

EAT•N

Aeroquip

MatchMate Plus®

The 3 Minute Crimp Hose Assembly System



 **Aeroquip®**



Available with metric and stainless steel fittings.

Introducing...MatchMate Plus® The 3 minute crimp hose assembly system.

With Aeroquip's MatchMate Plus crimp hose assembly system, you can make a factory-standard assembly in as few as three minutes...featuring a fitting design that's available worldwide.

MatchMate

The process of matching and mating hose with fittings is greatly simplified with the new MatchMate Plus system. Colored rings on the hose layline match the design and number of rings on its corresponding fitting type. Following your selection of the proper hose and fitting, the crimp machine "mates" the two parts through the use of color-coded dies.

When the mating procedure is complete, you have a perfect hose assembly. You directly benefit with reduced downtime, less scrap and minimal operator training.

Plus...Global Fittings

The MatchMate Plus crimp system features Aeroquip's new one-piece global fitting. Global fittings offer you higher standard pressures, cool-down leakage control, improved hose bend radii and worldwide availability. With MatchMate Plus you can select from a variety of Through-the Cover (TTC) fitting designs. TTC for medium to high pressure/impulse applications or TTC12 fittings for use with very high pressure spiral hose.

Aeroquip's global product line is now enhanced by combining the convenience, performance and accessibility of TTC fittings with the ease and consistency of the MatchMate Plus system. Together, global products and MatchMate Plus bring you the 3 minute crimp hose assembly system. It's the simplest, most effective way to replace your hydraulic hose assemblies. There is no easier way to make a crimp hose assembly than MatchMate Plus.

ProCrimp® 1390

Now available from Aeroquip

The new Aeroquip ProCrimp 1390 hose assembly crimp machine is Aeroquip's top-of-the-line crimper. It is capable of crimping Aeroquip thru-the-cover, single skive and internal skive fittings for 3/16" thru 2" I.D. hose. This includes hose used in hydraulic, thermoplastic, air conditioning, Teflon and fuel/oil applications. The efficient 10,000 PSI hydraulics combined with simple electronic controls make the ProCrimp 1390 fast, quiet and easy to use which provides excellent productivity and less chance for error.



ProCrimp 1390 is the largest Aeroquip crimp machine to handle all hose crimping needs thru 2" hose I.D.

Part Number	Description
FT1390-115	Crimp Machine with owners manual 115V
FT1390-115-12	Machine plus 12 standard die cages needed to crimp a wide variety of Aeroquip hose styles* including MatchMate Plus: FT1307-200-M150, FT1307-200-M180, FT1307-200-M210, FT1307-200-M240, FT1307-200-M280, FT1307-200-M320, FT1307-200-M370, FT1307-200-M420, FT1307-200-M465, FT1307-200-M520, FT1307-200-M550, FT1307-200-M690

**See crimp specifications bulletin JA55 for details.*

ProCrimp® 1380

The new ProCrimp 1380 crimp machine from Aeroquip crimps all your hose needs up to and including -20 SAE100R12 hose styles and the popular MatchMate Plus hose and fittings program (shown with optional die holder kit FT1380-2-4). The ProCrimp 1380 is electronically controlled to give fast, accurate crimps the first time and every time you need a hose assembly. The electronic keypad is easy to adjust, with up to 10 programmable crimp settings. For hose styles and sizes used less frequently simply enter the 3 digit code of that hose. The ProCrimp 1380 comes complete with a standard power unit.



Part Number	Description
FT1380-115	115V crimp machine 60 Hz
FT1380-115-5	2-Wire braid hose package - FT1380-115 with the 5 die cages needed to crimp the 5 most popular GH793 or GH781 2-wire hose sizes: -4, -6, -8, -12 & -16 Die Cages: FT1380-200-M150, FT1380-200-M210, FT1380-200-M240, FT1380-200-M320, FT1380-200-M370
FT1380-115-8	Braided and spiral hose package - FT1380-115-5 with the 3 additional die cages- capable of crimping all MatchMate Plus hoses thru -20 Die Cages: FT1380-200-M180, FT1380-200-M280, FT1380-200-M465
FT1380-2-3	FT1330 to FT1380 Die Cage conversion kit - back plate, bolts and instructions necessary to convert an FT1330 die cage to an FT1380 die cage. Simply remove the FT1330 back plate and replace it with the new FT1380 back plate.
FT1380-2-4	Optional die holder kit - Kit includes 4 die holder plates each of which will hold 2 die cages. Holes are pre-drilled on base of ProCrimp machine to accept these 4 plates.

Hose Assemblies Made Easy with MatchMate Plus

Hose Selection

- ① Choose the right MatchMate Plus replacement hose by matching construction and size. Rings on the colored layline indicate construction and the hose dash number indicates size.



Fitting Selection

- ② Select a MatchMate Plus fitting with the same dash number as the hose. Make sure the number of grooved rings on the socket match the number of rings on the hose. Skiving of hose is not necessary.



Final Assembly

- ③ Choose the correct die cage by matching the dash number and the color code on the hose layline to the color coded tabs on the die cage. Insert into crimp machine.



- ④ Adjust the crimp machine setting as it is listed on the machine mounted decal or in the crimp specification chart.



- ⑤ Place your pre-assembled hose line in the die cage. Activate the crimp machine and it will automatically crimp your assembly to factory standards.



Part Number Index

Part No.Page	Part No.Page	Part No.Page
GH120 11	1AA-FJB 15	1AV-FRC- 20
GH194 10	1AA-FJC 16	1AV-MB- 17
GH195 10	1AA-FR- 18	1AV-MJ- 16
GH493 9	1AA-FRA- 19	1AV-MP- 12
GH663 8	1AA-FRB- 20	1B-BF- 29
GH781 8	1AA-FRC- 20	1B-BFA- 30
GH793 9	1AA-FS- 17	1B-BFB- 30
1A-BF- 29	1AA-MB- 17	1B-BT- 31
1A-BFA- 30	1AA-MF- 21	1B-DL- 32
1A-BFB- 30	1AA-MFA- 22	1B-DS- 34
1A-BP- 31	1AA-MFB 24	1B-DSA- 34
1A-BT- 31	1AA-MJ- 16	1B-DSB- 35
1A-DK- 33	1AA-MP- 12	1B-EK- 35
1A-DL- 32	1AA-MR- 21	1B-FH- 27
1A-DLA- 32	1AA-PS- 12	1B-FHA- 27
1A-DLB- 33	1AP-FL- 23	1B-FHB- 28
1A-DS- 34	1AP-FLA- 24	1B-FL- 23
1A-DSA- 34	1AP-FLB- 25	1B-FLA- 24
1A-DSB- 35	1AP-FLD- 25	1B-FLB- 25
1A-EK- 35	1AP-SL- 21	1B-FLD- 25
1A-FL- 27	1AR-FJ- 13	1B-FLE- 26
1A-FLA- 24	1AR-FJA- 14	1B-FLF- 26
1A-FLB- 25	1AR-FJB- 15	1B-FLG- 26
1A-FLG 26	1AR-FJC- 16	1B-JF- 36
1A-JF- 36	1AR-FR- 18	1B-JM- 29
1A-JM- 29	1AR-FRA- 19	1B-KF- 36
1A-KF- 36	1AR-FRB- 20	1B-SL- 21
1A-KS- 37	1AR-FRC- 20	1BA-FJ- 13
1A-KSA- 37	1AR-MB- 17	1BA-FJA- 14
1A-KSB- 37	1AR-MJ- 16	1BA-FJB- 15
1A-SL- 21	1AR-MP- 12	1BA-FJC- 16
1AP-JM- 29	1AT-FL- 23	1BA-FR- 18
1AP-KF- 36	1AT-FLA- 24	1BA-FRA- 19
1AT-BF- 29	1AT-FLB- 25	1BA-FRB- 20
1AT-BFA- 30	1AT-FLD- 25	1BA-FRC- 20
1AT-BFB- 30	1AT-SL- 21	1BA-FS- 17
1AT-BT- 31	1AV-FJ- 13	1BA-MB- 17
1AT-DK- 33	1AV-FJA- 14	1BA-MJ- 16
1AT-DL- 32	1AV-FJB- 15	1BA-MP- 12
1AT-JF 36	1AV-FJC- 16	1BA-MR- 21
1AT-JM- 29	1AV-FR- 18	
1AT-KF- 36	1AV-FRA- 19	
1AA-FJ- 13	1AV-FRB- 20	
1AA-FJA- 14		

-indicates position of size in part number.

How to Order

Accurate processing and prompt delivery of your order depends on easy identification of your requirements. Please order Aeroquip parts using correct part numbers as described in this bulletin. Inquiries and orders should be directed to your Aeroquip distributor or:

Eaton
 14615 Lone Oak Rd.
 Eden Prairie, MN 55344-2287
 USA
 tel: 952 937-9800
 fax: 952 974-7722
 www.aeroquip.com

Dimensions

Dimensions given in this catalog for Aeroquip products are approximate and should be used for reference only. Exact dimensional information for a given product is subject to change and varying tolerances: contact Aeroquip directly for full current information.

Part Sizes

Sizes are designated in 16ths of an inch.

Hose Assemblies

Aeroquip manufactures the terminal ends of our hose fittings to the appropriate requirements established by the SAE. Therefore, the performance ratings of these hose fittings meet the SAE requirements. It is possible to order a hose assembly with a fitting terminal end that has a performance rating lower than the hose rating.

When ordering hose assemblies, please keep the terminal end performance rating in mind since this may affect overall hose assembly performance.

Hose assembly components (hose and fittings) shown in this catalog are easily assembled in the field. However, factory assembled crimped hose assemblies are available. For complete information contact Aeroquip for Catalog JA316.

Crimp Assembly Equipment

Part No.Page
ProCrimp 1370 41
ProCrimp 1380 42
ProCrimp 1390 43

Accessories

Part No.Page	Part No.Page
624 39	900952 39
222005 38	FC425 39
900564 38	FF9217 40
900705 38	
900729 40	

ProCrimp® 1370

Portable Crimp Machine

The portable Aeroquip ProCrimp 1370 is the ideal crimp machine when quick, onsite hydraulic hose repairs are needed.

Features

- Compatible with the Aeroquip MatchMate Plus System
- Can be mounted on service vehicles due to its portable design
- Can be powered with virtually any 10,000-psi hydraulic power source
- Utilizes ProCrimp 1380 quick-change die cages
- Designed with shims that control the crimp diameter



Ordering Instructions

Step 1—Shim Kits Order the Shim Kit(s) for the hose to be assembled.

Shim Kit Part Number

FT1370-5-1
 FT1370-5-2
 FT1370-5-3
 FT1370-5-4
 FT1370-5-5
 FT1370-5-6

Hose (Sizes Included)

GH194 with TTC fittings (–4 through –20)
 GH195 with TTC fittings (–4 through –20)
 GH663/FC211/FC613 with TTC fittings (–4 through –20)
 GH781/FC579/FC735 with TTC fittings (–4 through –20)
 GH793/FC212 with TTC fittings (–4 through –20)
 GH493 with TTC fittings (–6 through –16)

Step 2—Crimp Machine Kits

No-Pump Kits

FT1370-1-1 (no dies)
 FT1370-1-1-5 (5 die cages)
 FT1370-1-1-9 (9 die cages)

Hand-Pump Kits

FT1370-1-2 (no dies)
 FT1370-1-2-5 (5 die cages)
 FT1370-1-2-9 (9 die cages)

Air/Hydraulic Pump Kits

FT1370-1-3 (no dies)
 FT1370-1-3-5 (5 die cages)
 FT1370-1-3-9 (9 die cages)

12-Volt DC Power Unit Kits

FT1370-1-4 (no dies)
 FT1370-1-4-5 (5 die cages)
 FT1370-1-4-9 (9 die cages)

115-Volt Power Unit Kits

FT1370-1-5 (no dies)
 FT1370-1-5-5 (5 die cages)
 FT1370-1-5-9 (9 die cages)

5 Die Cages—Required to crimp the five most popular GH793 and GH781 2-wire braid hose sizes:
 –4, –6, –8, –12 and –16

FT1380-200-M150	FT1380-200-M210	FT1380-200-240
FT1380-200-M320	FT1380-275-M370	

9 Die Cages—For crimping Matchmate Plus hose through –20 (2-wire braid) and –16 (4-spiral)

Includes the five die cages plus:

FT1380-200-M180	FT1380-200-M280
FT1380-275-M420	FT1380-275-M465

Protective Coils, Sleeves & Clamps

900729 Support Clamp



These light weight neoprene-coated steel support clamps are designed to support hose where long runs are necessary.

This clamp not only furnishes a cleaner installation, but prevents damage, exposure and chafing.

The neoprene lining will withstand high ambient temperatures.

Bolt hole dia: Clamp dash no. -01 thru -8, -18 thru -23 is .406; -9 thru -17, -24 thru -31 is .531.

Clamp Dash No.	Clamp I.D. (inches) Closed
-18	.25
-19	.38
-01	.44
-1	.50
-2	.56
-21	.63
-3	.69
-4	.75
-5	.81
-6	.94
-23	1.00
-8	1.06
-9	1.13
-27	1.19
-24	1.25
-25	1.31
-10	1.50
-11	1.56
-12	1.75
-28	1.81
-13	2.00
-29	2.06
-14	2.25
-30	2.50
-31	2.63
-15	2.75
-16	2.88
-17	3.56

FF9217 Firesleeve clamp



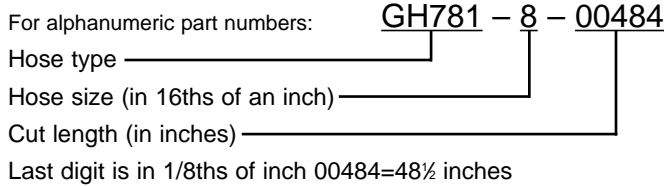
This clamp is recommended for attaching AE102/624 firesleeves to hose lines.

Clamp numbers: FF9217-0622S, FF9217-0648S; 3/8 inch wide, FF9217-0664C; 1/2 inch wide.

How to Order Hose

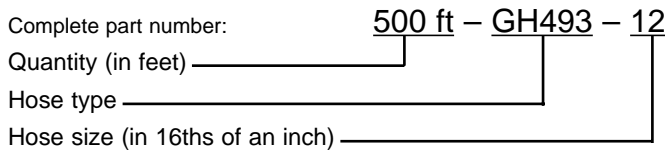
Cut Length Hose

Cut lengths of hose should be ordered as shown below by specifying lengths in inches.



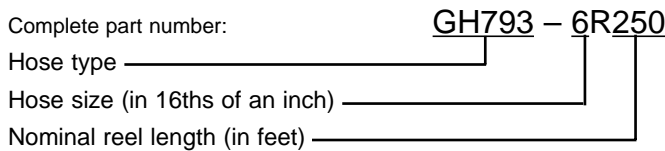
Bulk Hose

Bulk hose should be ordered by specifying length in feet as shown below.



Reeled Hose

Reeled hose should be ordered by adding "R" and the nominal reel length as a suffix to the hose part number as shown below.



