose/Fitting:** Any of the following conditions require immediate shut down and replacement of the Hose Assembly:
- Fitting slippage on Hose,
 - Damaged, cracked, cut or abraded cover (any reinforcement exposed);
 - Hard, stiff, heat cracked, or charred Hose;
 - Cracked, damaged, or badly corroded Fittings;
 - Leaks at Fitting or in Hose;
 - Kinked, crushed, flattened or twisted Hose; and
 - Blistered, soft, degraded, or loose cover.
- 4.3 Visual Inspection All Other:** The following items must be tightened, repaired, corrected or replaced as required:
- Leaking port conditions;
 - Excess dirt buildup;
 - Worn clamps, guards or shields; and
 - System fluid level, fluid type, and any air entrapment.
- 4.4 Functional Test:** Operate the system at maximum operating pressure and check for possible malfunctions and leaks. Personnel must avoid potential hazardous areas while testing and using the system. See section 2.2.
- 4.5 Replacement Intervals:** Hose assemblies and elastomeric seals used on Hose Fittings and adapters will eventually age, harden, wear and deteriorate under thermal cycling and compression set. Hose Assemblies and elastomeric seals should be inspected and replaced at specific replacement intervals, based on previous service life, government or industry recommendations, or when failures could result in unacceptable downtime, damage, or injury risk. See section 1.2.
- 4.6 Hose Inspection and Failure:** Hydraulic power is accomplished by utilizing high-pressure fluids to transfer energy and do work. Hoses, Fittings, and Hose Assemblies all contribute to this by transmitting fluids at high pressures. Fluids under pressure can be dangerous and potentially lethal and, therefore, extreme caution must be exercised when working with fluids under pressure and handling the Hoses transporting the fluids. From time to time, Hose Assemblies will fail if they are not replaced at proper time intervals. Usually these failures are the result of some form of misapplication, abuse, wear, or failure to perform proper maintenance. When Hoses fail, generally the high-pressure fluids inside escape in a stream which may or may not be visible to the user. Under no circumstances should the user attempt to locate the leak by "feeling" with their hands or any other part of their body. High-pressure fluids can and will penetrate the skin and cause severe tissue damage and possibly loss of limb. Even seemingly minor hydraulic fluid injection injuries must be treated immediately by a physician with knowledge of the tissue damaging properties of hydraulic fluid. If a Hose failure occurs, immediately shut down the equipment and leave the area until pressure has been completely released from the Hose Assembly. Simply shutting down the hydraulic pump may or may not eliminate the pressure in the Hose Assembly. Many times check valves, etc., are employed in a system and can cause pressure to remain in a Hose Assembly even when pumps or equipment are not operating. Tiny holes in the Hose, commonly known as pinholes, can eject small, dangerously powerful but hard to see streams of hydraulic fluid. It may take several minutes or even hours for the pressure to be relieved so that the Hose Assembly may be examined safely. Once the pressure has been reduced to zero, the Hose Assembly may be taken off the equipment and examined. It must always be replaced if a failure has occurred. Never attempt to patch or repair a Hose Assembly that has failed. Consult the nearest Parker distributor or the appropriate Parker division for Hose Assembly replacement information. Never touch or examine a failed Hose Assembly unless it is obvious that the Hose no longer contains fluid under pressure. The high-pressure fluid is extremely dangerous and can cause serious and potentially fatal injury.
- 4.7 Elastomeric seals:** Elastomeric seals will eventually age, harden, wear and deteriorate under thermal cycling and compression set. Elastomeric seals should be inspected and replaced.
- 4.8 Refrigerant gases:** Special care should be taken when working with refrigeration systems. Sudden escape of refrigerant gases can cause blindness if the escaping gases contact the eye and can cause freezing or other severe injuries if it contacts any other portion of the body.
- 4.9 Compressed natural gas (CNG):** Parker CNG Hose Assemblies should be tested after installation and before use, and at least on a monthly basis per AGA 1-93 Section 4.2 "Visual Inspection Hose/Fitting". The recommended procedure is to pressurize the Hose and check for leaks and to visually inspect the Hose for damage. Caution: Matches, candles, open flame or other sources of ignition shall not be used for Hose inspection. Leak check solutions should be rinsed off after use.

1. **Terms and Conditions of Sale:** All descriptions, quotations, proposals, offers, acknowledgments, acceptances and sales of Seller's products are subject to and shall be governed exclusively by the terms and conditions stated herein. Buyer's acceptance of any offer to sell is limited to these terms and conditions. Any terms of conditions in addition to, or inconsistent with those stated herein, proposed by Buyer in any acceptance of an offer by Seller, are hereby objected to. No such additional, different or inconsistent terms and conditions shall become part of the contract between Buyer and Seller unless expressly accepted in writing by Seller. Seller's acceptance of any offer to purchase by Buyer is expressly conditional upon Buyer's assent to all the terms and conditions stated herein, including any terms in addition to, or inconsistent with those contained in Buyer's offer. Acceptance of Seller's products shall in all events constitute such assent.

