

Brown & Miller Racing Solutions



Professional Race Hose & Fittings



 FUELS

 OILS

 WATER

 HYDRAULICS

Brown & Miller Racing Solutions

We Specialize in Fuel, Oil, Water & Hydraulic Connection Systems for Motorsports

All Fuels

Oils

Water

Hydraulics

Brown & Miller Racing Solutions is 100% dedicated to motorsports. Our hose and fittings have been used by championship and race winning teams worldwide for more than two decades. Currently, Brown & Miller Racing Solutions products are used to win races in every major form of motorsports worldwide.

The company is backed by a staff of motorsports and engineering professionals with more than 100 years of combined aerospace and motorsports experience. You can be assured that you are getting the best product available for your race car.

We strive to provide you with highest quality and lightest weight hose, fitting and tubing system in the world. In this catalog, you will find products that meet or exceed the demands of virtually every modern day fluid system used in racing today.

From extremely high pressure fuel systems to ultra-low vacuum / high temperature dry sump oil systems, Brown & Miller Racing Solutions has the connection solution for you.

Our Philosophy

Here at Brown and Miller Racing Solutions we believe that when our parts are on your racecar, we are part of your team.

Our goal is to help you build a better race car.

Total Capability from Start to Finish

Power Steering

Air Systems

Brakes

Clutch

Gear Box Hydraulics

Our Capabilities Include:

- Flexible PTFE Hose and Fitting Design and Manufacture
- Rigid Tube System Design & CNC Bending
- Bespoke Design & Manufacturing
- CAD Models Available
- Fast and Accurate Assembly Service
- 100% QC of All Assemblies
- CMM Capability for QC and Reverse Engineering of Tubing

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Distributors Worldwide:

- Please call for the location of a Brown & Miller Racing Solutions distributor near you.

Visit Us Online

Be sure to visit our website for **NEW** and updated product, detailed specifications, demonstration videos, upcoming events and more!



www.BMRS.net

Products

Product: We strive to give you the most comprehensive, up-to-date and detailed information as possible. However, we are always updating our website with **NEW** and updated product and information that may have not been available for this catalog. We encourage you to visit us online to see any product or information not featured at www.bmrs.net.



EGN³TE CAD Models & Drawings: Available online for detailed specifications on current products or for the design and manufacturing process. Contact us for more information.

Demonstration Videos: Available for help tools on the assembly process of our connection systems. Be sure to check as new videos are being added (www.bmrs.net).



Upcoming Events and Trade Shows

Be sure to check our website at www.bmrs.net to see what's happening with upcoming Events and Trade Shows to see where we will be next. *We look forward to seeing you there!*



Visit Us on Facebook and Instagram

Meet the Team! Connect with us on Facebook and Instagram to keep up with the latest news, videos and pictures.

Feel free to share your comments, pictures and videos as well. We always welcome comments and feedback.



www.facebook.com/BMRSLLC



www.instagram.com/BMRSLLC

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PROGold PTFE Convoluteds Hose

PROGold PTFE Hose

Designed and Engineered to weigh less while still maintaining the high performance required in today's race cars.

PTFE Inner Core

A material unequalled for its high and low temperature performance and its compatibility with ALL fluids used in racing.

Manufactured to Perform

Our unique convoluting method ensures maximum flexibility with unrivaled minimum bend radius with no variation in performance at high or low temperature and at high pressure or extreme vacuum. PROGold hose has the added benefit of a static dissipating liner.

Wide Range

Available in sizes -6 all the way to -32 with 4 braid options to meet the unique conditions of any type of racing around the world.



004



FUELS



OILS



WATER



HYDRAULICS

www.BMRS.net

PROGold Stainless Steel Braid

- Lightweight & Ultimate Flexibility
- Compatible with Virtually All Fluids
- Factory Built Assemblies are ALL Pressure Tested
- Use with ProGold AC, AR or PL Fittings

Applications:

- Fuel, Oil, Water and Air Systems
- High Vacuum Engine Oil Scavenge
- High Temperature Applications
- Fuel- Including Internal Fuel Cell Lines

Specifications:

- **Innercore:** Convuluted PTFE with Integral Glass Fiber reinforcement and Static Dissipating Liner*
- **Braid:** 304 Series Stainless Steel
- **Operating Temperature:** -54°C to +204°C (-67°F to +400°F) at Full Pressure and Max. Specified Vacuum

Hose Part No.	Hose Size (nom.)	Inside/Dia. (nom.)		Outside/Dia. (nom.)		Min. Bend Radius		Max. Operating Pressure		Max. Vacuum Rating	Wt.
		ins	mm	ins	mm	ins	mm	Bar	P.S.I.		
AR-06-S	3/8"	0.36	9.14	0.54	13.71	1"	25.4	34.50	500	28	0.16
AR-08-S	1/2"	0.43	10.92	0.62	15.74	1-1/2"	38.1	34.50	500	28	0.19
AR-10-S	5/8"	0.54	13.71	0.75	19.05	2"	50.8	34.50	500	28	0.27
AR-12-S	3/4"	0.66	16.76	0.88	22.35	2-1/2"	63.5	34.50	500	28	0.32
AR-16-S	1"	0.87	22.10	1.08	27.43	3-1/2"	88.9	34.50	500	28	0.39
AR-20-S	1-1/4"	1.15	29.30	1.42	36.10	4"	102.0	17.25	250	20	0.56
AR-24-S*	1-1/2"	1.56	39.70	1.83	46.50	4-1/2"	114.0	8.63	125	10	0.95
AR-28-S*	1-3/4"	1.81	46.00	2.03	51.50	5-1/4"	134.0	8.63	125	5	1.12
AR-32-S*	2"	2.06	52.40	2.39	60.70	6"	152.4	6.90	100	5	1.33

*Sizes -24, -28 and -32 do not have a static dissipating liner. Call for details on fitting options.



PROGold Polyester Braid

- Very Lightweight & Ultimate Flexibility
- Compatible with Virtually All Fluids
- Factory Built Assemblies are ALL Pressure Tested
- Use with ProGold AC, AR or PL Fittings

Applications:

- Fuel, Oil, Water and Air Systems
- Breather and Vent Lines

Specifications:

- **Innercore:** Convuluted PTFE with Integral Glass Fiber reinforcement and Static Dissipating Liner*
- **Braid:** Polyester
- **Operating Temperature:** -54°C to +125°C (-67°F to +257°F) at Full Pressure and Specified Vacuum

Hose Part No.	Hose Size (nom.)	Inside/Dia. (nom.)		Outside/Dia. (nom.)		Min. Bend Radius		Max. Operating Pressure		Max. Vacuum Rating	Wt.
		ins	mm	ins	mm	ins	mm	Bar	P.S.I.		
AR-06-P	3/8"	0.36	9.14	0.54	13.71	1"	25.4	17.25	250	28	0.16
AR-08-P	1/2"	0.43	10.92	0.62	15.74	1-1/2"	38.1	17.25	250	28	0.19
AR-10-P	5/8"	0.54	13.71	0.75	19.05	2"	50.8	17.25	250	28	0.27
AR-12-P	3/4"	0.66	16.76	0.88	22.35	2-1/2"	63.5	17.25	250	20	0.32
AR-16-P	1"	0.87	22.10	1.08	27.43	3-1/2"	88.9	17.25	250	10	0.39
AR-20-P	1-1/4"	1.15	29.30	1.42	36.10	4"	102.0	10.30	150	10	0.56



PROGold High Temperature Polymer Braid

- Ultimate Lightweight & Flexibility
- Compatible with Virtually All Fluids
- Factory Built Assemblies are ALL Pressure Tested
- Use with ProGold AC, AR or PL Fittings.

Applications:

- Fuel, Oil, Water and Air Systems
- Fuel- Including Internal Fuel Cell Lines
- Breather and Vent Lines

Specifications:

- **Innercore:** Convuluted PTFE with Integral Glass Fibre reinforcement and Static Dissipating Liner*
- **Braid:** High Temperature Polymer Mono Filament
- **Operating Temperature:** -54°C to +200°C (-67°F to +392°F) at Full Pressure and Specified Vacuum

Hose Part No.	Hose Size (nom.)	Inside/Dia. (nom.)		Outside/Dia. (nom.)		Min. Bend Radius		Max. Operating Pressure		Max. Vacuum Rating	Wt.
		ins	mm	ins	mm	ins	mm	Bar	P.S.I.		
AR-06-HTP	3/8"	0.36	9.14	0.54	13.71	1"	25.4	17.25	250	28	0.086
AR-08-HTP	1/2"	0.43	10.92	0.62	15.74	1-1/2"	38.1	17.25	250	28	0.100
AR-10-HTP	5/8"	0.54	13.71	0.75	19.05	2"	50.8	17.25	250	28	0.148
AR-12-HTP	3/4"	0.66	16.76	0.88	22.35	2-1/2"	63.5	17.25	250	20	0.168
AR-16-HTP	1"	0.87	22.10	1.08	27.43	3-1/2"	88.9	17.25	250	10	0.230
AR-20-HTP	1-1/4"	1.15	29.30	1.42	36.10	4"	102.0	10.30	150	10	0.350
AR-24-HTP*	1-1/2"	1.56	39.70	1.83	46.50	4-1/2"	114.0	8.63	125	---	0.520

*Sizes -24, -28 and -32 do not have a static dissipating liner. Call for details on fitting options.

PROGold Aramid Braid

- Very Lightweight & Ultimate Flexibility
- Compatible with Virtually All Fluids
- Factory Built Assemblies are ALL Pressure Tested
- Use with ProGold AC, AR or PL Fittings.

Applications:

- Fuel, Oil, Water and Air Systems
- Fuel- Including Internal Fuel Cell Lines
- Applications Requiring Lightweight, Durability and High Temperature
- Harsh and Agressive Environments

Specifications:

- **Innercore:** Convuluted PTFE with Static Dissipating Liner
- **Braid:** Para Aramid
- **Operating Temperature:** -54°C to +150°C (-67°F to +302°F)

Hose Part No.	Hose Size (nom.)	Inside/Dia. (nom.)		Outside/Dia. (nom.)		Min. Bend Radius		Max. Operating Pressure		Wt.
		ins	mm	ins	mm	ins	mm	Bar	P.S.I.	
AR-06-AM	3/8"	0.36	9.14	0.54	13.71	1"	25.4	51.7	750	0.09
AR-08-AM	1/2"	0.43	10.92	0.62	15.74	1-1/2"	38.1	44.8	650	0.12
AR-10-AM	5/8"	0.54	13.71	0.75	19.05	2"	50.8	34.5	500	0.19
AR-12-AM	3/4"	0.66	16.76	0.88	22.35	2-1/2"	63.5	24.1	350	0.20
AR-16-AM	1"	0.87	22.10	1.08	27.43	3-1/2"	88.9	17.25	250	0.25
AR-20-AM	1-1/4"	1.15	29.30	1.42	36.10	4"	102.0	10.3	150	0.37
AR-24-AM*	1-1/2"	1.56	39.70	1.83	46.50	4-1/2"	114.0	8.63	125	0.52
AR-28-AM*	1-3/4"	1.81	46.00	2.03	51.50	5-1/4"	134.0	8.63	125	0.60
AR-32-AM*	2"	2.06	52.40	2.39	60.70	6"	152.4	8.63	125	0.71

*Sizes -24, -28 and -32 do not have a static dissipating liner. Call for details on fitting options.

PTFE Clear Convuluted

- Very Flexible & Lightweight
- Compatible with Virtually All Fluids
- Factory Built Assemblies are All Pressure Tested
- Use with ProGold AC Fittings Only

Applications:

- Low Pressure Systems
- Fuel Systems- Ideal for Internal Fuel Cell Applications
- Breather and Vent Lines
- Reservoir and Drain Lines

Specifications:

- **Innercore:** Convuluted Clear PTFE
- **Braid:** None
- **Operating Temperature:** -54°C to +200°C (-67°F to +392°F)

Hose Part No.	Hose Size (nom.)	Inside/Dia. (nom.)		Outside/Dia. (nom.)		Min. Bend Radius		Max. Operating Pressure		Wt. Kg/m
		ins	mm	ins	mm	ins	mm	Bar	P.S.I.	
CCH-06	3/8"	0.38	9.65	0.56	14.22	3/4"	19.0	2.0	30	0.08
CCH-08	1/2"	0.52	13.20	0.72	18.30	3/4"	19.0	2.0	30	0.12



PROGold Fittings

The Ultimate Fitting

The one-piece billet construction makes PROGold fittings the ultimate race fitting. With no welded, glued or brazed joints, the result is a strong, reliable fitting of the best quality available. The constant internal radius provides maximum flow rates with no necked down restrictions.

Attachment Types

PROGold fittings are available in lightweight Crimp (AC) and Reusable (AR) styles. For sizes -24 through -32, our unique Press Lock (PL) fittings provide a reliable high pressure seal.

Wide Variety

With a nearly unlimited range of styles, you should be able to find a fitting that suits your application. These include AN fittings, Metric, Wiggins, Port Thread, Plug-In 'O' Ring, Flanged, Quick Disconnect, Fuel Logs and any angle you need. If you can't find the fitting you want, tell us and we'll make it.



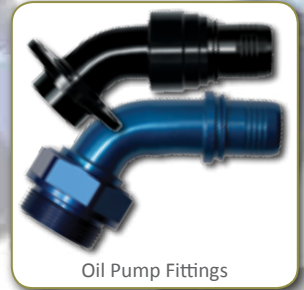
AN Fittings



Wiggins Fittings



Reusable Fittings



Oil Pump Fittings



Port Thread Fittings



PL Fittings



'O' Ring Fittings



Metric Fittings

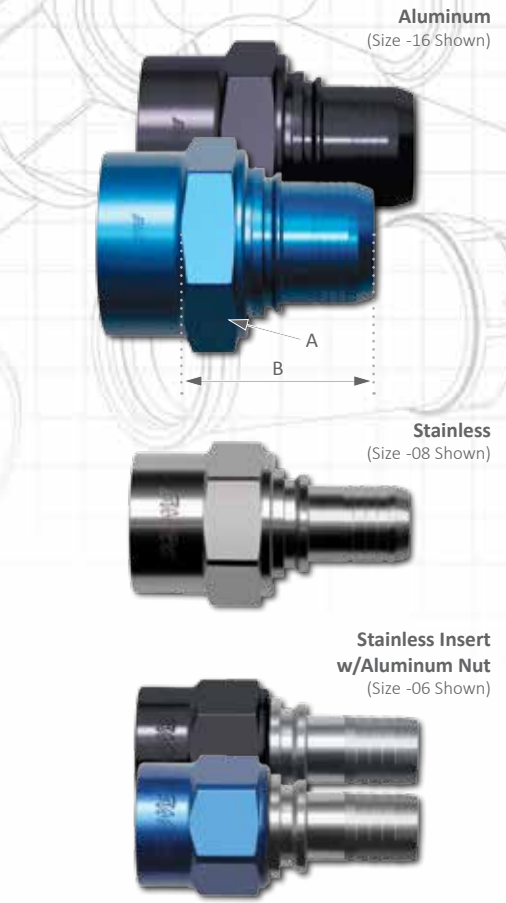


Carb Kit Fittings

AND
MANY
MANY
MANY
MORE!

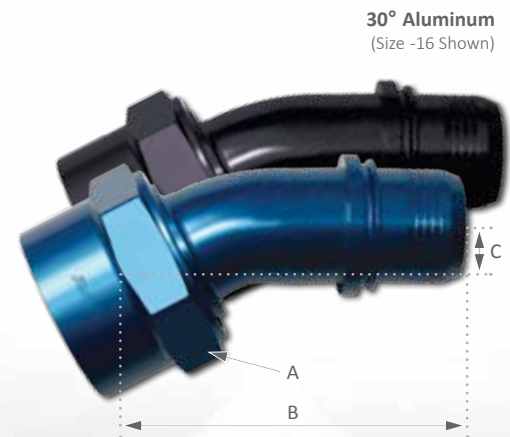
Straight JIC (AN) Female

Part No.	Size	A		B		C		
Aluminum								
BLUE X=3 / BLACK X=4		ins	mm	ins	mm	ins	mm	
AC-06-FX	-06	11/16"	17.4	1.20	30.50	--	--	
AC-08-FX	-08	7/8"	22.2	1.26	32.00	--	--	
AC-10-FX	-10	1"	25.4	1.40	35.70	--	--	
AC-12-FX	-12	1-1/4"	31.7	1.42	36.21	--	--	
AC-16-FX	-16	1-1/2"	38.1	1.54	39.10	--	--	
AC-20-FX	-20	1-13/16"	46.0	1.95	49.60	--	--	
Stainless Steel								
AC-06-F7	-06	11/16"	17.4	1.20	30.50	--	--	
AC-08-F7	-08	7/8"	22.2	1.26	32.00	--	--	
Stainless Steel w/Aluminum Nuts								
AC-06-F7-X	-06	11/16"	17.4	1.20	30.50	--	--	
AC-08-F7-X	-08	7/8"	22.2	1.26	32.00	--	--	
Reducer Fittings	Hose Size	Nut Size						
AC-06-08-FX	-06	-08	7/8"	22.2	1.28	32.6	---	---
AC-08-06-FX	-08	-06	11/16"	17.4	1.26	32.0	---	---
AC-10-08-FX	-10	-08	7/8"	22.2	1.39	35.3	---	---
AC-10-12-FX	-10	-12	1-1/4"	31.7	---	---	---	---
AC-12-10-FX	-12	-10	1"	25.4	1.47	37.3	---	---
AC-16-12-FX	-16	-12	1-1/4"	31.7	1.44	36.6	---	---
AC-20-16-FX	-20	-16	1-1/2"	38.1	1.99	50.5	---	---
AC-20-24-FX	-20	-24	2-1/8"	54.0	2.20	55.8	---	---

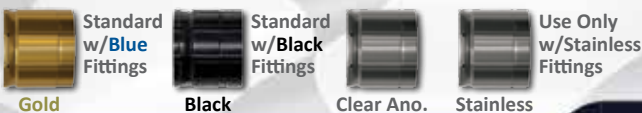


30° JIC (AN) Female

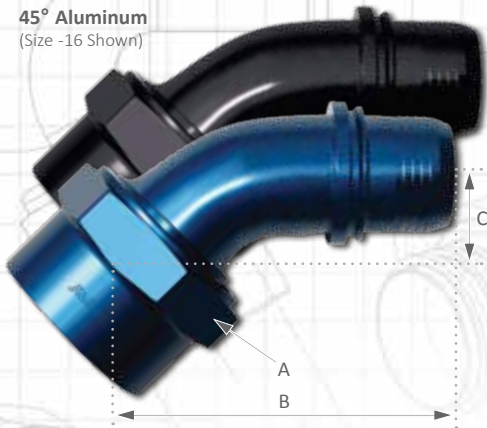
Part No.	Size	A		B		C	
Aluminum							
BLUE X=3 / BLACK X=4		ins	mm	ins	mm	ins	mm
AC-06-30JIC-X	-06	11/16"	17.4	1.89	48.10	0.33	08.4
AC-08-30JIC-X	-08	7/8"	22.2	2.31	58.70	0.41	10.4
AC-10-30JIC-X	-10	1"	25.4	2.39	60.80	0.47	12.0
AC-12-30JIC-X	-12	1-1/4"	31.7	2.74	69.70	0.47	12.0
AC-16-30JIC-X	-16	1-1/2"	38.1	3.06	77.83	0.54	13.8
AC-20-30JIC-X	-20	1-13/16"	46.0	3.29	83.60	0.56	14.4



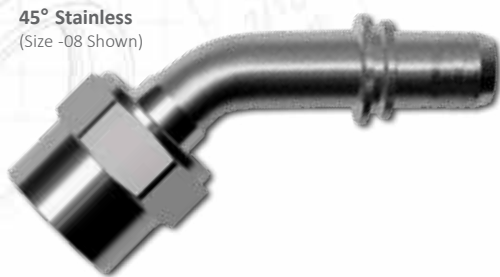
Available Crimp Collars



45° Aluminum
(Size -16 Shown)



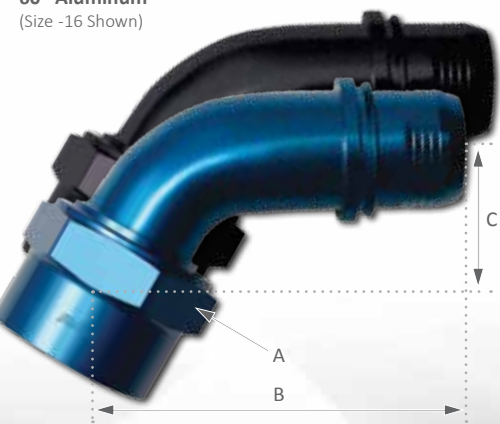
45° Stainless
(Size -08 Shown)



**45° Stainless Insert
w/Aluminum Nut**
(Size -06 Shown)



60° Aluminum
(Size -16 Shown)



45° JIC (AN) Female

Part No.	Size	A	B	C			
Aluminum							
BLUE X=3 / BLACK X=4		ins	mm	ins	mm	ins	mm
AC-06-GX	-06	11/16"	17.4	1.78	45.30	0.50	12.7
AC-08-GX	-08	7/8"	22.2	2.17	55.20	0.62	15.7
AC-10-GX	-10	1"	25.4	2.22	56.60	0.74	18.7
AC-12-GX	-12	1-1/4"	31.7	2.56	65.60	0.75	19.0
AC-16-GX	-16	1-1/2"	38.1	2.88	73.23	0.87	22.1
AC-20-GX	-20	1-13/16"	46.0	3.10	78.70	0.93	23.6
Stainless Steel							
AC-06-G7	-06	11/16"	17.4	1.78	45.30	0.50	12.7
AC-08-G7	-08	7/8"	22.2	2.17	55.20	0.62	15.7
Stainless Steel w/Aluminum Nuts							
AC-06-G7-X	-06	11/16"	17.4	1.78	45.30	0.50	12.7
AC-08-G7-X	-08	7/8"	22.2	2.17	55.20	0.62	15.7
Reducer Fittings		Hose Size	Nut Size				
AC-06-08-GX	-06	-08	7/8"	22.2	---	---	---
AC-10-08-GX	-10	-08	7/8"	22.2	2.17	55.2	0.62
AC-16-12-GX	-16	-12	1-1/4"	31.7	2.56	65.6	0.75
AC-20-24-GX	-20	-24	2-1/8"	54.0	---	---	---

60° JIC (AN) Female

Part No.	Size	A	B	C			
Aluminum							
BLUE X=3 / BLACK X=4		ins	mm	ins	mm	ins	mm
AC-06-60JIC-X	-06	11/16"	17.4	1.92	48.7	0.70	17.9
AC-08-60JIC-X	-08	7/8"	22.2	2.13	54.1	0.81	20.7
AC-10-60JIC-X	-10	1"	25.4	2.59	65.8	0.90	22.9
AC-12-60JIC-X	-12	1-1/4"	31.7	2.70	68.7	0.96	24.5
AC-16-60JIC-X	-16	1-1/2"	38.1	2.77	70.4	1.14	29.0
AC-20-60JIC-X	-20	1-13/16"	46.0	3.62	92.1	1.32	33.5

Available Crimp Collars

Standard
w/Blue
Fittings



Gold

Standard
w/Black
Fittings



Black



Clear Ano.

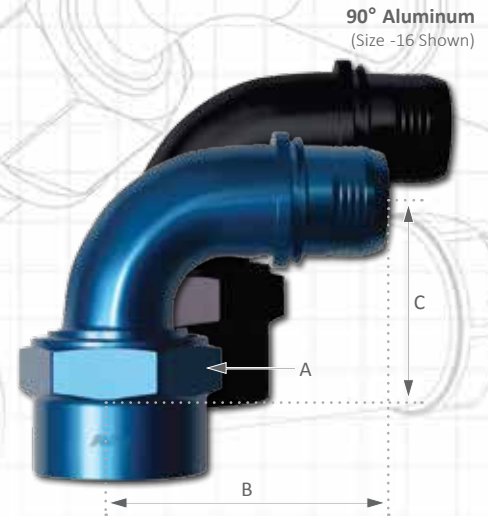
Use Only
w/Stainless
Fittings



Stainless

90° JIC (AN) Female

Part No.	Size	A		B		C	
Aluminum							
BLUE X=3 / BLACK X=4		ins	mm	ins	mm	ins	mm
AC-06-HX	-06	11/16"	17.4	1.48	37.60	0.95	24.1
AC-08-HX	-08	7/8"	22.2	1.63	41.30	1.10	27.9
AC-10-HX	-10	1"	25.4	2.01	51.10	1.31	33.2
AC-12-HX	-12	1-1/4"	31.7	2.07	52.70	1.43	36.3
AC-16-HX	-16	1-1/2"	38.1	2.25	57.30	1.74	44.2
AC-20-HX	-20	1-13/16"	46.0	2.75	69.80	2.05	52.1
Stainless Steel							
AC-06-H7	-06	11/16"	17.4	1.48	37.60	0.95	24.1
AC-08-H7	-08	7/8"	22.2	1.63	41.30	1.10	27.9
Stainless Steel w/Aluminum Nuts							
AC-06-H7-X	-06	11/16"	17.4	1.48	37.60	0.95	24.1
AC-08-H7-X	-08	7/8"	22.2	1.63	41.30	1.10	27.9
Reducer Fittings	Hose Size	Nut Size					
AC-06-08-HX	-06	-08	7/8"	22.2	---	---	---
AC-10-08-HX	-10	-08	7/8"	22.2	1.63	41.3	1.10
AC-16-12-HX	-16	-12	1-1/4"	31.7	2.07	52.7	1.43
AC-20-24-HX	-20	-24	2-1/8"	54.0	---	---	---



90° Aluminum
(Size -16 Shown)



90° Stainless
(Size -08 Shown)



90° Stainless Insert
w/Aluminum Nut
(Size -06 Shown)

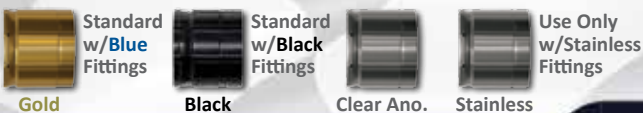
90° JIC (AN) Female Block Elbow

Part No.	Size	A		B		C	
Aluminum							
BLUE X=3 / BLACK X=4		ins	mm	ins	mm	ins	mm
AC-06-B-HX	-06	11/16"	17.4	1.30	33.0	0.71	18.0
AC-08-B-HX	-08	7/8"	22.2	---	---	---	---
AC-10-B-HX	-10	1"	25.40	1.56	39.75	1.00	25.5



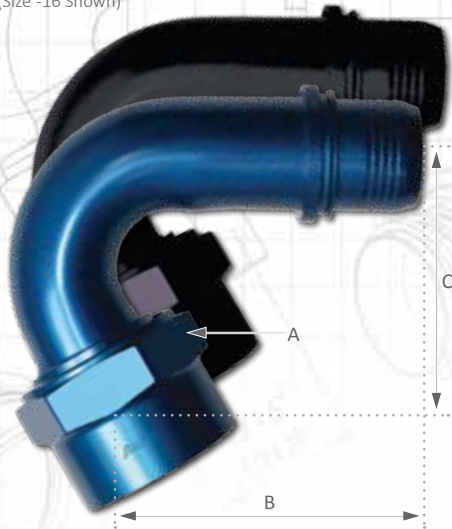
90° Aluminum
(Size -08 Shown)

Available Crimp Collars



PROGold AC Crimped Fittings

120° Aluminum
(Size -16 Shown)



120° JIC (AN) Female

Part No.	Size	A		B		C	
Aluminum							
BLUE X=3 / BLACK X=4		ins	mm	ins	mm	ins	mm
AC-06-PX	-06	11/16"	17.4	1.37	34.7	1.04	26.5
AC-08-PX	-08	7/8"	22.2	1.47	37.4	1.28	32.8
AC-10-PX	-10	1"	25.4	1.84	46.8	1.50	38.1
AC-12-PX	-12	1-1/4"	31.7	1.71	43.4	1.71	43.4
AC-16-PX	-16	1-1/2"	38.1	2.21	56.2	2.11	53.5
AC-20-PX	-20	1-13/16"	46.0	3.07	78.0	2.83	72.0
Stainless Steel							
AC-06-P7	-06	11/16"	17.4	1.37	34.7	1.04	26.5
AC-08-P7	-08	7/8"	22.2	1.47	37.4	1.28	32.8
Stainless Steel w/Aluminum Nuts							
AC-06-P7-X	-06	11/16"	17.4	1.37	34.7	1.04	26.5
AC-08-P7-X	-08	7/8"	22.2	1.47	37.4	1.28	32.8

120° Stainless
(Size -06 Shown)



120° Stainless Insert w/Aluminum Nut
(Size -06 Shown)



150° Stainless
(Size -06 Shown)

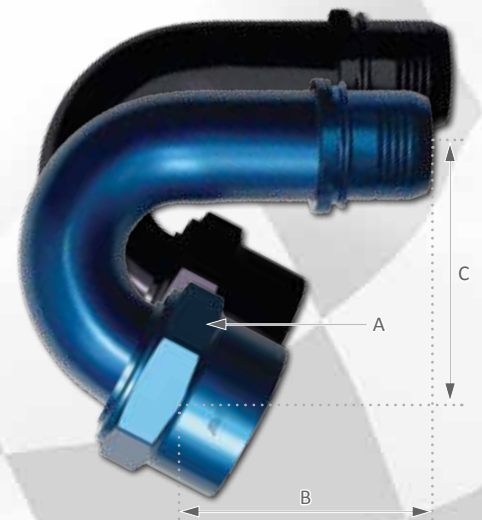


150° Stainless Insert w/Aluminum Nut
(Size -06 Shown)

150° JIC (AN) Female

Part No.	Size	A		B		C	
Aluminum							
BLUE X=3 / BLACK X=4		ins	mm	ins	mm	ins	mm
AC-06-RX	-06	11/16"	17.4	1.37	34.7	1.02	25.8
AC-08-RX	-08	7/8"	22.2	1.26	32.0	1.24	31.6
AC-10-RX	-10	1"	25.4	1.37	34.7	1.48	37.6
AC-12-RX	-12	1-1/4"	31.7	1.69	43.0	1.74	44.2
AC-16-RX	-16	1-1/2"	38.1	1.55	39.3	2.18	55.5
Stainless Steel							
AC-06-R7	-06	11/16"	17.4	1.37	34.7	1.02	25.8
AC-08-R7	-08	7/8"	22.2	1.26	32.0	1.24	31.6
Stainless Steel w/Aluminum Nuts							
AC-06-R7-X	-06	11/16"	17.4	1.37	34.7	1.02	25.8
AC-08-R7-X	-08	7/8"	22.2	1.26	32.0	1.24	31.6
Reducer Fittings	Hose Size	Nut Size					
AC-16-12-RX	-16	-12	1-1/4"	31.7	---	---	---

150° Aluminum
(Size -16 Shown)



Available Crimp Collars

Standard w/Blue Fittings



Gold

Standard w/Black Fittings



Black



Clear Ano.

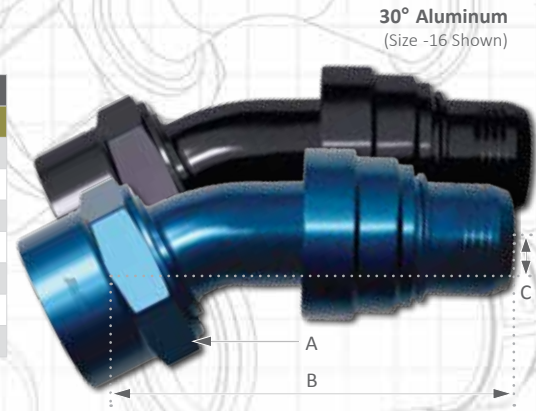
Use Only w/Stainless Fittings



Stainless

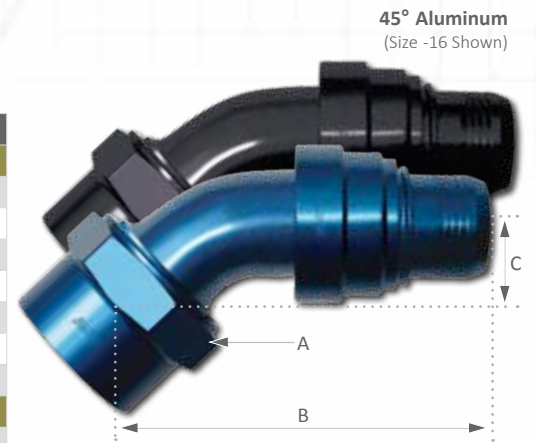
30° JIC (AN) Female Double Swivel

Part No.	Size	A		B		C	
Aluminum							
BLUE X=3 / BLACK X=4		ins	mm	ins	mm	ins	mm
AC-06-30JICDS-X	-06	11/16"	17.4	2.59	65.7	0.33	8.4
AC-08-30JICDS-X	-08	7/8"	22.2	3.00	76.2	0.41	10.4
AC-10-30JICDS-X	-10	1"	25.4	3.10	78.7	0.47	12.0
AC-12-30JICDS-X	-12	1-1/4"	31.7	3.53	89.6	0.47	12.0
AC-16-30JICDS-X	-16	1-1/2"	38.1	3.81	96.7	0.54	13.8
AC-20-30JICDS-X	-20	1-13/16"	46.0	4.44	112.7	0.56	14.4



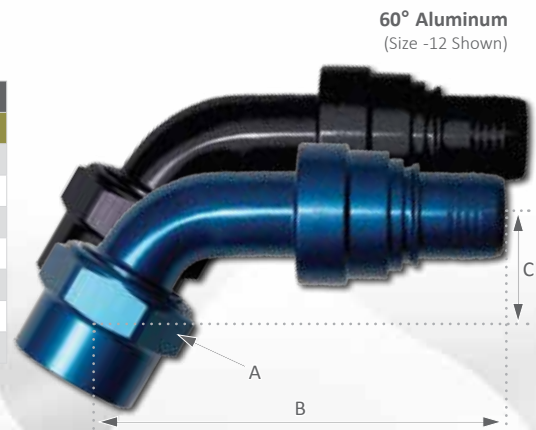
45° JIC (AN) Female Double Swivel

Part No.	Size	A		B		C		
Aluminum								
BLUE X=3 / BLACK X=4		ins	mm	ins	mm	ins	mm	
AC-06-GX-DS	-06	11/16"	17.4	2.48	63.2	0.50	12.7	
AC-08-GX-DS	-08	7/8"	22.2	2.86	72.7	0.62	15.7	
AC-10-GX-DS	-10	1"	25.4	2.93	74.4	0.74	18.7	
AC-12-GX-DS	-12	1-1/4"	31.7	3.35	85.1	0.75	19.0	
AC-16-GX-DS	-16	1-1/2"	38.1	3.63	92.4	0.87	22.1	
AC-20-GX-DS	-20	1-13/16"	46.0	4.25	108.0	0.93	23.6	
Stainless Elbow w/Aluminum Nut & Insert								
AC-06-G7-X-DS	-06	11/16"	17.4	2.48	63.2	0.50	12.7	
AC-08-G7-X-DS	-08	7/8"	22.2	2.86	72.7	0.62	15.7	
Reducer Fittings	Hose Size	Nut Size						
AC-08-06-GX-DS	-08	-06	11/16"	17.4	2.48	63.0	.46	11.78
AC-10-08-GX-DS	-10	-08	7/8"	22.2	2.07	52.7	1.43	36.3
AC-12-08-GX-DS	-12	-08	7/8"	22.2	2.96	75.17	.59	14.98
AC-12-10-GX-DS	-12	-10	1"	25.4	2.43	74.4	.74	18.7

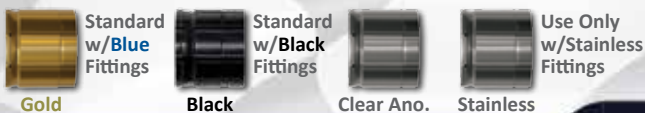


60° JIC (AN) Female Double Swivel

Part No.	Size	A		B		C	
Aluminum							
BLUE X=3 / BLACK X=4		ins	mm	ins	mm	ins	mm
AC-06-60JICDS-X	-06	11/16"	17.4	2.62	66.5	0.70	17.9
AC-08-60JICDS-X	-08	7/8"	22.2	2.88	73.1	0.81	20.7
AC-10-60JICDS-X	-10	1"	25.4	3.31	84.1	0.90	22.9
AC-12-60JICDS-X	-12	1-1/4"	31.7	3.41	86.6	0.96	24.5
AC-16-60JICDS-X	-16	1-1/2"	38.1	3.50	88.9	1.14	29.0
AC-20-60JICDS-X	-20	1-13/16"	46.0	4.72	119.9	1.32	33.5



Available Crimp Collars



PROGold AC Crimped Fittings

90° Aluminum
(Size -16 Shown)



90° JIC (AN) Female Double Swivel

Part No.	Size	A		B		C		
Aluminum								
BLUE X=3 / BLACK X=4		ins	mm	ins	mm	ins	mm	
AC-06-HX-DS	-06	11/16"	17.4	2.18	55.6	0.95	24.1	
AC-08-HX-DS	-08	7/8"	22.2	2.33	59.2	1.10	27.9	
AC-10-HX-DS	-10	1"	25.4	2.33	72.1	1.31	33.2	
AC-12-HX-DS	-12	1-1/4"	31.7	2.78	70.7	1.43	33.2	
AC-16-HX-DS	-16	1-1/2"	38.1	2.98	75.7	1.74	44.2	
AC-20-HX-DS	-20	1-13/16"	46.0	3.85	97.8	2.05	52.1	
Stainless Elbow w/Aluminum Nut & Insert								
AC-06-H7-X-DS	-06	11/16"	17.4	2.18	55.6	0.95	24.1	
AC-08-H7-X-DS	-08	7/8"	22.2	2.33	59.2	1.10	27.9	
Reducer Fittings		Hose Size	Nut Size					
AC-08-06-HX-DS	-08	-06	11/16"	17.4	2.18	55.33	0.90	22.75
AC-10-08-HX-DS	-10	-08	7/8"	22.2	2.42	61.53	1.13	28.58
AC-12-08-HX-DS	-12	-08	7/8"	22.2	2.41	61.31	1.13	28.58
AC-12-10-HX-DS	-12	-10	1"	25.4	2.81	71.25	1.30	33.03
AC-16-12-HX-DS	-16	-12	1-1/4"	31.7	2.49	63.18	1.42	36.04
AC-20-16-HX-DS	-20	-16	1-1/2"	38.1	3.52	89.36	1.14	29.07



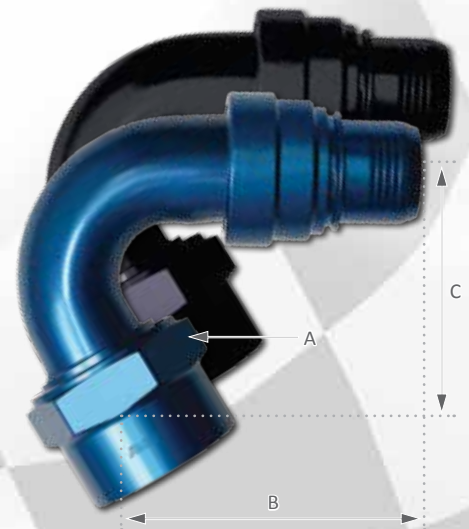
90° Stainless w/
Aluminum Nut & Insert
(Size -06 Shown)



120° Stainless w/
Aluminum Nut & Insert
(Size -06 Shown)

120° JIC (AN) Female Double Swivel

Part No.	Size	A		B		C		
Aluminum								
BLUE X=3 / BLACK X=4		ins	mm	ins	mm	ins	mm	
AC-06-PX-DS	-06	11/16"	17.4	1.86	47.2	1.04	26.5	
AC-08-PX-DS	-08	7/8"	22.2	1.88	47.7	1.28	32.6	
AC-10-PX-DS	-10	1"	25.4	2.06	52.3	1.50	38.1	
AC-12-PX-DS	-12	1-1/4"	31.7	2.19	55.7	1.71	43.4	
AC-16-PX-DS	-16	1-1/2"	38.1	2.34	59.4	2.11	53.5	
Stainless Elbow w/Aluminum Nut & Insert								
AC-06-P7-X-DS	-06	11/16"	17.4	1.86	47.2	1.04	26.5	
AC-08-P7-X-DS	-08	7/8"	22.2	1.88	47.7	1.28	32.6	
Reducer Fittings		Hose Size	Nut Size					
AC-12-10-PX-DS	-12	-10	1"	25.4	2.26	57.38	1.51	38.43
AC-16-12-PX-DS	-16	-12	1-1/4"	31.7	2.54	64.53	1.70	43.26



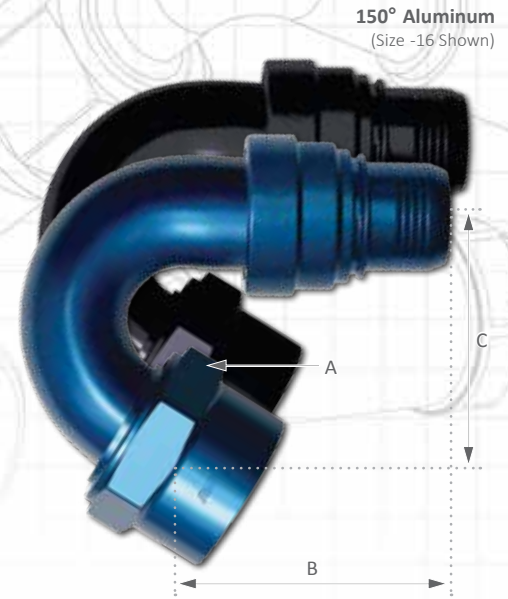
120° Aluminum
(Size -16 Shown)

Available Crimp Collars



150° JIC (AN) Female Double Swivel

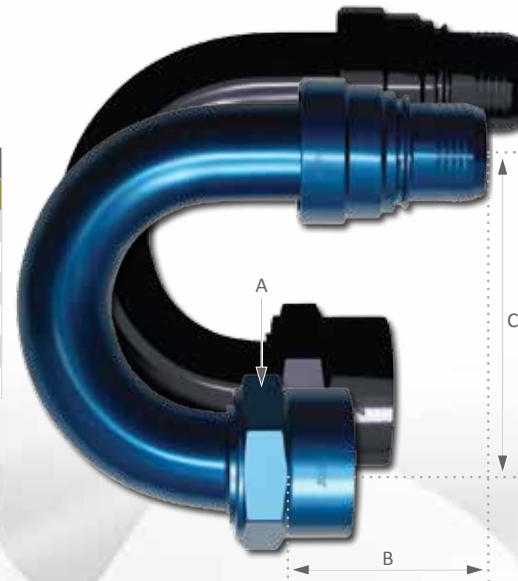
Part No.	Size	A		B		C		
Aluminum								
BLUE X=3 / BLACK X=4								
AC-06-RX-DS	-06	11/16"	17.4	1.52	38.7	1.02	25.8	
AC-08-RX-DS	-08	7/8"	22.2	1.46	37.2	1.24	31.6	
AC-10-RX-DS	-10	1"	25.4	1.58	40.3	1.48	37.6	
AC-12-RX-DS	-12	1-1/4"	31.7	1.67	42.4	1.74	44.2	
AC-16-RX-DS	-16	1-1/2"	38.1	1.70	43.3	2.18	55.5	
Stainless Elbow w/Aluminum Nut & Insert								
AC-06-R7-X-DS	-06	11/16"	17.4	1.52	38.7	1.02	25.8	
AC-08-R7-X-DS	-08	7/8"	22.2	1.46	37.2	1.24	31.6	
Reducer Fittings	Hose Size	Nut Size						
AC-12-10-RX-DS	-12	-10	1"	25.4	1.58	40.3	1.48	37.6



150° Stainless w/Aluminum Nut & Insert (Size -06 Shown)



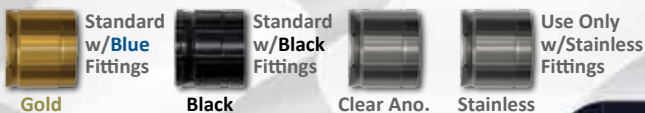
180° Aluminum (Size -16 Shown)



180° JIC (AN) Female Double Swivel

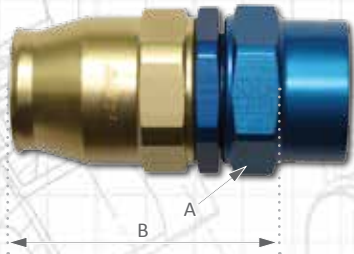
Part No.	Size	A		B		C	
Aluminum							
BLUE X=3 / BLACK X=4							
AC-06-SX-DS	-06	11/16"	17.4	1.53	30.8	1.15	29.2
AC-08-SX-DS	-08	7/8"	22.2	1.60	40.7	1.50	38.1
AC-10-SX-DS	-10	1"	25.4	1.65	42.0	1.87	47.4
AC-12-SX-DS	-12	1-1/4"	31.7	2.10	53.4	2.25	57.1
AC-16-SX-DS	-16	1-1/2"	38.1	1.92	48.8	3.00	76.2

Available Crimp Collars



PROGold AR Reusable Fittings

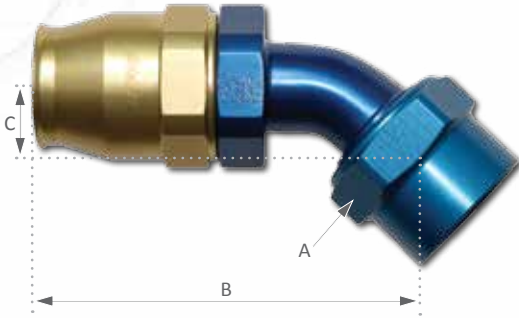
Aluminum
(Size -12 Shown)



Straight JIC (AN) Female Reusable

Part No.	Size	A		B		C	
Aluminum							
BLUE & GOLD		ins	mm	ins	mm	ins	mm
AR-06-F3	-06	11/16"	17.4	1.58	40.1	---	---
AR-08-F3	-08	7/8"	22.2	1.74	42.2	---	---
AR-10-F3	-10	1"	25.4	1.94	49.2	---	---
AR-12-F3	-12	1-1/4"	31.7	2.18	55.3	---	---
AR-16-F3	-16	1-1/2"	38.1	2.30	58.4	---	---
AR-20-F3	-20	1-13/16"	46.0	2.70	68.6	---	---
Reducer Fittings		Hose Size	Nut Size				
AR-12-10-F3	-12	-10	1"	25.4	2.17	55.2	---

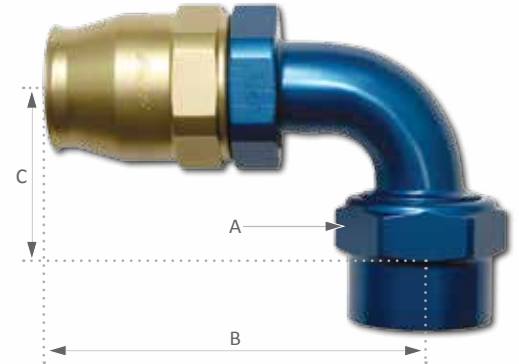
45° Aluminum
(Size -12 Shown)



45° JIC (AN) Female Reusable

Part No.	Size	A		B		C	
Aluminum							
BLUE & GOLD		ins	mm	ins	mm	ins	mm
AR-06-G3	-06	11/16"	17.4	2.20	55.8	0.50	12.7
AR-08-G3	-08	7/8"	22.2	2.70	68.5	0.62	15.7
AR-10-G3	-10	1"	25.4	2.82	71.6	0.74	18.7
AR-12-G3	-12	1-1/4"	31.7	3.45	87.6	0.75	19.0
AR-16-G3	-16	1-1/2"	38.1	3.75	95.2	0.87	22.1
AR-20-G3	-20	1-13/16"	46.0	3.92	99.5	0.93	23.6

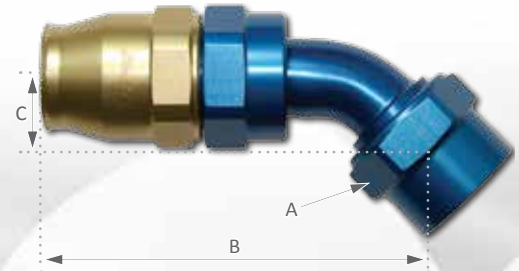
90° Aluminum
(Size -12 Shown)



90° JIC (AN) Female Reusable

Part No.	Size	A		B		C	
Aluminum							
BLUE & GOLD		ins	mm	ins	mm	ins	mm
AR-06-H3	-06	11/16"	17.4	1.90	48.2	0.95	24.1
AR-08-H3	-08	7/8"	22.2	2.17	55.1	1.10	27.9
AR-10-H3	-10	1"	25.4	2.61	66.2	1.31	33.2
AR-12-H3	-12	1-1/4"	31.7	2.88	73.1	1.43	36.3
AR-16-H3	-16	1-1/2"	38.1	3.08	78.2	1.74	44.2
AR-20-H3	-20	1-13/16"	46.0	3.64	92.5	2.05	52.1

45° Aluminum
(Size -12 Shown)



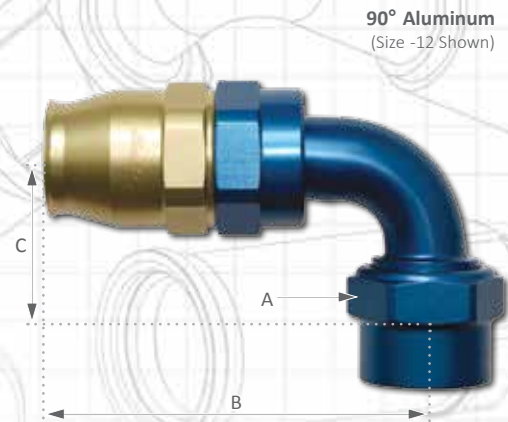
45° JIC (AN) Female Double Swivel Reusable

Part No.	Size	A		B		C	
Aluminum							
BLUE & GOLD		ins	mm	ins	mm	ins	mm
AR-06-G3-DS	-06	11/16"	17.4	2.66	67.5	0.50	12.7
AR-08-G3-DS	-08	7/8"	22.2	3.10	78.7	0.62	15.7
AR-10-G3-DS	-10	1"	25.4	3.22	81.7	0.74	18.7
AR-12-G3-DS	-12	1-1/4"	31.7	3.85	97.7	0.75	19.0
AR-16-G3-DS	-16	1-1/2"	38.1	4.15	105.0	0.87	22.1
Reducer Fittings		Hose Size	Nut Size				
AR-12-10-G3-DS	-12	-10	1"	25.4	3.42	86.8	.74 18.7

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90° JIC (AN) Female Double Swivel Reusable

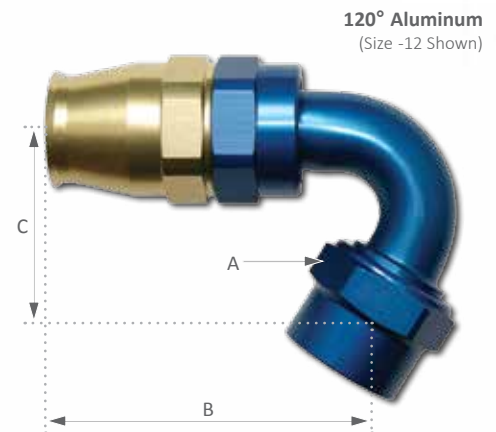
Part No.	Size	A		B		C	
Aluminum							
BLUE & GOLD							
		ins	mm	ins	mm	ins	mm
AR-06-H3-DS	-06	11/16"	17.4	2.36	59.9	0.95	24.1
AR-08-H3-DS	-08	7/8"	22.2	2.57	65.2	1.10	27.9
AR-10-H3-DS	-10	1"	25.4	3.01	79.4	1.31	33.2
AR-12-H3-DS	-12	1-1/4"	31.7	3.28	83.3	1.43	36.3
AR-16-H3-DS	-16	1-1/2"	38.1	3.48	83.3	1.74	44.2
Reducer Fittings	Hose Size	Nut Size					
AR-12-10-H3-DS	-12	-10	1"	25.4	3.33	84.5	1.31



90° Aluminum
(Size -12 Shown)

120° JIC (AN) Female Double Swivel Reusable

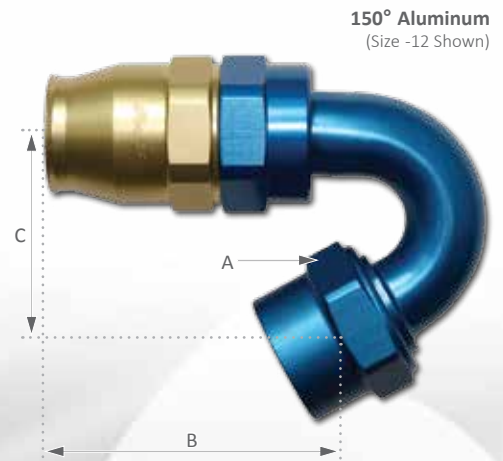
Part No.	Size	A		B		C	
Aluminum							
BLUE & GOLD							
		ins	mm	ins	mm	ins	mm
AR-06-P3-DS	-06	11/16"	17.4	2.02	51.4	1.04	26.5
AR-08-P3-DS	-08	7/8"	22.2	2.12	53.8	1.28	32.6
AR-10-P3-DS	-10	1"	25.4	2.34	59.6	1.50	38.1
AR-12-P3-DS	-12	1-1/4"	31.7	2.69	68.3	1.71	43.4
AR-16-P3-DS	-16	1-1/2"	38.1	2.83	72.0	2.11	53.5
Reducer Fittings	Hose Size	Nut Size					
AR-12-10-P3-DS	-12	-10	1"	25.4	2.55	64.9	1.50



120° Aluminum
(Size -12 Shown)

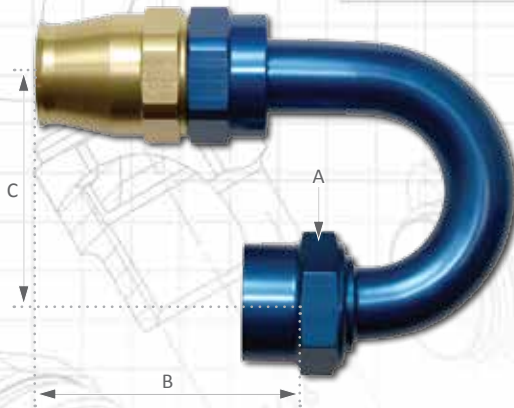
150° JIC (AN) Female Double Swivel Reusable

Part No.	Size	A		B		C	
Aluminum							
BLUE & GOLD							
		ins	mm	ins	mm	ins	mm
AR-06-R3-DS	-06	11/16"	17.4	1.69	42.9	1.02	25.8
AR-08-R3-DS	-08	7/8"	22.2	1.70	43.3	1.24	31.6
AR-10-R3-DS	-10	1"	25.4	1.87	47.6	1.48	37.6
AR-12-R3-DS	-12	1-1/4"	31.7	2.16	55.0	1.74	44.2
AR-16-R3-DS	-16	1-1/2"	38.1	2.20	55.9	2.18	55.5
Reducer Fittings	Hose Size	Nut Size					
AR-12-10-R3-DS	-12	-10	1"	25.4	2.08	52.9	1.48



150° Aluminum
(Size -12 Shown)

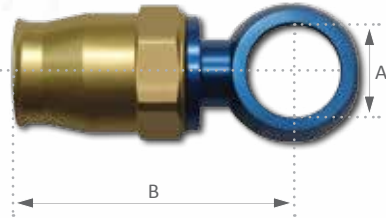
180° Aluminum
(Size -12 Shown)



180° JIC (AN) Female Double Swivel Reusable

Part No.	Size	A		B		C	
Aluminum							
BLUE & GOLD							
		ins	mm	ins	mm	ins	mm
AR-06-S3-DS	-06	11/16"	17.4	1.70	43.1	1.15	29.2
AR-08-S3-DS	-08	7/8"	22.2	1.84	46.7	1.50	38.1
AR-10-S3-DS	-10	1"	25.4	1.94	49.2	1.87	47.4
AR-12-S3-DS	-12	1-1/4"	31.7	2.60	66.0	2.25	57.1
AR-16-S3-DS	-16	1-1/2"	38.1	2.42	61.4	3.00	76.2

Aluminum
(Size -06 Shown)

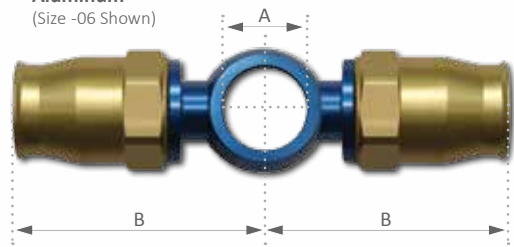


Straight Banjo Reusable

Part No.	Size	Bolt Thread Size	A		B	
Aluminum						
BLUE & GOLD						
			ins	mm	ins	mm
AR-06-BJ-01	-06	9/16" x 24	9/16"	14.2	1.70	43.2
AR-06-BJ-02	-06	M12 x 1.25	9/16"	14.2	1.70	43.2
AR-06-BJ-03	-06	M12 x 1.50	9/16"	14.2	1.70	43.2
AR-06-BJ-04	-06	M14 x 1.50	9/16"	14.2	1.70	43.2

NOTE: Banjos are supplied complete with the bolt and washers.