How to Order Crimp Fittings

Global Part Numbering System

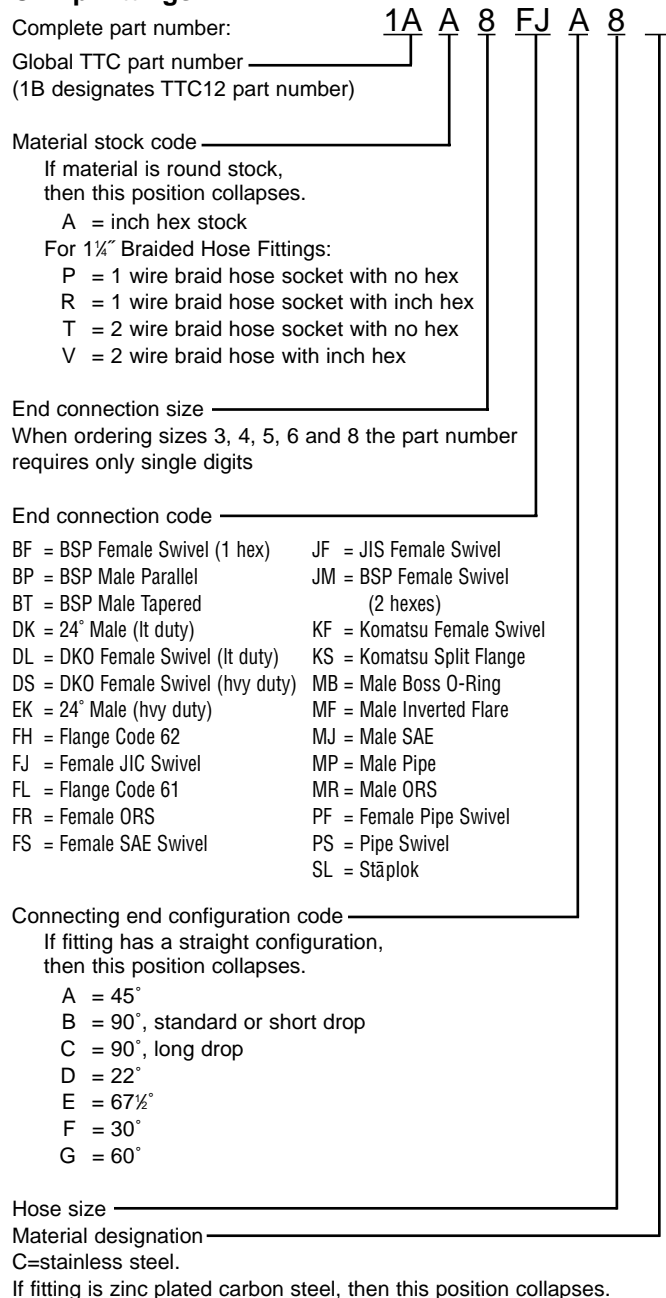
Part numbers collapse to the shortest possible number of digits:

- It is assumed that a Global Fitting has a straight configuration unless a code is added to designate otherwise.
- e.g. 1AA8FJ8 has a straight configuration.
- 1AA8FJA8 has a 45° elbow configuration.
- Dashes and unnecessary zeros are not used.
- e.g. 1/4" is designated by "4" not "-4" or "04"
- 5/8" is designated by "10" not "-10"

Material Designation

Global crimp nipples, sockets and fittings are zinc plated carbon steel except those with a "C" suffix which designates stainless steel.

Crimp Fittings



Inch/Millimeter Conversion Table (Multiply Inches x 25.4=Millimeters)

Inches			Millimeters			Inches			Millimeters			Inches			Millimeters		
Fractions	Decimals	Decimals	Fractions	Decimals	Decimals	Fractions	Decimals	Decimals	Fractions	Decimals	Decimals	Fractions	Decimals	Decimals	Fractions	Decimals	Decimals
	1/64	.016	.397		25/64	.391	9.922		49/64	.766	19.447		25/32	.781	19.844		
	1/32	.031	.794		13/32	.406	10.319		51/64	.797	20.241		13/16	.813	20.638		
	3/64	.047	1.191		27/64	.422	10.716		53/64	.828	21.034		27/32	.844	21.431		
	1/16	.063	1.588		29/64	.453	11.509		55/64	.859	21.828		7/8	.875	22.225		
	3/32	.094	2.381		15/32	.469	11.906		57/64	.891	22.622		29/32	.906	23.019		
	7/64	.109	2.778		31/64	.484	12.303		59/64	.922	23.416		15/16	.938	23.813		
1/8		.125	3.175		17/32	.516	13.097		61/64	.953	24.209		31/32	.969	24.606		
	9/64	.141	3.572		33/64	.531	13.494		63/64	.984	25.003		1	1.000	25.400		
	5/32	.156	3.969		35/64	.547	13.891										
	11/64	.172	4.366		9/16	.563	14.288										
	3/16	.188	4.763		37/64	.578	14.684										
	13/64	.203	5.159		19/32	.594	15.081										
	7/32	.219	5.556		39/64	.609	15.478										
1/4		.250	6.350		5/8	.625	15.875										
	17/64	.266	6.747		41/64	.641	16.272										
	9/32	.281	7.144		21/32	.656	16.669										
	19/64	.297	7.541		43/64	.672	17.066										
	5/16	.313	7.938		11/16	.688	17.463										
	21/64	.328	8.334		45/64	.703	17.859										
	11/32	.344	8.731		23/32	.719	18.256										
	23/64	.359	9.128		47/64	.734	18.653										
3/8		.375	9.525		3/4	.750	19.050										

Pounds per Square Inch into Megapascal (Multiply PSI by .006894=Megapascal)*

PSI	0	1	2	3	4	5	6	7	8	9
	MPa	MPa	MPa	MPa	MPa	MPa	MPa	MPa	MPa	MPa
0	—	.007	.014	.021	.028	.035	.041	.048	.055	.067
10	.069	.076	.083	.090	.097	.103	.110	.117	.124	.131
20	.138	.145	.152	.159	.165	.172	.179	.186	.193	.200
30	.207	.214	.221	.228	.235	.241	.248	.255	.262	.269
40	.276	.283	.290	.297	.303	.310	.317	.324	.331	.338
50	.345	.352	.359	.366	.372	.379	.386	.393	.400	.407
60	.414	.421	.428	.435	.441	.448	.455	.462	.469	.476
70	.483	.490	.497	.503	.510	.517	.524	.531	.538	.545
80	.552	.559	.566	.572	.579	.586	.593	.600	.607	.614
90	.621	.628	.635	.641	.648	.655	.662	.669	.676	.683
100	.690	.697	.703	.710	.717	.724	.731	.738	.745	.752

Pounds per Square Inch into Bar (Multiply PSI by .06896=Bar)*

PSI	0	1	2	3	4	5	6	7	8	9
	Bar	Bar	Bar	Bar	Bar	Bar	Bar	Bar	Bar	Bar
0	—	.069	.138	.207	.276	.345	.414	.483	.552	.671
10	.689	.759	.828	.897	.966	1.034	1.103	1.172	1.241	1.310
20	1.379	1.448	1.517	1.586	1.652	1.724	1.793	1.862	1.931	2.000
30	2.069	2.138	2.207	2.276	2.345	2.414	2.483	2.552	2.621	2.689
40	2.759	2.828	2.897	2.966	3.034	3.103	3.172	3.241	3.310	3.379
50	3.448	3.517	3.586	3.655	3.724	3.793	3.862	3.931	4.000	4.069
60	4.138	4.207	4.276	4.345	4.414	4.483	4.552	4.621	4.689	4.759
70	4.828	4.897	4.966	5.034	5.103	5.172	5.241	5.310	5.379	5.448
80	5.517	5.586	5.655	5.724	5.793	5.862	5.931	6.000	6.069	6.138
90	6.207	6.276	6.345	6.414	6.483	6.552	6.621	6.689	6.759	6.828
100	6.897	6.966	7.034	7.103	7.172	7.241	7.310	7.379	7.448	7.517

*Note: Columns headed 0 thru 9 in above table represent increments of figures listed in first column at left. For example: In converting from PSI to Bar, 18 PSI=1.241 Bar.

Protective Coils, Sleeves & Clamps

900952

Plastic Protective Coil Sleeve



Recommended to protect hose from abrasion, this light weight plastic sleeve is unaffected by air, water, oil, gasoline, hydraulic and most other fluids. This coil can also be used for group bundling of hose lines. Temperature range of 0°F. to +180°F.

Sleeve Dash Number	Sleeve I.D. (inches)
-4	.24
-6	.37
-8	.48
-10	.63
-12	.83
-16	1.06
-22	1.34
-30	1.58

FC425

Nylon Abrasion Sleeve

Meets MSHA requirements.



Nylon sleeve protects hose from abrasion and allows bundling of hose lines.

Part Number	Nominal Sleeve I.D.* "B" (inches)
FC425-12	.71
FC425-16	1.00
FC425-20	1.25
FC425-24	1.59
FC425-28	1.75
FC425-32	2.07
FC425-38	2.38
FC425-40	2.54
FC425-46	2.86
FC425-54	3.34
FC425-59	3.66

*The maximum O.D. of hose fittings must be allowed for if fittings are to be covered.

624

Firesleeve



Firesleeve will protect hose from direct flame. Firesleeve is constructed of uniform single layer of braided fiberglass tubing impregnated with flame resistant silicone rubber.

Part Number	I.D. (inches)	Clamp Number (2 required)
624-8	.50	FF9217-0622S
624-9	.56	FF9217-0622S
624-10	.62	FF9217-0622S
624-11	.69	FF9217-0622S
624-12	.75	FF9217-0622S
624-13	.81	FF9217-0622S
624-14	.88	FF9217-0622S
624-16	1.00	FF9217-0622S
624-18	1.12	FF9217-0622S
624-20	1.25	FF9217-0648S
624-22	1.38	FF9217-0648S
624-24	1.50	FF9217-0648S
624-26	1.62	FF9217-0648S
624-28	1.75	FF9217-0648S
624-30	1.88	FF9217-0648S
624-32	2.00	FF9217-0648S
624-38	2.38	FF9217-0648S
624-42	2.62	FF9217-0674S
624-46	2.88	FF9217-0664C
624-50	3.12	FF9217-0664C
624-54	3.38	FF9217-0664C
624-60	3.75	FF9217-0664C

Protective Coils, Sleeves & Clamps

222005 Internal Support Coils



Recommended for vacuum service with most hose. 222005 is stainless steel.

Part Number	Coil O.D. (inches)
222005-23C	.34
222005-10C	.42
222005-21C	.51
222005-11C	.60
222005-13C	.73
222005-14C	.94
222005-15C	1.19
222005-17C	1.44
222005-18C	1.88
222005-19C	2.44

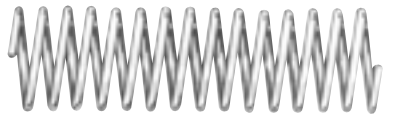
900705 Steel Protective Coil Sleeve



Recommended for use where hose lines are subjected to excessive abrasion, kinking or accidental damage. Construction: spring steel, rust resistant.

Sleeve Dash Number	Sleeve I.D. (inches)
-17S	.44
-1S	.50
-13S	.57
-2S	.63
-3S	.75
-4S	.88
-5S	1.03
-14S	1.13
-6S	1.22
-7S	1.47
-9S	1.69
-8S	1.91
-15S	2.00
-10S	2.13
-16S	2.44
-11S	2.56
-12S	2.75

900564 Steel Protective Coil Spring



Protects hose cover and reinforcement from abrasion and accidental damage. Construction: steel wire, rust resistant.

Spring Dash Number	Spring I.D. (inches)
-1S	.61
-12S	.67
-2S	.73
-15S	.80
-14S	.85
-3S	.91
-4S	1.04
-5S	1.18
-6S	1.34
-7S	1.66
-9S	1.87
-8S	2.12
-10S	2.37
-13S	2.75
-11S	2.87

Flexible hose lines offer many advantages over rigid tubing including routing ease, vibration absorption, sound deadening and the ability to accommodate movement of connected components. However, hose lines require caution in use not only to provide long service but also to guard against potentially dangerous failure.

FT1049 Crimp Machines:

If the backstop is used on the FT1049 crimper for crimping TTC or TTC12 fittings, it must have the FT1049-130-5 spring option added. Contact Aeroquip if you have an FT1049 crimp machine which needs this adjustment. Failure to properly crimp a hose assembly could lead to failure of the assembly and possible injury.

WARNING

AEROQUIP FITTING TOLERANCES ARE ENGINEERED TO MATCH AEROQUIP HOSE TOLERANCES. THE USE OF AEROQUIP FITTINGS ON HOSE SUPPLIED BY OTHER MANUFACTURERS AND/OR THE USE OF AEROQUIP HOSE WITH FITTINGS SUPPLIED BY OTHER MANUFACTURERS MAY RESULT IN THE PRODUCTION OF UNRELIABLE AND UNSAFE HOSE ASSEMBLIES AND IS NEITHER RECOMMENDED NOR AUTHORIZED BY AEROQUIP.

AEROQUIP SHALL NOT BE SUBJECT TO AND DISCLAIMS ANY OBLIGATIONS OR LIABILITIES (INCLUDING BUT NOT LIMITED TO ALL CONSEQUENTIAL, INCIDENTAL AND CONTINGENT DAMAGES) ARISING OUT OF BREACH OF CONTRACT OR OF WARRANTY OR ARISING FROM TORT CLAIMS (INCLUDING WITHOUT LIMITATION NEGLIGENCE AND STRICT LIABILITY) OR OTHER THEORIES OF LAW WITH RESPECT TO ANY HOSE ASSEMBLIES NOT PRODUCED FROM GENUINE AEROQUIP HOSE FITTINGS, HOSE AND AEROQUIP APPROVED EQUIPMENT, AND IN CONFORMANCE WITH AEROQUIP PROCESS AND PRODUCT INSTRUCTIONS FOR EACH SPECIFIC HOSE ASSEMBLY.

FAILURE TO FOLLOW AEROQUIP PROCESS AND PRODUCT INSTRUCTIONS AND LIMITATIONS COULD LEAD TO PREMATURE HOSE ASSEMBLY FAILURES RESULTING IN PROPERTY DAMAGE, SERIOUS INJURY OR DEATH.

Note: The hose specifications listed in this bulletin apply only to assemblies constructed with the fittings listed in this bulletin.

GH663

Single wire braid meets EN 853 Type 1SN Exceeds SAE 100R1AT performance

HI-IMPULSE®

Construction: Synthetic rubber tube, single wire braid reinforcement and synthetic rubber cover.

Application: Hydraulic system service with petroleum and water-glycol base fluids, for general industrial service.

Operating Temperature Range: -40°F. to +212°F. (-40°C. to +100°C.)

For complete agency listings see page 11. Fittings: TTC pages 12 to 37.



Part Number	Hose I.D. (inches)	Hose O.D. (inches)	Max. Oper. Pressure (psi)	Min. Burst Pressure (psi)	Min. Bend Radius (inches)	Wt. Per Ft. (lbs.)	Steel Prot. Coil Spring* 900564 (dash size)	Plastic Coil Sleeve* 900952 (dash size)	Steel Prot. Coil Sleeve* 900705 (dash size)	Support Clamp 900729 (dash size)	Internal Support Coil 222005 (dash size)	Nylon Sleeve* FC425 (dash size)	Firesleeve* 624 (dash size)	Firesleeve Clamp FF9217 (dash size)
GH663-4	.25	.53	3250	13000	4.00	.16	-1S	-6	-1S	-1	☞	-12	-11	-0622S
GH663-6	.38	.69	3000	12000	5.00	.25	-2S	-10	-2S	-3	☞	-16	-14	-0622S
GH663-8	.50	.81	2500	10000	7.00	.30	-15S	-10	-3S	-5	☞	-16	-16	-0622S
GH663-12	.75	1.09	1800	7200	9.50	.45	-5S	-16	-5S	-8	-14C	-24	-22	-0648S
GH663-16	1.00	1.41	1300	5200	12.00	.68	-6S	-16	-6S	-25	-15C	-24	-26	-0648S
GH663-20	1.25	1.71	950	3770	16.50	.88	-9S	-30	-8S	-12		-32	-30	-0648S
GH663-24	1.50	1.99	725	2900	20.0	1.05	-8S	-30	-8S	-13		-38	-38	-0648S
GH663-32	2.00	2.52	580	2320	25.00	1.31	-13S	-30	-12S	-30		-46	-46	-0664C

GH781

Double wire braid exceeds EN 857 Type 2SC performance exceeds SAE 100R16

HI-IMPULSE® at 1/2 SAE Bend Radii

Construction: Synthetic rubber tube, double wire braid reinforcement and synthetic rubber cover. Meets or exceeds DIN requirements at 1/2 SAE Bend Radii.

Application: Hydraulic system service with petroleum and water-base fluids, for general industrial service.

Operating Temperature Range: -40°F. to +212°F. (-40°C. to +100°C.)

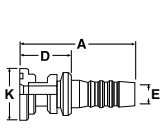
For complete agency listings see page 11. Fittings: TTC pages 12 to 37.