2. **Payment:** Payment shall be made by Buyer net 30 days from the date of shipment of the items purchased hereunder. Parker reserves the right to charge interest on all past due amounts. Any claims by Buyer for omissions or shortages in a shipment shall be waived unless the Seller receives notice, thereof within 30 days after Buyer's receipt of the shipment.

3. **Delivery:** Unless otherwise provided on the face hereof, delivery shall be made F.O.B. Seller's plant. Regardless of the method of delivery, however, risk of loss shall pass to Buyer upon Seller's delivery to a carrier. Any delivery dates shown are approximate only and Seller shall have no liability for any delays in delivery.

4. **Warranty:** Seller warrants that the items sold hereunder shall be free from defects in material or workmanship for a period of 365 days from the date of shipment to Buyer, or 2,000 hours of use, whichever expires first. THIS WARRANTY COMPRISES THE SOLE AND ENTIRE WARRANTY PERTAINING TO ITEMS PROVIDED HEREUNDER. SELLER MAKES NO OTHER WARRANTY, GUARANTEE, OR REPRESENTATION OF ANY KIND WHATSOEVER. ALL OTHER WARRANTIES, INCLUDING BUT NOT LIMITED TO, MERCHANTABILITY AND FITNESS FOR PURPOSE, WHETHER EXPRESS, IMPLIED, OR ARISING BY OPERATION OF LAW, TRADE USAGE, OR COURSE OF DEALING ARE HEREBY DISCLAIMED.

NOTWITHSTANDING THE FOREGOING, THERE ARE NO WARRANTIES WHATSOEVER ON ITEMS BUILT OR ACQUIRED WHOLLY OR PARTIALLY, TO BUYER'S DESIGNS OR SPECIFICATIONS.

5. **Limitation Of Remedy:** SELLER'S LIABILITY ARISING FROM OR IN ANY WAY CONNECTED WITH THE ITEMS SOLD OR THIS CONTRACT SHALL BE LIMITED EXCLUSIVELY TO REPAIR OR REPLACEMENT OF THE ITEMS SOLD OR REFUND OF THE PURCHASE PRICE PAID BY BUYER, AT SELLER'S SOLE OPTION. IN NO EVENT SHALL SELLER BE LIABLE FOR ANY INCIDENTAL, CONSEQUENTIAL OR SPECIAL DAMAGES OF ANY KIND OR NATURE WHATSOEVER, INCLUDING BUT NOT LIMITED TO LOST PROFITS ARISING FROM OR IN ANY WAY CONNECTED WITH THIS AGREEMENT OR ITEMS SOLD HEREUNDER, WHETHER ALLEGED TO ARISE FROM BREACH OF CONTRACT, EXPRESS OR IMPLIED WARRANTY, OR IN TORT, INCLUDING WITHOUT LIMITATION, NEGLIGENCE, FAILURE TO WARN OR STRICT LIABILITY.

6. **Changes, Reschedules and Cancellations:** Buyer may request to modify the designs or specifications for the items sold hereunder as well as the quantities and delivery dates thereof, or may request to cancel all or part of this order, however, no such requested modification or cancellation shall become part of the contract between Buyer and Seller unless accepted by Seller in a written amendment to this Agreement. Acceptance of any such requested modification or cancellation shall be at Seller's discretion, and shall be upon such terms and conditions as Seller may require.

7. **Special Tooling:** A tooling charge may be imposed for any special tooling, including without limitation, dies, fixtures, molds and patterns, acquired to manufacture items sold pursuant to this contract. Such special tooling shall be and remain Seller's property notwithstanding payment of any charges by Buyer. In no event will Buyer acquire any interest in apparatus belonging to Seller which is utilized in the manufacture of the items sold hereunder, even if such apparatus has been specially converted or adapted for such manufacture and notwithstanding any charges paid by Buyer. Unless otherwise agreed, Seller shall have the right to alter, discard or otherwise dispose of any special tooling or other property in its sole discretion at any time.

8. **Buyer's Property:** Any designs, tools, patterns, materials, drawings, confidential information or equipment furnished by Buyer or any other items which become Buyer's property, may be considered obsolete and may be destroyed by Seller after two (2) consecutive years have

elapsed without Buyer placing an order for the items which are manufactured using such property. Seller shall not be responsible for any loss or damage to such property while it is in Seller's possession or control.