Aluminum
(Size -06 Shown)



Straight Banjo - Double Tail Reusable

Part No.	Size	Bolt Thread Size	A		B	
Aluminum						
BLUE & GOLD						
			ins	mm	ins	mm
AR-06-DB-01	-06	9/16" x 24	9/16"	14.2	1.70	43.2
AR-06-DB-02	-06	M12 x 1.25	9/16"	14.2	1.70	43.2
AR-06-DB-03	-06	M12 x 1.50	9/16"	14.2	1.70	43.2
AR-06-DB-04	-06	M14 x 1.50	9/16"	14.2	1.70	43.2

NOTE: Banjos are supplied complete with the bolt and washers.

Aluminum Socket
(Size -12 Shown)



Part No.	Size
Socket	
AR-S-06	-06
AR-S-08	-08
AR-S-10	-10
AR-S-12	-12
AR-S-16	-16
AR-S-20	-20

Aluminum Olive
(Size -06 Shown)



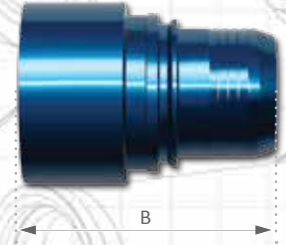
Part No.	Size
Olive	
AR-O-06	-06
AR-O-08	-08
AR-O-10	-10
AR-O-12	-12
AR-O-16	-16
AR-O-20	-20

Replacement Parts for Reusable Fittings

Straight Female Wiggins

Part No.				B		C	
Single 'O' Ring	Deep Double 'O' Ring	Hose Size	Clamp Size				
BLUE / For BLACK add -4 to the end of the Part #				ins	mm	ins	mm
AC-06-08-ST-WF	AC-06-08-ST-WFFD	-06	-08	1.61	41.0	---	---
AC-08-ST-WF	AC-08-ST-WFFD	-08	-08	1.61	41.0	---	---
AC-10-ST-WF	AC-10-ST-WFFD	-10	-10	1.69	43.0	---	---
AC-12-ST-WF	AC-12-ST-WFFD	-12	-12	1.81	46.0	---	---
AC-16-ST-WF	AC-16-ST-WFFD	-16	-16	1.85	47.0	---	---
AC-20-ST-WF	AC-20-ST-WFFD	-20	-20	2.46	62.5	---	---
Reducer Fittings							
AC-06-10-ST-WF	---	-06	-10	---	---	---	---
AC-08-10-ST-WF	---	-08	-10	1.69	43.0	---	---
AC-12-16-ST-WF	---	-12	-16	1.88	47.8	---	---
AC-20-16-ST-WF	---	-20	-16	---	---	---	---
---	AC-20-24-ST-WFFD	-20	-24	2.33	59.2	---	---
AC-20-28-ST-WF	---	-20	-28	2.42	61.4	---	---

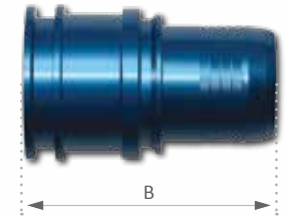
Aluminum
(Size -16 Shown)



Straight Male Wiggins

Part No.				B		C	
Single 'O' Ring	Deep Double 'O' Ring	Hose Size	Clamp Size				
BLUE / For BLACK add -4 to the end of the Part #				ins	mm	ins	mm
AC-06-08-ST-WM	---	-06	-08	1.29	32.8	---	---
AC-08-ST-WM	---	-08	-08	1.29	32.8	---	---
AC-10-ST-WM	---	-10	-10	1.40	35.5	---	---
AC-12-ST-WM	AC-12-ST-WM-DO	-12	-12	1.57	40.0	---	---
AC-16-ST-WM	---	-16	-16	1.57	40.0	---	---
Reducer Fittings							
AC-20-16-ST-WM	---	-20	-16	2.03	51.5	---	---

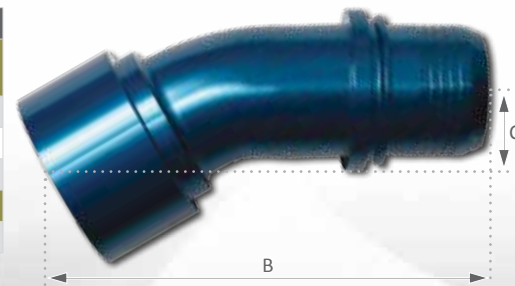
Aluminum
(Size -12 Shown)



30° Female Wiggins

Part No.				B		C	
Single 'O' Ring	Deep Double 'O' Ring	Hose Size	Clamp Size				
BLUE / For BLACK add -4 to the end of the Part #				ins	mm	ins	mm
AC-12-30-WF	AC-12-30-WFFD	-12	-12	2.88	73.14	0.67	16.90
AC-16-30-WF	AC-16-30-WFFD	-16	-16	2.94	74.6	0.72	18.20
Reducer Fittings							
AC-20-16-30-WF	---	-20	-16	---	---	---	---

30° Aluminum
(Size -16 Shown)



Single and Double 'O' Rings



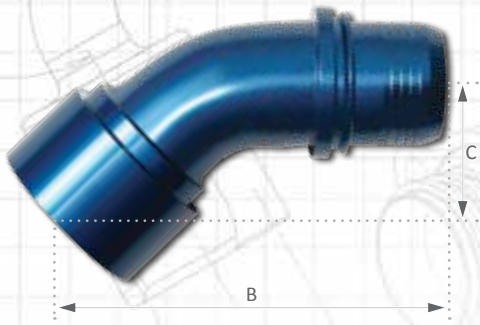
Single 'O' Ring



Double 'O' Ring



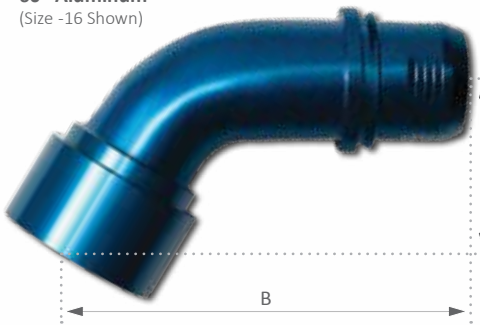
45° Aluminum
(Size -16 Shown)



45° Female Wiggins

Part No.				B		C	
Single 'O' Ring	Deep Double 'O' Ring	Hose Size	Clamp Size				
BLUE / For BLACK add -4 to the end of the Part #				ins	mm	ins	mm
AC-06-08-45-WF	AC-06-08-45-WFFD	-06	-08	2.06	52.3	0.77	19.7
AC-08-45-WF	AC-08-45-WFFD	-08	-08	2.42	61.6	0.85	21.5
AC-10-45-WF	AC-10-45-WFFD	-10	-10	2.52	64.0	0.88	22.5
AC-12-45-WF	AC-12-45-WFFD	-12	-12	2.72	69.0	1.02	26.0
AC-16-45-WF	AC-16-45-WFFD	-16	-16	2.75	70.0	1.04	26.5
AC-20-45-WF	AC-20-45-WFFD	-20	-20	3.44	87.5	1.26	32.0
Reducer Fittings							
AC-20-0001-45	---	-20	-28	---	---	---	---
---	AC-20-0002-45	-20	-24	---	---	---	---

60° Aluminum
(Size -16 Shown)



60° Female Wiggins

Part No.				B		C	
Single 'O' Ring	Deep Double 'O' Ring	Hose Size	Clamp Size				
BLUE / For BLACK add -4 to the end of the Part #				ins	mm	ins	mm
AC-12-60-WF	AC-12-60-WFFD	-12	-12	2.94	74.62	1.35	34.35
AC-16-60-WF	AC-16-60-WFFD	-16	-16	2.77	70.4	1.44	36.6

90° Aluminum
(Size -16 Shown)



90° Female Wiggins

Part No.				B		C	
Single 'O' Ring	Deep Double 'O' Ring	Hose Size	Clamp Size				
BLUE / For BLACK add -4 to the end of the Part #				ins	mm	ins	mm
AC-06-08-90-WF	AC-06-08-90-WFFD	-06	-08	1.48	37.6	1.34	34.1
AC-08-90-WF	AC-08-90-WFFD	-08	-08	1.63	41.3	1.49	38.0
AC-10-90-WF	AC-10-90-WFFD	-10	-10	2.01	51.1	1.63	41.6
AC-12-90-WF	AC-12-90-WFFD	-12	-12	2.07	52.7	1.87	47.7
AC-16-90-WF	AC-16-90-WFFD	-16	-16	2.25	57.3	2.04	51.8
AC-20-90-WF	AC-20-90-WFFD	-20	-20	2.75	69.8	2.52	64.0
Reducer Fittings							
AC-08-12-90-WF	---	-08	-12	1.63	41.3	1.61	41.0
AC-12-28-90-WF	---	-12	-28	2.08	52.82	2.24	56.90
---	AC-20-24-90-WFFD	-20	-24	3.05	77.40	1.89	47.91

Single and Double 'O' Rings



Single 'O' Ring



Double 'O' Ring

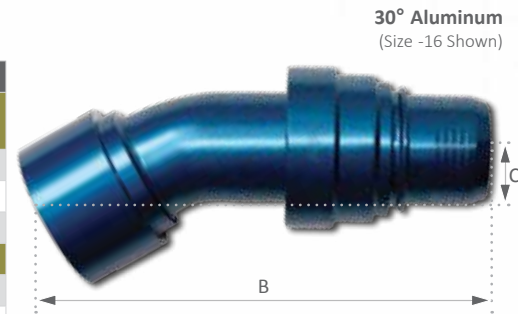
120° Female Wiggins

Part No.				B		C	
Single 'O' Ring	Deep Double 'O' Ring	Hose Size	Clamp Size				
BLUE / For BLACK add -4 to the end of the Part #				ins	mm	ins	mm
AC-08-120-WF	AC-08-120-WFFD	-08	-08	1.66	37.20	1.48	37.60
---	AC-10-120-WFFD	-10	-10	1.88	47.76	1.78	45.30
AC-12-120-WF	AC-12-120-WFFD	-12	-12	1.65	42.0	2.10	53.5
---	AC-16-120-WFFD	-16	-16	2.04	51.83	2.50	63.48



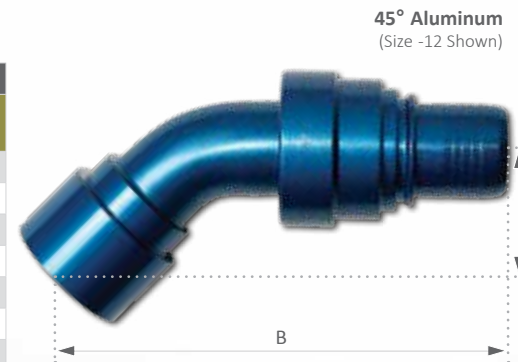
30° Female Wiggins Double Swivel

Part No.				B		C	
Single 'O' Ring	Deep Double 'O' Ring	Hose Size	Clamp Size				
BLUE / For BLACK add -4 to the end of the Part #				ins	mm	ins	mm
AC-16-30-WF-DS	AC-16-30-WFFDDS	-16	-16	3.89	98.75	0.67	16.91
AC-20-30-WF-DS	AC-20-30-WFFDDS	-20	-20	4.64	117.74	0.81	20.45
Reducer Fittings							
AC-12-16-30-WF-DS	---	-12	-16	3.89	98.75	0.67	16.91
AC-20-16-30-WF-DS	---	-20	-16	4.37	111.03	0.67	16.91



45° Female Wiggins Double Swivel

Part No.				B		C	
Single 'O' Ring	Deep Double 'O' Ring	Hose Size	Clamp Size				
BLUE / For BLACK add -4 to the end of the Part #				ins	mm	ins	mm
AC-06-08-45-WFDS	---	-06	-08	2.76	70.2	0.77	19.7
AC-08-45-WF-DS	---	-08	-08	3.09	75.5	0.85	21.5
AC-10-45-WF-DS	---	-10	-10	3.08	78.2	0.88	22.5
AC-12-45-WF-DS	AC-12-45-WFFDDS	-12	-12	3.58	91.1	1.02	26.0
AC-16-45-WF-DS	AC-16-45-WFFDDS	-16	-16	3.85	97.8	1.04	26.5
AC-20-45-WF-DS	AC-20-45-WFFDDS	-20	-20	4.50	114.4	1.26	32.0
Reducer Fittings							
AC-12-16-45-WFDS	---	-12	-16	3.66	93.09	1.04	26.44
AC-16-20-45-WFDS	---	-16	-20	4.03	102.43	1.27	32.19



Single and Double 'O' Rings

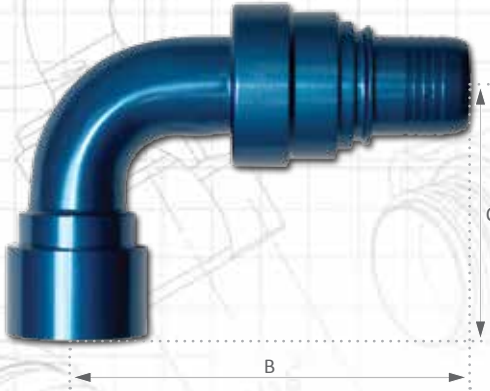


Single 'O' Ring



Double 'O' Ring

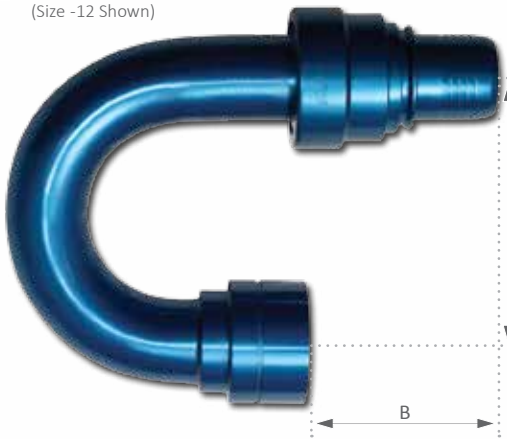
90° Aluminum
(Size -12 Shown)



90° Female Wiggins Double Swivel

Part No.		Hose Size	Clamp Size	B		C	
Single 'O' Ring	Deep Double 'O' Ring			ins	mm	ins	mm
BLUE / For BLACK add -4 to the end of the Part #				ins	mm	ins	mm
AC-06-08-90-WFDS	---	-06	-08	2.19	55.6	1.34	34.1
AC-08-90-WF-DS	---	-08	-08	2.33	59.2	1.49	38.0
AC-10-90-WF-DS	---	-10	-10	2.84	72.1	1.63	41.6
AC-12-90-WF-DS	AC-12-90-WFFD DS	-12	-12	2.78	70.7	1.87	47.7
AC-16-90-WF-DS	AC-16-90-WFFD DS	-16	-16	2.98	75.7	2.04	51.8
AC-20-90-WF-DS	AC-20-90-WFFD DS	-20	-20	3.85	97.8	2.52	64.0
Reducer Fittings							
AC-12-16-90WFDS	---	-12	-16	---	---	---	---
AC-20-16-90WFDS	---	-20	-16	---	---	---	---

180° Aluminum
(Size -12 Shown)



180° Female Wiggins Double Swivel

Part No.		Hose Size	Clamp Size	B		C	
Single 'O' Ring	Deep Double 'O' Ring			ins	mm	ins	mm
BLUE / For BLACK add -4 to the end of the Part #				ins	mm	ins	mm
AC-12-180-WF-DS	---	-12	-12	1.37	35.0	2.25	57.1

Single and Double 'O' Rings



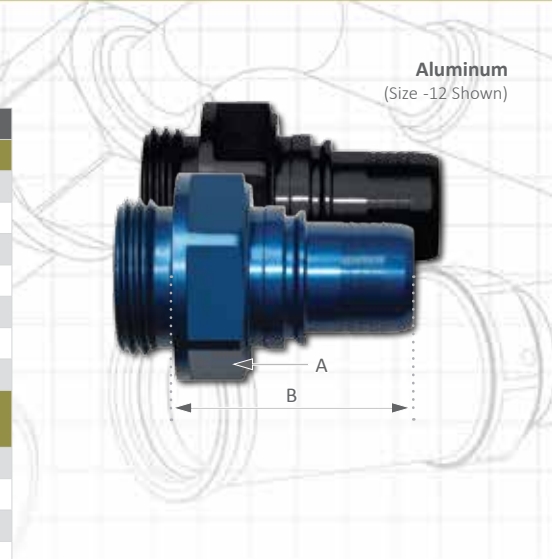
Single 'O' Ring



Double 'O' Ring

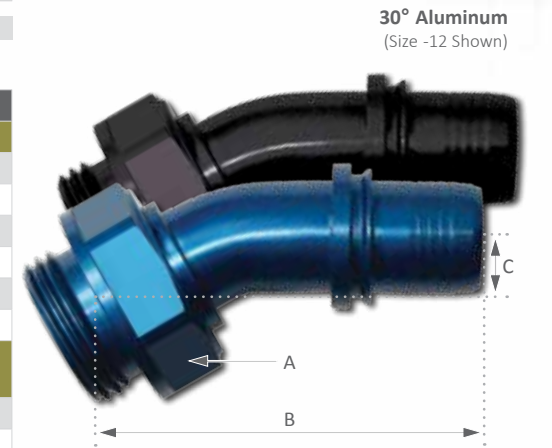
Straight Male Swivel Port Thread

Part No.	Size	A		B		C	
Aluminum							
BLUE X=3 / BLACK X=4		ins	mm	ins	mm	ins	mm
AC-06-MX-00	-06	3/4"	19.0	1.42	36.1	---	---
AC-08-MX-00	-08	7/8"	22.2	1.25	31.8	---	---
AC-10-MX-00	-10	1"	25.4	1.49	37.8	---	---
AC-12-MX-00	-12	1-1/4"	31.7	1.50	38.2	---	---
AC-16-MX-00	-16	1-1/2"	38.1	1.58	40.3	---	---
AC-20-MX-00	-20	1-13/16"	46.0	2.30	59.0	---	---
Reducer Fittings	Hose Size	Thread Size					
AC-06-08-MX-00	-06	-08	7/8"	22.2	---	---	---
AC-08-06-MX-00	-08	-06	3/4"	22.2	1.56	39.7	---
AC-08-10-MX-00	-08	-10	1"	25.4	1.37	35.0	---
AC-10-08-MX-00	-10	-08	7/8"	22.2	1.78	45.4	---
AC-10-12-MX-00	-10	-12	1-1/4"	31.7	---	---	---
AC-12-10-MX-00	-12	-10	1"	25.4	1.91	48.5	---
AC-16-12-MX-00	-16	-12	1-1/4"	31.7	1.50	38.2	---



30° Male Swivel Port Thread

Part No.	Size	A		B		C	
Aluminum							
BLUE X=3 / BLACK X=4		ins	mm	ins	mm	ins	mm
AC-06-MX-30	-06	3/4"	19.0	2.23	56.7	0.52	13.2
AC-08-MX-30	-08	7/8"	22.2	2.56	65.2	0.55	14.0
AC-10-MX-30	-10	1"	25.4	1.99	50.6	0.47	12.1
AC-12-MX-30	-12	1-1/4"	31.7	2.44	62.1	0.51	12.9
AC-16-MX-30	-16	1-1/2"	38.1	3.09	78.5	0.73	18.7
Reducer Fittings	Hose Size	Thread Size					
AC-12-10-MX-30	-12	-10	1"	25.4	2.79	71.0	0.71
AC-16-12-MX-30	-16	-12	1-1/4"	31.7	2.44	62.1	0.51



45° Male Swivel Port Thread

Part No.	Size	A		B		C	
Aluminum							
BLUE X=3 / BLACK X=4		ins	mm	ins	mm	ins	mm
AC-06-MX-45	-06	3/4"	19.0	2.06	52.4	0.78	19.8
AC-08-MX-45	-08	7/8"	22.2	2.38	60.6	0.83	21.1
AC-10-MX-45	-10	1"	25.4	1.83	46.6	0.74	18.7
AC-12-MX-45	-12	1-1/4"	31.7	2.27	57.8	0.79	20.2
AC-16-MX-45	-16	1-1/2"	38.1	2.90	73.7	0.89	22.6
AC-20-MX-45	-20	1-13/16"	46.0	3.13	79.5	0.94	23.8
Reducer Fittings	Hose Size	Thread Size					
AC-06-08-MX-45	-06	-08	7/8"	22.2	2.39	60.59	0.80
AC-08-10-MX-45	-08	-10	1"	25.4	2.22	56.6	0.63
AC-10-08-MX-45	-10	-08	7/8"	22.2	2.07	52.6	0.97
AC-10-12-MX-45	-10	-12	1-1/4"	31.7	1.85	47.1	0.76
AC-12-10-MX-45	-12	-10	1"	25.4	2.56	65.1	1.07
AC-16-12-MX-45	-16	-12	1-1/4"	31.7	2.27	57.8	0.79



Available Crimp Collars



Gold

Standard w/Blue Fittings



Black

Standard w/Black Fittings



Clear Ano.

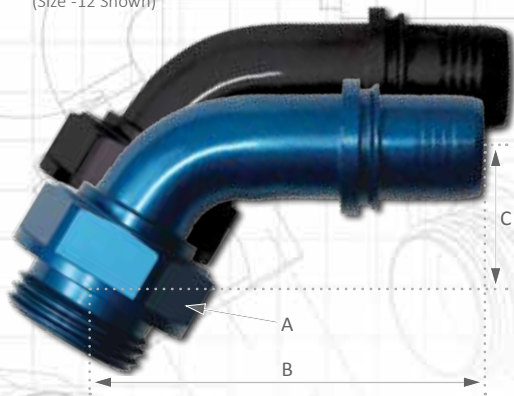


Stainless

Use Only w/Stainless Fittings



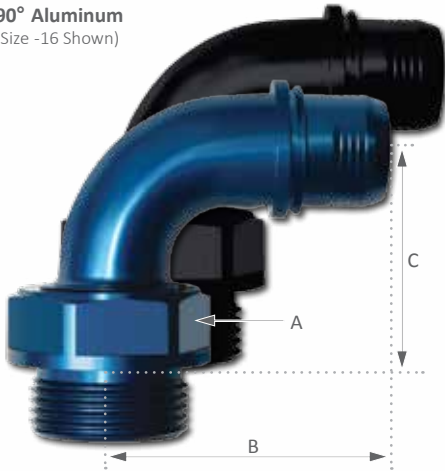
60° Aluminum
(Size -12 Shown)



60° Male Swivel Port Thread

Part No.	Size	A		B		C		
Aluminum								
BLUE X=3 / BLACK X=4		ins	mm	ins	mm	ins	mm	
AC-06-MX-60	-06	3/4"	19.0	2.10	53.5	1.01	25.7	
AC-08-MX-60	-08	7/8"	22.2	2.27	57.7	1.03	26.1	
AC-10-MX-60	-10	1"	25.4	1.83	66.1	0.91	23.1	
AC-12-MX-60	-12	1-1/4"	31.7	2.27	66.8	0.83	21.1	
AC-16-MX-60	-16	1-1/2"	38.1	2.90	89.5	1.18	29.9	
Reducer Fittings		Hose Size	Thread Size					
AC-10-08-MX-60	-10	-08	1"	25.4	2.78	70.73	1.23	31.31
AC-10-12-MX-60	-10	-12	1-1/4"	31.7	1.85	46.1	0.93	23.6
AC-12-10-MX-60	-12	-10	1"	25.4	2.56	72.0	1.18	30.5
AC-16-12-MX-60	-16	-12	1-1/4"	31.7	2.27	66.8	0.83	21.1

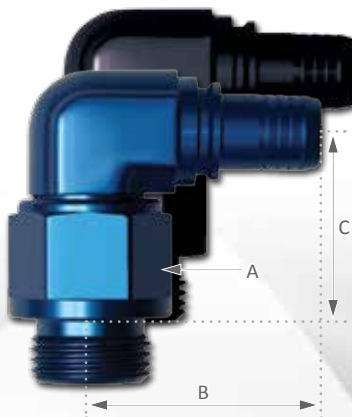
90° Aluminum
(Size -16 Shown)



90° Male Swivel Port Thread

Part No.	Size	A		B		C		
Aluminum								
BLUE X=3 / BLACK X=4		ins	mm	ins	mm	ins	mm	
AC-06-MX-90	-06	3/4"	19.0	1.48	37.6	1.34	34.1	
AC-08-MX-90	-08	7/8"	22.2	1.63	41.3	1.39	35.5	
AC-10-MX-90	-10	1"	25.4	2.01	51.1	1.31	33.2	
AC-12-MX-90	-12	1-1/4"	31.7	2.07	52.7	1.47	37.5	
AC-16-MX-90	-16	1-1/2"	38.1	2.25	57.3	1.76	44.9	
AC-20-MX-90	-20	1-13/16"	46.0	2.75	69.8	2.06	52.32	
Reducer Fittings		Hose Size	Thread Size					
AC-06-08-MX-90	-06	-08	7/8"	22.2	1.37	34.90	1.63	41.31
AC-08-06-MX-90	-08	-06	3/4"	19.0	1.63	41.3	1.39	35.5
AC-08-10-MX-90	-08	-10	1"	25.4	1.63	41.3	1.16	29.5
AC-10-08-MX-90	-10	-08	7/8"	22.2	2.01	51.1	1.60	40.5
AC-10-12-MX-90	-10	-12	1-1/4"	31.7	2.01	51.1	1.33	33.7
AC-12-10-MX-90	-12	-10	1"	25.4	2.07	52.7	1.88	47.8
AC-12-16-MX-90	-12	-16	1-1/2"	38.1	2.08	52.82	1.56	39.72
AC-16-10-MX-90	-16	-10	1-1/4"	31.7	3.12	79.37	2.05	52.18
AC-16-12-MX-90	-16	-12	1-1/4"	31.7	2.07	52.7	1.47	37.5

90° Aluminum
(Size -08 Shown)



90° Male Swivel Port Thread Block Elbow

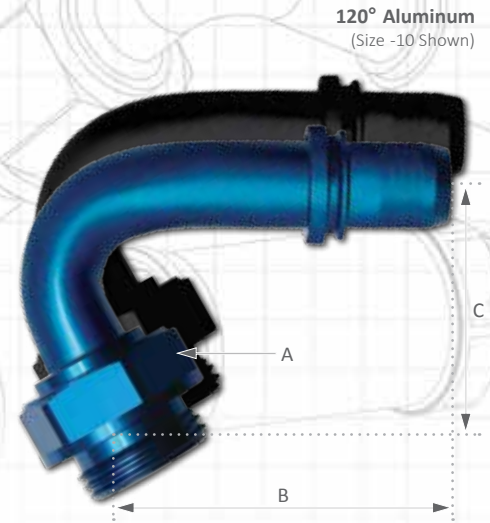
Part No.	Size	A		B		C	
Aluminum							
BLUE X=3 / BLACK X=4		ins	mm	ins	mm	ins	mm
AC-08-MX-B-90	-08	7/8"	22.2	1.38	35.08	1.12	28.38

Available Crimp Collars



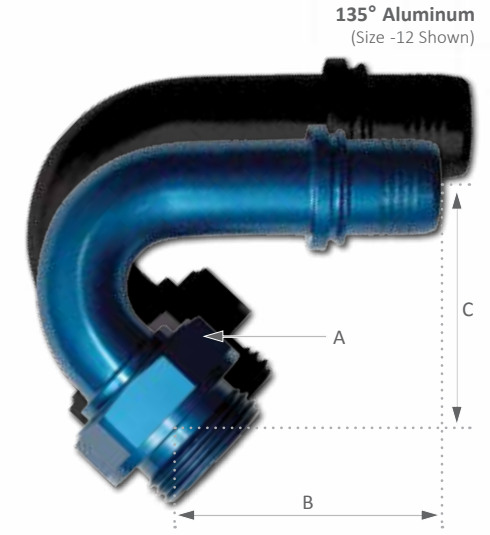
120° Male Swivel Port Thread

Part No.	Size	A		B		C	
Aluminum							
BLUE X=3 / BLACK X=4		ins	mm	ins	mm	ins	mm
AC-08-MX-120	-08	7/8"	22.2	1.74	44.27	1.53	38.74
AC-10-MX-120	-10	1"	25.4	2.02	51.27	1.54	39.23
AC-12-MX-120	-12	1-1/4"	31.7	1.68	42.59	1.75	44.41
AC-16-MX-120	-16	1-1/2"	38.1	2.26	57.29	2.13	54.03
Reducer Fittings		Hose Size	Thread Size				
AC-10-08-MX-120	-10	-08	7/8"	22.2	2.16	54.89	1.85 47.1



135° Male Swivel Port Thread

Part No.	Size	A		B		C	
Aluminum							
BLUE X=3 / BLACK X=4		ins	mm	ins	mm	ins	mm
AC-12-MX-135	-12	1-1/4"	31.7	2.07	52.6	1.79	45.5
Reducer Fittings		Hose Size	Thread Size				
AC-12-10-MX-135	-12	-10	1"	25.4	1.94	49.25	1.92 48.77

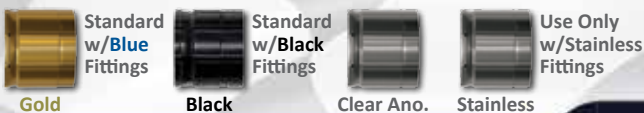


150° Male Swivel Port Thread

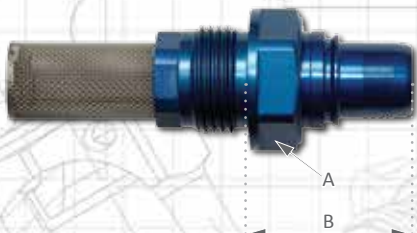
Part No.	Size	A		B		C	
Aluminum							
BLUE X=3 / BLACK X=4		ins	mm	ins	mm	ins	mm
AC-08-MX-150	-08	7/8"	22.2	1.43	36.28	1.38	34.99
AC-12-MX-150	-12	1-1/4"	31.7	1.61	40.77	1.76	44.64
Reducer Fittings		Hose Size	Thread Size				
AC-06-08-MX-150	-06	-08	7/8"	22.2	1.43	36.28	1.98 50.40
AC-10-08-MX-150	-10	-08	7/8"	22.2	0.97	24.7	1.68 42.8



Available Crimp Collars



Aluminum
(Size -12 Shown)

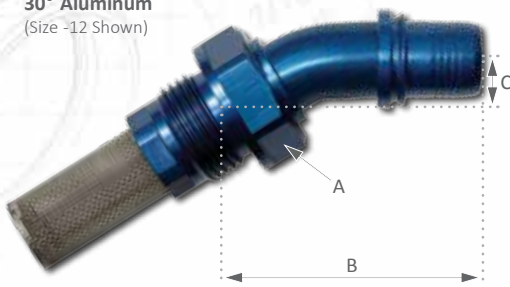


Straight Male Swivel Port Thread w/Optional Integral Filter Screen

Part No.	Size	A		B		C	
Aluminum							
BLUE / For BLACK add -4 to the end of the Part #		ins	mm	ins	mm	ins	mm
AC-12-0003-00	-12	1-1/4"	31.7	1.50	38.2	---	---

NOTE: Filter Screen supplied separately (See page 27).

30° Aluminum
(Size -12 Shown)

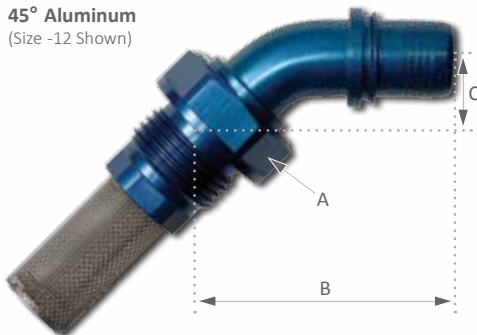


30° Male Swivel Port Thread w/Optional Integral Filter Screen

Part No.	Size	A		B		C	
Aluminum							
BLUE / For BLACK add -4 to the end of the Part #		ins	mm	ins	mm	ins	mm
AC-12-0003-30	-12	1-1/4"	31.7	2.44	62.1	0.51	12.9

NOTE: Filter Screen supplied separately (See page 27).

45° Aluminum
(Size -12 Shown)

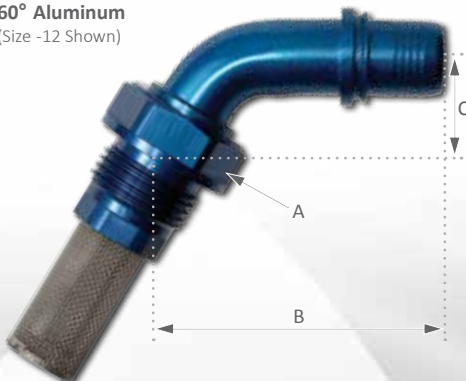


45° Male Swivel Port Thread w/Optional Integral Filter Screen

Part No.	Size	A		B		C	
Aluminum							
BLUE / For BLACK add -4 to the end of the Part #		ins	mm	ins	mm	ins	mm
AC-12-0003-45	-12	1-1/4"	31.7	2.27	57.8	0.79	20.2

NOTE: Filter Screen supplied separately (See page 27).

60° Aluminum
(Size -12 Shown)

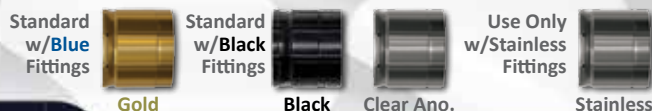


60° Male Swivel Port Thread w/Optional Integral Filter Screen

Part No.	Size	A		B		C	
Aluminum							
BLUE / For BLACK add -4 to the end of the Part #		ins	mm	ins	mm	ins	mm
AC-12-0003-60	-12	1-1/4"	31.7	2.63	66.8	0.83	27.1

NOTE: Filter Screen supplied separately (See page 27).

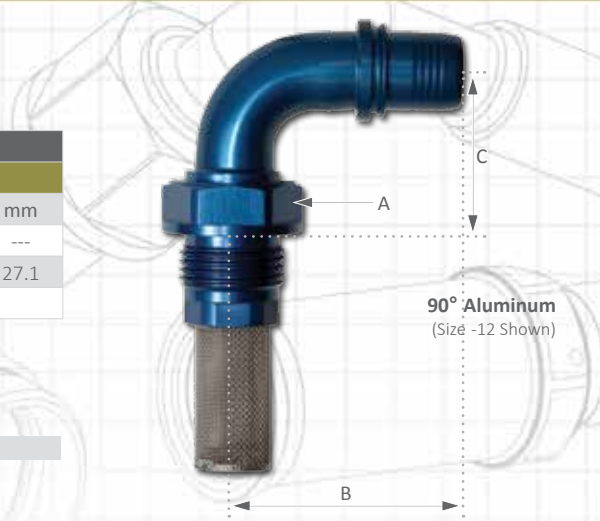
Available Crimp Collars



90° Male Swivel Port Thread w/Optional Integral Filter Screen

Part No.	Size	A		B		C	
Aluminum							
BLUE / For BLACK add -4 to the end of the Part #							
		ins	mm	ins	mm	ins	mm
AC-10-0032-90	-10	1"	25.4	---	---	---	---
AC-12-0003-90	-12	1-1/4"	31.7	2.63	66.8	0.83	27.1

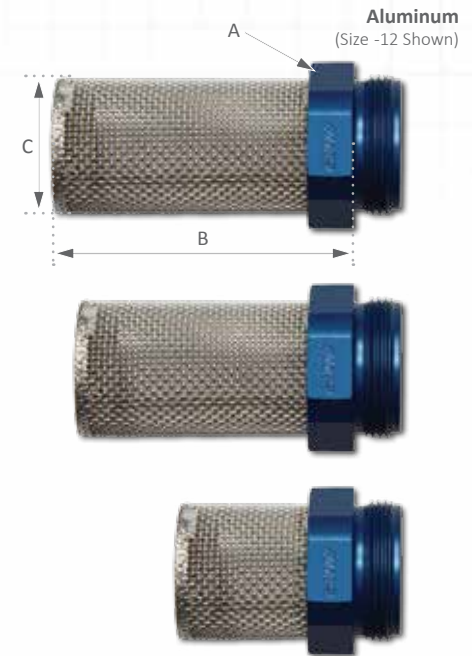
NOTE: Filter Screen supplied separately.



Filter Screen

Part No.	Size	A		B		C			
Filter Screen	To Suit Hose/Port Size	Screen Mesh Size							
BLUE									
			ins	mm	ins	mm	ins	mm	
32-0.600-L	32-0004-12	-12	500	7/8"	22.22	0.600	15.24	0.75	19.0
32-0.875-L		-12	500	7/8"	22.22	0.875	22.22	0.75	19.0
32-1.125-L		-12	500	7/8"	22.22	1.125	28.58	0.75	19.0
32-1.375-L		-12	500	7/8"	22.22	1.375	34.93	0.75	19.0
32-1.600-L	32-0003-12	-12	500	7/8"	22.22	1.600	40.64	0.75	19.0
32-1.700-L	32-0002-12	-12	500	7/8"	22.22	1.700	43.18	0.75	19.0
32-2.650-L		-12	500	7/8"	22.22	2.650	67.31	0.75	19.0

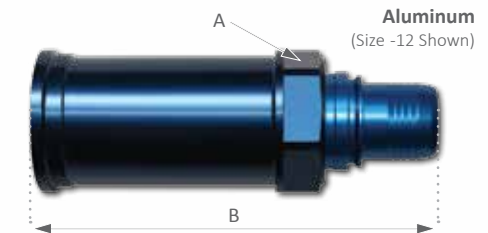
NOTE: Fittings shown on pages 26 and 27 can incorporate the filters shown.



Straight Extended Female Inline

Part No.	Size	A		B		C	
Aluminum							
BLUE / For BLACK add -4 to the end of the Part #							
		ins	mm	ins	mm	ins	mm
AC-12-0070	-12	1-1/4"	31.7	---	---	---	---

*Use Inline with AC-12-0003-XX.

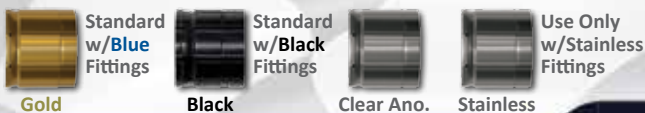


1 Connect Male Port Fittings and Filters shown on these pages (26-27).

2 Insert Male Port Fitting and Filter into Inline.

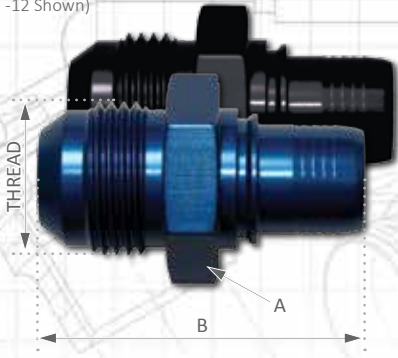
3 Connect turning clockwise.

Available Crimp Collars



PROGold AC Crimped Fittings

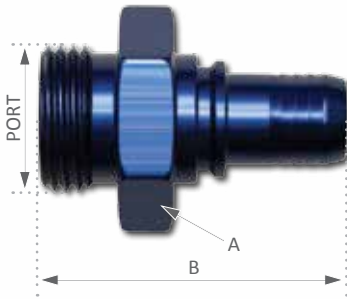
Aluminum
(Size -12 Shown)



JIC (AN) Male

Part No.	Size	A		B		C	
Aluminum							
BLUE / For BLACK add -4 to the end of the Part #		ins	mm	ins	mm	ins	mm
AC-06-JX	-06	13/16"	20.6	1.67	42.5	---	---
AC-08-JX	-08	1"	25.4	1.77	45.1	---	---
AC-10-JX	-10	1-1/8"	28.6	2.10	53.5	---	---
AC-12-JX	-12	1-1/4"	31.8	2.19	55.75	---	---
AC-16-JX	-16	1-1/2"	38.1	2.24	57.0	---	---
Stainless Steel							
AC-06-J7	-06	13/16"	20.6	1.67	42.5	---	---

Aluminum
(Size -08 Shown)



Straight Male Fixed Port Thread

Part No.	Size	A		B		C	
Aluminum							
BLUE / For BLACK add -4 to the end of the Part #		ins	mm	ins	mm	ins	mm
AC-06-KX	-06	13/16"	20.6	1.47	37.3	---	---
AC-08-KX	-08	1"	25.4	1.53	39.0	---	---
AC-10-KX	-10	1-1/8"	28.6	1.83	46.54	---	---
AC-12-KX	-12	1-1/4"	31.8	1.87	47.5	---	---
AC-16-KX	-16	1-1/2"	38.1	1.92	48.7	---	---

Available Crimp Collars

Standard
w/Blue
Fittings



Gold

Standard
w/Black
Fittings



Black



Clear Ano.

Use Only
w/Stainless
Fittings



Stainless



FUELS



OILS



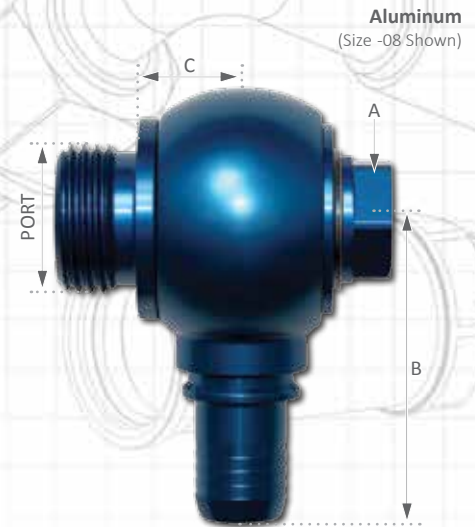
WATER



HYDRAULICS

Swivel Banjo - External Drive

Part No.	Size		A		B		C	
	Hose Size	Port Size	ins	mm	ins	mm	ins	mm
Aluminum								
BLUE X=3 / BLACK X=4								
AC-06-0017-X	-06	-06	3/8"	9.52	1.42	36.00	0.43	10.80
AC-08-0002-X	-08	-08	7/16"	11.10	1.50	38.00	0.50	12.60
Aluminum Banjo w/Stainless Steel Bolt								
AC-06-0029-7	-06	-04	3/8"	9.52	1.42	36.00	0.43	10.80
AC-08-0016	-08	-08	7/16"	11.10	1.50	38.00	0.50	12.60
Stainless Steel								
AC-06-0017-7	-06	-06	3/8"	9.52	1.42	36.00	0.43	10.80



Aluminum Banjo w/Stainless Bolt (Size -06 Shown)



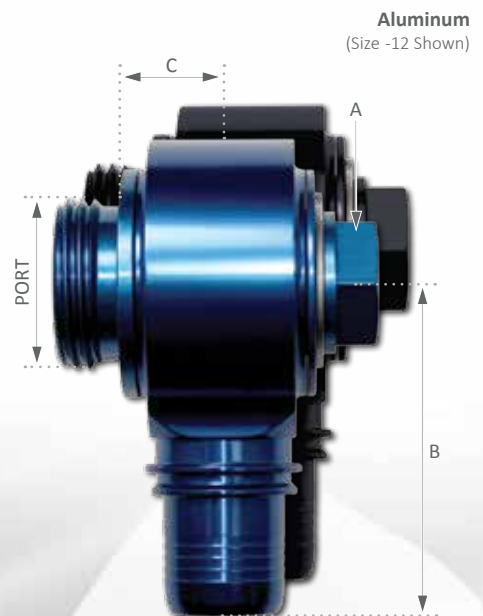
Stainless Banjo w/Stainless Bolt (Size -06 Shown)



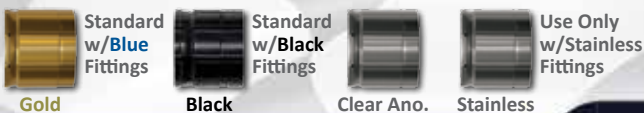
Swivel Banjo - External Drive w/Optional Integral Filter Screen

Part No.	Size		A		B		C	
	Hose Size	Port Size	ins	mm	ins	mm	ins	mm
Aluminum								
BLUE X=3 / BLACK X=4								
AC-12-0013-X	-12	-12	3/4"	19.05	2.01	51.00	0.60	15.20

NOTE: Filter Screen supplied separately (See page 27).



Available Crimp Collars

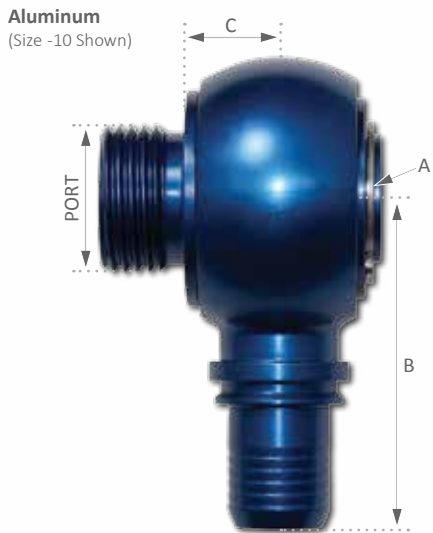




Double Swivel Banjo - External Drive w/Optional Integral Filter Screen

Part No.	Size		A		B		C	
	Hose Size	Port Size	ins	mm	ins	mm	ins	mm
BLUE X=3 / BLACK X=4			ins	mm	ins	mm	ins	mm
AC-12-0019-X	-12	-12	3/4"	19.05	2.60	66.0	0.60	15.20

NOTE: Filter Screen supplied separately (See page 27).



Swivel Banjo - Internal Drive

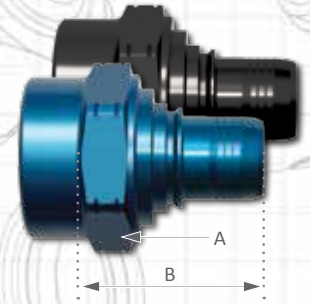
Part No.	Size		A		B		C	
	Hose Size	Port Size	ins	mm	ins	mm	ins	mm
BLUE			ins	mm	ins	mm	ins	mm
AC-10-0006	-10	-10	3/8"	9.52	1.92	48.75	0.53	13.55



Straight Metric Female

Part No.	Size		A		B		C	
	Hose Size	Thread Size	ins	mm	ins	mm	ins	mm
Aluminum								
BLUE X=3 / BLACK X=4			ins	mm	ins	mm	ins	mm
AC-06-ST-M14-X	-06	M14 x 1.50	11/16"	17.4	1.42	36.0	---	---
AC-06-ST-M16-X	-06	M16 x 1.50	3/4"	19.0	1.42	36.0	---	---
AC-08-ST-M18-X	-08	M18 x 1.50	7/8"	22.2	1.42	36.0	---	---
AC-10-ST-M22-X	-10	M22 x 1.50	1"	25.4	1.53	38.0	---	---
AC-12-ST-M26-X	-12	M26 x 1.50	1-1/4"	31.7	1.82	46.2	---	---
AC-12-ST-M30-X	-12	M30 x 1.50	1-1/2"	38.1	1.91	48.5	---	---
AC-16-ST-M30-X	-16	M30 x 1.50	1-1/2"	38.1	1.91	48.5	---	---

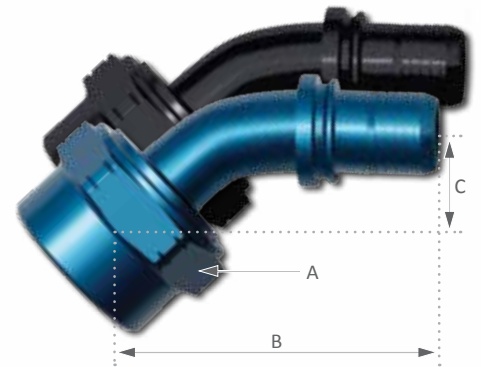
Aluminum
(Size -12 Shown)



45° Metric Female

Part No.	Size		A		B		C	
	Hose Size	Thread Size	ins	mm	ins	mm	ins	mm
Aluminum								
BLUE X=3 / BLACK X=4			ins	mm	ins	mm	ins	mm
AC-06-45-M14-X	-06	M14 x 1.50	11/16"	17.4	1.89	48.1	.61	15.4
AC-06-45-M16-X	-06	M16 x 1.50	3/4"	19.0	1.89	48.1	.61	15.4
AC-08-45-M18-X	-08	M18 x 1.50	7/8"	22.2	2.26	57.5	.73	18.5
AC-10-45-M22-X	-10	M22 x 1.50	1"	25.4	2.33	59.4	.85	21.5

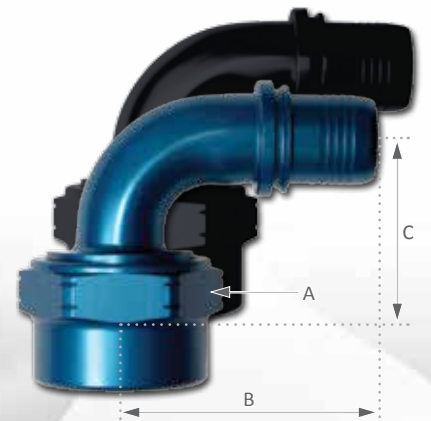
45° Aluminum
(Size -10 Shown)



90° Metric Female

Part No.	Size		A		B		C	
	Hose Size	Thread Size	ins	mm	ins	mm	ins	mm
Aluminum								
BLUE X=3 / BLACK X=4			ins	mm	ins	mm	ins	mm
AC-06-90-M14-X	-06	M14 x 1.50	11/16"	17.4	1.48	37.6	1.10	27.9
AC-06-90-M16-X	-06	M16 x 1.50	3/4"	19.0	1.48	37.6	1.10	27.9
AC-08-90-M18-X	-08	M18 x 1.50	7/8"	22.2	1.63	41.3	1.25	31.7
AC-10-90-M22-X	-10	M22 x 1.50	1"	25.4	2.01	51.1	1.46	37.1
AC-12-90-M30-X	-12	M30 x 1.50	1-1/4"	31.7	2.07	52.7	1.89	48.1

90° Aluminum
(Size -12 Shown)



Available Crimp Collars



Gold

Standard w/Blue Fittings



Black

Standard w/Black Fittings



Clear Ano.



