

UNISOURCETM MFG.

your single source supplier



HYDRAULIC HOSE & FITTINGS





GLOBAL PRESENCE. GLOBAL PRODUCTS. GLOBAL SOLUTIONS.

Our focus is clear and simple—hydraulic hose and fittings.

Hydraulics has been front and center for us since the beginning. Our evolution as a company has been defined by our progress and innovation in developing hydraulic hose and fittings. We began in 1980 as a problem-solving marketing company and we have transformed today into a global manufacturer, with strategic inventory available across the nation. The basic concept of *Unisource Manufacturing* is to be a single-source for all products and accessories revolving around hydraulic hose.

Utilizing our manufacturing facilities in Europe and the USA, we produce a variety of styles of high-pressure hydraulic hose, permanent crimp and reusable fittings, hose abrasion protection, hydraulic adapters, and precision machinery for crimping hose assemblies.

Unisource Manufacturing products have been designed, tested, and approved to meet and exceed international standards. Our “world-class” development and test capabilities assure our customers of “world-class” quality and performance. Our materials development laboratory uses the latest technology in equipment and methods to assure the materials in our design reach the maximum performance in which they were intended. We continuously look to better serve our customers by ever improving our products.

Further, our products are applicable for global applications. In addition to classic standardized hose types conforming to worldwide accepted standards, i.e. SAE J517 and EN853 to 857, *Unisource Manufacturing* has further developed a range of compact hoses with their own specifications—offering extraordinary performance values, designed for modern high-performance hydraulic applications.

The right product is available for your application, including hose that features a variety of abrasion-resistant cover choices, superior flexibility, and innovative designs to enhance inventory consolidation.

Our technicians and market specific engineers are available at any time and any place in support of our customers in topics ranging from hose routing and trouble-shooting, to critical safety procedures. Our extensive commitment to training and education are a very important aspect of our value-added services.

OUR GOAL
IS TO PROVIDE TO OUR CUSTOMERS A GROUP OF
PRODUCTS AND MARKETING TOOLS THAT:

- Meet or exceed industry standards**
- Provide competitive advantage**
- Offer the best value in the industry**
- Lower your overall cost of doing business**

UNISOURCE—A GLOBAL HYDRAULIC HOSE
MANUFACTURER FOR THE 21ST CENTURY.

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SECTION A

Hydraulic Hose

Pressure-Flex Series

Tuff-Flex Series

“Polyflow” Thermoplastic Hoses

Specialty Hoses

Pressure-Flex Series

Tuff-Flex Series

“Polyflow” Thermoplastic Hoses

Specialty Hoses

Pressure-Flex Series hoses go beyond standard SAE spec hydraulic hose. These hoses are in conformance with international standards for pressure ratings and construction, are lighter in weight than standard hydraulic hose and offer improved bend radius/flexibility.

SERIES 3100

SAE 100R1AT / EN 853 1SN



TUBE: Type A maximum oil resistant synthetic rubber

REINFORCEMENT: One braid of high tensile steel wire

COVER: Oil, weather, and abrasion resistant MSHA approved cover

TEMPERATURE: -40°F to +212°F (-40°C to +100°C)

BRANDING: Embossed

APPLICATION: Medium pressure hydraulic hose suitable for use with petroleum based hydraulic fluids, lubricating oils, water, and water emulsion hydraulic fluids.

Part #	Inside Diameter		Outside Diameter		W.P (PSI)	Burst (PSI)	Minimum Bend Rad (In.)	Weight Lbs / Ft	Couplings Series
	(In.)	(MM.)	(In.)	(MM.)					
3100-04	1/4	6.4	.512	13.0	3,625	14,500	3.9	.13	KW/SB
3100-06	3/8	9.5	.661	16.8	2,610	10,440	4.9	.19	KW/SB
3100-08	1/2	12.7	.787	20.0	2,320	9,280	7.1	.24	KW/SB
3100-10	5/8	15.9	.913	23.2	1,885	7,540	7.9	.30	KW/SB
3100-12	3/4	19.1	1.07	27.1	1,525	6,100	9.5	.38	KW/SB
3100-16	1	25.4	1.38	35.1	1,275	5,100	11.8	.56	KW/SB
3100-20	1-1/4	31.8	1.67	42.5	915	3,660	16.5	.72	KW/PW
3100-24	1-1/2	38.1	1.97	50.1	725	2,900	19.7	.95	PW
3100-32	2	50.8	2.52	64.1	580	2,320	24.8	1.35	PW