9. **Taxes:** Unless otherwise indicated on the face hereof, all prices and charges are exclusive of excise, sales, use, property, occupational or like taxes which may be imposed by any taxing authority upon the manufacture, sale or delivery of the items sold hereunder. If any such taxes must be paid by Seller or if Seller is liable for the collection of such tax, the amount thereof shall be in addition to the amounts for the items sold. Buyer agrees to pay all such taxes or to reimburse Seller therefore upon receipt of its invoice. If Buyer claims exemption from any sales, use or other tax imposed by any taxing authority, Buyer shall save Seller harmless from and against any such tax, together with any interest or penalties thereon which may be assessed if the items are held to be taxable.

10. **Indemnity for Infringement of Intellectual Property Rights:** Seller shall have no liability for infringement of any patents, trademarks, copyrights, trade dress, trade secrets or similar rights except as provided in this Part 10. Seller will defend and indemnify Buyer against allegations of infringement of U.S. patents, U.S. trademarks, copyrights, trade dress and trade secrets (hereinafter 'Intellectual Property Rights'). Seller will defend at its expense and will pay the cost of any settlement or damages awarded in an action brought against Buyer based on an allegation that an item sold pursuant to this contract infringes in the Intellectual Property Rights of a third party. Seller's obligation to defend and indemnify Buyer is contingent on Buyer notifying Seller within ten (10) days after Buyer becomes aware of such allegations of infringement, and Seller having sole control over the defense of any allegations or actions including all negotiations for settlement or compromise. If an item sold hereunder is subject to a claim that it infringes the Intellectual Property Rights of a third party, Seller may, at its sole expense and option, procure for Buyer the right to continue using said item, replace or modify said item so as to make it noninfringing, or offer to accept return of said item and return the purchase price less a reasonable allowance for depreciation. Notwithstanding the foregoing, Seller shall have no liability for claims of infringement based on information provided by Buyer, or directed to items delivered hereunder for which the designs are specified in whole or part by Buyer, or infringements resulting from the modification, combination or use in a system of any item sold hereunder. The foregoing provisions of the Part 10 shall constitute Seller's sole and exclusive liability and Buyer's sole and exclusive remedy for infringement of Intellectual Property Rights.

If a claim is based on information provided by Buyer or if the design for an item delivered hereunder is specified in whole or in part by Buyer, Buyer shall defend and indemnify Seller for all costs, expenses or judgments resulting from any claim that such item infringes any patent, trademark, copyright, trade dress, trade secret or any similar right.

11. **Force Majeure:** Seller does not assume the risk of and shall not be liable for delay for failure to perform any of Seller's obligations by reason of circumstances beyond the reasonable control of Seller (hereinafter 'Events of Force Majeure'). Events of Force Majeure shall include without limitation, accidents, acts of God, strikes or labor disputes, acts, laws, rules or regulations of any government or government agency, fires, floods, delays or failures in delivery of carriers or suppliers, shortages of materials and any other cause beyond Seller's control.

12. **Entire Agreement/Governing Law:** The terms and conditions set forth herein, together with any amendments, modifications and any different terms or conditions expressly accepted by Seller in writing, shall constitute the entire Agreement concerning the items sold, and there are no oral or other representations or agreements which pertain thereto. This Agreement shall be governed in all respects by the law of the State of Ohio. No actions arising out of the sale of the items sold hereunder or this Agreement may be brought by either party more than two (2) years after the cause of action accrues.

Aerospace

Key Markets

- Commercial transports
- Military aircraft
- Regional transports
- Aircraft engines
- Business and general aviation

Key Products

- Flight control systems and components
- Hydraulic systems and components
- Fuel systems and components
- Pneumatic systems and components
- Inert oxygen generating systems
- Fluid metering, delivery and atomization devices
- Wheels and brakes
- Couplings, fittings, hoses and tubes



Automation

Key Markets

- Factory automation
- Transportation and automotive
- Life sciences and medical
- Machine tools
- Semiconductor and electronics

Key Products

- Pneumatic motion and control
- Air preparation
- Vacuum controls and sensors
- Electromechanical stepper and servo motors, drives, and controls
- Human machine interface
- Electric actuators, gantry robots, slides and linear motors
- Structural extrusion



Climate & Industrial Controls

Key Markets

- Refrigeration and air conditioning
- Transportation/mobile
- Process
- Industrial machinery
- Medical/life sciences
- Fuel cells
- Precision cooling

Key Products

- Pressure regulators
- Check, ball and service valves
- Value-added systems
- Thermostatic and expansion valves
- Electronic controllers
- Contaminant controls
- Heating/air conditioning hose
- Gerotors



Filtration

Key Markets

- Industrial machinery
- Process
- Mobile
- Marine
- Oil & gas
- Power generation and energy
- Transportation
- Food and beverage