Stainless

Use Only w/Stainless Fittings



45° Aluminum
(Size -16 Shown)

45° Metric Female Double Swivel

Part No.	Size		A		B		C	
	Hose Size	Thread Size	ins	mm	ins	mm	ins	mm
BLUE X=3 / BLACK X=4			ins	mm	ins	mm	ins	mm
AC-12-45-M26-DS	-12	M26 x 1.50	1-1/4"	31.7	3.53	89.7	.93	23.6
AC-16-45-M30-DS	-16	M30 x 1.50	1-1/2"	38.1	3.85	97.7	1.08	27.4

90° Aluminum
(Size -16 Shown)

90° Metric Female Double Swivel

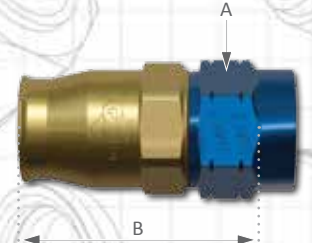
Part No.	Size		A		B		C	
	Hose Size	Thread Size	ins	mm	ins	mm	ins	mm
BLUE X=3 / BLACK X=4			ins	mm	ins	mm	ins	mm
AC-12-90-M26-DS	-12	M26 x 1.50	1-1/4"	31.7	2.78	70.7	1.61	40.9
AC-16-90-M30-DS	-16	M30 x 1.50	1-1/2"	38.1	2.98	75.7	1.95	49.5



Straight Metric Female Reusable

Part No.	Size		A		B		C	
	Hose Size	Thread Size	ins	mm	ins	mm	ins	mm
ALUMINUM								
BLUE / GOLD								
AR-06-ST-M12	-06	M12 x 1.50	9/16"	14.2	1.73	43.9	---	---
AR-06-ST-M14	-06	M14 x 1.50	11/16"	17.0	1.73	43.9	---	---
AR-06-ST-M16	-06	M16 x 1.50	3/4"	19.0	1.73	43.9	---	---
AR-08-ST-M18	-08	M18 x 1.50	7/8"	22.0	1.86	47.2	---	---
AR-10-ST-M22	-10	M22 x 1.50	1"	25.4	2.09	53.1	---	---
AR-12-ST-M26	-12	M26 x 1.50	1-1/4"	31.7	2.45	62.2	---	---
AR-16-ST-M30	-16	M30 x 1.50	1-1/2"	38.1	2.61	66.2	---	---

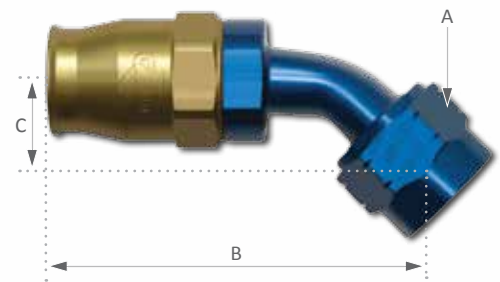
Aluminum
(Size -06 Shown)



45° Metric Female Reusable

Part No.	Size		A		B		C	
	Hose Size	Thread Size	ins	mm	ins	mm	ins	mm
ALUMINUM								
BLUE / GOLD								
AR-06-45-M12	-06	M12 x 1.50	9/16"	14.2	2.30	58.4	0.61	15.4
AR-06-45-M14	-06	M14 x 1.50	11/16"	17.0	2.30	58.4	0.61	15.4
AR-06-45-M16	-06	M16 x 1.50	3/4"	19.0	2.30	58.4	0.61	15.4
AR-08-45-M18	-08	M18 x 1.50	7/8"	22.0	2.80	71.1	0.73	18.5
AR-10-45-M22	-10	M22 x 1.50	1"	25.4	2.92	74.1	0.85	21.5

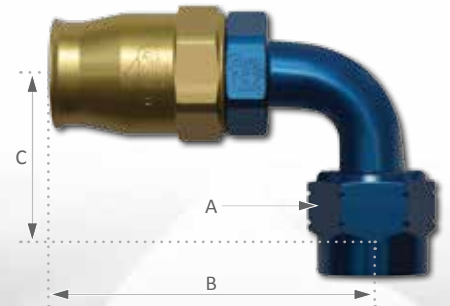
45° Aluminum
(Size -08 Shown)



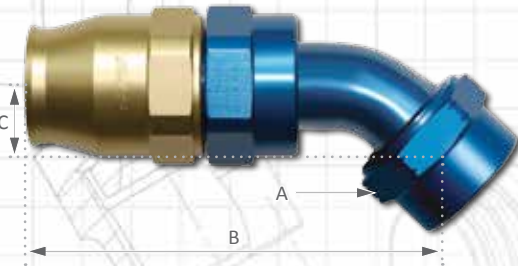
90° Metric Female Reusable

Part No.	Size		A		B		C	
	Hose Size	Thread Size	ins	mm	ins	mm	ins	mm
ALUMINUM								
BLUE / GOLD								
AR-06-90-M12	-06	M12 x 1.50	9/16"	14.2	1.90	48.2	1.10	27.9
AR-06-90-M14	-06	M14 x 1.50	11/16"	17.0	1.90	48.2	1.10	27.9
AR-06-90-M16	-06	M16 x 1.50	3/4"	19.0	1.90	48.2	1.10	27.9
AR-08-90-M18	-08	M18 x 1.50	7/8"	22.0	2.17	55.1	1.25	31.7
AR-10-90-M22	-10	M22 x 1.50	1"	25.4	2.61	66.2	1.46	37.1

90° Aluminum
(Size -08 Shown)



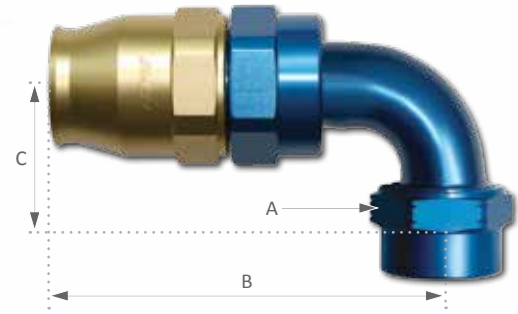
45° Aluminum
(Size -16 Shown)



45° Metric Female Double Swivel Reusable

Part No.	Size		A		B		C	
	Hose Size	Thread Size	ins	mm	ins	mm	ins	mm
BLUE / GOLD								
AR-12-45-M26-DS	-12	M26 x 1.50	1-1/4"	31.7	4.03	102.3	.93	23.6
AR-16-45-M30-DS	-16	M30 x 1.50	1-1/2"	38.1	4.34	110.3	1.08	27.4

90° Aluminum
(Size -16 Shown)

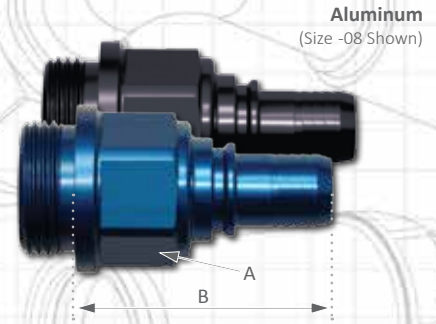


90° Metric Female Double Swivel Reusable

Part No.	Size		A		B		C	
	Hose Size	Thread Size	ins	mm	ins	mm	ins	mm
BLUE / GOLD								
AR-12-90-M26-DS	-12	M26 x 1.50	1-1/4"	31.7	3.28	83.3	1.61	40.9
AR-16-90-M30-DS	-16	M30 x 1.50	1-1/2"	38.1	3.48	88.4	1.95	49.5

Straight Male Swivel Metric Thread

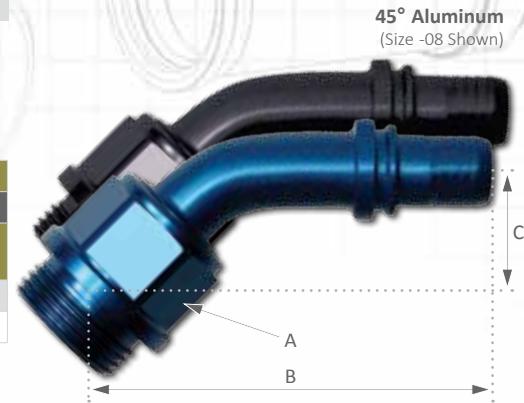
Commonly used with Setrab Coolers									
Part No.	Size		A		B		C		
Aluminum	Hose Size	Thread Size							
BLUE X=3 / BLACK X=4			ins	mm	ins	mm	ins	mm	
AC-08-MX-00-M22	-08	M22 x 1.50	7/8"	22.2	1.25	31.8	---	---	



Aluminum
(Size -08 Shown)

45° Male Swivel Metric Thread

Commonly used with Setrab Coolers									
Part No.	Size		A		B		C		
Aluminum	Hose Size	Thread Size							
BLUE X=3 / BLACK X=4			ins	mm	ins	mm	ins	mm	
AC-08-MX-45-M22	-08	M22 x 1.50	7/8"	22.2	2.38	60.6	0.83	21.1	



45° Aluminum
(Size -08 Shown)

90° Male Swivel Metric Thread

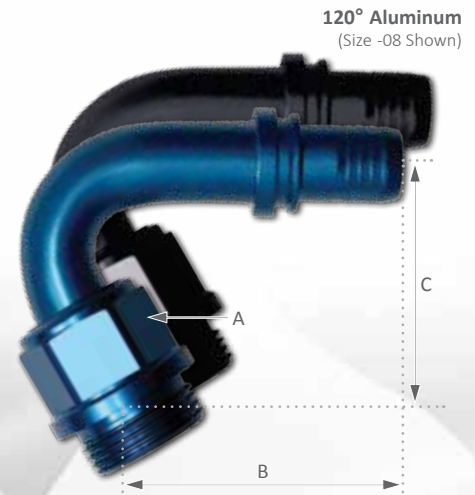
Commonly used with Setrab Coolers									
Part No.	Size		A		B		C		
Aluminum	Hose Size	Thread Size							
BLUE X=3 / BLACK X=4			ins	mm	ins	mm	ins	mm	
AC-08-MX-90-M22	-08	M22 x 1.50	7/8"	22.2	1.63	41.3	1.39	35.5	
AC-10-MX-90-M22	-10	M22 x 1.50	1"	25.4	2.01	51.1	1.42	36.07	
AC-12-MX-90-M22	-12	M22 x 1.50	1-1/4"	31.7	2.07	52.7	1.47	37.5	



90° Aluminum
(Size -08 Shown)

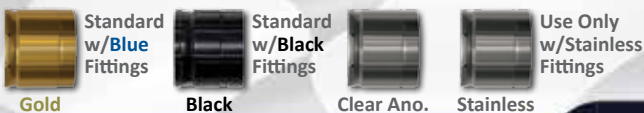
120° Male Swivel Metric Thread

Commonly used with Setrab Coolers									
Part No.	Size		A		B		C		
Aluminum	Hose Size	Thread Size							
BLUE X=3 / BLACK X=4			ins	mm	ins	mm	ins	mm	
AC-08-MX-120-M22	-08	M22 x 1.50	7/8"	22.2	1.76	44.9	1.50	38.2	

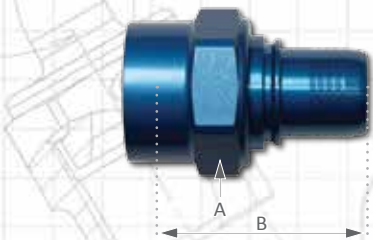


120° Aluminum
(Size -08 Shown)

Available Crimp Collars



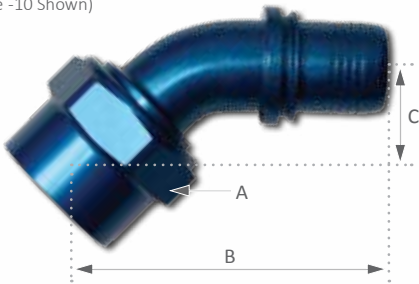
Aluminum
(Size -12 Shown)



Straight BSP Female

Part No.	Size		A		B		C	
	Hose Size	Thread Size	ins	mm	ins	mm	ins	mm
BLUE / For BLACK add -4 to the end of the Part #			ins	mm	ins	mm	ins	mm
AC-06-ST-BSP	-06	3/8"	3/4"	19.0	1.42	36.0	---	---
AC-08-ST-BSP	-08	1/2"	7/8"	22.0	1.42	36.0	---	---
AC-10-ST-BSP	-10	5/8"	1-1/16"	27.0	1.53	38.8	---	---
AC-12-ST-BSP	-12	3/4"	1-1/4"	31.7	1.76	44.8	---	---
AC-16-ST-BSP	-16	1"	1-1/2"	38.1	1.90	48.25	---	---

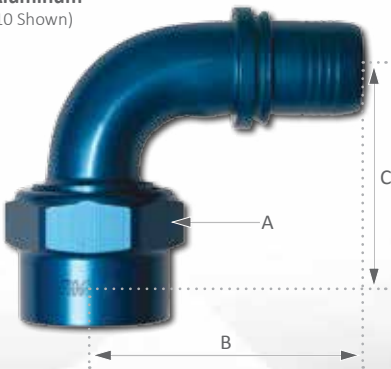
45° Aluminum
(Size -10 Shown)



45° Elbow BSP Female

Part No.	Size		A		B		C	
	Hose Size	Thread Size	ins	mm	ins	mm	ins	mm
BLUE / For BLACK add -4 to the end of the Part #			ins	mm	ins	mm	ins	mm
AC-06-45-BSP	-06	3/8"	3/4"	19.0	1.89	48.1	0.61	15.4
AC-08-45-BSP	-08	1/2"	7/8"	22.0	2.26	57.5	0.73	18.5
AC-10-45-BSP	-10	5/8"	1-1/16"	27.0	2.33	59.36	0.85	21.5

90° Aluminum
(Size -10 Shown)



90° Elbow BSP Female

Part No.	Size		A		B		C	
	Hose Size	Thread Size	ins	mm	ins	mm	ins	mm
BLUE / For BLACK add -4 to the end of the Part #			ins	mm	ins	mm	ins	mm
AC-06-90-BSP	-06	3/8"	3/4"	19.0	1.48	37.6	1.10	27.9
AC-08-90-BSP	-08	1/2"	7/8"	22.0	1.63	41.3	1.25	31.7
AC-10-90-BSP	-10	5/8"	1-1/16"	27.0	2.01	51.1	1.46	37.1

036

Available Crimp Collars

Standard w/Blue Fittings



Gold

Standard w/Black Fittings



Black



Clear Ano.

Use Only w/Stainless Fittings

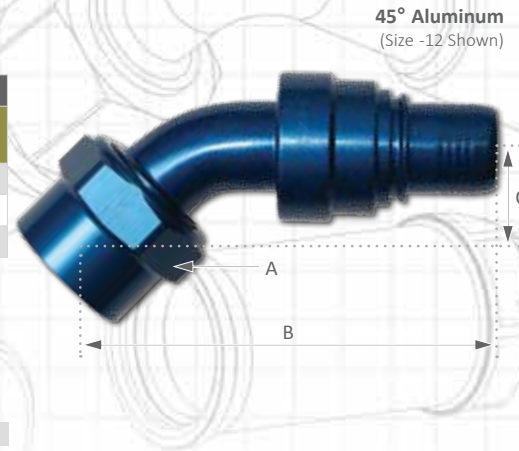


Stainless



45° Elbow BSP Female Double Swivel

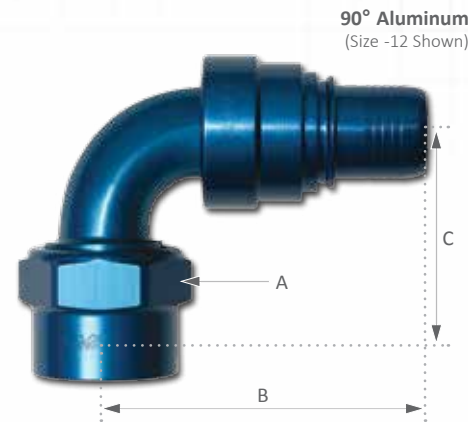
Part No.	Size		A		B		C	
	Hose Size	Thread Size	ins	mm	ins	mm	ins	mm
BLUE / For BLACK add -4 to the end of the Part #								
AC-12-45-BSP-DS	-12	3/4"	1-1/4"	31.7	3.53	89.7	0.93	23.6
AC-16-45-BSP-DS	-16	1"	1-1/2"	38.1	3.85	97.7	1.08	27.4



45° Aluminum
(Size -12 Shown)

90° Elbow BSP Female Double Swivel

Part No.	Size		A		B		C	
	Hose Size	Thread Size	ins	mm	ins	mm	ins	mm
BLUE / For BLACK add -4 to the end of the Part #								
AC-12-90-BSP-DS	-12	3/4"	1-1/4"	31.7	2.78	70.7	1.61	40.9
AC-16-90-BSP-DS	-16	1"	1-1/2"	38.1	2.98	75.7	1.95	49.5



90° Aluminum
(Size -12 Shown)

Available Crimp Collars



Gold

Standard w/Blue Fittings



Black

Standard w/Black Fittings



Clear Ano.

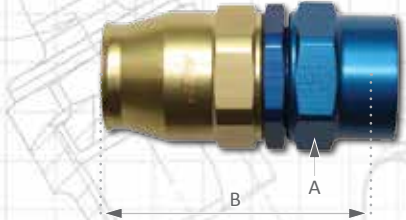


Stainless

Use Only w/Stainless Fittings



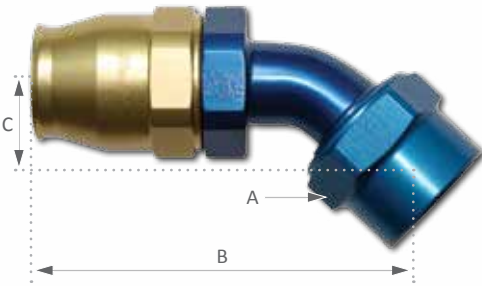
Aluminum
(Size -12 Shown)



Straight BSP Female

Part No.	Size		A		B		C	
	Hose Size	Thread Size	ins	mm	ins	mm	ins	mm
BLUE / GOLD			ins	mm	ins	mm	ins	mm
AR-06-ST-BSP	-06	3/8"	3/4"	19.0	1.73	43.9	---	---
AR-08-ST-BSP	-08	1/2"	7/8"	22.0	1.86	47.2	---	---
AR-10-ST-BSP	-10	5/8"	1-1/16"	27.0	2.09	53.1	---	---
AR-12-ST-BSP	-12	3/4"	1-1/4"	31.7	2.45	62.2	---	---
AR-16-ST-BSP	-16	1"	1-1/2"	38.1	2.61	66.2	---	---

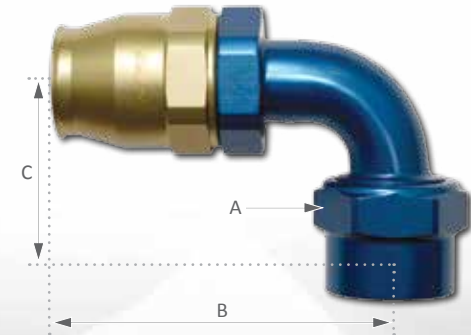
45° Aluminum
(Size -10 Shown)



45° Elbow BSP Female

Part No.	Size		A		B		C	
	Hose Size	Thread Size	ins	mm	ins	mm	ins	mm
BLUE / GOLD			ins	mm	ins	mm	ins	mm
AR-06-45-BSP	-06	3/8"	3/4"	19.0	2.30	58.4	0.61	15.4
AR-08-45-BSP	-08	1/2"	7/8"	22.0	2.80	71.1	0.73	18.5
AR-10-45-BSP	-10	5/8"	1-1/16"	27.0	2.92	74.1	0.85	21.5

90° Aluminum
(Size -10 Shown)

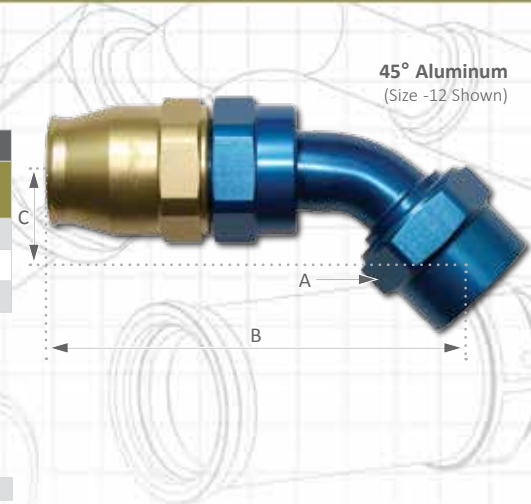


90° Elbow BSP Female

Part No.	Size		A		B		C	
	Hose Size	Thread Size	ins	mm	ins	mm	ins	mm
BLUE / GOLD			ins	mm	ins	mm	ins	mm
AR-06-90-BSP	-06	3/8"	3/4"	19.0	1.90	48.2	1.10	27.9
AR-08-90-BSP	-08	1/2"	7/8"	22.0	2.17	55.1	1.25	31.7
AR-10-90-BSP	-10	5/8"	1-1/16"	27.0	2.61	66.2	1.46	37.1

45° Elbow BSP Female Double Swivel

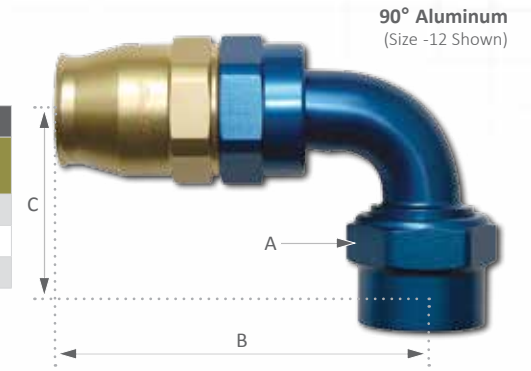
Part No.	Size		A		B		C	
	Hose Size	Thread Size	ins	mm	ins	mm	ins	mm
ALUMINUM								
BLUE / GOLD								
AR-12-45-BSP-DS	-12	3/4"	1-1/4"	31.7	4.03	102.3	0.93	23.6
AR-16-45-BSP-DS	-16	1"	1-1/2"	38.1	4.34	110.3	1.08	27.4



45° Aluminum
(Size -12 Shown)

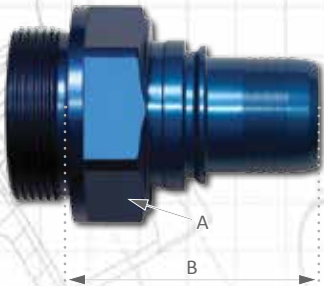
90° Elbow BSP Female Double Swivel

Part No.	Size		A		B		C	
	Hose Size	Thread Size	ins	mm	ins	mm	ins	mm
ALUMINUM								
BLUE / GOLD								
AR-12-90-BSP-DS	-12	3/4"	1-1/4"	31.7	3.28	---	1.61	40.9
AR-16-90-BSP-DS	-16	1"	1-1/2"	38.1	3.48	---	1.95	49.5



90° Aluminum
(Size -12 Shown)

Aluminum
(Size -12 Shown)

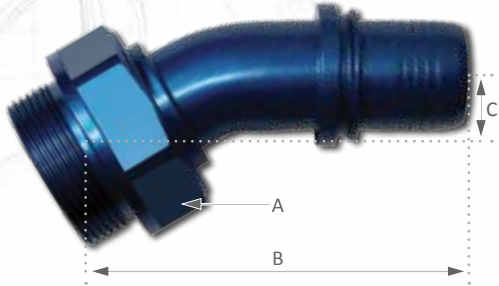


Straight Oil Pump Fitting

Commonly used with Auto Verdi & FWRC Oil Pumps

Part No.	Size		A		B		C	
Aluminum	Hose Size	Thread Size						
BLUE / For BLACK add -4 to the end of the Part #			ins	mm	ins	mm	ins	mm
AC-12-0002-00	-12	1-1/8"- 20 UNEF	1-1/4"	31.7	1.50	38.2	---	---
AC-12-0029-00	-12	1"- 20 UNEF	1-1/4"	31.7	1.50	38.2	---	---

30° Aluminum
(Size -12 Shown)

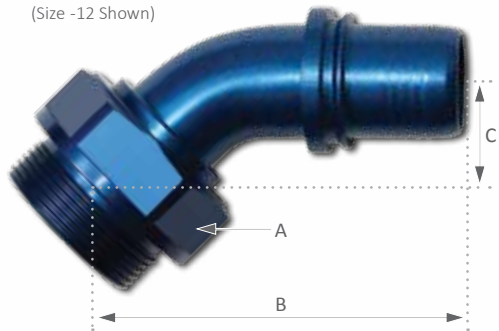


30° Oil Pump Fitting

Commonly used with Auto Verdi & FWRC Oil Pumps

Part No.	Size		A		B		C	
Aluminum	Hose Size	Thread Size						
BLUE / For BLACK add -4 to the end of the Part #			ins	mm	ins	mm	ins	mm
AC-12-0002-30	-12	1-1/8"- 20 UNEF	1-1/4"	31.7	2.44	62.1	0.51	12.9
AC-12-0029-30	-12	1"- 20 UNEF	1-1/4"	31.7	2.44	62.1	0.51	12.9

45° Aluminum
(Size -12 Shown)

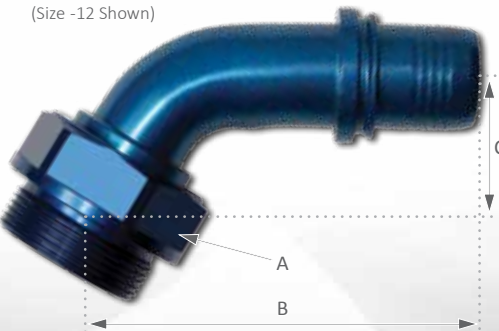


45° Oil Pump Fitting

Commonly used with Auto Verdi & FWRC Oil Pumps

Part No.	Size		A		B		C	
Aluminum	Hose Size	Thread Size						
BLUE / For BLACK add -4 to the end of the Part #			ins	mm	ins	mm	ins	mm
AC-12-0002-45	-12	1-1/8"- 20 UNEF	1-1/4"	31.7	2.27	57.8	0.79	20.2
AC-12-0029-45	-12	1"- 20 UNEF	1-1/4"	31.7	2.27	57.8	0.79	20.2

60° Aluminum
(Size -12 Shown)



60° Oil Pump Fitting

Commonly used with Auto Verdi & FWRC Oil Pumps

Part No.	Size		A		B		C	
Aluminum	Hose Size	Thread Size						
BLUE / For BLACK add -4 to the end of the Part #			ins	mm	ins	mm	ins	mm
AC-12-0002-60	-12	1-1/8"- 20 UNEF	1-1/4"	31.7	2.70	68.6	0.98	24.1
AC-12-0029-60	-12	1"- 20 UNEF	1-1/4"	31.7	2.70	68.6	0.98	24.1

Available Crimp Collars

Standard
w/Blue
Fittings



Gold

Standard
w/Black
Fittings



Black



Clear Ano.

Use Only
w/Stainless
Fittings



Stainless

70° Oil Pump Fitting

Commonly used with Auto Verdi & FWRC Oil Pumps								
Part No.	Size		A		B		C	
Aluminum	Hose Size	Thread Size						
BLUE / For BLACK add -4 to the end of the Part #			ins	mm	ins	mm	ins	mm
AC-10-0001-70	-10	1-1/8"- 20 UNEF	1-1/4"	31.7	2.05	52.1	1.32	33.5



70° Aluminum
(Size -10 Shown)

90° Oil Pump Fitting

Commonly used with Auto Verdi & FWRC Oil Pumps								
Part No.	Size		A		B		C	
Aluminum	Hose Size	Thread Size						
BLUE / For BLACK add -4 to the end of the Part #			ins	mm	ins	mm	ins	mm
AC-10-0001-90	-10	1-1/8"- 20 UNEF	1-1/4"	31.7	2.05	52.1	1.32	33.5
AC-12-0002-90	-12	1-1/8"- 20 UNEF	1-1/4"	31.7	2.07	52.7	1.47	37.5
AC-12-0029-90	-12	1"- 20 UNEF	1-1/4"	31.7	2.07	52.7	1.47	37.5
AC-16-0027-90	-16	1"- 20 UNEF	1-1/4"	31.7	2.08	52.82	1.47	37.37
AC-16-0058-90	-16	1-1/8"- 20 UNEF	1-1/4"	31.7	2.27	57.55	1.93	49.05



90° Aluminum
(Size -12 Shown)

Available Crimp Collars



Gold

Standard w/Blue Fittings



Black

Standard w/Black Fittings



Clear Ano.



Stainless

Use Only w/Stainless Fittings



Aluminum
(Size -12 Shown)



Straight Dailey Oil Pump Fitting

Part No.	Size
Aluminum	
BLACK	
AC-10-0017	-10
AC-12-0033-00	-12

NOTE: Available Keep Plate (supplied separately). Shown on next page.

30° Aluminum
(Size -12 Shown)



30° Dailey Oil Pump Fitting

Part No.	Size
Aluminum	
BLACK	
AC-12-0033-30	-12

NOTE: Available Keep Plate (supplied separately). Shown on next page.

45° Aluminum
(Size -12 Shown)



45° Dailey Oil Pump Fitting

Part No.	Size
Aluminum	
BLACK	
AC-10-0033-45	-10
AC-12-0033-45	-12

NOTE: Available Keep Plate (supplied separately). Shown on next page.

60° Aluminum
(Size -12 Shown)



60° Dailey Oil Pump Fitting

Part No.	Size
Aluminum	
BLACK	
AC-12-0033-60	-12

NOTE: Available Keep Plate (supplied separately). Shown on next page.

Available Crimp Collars



90° Dailey Oil Pump Fitting

90° Aluminum
(Size -12 Shown)

Part No.	Size
Aluminum	
BLACK	
AC-10-0033-90	-10
AC-12-0033-90	-12

NOTE: Available Keep Plate (supplied separately). Shown on bottom of page.



45° Dailey Oil Pump Double Swivel

45° Aluminum
(Size -12 Shown)

Part No.	Size
Aluminum	
BLACK	
AC-12-0033-45-DS	-12

NOTE: Shown with Keep Plate (supplied separately). Shown on bottom of page.



90° Dailey Oil Pump Double Swivel

90° Aluminum
(Size -12 Shown)

Part No.	Size
Aluminum	
BLACK	
AC-10-0033-90-DS	-10
AC-12-0033-90-DS	-12

NOTE: Shown with Keep Plate (supplied separately). Shown on bottom of page.



Dailey Oil Pump Keep Plate

Aluminum

Part No.	Size
Aluminum	
BLACK	
26-08-0600	



Available Crimp Collars



Gold

Standard w/Blue Fittings



Black

Standard w/Black Fittings



Clear Ano.

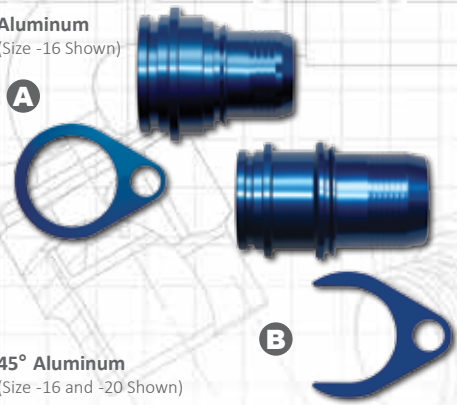


Stainless

Use Only w/Stainless Fittings



Aluminum
(Size -16 Shown)



Straight Single 'O' Ring Head

	Part No.	Hose Size	Keep Plate Part No. (Supplied w/Fitting)
Aluminum			
BLUE / For BLACK add -4 to the end of the Part #			
A	AC-16-0041-00	-16	22-0024-16-3 (See bottom of page for dimensions)
B	AC-20-0003-00	-20	22-0029-20-3 (See bottom of page for dimensions)

NOTE: Port details available upon request.

45° Aluminum
(Size -16 and -20 Shown)



45° Single 'O' Ring Head

	Part No.	Hose Size	Keep Plate Part No. (Supplied w/Fitting)
Aluminum			
BLUE / For BLACK add -4 to the end of the Part #			
A	AC-16-0041-45	-16	22-0024-16-3 (See bottom of page for dimensions)
B	AC-20-0003-45	-20	22-0029-20-3 (See bottom of page for dimensions)

NOTE: Port details available upon request.

90° Aluminum
(Size -16 Shown)

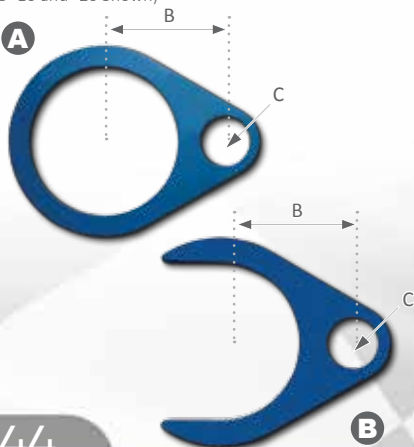


90° Single 'O' Ring Head

Part No.	Hose Size	Keep Plate Part No. (Supplied w/Fitting)
Aluminum		
BLUE / For BLACK add -4 to the end of the Part #		
AC-16-0041-90	-16	22-0024-16-3 (See bottom of page for dimensions)

NOTE: Port details available upon request.

Aluminum
(Size -16 and -20 Shown)



Keep Plate

Part No.	B		C		
Aluminum					
BLUE X=3 / BLACK X=4					
	ins	mm	ins	mm	
A	22-0024-16-X	1.07	27.3	13/32"	10.31
B	22-0029-20-X	1.07	27.3	13/32"	10.31

Available Crimp Collars



Straight Double 'O' Ring Head

Part No.	Hose Size	Keep Plate Part No. (Supplied w/Fitting)
Aluminum		
BLUE		
AC-16-0050-00	-16	22-0034-16-3 (See page 47 for dimensions)

NOTES: Port details available upon request.

Aluminum
(Size -16 Shown)



30° Double 'O' Ring Head

Part No.	Hose Size	Keep Plate Part No. (Supplied w/Fitting)
Aluminum		
BLUE		
AC-12-0042-30	-12	22-0019-12-3 (See page 47 for dimensions)
AC-16-0050-30	-16	22-0034-16-3 (See page 47 for dimensions)

NOTES: Port details available upon request.

30° Aluminum
(Size -12 Shown)



45° Double 'O' Ring Head

Part No.	Hose Size	Keep Plate Part No. (Supplied w/Fitting)
Aluminum		
BLUE		
AC-12-0042-45	-12	22-0019-12-3 (See page 47 for dimensions)
AC-16-0040-45	-16	22-0023-12-3 (See page 47 for dimensions)
AC-16-0050-45	-16	22-0034-16-3 (See page 47 for dimensions)

NOTES: Port details available upon request.

45° Aluminum
(Size -12 Shown)



60° Double 'O' Ring Head

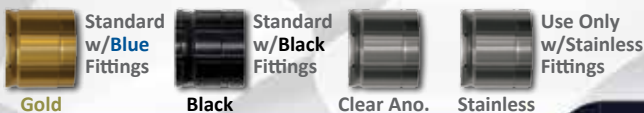
Part No.	Hose Size	Keep Plate Part No. (Supplied w/Fitting)
Aluminum		
BLUE		
AC-12-0042-60	-12	22-0019-12-3 (See page 47 for dimensions)

NOTES: Port details available upon request.

60° Aluminum
(Size -12 Shown)



Available Crimp Collars



80° Aluminum
(Size -10 Shown)



80° Double 'O' Ring Head

Part No.	Hose Size	Keep Plate Part No. (Supplied w/Fitting)
Aluminum		
BLUE		
AC-10-0022-80	-10	22-0019-12-3 (See page 47 for dimensions)
NOTES: Port details available upon request.		

90° Aluminum
(Size -12 Shown)



90° Double 'O' Ring Head

Part No.	Hose Size	Keep Plate Part No. (Supplied w/Fitting)
Aluminum		
BLUE		
AC-10-0022-90	-10	22-0019-12-3 (See page 47 for dimensions)
AC-12-0042-90	-12	22-0019-12-3 (See page 47 for dimensions)
AC-16-0050-90	-16	22-0034-16-3 (See page 47 for dimensions)
NOTES: Port details available upon request.		

120° Aluminum
(Size -16 Shown)



120° Double 'O' Ring Head

Part No.	Hose Size	Keep Plate Part No. (Supplied w/Fitting)
Aluminum		
BLUE		
AC-16-0050-120	-16	22-0034-16-3 (See page 47 for dimensions)
NOTES: Port details available upon request.		

90° Aluminum
(Size -12 Shown)



90° Double 'O' Ring Head w/Optional Integral Filter Screen

Part No.	Hose Size	Keep Plate Part No. (Supplied w/Fitting)
Aluminum		
BLUE		
AC-10-0022-90F	-10	22-0019-12-3 (See page 47 for dimensions)
AC-12-0042-90F	-12	22-0019-12-3 (See page 47 for dimensions)
NOTE: Filter Screen supplied separately. Call for Details		

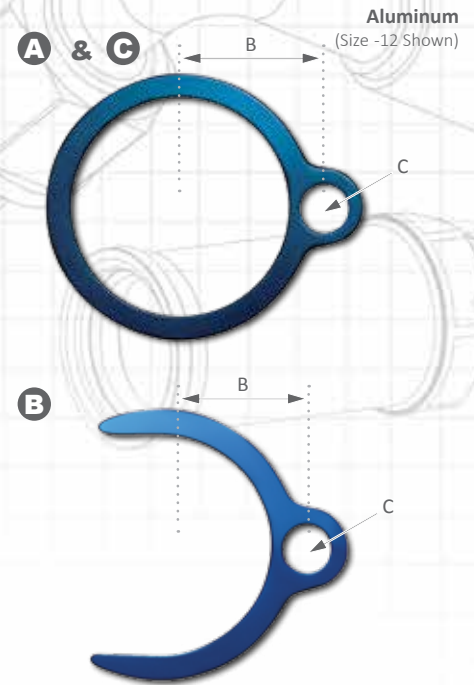
046

Available Crimp Collars

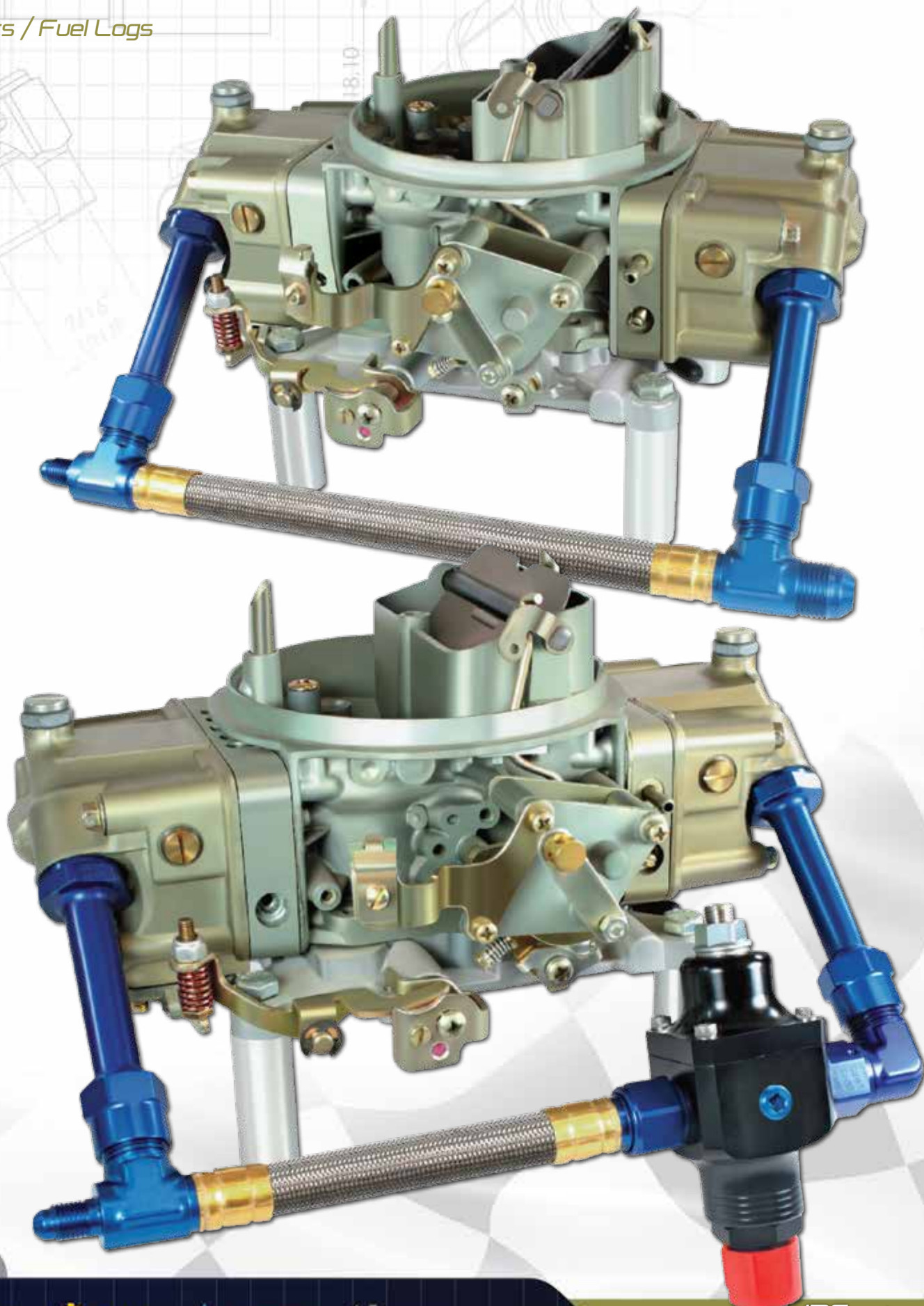


Keep Plate

	Part No.	B		C	
Aluminum					
BLUE					
		ins	mm	ins	mm
A	22-0019-12-3	0.656	16.66	0.203	5.16
B	22-0023-12-3	0.656	16.66	0.203	5.16
C	22-0034-16-3	0.787	20.00	0.256	6.50



Carb Kits / Fuel Logs



048



FUELS



OILS



WATER



HYDRAULICS

How to Order: Fuel Log / Carb Kit Assemblies

To order a complete assembled and tested Fuel Log: (See following pages for fitting choices)

- Specify fitting A
- Specify fitting B
- Specify the Length Between the Fittings (Typical Holley Carb length is 9-5/16").

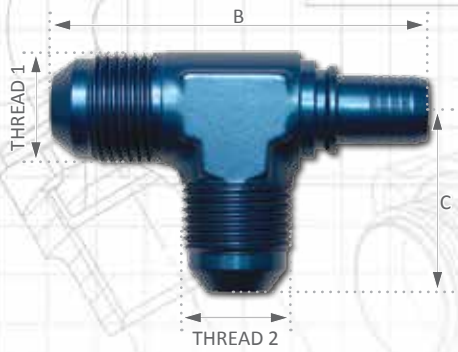
Typical Configurations:



Typical Configurations

Carb Kit Part Number	Hose Size	Fitting A	Fitting B	Length
CARB-KIT-001	-08	AC-08-0012	AC-08-0013	9-5/16"
CARB-KIT-016	-08	AC-08-0012	AC-08-0017-3	9-5/16"
CARB-KIT-021	-08	AC-08-0012	AC-08-0015	9-5/16"

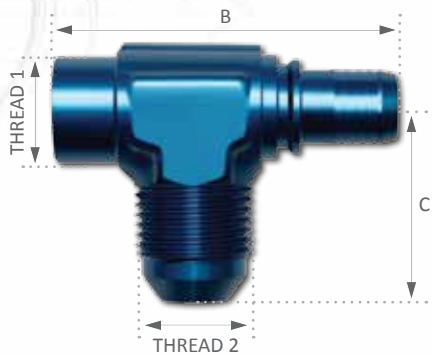
Aluminum
(Size -08 Shown)



'T' Piece - Carb Kits & Adapters

Part No.				B		C	
Aluminum	Hose Size	Thread Size 1	Thread Size 2				
BLUE				ins	mm	ins	mm
AC-08-0003	-08	-08	-06	2.50	63.50	1.05	26.70
AC-08-0004	-08	-03	-06	2.26	57.76	1.05	26.70
AC-08-0008	-08	-04	-06	2.50	63.50	1.05	26.70
AC-08-0012	-08	-08	-08	2.50	63.50	1.22	31.00
AC-08-0013	-08	-04	-08	2.50	63.50	1.22	31.00

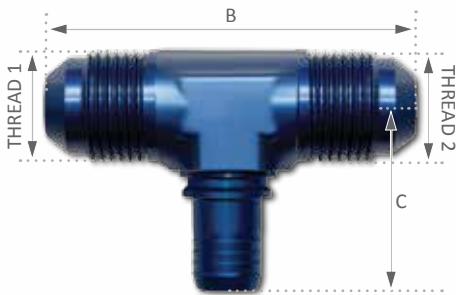
Aluminum
(Size -08 Shown)



'T' Piece - Carb Kits & Adapters

Part No.				B		C	
Aluminum	Hose Size	Thread Size 1	Thread Size 2				
BLUE				ins	mm	ins	mm
AC-08-0015	-08	1/8" NPTF	-08	2.14	54.5	1.22	31.00
AC-08-0020	-08	3/8" x 24 ORBF	-08	2.14	54.5	1.22	31.00

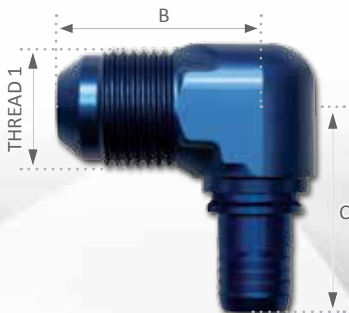
Aluminum
(Size -08 Shown)



'T' Piece - Carb Kits & Adapters

Part No.				B		C	
Aluminum	Hose Size	Thread Size 1	Thread Size 2				
BLUE				ins	mm	ins	mm
AC-08-0005	-08	-08	-08	2.44	62.00	1.22	31.00

90° Aluminum
(Size -08 Shown)



90° - Carb Kits & Adapters

Part No.				B		C	
Aluminum	Hose Size	Thread Size 1					
BLUE				ins	mm	ins	mm
AC-08-0017-3	-08	-08	---	1.22	31.00	1.28	32.50

Available Crimp Collars

Standard w/Blue Fittings



Gold

Standard w/Black Fittings



Black



Clear Ano.

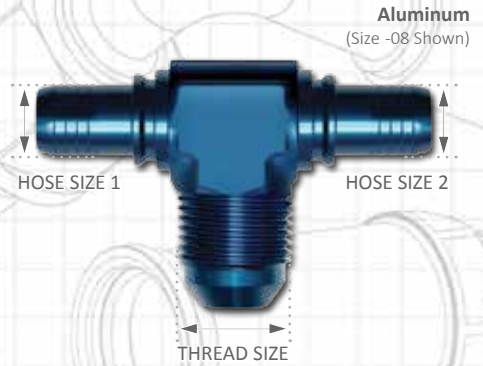
Use Only w/Stainless Fittings



Stainless

'T' Piece - Carb Kits & Adapters

Part No.				B		C	
Aluminum	Hose Size 1	Thread Size	Hose Size 2				
BLUE				ins	mm	ins	mm
AC-08-0039	-08	-08	-08	---	---	---	---



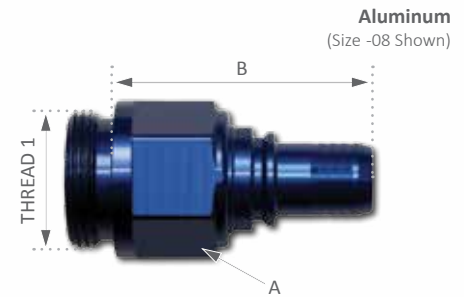
Carb Tube - Carb Kits & Adapters

Part No.				B		C	
Aluminum	Thread Size 1	Thread Size 2					
BLUE			ins	mm	ins	mm	
18-0095-08-3	-08	7/8" x 20 UN	---	---	---	---	---



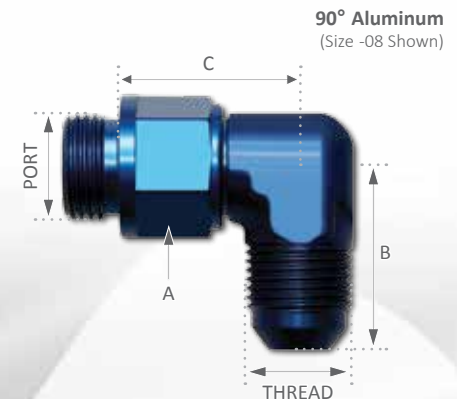
Straight Male Swivel - Carb Kits & Adapters

Part No.			A		B		C	
Aluminum	Hose Size	Thread Size 1						
BLUE			ins	mm	ins	mm	ins	mm
AC-08-0011	-08	7/8" x 20 UN	7/8"	22.2	1.625	41.28	---	---

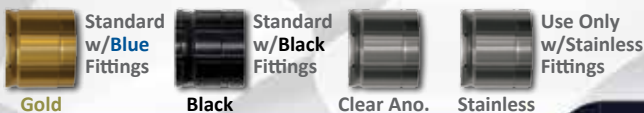


90° - Carb Kits & Adapters

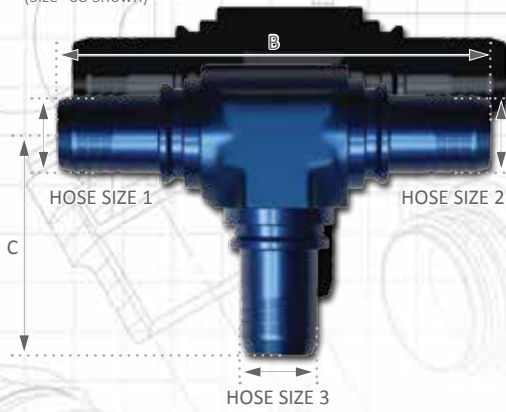
Part No.			A		B		C	
Aluminum	Port Size	Thread Size						
BLUE			ins	mm	ins	mm	ins	mm
90-J06M06-3	-06	-06	3/4"	19.0	1.25	32.0	1.19	30.35
90-J08M06-3	-06	-08	3/4"	19.0	1.25	32.0	1.19	30.35
90-J08M08-3	-08	-08	7/8"	22.2	1.25	32.0	1.19	30.35



Available Crimp Collars



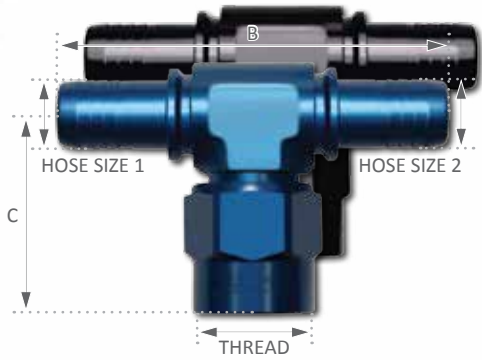
Aluminum
(Size -08 Shown)



'T' Piece

Part No.				B		C	
Aluminum	Hose Size 1	Hose Size 2	Hose Size 3				
BLUE X=3 / BLACK X=4				ins	mm	ins	mm
AC-06-0006-X	-06	-06	-06	2.16	55.0	1.08	27.5
AC-06-0021-X	-06	-06	-08	2.56	64.99	1.28	32.51
AC-06-0024-X	-06	-06	-04	2.17	55.0	1.07	27.25
AC-08-0027-X	-08	-08	-08	2.55	65.0	1.28	32.50
AC-10-0020-X	-10	-10	-10	2.43	74.4	1.46	37.20

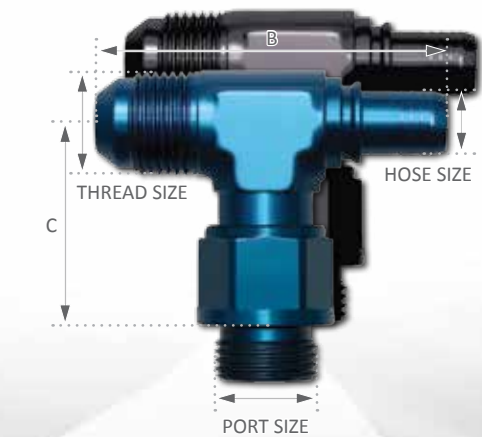
Aluminum
(Size -06 Shown)



'T' Piece to JIC (AN) Female

Part No.				B		C	
Aluminum	Hose Size 1	Hose Size 2	Thread Size				
BLUE X=3 / BLACK X=4				ins	mm	ins	mm
AC-06-0028-X	-06	-06	-06	2.17	55.0	0.73	18.45

Aluminum
(Size -08 Shown)



'T' Piece to ORB Male

Part No.				B		C	
Aluminum	Hose Size	Port Size	Thread Size				
BLUE X=3 / BLACK X=4				ins	mm	ins	mm
AC-06-0080-X	-06	-08 ORB	-06	2.44	62.10	1.43	36.4
AC-08-0028-X	-08	-08 ORB	-08	2.48	63.10	1.43	36.4
AC-10-0061-X	-10	-10 ORB	-10	2.85	72.32	1.35	34.17

Available Crimp Collars



Straight Spigot Fitting

Part No.		A Dia. (Nom)		B Dia. (Max)	
Aluminum	Hose Size				
BLUE X=3 / BLACK X=4		ins	mm	ins	mm
AC-06-0009-00-X	-06	0.312	8.00	0.383	9.75
AC-06-0023-00-X	-06	0.375	9.52	0.458	11.65
AC-06-0025-X	-06	0.312	8.00	0.437	11.00
AC-10-0018-X	-10	0.625	15.87	0.724	18.40
AC-10-0019-X	-10	0.736	18.70	0.823	20.90

Aluminum
(Size -06 Shown)



45° Spigot Fitting

Part No.		A Dia. (Nom)		B Dia. (Max)	
Aluminum	Hose Size				
BLUE X=3 / BLACK X=4		ins	mm	ins	mm
AC-06-0009-45-X	-06	0.312	8.00	0.383	9.75

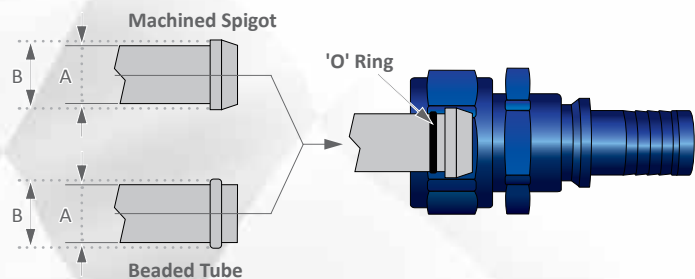
45° Aluminum
(Size -06 Shown)



90° Spigot Fitting

Part No.		A Dia. (Nom)		B Dia. (Max)	
Aluminum	Hose Size				
BLUE X=3 / BLACK X=4		ins	mm	ins	mm
AC-06-0009-90-X	-06	0.312	8.00	0.383	9.75
AC-06-0023-90-X	-06	0.375	9.52	0.458	11.65

90° Aluminum
(Size -06 Shown)

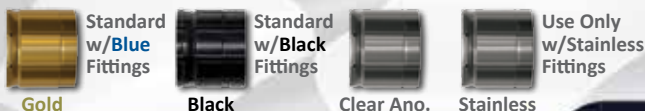


These fittings are for use with a machined spigot or beaded tube as shown and are designed for low pressure applications such as fuel, water and oil that operate at less than 100 p.s.i.

'A' diameter should be matched to the nominal tube or spigot size.
'B' diameter should be matched as tightly as possible to given dimensions.

NOTE: DO NOT use with a plain tube.

Available Crimp Collars



Aluminum
(Size -06 Shown)



Straight OEM Fuel Line Connector

Part No.		
Aluminum	Hose Size	
BLUE X=3 / BLACK X=4		
AC-06-0032-00-X	-06	OEM SAE2044 5/16" (8mm)
AC-06-0040-00-X	-06	OEM SAE2044 3/8"

45° Aluminum
(Size -06 Shown)



45° OEM Style Fuel Line Connector

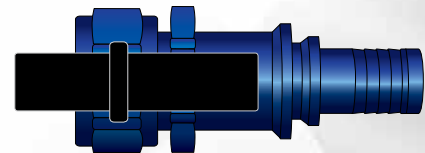
Part No.		
Aluminum	Hose Size	
BLUE X=3 / BLACK X=4		
AC-06-0040-45-X	-06	OEM SAE2044 3/8"

90° Aluminum
(Size -06 Shown)



90° OEM Style Fuel Line Connector

Part No.		
Aluminum	Hose Size	
BLUE X=3 / BLACK X=4		
AC-06-0032-90-X	-06	OEM SAE2044 5/16" (8mm)



These fittings are for use with OEM style SAE2044 formed tube ends. Maximum operating pressure as per SAE2044.

NOTE: DO NOT use with a plain tube.

Available Crimp Collars



Straight Female Quick Disconnect

Part No.	Size
Aluminum w/EPDM 'O' Rings	
BLUE X=3 / BLACK X=4	
AC-06-0030-00-EX	-06
Aluminum w/VITON 'O' Rings	
BLUE / GOLD	
SB-04-0040-00-V	-04
AC-06-0030-00-V	-06
AC-08-0030-00-V	-08

Aluminum
(Size -06 Shown)



90° Female Quick Disconnect

Part No.	Size
Aluminum w/EPDM 'O' Rings	
BLUE X=3 / BLACK X=4	
AC-06-0030-90-EX	-06
Aluminum w/VITON 'O' Rings	
BLUE / GOLD	
AC-06-0030-90-V	-06

90° Aluminum
(Size -06 Shown)



Straight Male Quick Disconnect

Part No.	Size
Aluminum	
BLUE X=3 / BLACK X=4	
AC-06-0031-00-X	-06

Aluminum
(Size -06 Shown)



Bulkhead Female Quick Disconnect to JIC (AN) Male

Part No.	QD Size	JIC (AN) Male Size
Aluminum w/EPDM 'O' Rings		
BLUE X=3 / BLACK X=4		
35-0018-06-X-E	-06	-06

Aluminum
(Size -06 Shown)



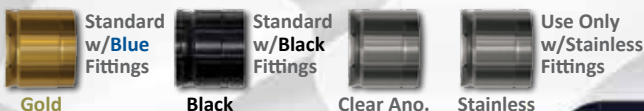
Bulkhead Male Quick Disconnect to JIC (AN) Male

Part No.	QD Size	JIC (AN) Male Size
Aluminum		
BLUE X=3 / BLACK X=4		
35-0020-06-X	-06	-06

Aluminum
(Size -06 Shown)



Available Crimp Collars



90° Aluminum
(Size -04 Shown)



90° Adapter Quick Disconnect Male to NPTF

Part No.	QD Size	Thread Size
Aluminum		
BLUE		
35-0007-04-3	-04	1/8" NPTF

Aluminum
(Size -08 Shown)



Male Quick Disconnect Weld On

Part No.	QD Size	
Aluminum		
35-0009-04-J	-04	
35-0009-08-J	-08	

Aluminum
(Size -04 Shown)



Male Quick Disconnect to JIC (AN) Female

Part No.	QD Size	JIC (AN) Female Size
Aluminum		
BLUE		
35-0011-04-3	-04	-04
35-0011-08-3	-08	-08

Aluminum
(Size -06 Shown)



Male Quick Disconnect to Male ORB

Part No.	QD Size	Thread Size
Aluminum		
BLUE		
35-0012-04-08-3	-04	-08
35-0012-06-06-3	-06	-06
35-0012-06-08-3	-06	-08
35-0012-08-08-3	-08	-08

Aluminum
(Size -06 Shown)



Male Quick Disconnect Extended to Male ORB

Part No.	QD Size	Thread Size
Aluminum		
BLUE		
35-0016-06-3	-06	-06

Available Crimp Collars

Standard
w/Blue
Fittings



Gold

Standard
w/Black
Fittings



Black



Clear Ano.