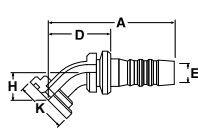
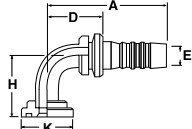
Part Number	Hose I.D. (inches)	Hose O.D. (inches)	Max. Oper. Pressure (psi)	Min. Burst Pressure (psi)	Min. Bend Radius (inches)	Wt. Per Ft. (lbs.)	Steel Prot. Coil Spring* 900564 (dash size)	Plastic Coil Sleeve* 900952 (dash size)	Steel Prot. Coil Sleeve* 900705 (dash size)	Support Clamp 900729 (dash size)	Internal Support Coil 222005 (dash size)	Nylon Sleeve* FC425 (dash size)	Firesleeve* 624 (dash size)	Firesleeve Clamp FF9217 (dash size)
GH781-4	.25	.53	5800	23200	2.00	.22	-1S	-8	-13S	-2	☞	-12	-12	-0622S
GH781-6	.38	.69	5000	20000	2.50	.29	-2S	-10	-2S	-4	☞	-16	-16	-0622S
GH781-8	.50	.81	4250	17000	3.50	.39	-14S	-12	-3S	-5	☞	-16	-18	-0622S
GH781-10	.62	.93	3625	14500	4.00	.44	-4S	-12	-4S	-6	☞	-20	-18	-0630S
GH781-12	.75	1.10	3125	12500	4.75	.53	-4S	-16	-14S	-9	-14C	-24	-22	-0648S
GH781-16	1.00	1.42	2500	10000	6.00	.72	-6S	-22	-7S	-10	-15C	-24	-28	-0648S
GH781-20	1.25	1.65	2250	9000	8.25	1.09	-7S	-22	-9S	-12		-28	-28	-0648S
GH781-24	1.50	2.03	1800	7200	10.00	1.40	-8S	-30	-8S	-13		-38	-38	-0648S
GH781-32	2.00	2.52	1300	5200	12.50	1.88	-13S	-30	-12S	-30		-46	-46	-0664C

*Sizes indicated are based on Hose O.D. only. If sleeve or coil is to be placed over fittings, a larger sleeve or coil size may be required depending on the type of fitting.

☞ Call Aeroquip Corporation for dimensions.



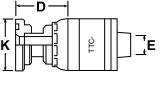
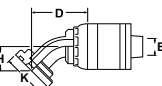
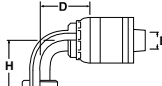
Komatsu Split Flange (KS)

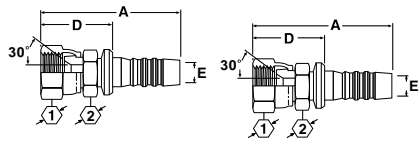

 Komatsu Split Flange
45° Elbow (KSA)

 Komatsu Split Flange
90° Elbow (KSB)

 Global TTC Fittings for use with Hose: GH120, GH194, GH195,
GH663, GH781, GH793

Global TTC12 Fittings for use with Hose: GH493

ALL DIMENSIONS IN MILLIMETERS

TTC Part Number	TTC12 Part Number	Flange Head Dia.	Tube O.D.	Hose Size	A (mm)	D (mm)	E∅ (mm)	H (mm)	① (mm)	② (mm)
										
Komatsu Split Flange (KS)										
1A10KS10	-	34.2	-10	94.8	65.4	11.7				
										
Komatsu Split Flange 45° Elbow (KSA)										
1A10KSA10	-	34.2	-10	76.7	47.3	11.7	21.9			
										
Komatsu Split Flange 90° Elbow (KSB)										
1A10KSB10	-	34.2	-10	69.7	40.3	11.7	51.4			



Global TTC Fittings for use with Hose: GH120, GH194, GH195, GH663, GH781, GH793

Global TTC12 Fittings for use with Hose: GH493

JIS Female Swivel (JF)

Komatsu Female Swivel (KF)

ALL DIMENSIONS IN MILLIMETERS

TTC Part Number	TTC12 Part Number	Thread	Tube O.D.	Hose Size	A (mm)	D (mm)	EØ (mm)	H (mm)	① (mm)	② (mm)
JIS Female Swivel (JF)										
1A4JF4	-	G 1/4		-04	53.2	29.8	4.2		19	19
1A6JF6	1B6JF6	G 3/8		-06	59.2	33.9	6.7		22	22
1A8JF8	1B8JF8	G 1/2		-08	66.3	36.6	9.6		27	27
1A12JF12	1B12JF12	G 3/4		-12	73.3	43.1	15.5		32	36
1A16JF16	1B16JF16	G 1		-16	83.6	49.2	20.7		41	41
1A20JF20	1B20JF20	G 1 1/4		-20	102.1	58.1	26.6		50	46
1AT20JF20**	-	G 1 1/4		-20	102.1	58.1	26.6		50	46
1A24JF24	1B24JF24	G 1 1/2		-24	109.7	63.4	32.0		55	50
1A32JF32	1B32JF32	G 2		-32	122.6	72.4	44.4		70	65
Komatsu Female Swivel (KF)										
1A4KF4	-	M14x1.5		-04	56.1	32.7	4.2		19	19
1A6KF6	-	M18x1.5		-06	60.4	35.1	6.7		24	22
1A8KF8	-	M22x1.5		-08	69.5	39.8	9.6		27	27
1A10KF10	-	M24x1.5		-10	75.4	46.0	12.4		32	30
1A10KF12	-	M24x1.5		-12	76.6	46.4	12.4		32	30
1A12KF12	1B12KF12	M30x1.5		-12	81.5	51.3	15.5		36	36
1A16KF16	1B16KF16	M33x1.5		-16	91.4	57.0	20.7		41	41
1AP20KF20*	1B20KF20	M36x1.5		-20	113.4	69.4	26.6		46	46
1AT20KF20**	-	M36x1.5		-20	113.4	60.4	26.6		46	46
1A24KF24	-	M24x1.5		-24	120.5	74.2	32.0		55	50

*Uses 1 wire braid hose socket.
 **Uses 2 wire braid hose socket.

GH793

Double wire braid meets EN 853 Type 2SN Exceeds SAE 100R2AT performance

HI-IMPULSE®

Construction: Synthetic rubber tube, double wire braid reinforcement and synthetic rubber cover.



Application: Hydraulic system service with petroleum and water-base fluids, for general industrial service.

Operating Temperature Range: -40°F. to +212°F. (-40°C. to +100°C.)

For complete agency listings see page 11. Fittings: TTC pages 12 to 37.

Part Number	Hose I.D. (inches)	Hose O.D. (inches)	Max. Oper. Pressure (psi)	Min. Burst Pressure (psi)	Min. Bend Radius (inches)	Wt. Per Ft. (lbs.)	Steel Prot. Coil Spring* 900564 (dash size)	Plastic Coil Sleeve* 900952 (dash size)	Steel Prot. Coil Sleeve* 900705 (dash size)	Support Clamp 900729 (dash size)	Internal Support Coil 222005 (dash size)	Nylon Sleeve* FC425 (dash size)	Firesleeve* 624 (dash size)	Firesleeve Clamp FF9217 (dash size)
GH793-4	.25	.60	5750	23000	4.00	.26	-1S	-8	-13S	-2	☞	-12	-12	-0622S
GH793-6	.38	.75	5000	20000	5.00	.38	-2S	-10	-2S	-4	☞	-16	-16	-0622S
GH793-8	.50	.87	4250	17000	7.00	.46	-14S	-12	-3S	-5	☞	-16	-18	-0622S
GH793-10	.62	.98	3625	14500	8.00	.54	-5S	-16	-5S	-6	☞	-20	-20	-0630S
GH793-12	.75	1.16	3125	12500	9.50	.66	-4S	-16	-14S	-9	-14C	-24	-22	-0648S
GH793-16	1.00	1.50	2500	10000	12.00	1.01	-6S	-22	7S	-10	15C	-20	-28	-0648S
GH793-20	1.25	1.92	2250	9000	16.50	1.54	-9S	-22	-9S	-12	-17C	-32	-32	-0664C
GH793-24	1.50	2.15	1800	7200	20.00	1.68	-8S	-30	-10S	-13	18C	-38	-38	-0648S
GH793-32	2.00	2.51	1300	5200	25.00	2.22	-10S	-30	11S	-30	19C	-46	-46	-0664C

MatchMate Plus GH493

Four heavy spiral wire meets EN 856 Type R12 and meets SAE 100R12

Construction: Synthetic rubber tube, 4 spiral wire reinforcement, synthetic rubber cover.



Application: Hydraulic system service with petroleum and water base fluids, for general industrial service.

Operating Temperature Range: -40°F. to +250°F. (-40°C. to +121°C.)

For complete agency listings see page 11. Fittings: TTC12 pages 12 to 36.

Part Number	Hose I.D. (inches)	Hose O.D. (inches)	Max. Oper. Pressure (psi)	Min. Burst Pressure (psi)	Min. Bend Radius (inches)	Wt. Per Ft. (lbs.)	Steel Prot. Coil Spring* 900564 (dash size)	Plastic Coil Sleeve* 900952 (dash size)	Steel Prot. Coil Sleeve* 900705 (dash size)	Support Clamp 900729 (dash size)	Internal Support Coil 222005 (dash size)	Nylon Sleeve* FC425 (dash size)	Firesleeve* 624 (dash size)	Firesleeve Clamp FF9217 (dash size)
GH493-6	.38	.79	4000	16000	5.00	.47	-15S	-12	-3S	-5	☞	-16	-16	-0622S
GH493-8	.50	.92	4000	16000	7.00	.59	-3S	-12	-4S	-6	☞	-20	-20	-0648S
GH493-10	.63	1.11	4000	16000	9.50	.80	-4S	-16	-5S	-8	☞	-20	-22	-0648S
GH493-12	.75	1.20	4000	16000	9.50	.92	-5S	-16	-6S	-27	-14C	-24	-24	-0648S
GH493-16	1.00	1.48	4000	16000	12.00	1.22	-6S	-22	-7S	-10	-15C	-28	-28	-0648S
GH493-20	1.25	1.83	3000	12000	16.50	1.64	-9S	-22	-9S	-28	-17C	-32	-38	-0648S
GH493-24	1.50	2.12	2500	10000	20.00	2.10	-8S	-30	-8S	-29	18C	-38	-38	-0648S
GH493-32	2.00	2.64	2500	10000	25.00	2.98	-10S	-30	-11S	-31	-19C	-46	-54	-0664C

*Sizes indicated are based on Hose O.D. only. If sleeve or coil is to be placed over fittings, a larger sleeve or coil size may be required depending on the type of fitting.

☞ Call Aeroquip Corporation for dimensions.

MatchMate BLUE GH194

Single wire braid meets EN 853 Type 1SN Exceeds SAE 100R1AT performance

HI-IMPULSE® /AQP®

Construction: AQP rubber tube, single wire braid reinforcement and blue AQP cover.

Application: Hydraulic system service with petroleum, fire resistant and water base fluids, fuel and lubricating systems.

Operating Temperature Range: -40°F. to +300°F. (-40°C. to +150°C.)

For complete agency listings see page 11. Fittings: TTC pages 12 to 37.



Part Number	Hose I.D. (inches)	Hose O.D. (inches)	Max. Oper. Pressure (psi)	Min. Burst Pressure (psi)	Min. Bend Radius (inches)	Wt. Per Ft. (lbs.)	Steel Prot. Coil Spring* 900564 (dash size)	Plastic Coil Sleeve* 900952 (dash size)	Steel Prot. Coil Sleeve* 900705 (dash size)	Support Clamp 900729 (dash size)	Internal Support Coil 222005 (dash size)	Nylon Sleeve* FC425 (dash size)	Firesleeve* 624 (dash size)	Firesleeve Clamp FF9217 (dash size)
GH194-4	.25	.53	3250	13000	4.00	.17	-1S	-6	-1S	-1	☞	-12	-11	-0622S
GH194-6	.38	.69	3000	12000	5.00	.25	-2S	-10	-2S	-3	☞	-16	-14	-0622S
GH194-8	.50	.81	2500	10000	7.00	.30	-15S	-10	-3S	-5	☞	-16	-16	-0622S
GH194-10	.63	.94	2000	8000	8.00	.36	-4S	-12	-4S	-6	☞	-20	-18	-0630S
GH194-12	.75	1.09	1800	7200	9.50	.46	-5S	-16	-5S	-8	222005-14C	-24	-22	-0648S
GH194-16	1.00	1.41	1300	5200	12.00	.66	-6S	-22	6S	-25	22200515C	-24	-26	-0648S
GH194-20	1.25	1.73	900	3600	16.50	.85	-9S	-30	-8S			-32	-30	-0648S

MatchMate BLUE GH195

Double wire braid meets EN 853 Type 2SN performance, exceeds SAE 100R2AT performance

HI-IMPULSE®/AQP®

Construction: AQP elastomer tube, double wire braid reinforcement and blue AQP cover.

Application: Hydraulic system service with petroleum, fire resistant and water base fluids, fuel and lubricating systems.

Operating Temperature Range: -40°F. to +300°F. (-40°C. to +150°C.)

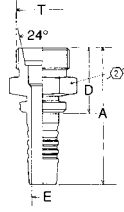
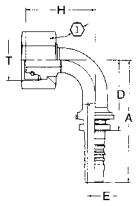
For complete agency listings see page 11. Fittings: TTC pages 12 to 37.



Part Number	Hose I.D. (inches)	Hose O.D. (inches)	Max. Oper. Pressure (psi)	Min. Burst Pressure (psi)	Min. Bend Radius (inches)	Wt. Per Ft. (lbs.)	Steel Prot. Coil Spring* 900564 (dash size)	Plastic Coil Sleeve* 900952 (dash size)	Steel Prot. Coil Sleeve* 900705 (dash size)	Support Clamp 900729 (dash size)	Internal Support Coil 222005 (dash size)	Nylon Sleeve* FC425 (dash size)	Firesleeve* 624 (dash size)	Firesleeve Clamp FF9217 (dash size)
GH195-4	.25	0.6	5750	23000	4.00	.27	-1S	-8	-13S	-2	☞	-12	-12	-0622S
GH195-6	.38	.75	5000	20000	5.00	.39	-15S	-10	-2S	-4	☞	-16	-16	-0622S
GH195-8	.50	.87	4250	17000	7.00	.46	-3S	-12	-3S	-5	☞	-16	-18	-0622S
GH195-10	.63	.99	3250	13000	8.00	.54	-54S	-16	-5S	-6	☞	-20	-20	-0630S
GH195-12	.75	1.16	3000	12000	9.50	.67	-5S	-16	-6S	-9	222005-14C	-24	-22	-0648S
GH195-16	1.00	1.49	2500	10000	12.00	.97	-7S	-22	-9S	-10	222005-15C	-20	-28	-0648S
GH195-20	1.25	1.92	2250	9000	16.50	1.54	-8S	-30	-10S	-12	222005-17C	-32	-32	-0664C
GH195-24	1.50	2.15	1750	7000	20.00	1.74	-10S	-30	-11S	-13	222005-18C	-38	-38	-0648S
GH195-32	2.00	2.67	1500	6000	25.00	2.22	-13S	-30	12S	-30	222005-19C	-46	-46	-0664C

*Sizes indicated are based on Hose O.D. only. If sleeve or coil is to be placed over fittings, a larger sleeve or coil size may be required depending on the type of fitting.

☞ Call Aeroquip Corporation for dimensions.