SERIES 3150 (Smooth Cover)

SAE 100R1AT / EN 853 1SN



TUBE: Type A maximum oil resistant synthetic rubber

REINFORCEMENT: One braid of high tensile steel wire

COVER: Oil, weather, and abrasion resistant smooth MSHA approved cover

TEMPERATURE: -40°F to +212°F (-40°C to +100°C)

BRANDING: Inkjet – white letters

APPLICATION: Medium pressure hydraulic hose suitable for use with petroleum based hydraulic fluids, lubricating oils, water, and water emulsion hydraulic fluids.

Part #	Inside Diameter		Outside Diameter		W.P (PSI)	Burst (PSI)	Minimum Bend Rad (In.)	Weight Lbs / Ft	Couplings Series
	(In.)	(MM.)	(In.)	(MM.)					
3150-04	1/4	6.4	.512	13.0	3,625	14,500	3.9	.13	KW/SB
3150-06	3/8	9.5	.661	16.8	2,610	10,440	4.9	.19	KW/SB
3150-08	1/2	12.7	.787	20.0	2,320	9,280	7.1	.24	KW/SB
3150-10	5/8	15.9	.913	23.2	1,885	7,540	7.9	.30	KW/SB
3150-12	3/4	19.1	1.07	27.1	1,525	6,100	9.5	.38	KW/SB
3150-16	1	25.4	1.38	35.1	1,275	5,100	11.8	.56	KW/SB
3150-20	1-1/4	31.8	1.67	42.5	915	3,660	16.5	.72	KW/PW
3150-24	1-1/2	38.1	1.97	50.1	725	2,900	19.7	.95	PW
3150-32	2	50.8	2.52	64.1	580	2,320	24.8	1.35	PW

PRESSURE-FLEX HOSES

SERIES 3200

SAE 100R2AT / EN 853 2SN



TUBE: Type A maximum oil resistant synthetic rubber

REINFORCEMENT: Two braids of high tensile steel wire

COVER: Abrasion, oil, chemical, and weather resistant MSHA approved cover

TEMPERATURE: -40°F to +212°F (-40°C to +100°C)

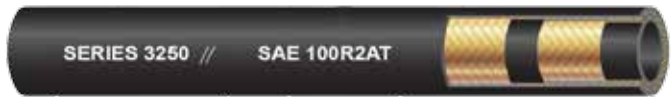
BRANDING: Embossed

APPLICATION: High pressure hose suitable for use with petroleum based hydraulic fluids, lubricating oils, water, and water emulsion hydraulic fluids.

Part #	Inside Diameter		Outside Diameter		W.P (PSI)	Burst (PSI)	Minimum Bend Rad (In.)	Weight Lbs / Ft	Couplings Series
	(In.)	(MM.)	(In.)	(MM.)					
3200-04	1/4	6.4	.590	15.0	5,800	23,200	3.9	.26	KW/SB
3200-06	3/8	9.5	.740	18.8	4,785	19,140	5.1	.37	KW/PW/SB
3200-08	1/2	12.7	.870	22.1	3,988	15,950	7.1	.44	KW/PW/SB
3200-10	5/8	15.9	.988	25.1	3,625	14,500	8.1	.51	KW/PW/SB
3200-12	3/4	19.1	1.15	29.2	3,118	12,325	9.4	.63	KW/PW/SB
3200-16	1	25.4	1.47	37.3	2,393	9,425	11.8	.88	KW/PW/SB
3200-20	1-1/4	31.8	1.86	47.2	1,813	7,250	16.5	1.29	KW / PW
3200-24	1-1/2	38.1	2.11	53.6	1,305	5,220	19.7	1.44	PW
3200-32	2	50.9	2.63	66.8	1,131	4,500	24.8	1.88	PW

SERIES 3250 (Smooth Cover)

SAE 100R2AT / EN 853 2SN



TUBE: Type A maximum oil resistant synthetic rubber

REINFORCEMENT: Two braids of high tensile steel wire

COVER: Abrasion, oil, chemical, and weather resistant MSHA approved cover

TEMPERATURE: -40°F to +212°F (-40°C to +100°C)

BRANDING: Inkjet - White letters

APPLICATION: High pressure hose suitable for use with petroleum based hydraulic fluids, lubricating oils, water, and water emulsion hydraulic fluids.