Use Only
w/Stainless
Fittings



Stainless

90° Male Swivel Port Thread to Male Quick Disconnect

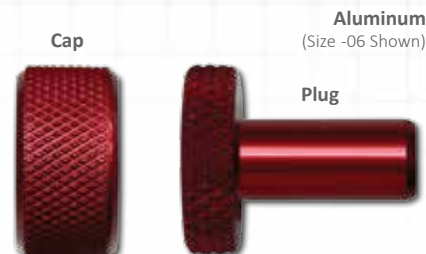
Part No.	QD Size	Thread Size
Aluminum		
BLUE		
35-0019-08-3	-08	-08
35-0019-08-10-3	-08	-10



90° Aluminum
(Size -08 Shown)

Protective Caps and Plugs for Quick Disconnect Fittings

Part No.	Part No.
Aluminum	
Cap	
RED	
35-0014-04-3-V	35-0013-04-3
35-0014-06-3-E	35-0013-06-3
35-0014-08-3-E	35-0013-08-3



Cap

Aluminum
(Size -06 Shown)

Plug

Straight Male Swivel

Commonly used with Jiffy-Tite Quick Disconnects

Part No.	Hose Size	Thread Size
Aluminum		
BLUE		
AC-10-0044-00	-10	15/16" UNEF



Aluminum
(Size -10 Shown)

Shown with Jiffy-Tite Disconnect.

90° Male Swivel

Commonly used with Jiffy-Tite Quick Disconnects

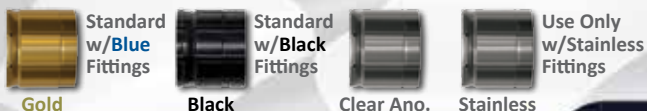
Part No.	Hose Size	Thread Size
Aluminum		
BLUE		
AC-10-0044-90	-10	15/16" UNEF
AC-12-0072-90	-12	15/16" UNEF



90° Aluminum
(Size -10 Shown)

Shown with Jiffy-Tite Disconnect.

Available Crimp Collars



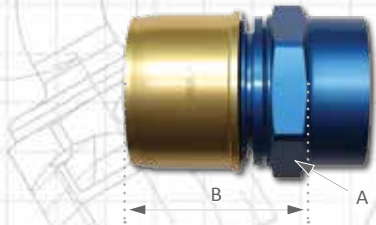
Gold

Black

Clear Anod.

Stainless

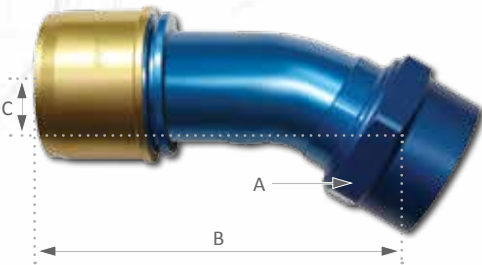
Aluminum
(Size -24 Shown)



Straight JIC (AN) Female

Part No.	Size	A		B			
Aluminum							
BLUE X=3 / BLACK X=4		ins	mm	ins	mm	ins	mm
PL-24-FX	-24	2-1/8"	54.0	---	---	---	---
Reducer Fittings	Hose Size	Nut Size					
PL-32-24-F3	-32	-24	2-1/8"	54.0	---	---	---

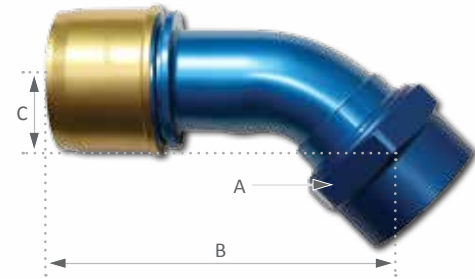
30° Aluminum
(Size -24 Shown)



30° JIC (AN) Female

Part No.	Size	A		B		C	
Aluminum							
BLUE X=3 / BLACK X=4		ins	mm	ins	mm	ins	mm
PL-24-30JIC-X	-24	2-1/8"	54.0	---	---	---	---

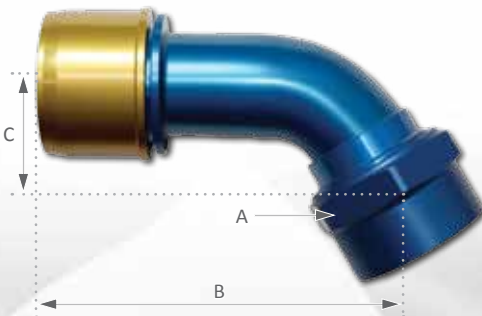
45° Aluminum
(Size -24 Shown)



45° JIC (AN) Female

Part No.	Size	A		B		C	
Aluminum							
BLUE X=3 / BLACK X=4		ins	mm	ins	mm	ins	mm
PL-24-GX	-24	2-1/8"	54.0	---	---	---	---

60° Aluminum
(Size -24 Shown)

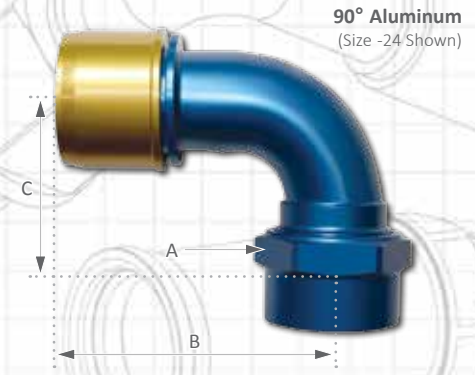


60° JIC (AN) Female

Part No.	Size	A		B		C	
Aluminum							
BLUE X=3 / BLACK X=4		ins	mm	ins	mm	ins	mm
PL-24-60JIC-X	-24	2-1/8"	54.0	---	---	---	---

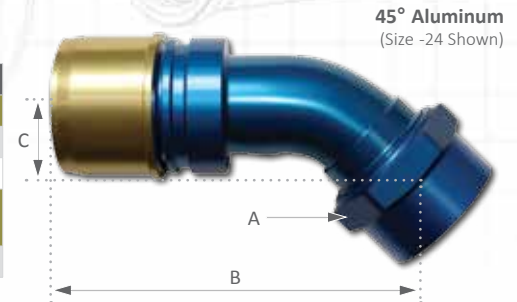
90° JIC (AN) Female

Part No.	Size	A		B		C	
Aluminum							
BLUE X=3 / BLACK X=4		ins	mm	ins	mm	ins	mm
PL-24-HX	-24	2-1/8"	54.0	---	---	---	---



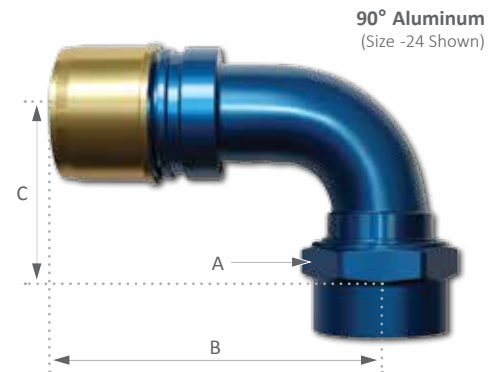
45° JIC (AN) Female Double Swivel

Part No.	Size	A		B		C	
Aluminum							
BLUE X=3 / BLACK X=4		ins	mm	ins	mm	ins	mm
PL-24-GX-DS	-24	2-1/8"	54.0	---	---	---	---
Reducer Fittings	Hose Size	Nut Size					
PL-32-24-GX-DS	-32	-24	2-1/8"	54.0	---	---	---



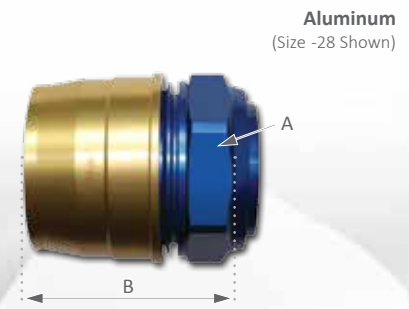
90° JIC (AN) Female Double Swivel

Part No.	Size	A		B		C	
Aluminum							
BLUE X=3 / BLACK X=4		ins	mm	ins	mm	ins	mm
PL-24-HX-DS	-24	2-1/8"	54.0	---	---	---	---
Reducer Fittings	Hose Size	Nut Size					
PL-32-24-HX-DS	-32	-24	2-1/8"	54.0	---	---	---



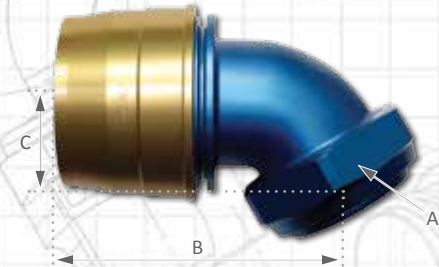
Straight Low Profile Flareless Female

Part No.	Size	A		B			
Aluminum							
BLUE X=3 / BLACK X=4		ins	mm	ins	mm	ins	mm
PL-28-0005-00	-28	2-3/8"	60.33	---	---	---	---
PL-32-0005-00	-32	2-5/8"	66.68	---	---	---	---
Reducer Fittings	Hose Size	Nut Size					
PL-28-32-000500	-28	-32	2-5/8"	66.68	---	---	---



60° Aluminum
(Size -28 Shown)

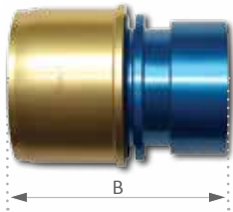
60° Low Profile Flareless Female



Part No.	Size	A		B		C	
Aluminum							
BLUE X=3 / BLACK X=4		ins	mm	ins	mm	ins	mm
PL-28-0005-60	-28	2-3/8"	60.33	3.72	94.4	1.39	35.35
PL-32-0005-60	-32	2-5/8"	66.68	4.38	111.19	1.60	40.67

Aluminum
(Size -24 Shown)

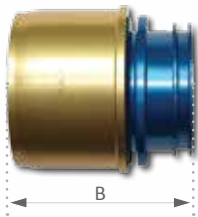
Straight Female Wiggins



Part No.				B		C	
Single 'O' Ring	Deep Double 'O' Ring	Hose Size	Clamp Size				
BLUE X=3 / BLACK X=4				ins	mm	ins	mm
PL-24-ST-WF-X	PL-24-ST-WFFD	-24	-24	2.66	67.58	---	---
---	PL-28-ST-WFFD	-28	-28	2.95	75.05	---	---
PL-32-ST-WF-X	---	-32	-32	3.03	76.94	---	---
Reducer Fittings							
PL-32-28-ST-WF-X	---	-32	-28	3.00	76.18	---	---

Aluminum
(Size -24 Shown)

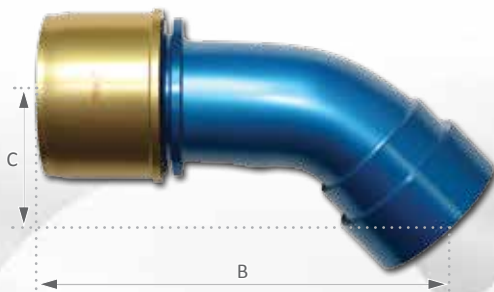
Straight Male Wiggins



Part No.				B		C	
Single 'O' Ring	Deep Double 'O' Ring	Hose Size	Clamp Size				
BLUE X=3 / BLACK X=4				ins	mm	ins	mm
PL-24-ST-WM-X	---	-24	-24	2.15	54.70	---	---
PL-32-ST-WM-X	---	-32	-32	2.61	66.22	---	---

45° Aluminum
(Size -24 Shown)

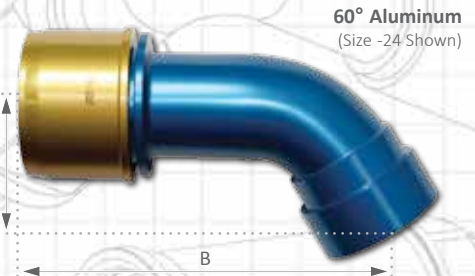
45° Female Wiggins



Part No.				B		C	
Single 'O' Ring	Deep Double 'O' Ring	Hose Size	Clamp Size				
BLUE X=3 / BLACK X=4				ins	mm	ins	mm
PL-24-45-WF-X	PL-24-45-WFFD	-24	-24	4.74	120.33	1.31	33.35

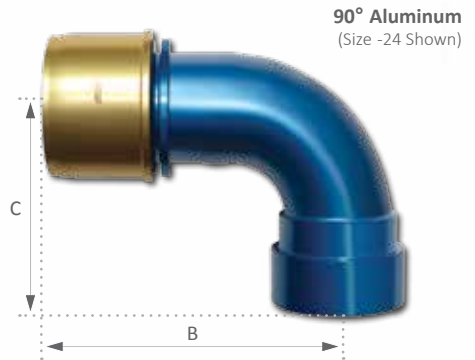
60° Female Wiggins

Part No.				B		C	
Single 'O' Ring	Deep Double 'O' Ring	Hose Size	Clamp Size	ins	mm	ins	mm
BLUE X=3 / BLACK X=4				ins	mm	ins	mm
PL-24-60-WF	---	-24	-24	5.31	134.89	1.82	46.23



90° Female Wiggins

Part No.				B		C	
Single 'O' Ring	Deep Double 'O' Ring	Hose Size	Clamp Size	ins	mm	ins	mm
BLUE X=3 / BLACK X=4				ins	mm	ins	mm
PL-24-90-WF	---	-24	-24	4.19	106.30	2.74	69.48

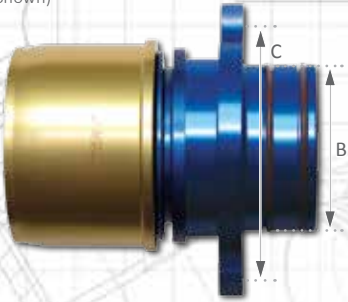


90° Female Wiggins Double Swivel

Part No.				B		C	
Reducer Fittings				B		C	
Single 'O' Ring	Deep Double 'O' Ring	Hose Size	Clamp Size	ins	mm	ins	mm
BLUE X=3 / BLACK X=4				ins	mm	ins	mm
PL-24-20-90-WFDS	---	-24	-20	4.53	115.10	2.49	63.32



Aluminum
(Size -24 Shown)



Shown with Collar and 'O' Rings.

Straight Flange 'O' Ring Head

Part No.	Size	B		C	
Aluminum					
BLUE / GOLD		ins	mm	ins	mm
AC-20-0004	-20	1.75	44.4	2.60	66.0
PL-24-0004-00	-24	1.75	44.4	2.60	66.0

NOTE: Port details available upon request.

12.75° Aluminum
(Size -24 Shown)



Shown with Collar and 'O' Rings.

12.75° Swivel Flange 'O' Ring Head

Part No.	Size	B		C	
Aluminum					
BLUE / GOLD		ins	mm	ins	mm
PL-24-0008	-24	1.75	44.4	2.60	60.0
PL-32-0004	-32	1.75	44.4	2.60	60.0

12.75° Aluminum
(Size -32 Shown)



Shown with Collar and 'O' Rings.

12.75° Swivel Flange Offset 'O' Ring Head

Part No.	Size	B		C	
Aluminum					
BLUE / GOLD		ins	mm	ins	mm
PL-32-0009	-32	1.75	44.4	2.60	60.0

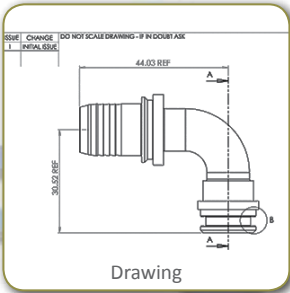
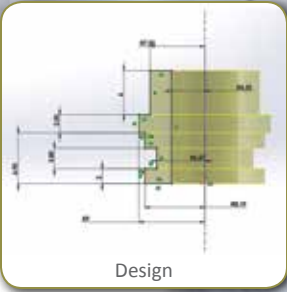
NOTE: Port details available upon request.

PROGold Custom Fittings

Bespoke Fittings

If you can't find the fitting you need, we will gladly design and manufacture a custom fitting for you. We are able to provide you with CAD models as well as solid models to ensure correct fit and installation.

The following pages include fittings introduced to resolve a particular customer's need, many of them have wider applications.



Inline Joiner
One 1/8" NPTF Port

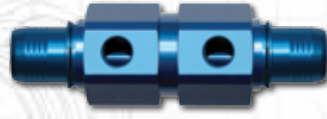
Aluminum
(Size -12 Shown)



Part No.	Hose Size
BLUE / BLACK add suffix -4	
AC-12-0054	-12

Inline Joiner
Two 1/8" NPTF Ports

Aluminum
(Size -12 Shown)



Part No.	Hose Size
BLUE / BLACK add suffix -4	
AC-12-0026	-12

Single 'O' Ring
TRD

Aluminum
(Size -12 Shown)



Part No.	Hose Size
1-1/16" x 12 Big Thru Bore	
BLUE / BLACK add suffix -4	
AC-12-0023	-12

Double 'O' Ring
Ford FR9

Aluminum
(Size -12 Shown)



Part No.	Hose Size
BLUE / BLACK add suffix -4	
AC-12-0055	-12

Straight - Flanged

Aluminum
(Size -16 Shown)



Part No.	Hose Size
BLUE / BLACK add suffix -4	
AC-16-0021	-16

30° Flanged - Elbow

Aluminum
(Size -16 Shown)



Part No.	Hose Size
BLUE / BLACK add suffix -4	
AC-16-0011-30	-16

45° Flanged - Elbow

Aluminum
(Size -16 Shown)



Part No.	Hose Size
BLUE / BLACK add suffix -4	
AC-16-0011-45	-16

90° 3 Bolt - Flanged

Aluminum
(Size -12 Shown)



Part No.	Hose Size
BLUE / BLACK add suffix -4	
AC-12-0020	-12
AC-16-0024	-16

80° 3 Bolt - Flanged

Aluminum
(Size -16 Shown)



Part No.	Hose Size
BLUE / BLACK add suffix -4	
AC-16-0009	-16

90° 4 Bolt - Flanged

Aluminum
(Size -12 Shown)



Part No.	Hose Size
BLUE / BLACK add suffix -4	
AC-12-0022	-12
AC-16-0012	-16

90° 4 Bolt - Flanged

Aluminum
(Size -16 Shown)



Part No.	Hose Size
Flange Offset 7°	
BLUE / BLACK add suffix -4	
AC-16-0037	-16

90° 4 Bolt - Flanged

Aluminum
(Size -16 Shown)



Part No.	Hose Size
Barnes Pump	
BLUE / BLACK add suffix -4	
AC-16-0028	-16

Available Crimp Collars



90° 4 Bolt - Flanged

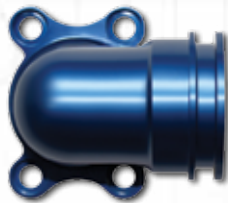
Aluminum
(Size -16 Shown)



Part No.	Hose Size
Flange Offset 25° - Barnes Pump	
BLUE / BLACK add suffix -4	
AC-16-0033	-16

90° 4 Bolt - Flanged

Aluminum
(Size -16 Shown)



Part No.	Hose Size
BLUE / BLACK add suffix -4	
18-0069-16-3	-16
18-0172-16-3	-16

90° 4 Bolt - Flanged

Aluminum
(Size -16 Shown)



Part No.	Hose Size
BLUE / BLACK add suffix -4	
AC-16-0013	-16

45° 4 Bolt - Flanged

Aluminum
(Size -16 Shown)



Part No.	Hose Size
Flange Offset 15°	
BLUE / BLACK add suffix -4	
AC-16-0038	-16

90° 4 Bolt
Flanged

Aluminum
(Size -16 Shown)



Part No.	Hose Size
BLUE / BLACK add suffix -4	
AC-16-0016	-16

Straight 4 Bolt
Flanged

Aluminum
(Size -16 Shown)



Part No.	Hose Size
BLUE / BLACK add suffix -4	
AC-16-0034	-16

90° Breather
Rear Vent Fitting

Aluminum
(Size -06 Shown)



Part No.	Hose Size
-04 to -06 ORB Sprint Car	
BLUE / BLACK add suffix -4	
SB-04-0037-3	-04
AC-06-0043-90	-06

Straight
Plug-In Crimp Fitting

Aluminum
(Size -06 Shown)



NOTE: Port details available upon request.

Part No.	Hose Size	Port Size
BLUE / BLACK add suffix -4		
AC-06-0042-00	-06	16mm
AC-08-0034-00	-08	16mm

45°
Plug-In Crimp Fitting

Aluminum
(Size -06 Shown)

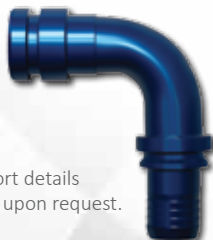


NOTE: Port details available upon request.

Part No.	Hose Size	Port Size
BLUE / BLACK add suffix -4		
AC-06-0042-45	-06	16mm
AC-08-0034-45	-08	16mm

90°
Plug-In Crimp Fitting

Aluminum
(Size -06 Shown)



NOTE: Port details available upon request.

Part No.	Hose Size	Port Size
BLUE / BLACK add suffix -4		
AC-06-0042-90	-06	16mm
AC-08-0034-90	-08	16mm

Available Crimp Collars



Gold

Standard w/Blue Fittings



Black

Standard w/Black Fittings



Clear Ano.



Stainless

Use Only w/Stainless Fittings



Standard & High Pressure Smooth Bore PTFE Hose

Standard Smooth Bore PTFE Hose

Smooth Bore PTFE hose offers low volumetric expansion at maximum operating pressure making it ideal for pressure systems such as brake, clutch, power steering, gearbox and suspension hydraulics. Low expansion provides a more positive brake pedal with less travel. It is able to operate at high pressure and temperature while remaining robust and flexible.

High Pressure Smooth Bore PTFE Hose

High Pressure Smooth Bore PTFE hose is designed for high pressure and high impulse severe-duty applications. It maintains excellent flexibility due to superior tension controlled single layer small wire diameter plated braid design.



066



FUELS



OILS



WATER



HYDRAULICS

www.BMRS.net

Smooth Bore PTFE Stainless Steel Braid

- Low Volumetric Expansion at Maximum Operating Pressure
- Able to Operate at High Pressure and High Temperature
- Compatible with Virtually All Fluids
- Factory Built Assemblies are ALL Pressure Tested
- Use with SB (Crimp) and SBR (Reusable) fittings

Applications:

- Brakes
- Hydraulics Systems (Clutch, Gearbox, Power Steering, etc.)
- All Air and Gas Applications
- Gauge, Instrumentation and Sensor Lines

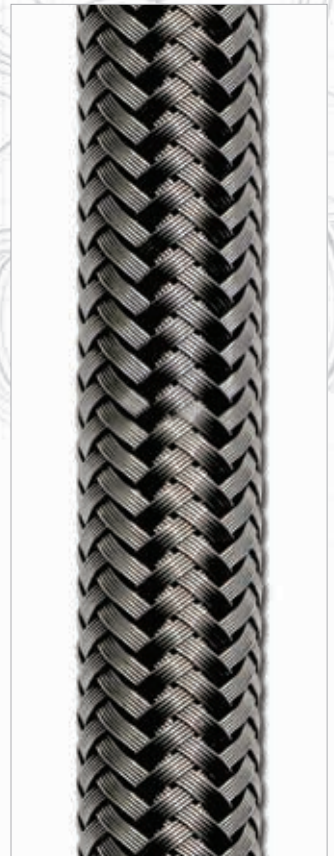
Specifications:

- **Innercore:** Smooth Bore Extruded PTFE with Static Dissipating Liner Option
- **Braid:** 304 Series Stainless Steel
- **Operating Temperature:** -54°C to 232°C (-67°F to 450°F) at Full Pressure and Full Vacuum

Notes:

Complies with rules requiring stainless steel braided hose to be used for fuel pressure gauge lines.

Hose Part No.	Hose Part No. (Static Dissipating)	Hose Size (nom.)	Inside/Dia. (nom.)		Outside/Dia. (nom.)		Min. Bend Radius		Max. Operating Pressure		Min. Burst Pressure		Max. Vacuum Rating	Wt.
			ins	mm	ins	mm	ins	mm	Bar	P.S.I.	ins/HG	Kg/m		
---	SB-02-S-SD	1/8"	0.080	2.03	0.190	4.820	1.50	38.1	206	3000	827	12000	28	0.05
---	SB-03-S-SD	3/16"	0.130	3.30	0.250	6.350	2.00	50.8	206	3000	827	12000	28	0.07
---	SB-04-S-SD	1/4"	0.190	4.82	0.330	8.380	2.00	50.8	206	3000	827	12000	28	0.12
---	SB-06-S-SD	3/8"	0.310	7.87	0.450	11.43	4.00	101.6	172	2500	689	10000	28	0.16
---	SB-08-S-SD	1/2"	0.410	10.5	0.530	13.65	5.25	133.0	103	1500	413	6000	28	0.20



Smooth Bore PTFE Stainless Steel Braid w/Black PVC Sheath

- Low Volumetric Expansion at Maximum Operating Pressure
- Able to Operate at High Pressure and High Temperature
- Compatible with Virtually All Fluids
- Protective Black PVC Sheath
- Factory Built Assemblies are ALL Pressure Tested
- Use with SB (Crimp) and SBR (Reusable) fittings

Applications:

- Brakes
- Hydraulics Systems (Clutch, Gearbox, Power Steering, etc.)
- All Air and Gas Applications
- Gauge, Instrumentation and Sensor Lines

Specifications:

- **Innercore:** Smooth Bore Extruded PTFE with Static Dissipating Liner Option
- **Braid:** 304 Series Stainless Steel with Black PVC Sheath
- **Operating Temperature:** -25°C to 85°C (-13°F to 185°F) at Full Pressure and Full Vacuum

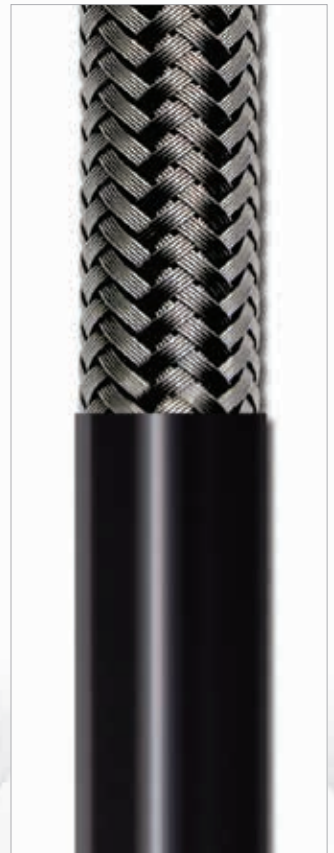
Notes:

Complies with rules requiring stainless steel braided hose to be used for fuel pressure gauge lines

PVC Sheath adds a level of abrasion protection for both the hose as well as chassis components or carbon fiber parts

Black PVC also serves as a decorative covering for the hose

Hose Part No. (Static Dissipating)	Hose Size (nom.)	Inside/Dia. (nom.)		Outside/Dia. (nom.)		Min. Bend Radius		Max. Operating Pressure		Min. Burst Pressure		Max. Vacuum Rating	Wt.
		ins	mm	ins	mm	ins	mm	Bar	P.S.I.	ins/HG	Kg/m		
SB-02-S-SD-PVC	1/8"	0.080	2.03	0.228	5.80	1.50	38.1	206	3000	827	12000	28	0.06
SB-03-S-SD-PVC	3/16"	0.130	3.30	0.270	6.85	2.00	50.8	206	3000	827	12000	28	0.08
SB-04-S-SD-PVC	1/4"	0.190	4.82	0.350	8.88	2.00	50.8	206	3000	827	12000	28	0.13



Smooth Bore PTFE Stainless Steel Braid w/Black TPE Sheath

- Low Volumetric Expansion at Maximum Operating Pressure
- Able to Operate at High Pressure and High Temperature
- Compatible with Virtually All Fluids
- Robust and Durable Hytrel TPE Sheath
- Factory Built Assemblies are ALL Pressure Tested
- Use with SB (Crimp) and SBR (Reusable) fittings

Specifications:

- **Innecore:** Smooth Bore Extruded PTFE with Static Dissipating Liner Option
- **Braid:** 304 Series Stainless Steel with Black TPE Thermoplastic Elastomer sheath
- **Operating Temperature:** -65°C to 150°C (-85°F to 302°F) at Full Pressure and Full Vacuum

Applications:

- Brakes
- Hydraulics Systems (Clutch, Gearbox, Power Steering, etc.)
- All Air and Gas Applications
- Gauge, Instrumentation and Sensor Lines

Notes:

Complies with rules requiring stainless steel braided hose to be used for fuel pressure gauge lines

TPE Sheath adds a high level of abrasion protection for both the hose as well as chassis components or carbon fiber parts

Black TPE also serves as a decorative covering for the hose

Hose Part No. (Static Dissipating)	Hose Size (nom.)	Inside/Dia. (nom.)		Outside/Dia. (nom.)		Min. Bend Radius		Max. Operating Pressure		Min. Burst Pressure		Max. Vacuum Rating	Wt. Kg/m
		ins	mm	ins	mm	ins	mm	Bar	P.S.I.	ins/HG			
SB-06-S-H-SD	3/8"	0.31	7.87	0.49	12.4	4.00	101.6	172	2500	689	10000	28	0.17
SB-08-S-H-SD	1/2"	0.41	10.5	0.57	14.6	5.25	133.0	103	1500	413	6000	28	0.21

Smooth Bore PTFE Polyester Braid

- Designed for Low Pressure Light Duty Applications
- Extremely Lightweight
- Durable Polyester Non-Metallic Braid
- Factory Built Assemblies are ALL Pressure Tested
- Use with SB (Crimp) and SBR (Reusable) fittings

Specifications:

- **Innecore:** Smooth Bore Extruded PTFE with Static Dissipating Liner Option
- **Braid:** Black Polyester
- **Operating Temperature:** -54°C to 125°C (-67°F to 257°F) at Full Pressure and Full Vacuum

Applications:

- Instrumentation, Sensor and Gauge Lines
- Air and Water Bleed Systems
- Water Injection Systems
- Master Cylinder Reservoir

Hose Part No. (Static Dissipating)	Hose Size (nom.)	Inside/Dia. (nom.)		Outside/Dia. (nom.)		Min. Bend Radius		Max. Operating Pressure		Min. Burst Pressure		Max. Vacuum Rating	Wt. Kg/m
		ins	mm	ins	mm	ins	mm	Bar	P.S.I.	ins/HG			
SB-03-P-SD	3/16"	0.13	3.30	0.25	6.35	2.00	50.8	17	250	69	1000	28	0.05
SB-04-P-SD	1/4"	0.19	4.82	0.33	8.38	2.00	50.8	17	250	69	1000	28	0.09

Smooth Bore PTFE Kevlar Braid

- Extremely Lightweight
- Excellent for Medium Pressure Hydraulic Systems
- Available with Robust and Durable Hytrel TPE Jacket
- Factory Built Assemblies are ALL Pressure Tested
- Use with SB (Crimp) fittings only

Specifications:

- **Innercore:** Smooth Bore Extruded PTFE
(Suffix-SD has Static Dissipating Liner Option)
- **Braid:** (-K) Kevlar Aramid Fibre
(-H) Kevlar Aramid Fibre w/Hytrel TPE Jacket
- **Operating Temperature:** Operating Temperature:-54°C to 150°C (-67°F to 302°F) at Full Pressure and Specified Vacuum

Applications:

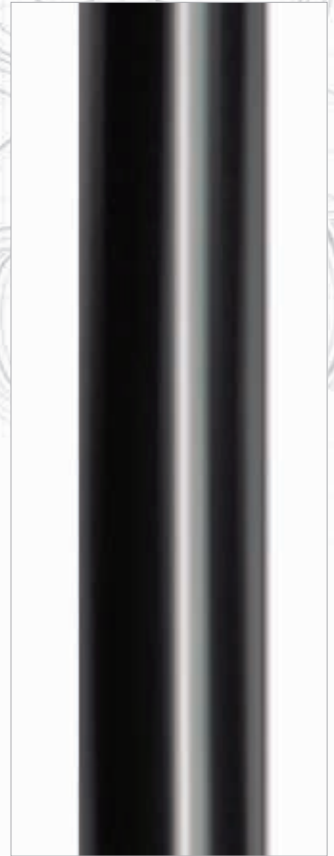
- Hydraulic Systems
- Hydraulic Wing Sliders
- All Air and Gas Applications
- Gauge, Instrumentation and Sensor Lines

Notes:

Chafe sleeve is Recommended for All Unsheathed Kevlar Braided Hose (-K)

TPE Sheath (-H) adds a high level of abrasion protection for both the hose as well as chassis components or carbon fiber parts

Hose Part No.	Hose Part No. (Static Dissipating)	Hose Size (nom.)	Inside/Dia. (nom.)		Outside/Dia. (nom.)		Min. Bend Radius		Max. Operating Pressure		Min. Burst Pressure		Max. Vacuum Rating	Wt.
			ins	mm	ins	mm	ins	mm	Bar	P.S.I.	ins/HG	Kg/m		
SB-02-K	---	1/8"	0.08	2.03	0.19	4.82	1.50	38.1	34.5	500	138	2000	28	0.03
SB-03-K	---	3/16"	0.13	3.30	0.25	6.35	2.00	50.8	69.0	1000	276	4000	28	0.05
---	SB-03-K-H-SD	3/16"	0.13	3.30	0.29	7.35	2.00	50.8	69.0	1000	276	4000	28	0.05
---	SB-04-K-H-SD	1/4"	0.19	4.82	0.34	8.75	2.50	63.5	69.0	1000	276	4000	28	0.10



Smooth Bore PTFE Translucent Tube

- Translucent Smooth Bore PTFE tube
- High Temperature
- Compatible with Virtually All Fluids
- Supplied as bulk tube or as assemblies
- Factory Built Assemblies are ALL Pressure Tested
- Use with SB (Crimp) fittings only

Specifications:

- **Innercore:** Smooth Bore Extruded Translucent PTFE Tube
- **Braid:** None
- **Operating Temperature:** -54°C to 260°C (-67°F to 500°F)

Applications:

- Bleed
- Sight Tube
- Overflows

Hose Part No.	Hose Size (nom.)	Inside/Dia. (nom.)	O/Dia. (nom.)
SB-03	3/16"	0.130	0.250
SB-04	1/4"	0.190	0.330



Smooth Bore PTFE Impregnated Glass Fibre Braid

- Excellent for Low Pressure Hydraulics
- High Temperature
- PTFE Impregnated Braid Functions as an Integral Heat Shield
- Factory Built Assemblies are ALL Pressure Tested
- Use with SB (Crimp) fittings only

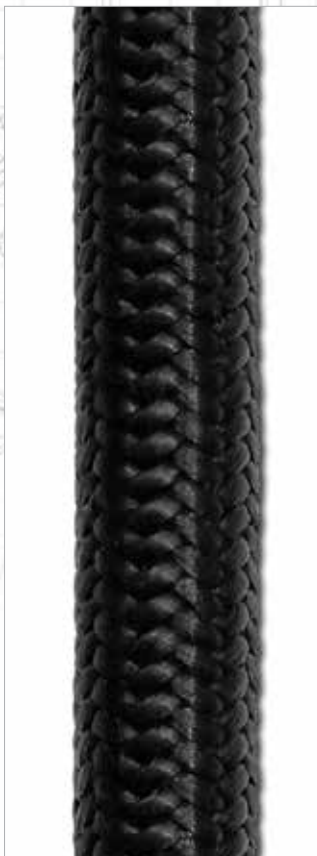
Applications:

- Air Jack Systems
- Bio Fuel and Alternative Fuels (CNG, LPG etc.)
- Fuel
- Turbo Feed/Drain

Specifications:

- **Innercore:** Smooth Bore Extruded PTFE with Static Dissipating Liner
- **Braid:** PTFE Impregnated Glass Fibre
- **Operating Temperature:** -54°C to 260°C (-67°F to 500°F)

Hose Part No. (Static Dissipating)	Hose Size (nom.)	Inside/Dia. (nom.)		Outside/Dia. (nom.)		Min. Bend Radius		Max. Operating Pressure		Min. Burst Pressure		Wt. Kg/m
		ins	mm	ins	mm	ins	mm	Bar	P.S.I.			
SB-06-S-FC-SD	3/8"	0.31	7.87	0.48	12.19	3.00	76.00	54	800	216	3200	---



High Pressure Smooth Bore PTFE

- Designed for High Pressure Applications
- Suitable for High Impulse Applications
- Flexible
- Compatible with Virtually All fluids
- Factory Built Assemblies are ALL Pressure Tested
- Use with HPSB range of fittings only

Applications:

- High Pressure Fuel Systems
- Pneumatics
- Fuel
- Hydraulics
- Power Steering

Specifications:

- **Innercore:** Smooth Bore Extruded PTFE with Static Dissipating Liner
- **Braid:** 304 Series Stainless Steel Bundled Wire
- **Operating Temperature:** -54°C to 204°C (-67°F to 400°F) at Full Pressure and Full Vacuum

Notes:

Assembly Tooling Required. Please consult the factory.

Hose Part No. (Static Dissipating)	Hose Size (nom.)	Inside/Dia. (nom.)		Outside/Dia. (nom.)		Min. Bend Radius		Max. Operating Pressure		Min. Burst Pressure		Wt. Kg/m
		ins	mm	ins	mm	ins	mm	Bar	P.S.I.			
HPSB-04-S-SD	1/4"	0.22	5.64	0.37	9.53	1.50	38.0	345	5000	1103	16000	0.149
HPSB-06-S-SD	3/8"	0.31	7.82	0.47	12.01	2.50	64.0	345	5000	1103	16000	0.243



Convuluted PTFE Hose with Halar Braid

- Ultra Flexible
- Very Low Force to Bend
- Lightweight
- Compatible with Virtually All Fluids
- Factory Built Assemblies are ALL Pressure Tested
- Use with SB (Crimp) fittings only

Specifications:

- **Innercore:** Convuluted PTFE
- **Braid:** Halar
- **Operating Temperature:** -54°C to +200°C (-67°F to +392°F)

Applications:

- Breather and Vent Lines
- Reservoir and Drain Lines

Notes:

Excellent for use as Remote Reservoir Supply Line in Floating Master Cylinder applications.

Hose Part No.	Hose Size (nom.)	Inside/Dia. (nom.)		Outside/Dia. (nom.)		Min. Bend Radius		Wt. Kg/m
		ins	mm	ins	mm	ins	mm	
SC071-26-0-06	1/4"	0.17	4.3	0.37	9.5	0.63	16.0	0.034



Smooth Bore Fittings

Quality Construction

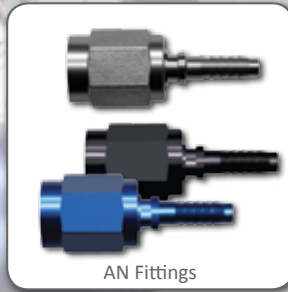
Our Smooth Bore fittings are a one-piece design and produced from carefully selected materials. Fittings are available in stainless steel, aluminum and titanium.

Attachment Types

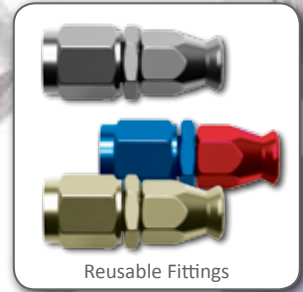
A wide selection of end fittings are available to suit the complete range of Smooth Bore PTFE hose options. Fittings are offered in both permanently attached (crimped) for the ultimate in weight and space saving and in reusable form.

Wide Variety

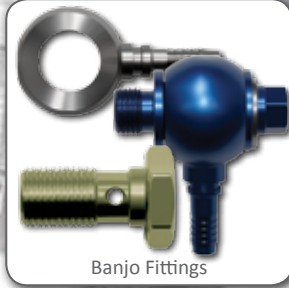
Much like our PROGold range, our Smooth Bore fittings come in a nearly unlimited range of styles. These include JIC (AN), SAE, Banjos, Male fittings, Metric, Tee's and a range of Plug-In 'O' Ring fittings. If you require a special bend angle, we can do it.



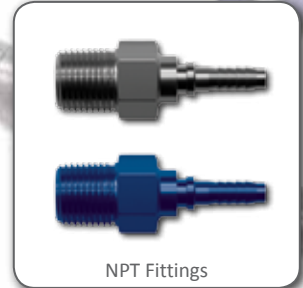
AN Fittings



Reusable Fittings



Banjo Fittings



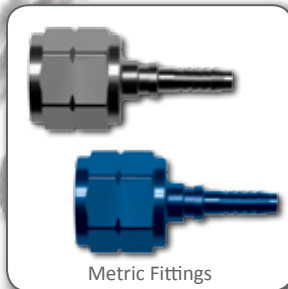
NPT Fittings



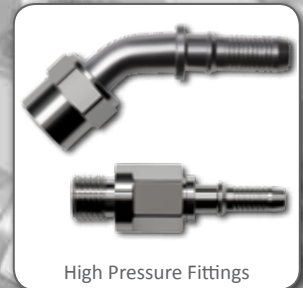
'T' Piece Fittings



Plug-In Fittings



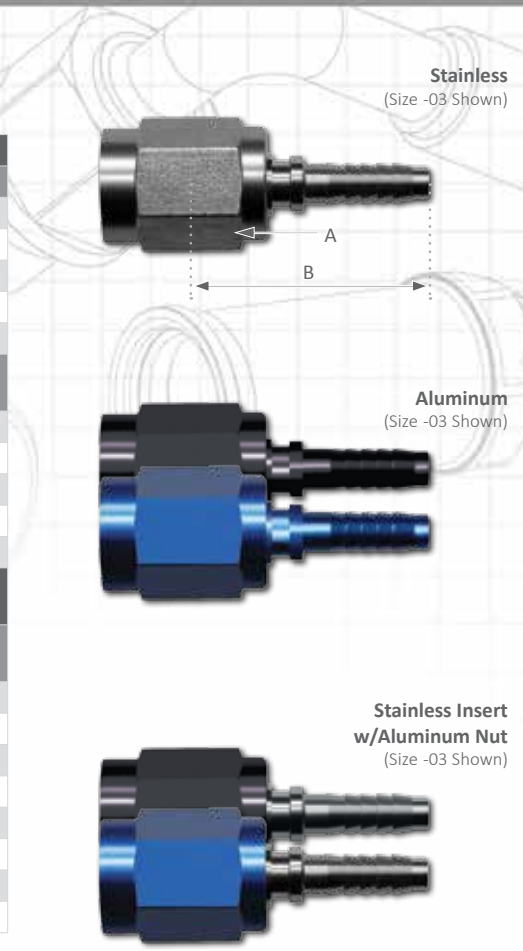
Metric Fittings



High Pressure Fittings

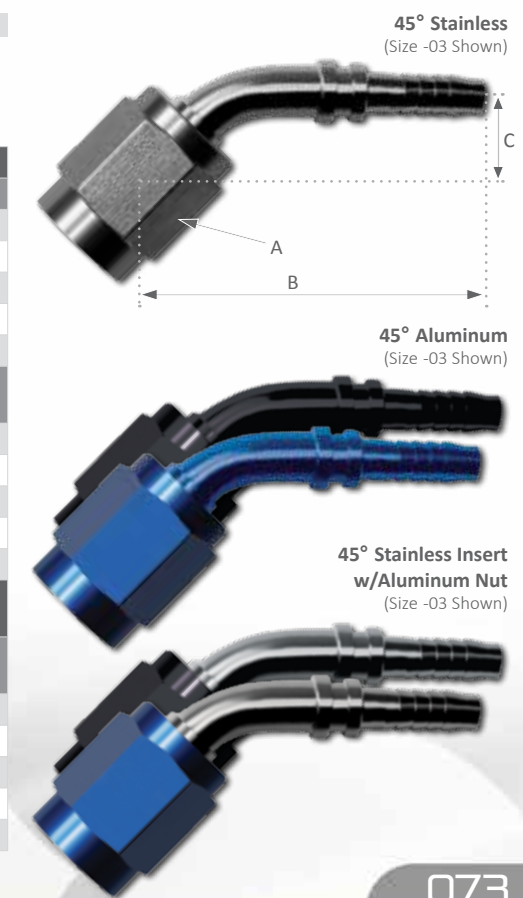
Straight JIC (AN) Female

Part No.		Size	A		B		C	
Aluminum								
BLUE X=3 / BLACK X=4			ins	mm	ins	mm	ins	mm
SB-03-FX		-03	7/16"	11.10	0.92	23.3	---	---
SB-04-FX		-04	9/16"	14.27	1.05	26.67	---	---
SB-06-FX		-06	11/16"	17.45	1.40	35.56	---	---
SB-08-FX		-08	7/8"	22.20	1.44	36.60	---	---
Stainless Steel	Stainless Steel w/Alum. Nuts							
SB-02-F7		---	3/8"	9.52	0.81	20.5	---	---
SB-03-F7		SB-03-F7-X	-03	7/16"	11.10	0.92	23.3	---
SB-04-F7		SB-04-F7-X	-04	9/16"	14.27	1.05	26.67	---
SB-06-F7		SB-06-F7-X	-06	11/16"	17.45	1.40	35.56	---
SB-08-F7		SB-08-F7-X	-08	7/8"	22.20	1.44	36.60	---
Reducer Fittings		Hose Size	Nut Size					
Stainless Steel	Stainless Steel w/Alum. Nuts							
SB-02-03-F7		SB-02-03-F7-X	-02	-03	7/16"	11.10	0.81	20.5
SB-02-04-F7		SB-02-04-F7-X	-02	-04	9/16"	14.27	0.91	23.0
SB-03-02-F7		---	-03	-02	3/8"	9.52	0.92	23.3
SB-03-04-F7		SB-03-04-F7-X	-03	-04	9/16"	14.27	1.03	26.2
---		SB-03-06-F7-X	-03	-06	11/16"	17.45	---	---
SB-04-03-F7		SB-04-03-F7-X	-04	-03	1/2"	12.70	1.03	26.2
---		SB-04-06-F7-X	-04	-06	11/16"	17.45	---	---
---		SB-04-08-F7-X	-04	-08	7/8"	22.20	---	---

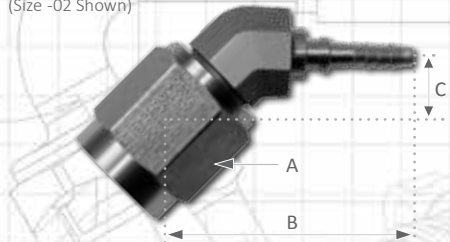


45° JIC (AN) Female

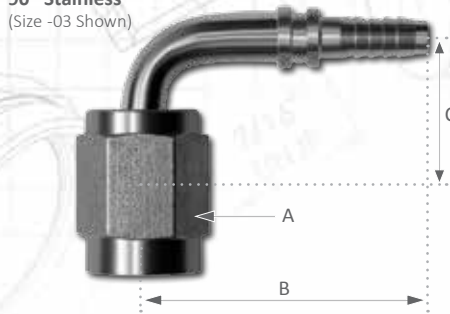
Part No.		Size	A		B		C	
Aluminum								
BLUE X=3 / BLACK X=4			ins	mm	ins	mm	ins	mm
SB-03-GX		-03	7/16"	11.10	1.45	36.83	0.32	8.13
SB-04-GX		-04	9/16"	14.27	1.54	39.11	0.35	8.89
SB-06-GX		-06	11/16"	17.45	1.88	47.75	0.47	11.94
SB-08-GX		-08	7/8"	22.20	2.32	59.10	0.61	15.60
Stainless Steel	Stainless Steel w/Alum. Nuts							
SB-02-G7		---	3/8"	9.52	1.42	36.07	0.32	8.13
SB-03-G7		SB-03-G7-X	-03	7/16"	11.10	1.45	36.83	0.32
SB-04-G7		SB-04-G7-X	-04	9/16"	14.27	1.54	39.11	0.35
SB-06-G7		SB-06-G7-X	-06	11/16"	17.45	1.88	47.75	0.47
SB-08-G7		SB-08-G7-X	-08	7/8"	22.20	2.32	59.10	0.61
Reducer Fittings		Hose Size	Nut Size					
Stainless Steel	Stainless Steel w/Alum. Nuts							
SB-02-03-G7		SB-02-03-G7-X	-02	-03	7/16"	11.10	1.45	36.83
SB-02-04-G7		SB-02-04-G7-X	-02	-04	9/16"	14.27	1.60	40.80
SB-03-02-G7		---	-03	-02	3/8"	9.52	1.45	36.83
SB-03-04-G7		SB-03-04-G7-X	-03	-04	9/16"	14.27	1.45	36.83
SB-04-03-G7		SB-04-03-G7-X	-04	-03	1/2"	12.70	1.54	39.11



45° Stainless
(Size -02 Shown)



90° Stainless
(Size -03 Shown)



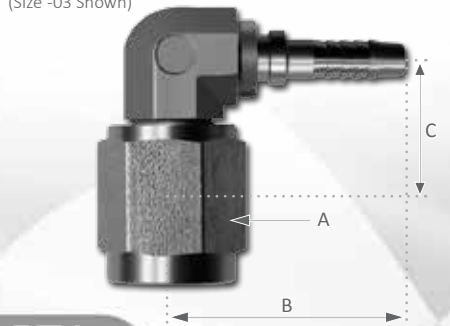
90° Aluminum
(Size -03 Shown)



90° Stainless Insert w/Aluminum Nut
(Size -03 Shown)



90° Stainless
(Size -03 Shown)



45° JIC (AN) Female Block Elbow

Part No.		Size		A		B		C	
Stainless Steel	Stainless Steel w/Alum. Nuts			ins	mm	ins	mm	ins	mm
SB-03-B-G7	---	-03		1/2"	12.70	1.09	27.80	0.31	7.95
Reducer Fittings		Hose Size	Nut Size						
Stainless Steel	Stainless Steel w/Alum. Nuts								
SB-02-03-B-G7	---	-02	-03	1/2"	12.70	0.98	24.95	0.31	7.95

90° JIC (AN) Female

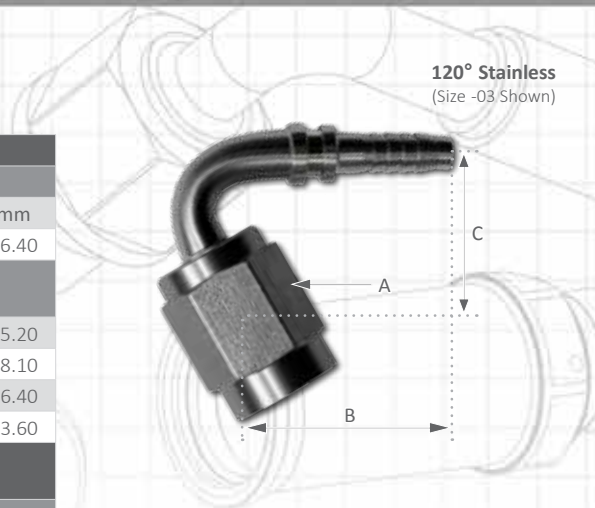
Part No.		Size		A		B		C	
Aluminum									
BLUE X=3 / BLACK X=4				ins	mm	ins	mm	ins	mm
SB-03-HX		-03		7/16"	11.10	1.24	31.49	0.55	14.13
SB-04-HX		-04		9/16"	14.27	1.34	34.11	0.64	16.25
SB-06-HX		-06		11/16"	17.45	1.63	41.75	0.86	21.84
SB-08-HX		-08		7/8"	22.20	1.78	45.21	0.92	23.46
Stainless Steel		Stainless Steel w/Alum. Nuts							
SB-02-H7	---	-02		3/8"	9.52	1.21	30.73	0.55	14.13
SB-03-H7	SB-03-H7-X	-03		7/16"	11.10	1.24	31.49	0.55	14.13
SB-04-H7	SB-04-H7-X	-04		9/16"	14.27	1.34	34.11	0.64	16.25
SB-06-H7	SB-06-H7-X	-06		11/16"	17.45	1.63	41.75	0.86	21.84
SB-08-H7	SB-08-H7-X	-08		7/8"	22.20	1.78	45.21	0.92	23.46
Reducer Fittings		Hose Size	Nut Size						
Stainless Steel	Stainless Steel w/Alum. Nuts								
SB-02-03-H7	SB-02-03-H7-X	-02	-03	7/16"	11.10	1.00	25.52	0.61	15.39
SB-02-04-H7	SB-02-04-H7-X	-02	-04	9/16"	14.27	1.00	25.52	0.61	15.39
SB-03-02-H7	---	-03	-02	3/8"	9.52	1.24	31.49	0.55	14.13
SB-03-04-H7	SB-03-04-H7-X	-03	-04	9/16"	14.27	1.19	30.17	0.58	14.90
SB-04-03-H7	SB-04-03-H7-X	-04	-03	1/2"	12.70	1.34	34.11	0.64	16.25
---	SB-04-06-H7-X	-04	-06	11/16"	17.45	1.34	34.12	0.73	18.57

90° JIC (AN) Female Block Elbow

Part No.		Size		A		B		C	
Stainless Steel	Stainless Steel w/Alum. Nuts			ins	mm	ins	mm	ins	mm
SB-03-B-H7	---	-03		1/2"	12.70	0.84	21.35	0.48	12.25
Reducer Fittings		Hose Size	Nut Size						
Stainless Steel	Stainless Steel w/Alum. Nuts								
SB-02-03-B-H7	---	-02	-03	1/2"	12.70	0.73	18.50	0.48	12.25

120° JIC (AN) Female

Part No.		Size	A		B		C		
Aluminum									
BLUE X=3 / BLACK X=4			ins	mm	ins	mm	ins	mm	
SB-06-PX		-06	11/16"	17.45	1.54	39.30	1.04	26.40	
Stainless Steel									
Stainless Steel	Stainless Steel w/Alum. Nuts								
SB-03-P7		-03	7/16"	11.10	0.98	25.00	0.59	15.20	
SB-04-P7		-04	9/16"	14.27	1.14	29.00	0.71	18.10	
SB-06-P7		-06	11/16"	17.45	1.54	39.30	1.04	26.40	
SB-08-P7		-08	7/8"	22.22	1.70	40.40	1.32	33.60	
Reducer Fittings		Hose Size	Nut Size						
Stainless Steel	Stainless Steel w/Alum. Nuts								
SB-03-04-P7		-03	-04	9/16"	14.27	1.06	26.96	0.63	15.91



120° Stainless
(Size -03 Shown)



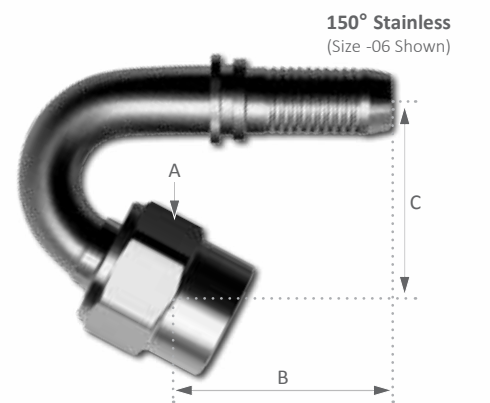
120° Aluminum
(Size -06 Shown)



120° Stainless Insert
w/Aluminum Nut
(Size -06 Shown)

150° JIC (AN) Female

Part No.		Size	A		B		C	
Aluminum								
BLUE X=3 / BLACK X=4			ins	mm	ins	mm	ins	mm
SB-06-RX		-06	11/16"	17.45	---	---	---	---
Stainless Steel								
Stainless Steel	Stainless Steel w/Alum. Nuts							
SB-03-R7		-03	7/16"	11.10	0.99	25.21	0.62	15.68
SB-04-R7		-04	9/16"	14.27	1.46	37.08	0.66	16.80
SB-06-R7		-06	11/16"	17.45	---	---	---	---
SB-08-R7		-08	7/8"	22.22	---	---	---	---