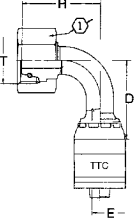
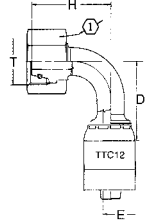
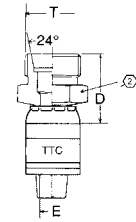
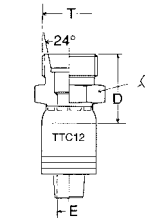
DKO Female Swivel, Heavy Duty, 90° Elbow (DSB)

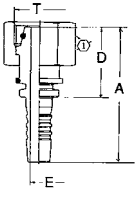
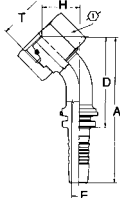
24° Male, Heavy Duty (EK)

Global TTC Fittings for use with Hose: GH120, GH194, GH195, GH663, GH781, GH793

Global TTC12 Fittings for use with Hose: GH493

ALL DIMENSIONS IN MILLIMETERS

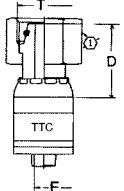
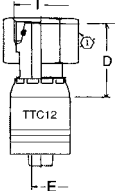
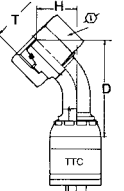
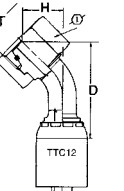
TTC Part Number	TTC12 Part Number	Thread	Tube O.D.	Hose Size	A (mm)	D (mm)	EØ (mm)	H (mm)	① (mm)	② (mm)
										
DKO Female Swivel, Heavy Duty, 90° Elbow (DSB)										
1A6DSB4	-	M18x1.5	10	-04	54.5	31.0	4.2	33.5	22	
1A8DSB6	1B8DSB6	M20x1.5	12	-06	60.3	35.0	6.7	35.0	24	
1A10DSB6	1B10DSB6	M22x1.5	14	-06	63.8	38.5	6.7	42.0	27	
1A12DSB8	1B12DSB8	M24x1.5	16	-08	73.7	44.0	9.6	49.0	30	
1A16DSB10	1B16DSB10	M30x2	20	-10	82.0	52.6	12.8	53.5	36	
1A20DSB12	1B20DSB12	M36x2	25	-12	93.0	62.8	15.5	64.5	46	
1A25DSB16	1B25DSB16	M42x2	30	-16	104.0	69.6	20.7	74.0	50	
										
24° Male, Heavy Duty (EK)										
1A5EK4	-	M16x1.5	8	-04	47.5	24.1	4.2			17
1A6EK4	-	M18x1.5	10	-04	40.7	23.6	4.2			19
1A8EK6	1B8EK6	M20x1.5	12	-06	50.3	25.0	6.7			22
1A10EK6	1B10EK6	M22x1.5	14	-06	52.6	27.3	6.7			24
1A12EK8	1B12EK8	M24x1.5	16	-08	58.0	28.3	9.6			27
1A16EK10	1B16EK10	M30x2	20	-10	62.0	32.6	12.8			32
1A20EK12	1B10EK12	M36x2	25	-12	65.5	35.3	15.5			41
1A25EK16	1B25EK16	M42x2	30	-16	72.3	37.9	20.7			46


 DKO Female Swivel,
Heavy Duty (DS)

 DKO Female Swivel,
Heavy Duty,
45° Elbow (DSA)

Global TTC Fittings for use with Hose: GH120, GH194, GH195, GH663, GH781, GH793

Global TTC12 Fittings for use with Hose: GH493

ALL DIMENSIONS IN MILLIMETERS

TTC Part Number	TTC12 Part Number	Thread	Tube O.D.	Hose Size	A (mm)	D (mm)	E∅ (mm)	H (mm)	① (mm)	② (mm)
										
DKO Female Swivel, Heavy Duty (DS)										
1A5DS4	-	M16x1.5	8	-04	49.6	26.2	4.2		19	
1A6DS4	-	M18x1.5	10	-04	50.8	27.4	4.2		22	
1A8DS6	1B8DS6	M20x1.5	12	-06	53.8	28.5	6.7		24	
1A10DS6	1B10DS6	M22x1.5	14	-06	56.9	31.6	6.7		27	
1A12DS8	1B12DS8	M24x1.5	16	-08	62.4	32.7	9.6		30	
1A16DS10	1B16DS10	M30x2	20	-10	66.9	37.5	12.8		36	
1A20DS12	1B20DS12	M36x2	25	-12	72.0	41.8	15.5		46	
1A25DS16	1B10DS16	M42x2	30	-16	78.5	44.1	20.7		50	
-	1B32DS20	M52x2	38	-20	93.7	49.7	26.6		60	
										
DKO Female Swivel, Heavy Duty, 45° Elbow (DSA)										
1A6DSA4	-	N18x1.5	10	-04	61.4	38.0	4.2	17.0	22	
1A8DSA6	1B8DSA6	M20x1.5	12	-06	68.3	43.0	6.7	19.0	24	
1A10DSA6	-	M22x1.5	14	-06	68.8	43.5	6.7	20.0	27	
1A12DSA8	1B12DSA8	M24x1.5	16	-08	79.7	50.0	9.6	23.0	30	
1A16DSA10	1B16DSA10	M30x2	20	-10	89.3	59.9	12.8	26.0	36	
1A20DSA12	1B20DSA12	M36x2	25	-12	107.4	77.2	15.5	32.5	46	
1A25DSA16	1B25DSA16	M42x2	30	-16	121.4	87.0	20.7	37.5	55	

MatchMate ICE GH120

Cold temperature applications, exceeds SAE 100R16 performance

Construction: Aeroquip exclusive low temperature compound tube and cover, double wire braid.

Application: Low temperature flexing and hydraulic system service with petroleum and water-base fluids. For use in frigid environments on construction equipment and other mobile applications.

Operating Temperature Range: -70°F. to +212°F. (-57°C. to +100°C.)

For complete agency listings see page 11. Fittings: TTC pages 12 to 37.



Part Number	Hose I.D. (inches)	Hose O.D. (inches)	Max. Oper. Pressure (psi)	Min. Burst Pressure (psi)	Min. Bend Radius (inches)	Wt. Per Ft. (lbs.)	Steel Prot. Coil Spring* 900564 (dash size)	Plastic Coil Sleeve* 900952 (dash size)	Steel Prot. Coil Sleeve* 900705 (dash size)	Support Clamp 900729 (dash size)	Internal Support Coil 222005 (dash size)	Nylon Sleeve* FC425 (dash size)	Firesleeve* 624 (dash size)	Firesleeve Clamp FF9217 (dash size)
GH120-4	.25	.56	5000	20000	2.00	.20	-1S	-8	-13S	-2		-12	-12	-0622S
GH120-6	.38	.68	4000	16000	2.50	.27	-2S	-10	-2S	-3		-16	-16	-0622S
GH120-8	.50	.82	3500	14000	3.50	.39	-14S	-12	-3S	-5		-16	-18	-0622S
GH120-10	.63	.98	2750	11000	4.00	.50	-54S	-16	-5S	-6		-20	-20	-0630S
GH120-12	.75	1.12	2250	9000	4.75	.62	-5S	-16	-6S	-9		-22	-22	-0648S
GH120-16	1.00	1.41	2000	8000	6.00	.82	-7S	-22	-7S	-10		-24	-28	-0648S
GH120-20	1.25	1.71	1625	6500	8.25	1.07	-9S	-30	-8S			-32	-30	-0648S
GH120-24	1.50	2.03	1250	5000	10.00	1.42	-10S	-30	-15S	-29		-38	-38	-0648S
GH120-32	2.00	2.51	1125	4500	12.50	1.88	-13S	-30	-12S	-30		-46	-46	-0664C

Government Agencies

DOT/FMVSS – US Department of Transportation/Federal Motor Vehicle Safety Standard

FDA – US Food and Drug Administration (tubes only)

MIL/DOD – US Military Specification, Department of Defense

MSHA – US Mine Safety and Health Administration

USCG/MMT – US Coast Guard/Merchant Marine Technical

Industry Agencies

DIN – Deutsche (German) Industrial Norme

DNV – Det Norske (Norwegian) Veritas

EN – European Normalization

NMMA/BIA – National Marine Manufacturers Association/Boating Industry Assn.

TMC/ATA – The Maintenance Council/American Trucking Association

SAE – Society of Automotive Engineers

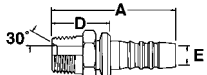
UL – Underwriters Laboratories

The listings below are intended only as guides in identifying which Aeroquip hoses comply with requirements of various agencies. For current and complete information, contact Aeroquip.

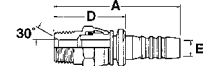
Hose Part Number	Page	Government					Industry						
		DOT/FMVSS	FDA	MIL/DOD	MSHA	USCG/MMT*	DIN	EN	DNV	NMMA/BIA	TMC/ATA	SAE	UL
GH663	9				✓	✓	20 022 Type 1SN	EN 853 Type 1SN	✓			100R1AT	
GH781	10				✓		20 022 Type 2ST	EN 857 Type 2SC				100R16	
GH793	11				✓	✓	20 022 Type 2SN	EN 853 Type 2SN	✓			100R2AT	
GH493	12				✓	✓		EN 856 Type R12				100R12	
GH194	13				✓		20 022 Type 1SN	EN 853 Type 1SN				100R1AT	
GH195	14				✓		20 022 Type 2SN	EN 853 Type 2SN				100R2AT	
GH120	11				✓							100R16	

✓ = Details available from Aeroquip

*Listing may vary by hose style and size, some hoses may require firesleeve or special procedures depending on specific applications, contact Aeroquip for details.



Male Pipe (MP)

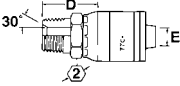
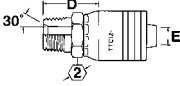
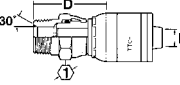


Male Pipe Swivel (PS)

Global TTC Fittings for use with Hose: GH120, GH194, GH195, GH663, GH781, GH793

Global TTC12 Fittings for use with Hose: GH493

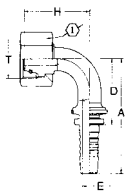
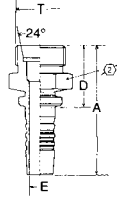
ALL DIMENSIONS IN INCHES

TTC Part Number	TTC12 Part Number	Thread	Hose Size	A (ins.)	D (ins.)	EØ (ins.)	H (ins.)	① (ins.)	② (ins.)
									
Male Pipe (MP)									
1AA2MP3	-	1/8 - 27	-03	1.59	.90	.10			.44
1AA4MP3	-	3/8 - 18	-03	1.62	.93	.10			.56
1AA2MP4†	-	1/8 - 27	-04	1.84	.92	.17			.56
1AA4MP4	-	1/4 - 18	-04	2.06	1.14	.17			.56
1AA6MP4	-	3/8 - 18	-04	1.90	.98	.17			.69
1AA4MP6	1BA4MP6	1/4 - 18	-06	2.18	1.18	.26			.69
1AA6MP6†	1BA6MP6	3/8 - 18	-06	2.27	1.28	.26			.69
1AA8MP6	1BA8MP6	1/2 - 14	-06	2.27	1.28	.26			.88
1AA4MP8	1BA4MP8	1/4 - 18	-08	2.40	1.23	.30			.81
1AA6MP8	1BA6MP8	3/8 - 18	-08	2.49	1.32	.38			.81
1AA8MP8†	1BA8MP8	1/2 - 14	-08	2.74	1.57	.38			.88
1AA12MP8	1BA12MP8	3/4 - 14	-08	2.56	1.39	.38			1.06
1AA6MP10	-	3/8 - 18	-10	2.49	1.33	.42			.94
1AA8MP10	1BA8MP10	1/2 - 14	-10	2.74	1.58	.50			.94
1AA12MP10	1BA12MP10	3/4 - 14	-10	2.56	1.40	.50			1.06
1AA8MP12	1BA8MP12	1/2 - 14	-12	2.78	1.60	.56			1.13
1AA12MP12†	1BA12MP12	3/4 - 14	-12	2.84	1.65	.61			1.13
1AA16MP12	1BA16MP12	1 - 11 1/2	-12	2.80	1.61	.61			1.38
1AA12MP16	1BA12MP16	3/4 - 14	-16	3.02	1.67	.76			1.38
1AA16MP16†	1BA16MP16	1 - 11 1/2	-16	3.22	1.86	.82			1.38
1AA20MP16	1BA20MP16	1 1/4 - 11 1/2	-16	3.08	1.72	.82			1.69
-	1BA16MP20	1 - 11 1/2	-20	3.66	1.93	.95			1.75
1AR16MP20*	-	1 - 11 1/2	-20	3.66	1.93	.95			1.75
1AV16MP20**	-	1 - 11 1/2	-20	3.66	1.93	.95			1.75
-	1BA20MP20	1 1/4 - 11 1/2	-20	3.52	1.79	1.05			1.81
1AR20MP20*†	-	1 1/4 - 11 1/2	-20	3.52	1.79	1.05			1.81
1AV20MP20**†	-	1 1/4 - 11 1/2	-20	3.52	1.79	1.05			1.81
1AA24MP24	1BA24MP24	1 1/2 - 11 1/2	-24	4.18	2.36	1.26			2.00
1AA32MP32	-	2 - 11 1/2	-32	4.59	2.61	1.75			2.50
-	1BA32MP32	2 - 11 1/2	-32	5.06	2.58	1.75			2.62
									
Male Pipe Swivel (PS)									
1AA2PS3	-	1/8 - 27	-03	2.11	1.42	.10		.56	
1AA4PS4	-	1/4 - 18	-04	2.54	1.62	.17		.75	
1AA6PS6	-	3/8 - 18	-06	2.66	1.67	.26		.88	
1AA8PS6	-	1/2 - 14	-06	2.85	1.85	.26		.88	
1AA6PS8	-	3/8 - 18	-08	2.88	1.71	.38		.88	
1AA8PS8	-	1/2 - 14	-08	3.13	1.96	.38		.94	
1AA12PS12	-	3/4 - 14	-12	3.24	2.05	.61		1.38	
1AA16PS16	-	1 - 11 1/2	-16	3.88	2.53	.81		1.50	

*Uses 1 wire braid hose socket.

**Uses 2 wire braid hose socket.

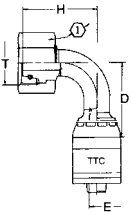
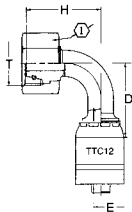
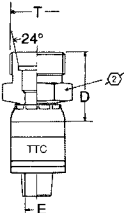
†Available in stainless steel. Add "C" suffix to part number. Example: 1AA4MP4C, is stainless steel version of 1AA4MP4.


 DKO Female Swivel,
Light Duty,
90° Elbow (DLB)

 24° Male,
Light Duty (DK)

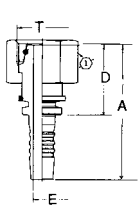
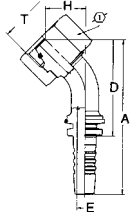
Global TTC Fittings for use with Hose: GH120, GH194, GH195, GH663, GH781, GH793

Global TTC12 Fittings for use with Hose: GH493

ALL DIMENSIONS IN MILLIMETERS

TTC Part Number	TTC12 Part Number	Thread	Tube O.D.	Hose Size	A (mm)	D (mm)	EØ (mm)	H (mm)	① (mm)	② (mm)
										
DKO Female Swivel, Light Duty, 90° Elbow (DLB)										
1A5DLB4	-	M12x1.5	6	-04	49.9	26.5	4.2	26.5	17	
1A6DLB4	-	M14x1.5	8	-04	51.9	28.5	4.2	31.5	17	
1A8DLB6	1B8DLB6	M16x1.5	10	-06	57.3	32.0	6.7	35.5	19	
1A10DLB6	-	M18x1.5	12	-06	60.3	35.0	6.7	39.0	22	
1A12DLB8	1B12DLB8	M22x1.5	15	-08	72.0	42.3	9.6	43.0	27	
1A16DLB10	-	M26x1.5	18	-10	82.9	53.5	12.8	59.0	32	
1A20DLB12	1B20DLB12	M30x2	22	-12	95.0	64.8	15.5	54.0	36	
1A25DLB16	-	M36x2	28	-16	154.4	120.0	20.7	71.0	41	
1AT32DLB20	-	M45x2	35	-20	119.0	75.0	26.6	76.0	50	
										
24° Male, Light Duty (DK)										
1A5DK4	-	M12x1.5	6	-04	44.7	21.3	4.2			12
1A6DK4	-	M14x1.5	8	-04	44.5	21.1	4.2			14
1A8DK6	-	M16x1.5	10	-06	52.0	26.7	6.7			17
1A10DK6	-	M18x1.5	12	-06	49.0	23.7	6.7			19
1A12DK8	-	M22x1.5	15	-08	56.0	26.3	9.6			24
1A16DK10	-	M26x1.5	18	-10	56.0	26.6	12.8			27
1A20DK12	-	M30x2	22	-12	62.0	31.8	15.5			32
1A25DK16	-	M36x2	28	-16	66.0	31.6	20.7			41
1AT32DK20*	-	M45x2	35	-20	79.4	35.4	26.6			46

*Uses 2 wire braid hose socket.