Part #	Inside Diameter		Outside Diameter		W.P (PSI)	Burst (PSI)	Minimum Bend Rad (In.)	Weight Lbs / Ft	Couplings Series
	(In.)	(MM.)	(In.)	(MM.)					
3250-04	1/4	6.4	.590	15.0	5,800	23,200	3.9	.26	KW/SB
3250-06	3/8	9.5	.740	18.8	4,785	19,140	5.1	.37	KW/PW/SB
3250-08	1/2	12.7	.870	22.1	3,988	15,950	7.1	.44	KW/PW/SB
3250-10	5/8	15.9	.988	25.1	3,625	14,500	8.1	.51	KW/PW/SB
3250-12	3/4	19.1	1.15	29.2	3,118	12,325	9.4	.63	KW/PW/SB
3250-16	1	25.4	1.47	37.3	2,393	9,425	11.8	.88	KW/PW/SB
3250-20	1-1/4	31.8	1.86	47.2	1,813	7,250	16.5	1.29	KW / PW

SERIES 3117

EXCEEDS SAE 100R17



TUBE: Type A maximum oil resistant synthetic rubber

REINFORCEMENT: One braid of high tensile steel wire

COVER: Abrasion, oil, chemical, and weather resistant MSHA approved cover

TEMPERATURE: -40°F to +212°F (-40°C to +100°C)

BRANDING: Embossed

APPLICATION: Medium pressure hose suitable for use with petroleum based hydraulic fluids, lubricating oils, water, and water emulsion hydraulic fluids. Designed as a replacement for standard SAE 100R17 lines.

Part #	Inside Diameter		Outside Diameter		W.P (PSI)	Burst (PSI)	Minimum Bend Rad (In.)	Weight Lbs / Ft	Couplings Series
	(In.)	(MM.)	(In.)	(MM.)					
3117-04	1/4	6.4	0.480	12.2	3,040	12,160	2.0	.12	KW/SB
3117-06	3/8	9.5	0.610	15.5	3,040	12,160	2.6	.19	KW/SB
3117-08	1/2	12.7	0.748	19.1	3,040	12,160	3.5	.24	KW/SB

SERIES 3216

EXCEEDS SAE 100R16 / EN 857 TYPE 2SC



TUBE: Type A maximum oil resistant synthetic rubber

REINFORCEMENT: Two braids of high tensile steel wire

COVER: Abrasion, oil, chemical, and weather resistant MSHA approved cover

TEMPERATURE: -40°F to +212°F (-40°C to +100°C)

BRANDING: Embossed

APPLICATION: High pressure hose suitable for use with petroleum based hydraulic fluids, lubricating oils, water, and water emulsion hydraulic fluids. Designed as a replacement for standard SAE 100R16 lines where higher working pressure and better flexibility are required.

Part #	Inside Diameter		Outside Diameter		W.P (PSI)	Burst (PSI)	Minimum Bend Rad (In.)	Weight Lbs / Ft	Couplings Series
	(In.)	(MM.)	(In.)	(MM.)					
3216-04	1/4	6.4	.528	13.4	5,800	23,200	3	.195	KW/SB
3216-06	3/8	9.5	.673	17.1	5,000	20,000	3.5	.286	KW/SB
3216-08	1/2	12.7	.815	20.7	4,000	16,000	5.1	.393	KW/SB
3216-10	5/8	15.9	.937	23.8	3,625	14,500	6.7	.47	KW/SB
3216-12	3/4	19.1	1.09	27.7	3,120	12,480	7.9	.554	KW/SB
3216-16	1	25.4	1.40	36	3,000	12,000	9.8	.803	KW/SB

PRESSURE-FLEX HOSES

SERIES 3012

EXCEEDS SAE 100R12 / EN 856



TUBE: Type A maximum oil resistant synthetic rubber

REINFORCEMENT: 4 spirals of high tensile steel wire

COVER: Abrasion, oil, chemical, and weather resistant MSHA approved cover

TEMPERATURE: -40°F to +212°F (-40°C to +100°C)

BRANDING: Clear Mylar / White letters with blue box

APPLICATION: Extreme high pressure hose suitable for use with petroleum based hydraulic fluids, lubricating oils, water, and water emulsion hydraulic fluids.