Key Products

- Hydraulic, lubrication and coolant filters
- Process, chemical, water and microfiltration filters
- Compressed air and gas purification filters
- Condition monitoring
- Analytical gas generators
- Nitrogen, hydrogen and zero air generators
- Engine air, fuel, oil filtration and systems



Fluid Connectors

Key Markets

- Construction machinery
- Agriculture
- Transportation
- Mobile
- Industrial machinery
- Oil & gas

Key Products

- Rubber and thermoplastic hose
- Industrial hose
- Tube fittings and adaptors
- Tubing and plastic fittings
- Brass fittings and valves
- Hose couplings
- Quick disconnects



Hydraulics

Key Markets

- Construction machinery
- Agriculture
- Industrial machinery
- Oil & gas
- Truck hydraulics
- Power generation and energy

Key Products

- Hydraulic cylinders and accumulators
- Hydraulic valves and controls
- Hydraulic motors and pumps
- Power take-offs
- Hydraulic systems



Instrumentation

Key Markets

- Power generation
- Oil & gas
- Petrochemical
- Microelectronics
- Biopharmaceutical

Key Products

- Medium/high pressure fittings and valves
- Instrumentation fittings, valves, manifolds and regulators
- High purity fittings, valves and regulators
- Fluoropolymer fittings, valves, pumps and regulators
- Analytical systems



Seal

Key Markets

- Transportation
- Energy, oil & gas
- Semiconductor
- Aerospace
- Fluid power
- Life sciences
- Telecommunications

Key Products

- Elastomeric O-rings
- Homogeneous and inserted elastomeric shapes and diaphragms
- Metal and plastic retained composite seals
- Polymeric and plastic dynamic seals
- Rubber and plastic boots/bellows
- Extruded and precision-cut/fabricated elastomeric seals
- Thermoplastic engineered seals



Parker FCG Sales Offices & Service Centers (PSC)

Parker Fluid Connectors Group Regional Sales Offices & Service Centers

Your complete source for quality tube fittings, hose & hose fittings, brass fittings & valves, quick-disconnect couplings, and assembly tools, locally-available from a worldwide network of authorized distributors.

Fittings & Couplings:

Available in inch and metric sizes covering SAE, BSP, DIN, GAZ, JIS and ISO thread configurations, manufactured from steel, stainless steel, brass, aluminum, nylon and thermoplastic.

Hose, Tubing and Bundles:

Available in a wide variety of sizes and materials including rubber, wire-reinforced, thermoplastic, hybrid and custom compounds.

Worldwide Availability:

Parker operates Fluid Connectors manufacturing locations and sales offices throughout North America, South America, Europe and Asia-Pacific.

For information, contact the nearest Regional Sales office listed, or **call toll-free...**

**1-800-C-PARKER
(1-800-272-7537)**

**Central Region
Sales Office &
Service Center**
Hiawatha, IA
(319) 393-1221
(319) 393-1224 FAX

**Cleveland Region
Sales Office
Service Center**
Cleveland, OH
(216) 896-2404
(216) 896-4022 FAX
Toledo, OH
(419) 878-7000
(419) 878-7001 FAX
(419) 878-7420 FAX (FCG Kit Operations)
Service Center
Louisville, KY
(502) 937-1322
(502) 937-4180 FAX

**Great Lakes Region
Sales Office**
Otsego, MI
(269) 694-2550
(269) 692-6634 FAX

**Minneapolis Region
Sales Office
Service Center**
Minneapolis, MN
(763) 513-3535
(763) 544-3418 FAX
(952) 469-5000
(952) 469-5729 FAX

**Northeast Region
Sales Office**
Trenton, NJ
(609) 586-5151
(609) 586-6081 FAX

**Pacific Region
Sales Office &
Service Center**
Portland, OR
(503) 283-1020
(503) 283-2201 FAX
Buena Park, CA
(714) 522-8840
(714) 994-1183 FAX

**Southeast Region
Service Center**
Conyers, GA
(770) 929-0330
(770) 929-0230 FAX

**Southwest Region
Sales Office**
Mansfield, TX
(817) 473-4431
(817) 453-8022 FAX

**Canada
Sales Office &
Service Center**
Grimsby, ONT
(905) 945-2274
(905) 945-2203 FAX
**(Contact Grimsby for other
Service Center locations.)**



Quality Management System - Otsego, Lakeview, MI, Albion IN



Quality Management System - Kent, OH



Parker Hannifin Corporation
Brass Products Division
300 Parker Drive
Otsego, MI 49078
Phone: (269) 694-9411
Fax: (269) 694-4614
www.parker.com

Catalog 3520
07/06 PPC 1M