 DKO Female Swivel,
Light Duty (DL)

 DKO Female Swivel,
Light Duty,
45° Elbow (DLA)

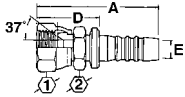
Global TTC Fittings for use with Hose: GH120, GH194, GH195, GH663, GH781, GH793

Global TTC12 Fittings for use with Hose: GH493

ALL DIMENSIONS IN MILLIMETERS

TTC Part Number	TTC12 Part Number	Thread	Tube O.D.	Hose Size	A (mm)	D (mm)	E∅ (mm)	H (mm)	① (mm)	② (mm)
DKO Female Swivel, Light Duty (DL)										
1A5DL4	-	M12x1.5	6	-04	48.0	24.6	4.2		17	
1A6DL4	-	M14x1.5	8	-04	46.0	22.6	4.2		17	
1A8DL6	1B8DL6	M16x1.5	10	-06	56.9	31.6	6.7		19	
1A10DL6	1B10DL6	M18x1.5	12	-06	51.2	25.9	6.7		22	
1A12DL8	1B12DL8	M22x1.5	15	-08	58.3	28.6	9.6		27	
1A16DL10	1B16DL10	M26x1.5	18	-10	59.2	29.8	12.8		32	
1A20DL12	1B20DL12	M30x2	22	-12	62.5	32.3	15.5		36	
1A25DL16	1B25DL26	M36x2	28	-16	68.2	33.8	20.7		41	
1AT32DL20*	1B32DL20	M45x2	35	-20	83.7	39.7	26.6		50	
1A40DL24	-	M52x2	42	-24	87.2	40.9	32.0		60	
DKO Female Swivel, Light Duty, 45° Elbow (DLA)										
1A6DLA4	-	M14x1.5	8	-04	62.4	39.0	4.2	17.5	17	
1A8DLA6	-	M16x1.5	10	-06	66.8	41.5	6.7	19.0	19	
1A10DLA6	-	M18x1.5	12	-06	69.8	44.5	6.7	20.5	22	
1A12DLA8	-	M22x1.5	15	-08	81.7	52.0	9.6	21.5	27	
1A16DLA10	-	M26x1.5	18	-10	88.4	59.0	12.8	27.5	32	
1A20DLA12	-	M30x2	22	-12	98.4	68.2	15.5	26.0	36	
1A25DLA16	-	M36x2	28	-16	120.0	85.6	20.7	33.5	41	
1AT32DLA20*	-	M45x2	35	-20	148.0	104.0	26.6	43.0	50	

*Uses 2 wire braid hose socket.



Female J.I.C./S.A.E. 37° Swivel (FJ)

Global TTC Fittings for use with Hose: GH120, GH194, GH195, GH663, GH781, GH793

Global TTC12 Fittings for use with Hose: GH493

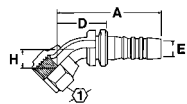
ALL DIMENSIONS IN INCHES

TTC Part Number	TTC12 Part Number	Thread	Hose Size	A (ins.)	D (ins.)	EØ (ins.)	H (ins.)	① (ins.)	② (ins.)
Female J.I.C./S.A.E. 37° Swivel (FJ)									
1AA3FJ3	-	3/8 - 24	-03	1.69	1.00	.10		.50	.44
1AA4FJ3	-	7/16 - 20	-03	1.69	1.00	.10		.56	.44
1AA3FJ4	-	3/8 - 24	-04	1.94	1.02	.13		.50	.56
1AA4FJ4†	-	7/16 - 20	-04	2.00	1.07	.17		.56	.56
1AA5FJ4	-	1/2 - 20	-04	1.98	1.06	.17		.62	.56
1AA6FJ4	-	9/16 - 18	-04	2.03	1.11	.17		.69	.56
1AA5FJ5	-	1/2 - 20	-05	2.08	1.14	.21		.62	.56
1AA6FJ5	-	9/16 - 18	-05	2.06	1.12	.21		.69	.56
1AA4FJ6	1BA4FJ6	7/16 - 20	-06	2.19	1.19	.17		.56	.69
1AA5FJ6	-	1/2 - 20	-06	2.24	1.24	.23		.62	.69
1AA6FJ6†	1BA6FJ6	9/16 - 18	-06	2.28	1.28	.26		.69	.69
1AA8FJ6	1BA8FJ6	3/4 - 16	-06	2.31	1.31	.26		.88	.69
-	-	7/8 - 14	-06	2.42	1.43	.26		1.00	.81
1AA8FJ8†	1BA8FJ8	3/4 - 16	-08	2.63	1.46	.38		.88	.81
1AA10FJ8	1BA10FJ8	7/8 - 14	-08	2.64	1.47	.38		1.00	.81
1AA12FJ8	1BA12FJ8	1 1/16 - 12	-08	2.73	1.56	.38		1.25	1.00
1AA16FJ8	1BA16FJ8	1 5/16 - 12	-08	3.06	1.89	.38		1.50	1.25
1AA8FJ10	-	3/4 - 16	-10	2.65	1.50	.39		.88	.94
1AA10FJ10†	1BA10FJ10	7/8 - 14	-10	2.77	1.61	.50		1.00	.94
1AA12FJ10	1BA12FJ10	1 1/16 - 12	-10	2.72	1.57	.50		1.25	1.00
1AA10FJ12	1BA10FJ12	7/8 - 14	-12	2.81	1.63	.48		1.00	1.12
1AA12FJ12†	1BA12FJ12	1 1/16 - 12	-12	2.84	1.65	.61		1.25	1.12
1AA14FJ12	1BA14FJ12	1 3/16 - 12	-12	2.84	1.65	.61		1.38	1.12
1AA16FJ12	1BA16FJ12	1 5/16 - 12	-12	2.91	1.72	.61		1.50	1.25
1AA12FJ16	1BA12FJ16	1 1/16 - 12	-16	3.15	1.80	.61		1.25	1.38
1AA16FJ16†	1BA16FJ16	1 5/16 - 12	-16	3.29	1.93	.81		1.50	1.38
1AA20FJ16	1BA20FJ16	1 5/8 - 12	-16	3.17	1.81	.81			2.00
-	1BA16FJ20	1 5/16 - 12	-20	3.46	1.73	.85			1.50
1AR16FJ20*	-	1 5/16 - 12	-20	3.46	1.73	.85			1.50
1AV16FJ20**	-	1 5/16 - 12	-20	3.46	1.73	.85			1.50
-	1BA20FJ20	1 5/8 - 12	-20	3.61	1.88	1.05			2.00
1AR20FJ20*†	-	1 5/8 - 12	-20	3.61	1.88	1.05			2.00
1AV20FJ20**†	-	1 5/8 - 12	-20	3.61	1.88	1.05			2.00
-	1BA24FJ20	1 7/8 - 12	-20	3.76	2.03	1.05			2.25
1AA24FJ24	1BA24FJ24	1 7/8 - 12	-24	3.90	2.07	1.26			2.25
1AA24FJ32	-	1 7/8 - 12	-32	4.09	2.12	1.31			2.25
1AA32FJ32	-	2 1/2 - 12	-32	4.34	2.37	1.75			2.88
-	1BA32FJ32	2 1/2 - 12	-32	4.82	2.33	1.75			2.88

*Uses 1 wire braid hose socket.

**Uses 2 wire braid hose socket.

†Available in stainless steel. Add "C" suffix to part number. Example: 1AA4MP4C, is stainless steel version of 1AA4MP4.

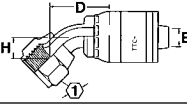
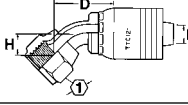


Female J.I.C./S.A.E. 37° Swivel 45° Elbow (FJA)

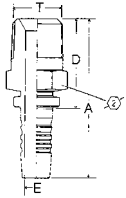
Global TTC Fittings for use with Hose: GH120, GH194, GH195, GH663, GH781, GH793

Global TTC12 Fittings for use with Hose: GH493

ALL DIMENSIONS IN INCHES

TTC Part Number	TTC12 Part Number	Thread	Hose Size	A (ins.)	D (ins.)	EØ (ins.)	H (ins.)	① (ins.)	② (ins.)
									
Female J.I.C./S.A.E. 37° Swivel 45° Elbow (FJA)									
1AA4FJA4 ¹	-	7/16 - 20	-04	1.96	1.04	.15	.33	.56	
1AA5FJA4 ¹	-	1/2 - 20	-04	2.04	1.12	.17	.37	.62	
1AA6FJA4	-	9/16 - 18	-04	2.09	1.17	.17	.39	.69	
1AA6FJA6	-	9/16 - 18	-06	2.31	1.31	.24	.39	.69	
-	1BA6FJA6	9/16 - 18	-06	2.98	1.98	.24	.85	.69	
1AA8FJA6 ¹	-	3/4 - 16	-06	2.65	1.66	.26	.55	.88	
-	1BA8FJA6 ¹	3/4 - 16	-06	3.13	2.14	.26	.95	.88	
1AA8FJA8 ¹	-	3/4 - 16	-08	2.82	1.65	.37	.55	.88	
-	1BA8FJA8 ¹	3/4 - 16	-08	3.30	2.13	.37	.95	.88	
1AA10FJA8 ¹	-	7/8 - 14	-08	3.03	1.86	.38	.59	1.00	
-	1BA10FJA8 ¹	7/8 - 14	-08	3.35	2.18	.37	1.00	1.00	
1AA10FJA10 ¹	-	7/8 - 14	-10	2.94	1.79	.46	.59	1.00	
1AA12FJA10	-	11/16 - 12	-10	3.38	2.22	.50	.78	1.25	
-	1BA12FJA10	11/16 - 12	-10	3.78	2.62	.50	1.16	1.25	
1AA12FJA12	-	11/16 - 12	-12	3.43	2.24	.58	.78	1.25	
-	1BA12FJA12	11/16 - 12	-12	3.81	2.62	.56	1.16	1.25	
1AA20FJA16	-	15/8 - 12	-16	4.00	2.65	.81	1.22	2.00	
1AA16FJA16	-	15/16 - 12	-16	3.74	2.39	.76	1.07	1.50	
-	1BA16FJA16	15/16 - 12	-16	4.71	3.36	.76	1.53	1.50	
-	-	15/8 - 12	-20	4.44	2.71	1.01	1.22	2.00	
-	1BA20FJA20	15/8 - 12	-20	5.45	3.72	1.01	1.70	2.00	
1AR20FJA20 *	-	15/8 - 12	-20	4.44	2.71	1.01	1.22	2.00	
1AV20FJA20 **	-	15/8 - 12	-20	4.44	2.71	1.01	1.22	2.00	
-	1BA24FJA24	17/8 - 12	-24	6.27	4.44	1.19	1.99	2.25	

¹Uses 1 wire braid hose socket.
²Uses 2 wire braid hose socket.
³Swivel nuts are universal for both S.A.E. 37° and S.A.E. 45° connections.



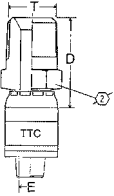
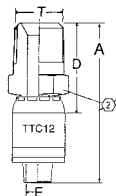
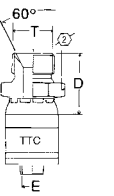
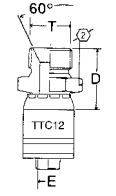
BSP Male Tapered (BT)

BSP Male Parallel (BP)

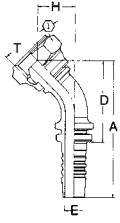
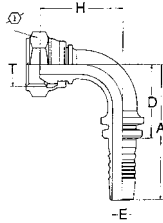
Global TTC Fittings for use with Hose: GH120, GH194, GH195, GH663, GH781, GH793

Global TTC12 Fittings for use with Hose: GH493

ALL DIMENSIONS IN MILLIMETERS

TTC Part Number	TTC12 Part Number	Thread	Tube O.D.	Hose Size	A (mm)	D (mm)	EØ (mm)	H (mm)	① (mm)	② (mm)
										
BSP Male Tapered, BSPT (BT)										
1A4BT4	-	R 1/4 -19		-04	50.6	27.2	4.2			14
1A6BT6	1B6BT6	R 3/8 -19		-06	54.9	29.6	6.7			19
1A8BT8	1B8BT8	R 1/2 -14		-08	66.2	36.5	9.6			22
1A12BT12	1B12BT12	R 3/4 -14		-12	71.1	40.9	15.5			30
1A16BT16	1B16BT16	R 1 - 11		-16	81.2	46.8	20.7			36
1A20BT20*	1B20BT20	R 1 1/4 - 11		-20	96.2	52.2	26.6			46
-	1B24BT24	R 1 1/2 - 11		-24	100.8	54.5	32.0			50
										
BSP Male Parallel (BP)										
1A4BP4	-	G 1/4		-04	44.3	20.9	4.2			19
1A6BP6	-	G 3/8		-06	48.4	23.1	6.7			22
1A8BP6	-	G 1/2		-06	52.4	27.1	6.7			27
1A8BP8	-	G 1/2		-08	58.0	28.3	9.6			27
1A12BP12	-	G 3/4		-12	63.1	32.9	15.5			32
1A16BP16	-	G 1		-16	70.9	36.5	20.7			41

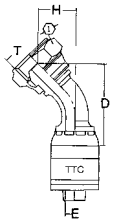
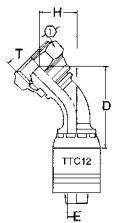
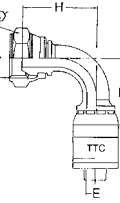
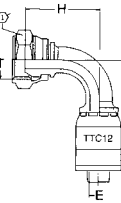
*Uses 2 wire braid hose socket.


 BSP Female Swivel,
45° Elbow (BFA)

 BSP Female Swivel,
90° Elbow (BFB)

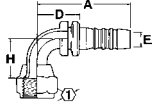
Global TTC Fittings for use with Hose: GH120, GH194, GH195, GH663, GH781, GH793

Global TTC12 Fittings for use with Hose: GH493

ALL DIMENSIONS IN MILLIMETERS

TTC Part Number	TTC12 Part Number	Thread	Tube O.D.	Hose Size	A (mm)	D (mm)	EØ (mm)	H (mm)	① (mm)	② (mm)
										
BSP Female Swivel, 45° Elbow (BFA)										
1A4BFA4	-	G 1/4		-04	65.3	41.9	4.2	16.5	19	
1A6BFA6	-	G 3/8		-06	73.8	48.5	6.7	19.0	22	
1A8BFA8	1B8BFA8	G 1/2		-08	91.5	61.8	9.6	24.8	27	
1A10BFA10	-	G 5/8		-10	100.4	71.0	12.8	27.4	30	
1A12BFA12	1B12BFA12	G 3/4		-12	108.8	78.6	15.5	29.4	32	
1A16BFA16	1B16BFA16	G 1		-16	126.8	92.4	20.7	33.2	41	
1AT20BFA20*	1B20BFA20	G 1 1/4		-20	153.6	109.6	26.6	37.2	50	
										
BSP Female Swivel, 90° Elbow (BFB)										
1A4BFB4	-	G 1/4		-04	56.4	33.0	4.2	31.0	19	
1A6BFB6	-	G 3/8		-06	64.1	38.8	6.7	36.6	22	
1A8BFB6	-	G 1/2		-06	74.6	49.3	6.7	48.5	27	
1A8BFB8	1B8BFB8	G 1/2		-08	80.2	50.5	9.6	48.5	27	
1A10BFB10	-	G 5/8		-10	90.6	61.2	12.8	56.3	30	
1A12BFB12	1B12BFB12	G 3/4		-12	99.3	69.1	15.5	61.5	32	
1A16BFB16	1B16BFB16	G 1		-16	118.2	83.8	20.7	71.5	41	
1AT20BFB20*	1B20BFB20	G 1 1/4		-20	146.2	102.2	26.6	82.5	50	
1A24BFB24	-	G 1 1/2		-24	164.1	117.8	32.0	97.5	55	
1A32BFB32	-	G 2		-32	201.9	151.7	44.4	120.7	70	

*Uses 2 wire braid hose socket.