Part #	Inside Diameter		Outside Diameter		W.P (PSI)	Burst (PSI)	Minimum Bend Rad (In.)	Weight Lbs / Ft	Couplings Series
	(In.)	(MM.)	(In.)	(MM.)					
3012-08	1/2	12.7	.878	22.3	6,000	24,000	9.05	.56	PW
3012-12	3/4	19.1	1.18	30.2	5,000	20,000	11.8	.99	PW/HW
3012-16	1	25.4	1.51	38.4	5,500	22,000	13.3	1.40	PW/HW
3012-20	1-1/4	31.8	1.78	45.2	5,000	20,000	18.1	1.70	PW/HW
3012-24	1-1/2	38.1	2.08	52.8	4,200	16,800	22.0	2.30	HW
3012-32	2	50.8	2.66	67.6	4,000	16,000	27.6	3.10	HW

SERIES 3013

SAE 100R13 / EN 856



TUBE: Type A maximum oil resistant synthetic rubber

REINFORCEMENT: 4 to 6 spirals of high tensile steel wire

COVER: Abrasion, oil, chemical, and weather resistant MSHA approved cover

TEMPERATURE: -40°F to +250°F (-40°C to +120°C)

BRANDING: Clear Mylar / White letters with orange box

APPLICATION: Extreme high pressure hose suitable for use with petroleum based hydraulic fluids, lubricating oils, water, and water emulsion hydraulic fluids.

Part #	Inside Diameter		Outside Diameter		W.P (PSI)	Burst (PSI)	Minimum Bend Rad (In.)	Weight Lbs / Ft	Couplings Series
	(In.)	(MM.)	(In.)	(MM.)					
3013-20	1-1/4	31.8	1.94	49.3	5,000	20,000	16.5	2.67	HW
3013-24	1-1/2	38.1	2.26	57.3	5,000	20,000	19.7	3.35	HW
3013-32	2	50.8	2.82	71.6	5,000	20,000	24.8	4.38	HW

SERIES 3015

SAE 100R15 / EN 856 R15



TUBE: Type A maximum oil resistant synthetic rubber

REINFORCEMENT: 4 to 6 spirals of high tensile steel wire

COVER: Abrasion, oil, chemical, and weather resistant MSHA approved cover

TEMPERATURE: -40°F to +250°F (-40°C to +120°C)

BRANDING: Embossed

APPLICATION: Extreme high pressure hose suitable for use with petroleum based hydraulic fluids, lubricating oils, water, and water emulsion hydraulic fluids.

Part #	Inside Diameter		Outside Diameter		W.P (PSI)	Burst (PSI)	Minimum Bend Rad (In.)	Weight Lbs / Ft	Couplings Series
	(In.)	(MM.)	(In.)	(MM.)					
3015-12	3/4	19.1	1.20	32.0	6,090	24,360	10.4	1.04	HW
3015-16	1	25.4	1.51	38.4	6,090	24,360	13.0	1.44	HW
3015-20	1-1/4	31.8	1.94	49.3	6,090	24,360	17.5	2.67	HW
3015-24	1-1/2	38.1	2.27	57.3	6,090	24,360	20.9	3.35	HW

SERIES 3400

SAE 100R4

SUCTION/RETURN LINE



TUBE: Black, oil resistant, synthetic rubber

REINFORCEMENT: Multiple textile plies with dual wire helix

COVER: Black, oil, abrasion, and weather resistant synthetic rubber cover – MSHA approved cover

TEMPERATURE: -40°F to +212°F (-40°C to +100°C)

BRANDING: Embossed

APPLICATION: Recommended for petroleum and water-base hydraulic fluids in suction lines, or in low pressure return lines. Meets or exceeds the requirements of SAE 100R4. Designed to provide half of the bend radius of standard SAE 100R4.