150° Stainless
(Size -06 Shown)

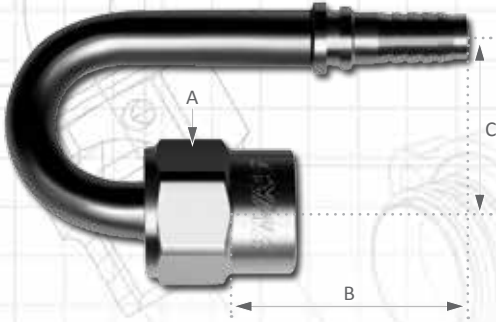


150° Aluminum
(Size -06 Shown)



150° Stainless Insert
w/Aluminum Nut
(Size -06 Shown)

180° Stainless
(Size -04 Shown)



180° JIC (AN) Female

Part No.		Size	A		B		C		
Stainless Steel	Stainless Steel w/Alum. Nuts		ins	mm	ins	mm	ins	mm	
SB-03-S7	---	-03	7/16"	11.10	0.87	22.20	0.44	11.10	
SB-04-S7	---	-04	9/16"	14.27	1.06	27.00	0.75	19.00	
Reducer Fittings		Hose Size	Nut Size						
Stainless Steel	Stainless Steel w/Alum. Nuts								
SB-02-03-S7	---	-02	-03	7/16"	11.10	---	---	---	---

Straight JIC (AN) Female Reusable

Part No.			Size	
Stainless Steel	Aluminum	Plated Steel		
	BLUE/RED			
SBR-03-F7	SBR-03-F3	SBR-03-FP	-03	
SBR-04-F7	SBR-04-F3	SBR-04-FP	-04	
SBR-06-F7	SBR-06-F3	SBR-06-FP	-06	
Reducer Fittings			Hose Size	Nut Size
Stainless Steel	Aluminum	Plated Steel		
	BLUE/RED			
SBR-02-03-F7	---	---	-02	-03

45° JIC (AN) Female Reusable

Part No.			Size
Stainless Steel	Aluminum	Plated Steel	
	BLUE/RED		
SBR-02-B-G7	---	---	-02
SBR-03-B-G7	---	---	-03

90° JIC (AN) Female Reusable

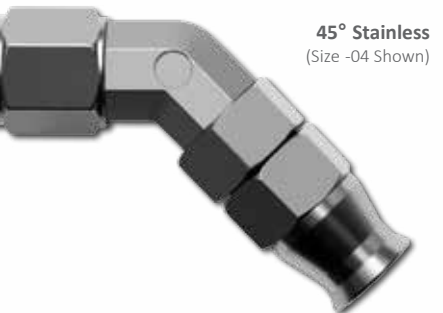
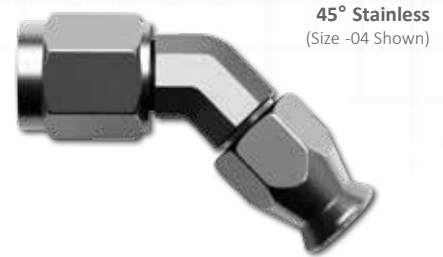
Part No.			Size
Stainless Steel	Aluminum	Plated Steel	
	BLUE/RED		
SBR-02-B-H7	---	---	-02
SBR-03-B-H7	---	---	-03

45° JIC (AN) Female Double Swivel Reusable

Part No.			Size	
Stainless Steel	Aluminum	Plated Steel		
	BLUE/RED			
SBR-02-B-G7-DS	---	---	-02	
SBR-03-B-G7-DS	---	---	-03	
SBR-04-B-G7-DS	---	---	-04	
Reducer Fittings			Hose Size	Nut Size
Stainless Steel	Aluminum	Plated Steel		
	BLUE/RED			
SBR-02-03-B-G7-DS	---	---	-02	-03

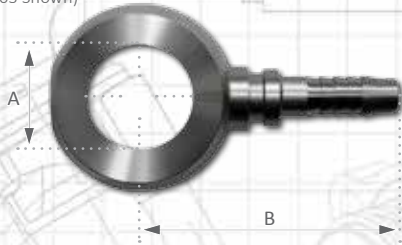
90° JIC (AN) Female Double Swivel Reusable

Part No.			Size	
Stainless Steel	Aluminum	Plated Steel		
	BLUE/RED			
SBR-03-B-H7-DS	---	---	-03	
SBR-04-B-H7-DS	---	---	-04	
Reducer Fittings			Hose Size	Nut Size
Stainless Steel	Aluminum	Plated Steel		
	BLUE/RED			
SBR-02-03-B-H7-DS	---	---	-02	-03



Smooth Bore Crimped Fittings

Stainless
(Size -03 Shown)



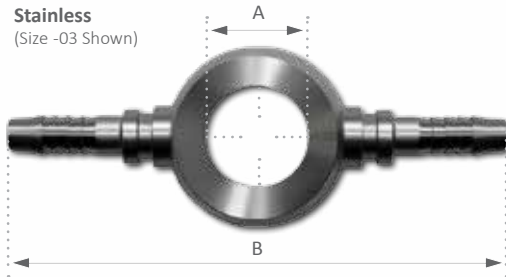
Aluminum
(Size -03 Shown)



Straight Banjo

Part No.		Hose Size	"A" Bolt Size	B	
Stainless Steel	Aluminum			ins	mm
STAINLESS = 7					
BLUE = 3					
SB-02-BJ-M5-7	---	-02	M5	0.78	20.0
SB-02-BJ-M6-7	---	-02	M6	0.78	20.0
SB-02-BJ-M8-7	---	-02	M8	0.92	23.3
SB-02-BJ-M10-7	---	-02	M10 / 3/8"	0.92	23.3
SB-03-BJ-M8-7	---	-03	M8	1.00	25.4
SB-03-BJ-M10-7	SB-03-BJ-M10-3	-03	M10 / 3/8"	1.00	25.4
SB-03-BJ-04-7	SB-03-BJ-04-3	-03	7/16"	1.05	26.6
SB-04-BJ-M10-7	SB-04-BJ-M10-3	-04	M10 / 3/8"	1.04	26.5
SB-04-BJ-04-7	SB-04-BJ-04-3	-04	7/16"	1.09	27.7
SB-04-BJ-M12-7	SB-04-BJ-M12-3	-04	M12	1.09	27.7
SB-04-BJ-M14-7	SB-04-BJ-M14-3	-04	M14 / 9/16"	1.15	29.2
SB-06-BJ-M12-7	SB-06-BJ-M12-3	-06	M12	1.35	34.5
SB-06-BJ-M14-7	SB-06-BJ-M14-3	-06	M14 / 9/16"	1.41	36.0

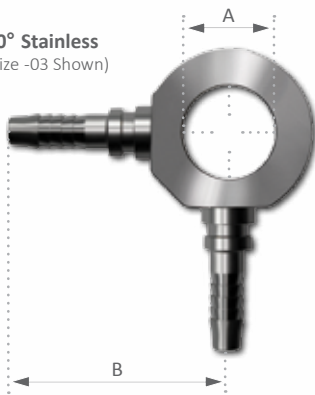
Stainless
(Size -03 Shown)



Straight Banjo - Double Tail

Part No.	Hose Size	"A" Bolt Size	B	
Stainless Steel			ins	mm
SB-03-DBJ-M10-7	-03	M10 / 3/8"	2.0	50.8

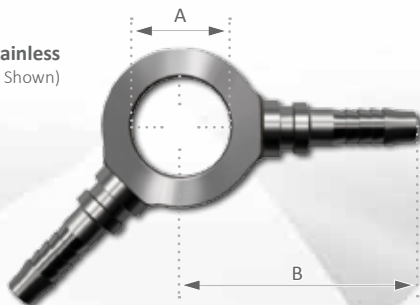
90° Stainless
(Size -03 Shown)



90° Banjo - Double Tail

Part No.	Hose Size	"A" Bolt Size	B	
Stainless Steel			ins	mm
SB-03DBJ90M10-7	-03	M10 / 3/8"	1.0	25.4

135° Stainless
(Size -03 Shown)

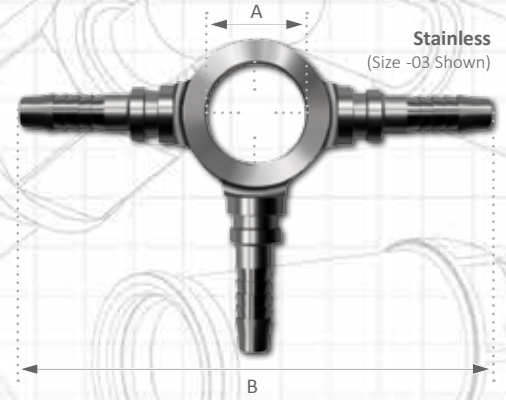


135° Banjo - Double Tail

Part No.	Hose Size	"A" Bolt Size	B	
Stainless Steel			ins	mm
SB-03DBJM135107	-03	M10 / 3/8"	1.0	25.4

'T' Banjo

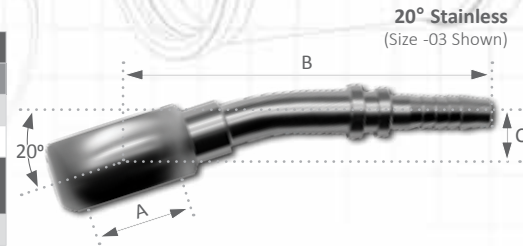
Part No.	Hose Size	"A" Bolt Size	B	
Stainless Steel				
			ins	mm
SB-03-BJT-M10-7	-03	M10 / 3/8"	2.0	50.8



Stainless
(Size -03 Shown)

20° Banjo

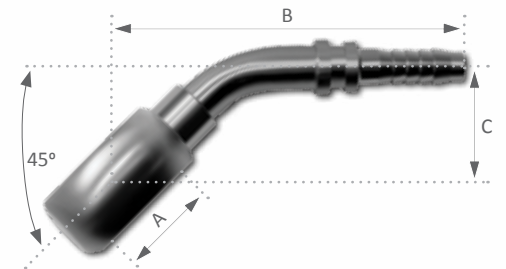
Part No.	Hose Size	"A" Bolt Size	B		C		
Stainless Steel							
			ins	mm	ins	mm	
SB-03-BJ-E20-7	-03	M10 / 3/8"	1.61	41.0	0.22	5.5	
Reducer Fitting	Hose Size	Bolt Size					
SB-0203-BJ-E20-7	-02	-03	M10 / 3/8"	1.61	41.0	0.22	5.5



20° Stainless
(Size -03 Shown)

45° Banjo

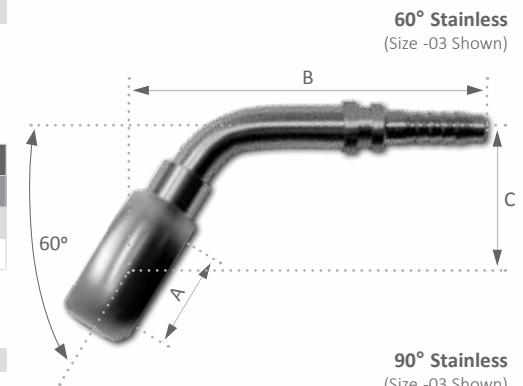
Part No.	Hose Size	"A" Bolt Size	B		C	
Stainless Steel						
			ins	mm	ins	mm
SB-03-BJ-E45-7	-03	M10 / 3/8"	1.45	37.0	0.49	12.50



45° Stainless
(Size -03 Shown)

60° Banjo

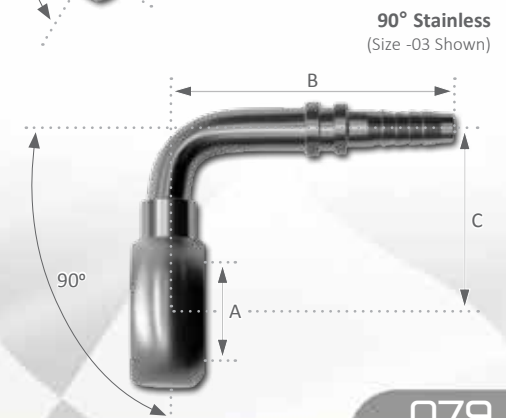
Part No.	Hose Size	"A" Bolt Size	B		C	
Stainless Steel						
			ins	mm	ins	mm
SB-03-BJ-E60-7	-03	M10 / 3/8"	1.55	39.40	0.62	15.90



60° Stainless
(Size -03 Shown)

90° Banjo

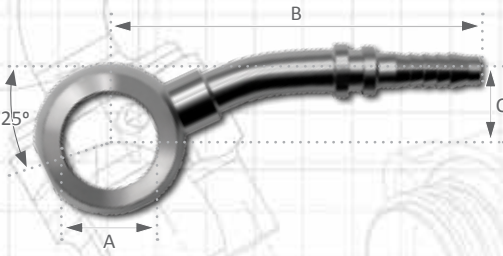
Part No.	Hose Size	"A" Bolt Size	B		C		
Stainless Steel							
			ins	mm	ins	mm	
SB-03-BJ-E90-7	-03	M10 / 3/8"	1.17	29.70	0.80	20.45	
Reducer Fitting	Hose Size	Bolt Size					
SB-0203-BJ-E90-7	-02	-03	M10 / 3/8"	1.17	29.70	0.80	20.45



90° Stainless
(Size -03 Shown)

Smooth Bore Crimped Fittings

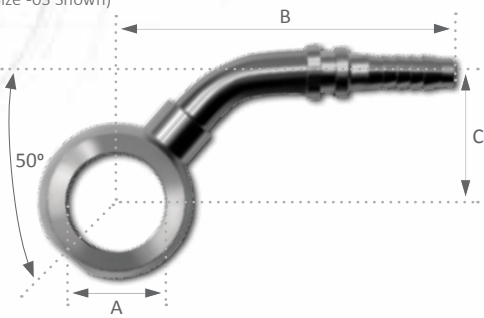
25° Stainless
(Size -03 Shown)



25° Banjo - Side Bend

Part No.	Hose Size	"A" Bolt Size	B		C	
Stainless Steel						
			ins	mm	ins	mm
SB-03-BJ-SB25-7	-03	M10 / 3/8"	1.60	40.6	0.22	5.70

50° Stainless
(Size -03 Shown)



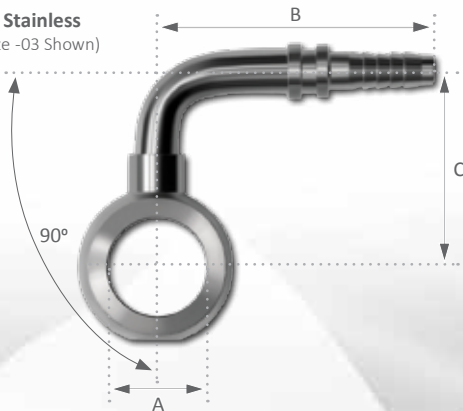
50° Banjo - Side Bend

Part No.	Hose Size	"A" Bolt Size	B		C	
Stainless Steel						
Aluminum						
STAINLESS = 7			ins	mm	ins	mm
BLUE = 3						
SB-03-BJ-SB50-7	-03	M10 / 3/8"	1.41	35.90	0.54	13.65
SB-04-0017-7	-04	M10 / 3/8"	1.60	40.60	0.56	14.20

50° Aluminum
(Size -03 Shown)



90° Stainless
(Size -03 Shown)

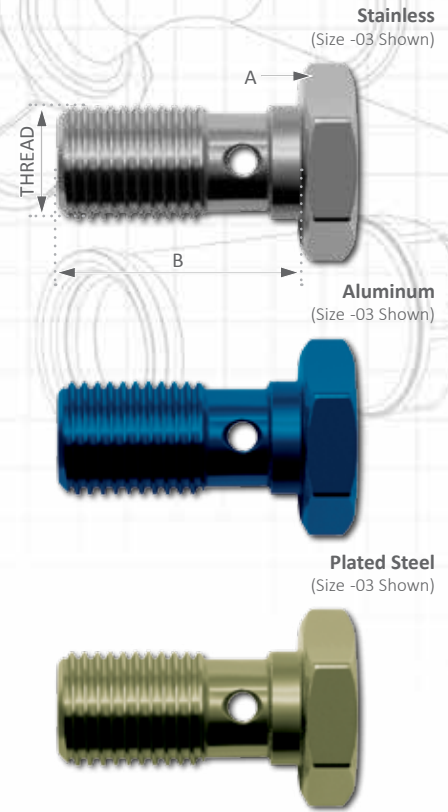


90° Banjo - Side Bend

Part No.	Hose Size	"A" Bolt Size	B		C	
Stainless Steel						
			ins	mm	ins	mm
SB-03-BJ-SB90-7	-03	M10 / 3/8"	1.17	29.70	0.80	20.45

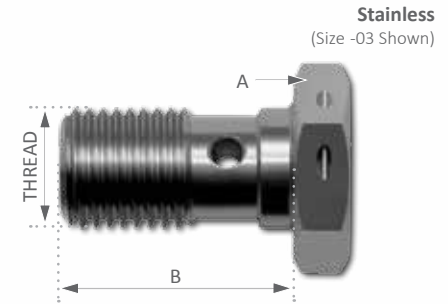
Banjo Bolt

Part No.				Thread Size	A		B	
Stainless Steel	Aluminum	Plated Steel	Titanium		ins	mm	ins	mm
STAINLESS = 7								
BLUE = 3								
GOLD = P								
BJB-02-1-7	---	---	---	5/16" x 24	1/2"	12.7	0.79	20.0
BJB-02-2-7	---	BJB-02-2-P	---	M8 x 1.00	1/2"	12.7	0.76	19.0
BJB-02-3-7	---	---	---	M8 x 1.25	1/2"	12.7	0.79	20.0
BJB-03-1-7	BJB-03-1-3	BJB-03-1-P	---	3/8" x 24	9/16"	14.3	0.79	20.0
BJB-03-1-7-L	---	BJB-03-1-P-L	---	3/8" x 24	9/16"	14.3	0.98	25.0
BJB-03-1-7S	---	BJB-03-1-PS	---	3/8" x 24	9/16"	14.3	0.71	18.0
BJB-03-2-7	BJB-03-2-3	BJB-03-2-P	---	M10 x 1.00	9/16"	14.3	0.79	20.0
BJB-03-2-7-L	BJB-03-2-3-L	BJB-03-2-P-L	---	M10 x 1.00	9/16"	14.3	0.98	25.0
BJB-03-2-7S	---	BJB-03-2-P-S	---	M10 x 1.00	9/16"	14.3	0.71	18.0
BJB-03-3-7	---	BJB-03-3-P	---	M10 x 1.25	9/16"	14.3	0.79	20.0
JB-03-3-7-L	BJB-03-3-3-L	BJB-03-3-P-L	---	M10 x 1.25	9/16"	14.3	0.98	25.0
BJB-04-7	BJB-04-3	BJB-04-P	---	7/16" x 20	5/8"	15.9	1.06	27.0
---	BJB-06-3	---	---	9/16" x 18	7/8"	22.2	1.30	33.0
---	BJB-06-M14-3	---	---	M14 x 1.50	7/8"	22.2	1.30	33.0



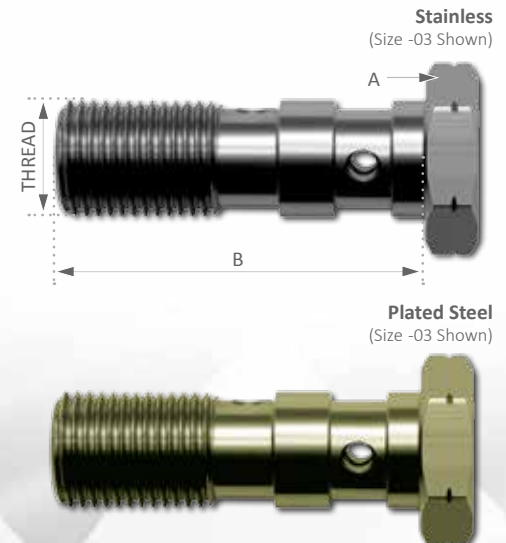
Banjo Bolt - w/Wire Locking Holes

Part No.				Thread Size	A		B	
Stainless Steel	Aluminum	Plated Steel	Titanium		ins	mm	ins	mm
BJB-02-1-7S-W	---	---	---	5/16" x 24	1/2"	12.7	0.71	18.0
BJB-03-1-7S-W	---	---	BJB-03-1-TS-W	3/8" x 24	9/16"	14.3	0.71	18.0
BJB-03-2-7S-W	---	---	BJB-03-2-TS-W	M10 x 1.00	9/16"	14.3	0.71	18.0



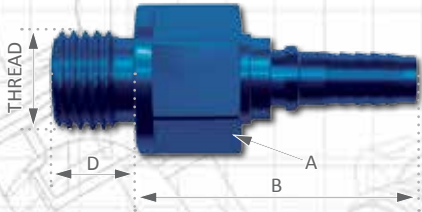
Double Banjo Bolt

Part No.				Thread Size	A		B	
Stainless Steel	Aluminum	Plated Steel	Titanium		ins	mm	ins	mm
STAINLESS = 7								
GOLD = P								
BJBD-02-2-7	---	---	---	M8 x 1.00	1/2"	12.7	1.22	31
BJBD-03-1-7	---	BJBD-03-1-7-P	---	3/8" x 24	9/16"	14.3	1.22	31
BJBD-03-2-7	---	BJBD-03-2-P	---	M10 x 1.00	9/16"	14.3	1.22	31
BJBD-03-2-7-L	---	BJBD-03-2-P-L	---	M10 x 1.00	9/16"	14.3	1.53	38.8
BJBD-03-2-7-S	---	---	---	M10 x 1.00	9/16"	14.3	1.53	38.8



Smooth Bore Crimped Fittings

Aluminum
(Size -04 Shown)



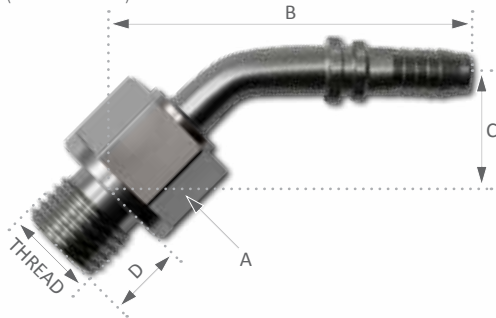
Stainless
(Size -04 Shown)



Straight Male Swivel Port Thread

Part No.			A		B		C		D	
Aluminum	Hose Size	Thread Size	ins	mm	ins	mm	ins	mm	ins	mm
ALUMINUM = 3 / STAINLESS = 7			ins	mm	ins	mm	ins	mm	ins	mm
SB-04-M3-00	-04	-04	9/16"	14.27	1.20	30.6	---	---	0.35	9.0
SB-04-M3-00-M12	-04	M12 x 1.50	---	---	---	---	---	---	---	---
Stainless Steel										
SB-03-M7-00	-03	-03	1/2"	12.70	1.14	28.9	---	---	0.29	7.4
SB-04-M7-00	-04	-04	9/16"	14.27	1.20	30.6	---	---	0.35	9.0
SB-04-M7-00-M10	-04	M10 x 1.00	9/16"	14.27	1.20	30.6	---	---	0.31	8.0
Reducer Fittings										
Aluminum										
SB-04-06-M3-00	-04	-06	9/16"	14.27	1.20	30.6	---	---	0.35	9.0
SB-04-08-M3-00	-04	-08	---	---	---	---	---	---	---	---
Stainless Steel										
SB-04-06-M7-00	-04	-06	9/16"	14.27	1.20	30.6	---	---	0.35	9.0

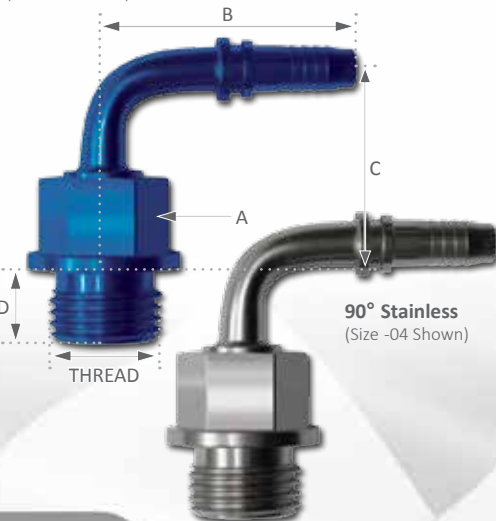
45° Stainless
(Size -04 Shown)



45° Male Swivel Port Thread

Part No.			A		B		C		D	
Stainless Steel	Hose Size	Thread Size	ins	mm	ins	mm	ins	mm	ins	mm
SB-03-M7-45	-03	-03	1/2"	12.70	1.35	34.40	0.48	12.3	0.29	7.4
SB-04-M7-45	-04	-04	9/16"	14.27	1.66	42.40	0.57	14.6	0.35	9.0
SB-04-M7-45-M10	-04	M10 x 1.00	9/16"	14.27	1.66	42.40	0.57	14.6	0.31	8.0

90° Aluminum
(Size -04 Shown)



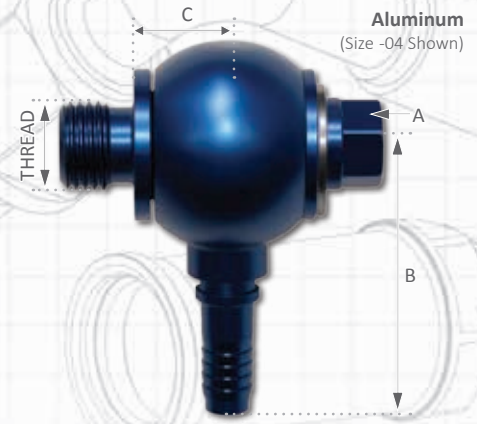
90° Stainless
(Size -04 Shown)

90° Male Swivel Port Thread

Part No.			A		B		C		D	
Aluminum	Hose Size	Thread Size	ins	mm	ins	mm	ins	mm	ins	mm
ALUMINUM = 3 / STAINLESS = 7			ins	mm	ins	mm	ins	mm	ins	mm
SB-04-M3-90	-04	-04	9/16"	14.27	1.33	34.00	0.94	24.0	0.35	9.0
SB-06-M3-90	-06	-06	9/16"	14.27	1.33	34.00	0.94	24.0	0.31	8.0
SB-04-06-M3-90	-04	-06	9/16"	14.27	1.33	34.00	0.94	24.0	0.35	9.0
SB-04-M3-90-M14	-04	M14 x 1.50	---	---	---	---	---	---	---	---
Stainless Steel										
SB-03-M7-90	-03	-03	1/2"	12.70	0.98	25.00	0.79	20.2	0.29	7.4
SB-04-M7-90	-04	-04	9/16"	14.27	1.33	34.00	0.94	24.0	0.35	9.0
SB-04-M7-90-M10	-04	M10 x 1.00	9/16"	14.27	1.33	34.00	0.94	24.0	0.31	8.0
SB-04-06-M7-90	-04	-06	9/16"	14.27	1.33	34.00	0.94	24.0	0.35	9.0
SB-06-M7-90	-06	-06	3/4"	19.00	1.63	41.75	1.34	34.1	0.35	9.0

Swivel Banjo - External Drive

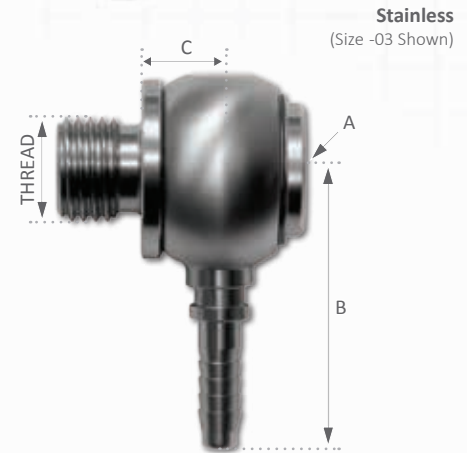
Part No.	Size		A		B		C	
	Hose Size	Port Size	ins	mm	ins	mm	ins	mm
Aluminum								
ALUMINUM = 3								
SB-04-0012-3	-04	-04	11/32"	8.73	1.14	29.00	0.39	10.0
SB-04-0015-3	-04	M10 x 1.00	11/32"	8.73	1.14	29.00	0.39	10.0
Stainless Steel								
SB-04-0015-7	-04	M10 x 1.00	11/32"	8.73	1.14	29.00	0.39	10.0



Swivel Banjo - Internal Drive

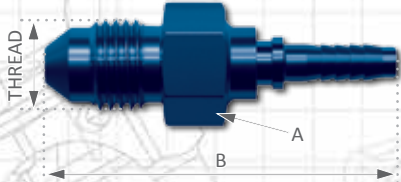
Part No.	Size		A		B		C	
	Hose Size	Port Size	ins	mm	ins	mm	ins	mm
Stainless Steel								
SB-03-0041-7-EP	-03	-03	3/16"	4.75	0.98	25.00	0.26	6.72
SB-03-0041-7-V	-03	-03	3/16"	4.75	0.98	25.00	0.26	6.72

NOTE: EP is for EPDM 'O' Ring and V is for Viton 'O' Ring.

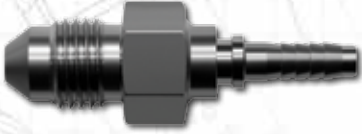


Smooth Bore Crimped Fittings

Aluminum
(Size -03 Shown)



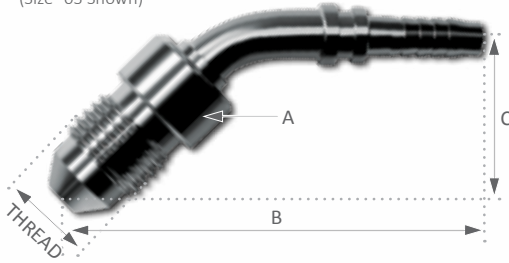
Stainless
(Size -03 Shown)



Straight JIC Male Fixed

Part No.	Size	A		B		C	
Aluminum							
ALUMINUM = 3 / STAINLESS = 7		ins	mm	ins	mm	ins	mm
SB-06-J3	-06	13/16"	20.62	1.75	44.50	---	---
Stainless Steel							
SB-02-J7	-02	3/8"	9.52	1.17	29.75	---	---
SB-03-J7	-03	7/16"	11.10	1.42	36.00	---	---
SB-04-J7	-04	9/16"	14.27	1.49	38.00	---	---
SB-06-J7	-06	13/16"	20.62	1.75	44.50	---	---
Reducer Fittings	Hose Size	Thread Size					
Stainless Steel							
SB-02-03-J7	-02	-03	7/16"	11.10	1.42	36.00	---

45° Stainless
(Size -03 Shown)



45° JIC Male Fixed

Part No.	Size	A		B		C	
Stainless Steel							
		ins	mm	ins	mm	ins	mm
SB-03-J7-45	-03	3/8"	9.52	1.72	43.74	0.64	16.35
Reducer Fittings	Hose Size	Thread Size					
Stainless Steel							
SB-02-03-J7-45	-02	-03	3/8"	9.52	1.48	37.69	0.65

90° Stainless
(Size -03 Shown)

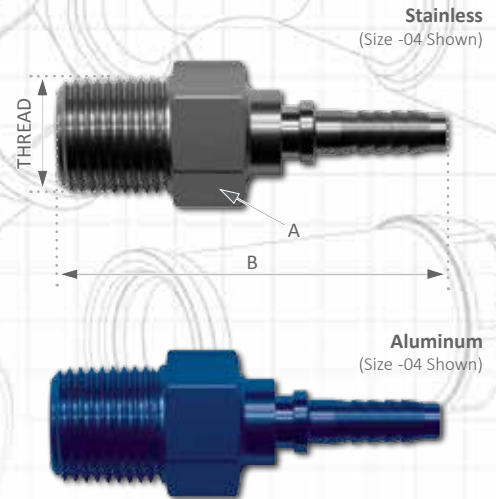


90° JIC Male Fixed

Part No.	Size	A		B		C	
Stainless Steel							
		ins	mm	ins	mm	ins	mm
SB-03-J7-90	-03	3/8"	9.52	1.24	31.49	1.00	25.40
Reducer Fittings	Hose Size	Thread Size					
Stainless Steel							
SB-02-03-J7-90	-02	-03	3/8"	9.52	1.24	31.49	1.00

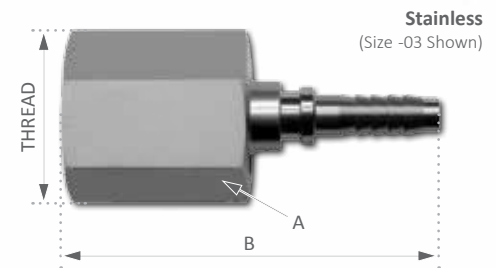
Straight NPT Male Fixed

Part No.			A		B		C	
Stainless Steel	Hose Size	Thread Size	ins	mm	ins	mm	ins	mm
STAINLESS = 7 / ALUMINUM = 3								
SB-02-V7	-02	1/8"	7/16"	11.10	1.34	34.00	---	---
SB-03-V7	-03	1/8"	7/16"	11.10	1.34	34.00	---	---
SB-04-V7	-04	1/4"	9/16"	14.27	1.47	37.25	---	---
SB-06-V7	-06	3/8"	3/4"	19.05	1.97	50.00	---	---
Reducer Fittings			Hose Size	Thread Size				
Aluminum								
SB-04-03-V3	-04	1/8"	7/16"	11.10	1.36	34.50	---	---
Stainless Steel								
SB-04-03-V7	-04	1/8"	7/16"	11.10	1.36	34.50	---	---



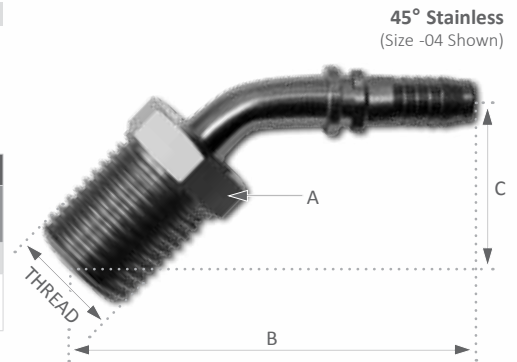
Straight NPT Female Fixed

Part No.			A		B		C	
Stainless Steel	Hose Size	Thread Size	ins	mm	ins	mm	ins	mm
SB-02-T7	-02	1/8"	7/16"	11.10	1.25	31.75	---	---
SB-03-T7	-03	1/8"	7/16"	11.10	1.36	34.50	---	---



45° NPT Male Fixed

Part No.			A		B		C	
Stainless Steel	Hose Size	Thread Size	ins	mm	ins	mm	ins	mm
SB-04-V7-45	-04	1/4" NPT	9/16"	14.27	1.88	47.85	0.69	17.63

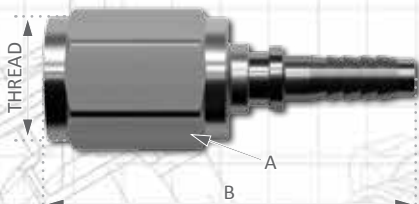


90° NPT Male Fixed

Part No.			A		B		C	
Stainless Steel	Hose Size	Thread Size	ins	mm	ins	mm	ins	mm
SB-04-V7-90	-04	1/4" NPT	9/16"	14.27	1.34	34.12	1.13	28.61



Stainless
(Size -03 Shown)

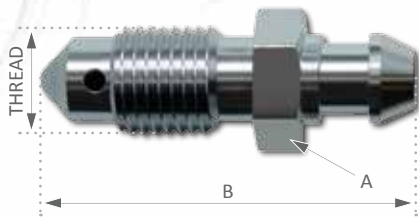


Straight UNF Female Fixed Bleed Fitting

Part No.			A		B		C	
Stainless Steel	Hose Size	UNF Thread Size	ins	mm	ins	mm	ins	mm
SB-03-0033-7	-03	3/8" x 24	7/16"	11.1	1.27	32.3	---	---

NOTE: For bleeder use **BN-11S** (shown below).

Plated Steel

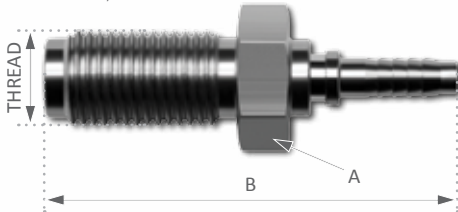


UNF Bleed Nipple

Part No.			A		B		C	
Plated Steel	Hose Size	UNF Thread Size	ins	mm	ins	mm	ins	mm
BN-11S	---	3/8" x 24	7/16"	11.1	1.27	32.33	---	---

NOTE: For use with **SB-03-0033-7** (shown above).

Stainless
(Size -03 Shown)

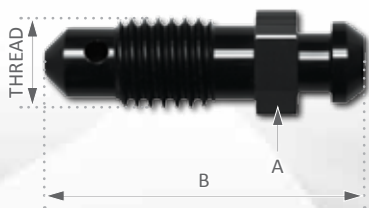


Crimp Bulkhead Bleed Nipple

Part No.			A		B		C	
Stainless Steel	Hose Size	Thread Size	ins	mm	ins	mm	ins	mm
SB-443-03BN-7	-03	-03	1/2"	12.70	1.60	40.65	---	---

NOTE: For bleeder use **BN704P** (shown below).

Plated Steel



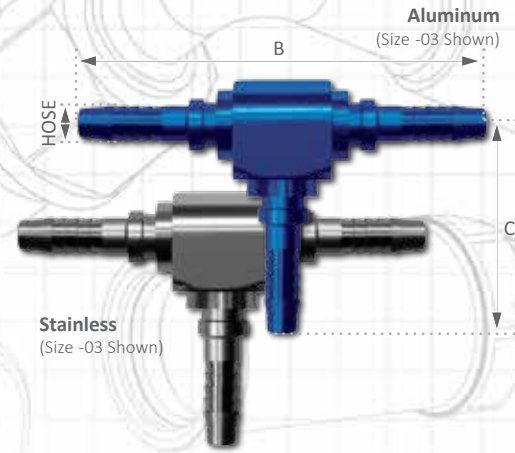
Bleed Nipple

Part No.			A		B		C	
Plated Steel	Hose Size	Thread Size	ins	mm	ins	mm	ins	mm
BN704P	---	1/4" x 28	1/4"	6.35	.93	23.72	---	---

NOTE: For use with **SB-443-03BN-7** (shown above).

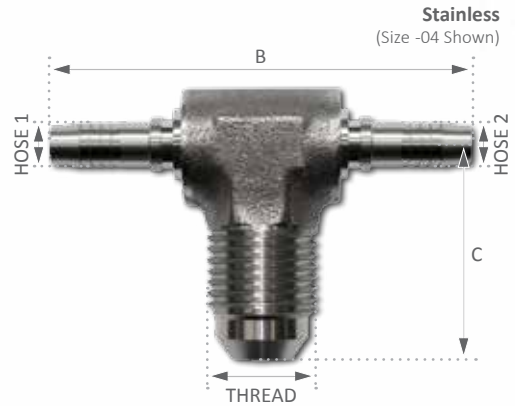
'T' Piece to 3 Tails

Part No.		B		C	
Aluminum	Hose Size	ins	mm	ins	mm
ALUMINUM = 3 / STAINLESS = 7					
SB-04-0034-3	-04	1.81	46.0	0.91	23.0
Stainless Steel					
SB-02-0026-7	-02	1.35	34.2	0.67	17.1
SB-03-0006-7	-03	1.69	43.0	0.85	21.5
SB-04-0034-7	-04	1.81	46.0	0.91	23.0



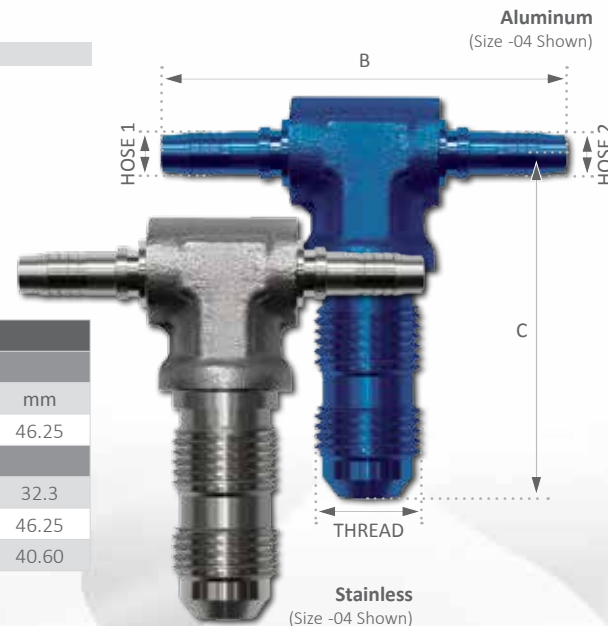
'T' Piece JIC (AN) Male

Part No.				B		C	
Stainless Steel	Hose Size 1	Hose Size 2	Thread Size	ins	mm	ins	mm
SB-04-0006-7	-04	-04	-06	2.13	54.00	1.06	27.00

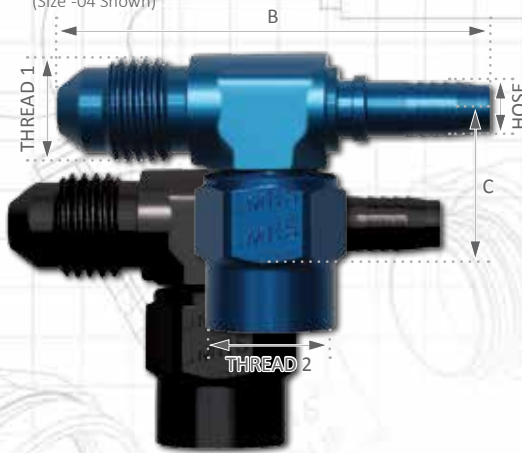


'T' Piece Bulkhead

Part No.				B		C	
Aluminum	Hose Size 1	Hose Size 2	Thread Size	ins	mm	ins	mm
ALUMINUM = 3 / STAINLESS = 7							
SB-04-0007-3	-04	-04	-06	2.13	54.0	1.82	46.25
Stainless Steel							
SB-03-0015-7	-03	-03	-03	1.81	46.0	1.27	32.3
SB-04-0007-7	-04	-04	-06	2.13	54.0	1.82	46.25
SB-04-0011-7	-04	-04	-04	2.09	53.0	1.60	40.60



Aluminum
(Size -04 Shown)



'T' Piece to JIC (AN) Female to JIC (AN) Male

Part No.				B		C	
Aluminum	Hose Size	Thread Size 1	Thread Size 2				
BLUE X=3 / BLACK X=4				ins	mm	ins	mm
SB-04-0041-X	-04	-04	-04	1.82	46.22	.55	14.05

Aluminum
(Size -04 Shown)



'T' Piece to ORB Swivel Male to JIC (AN) Male

Part No.				B		C	
Aluminum	Hose Size	Thread Size 1	Thread Size 2				
BLUE X=3 / BLACK X=4				ins	mm	ins	mm
SB-04-0045-X	-04	-04	-08	2.27	57.72	1.52	38.63

90° Aluminum
(Size -04 Shown)



90° ORB Swivel Male Block Elbow

Part No.			B		C	
Aluminum	Hose Size	Thread Size				
BLUE X=3 / BLACK X=4			ins	mm	ins	mm
SB-04-0046-X	-04	-08	1.52	38.64	1.23	31.25

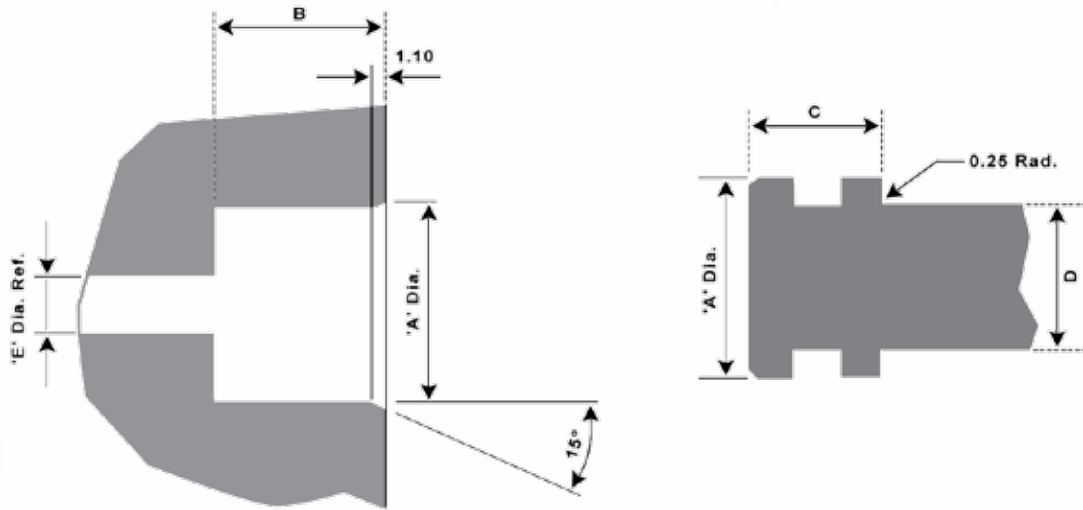
Plug-Ins

There are multitudes of 'O' ring fitting designs in use although a range of design conventions has developed around the "Plug-In" system.

Widely used in sophisticated hydraulic and pneumatic systems, the "Plug-In" fitting is a simple 'O' ring head and port design with the 'O' ring head being retained to the port by a simple keep plate.

The advantage of this system is its compact design allowing close mounting of multiple assemblies. This combined with multiple fitting stand off options allow tight packaging of the complete valve, manifold and hose package.

As the designs have developed over the years, the number of port size options has expanded, primarily due to these fitting systems being somewhat specific to each design group.



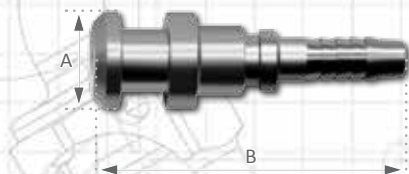
Plug-In Fitting Size Guide

Size	A	B	C	D	E	'O' Ring Size Code	Max Operating Pressure
	mm	mm	mm (+/- 0.025)	mm (+/- 0.05)	mm		BAR
-02	6.00	6.12	5.90	4.45	2.0	3.00 x 1.50	200 +
-02	6.20	7.55	7.42	3.60	2.0	801	100
-02	6.80	9.25	9.12	4.75	2.0	007	200 +
-03	8.70	9.25	9.12	6.10	3.0	009	200 +
-03	8.80	9.50	9.37	6.10	3.0	009	200 +
-04	9.50	9.25	9.12	6.30	4.0	010	200 +
-04	9.60	9.25	9.12	6.30	4.0	010	200 +
-04	10.00	10.00	9.87	7.00	4.0	610	200 +
-04	10.30	10.50	10.37	6.50	4.0	610	200 +
-05	10.80	9.25	9.12	7.80	6.0	011	200 +
-05	12.00	10.00	9.87	9.00	6.0	611	200 +
-06	12.70	10.00	9.87	10.30	8.0	012	200 +
-06	14.38	12.00	11.87	11.00	8.0	806	200 +
-08	16.00	12.50	12.37	13.00	10.0	014	200 +

NOTE: For pressures above 100 BAR an anti-extrusion ring must be used. Depth of port 'B' may be tolerated for interference or clearance on 'C'.

Smooth Bore Crimped Fittings

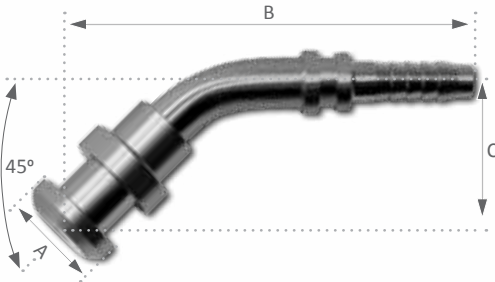
Stainless
(Size -03 Shown)



Straight Plug-In

Part No.		Hose Size	"A" Port Size	B		C		Prevision Anti-Extrusion Ring
Stainless Steel	Titanium			ins	mm	ins	mm	
			mm (nom.)					
SB-02-0001-7	---	-02	6.0	1.35	34.5	---	---	YES
SB-02-0009-7	---	-02	6.0	1.00	25.5	---	---	YES
SB-03-0007-7	---	-03	8.7	1.09	27.7	---	---	YES
SB-03-0040-00-7	---	-03	8.8	1.24	31.5	---	---	YES
SB-04-0002-7	---	-04	8.7	1.14	29.0	---	---	YES
SB-04-0029-7	---	-04	9.5	1.21	30.7	---	---	YES
SB-04-0038-7	---	-04	9.6	1.27	32.2	---	---	YES
SB-05-0002-7	---	-05	12.0	1.38	35.0	---	---	YES
SB-06-0007-7	---	-06	12.7	1.57	40.0	---	---	YES
SB-06-0016-7	---	-06	12.0	1.51	38.5	---	---	YES

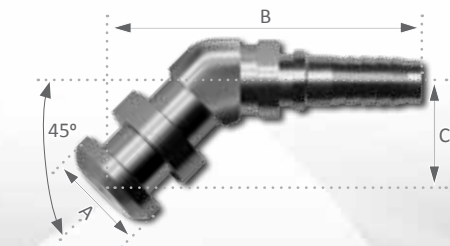
45° Stainless
(Size -03 Shown)



45° Plug-In

Part No.		Hose Size	"A" Port Size	B		C		Prevision Anti-Extrusion Ring
Stainless Steel	Titanium			ins	mm	ins	mm	
			mm (nom.)					
SB-03-0017-7	---	-03	8.7	1.49	38.0	0.47	12.0	YES
SB-04-0003-7	---	-04	8.7	1.67	42.5	0.47	12.0	YES

45° Stainless
(Size -04 Shown)



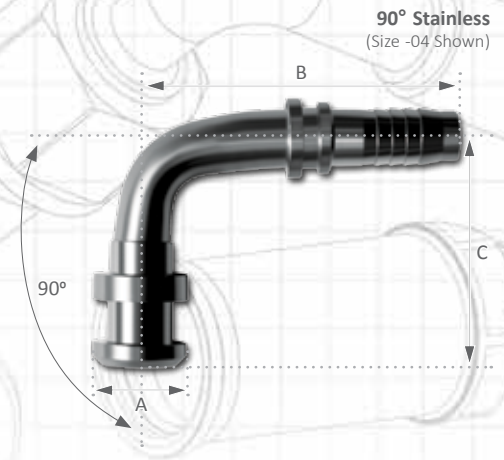
45° Plug-In Block Elbow

Part No.		Hose Size	"A" Port Size	B		C		Prevision Anti-Extrusion Ring
Stainless Steel	Titanium			ins	mm	ins	mm	
			mm (nom.)					
---	SB-04-0036-T	-04	10.8	1.28	32.5	0.46	11.8	YES

090

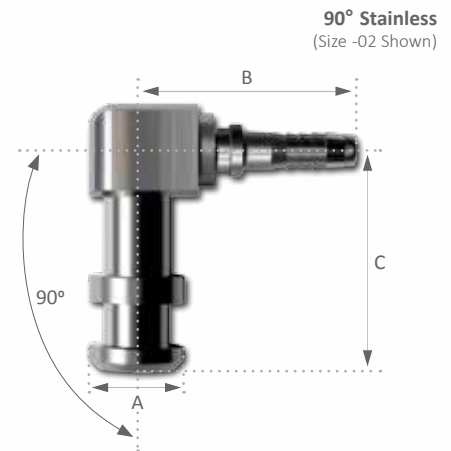
90° Plug-In

Part No.		Hose Size	"A" Port Size mm (nom.)	B		C		Prevision Anti-Extrusion Ring
Stainless Steel	Titanium			ins	mm	ins	mm	
SB-02-0002-7	---			-02	6.0	1.20	30.7	
SB-02-0004-7	---	-02	8.7	1.20	30.7	0.78	20.0	YES
SB-02-0007-7	---	-02	6.0	1.20	30.7	0.98	25.0	YES
SB-02-0028-7	---	-02	6.0	1.25	31.7	0.94	24.0	YES
SB-03-0001-7	---	-03	8.7	1.24	31.5	0.78	20.0	YES
SB-03-0002-7	---	-03	8.7	1.24	31.5	0.90	23.0	YES
SB-03-0017-7	---	-03	8.7	1.49	38.0	0.47	12.0	YES
SB-03-0028-7	---	-03	8.7	1.24	31.5	1.18	30.0	YES
SB-04-0001-7	---	-04	8.7	1.33	34.0	0.78	20.0	YES
SB-04-0030-7	---	-04	9.5	1.33	34.0	0.86	22.0	YES
SB-06-0009-7	---	-06	12.7	1.64	41.8	1.23	31.4	YES



90° Plug-In Block Elbow

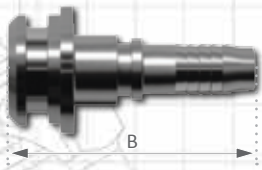
Part No.		Hose Size	"A" Port Size mm (nom.)	B		C		Prevision Anti-Extrusion Ring
Stainless Steel	Titanium			ins	mm	ins	mm	
---	SB-02-0027-T			-02	6.0	0.65	16.7	
SB-03-0040-90-7	---	-03	8.8	1.01	25.7	0.78	20.0	NO
---	SB-04-0035-T	-03	10.8	0.92	23.3	0.73	18.5	YES



'T' Piece Plug-In

Part No.		Hose Size 1	Hose Size 2	"A" Port Size mm (nom.)
Stainless Steel	Titanium			
SB-04-0031-7	---			

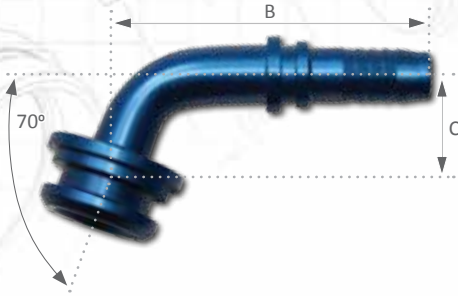
Stainless
(Size -04 Shown)



Straight AP Master Cylinder

Part No.		Hose Size	B		C	
Stainless Steel	Aluminum		ins	mm	ins	mm
SB-04-0016-00-7	---	-04	1.12	26.5	---	---

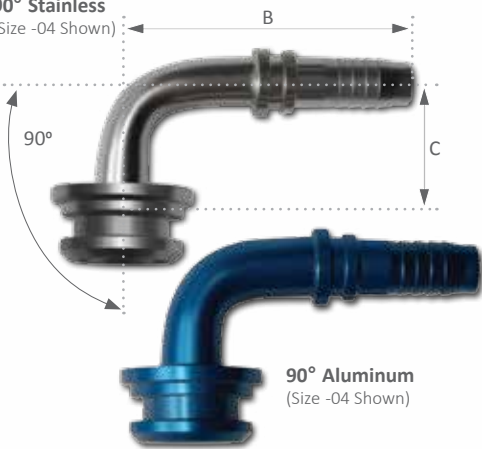
70° Aluminum
(Size -04 Shown)



70° AP Master Cylinder

Part No.		Hose Size	B		C	
Stainless Steel	Aluminum		ins	mm	ins	mm
---	BLUE = 3 SB-04-0016-70-3	-04	1.35	34.5	0.60	15.3

90° Stainless
(Size -04 Shown)



90° AP Master Cylinder

Part No.		Hose Size	B		C	
Stainless Steel	Aluminum		ins	mm	ins	mm
STAINLESS = 7 SB-04-0016-90-7	BLUE = 3 SB-04-0016-90-3	-04	1.13	28.7	0.71	18.1

90° Aluminum
(Size -04 Shown)

Aluminum
(Size -04 Shown)

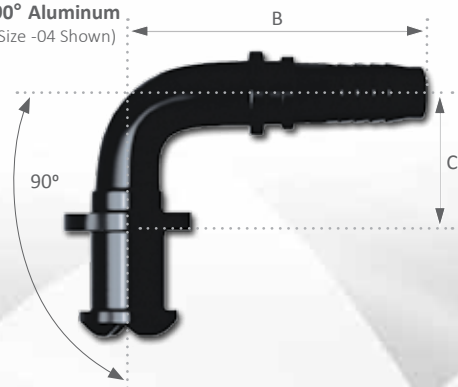


AP Master Cylinder Keep Plate

Part No.
Aluminum
BLUE = 3
22-0010-04-3
NOTE: Supplied separately.