Female J.I.C./S.A.E. 37° Swivel 90° Elbow (FJB)

Global TTC Fittings for use with Hose: GH120, GH194, GH195, GH663, GH781, GH793

Global TTC12 Fittings for use with Hose: GH493

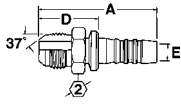
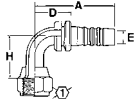
ALL DIMENSIONS IN INCHES

TTC Part Number	TTC12 Part Number	Thread	Hose Size	A (ins.)	D (ins.)	E∅ (ins.)	H (ins.)	① (ins.)	② (ins.)
Female J.I.C./S.A.E. 37° Swivel 90° Elbow (FJB)									
1AA4FJB3	-	7/16 - 20	-03	1.60	.91	.10	.68	.56	
1AA4FJB4 ¹	-	7/16 - 20	-04	1.84	.92	.15	.68	.56	
1AA5FJB4	-	1/2 - 20	-04	1.92	1.00	.17	.76	.62	
1AA6FJB4	-	9/16 - 18	-04	2.00	1.08	.17	.84	.69	
-	-	1/2 - 20	-05	1.95	1.01	.18	.76	.62	
1AA6FJB6	-	9/16 - 18	-06	2.21	1.22	.24	.84	.69	
-	1BA6FJB6	9/16 - 18	-06	2.41	1.42	.24	1.50	.69	
1AA8FJB6 ¹	-	3/4 - 16	-06	2.42	1.42	.26	1.09	.88	
-	1BA8FJB6 ¹	3/4 - 16	-08	2.71	1.71	.26	1.87	.88	
1AA6FJB8	-	9/16 - 18	-08	2.43	1.26	.24	.84	.69	
1AA8FJB8 ¹	-	3/4 - 16	-08	2.59	1.42	.37	1.09	.88	
-	1BA8FJB8 ¹	3/4 - 16	-08	2.87	1.70	.37	1.87	.88	
1AA10FJB8 ¹	-	7/8 - 14	-08	2.78	1.61	.38	1.19	1.00	
-	1BA10FJB8 ¹	7/8 - 14	-08	2.87	1.70	.37	1.93	1.00	
-	-	1 1/16 - 12	-08	3.39	2.22	.38	1.80	1.25	
1AA10FJB10 ¹	-	7/8 - 14	-10	2.70	1.55	.46	1.19	1.00	
1AA12FJB10	-	1 1/16 - 12	-10	3.31	2.16	.50	1.80	1.25	
-	1BA12FJB10	1 1/16 - 12	-10	3.34	2.18	.50	2.35	1.25	
1AA12FJB12	-	1 1/16 - 12	-12	3.36	2.17	.58	1.80	1.25	
-	1BA12FJB12	1 1/16 - 12	-12	3.37	2.18	.56	2.35	1.25	
1AA16FJB12	-	1 5/16 - 12	-12	3.37	2.18	.61	2.39	1.50	
-	1BA16FJB12	1 5/16 - 12	-12	3.37	2.18	.56	2.46	1.50	
1AA16FJB16	-	1 5/16 - 12	-16	3.56	2.20	.76	2.39	1.50	
-	1BA16FJB16	1 5/16 - 12	-16	4.06	2.70	.76	3.04	1.50	
-	-	1 5/16 - 12	-20	4.00	2.27	.76	2.39	1.50	
-	-	1 5/8 - 12	-20	4.25	2.52	1.01	2.75	2.00	
-	1BA20FJB20	1 5/8 - 12	-20	4.75	3.02	1.01	3.40	2.00	
1AR20FJB20 [*]	-	1 5/8 - 12	-20	4.25	2.52	1.01	2.75	2.00	
1AV20FJB20 ^{**}	-	1 5/8 - 12	-20	4.25	2.52	1.01	2.75	2.00	
-	1BA24FJB24	1 7/8 - 12	-24	5.40	3.58	1.19	3.95	2.25	
1AA24FJB24	-	1 7/8 - 12	-24	4.63	2.81	1.26	3.17	2.25	

^{*}Uses 1 wire braid hose socket.

^{**}Uses 2 wire braid hose socket.

¹Swivel nuts are universal for both S.A.E. 37° and S.A.E. 45° connections.



Global TTC Fittings for use with Hose: GH120, GH194, GH195, GH663, GH781, GH793

Global TTC12 Fittings for use with Hose: GH493

Female J.I.C./S.A.E. 37° (FJC) Male J.I.C./S.A.E. 37° (MJ)

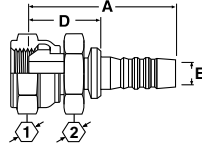
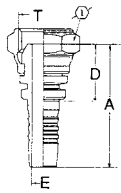
ALL DIMENSIONS IN INCHES

TTC Part Number	TTC12 Part Number	Thread	Hose Size	A (ins.)	D (ins.)	EØ (ins.)	H (ins.)	① (ins.)	② (ins.)
Female J.I.C./S.A.E. 37° Swivel 90° Long Drop Elbow (FJC)									
1AA4FJC4 1	-	7/16 - 20	-04	1.84	.92	.15	1.80	.56	
1AA5FJC4 1	-	1/2 - 20	-04	1.92	1.00	.17	1.80	.62	
-	-	9/16 - 18	-04	1.79	.87	.17	2.18	.69	
1AA6FJC6	-	9/16 - 18	-06	2.22	1.23	.24	2.18	.69	
-	1BA6FJC6	9/16 - 18	-06	2.42	1.42	.24	2.73	.69	
1AA8FJC6	-	3/4 - 16	-06	2.54	1.54	.26	2.45	.88	
1AA8FJC8 1	-	3/4 - 16	-08	2.71	1.54	.37	2.45	.88	
-	1BA8FJC8	3/4 - 16	-08	2.87	1.70	.37	3.33	.88	
1AA10FJC8	-	7/8 - 14	-08	2.78	1.61	.38	2.57	1.00	
1AA10FJC10	-	7/8 - 14	-10	2.70	1.54	.46	2.57	1.00	
1AA12FJC12	-	1 1/16 - 12	-12	3.36	2.17	.58	3.70	1.25	
-	1BA12FJC12	1 1/16 - 12	-12	3.37	2.18	.58	4.41	1.25	
1AA16FJC16	-	1 5/16 - 12	-16	3.56	2.20	.76	4.58	1.50	
-	1BA16FJC16	1 5/16 - 12	-16	4.06	2.70	.76	5.24	1.50	
-	-	1 5/8 - 12	-20	4.25	2.52	1.01	5.53	2.00	
1AR20FJC20 *	-	1 5/8 - 12	-20	4.25	2.52	1.01	5.53	2.00	
1AV20FJC20 **	-	1 5/8 - 12	-20	4.25	2.52	1.01	5.53	2.00	
-	1BA20FJC20	1 5/8 - 12	-20	4.75	3.02	1.01	5.94	2.00	
Male J.I.C./S.A.E. 37° (MJ)									
1AA4MJ4	-	7/16 - 20	-04	2.00	1.07	.17		.56	
1AA5MJ4	-	1/2 - 20	-04	1.84	.92	.17		.56	
1AA6MJ4	-	9/16 - 18	-04	1.85	.93	.17		.62	
-	-	1/2 - 20	-05	2.07	1.12	.21		.56	
1AA6MJ5	-	9/16 - 18	-05	1.88	.94	.21		.62	
1AA6MJ6	1BA6MJ6	9/16 - 18	-06	2.16	1.17	.26		.69	
1AA8MJ6	1BA8MJ6	3/4 - 16	-06	2.10	1.11	.26		.81	
1AA8MJ8	1BA8MJ8	3/4 - 16	-08	2.57	1.41	.38		.81	
1AA10MJ8	1BA10MJ8	7/8 - 14	-08	2.42	1.26	.38		.94	
1AA12MJ8	1BA12MJ8	1 1/16 - 12	-08	2.59	1.42	.38		1.12	
1AA10MJ10	1BA10MJ10	7/8 - 14	-10	2.73	1.57	.48		.94	
1AA12MJ10	1BA12MJ10	1 1/16 - 12	-10	2.59	1.43	.50		1.12	
1AA10MJ12	1BA10MJ12	7/8 - 14	-12	2.78	1.59	.48		1.12	
1AA12MJ12	1BA12MJ12	1 1/16 - 12	-12	2.94	1.75	.61		1.12	
1AA14MJ12	1BA14MJ12	1 3/16 - 12	-12	2.73	1.54	.61		1.25	
1AA16MJ12	1BA16MJ12	1 5/16 - 12	-12	2.75	1.56	.61		1.38	
1AA16MJ16	1BA16MJ16	1 5/16 - 12	-16	3.25	1.90	.82		1.38	
-	1BA20MJ20	1 5/8 - 12	-20	3.89	2.16	1.05		1.75	
1AR20MJ20 *	-	1 5/8 - 12	-20	3.89	2.16	1.05		1.75	
1AV20MJ20 **	-	1 5/8 - 12	-20	3.89	2.16	1.05		1.75	
1AA24MJ24	1BA24MJ24	1 7/8 - 12	-24	4.31	2.49	1.26		2.00	
1AA32MJ32	-	2 1/2 - 12	-32	4.89	2.91	1.75		2.62	

*Uses 1 wire braid hose socket.

**Uses 2 wire braid hose socket.

†Swivel nuts are universal for both S.A.E. 37° and S.A.E. 45° connections.



Global TTC Fittings for use with Hose: GH120, GH194, GH195, GH663, GH781, GH793

Global TTC12 Fittings for use with Hose: GH493

BSP Female Swivel (BF)

BSP Female Swivel (JM)

ALL DIMENSIONS IN MILLIMETERS

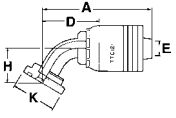
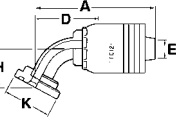
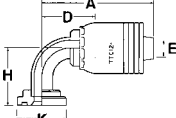
TTC Part Number	TTC12 Part Number	Thread	Tube O.D.	Hose Size	A (mm)	D (mm)	E∅ (mm)	H (mm)	① (mm)	② (mm)
BSP Female Swivel (BF)										
1A4BF4	-	G 1/4		-04	42.3	18.9	4.2		19	
1A6BF6	1B6BF6	G 3/8		-06	46.4	21.1	6.7		22	
1A8BF6	-	G 1/2		-06	47.9	22.6	6.7		27	
1A8BF8	1B8BF8	G 1/2		-08	53.5	23.8	9.6		27	
1A10BF10	-	G 5/8		-10	54.1	24.7	12.8		30	
1A12BF12	1B12BF12	G 3/4		-12	55.5	25.3	15.5		32	
1A16BF16	1B16BF16	G 1		-16	62.0	27.6	20.7		41	
1AT20BF20**	1B20BF20	G 1 1/4		-20	73.6	29.6	26.6		50	
1A24BF24	1B24BF24	G 1 1/2		-24	80.0	33.7	32.0		55	
1A32BF32	-	G 2		-32	85.4	35.2	44.4		70	
BSP Female Swivel (JM)										
1A4JM4	-	G 1/4		-04	47.0	23.6	4.2		19	19
1A6JM6	-	G 3/8		-06	51.0	25.7	6.7		22	22
1A8JM8	1B8JM8	G 1/2		-08	58.0	28.3	9.6		27	27
1A12JM12	1B12JM12	G 3/4		-12	62.0	31.8	15.5		32	36
1A16JM16	1B16JM16	G 1		-16	69.0	34.6	20.7		41	41
1AP20JM20*	1B20JM20	G 1 1/4		-20	80.2	36.2	26.6		50	46
1AT20JM20**	-	G 1 1/4		-20	80.2	36.2	26.6		50	46

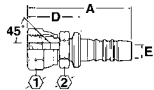
*Uses 1 wire braid hose socket.
 **Uses 2 wire braid hose socket.

Global TTC Fittings for use with Hose: GH120, GH194, GH195, GH663, GH781, GH793

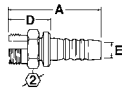
Global TTC12 Fittings for use with Hose: GH493

ALL DIMENSIONS IN INCHES

TTC Part Number	TTC12 Part Number	Flange Head Dia.	Hose Size	A (ins.)	D (ins.)	EØ (ins.)	H (ins.)	① (ins.)	② (ins.)
									
S.A.E. Code 62 Split Flange 60° Elbow (FHG)									
-	1B16FHG16	1.87	-16	5.21	3.88	.81	1.51		
-	1B20FHG16	2.13	-36	5.93	4.60	.81	1.57		
-	1B32FHG32	3.12	-32	7.25	5.20	1.62	2.87		
									
S.A.E. Code 62 Split Flange 67½° Elbow (FHE)									
-	1B32FHE32	3.12	-32	7.13	5.08	1.62	3.25		
									
S.A.E. Code 62 Split Flange 90° Elbow (FHB)									
-	1B8FHB8	1.25	-08	2.87	1.70	.37	1.63		
-	1B12FHB12	1.63	-12	3.49	2.30	.56	2.13		
-	1B16FHB12	1.87	-12	4.03	2.84	.56	2.38		
-	1B16FHB16	1.87	-16	4.22	2.86	.76	2.38		
-	1B20FHB16	2.13	-16	4.85	3.50	.76	2.62		
-	1B20FHB20	2.13	-20	5.30	3.57	1.01	2.62		
-	1B24FHB24	2.50	-24	6.28	4.35	1.19	3.12		
-	1B32FHB32	3.12	-32	7.20	4.72	1.62	4.50		



Female S.A.E. 45° Swivel (FS)



Male Boss O-Ring (MB)

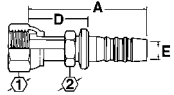
Global TTC Fittings for use with Hose: GH120, GH194, GH195, GH663, GH781, GH793

Global TTC12 Fittings for use with Hose: GH493

ALL DIMENSIONS IN INCHES

TTC Part Number	TTC12 Part Number	Thread	Hose Size	A (ins.)	D (ins.)	EØ (ins.)	H (ins.)	① (ins.)	② (ins.)
Female S.A.E. 45° Swivel (FS)									
1AA4FS4	-	7/16 - 20	-04	2.00	1.07	.17		.56	.56
1AA5FS4	-	1/2 - 20	-04	1.98	1.06	.17		.62	.56
1AA4FS6	1BA4FS6	7/16 - 20	-06	2.19	1.19	.19		.56	.69
1AA6FS6	1BA6FS6	5/8 - 18	-06	2.31	1.31	.26		.75	.69
1AA8FS6	1BA8FS6	3/4 - 16	-06	2.31	1.31	.26		.88	.69
1AA8FS8	1BA8FS8	3/4 - 16	-08	2.63	1.46	.38		.88	.81
1AA10FS8	1BA10FS8	7/8 - 14	-08	2.64	1.47	.38		1.00	.81
1AA12FS12	1BA12FS12	1 1/16 - 14	-12	2.84	1.65	.61		1.25	1.12
-	-	7/8 - 14	-10	2.77	1.61	.50		1.00	.94
1AA12FS10	1BA12FS10	1 1/16 - 14	-10	2.72	1.57	.50		1.25	1.06
Male Boss O-Ring (MB)									
1AA4MB4	-	7/16 - 20	-04	1.84	.92	.17			.56
1AA5MB4	-	1/2 - 20	-04	1.84	.92	.17			.62
1AA6MB4	-	9/16 - 18	-04	1.78	.86	.17			.69
1AA6MB6	1BA6MB6	9/16 - 18	-06	2.00	1.00	.26			.69
1AA8MB6	1BA8MB6	3/4 - 16	-06	1.97	.98	.26			.88
1AA8MB8	1BA8MB8	3/4 - 16	-08	2.36	1.19	.38			.88
1AA10MB8	1BA10MB8	7/8 - 14	-08	2.26	1.09	.38			1.00
1AA12MB8	1BA12MB8	1 1/16 - 12	-08	2.39	1.22	.38			1.25
1AA10MB10	1BA10MB10	7/8 - 14	-10	2.47	1.31	.50			1.00
1AA12MB10	1BA12MB10	1 1/16 - 12	-10	2.39	1.23	.50			1.25
1AA12MB12	1BA12MB12	1 1/16 - 12	-12	2.44	1.25	.61			1.25
1AA16MB12	1BA16MB12	1 5/16 - 12	-12	2.56	1.37	.61			1.50
1AA16MB16	1BA16MB16	1 5/16 - 12	-16	2.74	1.39	.82			1.50
-	1BA20MB20	1 5/8 - 12	-20	3.63	1.90	1.05			1.88
1AR20MB20 *	-	1 5/8 - 12	-20	3.63	1.90	1.05			1.88
1AV20MB20 **	-	1 5/8 - 12	-20	3.63	1.90	1.05			1.88
1AA24MB24	1BA24MB24	1 7/8 - 12	-24	3.63	1.81	1.26			2.12

 *Uses 1 wire braid hose socket.
 **Uses 2 wire braid hose socket.