Part #	Inside Diameter		Outside Diameter		W.P (PSI)	Burst (PSI)	Minimum Bend Rad (In.)	Weight Lbs / Ft	Couplings Series
	(In.)	(MM.)	(In.)	(MM.)					
3400-12	3/4	19.1	1.16	29.5	300	1,200	2.5	0.45	KW/PW/SH
3400-16	1	25.4	1.46	37.1	250	1,000	3.0	0.54	KW/PW/SH
3400-20	1-1/4	31.8	1.71	43.4	200	800	4.0	0.77	KW/PW/SH
3400-24	1-1/2	38.1	1.96	49.8	150	600	5.0	0.91	PW/SH
3400-32	2	50.8	2.46	62.5	100	400	6.0	1.16	PW/SH

SECTION A | **Hydraulic Hose**

Pressure-Flex Series

Tuff-Flex Series

“Polyflow” Thermoplastic Hoses

Specialty Hoses

Tuff-Flex Series hoses maintain all of the specifications and construction qualities of the Pressure-Flex Series, but with the added **Tuff-Flex** rubber cover for superior abrasion resistance. Made of special compounds, the **Tuff-Flex** cover offers **25 times** the abrasion resistance of standard cover hydraulic hose, increasing service life, lowering maintenance, and eliminating the need for costly hose protectors like spring guards and nylon sleeves.

The logo for Tuff-Flex, featuring the word "TUFF" in a bold, blocky font and "FLEX" in a bold, italicized font, both in white capital letters on a black rectangular background.

SERIES 4117

EXCEEDS SAE 100R17



TUBE: Type A maximum oil resistant synthetic rubber
REINFORCEMENT: One braid of high tensile steel wire
COVER: Super abrasion resistant, **Tuff-Flex** cover MSHA approved
TEMPERATURE: -40°F to +212°F (-40°C to +100°C)

BRANDING: Clear Mylar / White letters with silver box
APPLICATION: Designed as a replacement for standard SAE 100R17 lines, where a more abrasion resistant hose is needed. **Tuff-Flex** high abrasion resistant proprietary compound cover.

Part #	Inside Diameter		Outside Diameter		W.P (PSI)	Burst (PSI)	Minimum Bend Rad (In.)	Weight Lbs / Ft	Couplings Series
	(In.)	(MM.)	(In.)	(MM.)					
4117-04	1/4	6.4	.480	12.2	3,040	12,160	2.0	.12	KW/SB
4117-06	3/8	9.5	.610	15.5	3,040	12,160	2.6	.19	KW/SB
4117-08	1/2	12.7	.748	19.1	3,040	12,160	3.5	.24	KW/SB

Note: Series 5117 with “Armor-Clad” super long-life cover is available upon request.

SERIES 4210

TYPE 2SN-K
ONE MILLION IMPULSE CYCLE



TUBE: Type A maximum oil resistant synthetic rubber
REINFORCEMENT: Two braids of high tensile steel wire
COVER: Super abrasion resistant, **Tuff-Flex** cover MSHA approved
TEMPERATURE: -40°F. to +212°F (-40°C to +100°C)

BRANDING: Clear Mylar / White letters with purple box
APPLICATION: Designed for high impulse, high pressure where a more abrasion resistant hose is needed. **Tuff-Flex** high abrasion resistant proprietary compound cover.

Part #	Inside Diameter		Outside Diameter		W.P (PSI)	Burst (PSI)	Minimum Bend Rad (In.)	Weight Lbs / Ft	Couplings Series
	(In.)	(MM.)	(In.)	(MM.)					
4210-04	1/4	6.4	.527	13.4	6,525	26,100	1.77	.18	KW
4210-06	3/8	9.5	.669	17.0	5,585	22,330	2.76	.26	KW
4210-08	1/2	12.7	.815	20.7	5,000	20,010	3.54	.35	KW
4210-10	5/8	15.9	.929	23.6	4,205	16,820	5.11	.41	KW
4210-12	3/4	19.1	1.09	27.7	4,060	16,240	6.30	.53	KW
4210-16	1	25.4	1.40	35.6	2,900	11,600	8.26	.80	KW

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TUFF-FLEX HOSES

SERIES 4216

EXCEEDS SAE 100R16 / EN 857 TYPE 2SC



TUBE: Type A maximum oil resistant synthetic rubber
REINFORCEMENT: Two braids of high tensile steel wire
COVER: Super abrasion resistant, **Tuff-Flex** cover
 MSHA approved
TEMPERATURE: -40°F to +212°F (-40°C to +100°C)

BRANDING: Clear Mylar / White letters with green box
APPLICATION: Designed as a replacement for standard SAE 100R16 lines where a more abrasion resistant hose is needed.
Tuff-Flex high abrasion resistant proprietary compound cover.