90° Aluminum
(Size -04 Shown)

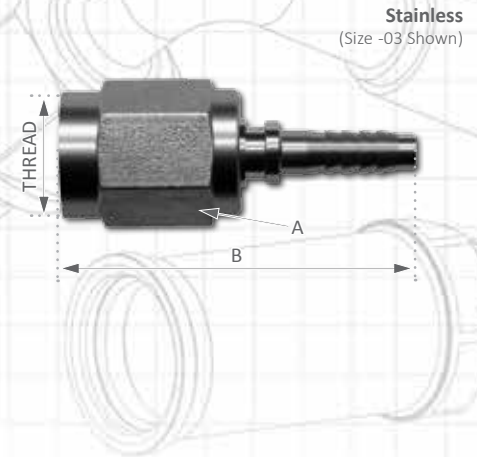


90° Brembo Brakes Reservoir

Part No.		Hose Size	B		C	
Stainless Steel	Aluminum		ins	mm	ins	mm
---	BLACK = 4 SB-04-0053-90-4	-04	---	---	---	---

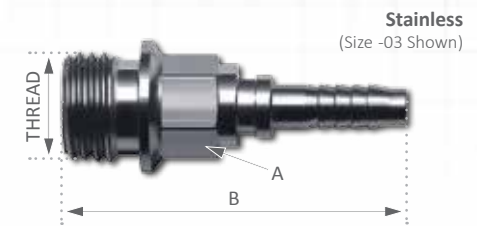
Straight Female Injector (SAE 45° Seat)

Part No.	Size		A		B		C	
	Hose Size	Thread Size	ins	mm	ins	mm	ins	mm
SB-03-0038-00-7	-03	-03	7/16"	11.10	0.95	24.35	---	---
SB-04-0008-00-7	-04	-04	1/2"	12.70	1.07	27.15	---	---



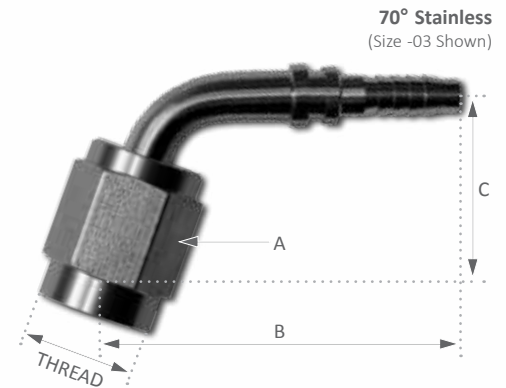
Straight Male Injector

Part No.	Size		A		B		C	
	Hose Size	Thread Size	ins	mm	ins	mm	ins	mm
SB-03-0039-7	-03	-03	7/16"	11.10	1.25	32.0	---	---
SB-04-0009-7	-04	-04	7/16"	11.10	1.30	33.0	---	---



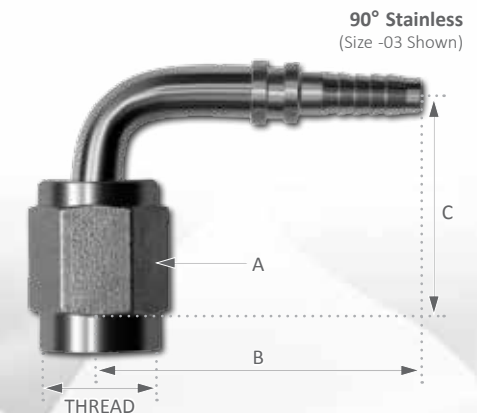
70° Female Injector (SAE 45° Seat)

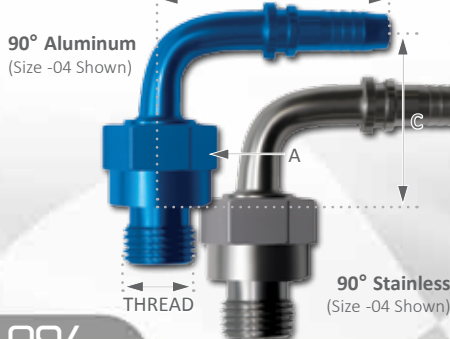
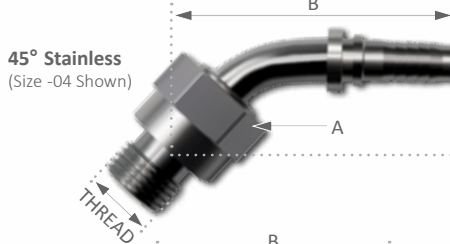
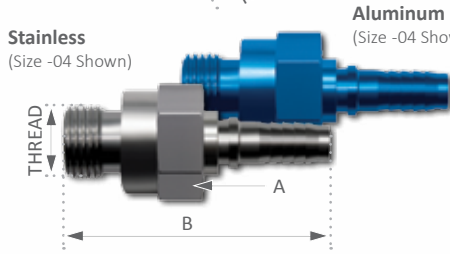
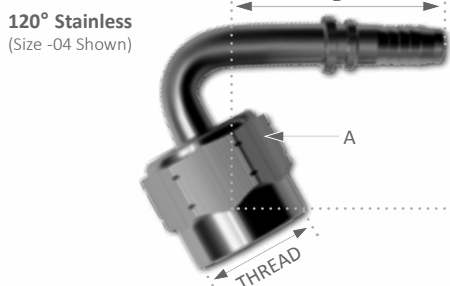
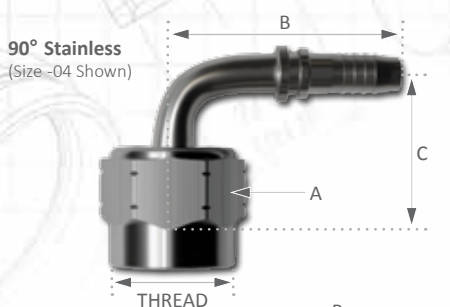
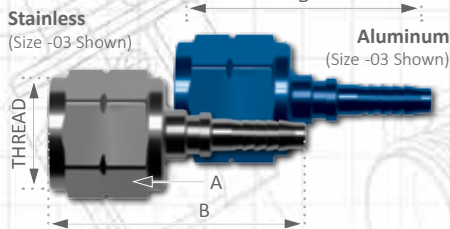
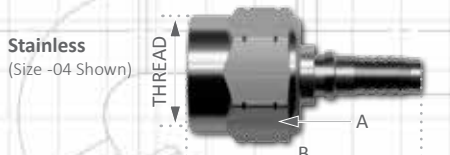
Part No.	Size		A		B		C	
	Hose Size	Thread Size	ins	mm	ins	mm	ins	mm
SB-03-0038-70-7	-03	-03	7/16"	11.10	1.41	36.0	0.47	12.0
SB-04-0008-70-7	-04	-04	1/2"	12.70	1.57	40.0	0.60	15.35



90° Female Injector (SAE 45° Seat)

Part No.	Size		A		B		C	
	Hose Size	Thread Size	ins	mm	ins	mm	ins	mm
SB-03-0038-90-7	-03	-03	7/16"	11.10	1.24	31.49	0.55	14.13
SB-04-0008-90-7	-04	-04	1/2"	12.70	1.34	34.11	0.72	18.25





Straight Metric Female

Part No.	Size		A		B		C	
	Hose Size	Thread Size	ins	mm	ins	mm	ins	mm
STAINLESS = 7 / ALUMINUM = 3			---	---	---	---	---	---
SB-04-ST-M14	-04	M14 x 1.5	---	---	---	---	---	---
Fixed Non-Swivel Aluminum			---	---	---	---	---	---
SB-03-0043-3	-03	M10 x 1.0	---	---	---	---	---	---
Fixed Non-Swivel Stainless Steel			---	---	---	---	---	---
SB-03-0043-7		M10 x 1.0	---	---	---	---	---	---

90° Metric Female

Part No.	Size		A		B		C	
	Hose Size	Thread Size	ins	mm	ins	mm	ins	mm
SB-04-90-M12	-04	M12	---	---	---	---	---	---
SB-04-90-M14	-04	M14 x 1.5	---	---	---	---	---	---

120° Metric Female

Part No.	Size		A		B		C	
	Hose Size	Thread Size	ins	mm	ins	mm	ins	mm
SB-04-120-M14	-04	M14 x 1.5	---	---	---	---	---	---

Straight Metric Male Swivel

Part No.	Size		A		B		C	
	Hose Size	Thread Size	ins	mm	ins	mm	ins	mm
ALUMINUM = 3 / STAINLESS = 7			---	---	---	---	---	---
SB-04-M3-00-M12	-04	M12	---	---	---	---	---	---
Stainless Steel			---	---	---	---	---	---
SB-04-M7-00-M10	-04	M10	---	---	---	---	---	---

45° Metric Male Swivel

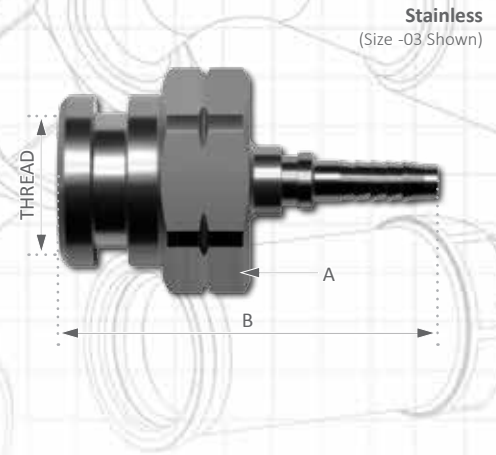
Part No.	Size		A		B		C	
	Hose Size	Thread Size	ins	mm	ins	mm	ins	mm
SB-04-M7-45-M10	-04	M10	---	---	---	---	---	---

90° Metric Male Swivel

Part No.	Size		A		B		C	
	Hose Size	Thread Size	ins	mm	ins	mm	ins	mm
ALUMINUM = 3 / STAINLESS = 7			---	---	---	---	---	---
SB-04-M3-90-M14	-04	M14 x 1.5	---	---	---	---	---	---
Stainless Steel			---	---	---	---	---	---
SB-04-M7-90-M10	-04	M10	---	---	---	---	---	---

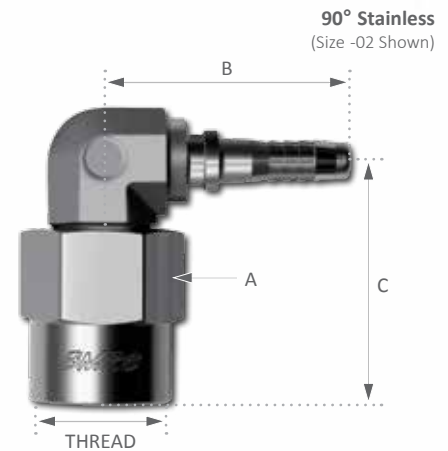
Straight Female Fitting Concave and Convex

Part No.	Size		A		B		C	
	Hose Size	Thread Size	ins	mm	ins	mm	ins	mm
SB-758-03-31-7	-03	M10 x 1.0	---	---	---	---	---	---
SB-759-03-31-7	-03	M10 x 1.0	---	---	---	---	---	



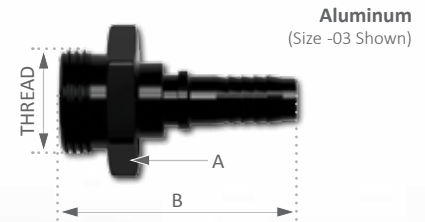
90° BSP Female

Part No.	Size		A		B		C	
	Hose Size	Thread Size	ins	mm	ins	mm	ins	mm
SB-02-A7-90	-02	M10 x 1.0	---	---	---	---	---	---
SB-03-B-A7-90	-03	M10 x 1.0	---	---	---	---	---	



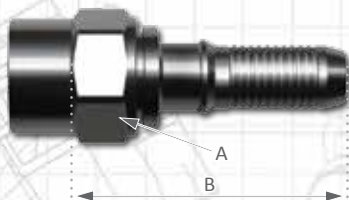
Injector

Part No.	Size		A		B		C	
	Hose Size	Thread Size	ins	mm	ins	mm	ins	mm
SB-03-0072-4	-03	---	---	---	---	---	---	---
SB-04-0057-4	-04	---	---	---	---	---	---	---



Shown with Jiffy-Tite Disconnect.

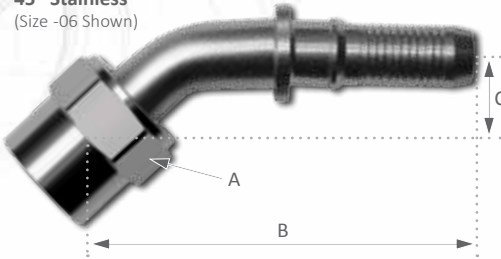
Stainless
(Size -06 Shown)



Straight JIC (AN) Female High Pressure

Part No.	Size	A		B		C	
Stainless Steel							
		ins	mm	ins	mm	ins	mm
HPSB-04-F7	-04	---	---	---	---	---	---
HPSB-06-F7	-06	---	---	---	---	---	---
Reducer Fittings	Hose Size	Nut Size					
Stainless Steel							
HPSB-04-03-F7	-04	-03	---	---	---	---	---

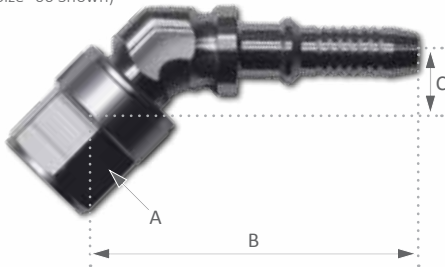
45° Stainless
(Size -06 Shown)



45° JIC (AN) Female High Pressure

Part No.	Size	A		B		C	
Stainless Steel							
		ins	mm	ins	mm	ins	mm
HPSB-04-G7	-04	---	---	---	---	---	---
HPSB-06-G7	-06	---	---	---	---	---	---
Reducer Fittings	Hose Size	Nut Size					
Stainless Steel							
HPSB-04-03-G7	-04	-03	---	---	---	---	---

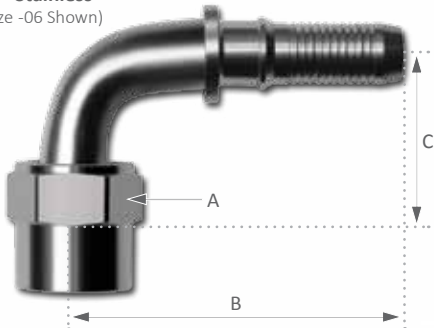
45° Stainless
(Size -06 Shown)



45° JIC (AN) Female Block Elbow High Pressure

Part No.	Size	A		B		C		
Stainless Steel								
Reducer Fittings	Hose Size	Nut Size						
			ins	mm	ins	mm	ins	mm
HPSB-04-03-B-G7	-04	-03	---	---	---	---	---	

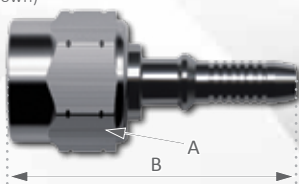
90° Stainless
(Size -06 Shown)



90° JIC (AN) Female High Pressure

Part No.	Size	A		B		C	
Stainless Steel							
		ins	mm	ins	mm	ins	mm
HPSB-04-H7	-04	---	---	---	---	---	---
HPSB-06-H7	-06	---	---	---	---	---	---

Stainless
(Size -04 Shown)



Straight Metric Female High Pressure

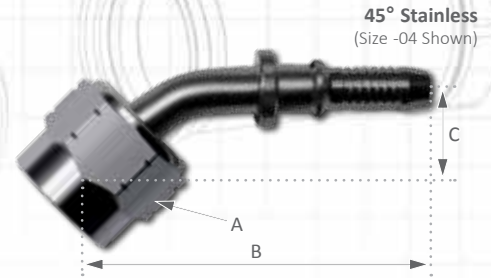
Part No.	Size	A		B		C	
Stainless Steel							
		ins	mm	ins	mm	ins	mm
HPSB-04-ST-M14	-04	---	---	---	---	---	---
HPSB-06-ST-M14	-06	---	---	---	---	---	---

30° Metric Female High Pressure

Part No.	Size	A		B		C	
Stainless Steel							
		ins	mm	ins	mm	ins	mm
HPSB-04-30-M14	-04	---	---	---	---	---	---

45° Metric Female High Pressure

Part No.	Size	A		B		C	
Stainless Steel							
		ins	mm	ins	mm	ins	mm
HPSB-04-45-M14	-04	---	---	---	---	---	---
HPSB-06-45-M14	-06	---	---	---	---	---	---

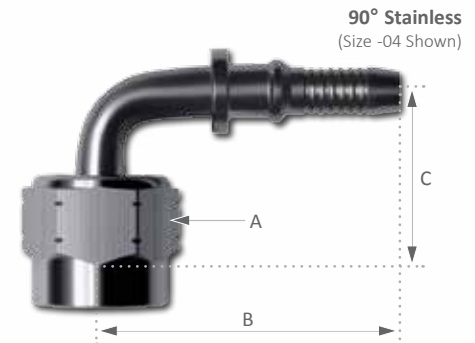


60° Metric Female High Pressure

Part No.	Size	A		B		C	
Stainless Steel							
		ins	mm	ins	mm	ins	mm
HPSB-04-60-M14	-04	---	---	---	---	---	---

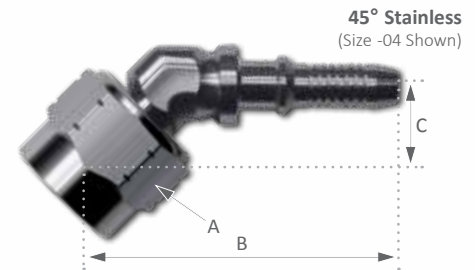
90° Metric Female High Pressure

Part No.	Size	A		B		C	
Stainless Steel							
		ins	mm	ins	mm	ins	mm
HPSB-04-90-M14	-04	---	---	---	---	---	---
HPSB-06-90-M14	-04	---	---	---	---	---	---



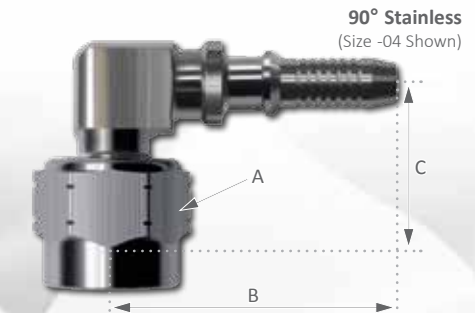
45° Metric Female Block Elbow High Pressure

Part No.	Size	A		B		C	
Stainless Steel							
		ins	mm	ins	mm	ins	mm
HPSB-04-B45-M14	-04	---	---	---	---	---	---

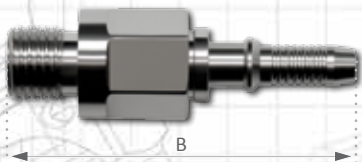


90° Metric Female Block Elbow High Pressure

Part No.	Size	A		B		C	
Stainless Steel							
		ins	mm	ins	mm	ins	mm
HPSB-04-B90-M14	-04	---	---	---	---	---	---
HPSB-06-B90-M14	-06	---	---	---	---	---	---



Stainless
(Size -04 Shown)



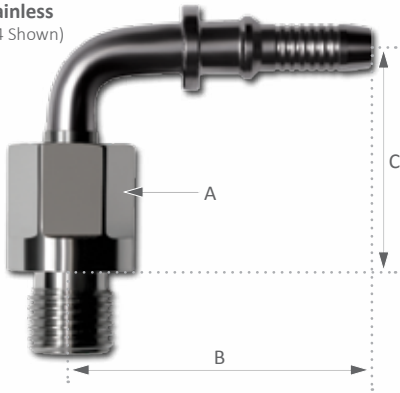
Male Swivel Port Thread High Pressure

Part No.	Size	A		B		C	
Stainless Steel							
		ins	mm	ins	mm	ins	mm
HPSB-04-M7-00	-04	---	---	---	---	---	---

80° Male Swivel Port Thread High Pressure

Part No.	Size	A		B		C	
Stainless Steel							
		ins	mm	ins	mm	ins	mm
HPSB-04-M7-80	-04	---	---	---	---	---	---

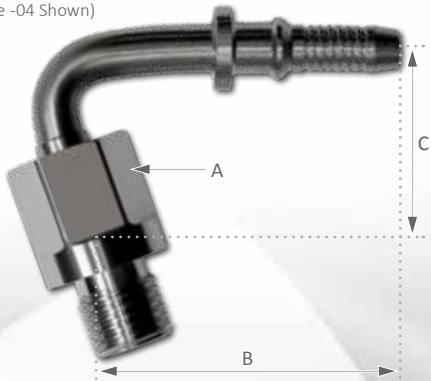
90° Stainless
(Size -04 Shown)



90° Male Swivel Port Thread High Pressure

Part No.	Size	A		B		C	
Stainless Steel							
		ins	mm	ins	mm	ins	mm
HPSB-04-M7-90	-04	---	---	---	---	---	---

110° Stainless
(Size -04 Shown)



110° Male Swivel Port Thread High Pressure

Part No.	Size	A		B		C	
Stainless Steel							
		ins	mm	ins	mm	ins	mm
HPSB-04-M7-110	-04	---	---	---	---	---	---

Straight Plug-In High Pressure

Part No.	Size	A		B		C	
Stainless Steel							
		ins	mm	ins	mm	ins	mm
HPSB-04-0001-00	-04	---	---	---	---	---	---
HPSB-04-0004-00	-04	---	---	---	---	---	---
HPSB-06-0010-7	-06	---	---	---	---	---	---
HPSB-06-0011-7	-06	---	---	---	---	---	---

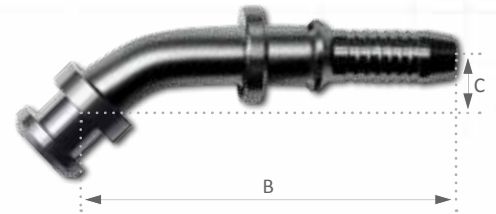
Stainless
(Size -06 Shown)



45° Plug-In High Pressure

Part No.	Size	A		B		C	
Stainless Steel							
		ins	mm	ins	mm	ins	mm
HPSB-04-0001-45	-04	---	---	---	---	---	---

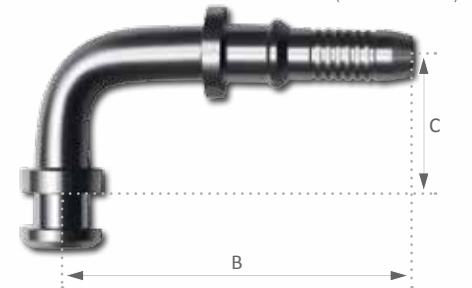
45° Stainless
(Size -04 Shown)



90° Plug-In High Pressure

Part No.	Size	A		B		C	
Stainless Steel							
		ins	mm	ins	mm	ins	mm
HPSB-04-0001-90	-04	---	---	---	---	---	---

90° Stainless
(Size -04 Shown)



'T' Piece High Pressure

Part No.	Size	A		B		C	
Stainless Steel							
		ins	mm	ins	mm	ins	mm
HPSB-04-0003	-04	---	---	---	---	---	---

Stainless
(Size -04 Shown)



PROBlackDR™ PTFE Smooth Bore Hose & Fittings

PROBlackDR™ is the latest in drag racing fuel connection systems. We have designed these fittings and hose for extremely high flow top fuel and funny car fuel systems.

All fittings are one-piece billet and have a larger more consistent bore through the entire fitting length than other standard fittings. The unique feature is that all elbows have the same ID as the straight fitting of the same size.

Our Race Proven Smooth Bore PTFE Hose has an extra large bore and high pressure rating.



Hose



Fittings



Adapters



PROBlackDR™ PTFE Smooth Bore Aramid Fibre Braid

- Very Lightweight
- Compatible with Virtually All Fluids
- Static Dissipating Liner*
- Factory Built Assemblies are ALL Pressure Tested
- Suitable for Aggressive and Harsh Environments

Specifications:

- **Innercore:** Smooth Bore PTFE
- **Braid:** Aramid Fibre Braid
- **Operating Temperature:** -130°C (-266°F).
No vacuum rating.

Applications:

- Fuel, Oil and Water Systems
- Fuel - Including Internal Fuel Cell Lines
- Air Conditioning

End Fittings:

- PROBlackDR™ Crimped Fitting Range

Hose Part No.	Hose Size (nom.)	Inside/Dia. (nom.)		Outside/Dia. (nom.)		Min. Bend Radius		Max. Operating Pressure		Max. Vacuum Rating		Weight	
		ins	mm	ins	mm	ins	mm	Bar	P.S.I.	ins/HG	Kg/m	Lbs./ft	
DR-06-AM	3/8"	0.394	10.0	0.530	13.50	2.00	50	55.8	810	---	0.100	0.067	
DR-08-AM	1/2"	0.536	13.6	0.690	17.50	3.00	76	51.7	750	---	0.140	0.094	
DR-10-AM	5/8"	0.658	16.7	0.843	21.40	4.00	100	48.3	700	---	0.204	0.137	
DR-12-AM	3/4"	0.780	19.8	0.953	24.20	5.00	126	44.8	650	---	0.236	0.158	
DR-16-AM	1"	1.040	26.4	1.250	31.70	6.00	150	34.5	500	---	0.354	0.237	

NOTE: Performance figures relate to max operating temperature of 130°C (266°F). No vacuum rating.



PROBlackDR™ PTFE Smooth Bore Stainless Steel Braid

- Very Lightweight
- Compatible with Virtually All Fluids
- Static Dissipating Liner*
- Factory Built Assemblies are ALL Pressure Tested
- Suitable for Aggressive and Harsh Environments

Specifications:

- **Innercore:** Smooth Bore PTFE
- **Braid:** 304 Series Stainless Steel
- **Operating Temperature:** -160°C (-320°F). Vacuum rating relates to a max operating temperature -130°C (-266°F).

Applications:

- Fuel, Oil and Water Systems
- Fuel - Including Internal Fuel Cell Lines
- Air Conditioning

End Fittings:

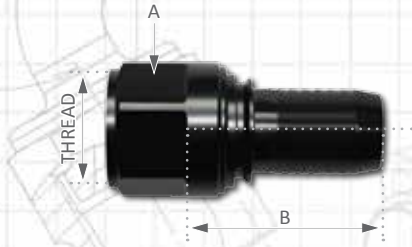
- PROBlackDR™ Crimped Fitting Range

Hose Part No.	Hose Size (nom.)	Inside/Dia. (nom.)		Outside/Dia. (nom.)		Min. Bend Radius		Max. Operating Pressure		Max. Vacuum Rating		Weight	
		ins	mm	ins	mm	ins	mm	Bar	P.S.I.	ins/HG	Kg/m	Lbs./ft	
DR-06-SS	3/8"	0.394	10.0	0.530	13.50	1.00	25	82.7	1200	28	0.160	0.107	
DR-08-SS	1/2"	0.536	13.6	0.690	17.50	1.50	38	68.9	1000	28	0.225	0.151	
DR-10-SS	5/8"	0.658	16.7	0.843	21.40	2.00	50	62.0	900	28	0.336	0.226	
DR-12-SS	3/4"	0.780	19.8	0.953	24.20	2.50	63	51.7	750	28	0.383	0.257	
DR-16-SS	1"	1.040	26.4	1.250	31.70	3.00	75	41.3	600	28	0.540	0.362	

NOTE: Operating pressure performance figures relate to max operating temperature of 160°C (320°F). Vacuum rating relates to a max operating temperature of 130°C (266°F).



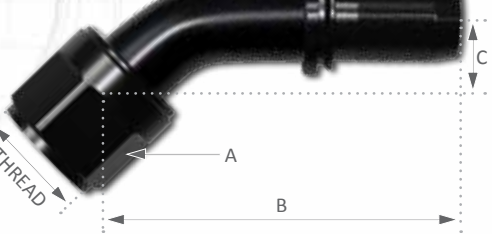
Aluminum
(Size -10 Shown)



Straight Female

Part No.	Size	A		B		C	
Aluminum							
BLACK		ins	mm	ins	mm	ins	mm
DR-06-F4	-06	11/16"	17.46	1.45	36.90	---	---
DR-08-F4	-08	7/8"	22.23	1.50	38.20	---	---
DR-10-F4	-10	1"	25.40	1.76	44.70	---	---
DR-12-F4	-12	1-1/4"	31.75	2.00	51.00	---	---
DR-16-F4	-16	1-1/2"	38.10	2.26	57.50	---	---

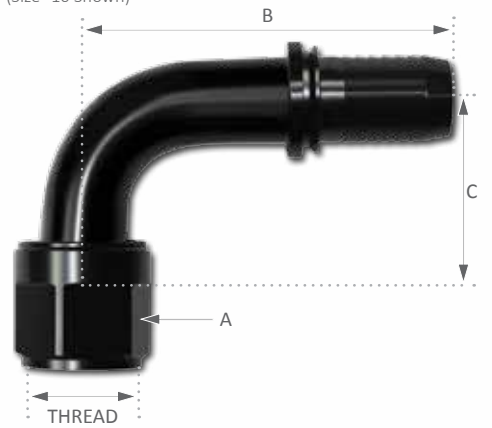
45° Aluminum
(Size -10 Shown)



45° Female

Part No.	Size	A		B		C	
Aluminum							
BLACK		ins	mm	ins	mm	ins	mm
DR-06-G4	-06	11/16"	17.46	2.43	61.7	0.60	15.20
DR-08-G4	-08	7/8"	22.23	2.70	68.7	0.72	18.30
DR-10-G4	-10	1"	25.40	3.06	77.8	0.79	20.00
DR-12-G4	-12	1-1/4"	31.75	3.57	90.9	0.92	23.40
DR-16-G4	-16	1-1/2"	38.10	4.13	105.0	1.05	26.70

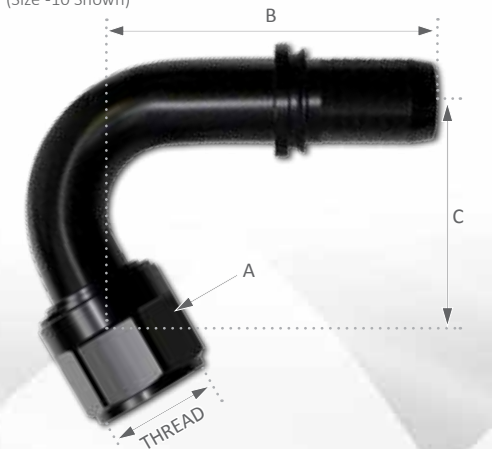
90° Aluminum
(Size -10 Shown)



90° Female

Part No.	Size	A		B		C	
Aluminum							
BLACK		ins	mm	ins	mm	ins	mm
DR-06-H4	-06	11/16"	17.46	2.30	58.5	1.20	30.40
DR-08-H4	-08	7/8"	22.23	2.56	65.1	1.48	37.60
DR-10-H4	-10	1"	25.40	2.87	73.0	1.63	41.50
DR-12-H4	-12	1-1/4"	31.75	3.33	84.6	1.94	49.30
DR-16-H4	-16	1-1/2"	38.10	4.08	103.7	2.28	58.10

120° Aluminum
(Size -10 Shown)



120° Female

Part No.	Size	A		B		C	
Aluminum							
BLACK		ins	mm	ins	mm	ins	mm
DR-06-P4	-06	11/16"	17.46	1.95	48.90	1.42	36.00
DR-08-P4	-08	7/8"	22.23	2.11	53.60	1.78	45.20
DR-10-P4	-10	1"	25.40	2.38	60.50	1.98	50.20
DR-12-P4	-12	1-1/4"	31.75	3.07	78.10	2.37	60.20
DR-16-P4	-16	1-1/2"	38.10	3.64	92.40	2.85	72.30

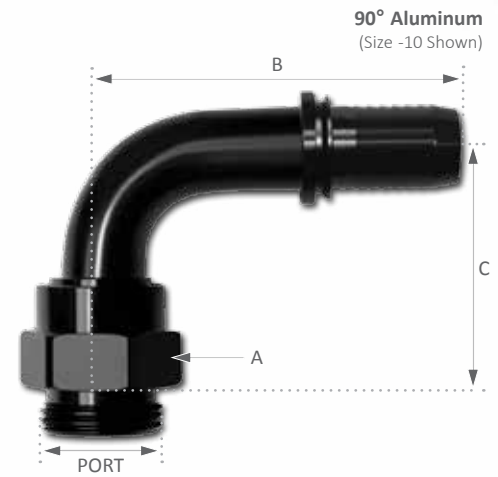
150° Female

Part No.	Size	A		B		C	
Aluminum							
BLACK							
		ins	mm	ins	mm	ins	mm
DR-06-R4	-06	11/16"	17.46	1.68	42.7	1.42	36.10
DR-08-R4	-08	7/8"	22.23	1.80	45.9	1.82	46.10
DR-10-R4	-10	1"	25.40	2.21	56.3	2.03	51.50
DR-12-R4	-12	1-1/4"	31.75	2.64	67.0	2.46	62.40
DR-16-R4	-16	1-1/2"	38.10	3.00	103.7	3.01	76.50



90° Male Swivel

Part No.	Hose Size	Port Size	A		B		C	
Aluminum								
BLACK								
			ins	mm	ins	mm	ins	mm
DR-08-M4-90	-08	-08	---	---	---	---	---	---
DR-12-M4-90	-12	-12	1-1/4"	28.58	3.487	88.87	2.413	61.29
Reducer Fittings	Hose Size	Port Size						
DR-10-12-M4-90	-10	-12	1-1/4"	28.58	3.498	88.85	2.040	51.81
DR-12-10-M4-90	-12	-10	---	---	---	---	---	---

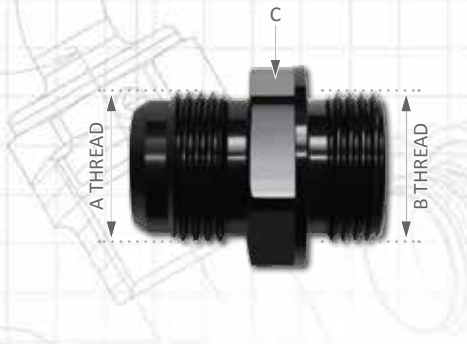


120° Male Swivel

Part No.	Hose Size	Port Size	A		B		C	
Aluminum								
BLACK								
			ins	mm	ins	mm	ins	mm
DR-08-M4-120	-08	-08	7/8"	22.23	2.048	52.02	2.185	55.49



Aluminum
(Size -10 Shown)



Straight JIC Male to ORB Male

Part No.	Size		
	A Thread	B Thread	C
Aluminum	JIC Male	ORB Male	
BLACK	JIC Male	ORB Male	
DR-A-J08-K08-4	-08	-08	7/8"
DR-A-J10-K08-4	-10	-08	7/8"
DR-A-J12-K08-4	-12	-08	7/8"
DR-A-J08-K10-4	-08	-10	1"
DR-A-J10-K10-4	-10	-10	1"
DR-A-J12-K10-4	-12	-10	1"
DR-A-J08-K12-4	-08	-12	1-1/4"
DR-A-J12-K12-4	-12	-12	1-1/4"

Aluminum
(Size -10 Shown)



Straight Male Tube Adapter (-8 Male to Fuel Rail Tube)

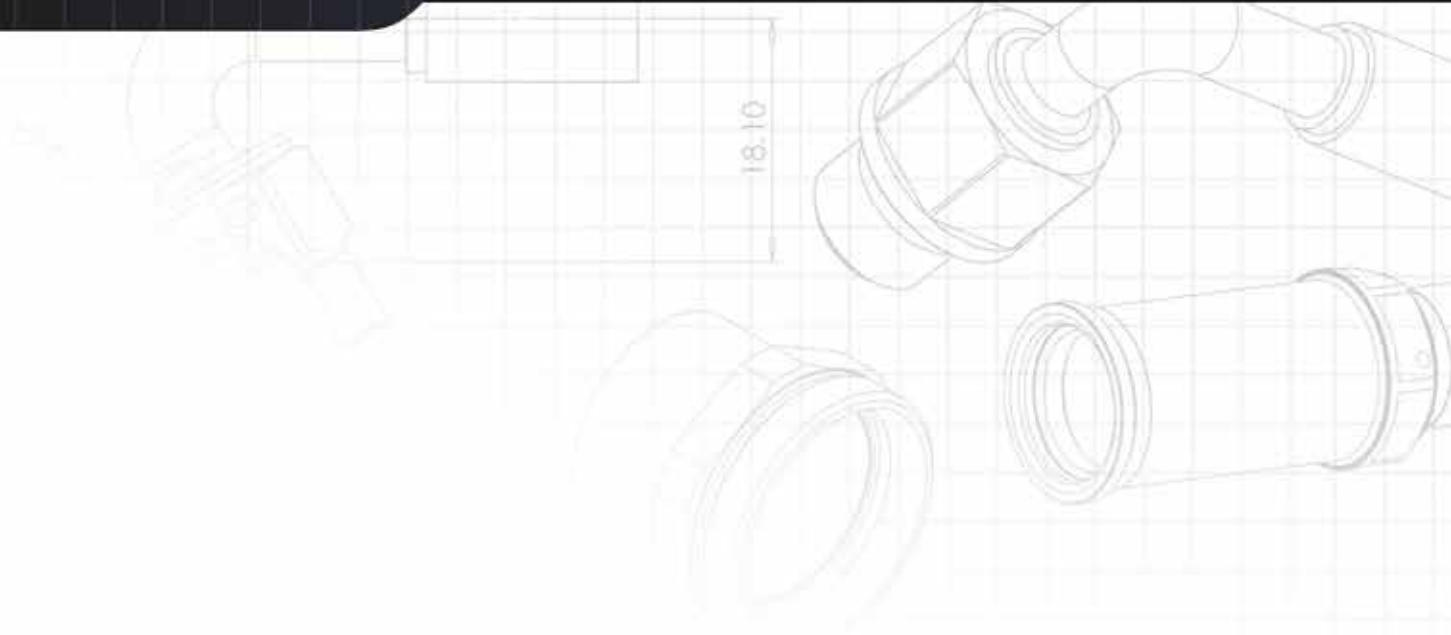
Part No.	Size	A		B		C	
Aluminum							
BLACK		ins	mm	ins	mm	ins	mm
DR-A-0001	-08	---	---	---	---	---	---

90° Aluminum
(Size -10 Shown)



90° Male Tube Adapter (Godey Male to Fuel Rail Tube)

Part No.	Size	A		B		C	
Aluminum							
BLACK		ins	mm	ins	mm	ins	mm
DR-A-90J08K08-4	-08	---	---	---	---	---	---



Rigid Tube, Fittings and CNC Tube Bending

CNC Tube Bending

Brown & Miller complete CNC Tube Bending services including reverse engineering using our Romer Tube Scanner. Size capability ranges from 1/8" to 2" and includes stainless steel, steel, aluminum and titanium. Quick turn-around and low volume are never a problem.

Complete Tube Systems

Using a combination of compound tube bends and flexible hose, we can offer the ultimate package in terms of form and function. A complete range of end fittings allows for unlimited possibilities. Custom fittings for your specific application are never a problem.



All Electric CNC Tube Bender



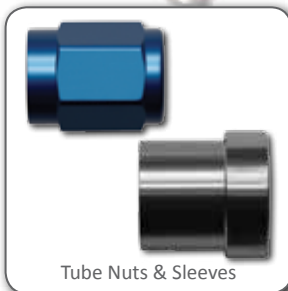
RH & LH CNC Tube Bender



Tube Scanning
Reverse Engineering & QC



AN Fittings



Tube Nuts & Sleeves



Wiggins Fittings



Crimp Tail Form Fittings



Wiggins Clamps, Caps & Plugs

Precision CNC Tube Measuring and Bending

At Brown & Miller Racing Solutions we are at the forefront of technology in lightweight racing hose and fittings and are committed to servicing professional race teams and engine builders world wide. Now we have installed the very latest in CNC tube bending and measuring equipment to further complement our lightweight PROGold hose and fittings range. This includes:

CNC Bending Equipment

- State of the Art Bending Equipment
- Size Range of 1/8" to 2"
- No Quantity Requirements
- Minimum Turn Around Time
- Materials- Aluminum, Steel, Stainless Steel, Titanium, etc.
- High Degree of Accuracy and Repeatability

Measuring Equipment

- State of the Art Multi-Axis Measuring Equipment
- Manufacture from Drawings
- Reverse Engineering from Existing Tube and Mock-Up Parts
- Capable of Precision QC for Exact Fit Requirements

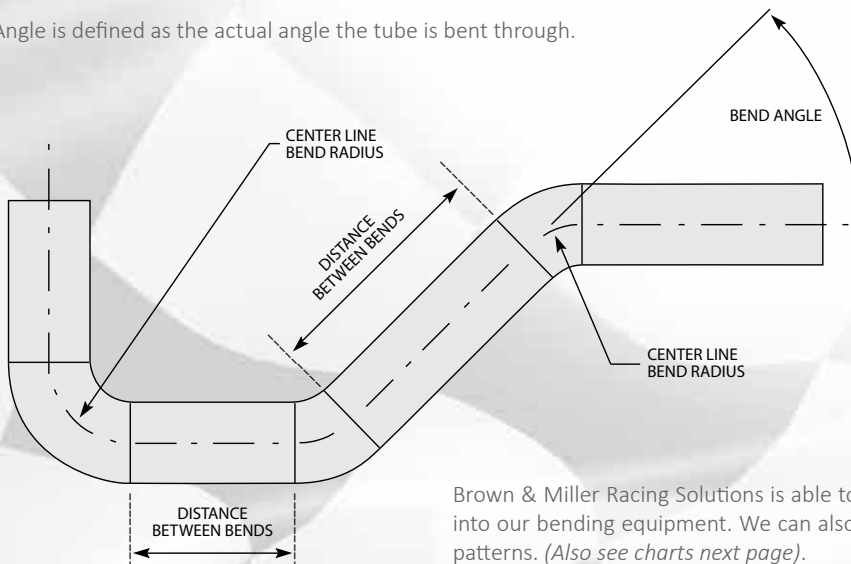
With these services we are able to help you increase precision and productivity wherever you are using tube bends. From fluid system tubing to chassis tubing, we can meet your needs. A wide range of weld on attachments is also available enabling us to provide you with the finest product.

Precision CNC Tube Measuring and Bending

The following information catalogs the current bend tools that are available. This list is constantly being added to, so check with us if your specific requirement does not appear to be listed.

The "Clamp Length" is the minimum distance between bends that can be achieved (See illustration below). This figure, plus a small clearance allowance of 1/8", should be taken into account when designing complex compound tube bends. In any specific compound tube bend design only one Center Line Bend Radius should be selected.

Bend Angle is defined as the actual angle the tube is bent through.



Brown & Miller Racing Solutions is able to interpolate all common CAD and 3D model data directly into our bending equipment. We can also work with X, Y, Z co-ordinates, mock up parts or existing patterns. (Also see charts next page).



CNC TUBE BENDING

Tube Materials Available

Aluminum, Stainless Steel, Steel and Titanium

Tube Sizes & Bend Tooling for Tubing

Round Tube

Imperial			
Tube O/D	Center Line Bend Radius	Tube Wall Thickness	Clamp Length
ins	ins	ins	ins
3/16"	1/4" 3/8" 1/2"	0.020, 0.028, 0.035, 0.049	1/2"
1/4"	1/2"	0.028	3/4"
5/16"	13mm, 16mm, 20mm	0.035	1/2"
3/8"	3/4" 1"	0.035	1"
1/2"	1"	0.035, 0.049	1"
5/8"	3/4" 1"	0.049, 0.065	1"
3/4"	3/4" 1-1/8" 3" 3-1/2" 4"	0.035, 0.049, 0.065	1-1/4", 3"
7/8"	7/8" 1-1/4" 4"	0.049, 0.065	1-1/4", 3"
1"	1" 1-1/2" 2-1/2" 4"	0.035, 0.049 0.065, 0.083 0.095	1-1/2", 2", 3"
1-1/8"	2" 3-1/2"	0.049, 0.065, 0.083, 0.095	2-1/2", 3"
1-1/4"	1-1/4" 2" 3-1/2" 4"	0.035, 0.049, 0.065, 0.083, 0.095	2-1/2", 3"
1-3/8"	4"	0.065, 0.083, 0.095	3", 4"
1-5/16"	2"	0.049, 0.083, 0.095	
1-1/2"	2" 3" 4"	0.049, 0.058, 0.065	3", 4"
1-5/8"	2-1/2"	0.065	2-1/2"
1-3/4"	2" 2-1/2" 4"	0.049, 0.065, 0.083, 0.095	2-1/2", 4"
1-7/8"	2-1/2"	0.065	3-1/2"
2"	3"	0.049, 0.065	3", 4"
Metric			
mm	mm	mm	mm
12.0	36.0	0.50	24.0

Square & Rectangular Tube

Tube O/D	Center Line Bend Radius	Tube Wall Thickness	Clamp Length
ins	ins	ins	ins
3/4" x 2"	3-5/8"	0.095	2"
5/8" x 5/8"	4"	0.049, 0.065	2"
3/4" x 3/4"	4"	0.049, 0.065	2"
1" x 1"	4"	0.065, 0.083	2"

Aluminum
(Size -06 Shown)



Inset shows application.

Tube Nuts

Part No.			
Aluminum	Aluminum	Stainless Steel	Tube Size
BLUE	BLACK	STAINLESS	ins
07-0001-03-3	07-0001-03-4	07-0001-03-7	3/16"
AN818-4D	AN818-4DBLK	AN818-4C	1/4"
AN818-6D	AN818-6DBLK	AN818-6C	3/8"
AN818-8D	AN818-8DBLK	AN818-8C	1/2"
AN818-10D	AN818-10DBLK	AN818-10C	5/8"
AN818-12D	AN818-12DBLK	AN818-12C	3/4"
AN818-16D	AN818-16DBLK	AN818-16C	1"

Stainless
(Size -06 Shown)



Inset shows application.

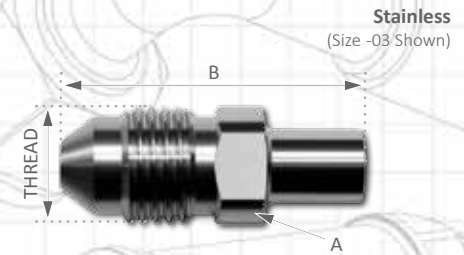
Tube Sleeves

Part No.			
Aluminum	Aluminum	Stainless Steel	Tube Size
BLUE	BLACK	STAINLESS	ins
AN819-3D	AN819-3DBLK	AN819-3C	3/16"
AN819-4D	AN819-4DBLK	AN819-4C	1/4"
AN819-6D	AN819-6DBLK	AN819-6C	3/8"
AN819-8D	AN819-8DBLK	AN819-8C	1/2"
AN819-10D	AN819-10DBLK	AN819-10C	5/8"
AN819-12D	AN819-12DBLK	AN819-12C	3/4"
AN819-16D	AN819-16DBLK	AN819-16C	1"

JIC (AN) Male - Tube Fitting (Braze)

Part No.		Size		A		B	
Stainless	Aluminum	Tube Size	Thread Size	ins	mm	ins	mm
TF-02-J7-BZ	---	1/8"	-02	0.250	6.35	0.92	23.3
TF-03-J7-BZ	---	3/16"	-03	0.312	7.92	0.95	24.13

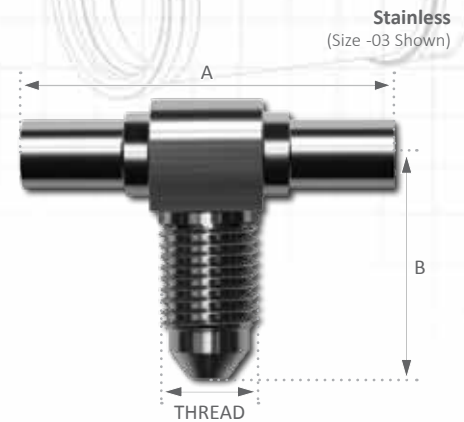
NOTE: Material Stainless Steel 17-4 ph.



JIC (AN) 'T' - Tube Fitting (Braze)

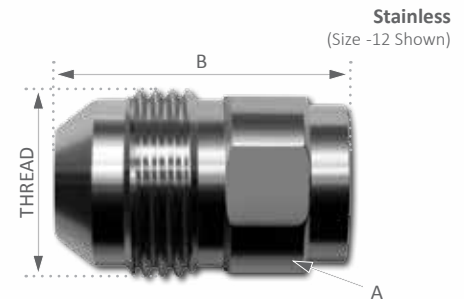
Part No.		Size		A		B	
Stainless	Aluminum	Tube Size	Thread Size	ins	mm	ins	mm
TF-0012-03-7	---	3/16"	-03	1.39	35.3	0.83	21.25

NOTE: Material Stainless Steel 316.



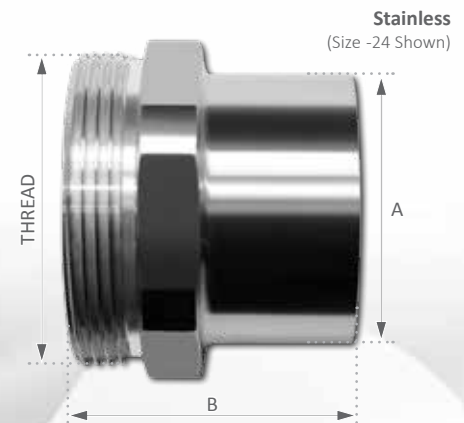
JIC (AN) Male - Tube Fitting (Socket Weld)

Part No.		Size		A		B	
Stainless	Aluminum	Tube Size	Thread Size	ins	mm	ins	mm
TF-06-J7	---	3/8"	-06	0.500	12.70	0.96	24.50
TF-08-J7	---	1/2"	-08	0.687	17.40	1.13	28.70
TF-10-J7	---	5/8"	-10	0.750	19.50	1.23	31.25
TF-12-J7	---	3/4"	-12	0.937	23.80	1.33	33.95
TF-16-J7	---	1"	-16	1.250	31.80	1.46	37.15
TF-20-J7	---	1-1/4"	-20	1.500	38.10	1.50	38.30
---	TF-24-JJ	1-1/2"	-24	1.750	44.40	1.96	50.00



Low Profile Flareless - Tube Fitting (Socket Weld)

Part No.		Size		A		B	
Stainless	Aluminum	Tube Size	Thread Size	ins	mm	ins	mm
---	TF-0021-24-J	-24	1-3/16" x 12	1.58	40.13	1.85	47.00
---	TF-0021-28-J	-28	2-1/8" x 12	1.83	46.50	1.85	47.00
---	TF-0021-32-J	-32	2-3/8" x 12	2.12	53.78	1.85	47.00



Stainless
(Size -12 Shown)



Male Wiggins - Tube Fitting (Socket Weld)

Part No.		Size		B	
Stainless	Aluminum	Tube Size	Clamp Size	ins	mm
TF-08-WM-7	TF-08-WM-J	1"	-08	0.48	12.36
TF-10-WM-7	TF-10-WM-J	5/8"	-10	0.48	12.3
TF-12-WM-7	TF-12-WM-J	3/4"	-12	0.56	14.1
TF-12-16-WM-7	---	3/4"	-16	0.77	19.5
TF-14-16-WM-7	---	7/8"	-16	0.77	19.5
TF-16-12-WM-7	---	1"	-12	1.31	33.4
TF-16-WM-7	TF-16-WM-J	1"	-16	0.88	22.5
TF-16-20-WM-7	---	1"	-20	0.88	22.5
TF-20-WM-7	TF-20-WM-J	1-1/4"	-20	0.67	17.0
---	TF-24-WM-J	1-1/2"	-24	0.88	22.5
---	TF-28-WM-J	1-3/4"	-28	0.88	22.5

Aluminum
(Size -20 Shown)



Male Wiggins - Tube Fitting (Butt Weld)

Part No.		Size		B	
Stainless	Aluminum	Tube Size	Clamp Size	ins	mm
---	WTF-08-WM-J	1/2"	-08	0.75	19.05
---	WTF-10-WM-J	5/8"	-10	0.74	18.80
---	WTF-12-WM-J	3/4"	-12	0.78	19.80
---	WTF-16-WM-J	1"	-16	0.83	21.25
---	WTF-20-WM-J	1-1/4"	-20	0.83	21.25
---	WTF-24-WM-J	1-1/2"	-24	0.83	21.25
---	WTF-28-WM-J	1-3/4"	-28	0.83	21.25
---	WTF-32-WM-J	2"	-32	0.85	21.70
---	WTF-40-WM-J	2-1/2"	-40	0.85	21.70
---	WTF-48-WM-J	3"	-48	0.85	21.70

Stainless
(Size -10 Shown)

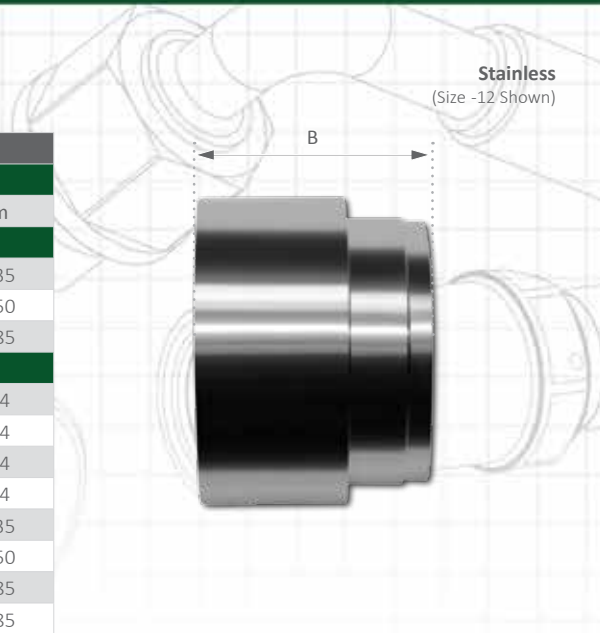


Male Wiggins Double 'O' Ring - Tube Fitting (Socket Weld)

Part No.		Size		B	
Stainless	Aluminum	Tube Size	Clamp Size	ins	mm
TF-08-WM-DO-7	TF-08-WM-DO-J	1/2"	-08	0.7	18.00
TF-10-WM-DO-7	TF-10-WM-DO-J	5/8"	-10	0.71	18.00
TF-12-WM-DO-7	TF-12-WM-DO-J	3/4"	-12	0.79	20.00
TF-16-WM-DO-7	TF-16-WM-DO-J	1"	-16	0.84	21.45
TF-20-WM-DO-7	TF-20-WM-DO-J	1-1/4"	-20	0.84	21.45
---	TF-24-WM-DO-J	1-1/2"	-24	1.11	28.20
---	TF-28-WM-DO-J	1-3/4"	-28	1.11	28.20

Wiggins Female - Tube Fitting (Socket Weld)

Part No.		Size		B	
Stainless	Aluminum	Tube Size	Clamp Size	ins	mm
Single 'O' Ring					
TF-16-WF-7	---	1"	-16	1.11	29.35
TF-20-WF-7	---	1-1/4"	-20	1.16	29.50
---	TF-28-WF-J	1-3/4"	-28	1.29	32.85
Double 'O' Ring					
TF-08-WFFD-7	TF-08-WFFD-J	1/2"	-08	0.84	21.4
TF-10-WFFD-7	TF-10-WFFD-J	5/8"	-10	0.84	21.4
TF-12-WFFD-7	TF-12-WFFD-J	3/4"	-12	1.04	26.4
TF-16-12-WFFD-7	---	1"	-12	1.31	33.4
TF-16-WFFD-7	TF-16-WFFD-J	1"	-16	1.11	28.35
TF-20-WFFD-7	TF-20-WFFD-J	1-1/4"	-20	1.16	29.50
---	TF-24-WFFD-J	1-1/2"	-24	1.29	32.85
---	TF-28-WFFD-J	1-3/4"	-28	1.29	32.85



Crimp Tail Form (PROGold Hose) - Tube Fitting (Socket Weld)

Part No.		Size		B	
Stainless	Aluminum	Hose Size	Tube Size	ins	mm
TF-06-AC-7	TF-06-AC-J	-06	3/8"	1.00	25.4
TF-08-AC-7	TF-08-AC-J	-08	1/2"	1.09	27.8
TF-10-AC-7	TF-10-AC-J	-10	5/8"	1.22	31.1
TF-12-AC-7	TF-12-AC-J	-12	3/4"	1.23	31.2
TF-16-AC-7	TF-16-AC-J	-16	1"	1.23	31.2
TF-20-AC-7	TF-20-AC-J	-20	1-1/4"	1.66	42.1

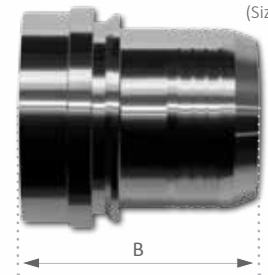
NOTE: These fittings **MUST** be welded to the tube **BEFORE** assembling to the hose.