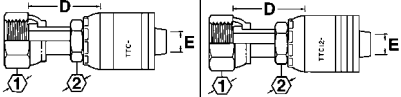


Female ORS Swivel (FR)

Global TTC Fittings for use with Hose: GH120, GH194, GH195, GH663, GH781, GH793

Global TTC12 Fittings for use with Hose: GH493

ALL DIMENSIONS IN INCHES

TTC Part Number	TTC12 Part Number	Thread	Hose Size	A (ins.)	D (ins.)	E∅ (ins.)	H (ins.)	① (ins.)	② (ins.)
									
Female ORS Swivel (FR)									
1AA4FR4	-	9/16 - 18	-04	1.95	1.03	.17		.69	.56
1AA6FR4	-	11/16 - 16	-04	2.04	1.12	.17		.81	.62
1AA4FR6	1BA4FR6	9/16 - 18	-06	2.14	1.15	.17		.69	.69
1AA6FR6	1BA6FR6	11/16 - 16	-06	2.23	1.24	.26		.81	.69
1AA8FR6	1BA8FR6	13/16 - 16	-06	2.32	1.32	.26		.94	.81
1AA6FR8	1BA6FR8	11/16 - 16	-08	2.51	1.34	.26		.81	.88
1AA8FR8	1BA8FR8	13/16 - 16	-08	2.67	1.50	.38		.94	.88
1AA10FR8	1BA10FR8	1 - 14	-08	2.64	1.47	.38		1.12	.94
1AA12FR8	1BA12FR8	13/16 - 12	-08	2.80	1.63	.38		1.38	1.12
1AA8FR10	1BA8FR10	13/16 - 16	-10	2.67	1.51	.38		.94	.94
1AA10FR10	1BA10FR10	1 - 14	-10	2.76	1.61	.48		1.12	.94
1AA12FR10	1BA12FR10	13/16 - 12	-10	2.79	1.63	.50		1.38	1.12
1AA10FR12	1BA10FR12	1 - 14	-12	2.81	1.62	.48		1.12	1.12
1AA12FR12	1BA12FR12	13/16 - 12	-12	2.91	1.72	.61		1.38	1.12
1AA16FR12	1BA16FR12	17/16 - 12	-12	2.98	1.79	.61		1.62	1.38
1AA12FR16	1BA12FR16	13/16 - 12	-16	3.22	1.86	.61		1.38	1.38
1AA16FR16	1BA16FR16	17/16 - 12	-16	3.29	1.94	.81		1.62	1.38
1AA20FR16	1BA20FR16	111/16 - 12	-16	3.25	1.90	.81		1.88	1.62
-	1BA20FR20	111/16 - 12	-20	4.07	2.33	1.02		1.88	1.75
1AR20FR20*	-	111/16 - 12	-20	4.07	2.33	1.02		1.88	1.75
1AV20FR20**	-	111/16 - 12	-20	4.07	2.33	1.02		1.88	1.75
-	-	2 - 12	-20	3.88	2.15	1.05		2.25	1.81
1AR24FR20*	-	2 - 12	-20	3.88	2.15	1.05		2.25	1.81
1AV24FR20**	-	2 - 12	-20	3.88	2.15	1.05		2.25	1.81
-	1BA24FR20	2 - 12	-20	3.74	2.19	1.05		2.25	2.00
1AA24FR24	1BA24FR24	2 - 12	-24	4.02	2.19	1.26		2.25	2.00
-	1BA24FR24	2 - 12	-24	3.93	2.21	1.26		2.25	2.00

*Uses 1 wire braid hose socket.

**Uses 2 wire braid hose socket.

Global TTC Fittings for use with Hose: GH120, GH194, GH195, GH663, GH781, GH793

Global TTC12 Fittings for use with Hose: GH493

ALL DIMENSIONS IN INCHES

TTC Part Number	TTC12 Part Number	Flange Head Dia.	Hose Size	A (ins.)	D (ins.)	EØ (ins.)	H (ins.)	① (ins.)	② (ins.)
S.A.E. Code 62 Split Flange (FH)									
-	1B8FH8	1.25	-08	3.23	2.06	.37			
-	1B12FH8	1.63	-08	3.27	2.10	.38			
-	1B12FH10	1.63	-10	3.26	2.11	.50			
-	1B12FH12	1.63	-12	3.31	2.12	.61			
-	1B16FH12	1.87	-12	3.31	2.12	.61			
-	1B16FH16	1.87	-16	3.50	2.14	.81			
-	1B20FH16	2.13	-16	3.80	2.44	.81			
-	1B20FH20	2.13	-20	4.24	2.51	1.05			
-	1B24FH20	2.50	-20	4.24	2.51	1.05			
-	1B24FH24	2.50	-24	4.40	2.58	1.26			
-	1B32FH32	3.12	-32	5.11	2.63	1.62			
S.A.E. Code 62 Split Flange 22½° Elbow (FHD)									
-	1B32FHD32	3.12	-32	6.69	4.64	1.62	.88		
S.A.E. Code 62 Split Flange 30° Elbow (FHF)									
-	1B32FHF32	3.12	-32	6.93	4.88	1.62	1.25		
S.A.E. Code 62 Split Flange 45° Elbow (FHA)									
-	1B12FHA12	1.63	-12	3.66	2.46	.56	1.00		
-	1B16FHA16	1.87	-16	4.35	3.00	.76	1.06		
-	1B20FHA16	2.13	-16	4.81	3.46	.76	1.15		
-	1B20FHA20	2.13	-20	5.26	3.52	1.01	1.15		
-	1B24FHA24	2.50	-24	6.07	4.25	1.19	1.41		
-	1B32FHA32	3.12	-32	7.53	5.05	1.62	2.00		

Global TTC Fittings for use with Hose: GH120, GH194, GH195, GH663, GH781, GH793

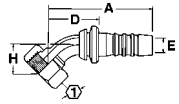
Global TTC12 Fittings for use with Hose: GH493

ALL DIMENSIONS IN INCHES

TTC Part Number	TTC12 Part Number	Flange Head Dia.	Hose Size	A (ins.)	D (ins.)	EØ (ins.)	H (ins.)	① (ins.)	② (ins.)
S.A.E. Code 61 Split Flange 30° Elbow (FLF)									
-	1B8FLF8	1.19	-08	3.32	2.15	.37	.50		
-	1B12FLF12	1.50	-12	3.94	2.75	.56	.62		
-	1B16FLF12	1.75	-12	4.38	3.19	.56	.64		
-	1B16FLF16	1.75	-16	4.57	3.22	.76	.64		
-	1B20FLF16	2.00	-16	5.04	3.69	.76	.67		
-	1B20FLF20	2.00	-20	5.49	3.76	1.01	.67		
-	1B24FLF20	2.37	-20	6.22	4.49	1.01	.82		
-	1B24FLF24	2.37	-24	6.36	4.54	1.19	.82		
-	1B32FLF32	2.81	-32	7.37	4.88	1.62	1.25		
-	1B40FLF32	3.31	-32	7.42	4.93	1.62	1.28		
S.A.E. Code 61 Split Flange 60° Elbow (FLG)									
-	1B8FLG8	1.19	-08	3.57	2.40	.37	1.13		
-	1B12FLG12	1.50	-12	4.42	3.23	.56	1.39		
-	1B16FLG12	1.75	-12	5.05	3.86	.56	1.51		
1A16FLG16	1B16FLG16	1.75	-16	5.24	3.89	.76	1.51		
-	1B20FLG16	2.00	-16	5.95	4.60	.26	1.57		
-	1B20FLG20	2.00	-20	6.40	4.67	1.01	1.57		
-	1B24FLG20	2.37	-20	7.34	5.61	1.01	1.81		
-	1B24FLG24	2.37	-24	7.47	5.65	1.19	1.81		
-	1B32FLG32	2.81	-32	7.68	5.20	1.62	2.87		
S.A.E. Code 61 Split Flange 67½° Elbow (FLE)									
-	1B8FLE8	1.19	-08	3.40	2.24	.37	1.27		
-	1B12FLE12	1.50	-12	4.22	3.04	.56	1.59		
-	1B16FLE12	1.75	-12	4.84	3.65	.56	1.74		
-	1B16FLE16	1.75	-16	5.03	3.67	.76	1.74		
-	1B20FLE16	2.00	-16	5.73	4.38	.76	1.83		
1AP20FLE20 *	-	2.00	-20	6.18	4.44	1.01	1.83		
1AT20FLE20 **	-	2.00	-20	6.18	4.44	1.01	1.83		
-	1B20FLE20	2.00	-20	6.18	4.44	1.01	1.83		
-	1B24FLE24	2.37	-24	7.21	5.39	1.19	2.14		
-	1B32FLE32	2.81	-32	7.57	5.08	1.62	3.25		

*Uses 1 wire braid hose socket.

**Uses 2 wire braid hose socket.



Female ORS Swivel 45° Elbow (FRA)

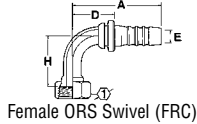
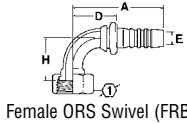
Global TTC Fittings for use with Hose: GH120, GH194, GH195, GH663, GH781, GH793

Global TTC12 Fittings for use with Hose: GH493

ALL DIMENSIONS IN INCHES

TTC Part Number	TTC12 Part Number	Thread	Hose Size	A (ins.)	D (ins.)	E∅ (ins.)	H (ins.)	① (ins.)	② (ins.)
Female ORS Swivel 45° Elbow (FRA)									
1AA4FRA4	-	9/16 -18	-04	2.12	1.20	.17	.41	.69	
1AA6FRA4	-	11/16 -16	-04	2.30	1.38	.17	.43	.81	
1AA4FRA6	-	9/16 -18	-06	2.30	1.30	.17	.41	.69	
1AA6FRA6	1BA6FRA6	11/16 -16	-06	2.43	1.43	.26	.43	.81	
1AA8FRA6	1BA8FRA6	13/16 -16	-06	2.74	1.74	.26	.59	.94	
1AA6FRA8	-	11/16 -16	-08	2.65	1.48	.26	.43	.81	
1AA8FRA8	1BA8FRA8	13/16 -16	-08	2.96	1.79	.36	.59	.94	
1AA10FRA8	-	1 - 14	-08	3.18	2.01	.38	.65	1.12	
1AA12FRA8	-	13/16 -12	-08	3.51	2.34	.38	.83	1.38	
1AA10FRA10	-	1 - 14	-10	3.18	2.02	.45	.65	1.12	
1AA12FRA10	-	13/16 -12	-10	3.52	2.36	.50	.83	1.38	
1AA12FRA12	1BA12FRA12	13/16 -12	-12	3.57	2.38	.55	.83	1.38	
1AA16FRA12	-	17/16 -12	-12	4.04	2.85	.61	.94	1.62	
1AA16FRA16	1BA16FRA16	17/16 -12	-16	4.23	2.88	.78	.94	1.62	
-	1BA20FRA20	111/16 -12	-20	5.10	3.37	1.02	1.00	1.88	
1AR20FRA20 *	-	111/16 -12	-20	5.10	3.37	1.02	1.00	1.88	
1AV20FRA20 **	-	111/16 -12	-20	5.10	3.37	1.02	1.00	1.88	
-	-	2 - 12	-20	5.49	3.76	1.01	1.07	2.25	
1AR24FRA20 *	-	2 - 12	-20	5.49	3.76	1.01	1.07	2.25	
1AV24FRA20 **	-	2 - 12	-20	5.49	3.76	1.01	1.07	2.25	
1AA24FRA24	-	2 - 12	-24	4.54	2.71	1.26	1.07	2.25	

*Uses 1 wire braid hose socket.
 **Uses 2 wire braid hose socket.



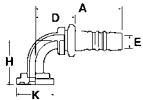
Global TTC Fittings for use with Hose: GH120, GH194, GH195, GH663, GH781, GH793

Global TTC12 Fittings for use with Hose: GH493

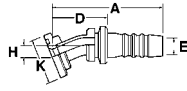
ALL DIMENSIONS IN INCHES

TTC Part Number	TTC12 Part Number	Thread	Hose Size	A (ins.)	D (ins.)	EØ (ins.)	H (ins.)	① (ins.)	② (ins.)
<div style="display: flex; justify-content: space-around;"> </div>									
Female ORS Swivel 90° Short Drop Elbow (FRB)									
1AA4FRB4	-	9/16 - 18	-04	2.09	1.17	.17	.82	.69	
1AA6FRB4	-	11/16 - 16	-04	2.22	1.30	.17	.90	.81	
-	-	3/16 - 16	-04	2.37	1.45	.17	1.19	.94	
1AA4FRB6	-	9/16 - 18	-06	2.21	1.21	.17	.82	.69	
1AA6FRB6	1BA6FRB6	11/16 - 16	-06	2.34	1.34	.26	.90	.81	
1AA8FRB6	1BA8FRB6	13/16 - 16	-06	2.62	1.62	.26	1.15	.94	
1AA6FRB8	1BA6FRB8	11/16 - 16	-08	2.56	1.39	.26	.90	.81	
1AA8FRB8	1BA8FRB8	13/16 - 16	-08	2.84	1.67	.36	1.15	.94	
1AA10FRB8	1BA10FRB8	1 - 14	-08	3.07	1.91	.38	1.27	1.12	
1AA12FRB8	1BA12FRB8	13/16 - 12	-08	3.45	2.28	.38	1.88	1.38	
1AA10FRB10	1BA10FRB10	1 - 14	-10	3.07	1.91	.45	1.27	1.12	
1AA12FRB10	1BA12FRB10	13/16 - 12	-10	3.44	2.29	.50	1.88	1.38	
1AA10FRB12	-	1 - 14	-12	3.11	1.93	.45	1.27	1.12	
1AA12FRB12	1BA12FRB12	13/16 - 12	-12	3.49	2.30	.55	1.88	1.38	
1AA16FRB12	1BA16FRB12	17/16 - 12	-12	4.04	2.85	.61	2.21	1.62	
1AA16FRB16	1BA16FRB16	17/16 - 12	-16	4.22	2.87	.81	2.21	1.62	
1AA20FRB16	-	111/16 - 12	-16	4.85	3.50	.81	2.51	1.88	
-	1BA20FRB20	111/16 - 12	-20	5.30	3.57	1.02	2.51	1.88	
1AR20FRB20 *	-	111/16 - 12	-20	5.30	3.57	1.02	2.51	1.88	
1AV20FRB20 **	-	111/16 - 12	-20	5.30	3.57	1.02	2.51	1.88	
1AA24FRB24	-	2 - 12	-24	4.63	2.81	1.26	2.70	2.25	
<div style="display: flex; justify-content: space-around;"> </div>									
Female ORS Swivel 90° Long Drop Elbow (FRC)									
1AA4FRC4	-	9/16 - 18	-04	2.09	1.17	.17	1.80	.69	
1AA6FRC4	-	11/16 - 16	-04	2.22	1.30	.17	2.13	.81	
1AA8FRC4	-	13/16 - 16	-04	2.59	1.67	.17	2.55	.94	
1AA6FRC6	1BA6FRC6	11/16 - 16	-06	2.34	1.34	.24	2.13	.81	
1AA8FRC6	1BA8FRC6	13/16 - 16	-06	2.71	1.71	.26	2.55	.94	
1AA8FRC8	1BA8FRC8	13/16 - 16	-08	2.86	1.70	.37	2.55	.94	
1AA10FRC8		1 - 4	-08	3.07	1.91	.38	2.76	1.12	
1AA10FRC10	-	1 - 14	-10	3.07	1.91	.46	2.76	1.12	
1AA12FRC12	1BA12FRC12	13/16 - 12	-12	3.48	2.29	.56	3.78	1.38	
1AA16FRC12	-	17/16 - 12	-12	4.04	2.85	.61	4.50	1.62	
1AA16FRC16	1BA16FRC16	17/16 - 12	-16	4.22	2.86	.78	4.50	1.62	
-	1BA20FRC20	111/16 - 12	-20	5.30	3.57	1.01	5.09	1.88	
1AR20FRC20 *	-	111/16 - 12	-20	5.30	3.57	1.01	5.09	1.88	
1AV20FRC20 **	-	111/16 - 12	-20	5.30	3.57	1.01	5.09	1.88	
1AA24FRC24	-	2 - 12	-24	4.63	2.81	1.26	5.54	2.25	

*Uses 1 wire braid hose socket.
 **Uses 2 wire braid hose socket.