Reducer Fittings					
TF-16-14-AC-7	---	-16	7/8"	1.23	31.2

NOTE: These fittings **MUST** be welded to the tube **BEFORE** assembling to the hose.



Inset shows application.



Crimp Tail Form (Smooth Bore Hose) - Tube Fitting (Socket Weld)

Part No.		Size		B	
Stainless	Aluminum	Hose Size	Tube Size	ins	mm
TF-03-SB-7	---	-03	3/16"	0.81	20.5
TF-04-SB-7	---	-04	1/4"	0.84	21.5

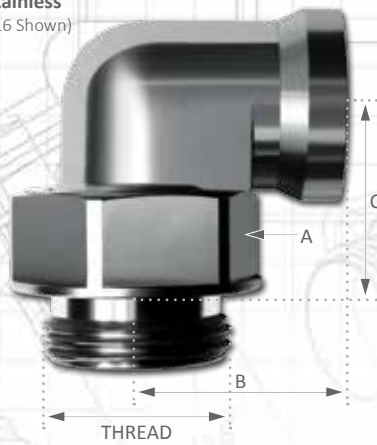
NOTE: These fittings **MUST** be welded to the tube **BEFORE** assembling to the hose.



Inset shows application.



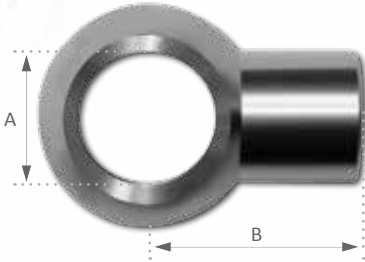
90° Stainless
(Size -16 Shown)



90° Male Swivel Port - Tube Fitting (Butt Weld)

Part No.				A		B		C	
Stainless	Tube Size	Port Size	Thread Size	ins	mm	ins	mm	ins	mm
TF-16-12-M7-90	1"	-12	1-1/16" x 12	1-1/4"	31.7	1.01	25.6	1.00	25.4

Stainless
(Size -06 Shown)



Banjo - Tube Fitting (Socket Weld)

Part No.	"A" Bolt Size	Tube Size	B	
Stainless			ins	mm
TF-0152-03-7	10mm	3/16"	0.45	11.5
TF-0031-04-7	12mm	1/4"	0.59	15.0
TF-0031-05-7	12mm	5/16"	0.59	15.0
TF-0032-06-7	12mm	3/8"	0.67	17.0

Wiggins Clamps - (See next page)



Wiggins Clamps

The W900 series of Adel Wiggins Flexible Tube Connector are qualified to the Military and Aerospace requirements of Mil-C-22263, plus over 30 years of proven reliability within the Motorsports industry.

Removed and installed with only one hand quickly and easily, whether they are used with tubing or hose fittings.

Integral electrical bonding feature eliminates external damps, fasteners and Jumper wire.

Operating Pressure: 125 p.s.i.
Proof Pressure: 250 p.s.i.
Burst Pressure: 375 p.s.i.
Flexibility: +/- 4° total angular tube flexure
 (max. angular misalignment) (+ 2° per tube centerline)
Temperature Range: Dependent on 'O' Ring material.



Clamp

Sleeve

Clamp with Sleeve

Clamp Size	Tube Size	Part No.	Part No.	Part No.
		Aluminum Clamp	Aluminum Clamp/Sleeve	Sleeve
-08	1/2"	W994-08D	W991-08DE	W908B-08D
-10	5/8"	W994-10D	W991-10DE	W908B-10D
-12	3/4"	W994-12D	W991-12DE	W908B-12D
-16	1"	W994-16D	W991-16DE	W908B-16D
-20	1-1/4"	W994-20D	W991-20DE	W908B-20D
-24	1-1/2"	W994-24D	W991-24DE	W908B-24D
-28	1-3/4"	W994-28D	W991-28DE	W908B-28D
-32	2"	W994-32D	W991-32DE	W908B-32D
-40	2-1/2"	W994-40D	W991-40DE	W908B-40D
-48	3"	W994-48D	W991-48DE	W908B-48D
-56	3-1/2"	W994-56D	W991-56DE	W908B-56D
-64	4"	W994-64D	W991-64DE	W908B-64D



Wiggins Caps & Plugs

Part No.	Size
Caps	ins
Aluminum	ins
W-CAP-08	1/2"
W-CAP-10	5/8"
W-CAP-12	3/4"
W-CAP-16	1"
W-CAP-20	1-1/4"
W-CAP-24	1-1/2"
W-CAP-28	1-3/4"
W-CAP-32	2"
W-CAP-40	2-1/2"



Aluminum
(Size -20 Shown)

Part No.	Size
Plugs	ins
Aluminum	ins
W-PLUG-08	1/2"
W-PLUG-10	5/8"
W-PLUG-12	3/4"
W-PLUG-16	1"
W-PLUG-20	1-1/4"
W-PLUG-24	1-1/2"
W-PLUG-28	1-3/4"
W-PLUG-32	2"
W-PLUG-40	2-1/2"



Aluminum
(Size -20 Shown)

Part No.	Size	Size
Plastic Caps	ins	ins
VC-725-16	-08	1/2"
VC-875-16	-10	5/8"
VC-1062-16	-12	3/4"
VC-1312-16	-16	1"
VC-1593-16	-20	1-1/4"
VC-1875-16	-24	1-1/2"
VC-2125-16	-28	1-3/4"

Adapters

At Brown & Miller Racing Solutions we offer a comprehensive range of off-the-shelf adapters.

To complement this we are increasingly called upon to use our knowledge and expertise to custom design adapter solutions, working in partnership with designers and specifiers for race teams and engine builders.

We manufacture anything from one-offs to multiple runs. As part of the design process we can also "print" a solid model.



NPT Adapters



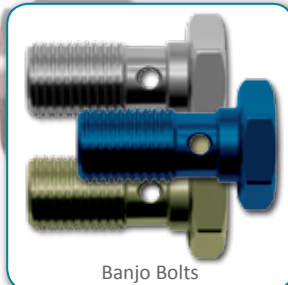
AN Adapters



Nuts, Caps & Plugs



Metric Adapters



Banjo Bolts



Wiggins Adapters



Port Thread Adapters



Weld On Adapters

Straight JIC Male/NPT Male (AN816)

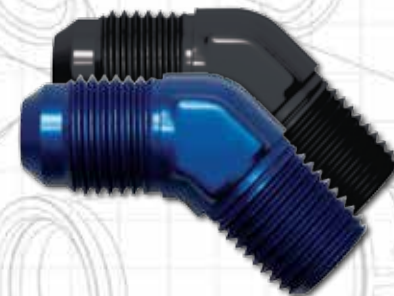
Part No.	JIC Male	NPT Thread	Material
BLUE X=D / BLACK X=DBLK / STAINLESS=C			
AN816-3X	-03	1/8"	Alum
AN816-3C	-03	1/8"	SS
AN816-4X	-04	1/8"	Alum
AN816-4-4X	-04	1/4"	Alum
AN816-6-2X	-06	1/8"	Alum
AN816-6X	-06	1/4"	Alum
AN816-6-6X	-06	3/8"	Alum
AN816-6-8X	-06	1/2"	Alum
AN816-7X	-08	1/4"	Alum
AN816-8X	-08	3/8"	Alum
AN816-10X	-10	1/2"	Alum
AN816-10-12X	-10	3/4"	Alum
AN816-12-8X	-12	1/2"	Alum
AN816-12X	-12	3/4"	Alum
AN816-12-16X	-12	1"	Alum
AN816-16-12X	-16	3/4"	Alum
AN816-16X	-16	1"	Alum
AN816-20X	-20	1-1/4"	Alum



Aluminum
(Size -06 Shown)

45° JIC Male/NPT Male (AN823)

Part No.	JIC Male	NPT Thread	Material
BLUE X=D / BLACK X=DBLK / STAINLESS=C			
AN823-3C	-03	1/8"	SS
AN823-3X	-03	1/8"	Alum
AN823-4X	-04	1/8"	Alum
AN823-4-4X	-04	1/4"	Alum
AN823-4-6X	-04	3/8"	Alum
AN823-6-2X	-06	1/8"	Alum
AN823-6X	-06	1/4"	Alum
AN823-6-6X	-06	3/8"	Alum
AN823-6-8X	-06	1/2"	Alum
AN823-7X	-08	1/4"	Alum
AN823-8X	-08	3/8"	Alum
AN823-8-8X	-08	1/2"	Alum
AN823-10-6X	-10	3/8"	Alum
AN823-10X	-10	1/2"	Alum
AN823-10-12X	-10	3/4"	Alum
AN823-12-8X	-12	1/2"	Alum
AN823-12X	-12	3/4"	Alum
AN823-12-16X	-12	1"	Alum
AN823-16-12X	-16	3/4"	Alum
AN823-16X	-16	1"	Alum
AN823-20X	-20	1-1/4"	Alum



45° Aluminum
(Size -06 Shown)

90° JIC Male/NPT Male (AN822)

Part No.	JIC Male	NPT Thread	Material
BLUE X=D / BLACK X=DBLK / STAINLESS=C			
AN822-3C	-03	1/8"	SS
AN822-3X	-03	1/8"	Alum
AN822-4X	-04	1/8"	Alum
AN822-4-4X	-04	1/4"	Alum
AN822-4-6X	-04	3/8"	Alum
AN822-6-2X	-06	1/8"	Alum
AN822-6X	-06	1/4"	Alum
AN822-6-6X	-06	3/8"	Alum
AN822-6-8X	-06	1/2"	Alum
AN822-7X	-08	1/4"	Alum
AN822-8X	-08	3/8"	Alum
AN822-8-8X	-08	1/2"	Alum
AN822-10-6X	-10	3/8"	Alum
AN822-10X	-10	1/2"	Alum
AN822-10-12X	-10	3/4"	Alum
AN822-12-8X	-12	1/2"	Alum
AN822-12X	-12	3/4"	Alum
AN822-12-16X	-12	1"	Alum
AN822-16-12X	-16	3/4"	Alum
AN822-16X	-16	1"	Alum
AN822-20X	-20	1-1/4"	Alum



90° Aluminum
(Size -06 Shown)

'T' Piece NPT on 'T' (AN825)

Part No.	JIC Male	NPT Thread	Material
BLUE X=D / BLACK X=DBLK / STAINLESS=C			
AN825-3X	-03	1/8"	Alum
AN825-3C	-03	1/8"	SS
AN825-4X	-04	1/8"	Alum
AN825-6X	-06	1/4"	Alum
AN825-8X	-08	3/8"	Alum
AN825-10X	-10	1/2"	Alum
AN825-12X	-12	3/4"	Alum
AN825-16X	-16	1"	Alum
AN825-20X	-20	1-1/4"	Alum



Aluminum
(Size -08 Shown)

'T' Piece NPT on Run (AN826)

Part No.	JIC Male	NPT Thread	Material
BLUE X=D / BLACK X=DBLK / STAINLESS=C			
AN826-3X	-03	1/8"	Alum
AN826-3C	-03	1/8"	SS
AN826-4X	-04	1/8"	Alum
AN826-6X	-06	1/4"	Alum
AN826-8X	-08	3/8"	Alum
AN826-10X	-10	1/2"	Alum
AN826-12X	-12	3/4"	Alum
AN826-16X	-16	1"	Alum
AN826-20X	-20	1-1/4"	Alum



Aluminum
(Size -06 Shown)

Aluminum
(Size -10 Shown)



Male / Male Equal (AN815)

Part No.	JIC Male	Material
BLUE X=D / BLACK X=DBLK / STAINLESS=C		
AN815-02C	-02	SS
AN815-03C	-03	SS
AN815-03X	-03	Alum
AN815-04C	-04	SS
AN815-04X	-04	Alum
AN815-06X	-06	Alum
AN815-08X	-08	Alum
AN815-10X	-10	Alum
AN815-12X	-12	Alum
AN815-16X	-16	Alum
AN815-20X	-20	Alum

Aluminum
(Size -06 Shown)



'T' Piece Equal (AN824)

Part No.	JIC Male	Material
BLUE X=D / BLACK X=DBLK / STAINLESS=C		
AN824-2C	-02	SS
AN824-3C	-03	SS
AN824-3X	-03	Alum
AN824-4C	-04	SS
AN824-4X	-04	Alum
AN824-6X	-06	Alum
AN824-8X	-08	Alum
AN824-10X	-10	Alum
AN824-12X	-12	Alum
AN824-16X	-16	Alum
AN824-20X	-20	Alum

Aluminum
(Size -12 Shown)



Male / Male Equal Bulkhead (AN832)

Part No.	JIC Male	Material
BLUE X=D / BLACK X=DBLK / STAINLESS=C		
AN832-2C	-02	SS
AN832-3X	-03	Alum
AN832-3X	-03	Alum
AN832-4C	-04	SS
AN832-4X	-04	Alum
AN832-6X	-06	Alum
AN832-8X	-08	Alum
AN832-10X	-10	Alum
AN832-12X	-12	Alum
AN832-16X	-16	Alum
AN832-20X	-20	Alum

Aluminum
(Size -12 Shown)



'T' Piece Bulkhead on 'T' (AN834)

Part No.	JIC Male	Material
BLUE X=D / BLACK X=DBLK		
AN834-03X	-03	Alum
AN834-04X	-04	Alum
AN834-06X	-06	Alum
AN834-08X	-08	Alum
AN834-10X	-10	Alum
AN834-12X	-12	Alum
AN834-16X	-16	Alum
AN834-20X	-20	Alum

90° Aluminum
(Size -12 Shown)



90° Male/Male Bulkhead (AN833)

Part No.	JIC Male	Material
BLUE X=D / BLACK X=DBLK		
AN833-03X	-03	Alum
AN833-04X	-04	Alum
AN833-06X	-06	Alum
AN833-08X	-08	Alum
AN833-10X	-10	Alum
AN833-12X	-12	Alum
AN833-16X	-16	Alum
AN833-20X	-20	Alum

45° Aluminum
(Size -10 Shown)



45° Male/Male Bulkhead (AN837)

Part No.	JIC Male	Material
BLUE X=D / BLACK X=DBLK		
AN837-03X	-03	Alum
AN837-04X	-04	Alum
AN837-06X	-06	Alum
AN837-08X	-08	Alum
AN837-10X	-10	Alum
AN837-12X	-12	Alum
AN837-16X	-16	Alum
AN837-20X	-20	Alum

Aluminum
(Size -12 Shown)



'T' Piece Bulkhead on Run (AN804)

Part No.	JIC Male	Material
BLUE X=D / BLACK X=DBLK		
AN804-03X	-03	Alum
AN804-04X	-04	Alum
AN804-06X	-06	Alum
AN804-08X	-08	Alum
AN804-10X	-10	Alum
AN804-12X	-12	Alum
AN804-16X	-16	Alum
AN804-20X	-20	Alum

Lock Nut (AN924)

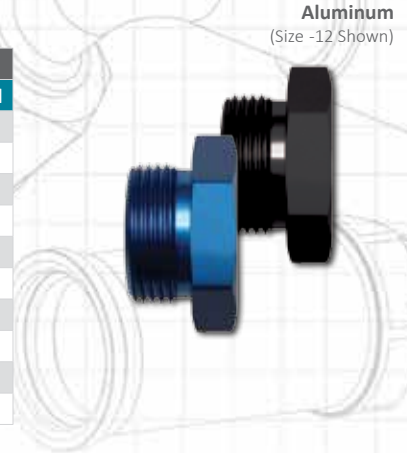
Part No.	JIC Male	Material
BLUE X=D / BLACK X=DBLK / STAINLESS=C		
AN924-02C	-02	SS
AN924-03C	-03	SS
AN924-03X	-03	Alum
AN924-04C	-04	SS
AN924-04X	-04	Alum
AN924-06X	-06	Alum
AN924-08X	-08	Alum
AN924-10X	-10	Alum
AN924-12X	-12	Alum
AN924-16X	-16	Alum
AN924-20X	-20	Alum



Aluminum
(Size -10 Shown)

ORB Male Plug (AN814)

Part No.	JIC Male	Material
BLUE X=D / BLACK X=DBLK		
AN814-02X	-02	Alum
AN814-03X	-03	Alum
AN814-04X	-04	Alum
AN814-06X	-06	Alum
AN814-08X	-08	Alum
AN814-10X	-10	Alum
AN814-12X	-12	Alum
AN814-16X	-16	Alum
AN814-20X	-20	Alum



Aluminum
(Size -12 Shown)

JIC Male Plug (AN806)

Part No.	JIC Male	Material
BLUE X=D / BLACK X=DBLK		
AN806-02X	-02	Alum
AN806-03X	-03	Alum
AN806-04X	-04	Alum
AN806-06X	-06	Alum
AN806-08X	-08	Alum
AN806-10X	-10	Alum
AN806-12X	-12	Alum
AN806-16X	-16	Alum
AN806-20X	-20	Alum



Aluminum
(Size -12 Shown)

Male/Male Unequal (AN919)

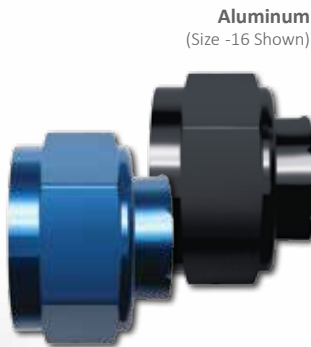
Part No.	JIC Male	Material
BLUE X=D / BLACK X=DBLK / STAINLESS=C		
AN919-02-03PB	-02 /-03	Plt. Steel
AN919-02-04C	-02 /-04	SS
AN919-03-04X	-03 /-04	Alum
AN919-03-06X	-03 /-06	Alum
AN919-04-06X	-04 /-06	Alum
AN919-04-08X	-04 /-08	Alum
AN919-06-08X	-06 /-08	Alum
AN919-06-10X	-06 /-10	Alum
AN919-08-10X	-08 /-10	Alum
AN919-06-12X	-06 /-12	Alum
AN919-08-12X	-08 /-12	Alum
AN919-10-12X	-10 /-12	Alum
AN919-10-16X	-10 /-16	Alum
AN919-12-16X	-12 /-16	Alum
AN919-12-20X	-12 /-20	Alum
AN919-16-20X	-16 /-20	Alum
AN919-16-24X	-16 /-24	Alum
AN919-20-24X	-20 /-24	Alum



Aluminum
(Size -20 /-24 Shown)

JIC Female Cap (AN929)

Part No.	JIC Male	Material
BLUE X=D / BLACK X=DBLK		
AN929-02X	-02	Alum
AN929-03X	-03	Alum
AN929-04X	-04	Alum
AN929-06X	-06	Alum
AN929-08X	-08	Alum
AN929-10X	-10	Alum
AN929-12X	-12	Alum
AN929-16X	-16	Alum
AN929-20X	-20	Alum
AN929-24X	-24	Alum



Aluminum
(Size -16 Shown)

Reducer Fittings

Part No.	JIC Male to Female	Female Thread	Male Thread	Material
BLUE X=D / BLACK X=DBLK				
AN950-04-03X	-04	-03		Alum
AN950-06-04X	-06	-04		Alum
AN950-08-04X	-08	-04		Alum
AN950-10-08X	-10	-08		Alum
AN950-12-08X	-12	-08		Alum
AN950-12-10X	-12	-10		Alum
AN950-16-12X	-16	-12		Alum
AN950-20-16X	-20	-16		Alum
ALUMINUM				
AN951-03-04X	-03	-04		Alum
AN951-04-06X	-04	-06		Alum
AN951-06-08X	-06	-08		Alum
AN951-08-10X	-08	-10		Alum
AN951-10-12X	-10	-12		Alum
AN951-12-16X	-12	-16		Alum



Aluminum
(Size -12 /-10 Shown)

Coupler Female/Female (FCP)

Part No.	JIC Male	Material
BLUE X=D / BLACK X=DBLK		
FCP-03X	-03	Alum
FCP-04X	-04	Alum
FCP-06X	-06	Alum
FCP-08X	-08	Alum
FCP-10X	-10	Alum
FCP-12X	-12	Alum
FCP-16X	-16	Alum
FCP-20X	-20	Alum

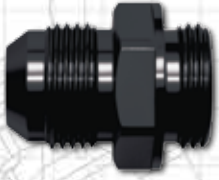


Aluminum
(Size -06 Shown)



Aluminum
(Size -06 /-08 Shown)

Aluminum
(Size -08 Shown)



JIC Male to ORB Male

Part No.	JIC Male	ORB Thread	Material
ALUMINUM = 4 / STAINLESS = 7			
J02-K02-4	-02	-02	Alum
J03-K02-4	-03	-02	Alum
J03-K02-7	-03	-02	SS
J03-K03-4	-03	-03	Alum
J03-K03-7	-03	-03	SS
J04-K04-4	-04	-04	Alum
J04-K06-4	-04	-06	Alum
J06-K06-4	-06	-06	Alum
J06-K08-4	-06	-08	Alum
J08-K08-4	-08	-08	Alum
J08-K10-4	-08	-10	Alum
J10-K10-4	-10	-10	Alum
J10-K12-4	-10	-12	Alum
J12-K10-4	-12	-10	Alum
J12-K12-4	-12	-12	Alum
J16-K12-4	-16	-12	Alum
J16-K16-4	-16	-16	Alum
J20-K20-4	-20	-20	Alum

90° Aluminum
(Size -04 Shown)



90° NPT Female to JIC Male

Part No.	JIC Male	NPT Thread	Material
ALUMINUM = 3			
90-J04-T03-3	-04	1/8"	Alum

Aluminum
(Size -06 Shown)



'T' Piece Unequal - Female on 'T'

Part No.	JIC Male	NPT Thread	Material
ALUMINUM = 3 / STAINLESS = 7			
J03J03F06-3	-06	-03	Alum
J03J03F06-7	-06	-03	SS

Aluminum
(Size -12 Shown)



'T' Piece Equal - Female on 'T' (CPL824)

Part No.	JIC Male	NPT Thread	Material
ALUMINUM = D			
CPL824-03D	-03	---	Alum
CPL824-04D	-04	---	Alum
CPL824-06D	-06	---	Alum
CPL824-08D	-08	---	Alum
CPL824-10D	-10	---	Alum
CPL824-12D	-12	---	Alum

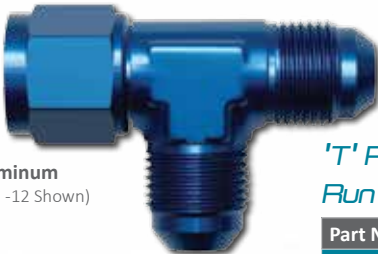
Aluminum
(Size -04 Shown)



'T' Piece Unequal

Part No.	Male Thread 1	Male Thread 2	Male Thread 3	Material
ALUMINUM = 3				
J03J04J03-3	-03	-04	-03	Alum

Aluminum
(Size -12 Shown)



'T' Piece Equal - Female on Run (CPL826)

Part No.	JIC Male	NPT Thread	Material
ALUMINUM = D			
CPL826-03D	-03	---	Alum
CPL826-04D	-04	---	Alum
CPL826-06D	-06	---	Alum
CPL826-08D	-08	---	Alum
CPL826-10D	-10	---	Alum
CPL826-12D	-12	---	Alum

Aluminum
(Size -04 Shown)



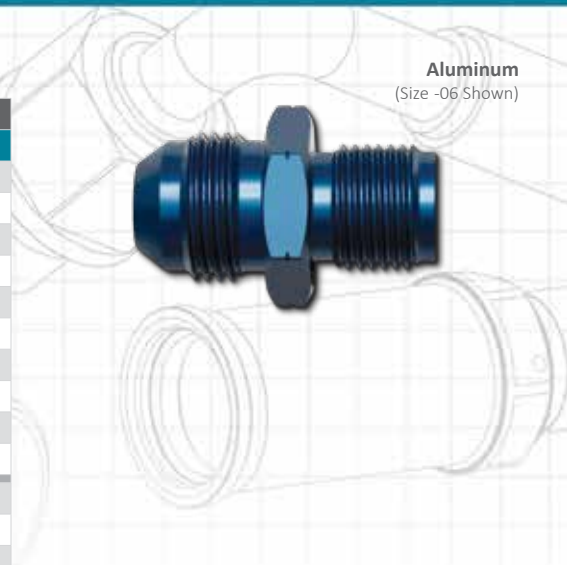
NPT Male Plug (AN932)

Part No.	JIC Male	Material
ALUMINUM = DBLK		
AN932-02DBLK	1/8"	Alum
AN932-03DBLK	1/4"	Alum
AN932-04DBLK	3/8"	Alum
AN932-05DBLK	1/2"	Alum

JIC Male to Metric Male (Concave)

Aluminum
(Size -06 Shown)

Part No.	Aluminum	Stainless Steel	JIC Male	Metric Thread
	ALUMINUM = D	STAINLESS = C		
---		306-02-31C	-02	M10 x 1.00
---		306-02-32C	-02	M10 x 1.25
306-03-31D		306-03-31C	-03	M10 x 1.00
306-03-32D		306-03-32C	-03	M10 x 1.25
306-03-35D		---	-03	M10 x 1.50
306-03-M12D		---	-03	M10 x 1.50
306-03-M121D		306-03-M121C	-03	M12 x 1.00
306-03-M14D		---	-03	M14 x 1.50
306-03-M16D		---	-03	M16 x 1.50
306-04-31D		---	-04	M10 x 1.00
306-04-32D		---	-04	M10 x 1.25
306-04-M12D		---	-04	M12 x 1.50
306-04-M121D		---	-04	M12 x 1.00
306-04-M14D		---	-04	M14 x 1.50
306-04-M16D		---	-04	M16 x 1.50
306-04-M20D		---	-04	M20 x 1.50
306-06-31D		---	-06	M10 x 1.00
306-06-32D		---	-06	M10 x 1.25
306-06-M121D		---	-06	M12 x 1.00
306-06-M12D		---	-06	M12 x 1.50
306-06-M14D		---	-06	M14 x 1.50
306-06-M16D		---	-06	M16 x 1.50
306-06-M18D		---	-06	M18 x 1.50
306-06-M20D		---	-06	M20 x 1.50
306-06-M22D		---	-06	M22 x 1.50
306-06-M24D		---	-06	M24 x 1.50
306-08-M12D		---	-08	M12 x 1.50
306-08-M14D		---	-08	M14 x 1.50
306-08-M16D		---	-08	M16 X 1.50
306-08-M18D		---	-08	M18 X 1.50
306-08-M20D		---	-08	M20 X 1.50
306-08-M22D		---	-08	M22 X 1.50
306-08-M24D		---	-08	M24 X 1.50
306-08-M26D		---	-08	M26 X 1.50
306-10-M16D		---	-10	M16 X 1.50
306-10-M18D		---	-10	M18 X 1.50
306-10-M20D		---	-10	M20 X 1.50
306-10-M22D		---	-10	M22 X 1.50
306-10-M24D		---	-10	M24 X 1.50
306-10-M26D		---	-10	M26 X 1.50
306-10-M30D		---	-10	M30 X 1.50
306-12-M18D		---	-12	M18 X 1.50
306-12-M20D		---	-12	M20 X 1.50
306-12-M22D		---	-12	M22 X 1.50
306-12-M24D		---	-12	M24 X 1.50
306-12-M26D		---	-12	M26 X 1.50
306-12-M30D		---	-12	M30 X 1.50
306-16-M22D		---	-16	M22 X 1.50
306-16-M24D		---	-16	M24 X 1.50
306-16-M26D		---	-16	M26 X 1.50
306-16-M30D		---	-16	M30 X 1.50



ORB Male to Wiggins Male (Single 'O' Ring)

Part No.			
	ORB Male	Wiggins Male	Material
ALUMINUM = 3 / STAINLESS = 7			
K06-WM08-3	-06	-08	Alum
K08-WM08-3	-08	-08	Alum
K08-WM10-3	-08	-10	Alum
K10-WM10-3	-10	-10	Alum
K10-WM12-3	-10	-12	Alum
K12-WM12-3	-12	-12	Alum
K12-WM16-3	-12	-16	Alum
K12-WM16-7	-12	-16	SS
K16-WM16-3	-16	-16	Alum
K16-WM16-7	-16	-16	SS
K16-WM20-7	-16	-20	SS
K20-WM20-3	-20	-20	Alum



Aluminum
(Size -12 Shown)

Wiggins Male to Wiggins Male (Single 'O' Ring)

Part No.			
	Male 1	Male 2	Material
ALUMINUM = 3			
WM12-WM12-3	-12	-12	Alum



Aluminum
(Size -12 Shown)

ORB Male to Wiggins Male (Double 'O' Ring)

Part No.			
	ORB Male	Wiggins Male	Material
ALUMINUM = 3			
K08-WMD08-3	-08	-08	Alum
K10-WMD08-3	-10	-08	Alum
K10-WMD10-3	-10	-10	Alum
K12-WMD12-3	-12	-12	Alum
K12-WMD16-3	-12	-16	Alum



Aluminum
(Size -10 Shown)

Bulkhead JIC Male to Wiggins Male

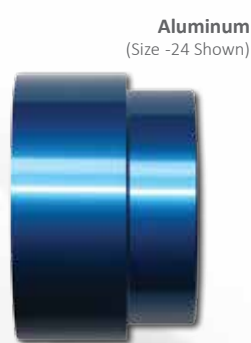
Part No.			
	JIC Male	Wiggins Male	Material
ALUMINUM = 3			
BH06-WM08-3	-06	-08	Alum
BH12-WM12-3	-12	-12	Alum
BH16-WM16-3	-16	-16	Alum



Aluminum
(Size -16 Shown)

ORB Female to Wiggins Female

Part No.			
	ORB Female	Wiggins Female	Material
ALUMINUM = 3			
Single 'O' Ring			
C10-WF16-3	-10	-16	Alum
C10-WF28-3	-10	-28	Alum
C16-WF28-3	-16	-28	Alum
C24-WF28-3	-24	-28	Alum
Single 'O' Ring			
C08-WFD24-3	-08	-24	Alum
C16-WFD20-3	-16	-20	Alum



Aluminum
(Size -24 Shown)

Aluminum
(Size -10 Shown)



Male JIC (AN) - (Weld-On)

Part No.	Part No.	Hose Size	Thread Size
Aluminum Fitting Part No.	Stainless Fitting Part No.		
ALUMINUM = J			
WO-06-JJ	---	-06	9/16" x 18
WO-08-JJ	---	-08	3/4" x 16
WO-10-JJ	---	-10	7/8" x 14
WO-12-JJ	---	-12	1-1/16" x 12
WO-16-JJ	---	-16	1-5/16" x 12
WO-20-JJ	---	-20	1-5/8" x 12

Aluminum
(Size -10 Shown)



Weld On ORB Female

Part No.	Part No.	Hose Size	Thread Size
Aluminum Fitting Part No.	Stainless Fitting Part No.		
ALUMINUM = J			
WO-03-ORBF-J	---	-03	3/8" x 24
WO-04-ORBF-J	---	-04	7/16" x 20
WO-06-ORBF-J	---	-06	9/16" x 18
WO-08-ORBF-J	---	-08	3/4" x 16
WO-10-ORBF-J	---	-10	7/8" x 14
WO-12-ORBF-J	---	-12	1-1/16" x 12
WO-16-ORBF-J	---	-16	1-5/16" x 12
WO-20-ORBF-J	---	-20	1-5/8" x 12

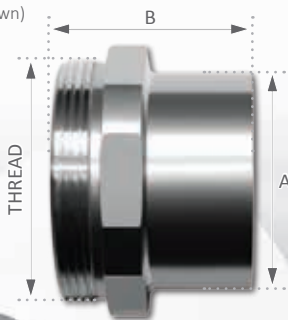
Aluminum
(Size -10 Shown)



Weld On NPT Female

Part No.	Part No.	Hose Size	Thread Size
Aluminum Fitting Part No.	Stainless Fitting Part No.		
ALUMINUM = J			
WO-03-TJ	---	-03	1/8" x 27
WO-04-TJ	---	-04	1/4" x 18
WO-06-TJ	---	-06	3/8" x 18
WO-08-TJ	---	-08	1/2" x 14
WO-12-TJ	---	-12	3/4" x 14
WO-16-TJ	---	-16	1" x 11.5
WO-20-TJ	---	-20	1-1/4" x 11.5

Aluminum
(Size -28 Shown)



Flareless Male Weld On

Part No.	Part No.	Hose Size	Thread Size	A		B	
Aluminum Fitting Part No.	Stainless Fitting Part No.			ins	mm	ins	mm
ALUMINUM = J							
TF-0021-28-J	---	-28	2-1/8" x 12	1.83	46.50	1.85	47.00
TF-0021-32-J	---	-32	2-3/8" x 12	2.12	53.78	1.85	47.00

Female/Female Union

Part No.		
Fitting Part No.	Thread 1	Thread 2
STAINLESS = 7		
18-0255-03-7	M10 x 1.0	-03

Stainless
(Size -03 Shown)



4 Way Cross Piece

Part No.				
Fitting Part No.	JIC Male 1	JIC Male 2	JIC Male 3	NPT Female
STAINLESS = 7				
18-0185-03-7	-03	-03	-03	1/8"

Stainless
(Size -03 Shown)



Female/Female Swivel Union

Part No.		
Fitting Part No.	NPT Female	JIC Female
STAINLESS = 7		
F03-T03-7	1/8"	-03

Stainless
(Size -03 Shown)



Couplings - in Partnership with STÄUBLI

In partnership with STÄUBLI, BMRS offers a comprehensive range of quick release couplings.

Applications include - shock absorbers, brake and hydraulic lines, quick-release couplings for fuel lines (filling, venting, sampling, safety break-away, etc.), lubrication and coolants.

STÄUBLI connectors are designed for safety and optimum lightweight. They are available in aluminum and titanium.

Both SPH and SPT couplings non-drip, clean break feature guarantees the integrity of fluids and makes a secure connection. FIA approved.



STÄUBLI

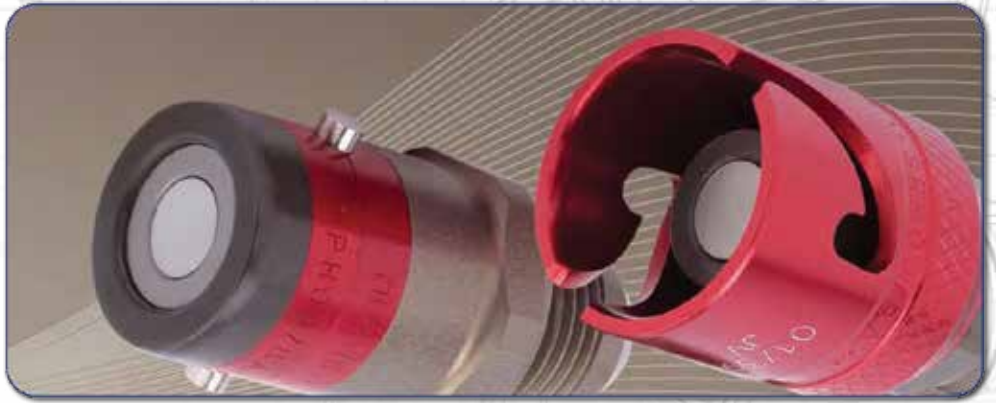
SPH/BA | SPT | RM/EA | CBR | SPM | JAC



SPH / BA Couplings

True Dry Break Couplings for: Shock Absorbers, Brakes, Hydraulic Lines, Lubrication and Coolants.

The flush face design ensures no air inclusion into the system when connecting as well as no leakage when disconnecting. This eliminates the need to purge the system and permits the use of pre-filled hose.



Technical Characteristics

	SPH 03/BA		SPH 05/BA		SPH 08/BA
Flow diameter (ins)	1/8"		13/64"		5/16"
Cross section (in ²)	0.011		0.030		0.078
Shutoff system	Double		Double		Double
Max Operating Pressure (psi)	Aluminum	Titanium	Aluminum	Titanium	Aluminum
	2900	5076	2320	3190	1160

NOTE: Other sizes are available. Contact us for details.

Construction

2 Constructions





	High Strength Aluminum Code L		Main Parts in Titanium Code TI	
Available Colors:				









2 Types of Seal





For Brake Fluid	Ethylene Propylene (EPDM)	Add / JE at the end of the part number
For Oils, Mineral Greases, Nitrogen, Gasoline	Fluorocarbon (FPM)	Add / JV at the end of the part number













Part Numbers SPH 03/BA

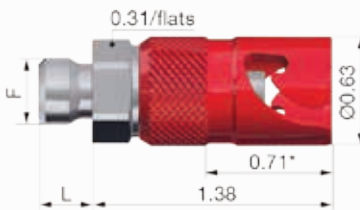
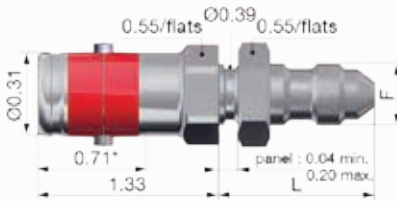
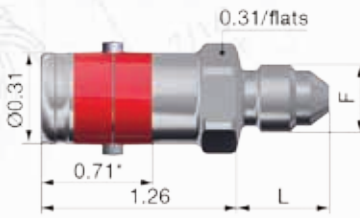
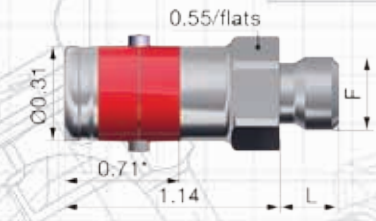
Socket, Metric Male Thread					
F	L	Weight (oz)		Part Number	
		Aluminum	Titanium	Aluminum	Titanium
M10 x 1.0	0.31	0.39	0.56	 SPH 03.1410/BA/L/KR  SPH 03.1410/BA/L/KJ	 SPH 03.1410/BA/TI/KB  SPH 03.1410/BA/TI/KV

Socket, JIC Male Thread					
F	L	Weight (oz)		Part Number	
		Aluminum	Titanium	Aluminum	Titanium
3/8"-24 JIC-03	0.47	0.39	0.56	 SPH 03.1652/BA/L/KR  SPH 03.1652/BA/L/KJ	 SPH 03.1652/BA/TI/KB  SPH 03.1652/BA/TI/KV
7/16"-20 JIC-04	0.55	0.42	0.63	 SPH 03.1653/BA/L/KR  SPH 03.1653/BA/L/KJ	 SPH 03.1653/BA/TI/KB  SPH 03.1653/BA/TI/KV





Panel Mounted Socket, JIC Male Thread					
F	L	Weight (oz)		Part Number	
		Aluminum	Titanium	Aluminum	Titanium
3/8"-24 JIC-03	0.94	0.49	1.0	 SPH 03.2652/BA/L/KR  SPH 03.2652/BA/L/KJ	 SPH 03.2652/BA/TI/KB  SPH 03.2652/BA/TI/KV

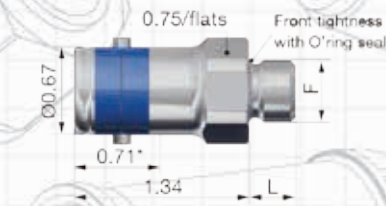
Plug, Metric Male Thread					
F	L	Weight (oz)		Part Number	
		Aluminum	Titanium	Aluminum	Titanium
M10 x 1.0	0.31	0.42	---	 SPH 03.7410/BA/L/KR  SPH 03.7410/BA/L/KJ	---









Plug, JIC Male Thread					
F	L	Weight (oz)		Part Number	
		Aluminum	Titanium	Aluminum	Titanium
3/8"-24 JIC-03	0.47	0.42	0.56	 SPH 03.7652/BA/L/KR  SPH 03.7652/BA/L/KJ	 SPH 03.7652/BA/TI/KB  SPH 03.7652/BA/TI/KV
7/16"-20 JIC-04	0.55	0.42	0.63	 SPH 03.7653/BA/L/KR  SPH 03.7653/BA/L/KJ	 SPH 03.7653/BA/TI/KB  SPH 03.7653/BA/TI/KV











Part Numbers SPH 05/BA

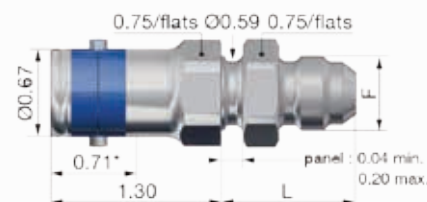
Socket, Metric Male Thread					
F	L	Weight (oz)		Part Number	
		Aluminum	Titanium	Aluminum	Titanium
M12 x 1.0	0.35	---	0.99	 SPH 05.1412/BA/L/KR	 SPH 05.1412/BA/TI/KB
				 SPH 05.1412/BA/L/KJ	 SPH 05.1412/BA/TI/KV











Socket, JIC Male Thread					
F	L	Weight (oz)		Part Number	
		Aluminum	Titanium	Aluminum	Titanium
7/16"-20 JIC-04	0.55	0.63	1.02	 SPH 05.1653/BA/L/KR	 SPH 05.1653/BA/TI/KB
				 SPH 05.1653/BA/L/KJ	 SPH 05.1653/BA/TI/KV
9/16"-18 JIC-06	0.55	0.67	0.95	 SPH 05.1655/BA/L/KR	 SPH 05.1655/BA/TI/KB
				 SPH 05.1655/BA/L/KJ	 SPH 05.1655/BA/TI/KV



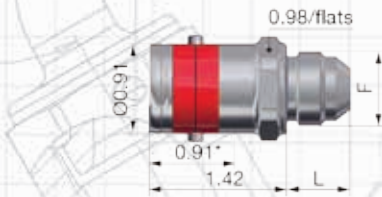
Panel Mounted Socket, JIC Male Thread					
F	L	Weight (oz)		Part Number	
		Aluminum	Titanium	Aluminum	Titanium
7/16"-20 JIC-04	1.02	0.81	1.27	 SPH 05.2653/BA/L/KR	 SPH 05.2653/BA/TI/KB
				 SPH 05.2653/BA/L/KJ	 SPH 05.2653/BA/TI/KV
9/16"-18 JIC-06	1.02	0.85	1.34	 SPH 05.2655/BA/L/KR	 SPH 05.2655/BA/TI/KB
				 SPH 05.2655/BA/L/KJ	 SPH 05.2655/BA/TI/KV







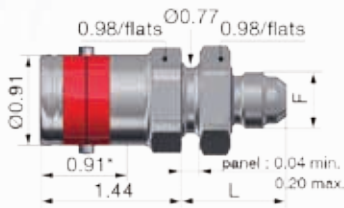
Plug, JIC Male Thread					
F	L	Weight (oz)		Part Number	
		Aluminum	Titanium	Aluminum	Titanium
7/16"-20 JIC-04	0.55	0.60	1.02	 SPH 05.7653/BA/L/KR	 SPH 05.7653/BA/TI/KB
				 SPH 05.7653/BA/L/KJ	 SPH 05.7653/BA/TI/KV
9/16"-18 JIC-06	0.55	0.67	1.69	 SPH 05.7655/BA/L/KR	 SPH 05.7655/BA/TI/KB
				 SPH 05.7655/BA/L/KJ	 SPH 05.7655/BA/TI/KV







Part Numbers SPH 08/BA







Socket, JIC Male Thread						
F	L	Weight (oz)		Part Number		
		Aluminum	Titanium	Aluminum	Titanium	
9/16"-18 JIC-06	0.55	1.13	---	 SPH 08.1655/BA/L/KR	---	
				 SPH 08.1655/BA/L/KJ	---	
3/4"-16 JIC-08	0.65	1.27	---	 SPH 08.1656/BA/L/KR	---	
				 SPH 08.1656/BA/L/KJ	---	



Panel Mounted Socket, JIC Male Thread						
F	L	Weight (oz)		Part Number		
		Aluminum	Titanium	Aluminum	Titanium	
9/16"-18 JIC-06	1.06	1.52	---	 SPH 08.2655/BA/L/KR	---	
				 SPH 08.2655/BA/L/KJ	---	
3/4"-16 JIC-08	1.18	1.62	---	 SPH 08.2656/BA/L/KR	---	
				 SPH 08.2656/BA/L/KJ	---	



Plug, JIC Male Thread						
F	L	Weight (oz)		Part Number		
		Aluminum	Titanium	Aluminum	Titanium	
9/16"-18 JIC-06	0.55	1.02	---	 SPH 08.7655/BA/L/KR	---	
				 SPH 08.7655/BA/L/KJ	---	
3/4"-16 JIC-08	0.65	1.16	---	 SPH 08.7656/BA/L/KR	---	
				 SPH 08.7656/BA/L/KJ	---	

SPT Couplings

Quick Release / Break-Away Coupling for Fuel Systems:

- Filling
- Venting
- Safety break-away
- Sampling
- FIA approved

All Fluids Compatibility:

- All types of fuel
- Ethanol
- Oil



Technical Characteristics	SPT 05	SPT 08	SPT 12	SPT 12 RALLYE RAID
Nominal diameter (ins)	13/64"	5/16"	15/32"	15/32"
Max. Working pressure* (psi)	174	174	174	174
Weight* socket + plug (oz)	1.446	2.822	9.171	10.406
Cross section (in ²)	0.030	0.078	0.175	0.175
Shut-off system	Double	Double	Double	Double
Option break-away				

* depends on references

Construction:

High strength aluminum

Seals:

-JKV Version: Perfluoroelastomer in the fluid (other: Fluorosiliconelastomer).

-JV Version: All Fluorocarbon

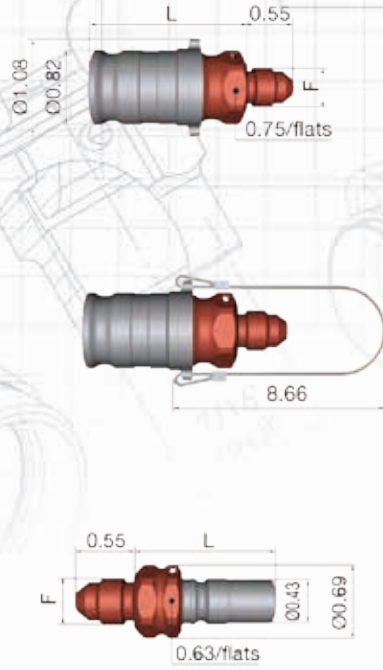
	Motorbike	Car
Safety Break-Away	SPT05	SPT08
Fuel Connection	SPT05	SPT08
Fuel Sampling	SPT05	SPT08
Refueling	---	SPT12
Rallye Raid Version	---	SPT12



FIA Approved.



Part Numbers SPT 05



SPT 05 - JIC Male Thread Socket

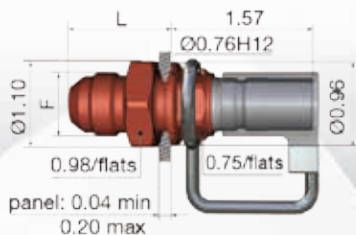
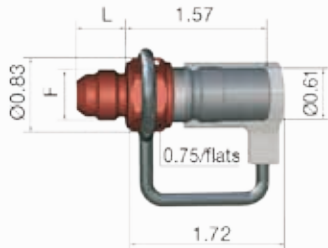
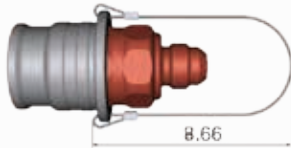
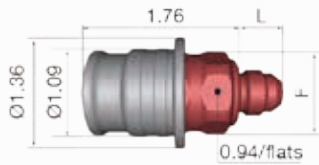
Thread F	L	Part Number	
UNF	ins	JV Seal	JKV Seal
7/16"-20 JIC-04	1.63	SPT 05.1653/L/JV	SPT 05.1653/L/JKV
9/16"-18 JIC-06	1.58	SPT 05.1655/L/JV	SPT 05.1655/L/JKV

SPT 05 - JIC Male Thread Socket with Safety Break-Away Lanyard

Thread F	L	Part Number	
UNF	ins	JV Seal	JKV Seal
7/16"-20 JIC-04	0.55	SPT 05.3653/L/JV	SPT 05.3653/L/JKV
9/16"-18 JIC-06	0.55	SPT 05.3655/L/JV	SPT 05.3655/L/JKV

SPT 05 - JIC Male Thread Plug

Thread F	L	Part Number	
UNF	ins	JV Seal	JKV Seal
7/16"-20 JIC-04	1.28	SPT 05.7653/L/JV	SPT 05.7653/L/JKV
9/16"-18 JIC-06	1.26	SPT 05.7655/L/JV	SPT 05.7655/L/JKV



Part Numbers SPT 08

SPT 08 - JIC Male Thread Socket

Thread F	L	Part Number	
UNF	ins	JV Seal	JKV Seal
9/16"-18 JIC-06	0.55	SPT 08.1655/L/JV	SPT 08.1655/L/JKV
3/4"-16 JIC-08	0.66	SPT 08.1656/L/JV	SPT 08.1656/L/JKV

SPT 08 - JIC Male Thread Socket with Safety Break-Away Lanyard

Thread F	L	Part Number	
UNF	ins	JV Seal	JKV Seal
9/16"-18 JIC-06	0.55	SPT 08.3655/L/JV	SPT 08.3655/L/JKV
3/4"-16 JIC-08	0.66	SPT 08.3656/L/JV	SPT 08.3656/L/JKV

SPT 08 - JIC Male Thread Plug with Rubber Tight Dust Cap

Thread F	L	Part Number	
UNF	ins	JV Seal	JKV Seal
9/16"-18 JIC-06	0.55	SPT 08.7655/L/JV	SPT 08.7655/L/JKV
3/4"-16 JIC-08	0.66	SPT 08.7656/L/JV	SPT 08.7656/L/JKV

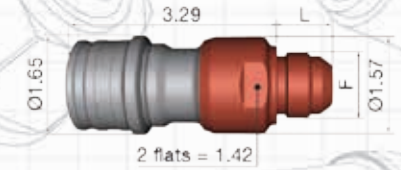
SPT 08 - JIC Male Thread Panel Mounted Plug

Thread F	L	Part Number	
UNF	ins	JV Seal	JKV Seal
9/16"-18 JIC-06	1.06	SPT 08.5655/L/JV	SPT 08.5655/L/JKV
3/4"-16 JIC-08	1.18	SPT 08.5656/L/JV	SPT 08.5656/L/JKV

Part Numbers SPT 12

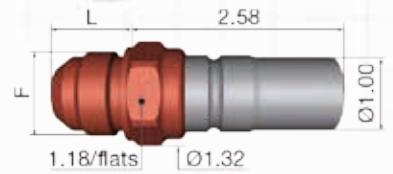
SPT 12 - JIC Male Thread Socket

Thread F	L	Part Number	
UNF	ins	JV Seal	JKV Seal
7/8"-14 JIC-10	0.75	SPT 12.1657/L/JV	SPT 12.1657/L/JKV
1-1/16"-12 JIC-12	0.86	SPT 12.1658/L/JV	SPT 12.1658/L/JKV



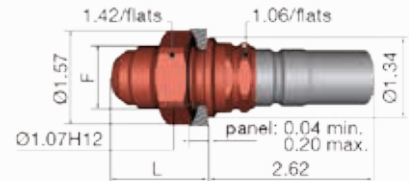
SPT 12 - JIC Male Thread Plug

Thread F	L	Part Number	
UNF	ins	JV Seal	JKV Seal
7/8"-14 JIC-10	0.75	SPT 12.7657/L/JV	SPT 12.7657/L/JKV
1-1/16"-12 JIC-12	21.9	SPT 12.7658/L/JV	SPT 12.7658/L/JKV



SPT 12 - JIC Male Thread Panel Mounted Plug

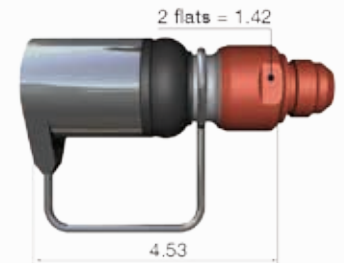
Thread F	L	Part Number	
UNF	ins	JV Seal	JKV Seal
7/8"-14 JIC-10	1.42	SPT 12.5657/L/JV	SPT 12.5657/L/JKV
1-1/16"-12 JIC-12	1.54	SPT 12.5658/L/JV	SPT 12.5658/L/JKV



Part Numbers SPT 12 Rallye Raid

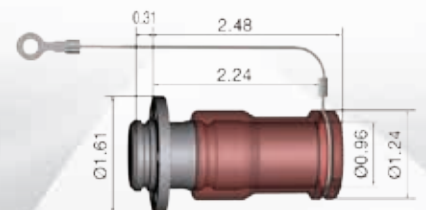
SPT 12 Rallye Raid - JIC Male Thread Socket

Thread F	L	Part Number	
UNF	ins	JV Seal	JKV Seal
1-1/16"-12 JIC-12	---	SPT 12.1658/L/JV/PP/BC	SPT 12.1658/L/JKV/PP/BC



SPT 12 Rallye Raid - Non Threaded Plug

Thread F	L	Part Number	
UNF	ins	JV Seal	JKV Seal
---	---	N 010 428 03	N 012 223 07





RMI/EA Couplings

An economical lightweight aluminum coupler for water and oil systems.

- Compact Size
- Light Weight
- Minimal Fluid Loss While Connecting and Disconnecting
- Not Suitable for Fuel Applications

Technical Characteristics

	RMI 09	RMI 12	RMI 16
Nominal diameter (ins)	3/8"	1/2"	5/8"
Max. Working pressure (psi)	230	230	230
Shut-off system	Double	Double	Double

Construction:

High strength aluminum.

Seals:

-JKV Version: Perfluoroelastomer in the fluid (other: Fluorosiliconelastomer).