Split Flange 90° (FLB)

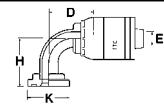
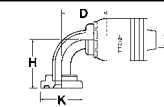
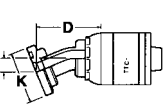
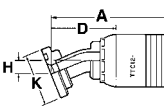


Split Flange 22½° (FLD)

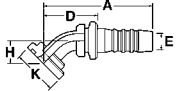
Global TTC Fittings for use with Hose: GH120, GH194, GH195, GH663, GH781, GH793

Global TTC12 Fittings for use with Hose: GH493

ALL DIMENSIONS IN INCHES

TTC Part Number	TTC12 Part Number	Flange Head Dia.	Hose Size	A (ins.)	D (ins.)	EØ (ins.)	H (ins.)	① (ins.)	② (ins.)
									
S.A.E. Code 61 Split Flange 90° Elbow (FLB)									
1A8FLB8	-	1.19	-08	2.86	1.69	.37	1.63		
-	1B8FLB8	1.19	-08	2.87	1.70	.37	1.63		
1A12FLB8	-	1.50	-08	3.45	2.28	.37	2.13		
1A12FLB10	1B12FLB10	1.50	-10	3.44	2.29	.50	2.13		
1A12FLB12	1B12FLB12	1.50	-12	3.49	2.30	.55	2.13		
1A16FLB12	1B16FLB12	1.75	-12	4.03	2.84	.61	2.38		
-	1B20FLB12	2.00	-12	3.35	2.28	.81	2.62		
1A12FLB16	-	1.50	-16	4.20	2.85	.76	2.17		
1A16FLB16	1B16FLB16	1.75	-16	4.22	2.86	.75	2.38		
1A20FLB16	1B20FLB16	2.00	-16	4.85	3.50	.82	2.62		
1A24FLB16	1B24FLB16	2.37	-16	5.59	4.24	.82	3.12		
-	1B16FLB20	1.75	-20	4.66	2.93	.75	2.38		
1AP16FLB20 *	-	1.75	-20	4.66	2.93	.75	2.38		
1AT16FLB20 **	-	1.75	-20	4.66	2.93	.75	2.38		
-	1B20FLB20	2.00	-20	5.30	3.57	.98	2.62		
1AP20FLB20 *	-	2.00	-20	4.89	3.57	.98	2.62		
1AT20FLB20 **	-	2.00	-20	4.89	3.57	.98	2.62		
-	1B24FLB20	2.37	-20	6.04	4.31	1.05	3.12		
1AP24FLB20 *	-	2.37	-20	6.04	4.31	1.05	3.12		
1AT24FLB20 **	-	2.37	-20	6.04	4.31	1.05	3.12		
1A16FLB24	-	1.75	-24	4.80	2.97	.75	2.38		
-	1B16FLB24	1.75	-24	4.70	2.98	.81	2.38		
1A24FLB24	1B24FLB24	2.37	-24	6.18	4.35	1.22	3.12		
1A32FLB24	1B32FLB24	2.81	-32	7.27	5.45	1.22	4.50		
1A32FLB32	-	2.81	-32	7.47	5.49	1.69	4.50		
-	1B24FLB32	2.37	-32	6.42	4.37	1.12	3.12		
-	1B32FLB32	2.81	-32	6.77	4.72	1.62	4.50		
-	1B40FLB32	3.31	-32	7.20	4.72	1.62	4.56		
									
S.A.E. Code 61 Split Flange 22½° Elbow (FLD)									
-	1B8FLD8	1.19	-08	3.38	2.20	.37	.36		
-	1B12FLD8	1.50	-08	3.97	2.80	.37	.44		
-	1B12FLD12	1.50	-12	4.01	2.82	.56	.44		
-	1B16FLD12	1.75	-12	4.45	3.26	.56	.45		
1A16FLD16	1B16FLD16	1.75	-16	4.64	3.29	.76	.45		
1A20FLD16	1B20FLD16	2.00	-16	5.12	3.77	.76	.46		
-	1B20FLD20	2.00	-20	5.57	3.83	1.01	.46		
1AP20FLD20*	-	2.00	-20	5.57	3.83	1.01	.46		
1AT20FLD20**	-	2.00	-20	5.57	3.83	1.01	.46		
-	1B24FLD20	2.37	-20	6.31	4.58	1.01	.56		
-	1B24FLD24	2.37	-24	6.45	4.63	1.19	.56		
-	1B32FLD32	2.81	-32	7.13	4.64	1.62	.88		

*Uses 1 wire braid hose socket.
 **Uses 2 wire braid hose socket.

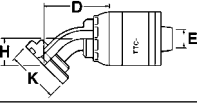
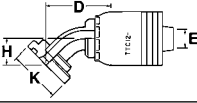


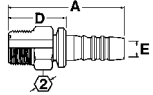
S.A.E. Code 61 Split Flange 45° Elbow (FLA)

Global TTC Fittings for use with Hose: GH120, GH194, GH195, GH663, GH781, GH793

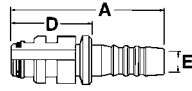
Global TTC12 Fittings for use with Hose: GH493

ALL DIMENSIONS IN INCHES

TTC Part Number	TTC12 Part Number	Flange Head Dia.	Hose Size	A (ins.)	D (ins.)	EØ (ins.)	H (ins.)	① (ins.)	② (ins.)
									
S.A.E. Code 61 Split Flange 45° Elbow (FLA)									
1A8FLA8	-	1.19	-08	3.11	1.49	.37	.78		
-	1B8FLA8	1.19	-08	3.13	1.96	.37	.78		
1A12FLA8	-	1.50	-08	3.64	2.47	.37	1.00		
-	1B12FLA8	1.50	-08	3.66	2.50	.37	1.00		
1A12FLA10	-	1.50	-10	3.68	2.53	.46	1.00		
-	1B12FLA10	1.50	-10	3.62	2.46	.50	1.00		
1A12FLA12	-	1.50	-12	3.67	2.48	.58	1.01		
-	1B12FLA12	1.50	-12	3.66	2.46	.56	1.00		
1A16FLA12	-	1.75	-12	4.16	2.97	.58	1.06		
-	1B16FLA12	1.75	-12	4.16	2.97	.56	1.06		
-	1B20FLA12	2.00	-12	3.66	2.46	.56	1.00		
1A12FLA16	-	1.50	-16	3.93	2.57	.58	1.01		
1A16FLA16	1B16FLA16	1.75	-16	4.35	3.00	.76	1.06		
1A20FLA16	-	2.00	-16	4.81	3.45	.76	1.15		
-	1B20FLA16	2.00	-16	4.81	3.46	.76	1.15		
-	1B16FLA20	1.75	-20	4.80	3.06	.76	1.06		
1AP16FLA20	-	1.75	-20	4.80	3.06	.76	1.06		
1AT16FLA20	-	1.75	-20	4.80	3.06	.76	1.06		
-	-	2.00	-20	5.28	3.55	1.01	1.18		
-	1B20FLA20	2.00	-20	5.26	3.52	1.01	1.15		
1AP20FLA20	-	2.00	-20	5.28	3.55	1.01	1.18		
1AT20FLA20	-	2.00	-20	5.28	3.55	1.01	1.18		
-	1B24FLA20	2.37	-20	5.94	4.20	1.01	1.41		
1AP24FLA20	-	2.37	-20	5.94	4.20	1.01	1.41		
1AT24FLA20	-	2.37	-20	5.94	4.20	1.01	1.41		
1A20FLA24	-	2.00	-24	4.54	2.72	1.26	1.08		
1A24FLA24	-	2.37	-24	6.07	4.25	1.26	1.41		
-	1B24FLA24	2.37	-24	6.07	4.25	1.19	1.41		
1A32FLA24	-	2.81	-24	6.07	4.25	1.26	1.41		
-	1B32FLA24	2.81	-24	7.30	5.47	1.19	2.00		
1A24FLA32	-	2.37	-32	6.27	4.29	1.26	1.41		
1A32FLA32	-	2.81	-32	7.49	5.52	1.75	2.00		
-	1B32FLA32	2.81	-32	7.53	5.05	1.62	2.00		
1A40FLA32	-	3.31	-32	5.27	3.29	1.75	1.30		



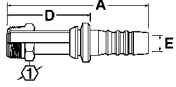
Male ORS (MR)



Male Staplok (SL)

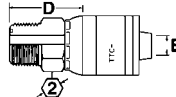
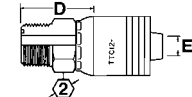
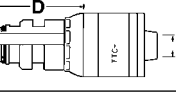
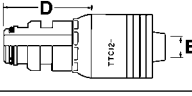
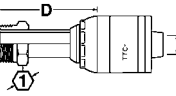
Global TTC Fittings for use with Hose: GH120, GH194, GH195, GH663, GH781, GH793

Global TTC12 Fittings for use with Hose: GH493

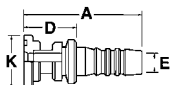


Male S.A.E. Inverted Flare Swivel (MF)

ALL DIMENSIONS IN INCHES

TTC Part Number	TTC12 Part Number	Thread	Hose Size	A (ins.)	D (ins.)	EØ (ins.)	H (ins.)	① (ins.)	② (ins.)
									
Male ORS (MR)									
1AA4MR4	-	9/16 - 18	-04	1.78	.86	.17			.62
1AA6MR6	1BA6MR6	11/16 - 16	-06	1.99	.99	.26			.75
1AA8MR6	1BA8MR6	13/16 - 16	-06	1.95	.95	.26			.88
1AA8MR8	1BA8MR8	13/16 - 16	-08	2.30	1.13	.38			.88
1AA12MR12	1BA12MR12	13/16 - 12	-12	2.63	1.44	.61			1.25
1AA16MR12	1BA16MR12	17/16 - 12	-12	2.53	1.34	.61			1.50
-	-	17/16 - 12	-16	3.00	1.64	.81			1.50
									
Male Staplok (SL)									
1A4SL4	-		-04	2.18	1.26	.17			
1A6SL6	1B6SL6		-06	2.30	1.30	.26			
1A8SL6	1B8SL6		-06	2.30	1.30	.26			
1A8SL8	1B8SL8		-08	2.52	1.35	.38			
1A12SL12	1B12SL12		-12	2.56	1.37	.61			
1A16SL16	1B16SL16		-16	2.95	1.60	.81			
-	1B20SL20		-20	3.40	1.67	1.05			
1AP20SL20 *	-		-20	3.40	1.67	1.05			
1AT20SL20 **	-		-20	3.40	1.67	1.05			
1A32SL32	-		-32	3.87	1.89	1.75			
									
Male S.A.E. Inverted Flare Swivel (MF)									
1AA4MF3	-	7/16 - 24	-03	2.15	1.46	.10		.44	
1AA3MF4	-	3/8 - 24	-04	2.42	2.50	.10		.38	
1AA4MF4	-	7/16 - 24	-04	2.39	1.46	.17		.44	
1AA5MF4	-	1/2 - 20	-04	2.39	1.46	.17		.50	
1AA5MF6	-	1/2 - 20	-06	2.60	1.61	.24		.50	
1AA4MF6	-	7/16 - 24	-06	2.53	1.53	.17		.44	
1AA6MF6	-	5/8 - 18	-06	2.60	1.61	.26		.62	
1AA8MF8	-	3/4 - 18	-08	2.79	1.62	.38		.75	

*Uses 1 wire braid hose socket.
 **Uses 2 wire braid hose socket.



Global TTC Fittings for use with Hose: GH120, GH194, GH195, GH663, GH781, GH793

Global TTC12 Fittings for use with Hose: GH493

S.A.E. Code 61 Split Flange (FL)

ALL DIMENSIONS IN INCHES

TTC Part Number	TTC12 Part Number	Flange Head Dia.	Hose Size	A (ins.)	D (ins.)	EØ (ins.)	H (ins.)	① (ins.)	② (ins.)
S.A.E. Code 61 Split Flange (FL)									
1A8FL8	1B8FL8	1.19	-08	3.23	2.06	.38			
1A12FL8	1B12FL8	1.50	-06	3.27	2.10	.38			
1A12FL10	1B12FL10	1.50	-10	3.26	2.10	.50			
1A12FL12	1B12FL12	1.50	-12	3.31	2.12	.61			
1A16FL12	1B16FL12	1.75	-12	3.31	2.12	.61			
1A20FL12	1B20FL12	2.00	-12	3.61	2.42	.61			
1A12FL16	-	1.50	-16	3.50	2.14	.58			
1A16FL16	1B16FL16	1.75	-16	3.49	2.14	.82			
1A20FL16	1B20FL16	2.00	-16	3.79	2.44	.82			
1A24FL16	1B24FL16	2.38	-16	3.83	2.47	.82			
-	1B16FL20	1.75	-20	3.94	2.21	.82			
1AP16FL20 *	-	1.75	-20	3.94	2.21	.82			
1AT16FL20 **	-	1.75	-20	3.94	2.21	.82			
-	1B20FL20	2.00	-20	4.24	2.51	1.05			
1AP20FL20 *	-	2.00	-20	4.24	2.51	1.05			
1AT20FL20 **	-	2.00	-20	4.24	2.51	1.05			
-	1B24FL20	2.38	-20	4.27	2.54	1.05			
1AP24FL20 *	-	2.38	-20	4.27	2.54	1.05			
1AT24FL20 **	-	2.38	-20	4.27	2.54	1.05			
-	1B32FL20	2.81	-20	4.27	2.54	1.01			
1AP32FL20 *	-	2.81	-20	4.27	2.54	1.01			
1AT32FL20 **	-	2.81	-20	4.27	2.54	1.01			
1A20FL24	-	2.00	-24	4.37	2.55	1.05			
1A24FL24	1B24FL24	2.38	-24	4.40	2.58	1.26			
1A32FL24	1B32FL24	2.81	-24	4.40	2.58	1.19			
1A24FL32	-	2.38	-32	4.61	2.63	1.26			
1A32FL32	-	2.81	-32	4.61	2.63	1.75			
-	1B24FL32	2.37	-32	4.68	2.63	1.12			
-	1B32FL32	2.81	-32	4.68	2.63	1.62			
-	1B40FL32	3.31	-32	4.68	2.63	1.62			
1A40FL32	-	3.31	-32	4.60	2.63	1.75			
-	1B40FL32	3.31	-32	5.11	2.63	1.62			

*Uses 1 wire braid hose socket.
 **Uses 2 wire braid hose socket.

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