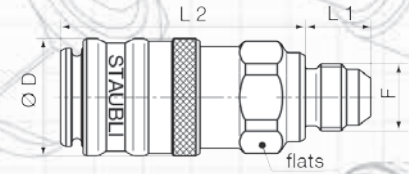
-JV Version: All Fluorocarbon



Part Numbers RMI/EA

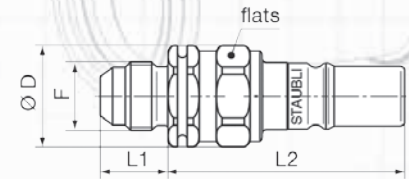
RMI 09/EA - JIC Male Thread Socket

Thread F	D	L1	L2	Flats	Part Number
UNF	ins	ins	ins	ins	
9/16"-18 JIC-06	0.98	0.55	2.06	0.87	RMI 09.1655/EA/L/JV
3/4"-16 JIC-08	0.98	0.66	2.05	0.87	RMI 09.1656/EA/L/JV



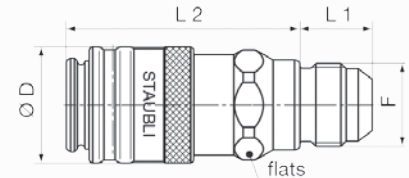
RMI 09/EA - JIC Male Thread Plug

Thread F	D	L1	L2	Flats	Part Number
UNF	ins	ins	ins	ins	
9/16"-18 JIC-06	0.83	0.55	1.93	0.75	RMI 09.7655/EA/L/JV
3/4"-16 JIC-08	0.83	0.66	1.93	0.75	RMI 09.7656/EA/L/JV



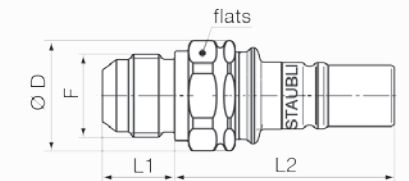
RMI 12/EA - JIC Male Thread Socket

Thread F	D	L1	L2	Flats	Part Number
UNF	ins	ins	ins	ins	
7/8"-14 JIC-10	1.22	0.76	2.46	1.06	RMI 12.1657/EA/L/JV
1-1/16"-12 JIC-12	1.22	0.87	2.09	1.06	RMI 12.1658/EA/L/JV



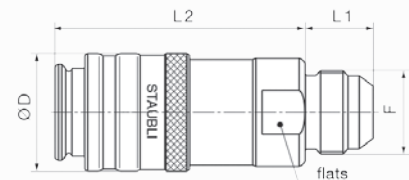
RMI 12/EA - JIC Male Thread Plug

Thread F	D	L1	L2	Flats	Part Number
UNF	ins	ins	ins	ins	
7/8"-14 JIC-10	1.16	0.76	2.31	1.06	RMI 12.7657/EA/L/JV
1-1/16"-12 JIC-12	1.16	0.87	2.17	1.06	RMI 12.7658/EA/L/JV



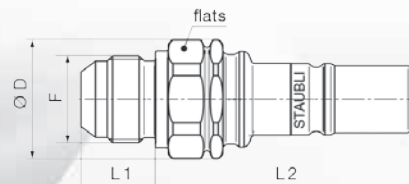
RMI 16/EA - JIC Male Thread Socket

Thread F	D	L1	L2	Flats	Part Number
UNF	ins	ins	ins	ins	
1-1/16"-12 JIC-12	1.50	0.87	3.19	1.26	RMI 16.1658/EA/L/JV
1-5/16"-12" JIC-16	1.50	0.91	2.68	1.26	RMI 16.1659/EA/L/JV



RMI 16/EA - JIC Male Thread Plug

Thread F	D	L1	L2	Flats	Part Number
UNF	ins	ins	ins	ins	
1-1/16"-12 JIC-12	1.46	0.87	3.11	1.34	RMI 16.7658/EA/L/JV
1-5/16"-12" JIC-16	1.46	0.91	2.95	1.34	RMI 16.7659/EA/L/JV





CBR 02 Couplings

True dry break coupling for connecting and bleeding hydraulic systems, brakes and recharging dampers.

High resistance locking system suitable for the strong mechanical forces during race conditions.

- Compact Size
- Light Weight
- Clean-Break
- High Pressure Resistant

Technical Characteristics								
	Socket-2 JIC Male	Socket-3 JIC Male	Plug-2 JIC Male	Plug-3 JIC Male	Plug 5/16" x 24 'O' Ring Seal	Plug 3/8" x 24 'O' Ring Seal	Plug M8 x 1 'O' Ring Seal	Plug M10 x 1 Copper Washer Seal
Max. working pressure (psi)	4351	4351	4351	4351	4351	4351	4351	1450
Weight (oz)	0.384	0.416	0.236	0.236	0.134	0.169	0.134	0.187
Shut-off system	Double	Double	Double	Double	Double	Double	Double	Double

Construction:

Plug: Titanium (Green or Blue).

Socket: Titanium with green or blue locking rings.

Plug Caps: Green or blue Titanium locking rings and stainless steel indicator.

Seals:

-JV version - Fluorocarbon

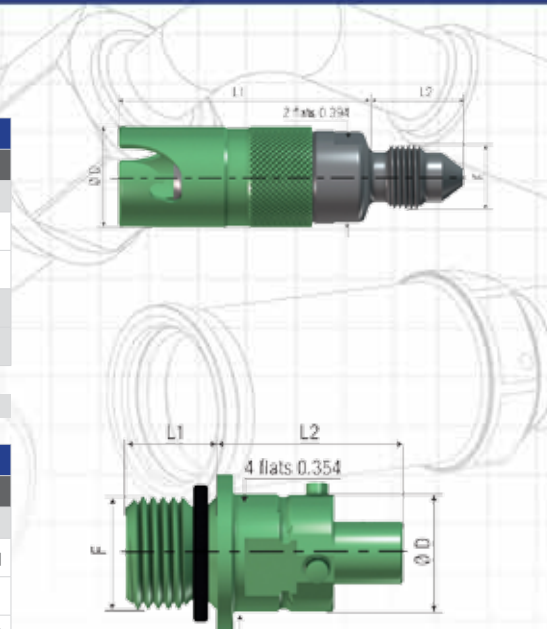
-JE version - Ethylene- Propylene (EPDM)

-JK version - Perfluoroelastomer



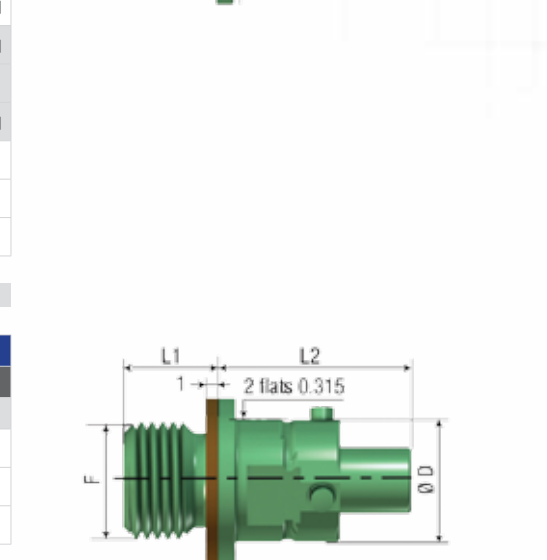
Part Numbers CBR 02

Socket, JIC Male Thread										
Thread F	Dia D	L1	L2	Seals			Part Number			
UNF	ins	ins	ins	JV	JE	JK	Blue Color KB		Green Color KV	
5/16" - 24" JIC-02	0.492	1.24	0.453	•			■	CBR 02.1651/TI/KB/JV	■	CBR 02.1651/TI/KV/JV
					•		■	CBR 02.1651/TI/KB/JE	■	CBR 02.1651/TI/KV/JE
3/8" - 24 JIC-03	0.492	1.24	0.480	•			■	CBR 02.1652/TI/KB/JV	■	CBR 02.1652/TI/KV/JV
					•		■	CBR 02.1652/TI/KB/JE	■	CBR 02.1652/TI/KV/JE

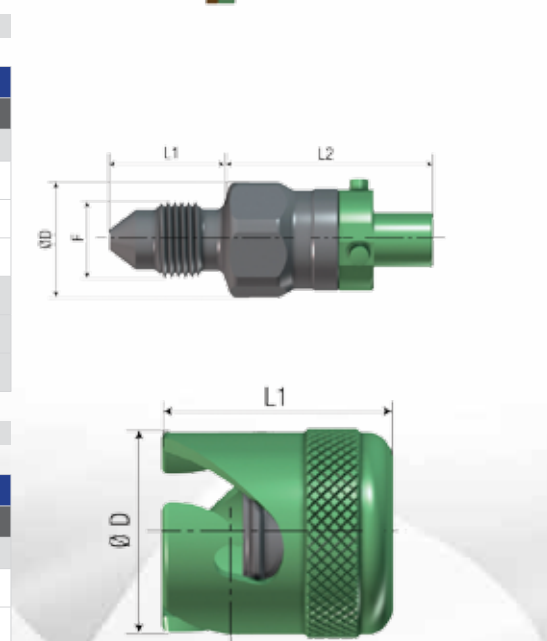


Plug, Male 'O' Ring Thread										
Thread F	Dia D	L1	L2	Seals			Part Number			
UNF	ins	ins	ins	JV	JE	JK	Blue Color KB		Green Color KV	
5/16" - 24	0.413	0.295	0.591	•			■	CBR 02.7408/TI/KB/JV/UN	■	CBR 02.7408/TI/KV/JV/UN
					•		■	CBR 02.7408/TI/KB/JE/UN	■	CBR 02.7408/TI/KV/JE/UN
						•	■	CBR 02.7408/TI/KB/JK/UN	■	CBR 02.7408/TI/KV/JK/UN
3/8" - 24	0.472	0.276	0.630	•			■	CBR 02.7409/TI/KB/JV/UN	■	CBR 02.7409/TI/KV/JV/UN
					•		■	CBR 02.7409/TI/KB/JE/UN	■	CBR 02.7409/TI/KV/JE/UN
						•	■	CBR 02.7409/TI/KB/JK/UN	■	CBR 02.7409/TI/KV/JK/UN
M 8 X 1	0.413	0.295	0.630	•			■	CBR 02.7408/TI/KB/JV	■	CBR 02.7408/TI/KV/JV
					•		■	CBR 02.7408/TI/KB/JE	■	CBR 02.7408/TI/KV/JE
						•	■	CBR 02.7408/TI/KB/JK	■	CBR 02.7408/TI/KV/JK

Plug with Copper Seal										
Thread F	Dia D	L1	L2	Seals			Part Number			
	ins	ins	ins	JV	JE	JK	Blue Color KB		Green Color KV	
M 10 X 1	0.551	0.315	0.650	•			■	CBR 02.7410/TI/KB/JV	■	CBR 02.7410/TI/KV/JV
					•		■	CBR 02.7410/TI/KB/JE	■	CBR 02.7410/TI/KV/JE
						•	■	CBR 02.7410/TI/KB/JK	■	CBR 02.7410/TI/KV/JK



Plug, JIC Male Thread										
Thread F	Dia D	L1	L2	Seals			Part Number			
UNF	ins	ins	ins	JV	JE	JK	Blue Color KB		Green Color KV	
5/16" - 24" JIC-02	0.472	0.453	0.854	•			■	CBR 02.7651/TI/KB/JV	■	CBR 02.7651/TI/KV/JV
					•		■	CBR 02.7651/TI/KB/JE	■	CBR 02.7651/TI/KV/JE
						•	■	CBR 02.7651/TI/KB/JK	■	CBR 02.7651/TI/KV/JK
3/8" - 24 JIC-03	0.472	0.480	0.776	•			■	CBR 02.7652/TI/KB/JV	■	CBR 02.7652/TI/KV/JV
					•		■	CBR 02.7652/TI/KB/JE	■	CBR 02.7652/TI/KV/JE
						•	■	CBR 02.7652/TI/KB/JK	■	CBR 02.7652/TI/KV/JK



Tight Plug Cap										
Thread F	Dia D	L1	L2	Seals			Part Number			
	ins	ins	ins	JV	JE	JK	Blue Color KB		Green Color KV	
---	0.492	0.563	---	•			■	CBR 02.8550/TI/KB/JV	■	CBR 02.8550/TI/KV/JV
					•		■	CBR 02.8550/TI/KB/JE	■	CBR 02.8550/TI/KV/JE
						•	■	CBR 02.8550/TI/KB/JK	■	CBR 02.8550/TI/KV/JK



SPM Couplings

STÄUBLI SPM range, the couplings that speed up gearbox oil filling and eliminates any potentially dangerous spillages.

Completely Recessed Mounting into Crankcase: No Raised Parts.

Designed to prevent any track pollution risk due to oil spillage, the SPM couplings are completely integrated into the crankcase. It is therefore well protected against shocks and stays tight, even in a crash.

Easy to Integrate, the SPM range is directly adaptable to your crankcase.

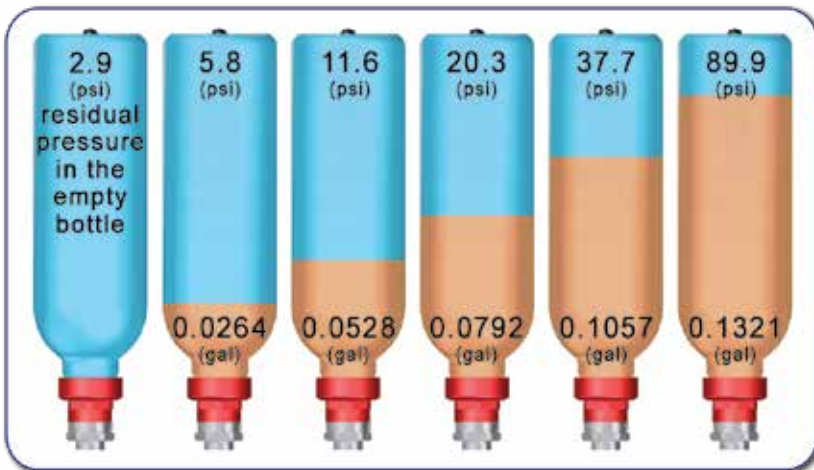


Non-Drip, Clean-Break: (No Oil Drops on the Floor!)

The flush face design eliminates any spillage of oil onto the car or pit area and any ingress of air into the system.

Light Weight:

Designed to contribute lightness and compactness, SPM couplings contribute to the optimization of your performances.



NOTE: With the bottle version, the working pressure depends on the oil volume.

Oil Volume



Relative Recommended Air Pressure



Technical Characteristics

	SPM 08	SPM 12
Nominal diameter (ins)	5/16"	1/2"
Max. Working pressure (psi)	116	116
Shut-off system	Double	Double

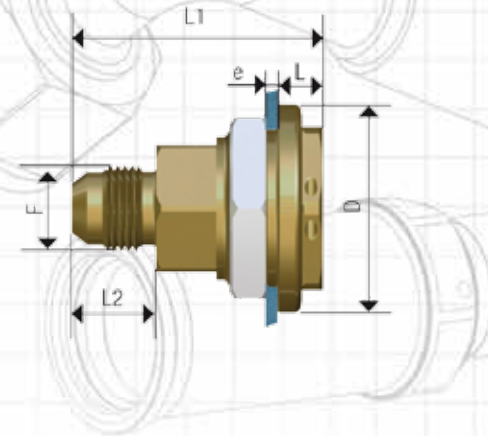
Construction

- Socket (Car Side): Aluminum
- Plug (Pit Side): brass
- Bottle (Pit Side); Aluminum
- Seals: Fluorocarbon (JV)

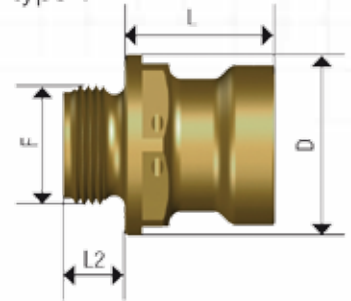
Part Numbers SPM

Sockets, JIC Male Thread - Panel Mounted

	Thread F	D	L	L1	L2	Weight	Flats	Part Number
	UNF	ins	ins	ins	ins		ins	
SPM 08	9/16" - 18 JIC-06	1.358	0.295	1.65	0.55	0.04 to 0.10	0.11	SPM 08.2655/RG/JV
SPM 12	1 1/16" - 12 JIC-12	1.417	0.276	2.55	0.87	0.04 to 0.31	0.21	SPM 12.2658/RG/JV



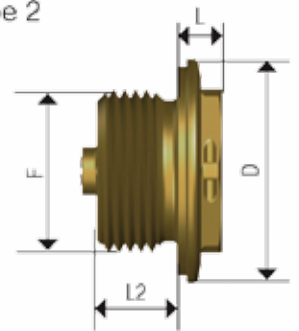
type 1



Sockets, Male Thread - Screwed Mounted Type 1

	Thread F	D	L	L1	L2	Weight	Flats	Part Number
		ins	ins	ins	ins		ins	
SPM 08	M 19 x 2.5	1.181	0.988	---	0.39	---	0.08	N 006.469.06
	M 20 x 1.5	1.181	0.988	---	0.39	---	0.08	N 002.430.05
	M 22 x 1.5	1.181	0.988	---	0.39	---	0.09	N 003.700.08
	M 24 x 1.5	1.181	0.988	---	0.39	---	0.09	N 012.344.06

type 2

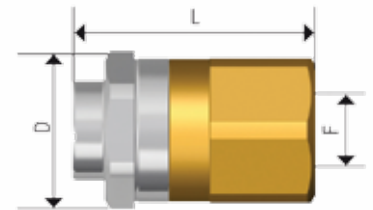


Sockets, Male Thread - Screwed Mounted Type 2

	Thread F	D	L	L1	L2	Weight	Flats	Part Number
		ins	ins	ins	ins		ins	
SPM 08	M 27 x 3	1.457	0.295	---	0.63	---	0.07	N 001.323.04
	M 30 x 1.5	1.575	0.520	---	0.39	---	0.08	N 005.129.05
SPM 12	M 30 x 1.5	1.614	0.799	---	0.39	---	0.15	N 012.281.06

Plugs - Female Thread

	Thread F	D	L	L1	L2	Weight	Flats	Part Number
		ins	ins	ins	ins		ins	
SPM 08	G 3/8	1.161	1.799	---	---	---	0.29	SPM 08.7102/RG/JV
SPM 12	G 3/4	1.654	1.949	---	---	---	0.61	SPM 12.7104/RG/JV



Plug with Bottle

	Thread F	D	L	L1	L2	Weight	Flats	Part Number
		ins	ins	ins	ins		ins	
SPM 08	---	2.717	10.02	---	---	---	0.91	SPM 08.7001/RG/JV





JAC - Air Jack Lance and Plug

- Easy to Connect
- Quick Operation
- Light Weight
- Compact Design
- Two Plug Versions: Valved Safety Plug / Plug with Integrated Venting



Technical Characteristics

Fluids:

Compressed Air and Nitrogen

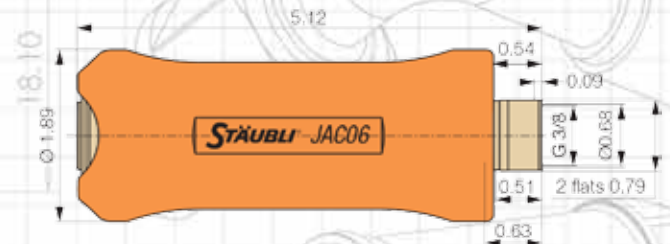
Operating Pressure (psi)	217 to 580
Operating Temperature (°F)	23° to 122°
Connection Force (lbf)	18
Weight - Plug (oz.)	3.35
Weight - Plug with Integrated Venting	1.31



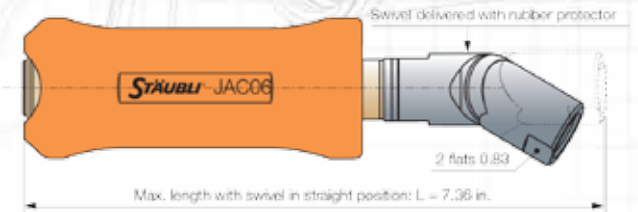
Inset shows rotation.

Part Numbers JAC

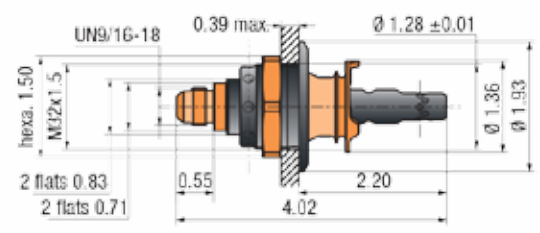
Socket - JAC Lance	
	Part Number
	JAC 06.1102



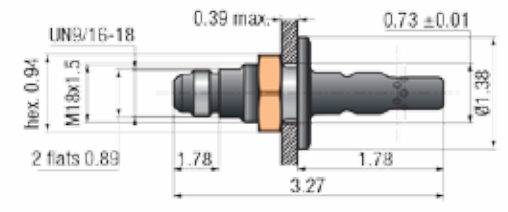
Socket - Swivel Version JAC Lance	
	Part Number
	JAC 06.1102/MSW



Plug - JAC Valved Safety Plug	
	Part Number
	JAC 06.5655



Plug - JAC Plug with Integrated Venting	
	Part Number
	JAC 06.4655



Protection Sleeves - Abrasion & Thermal Protection

At Brown & Miller Racing Solutions we offer a range of sleeving products to ensure the in-service life of the hose is not affected by mechanical abrasion or areas of excessively high temperature. These products can be applied to the full length of the hose assembly or used to protect specific parts of the assembly such as areas close to exhaust headers.



Abrasion Protection - High Temperature

Manufactured from a radiation cross-linked elastomeric material for optimum high temperature resistance and long-term stability. Ideally suited for protecting high performance hose and wiring systems from abrasion.

Resistant to fuels, hydraulic fluids and lubricating oils.

While this sleeve offers excellent abrasion protection consideration should be given to the loss of hose flexibility that may result. On smaller hose sizes the effect is negligible, on larger sizes there will be an effect and if bent tightly creases may form in the sleeve. As well as being unsightly, the creases may also promote kinking in the hose.

Operating Temperature: -75°C to+ 150°C (-103°F to+ 302°F)

Shrink Ratio: 2:1

Color: Black

Part No.	Nom. Size (Before Shrinking)		Size Selection for Each Hose Type		
	ins	mm	SB Hose	AR Hose	HPSB
DR25-0.250	1/4"	6.40	-02	---	---
DR25-0.375	3/8"	9.50	-03	---	---
DR25-0.500	1/2"	12.7	-04	---	-04
DR25-0.750	3/4"	19.0	-06 & -08	-06 & -08	-06
DR25-1.000	1"	25.4	---	-10 & -12	---
DR25-1.500	1-1/2"	38.0	---	-16	---



Firesleeve - Light Weight

Lightweight firesleeve is a very effective insulator. This silicone covered fiberglass sleeve is available in two colors: Silver and Black. Designed to protect hose assemblies in areas of high radiant heat its braided construction maintains excellent flexibility over its temperature range of -40°C to +220°C (-40°F to +428°F).

The sleeve is self extinguishing and has excellent fluid resistance. This sleeve can also be used to protect wire harnesses, sensor wires and, due to its elastic structure, small electrical components.

Substitute the suffix 'X' in the part number with the color code as follows:

X=S for Silver

X=B for Black

Part No.	Nom. Int. / Dia.		Nom. Wall Thickness		Size Selection for Each Hose Type		
	ins	mm	ins	mm	SB Hose	AR Hose	HPSB
FSLW-03-X	3/16"	5.0	0.020	0.50	02 & -03	---	---
FSLW-04-X	1/4"	6.0	0.025	0.65	-04	---	-04
FSLW-08-X	1/2"	12.0	0.030	0.75	-06 & -08	-06 & -08	---
FSLW-10-X	5/8"	15.0	0.030	0.75	---	-10	---
FSLW-12-X	3/4"	20.0	0.060	1.50	---	-12	---
FSLW-16-X	1"	25.0	0.060	1.50	---	-16	---
FSLW-20-B	1-1/4"	31.75	0.083	2.10	---	-20	---



Heat Reflecting Aluminized Sleeve

Aluminized Fiberglass sleeve that acts as an effective heat reflector. Suitable for protecting hose assemblies, electrical cables, control cables and linkages.

Capable of operating in high temperature environments up to 300°C (572°F).



Part No.	Nom. Int. / Dia.		Weight kg / m	Size Selection for Each Hose Type		
	ins	mm		ins	AR Hose	SB Hose
HR-03-04-FG	5/8"	16.00	0.044	---	-03 & -04	-04
HR-06-FG	11/16"	17.50	.0490	-06	-06	-06
HR-08-FG	3/4"	19.00	0.054	-08	-08	---
HR-10-FG	13/16"	20.60	.0590	-10	---	---
HR-12-FG	7/8"	22.00	0.064	-12	---	---
HR-16-FG	1-1/4"	31.00	0.083	-16	---	---
HR-20-FG	1-1/2"	38.00	---	-20	---	---

'O' Rings, Bonded Seals, Crush Washers

'O' Ring and Bonded Seal materials

'V' = Fluoro-Elastomer (viton- Color Brown)

'N' = Nitrile

'EP' = Ethylene Propylene

Substitute the suffix -X in the part number with the material code shown above.
(i.e. viton = OR-902-V)



'O' Ring



Bonded Seal



Copper Crush Washer



Aluminum Crush Washer



'O' Ring - to Suit Wiggins

Nominal Hose Size	Fitting Thread Size	'O' Ring Part Number	Bonded Seal Part Number	Copper Crush Washer Part Number	Aluminium Crush Washer Part Number	'O' Ring to suit Wiggins type coupling
UNF (AN)						
-02	5/16" - 24	OR-902-X	BS-006-X	CCW-02	ACW-02	---
-03	3/8" - 24	OR-903-X	BS-020-X	CCW-03	ACW-03	---
-04	7/16" - 20	OR-904-X	BS-009-X	CCW-04	ACW-04	---
-06	9/16" - 18	OR-906-X	BS-010-X	CCW-06	ACW-06	---
-08	3/4" - 16	OR-908-X	BS-024-X	CCW-08	ACW-08	ORW-08-X
-10	7/8" - 14	OR-910-X	BS-026-X	CCW-10	ACW-10	ORW-10-X
-12	1-1/16" - 12	OR-912-X	BS-028-X	CCW-12	ACW-12	ORW-12-X
-16	1-5/16" - 12	OR-916-X	BS-030-X	CCW-16	ACW-16	ORW-16-X
-20	1-5/8" - 12	OR-920-X	---	---	---	ORW-20-X
-24	1-7/8" - 12	OR-924-X	---	---	---	ORW-24-X
-32	2-1/2" - 12	OR-932-X	---	---	---	ORW-32-X
BSP						
-03	1/8"	OR-510-X	BS-020-X	---	ACW-03	---
-04	1/4"	OR-512-X	BS-021-X	---	ACW-04B	---
-06	3/8"	OR-640-X	BS-023-X	---	ACW-06B	---
-08	1/2"	OR-644-X	BS-025-X	---	ACW-08B	---
-10	5/8"	OR-771-X	BS-026-X	---	ACW-10B	---
-12	3/4"	OR-772-X	BS-027-X	---	ACW-12	---
-16	1"	OR-778-X	BS-030-X	---	ACW-16	---
Metric						
-03	M10	OR-903-X	BS-020-X	---	ACW-03	---
-04	M12	OR-905-X	BS-009-X	---	ACW-4M	---
-06	M14	OR-906-X	BS-010-X	---	ACW-06	---



Inset shows dial on crimper.

Fully Adjustable Crimper - D105 Crimp Machine

The 1HP, 110V, 15A ValPower pump makes fast crimps anywhere in your shop or race hauler. It can be rewired to 220V non US spec. It's small footprint, 11 inches wide, 14 inch long base and 19 inches high, allows the D105 to be placed anywhere on your bench. The fully adjustable direct reading micrometer style crimp adjustment accommodates a wide range of hose and fittings or cables for precise crimp diameters.

- Automatic Low Voltage Shut-Off Assures Precise Crimps Time After Time
- Easily Removable Pusher and Split Dies Make Bent Tube and Special Fittings Easy to Get into the Crimper
- A Pneumatic Remote Switch Can be Operated by Hand or Foot with No Electrical Wires
- 35 Ton Maximum Cylinder Force, 125 lb. Machine Weight, 1 HP Pump



Part Number	Description	Application	
		AR Hose	SB Hose
100724-6	Crimp Die 6mm	---	-02
100724-8	Crimp Die 8mm	---	-03
100724-9	Crimp Die 9mm	---	-04
100724-12	Crimp Die 12mm	---	-06
100724-14	Crimp Die 14mm	-06	---
100724-16	Crimp Die 16mm	-08	-08
100724-19	Crimp Die 19mm	-10	---
100724-22	Crimp Die 22mm	-12	---
100724-29	Crimp Die 29mm	-16	---
100724-34	Crimp Die 34mm	-20	---
100813-01	Replacement Pusher	---	---

Assembly Fixture



Assembly Tooling

A full range of tooling and fixtures are available for the quick and reliable manufacture of complete hose assemblies.

Part No.	Description	Application	
		AR Hose	SB Hose
24-0003-06	Expander	-06	---
24-0003-08	Expander	-08	---
24-0003-10	Expander	-10	---
24-0003-12	Expander	-12	---
24-0003-16	Expander	-16	---
24-0003-20	Expander	-20	---
24-0006	Expander Handle	All	---
24-0036	Assembly Fixture	---	All
24-0315-03	Expander	---	-03
24-0315-04	Expander	---	-04
24-0315-06	Expander	---	-06
24-0315-08	Expander	---	-08
24-0029-03	Clamp Block	---	-03
24-0029-04	Clamp Block	---	-04
24-0029-06	Clamp Block	---	-06
24-0029-08	Clamp Block	---	-08
24-0028-03	Straight Fitting Pusher	---	-03
24-0028-04	Straight Fitting Pusher	---	-04
24-0028-06	Straight Fitting Pusher	---	-06
24-0028-08	Straight Fitting Pusher	---	-08
24-0035-03	Elbow Fitting Pusher	---	-03
24-0035-04	Elbow Fitting Pusher	---	-04
24-0035-06	Elbow Fitting Pusher	---	-06
24-0035-08	Elbow Fitting Pusher	---	-08

Hose Assembly Length and Orientation Measurement

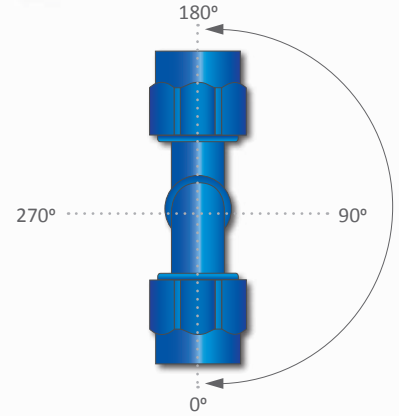
When ordering factory made assemblies it is important to specify the length and fitting orientation in a consistent manner. The convention used by BMRS is recognized internationally as the standard method.

Elbow Orientation

Where an assembly has an elbow or banjo fitting at both ends or a combination of elbows and banjos, the angular orientation between the fittings must be stated. This is measured in degrees counter-clockwise.

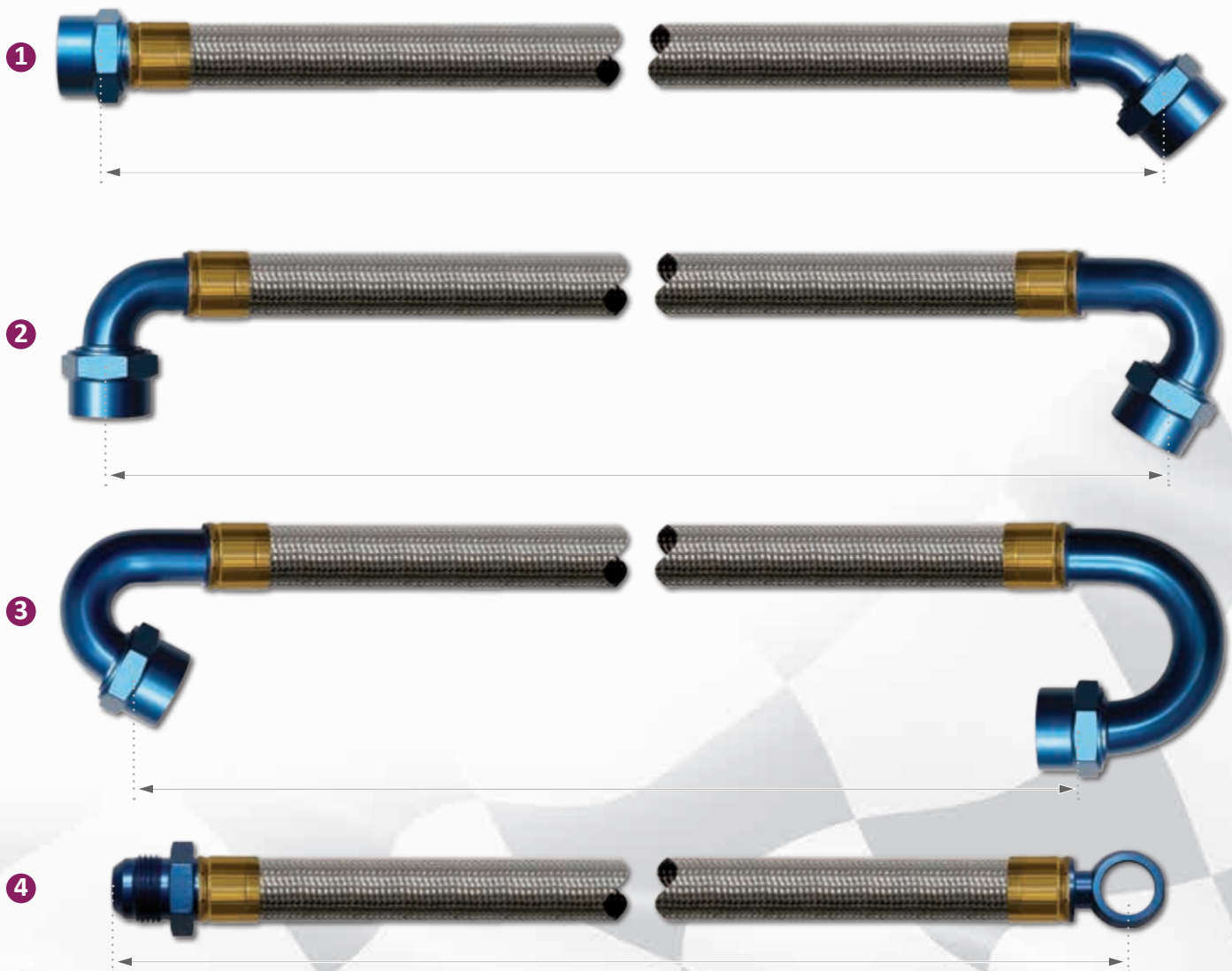
The angle is measured from the center line of the nearest fitting when this fitting is positioned at 6 o'clock to the center line of the other fitting.

NOTE: In this example the orientation is 180°.



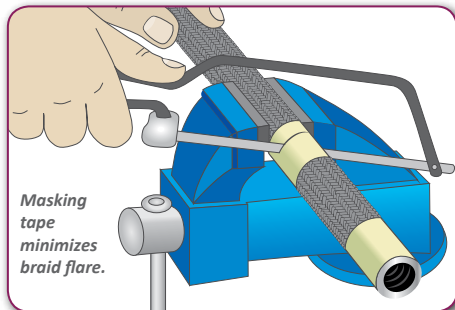
Assembly Length

The diagrams below illustrate how to measure the seat-to-seat length of the assembly with various styles and configurations of end fittings attached. Assembly lengths given to BMRS without further definition will be produced to this convention.

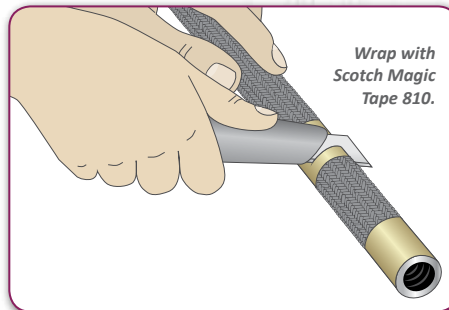




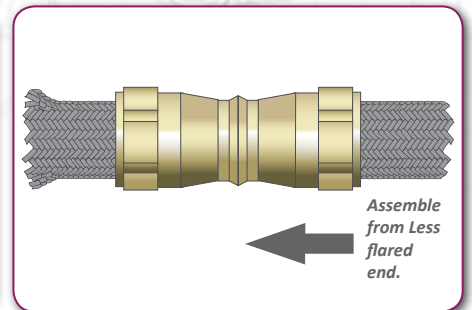
Assembly Procedure ProGold AR Reusable Fittings



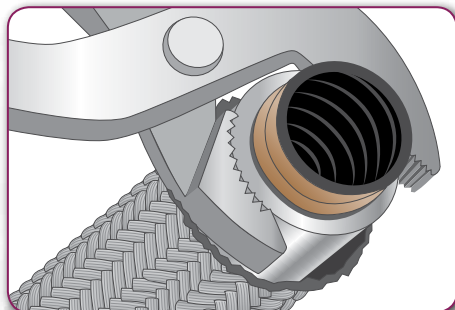
Metal Braid: To minimize braid flare, wrap the area of the hose to be cut with masking tape. Cut the hose with a suitable cut off wheel or fine toothed hack saw blade and then remove the tape.



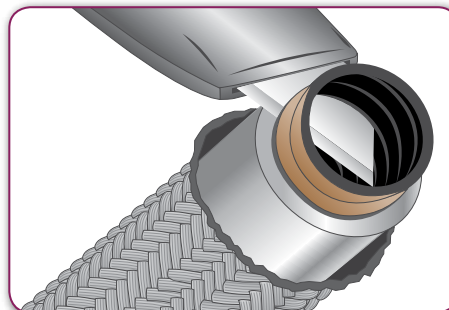
Non-Metallic Braid: Wrap with Scotch Magic Tape 810 on area to be cut. Cut the hose with a sharp knife then carefully remove the tape.



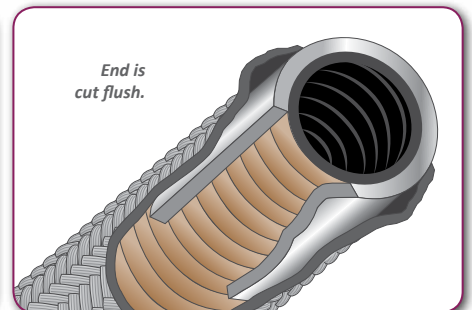
Braid tends to flare more at one end than the other. Assemble both sockets back to back from the less flared end.



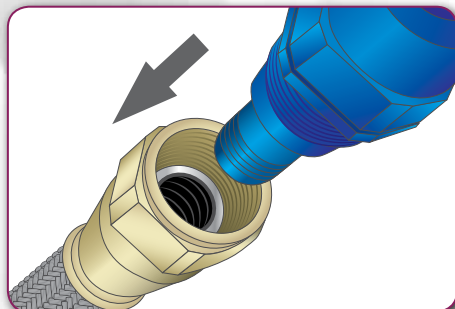
Screw the olive onto the hose until the hose protrudes through. Don't cross thread or force the olive. Make sure the braid goes over the olive.



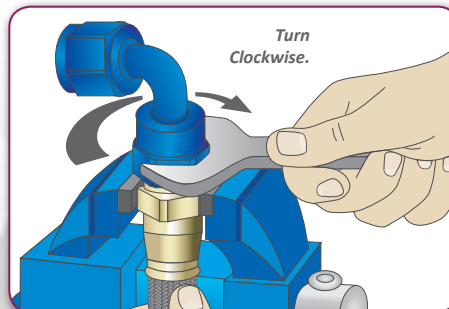
Trim the hose back to be flush or a maximum of 1mm proud of the olive.



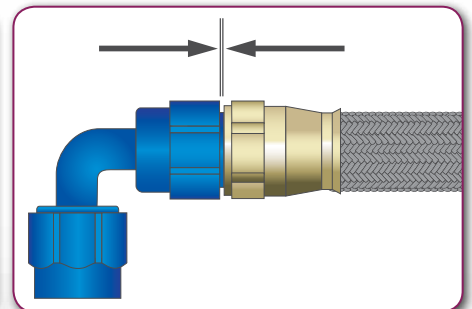
Ensure the hose is cut cleanly and square.



Pull the sockets up over the olives. Lubricate the fitting thread with a light oil. Insert the tail into the hose. Engage the fitting and socket threads. Screw together as far as possible by hand.



Lightly grip the socket in a set of vice jaws and fully tighten the fitting.



Metal Braid: Socket should be no more than 1mm away from the fitting face.

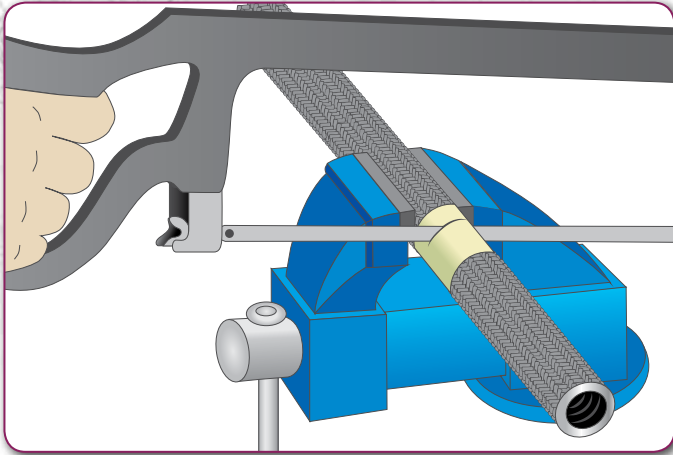
Non-Metallic Braid: Socket should be touching the fitting face.

FINAL STEP: Clean the assembly fittings and proof pressure test the assembly to 1-1/2 times the system working pressure.

NOTE: NEVER loosen fittings once assembled to achieve the desired orientation. ALWAYS use new olive when reusing an end fitting. **IF IN DOUBT** contact BMRS.

Assembly Procedure Smooth Bore PTFE Reusable Fittings

1. Having established the required length, cut the hose with a suitable cut off wheel or fine toothed hack saw blade. To minimize braid flair, wrap the area of the hose to be cut with masking tape.

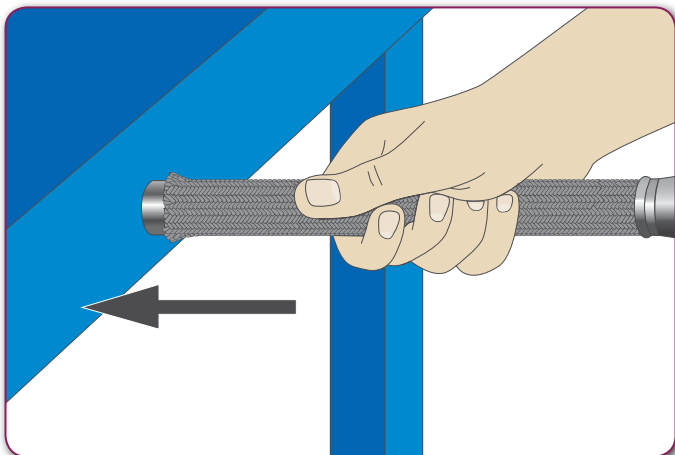


2. Remove the masking tape and trim any loose braid wires. Remove burrs from inside diameter of the PTFE tube with a sharp knife. Clean the hose to ensure all loose particles and dirt are removed from the bore.

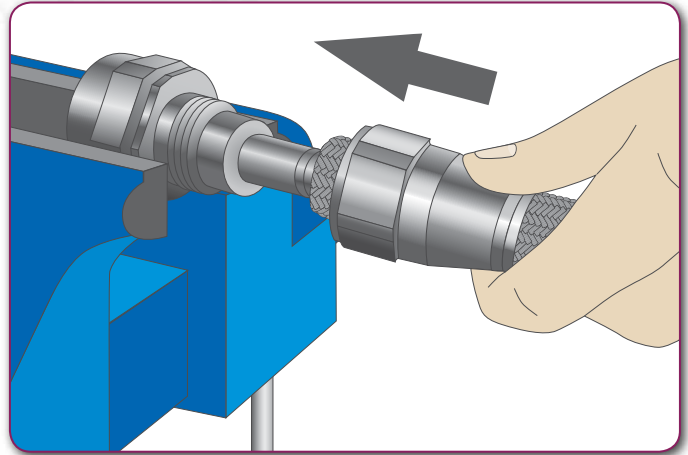
3. Braid tends to flair at one end more than the other, identify the end that has flared less and assemble two sockets back to back from this end.

4. Separate the braid from the innercore at each end using the appropriate tool. If the tool is not available, the braid may be loosened by working the hose over the fitting tail.

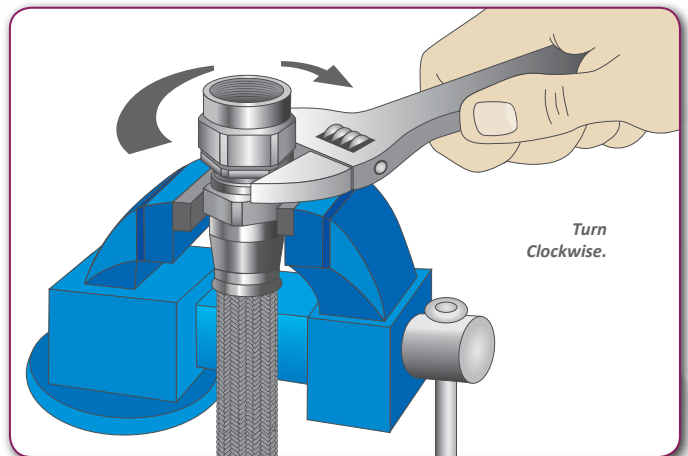
5. Push the olive over the end of the tube ensuring it goes under the braid wire.



6. Lubricate the fitting and socket threads. Hold the fitting hexagon in a set of vice jaws, push the hose over the tail using a twisting action until the olive is seated against the chamfer on the thread shoulder. Push the socket forward and engage its thread on the fitting thread.

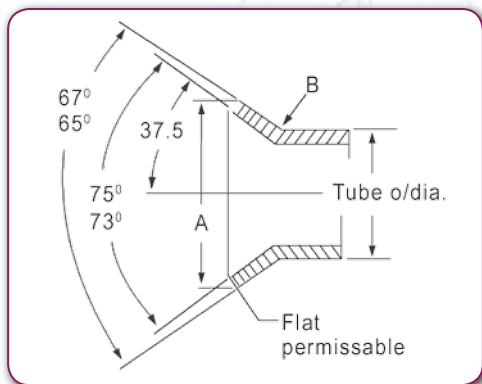


7. Using the appropriate size spanner tighten the two halves of the fitting together until there is a maximum gap of 0.75mm (0.031 inches) between the fitting hex and the socket.



8. Clean the assembly and proof pressure test it to twice the system operating pressure.

NOTE: NEVER loosen fittings once assembled to achieve the desired orientation. **ALWAYS** use a new olive when reusing an end fitting.



Assembly Procedure - Rigid Tube and Fittings

Aluminum Flared Fittings

1. Cut the aluminum tube square and deburr the inside and outside diameters (not excessively).
2. Assemble fitting by sliding the sleeve and nut over the tubing.
3. Flare the tube with the appropriate proprietary flaring tool. After flaring, the tube end should conform to the figure and table below.

Tube Size	A dia. max	A dia. min.	B rad. nom.
-04	0.360	0.340	0.030
-06	0.490	0.460	0.040
-08	0.660	0.630	0.060
-10	0.790	0.760	0.060
-12	0.950	0.920	0.080
-16	1.200	1.170	0.090

Hose Fitting - Torque Tightening Values

It is important not to over tighten hose fittings to their mating adapters or housings. Over tightening causes permanent deformation of the fitting seat and will result in the mating adapter sealing face being made concave, this will inhibit repeated reliable use of both the fitting and the adapter.

Dash Size	Thread Size	Aluminum		Stainless Steel	
		Pound / Ins.	Newton / m.	Pound / Ins.	Newton / m.
-02	5/16" x 24	50-80	5.64-9.03	75-120	8.47-13.55
-03	3/8" x 24	70-105	7.90-11.86	95-140	10.73-15.81
-04	7/16" x 20	100-140	11.29-15.81	135-190	15.25-21.46
-05	1/2" x 20	130-180	14.68-20.33	170-240	19.20-27.11
-06	9/16" x 18	150-195	16.94-22.03	215-280	24.29-31.63
-08	3/4" x 16	270-350	30.50-39.54	470-550	53.08-62.14
-10	7/8" x 14	360-430	40.67-48.58	620-745	70.05-84.17
-12	1-1/16" x 12	460-550	51.97-62.14	855-1055	96.60-119.18
-16	1-5/16" x 12	700-840	79.08-94.90	1140-1370	128.80-154.78
-20	1-5/8" x 12	850-1020	96.03-115.24	1520-1825	171.73-206.19
-24	1-7/8" x 12	900-1080	101.68-122.02	1900-2280	214.67-257.60
-32	2-1/2" x 12	1800-2000	203.37-255.97	2660-2940	300.54-332.17

Dash Size	Thread Size	Aluminum		Stainless Steel	
		Pound / Ins.	Newton / m.	Pound / Ins.	Newton / m.
-02	5/16" x 24	22-30	2.48-3.39	35-50	3.95-5.65
-03	3/8" x 24	30-45	3.39-5.08	75-100	8.47-12.98
-04	7/16" x 20	40-60	4.52-6.78	115-150	12.99-16.95
-05	1/2" x 20	55-75	6.21-8.47	150-200	16.95-22.60
-06	9/16" x 18	75-115	8.47-12.99	250-300	28.25-33.90
-08	3/4" x 16	150-225	16.95-25.42	450-500	50.84-56.49
-10	7/8" x 14	200-315	22.60-35.59	650-700	73.44-79.09
-12	1-1/16" x 12	300-450	33.90-50.84	900-1000	101.7-113.0
-16	1-5/16" x 12	500-630	56.49-71.18	1200-1400	135.6-158.2
-20	1-5/8" x 12	600-810	67.79-91.52	1500-1800	169.5-203.4
-24	1-7/8" x 12	700-1000	79.09-113.0	1900-2200	214.7-248.6
-32	2-1/2" x 12	850-1300	96.04-146.9	2500-3000	282.5-338.9

Torque Values for Male Swivel 'O' Ring Boss Fittings & Adapters

Dash Size	Thread Size	Aluminum	
		Pound / Ins.	Newton / m.
-02	5/16" x 24	22-24	2.48-2.71
-03	3/8" x 24	28-32	3.16-3.62
-04	7/16" x 20	38-42	4.29-4.74
-05	1/2" x 20	58-63	6.55-7.00
-06	9/16" x 18	70-80	7.91-9.04
-08	3/4" x 16	145-155	16.38-17.51
-10	7/8" x 14	190-210	21.47-23.73
-12	1-1/16" x 12	285-315	32.20-35.59
-16	1-5/16" x 12	475-525	53.67-59.32
-20	1-5/8" x 12	570-630	64.40-71.18
-24	1-7/8" x 12	570-630	64.40-71.18
-32	2-1/2" x 12	570-630	64.50-71.18

Torque Values for Male Swivel 'O' Ring Boss Fittings & Adapters

Dash Size	Thread Size	Aluminum	
		Pound / Ins.	Newton / m.
-28	2-1/8" x 12	730-790	83-89
-32	2-3/8" x 12	830-890	94-100

Fitting mating faces and threads should be lubricated prior to assembly. Generally the system working fluid (engine oil, hydraulic fluid, etc.) is used. If another lubricant is used, ensure it is compatible with the working fluid and system. Dry assembly should be avoided if at all possible.

Fitting Thread Sizes

Nom. Tube Size ins	AN Dash Size	JIC, AN Thread Size	NPT Thread Size	BSP Thread Size
1/8"	-02	5/16" x 24	1/8" x 27	1/8" x 28
3/16"	-03	3/8" x 24	---	---
1/4"	-04	7/16" x 20	1/4" x 18	1/4" x 19
5/16"	-05	1/2" x 20	---	---
3/8"	-06	9/16" x 18	3/8" x 18	3/8" x 19
1/2"	-08	3/4" x 16	1/2" x 14	1/2" x 14
5/8"	-10	7/8" x 14	---	5/8" x 14
3/4"	-12	1-1/16" x 12	3/4" x 14	3/4" x 14
1"	-16	1-5/16" x 12	1" x 11.5	1" x 11
1-1/4"	-20	1-5/8" x 12	1-1/4" x 11.5	1-1/4" x 11
1-1/2"	-24	1-7/8" x 12	1-1/2" x 11.5	1-1/2" x 11
2"	-32	2-1/2" x 12	2" x 11.5	2" x 11

'O' Ring Guide

The appropriate selection of 'O' Ring material is important. Failure to select the correct material may lead to a shortened service life or, in an extreme case, seal failure.

The following table is offered as a guide only, the information is not intended to be comprehensive. Operating conditions, temperature and fluid combinations should be taken into account when selecting the material. For specific application advice please consult the factory.

'O' Ring Material Code	'O' Ring Material	Temperature Range	Application Recommended for:	NOT Recommended for:
'N'	Nitrile (Buna N)	-40°C to + 135°C -40°F to + 275°F	Mineral Based Hydraulic Oils & Greases Engine Oils SAE 10 to 50 & Multi-grades Pneumatics Cold Water Silicone Oils & Greases Ethyene Glycol Based Fluids (Anti-Freeze) Di-Ester Based Lubricants Gasoline Nitrous Oxide	Brake Fluid Phosphate Ester Hydraulic Fluids Ketones (Acetone)
'V'	Fluorocarbon	-25°C to + 250°C -13°F to + 482°F	Mineral Based Hydraulic Oils & Greases Engine Oils SAE 10 to 50 & Multi-Grades Pneumatics Di-Ester Based Lubricants Phosphate Ester Hydraulic Fluids Silicate Ester Base Lubricants Silicone Oils & Greases Gasoline Aviation Fuels High Temperature Air	Brake Fluid Ketones (Acetone)
'EP'	Ethylene Propylene	-54°C to + 135°C -65°F to + 275°F	Brake Fluid Water (Hot & Cold) Phosphate Ester Hydraulic Fluids Methanol Nitromethane Nitrous Oxide Ketones (Acetone)	Petroleum Oils Di-Ester Base Lubricants

Pressure Units Cross Reference Chart

lbs/in ²	STD atms. at 20°C	Ft. Hd. H2O	in. H2O	kg/cm ²	Metres H2O	in. Hg. at 20°C	mm Hg. at 20°C	cm Hg.	bar	Millibar (mb)	kPa
1	0.068	2.310	27.720	0.70	0.703	2.043	51.884	5.188	0.069	68.947	6.895
14.696	1	33.959	407.513	1.033	10.351	30.019	762.483	76.248	1.013	1013.25	101.325
0.433	0.029	1	12.000	0.030	0.304	0.884	22.453	2.245	0.030	29.837	2.984
0.036	0.003	0.083	1	0.003	0.025	0.074	1.871	0.187	0.030	2.486	0.249
14.223	0.968	32.867	394.408	1	10.018	29.054	737.962	73.796	0.981	980.665	98.066
1.422	0.097	3.287	39.370	0.099	1	2.905	73.796	7.379	0.098	98.066	9.807
0.489	0.033	1.131	13.575	0.034	0.344	1	25.400	2.540	0.034	33.753	3.375
0.019	0.001	0.045	0.534	0.001	0.013	0.039	1	0.100	0.001	1.333	0.133
0.193	0.013	0.445	5.340	0.014	0.136	0.395	10.326	1	0.013	13.333	1.328
14.503	0.987	33.514	402.164	1.020	10.196	29.626	752.472	75.251	1	1000.0	100.00
0.014	0.001	0.033	0.402	0.001	0.010	0.030	0.753	0.075	0.001	1	0.100
0.145	0.010	0.335	4.021	0.010	0.102	0.296	7.525	0.753	0.010	10.000	1



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