Part #	Inside Diameter		Outside Diameter		W.P (PSI)	Burst (PSI)	Minimum Bend Rad (In.)	Weight Lbs / Ft	Couplings Series
	(In.)	(MM.)	(In.)	(MM.)					
4216-04	1/4	6.4	.528	13.5	5,800	23,200	3.0	.20	KW/SB
4216-06	3/8	9.5	.673	17.0	5,000	20,000	3.5	.29	KW/SB
4216-08	1/2	12.7	.815	20.8	4,000	16,000	5.1	.39	KW/SB
4216-10	5/8	15.9	.937	23.9	3,625	14,500	6.7	.47	KW/SB
4216-12	3/4	19.1	1.09	30.5	3,120	12,480	7.9	.55	KW/SB
4216-16	1	25.4	1.42	35.6	3,000	12,000	9.8	.80	KW/SB

Note: Series 5216 with “Armor-Clad” super long-life cover is available upon request.

SERIES 4216-T (Twin-Line)

EXCEEDS SAE 100R16 / EN 857 TYPE 2SC



TUBE: Type A maximum oil resistant synthetic rubber
REINFORCEMENT: Two braids of high tensile steel wire
COVER: Super abrasion resistant, **Tuff-Flex** cover
 MSHA approved (smooth cover)
TEMPERATURE: -40°F to +212°F (-40°C to +100°C)

BRANDING: Clear Mylar / White letters with green box
APPLICATION: Designed as a replacement for standard SAE 100R16 lines, where a more abrasion resistant hose is needed.
Tuff-Flex high abrasion resistant proprietary compound cover.

Part #	Inside Diameter		Outside Diameter		W.P (PSI)	Burst (PSI)	Minimum Bend Rad (In.)	Weight Lbs / Ft	Couplings Series
	(In.)	(MM.)	(In.)	(MM.)					
4216-T-06-050	3/8	9.5	.673	17.0	5,000	20,000	3.5	.57	KW/SB
4216-T-06-BULK									KW/SB
4216-T-08-050	1/2	12.7	.815	20.8	4,000	16,000	5.1	.79	KW/SB
4216-T-08-BULK									KW/SB

SERIES 4012

EXCEEDS SAE 100R12 / EN 856



TUBE: Type A maximum oil resistant synthetic rubber

REINFORCEMENT: 4 spirals of high tensile steel wire

COVER: Super abrasion resistant, **Tuff-Flex** cover
MSHA approved

TEMPERATURE: -40°F to +212°F (-40°C to +100°C)

BRANDING: Clear Mylar / White letters with red box

APPLICATION: Extreme high pressure hose suitable for use with petroleum based hydraulic fluids, lubricating oils, water, and water emulsion hydraulic fluids. **Tuff-Flex** high abrasion resistant proprietary compound cover.

Part #	Inside Diameter		Outside Diameter		W.P (PSI)	Burst (PSI)	Minimum Bend Rad (In.)	Weight Lbs / Ft	Couplings Series
	(In.)	(MM.)	(In.)	(MM.)					
4012-08	1/2	12.7	.878	22.3	6,000	24,000	9.0	.56	PW
4012-12	3/4	19.1	1.19	30.2	5,000	20,000	11.8	.99	PW/HW
4012-16	1	25.4	1.51	38.4	5,500	22,000	13.3	1.40	PW/HW
4012-20	1-1/4	31.8	1.78	45.2	5,000	20,000	18.0	1.70	PW/HW
4012-24	1-1/2	38.1	2.08	52.8	4,200	16,800	22.	2.30	HW
4012-32	2	50.8	2.66	67.6	4,000	16,000	27.5	3.10	HW

Note: Series 5012 with “Armor-Clad” super long-life cover is available upon request.

SERIES 4013

SAE 100R13 / EN 856



TUBE: Type A maximum oil resistant synthetic rubber

REINFORCEMENT: 4 to 6 spirals of high tensile steel wire

COVER: Super abrasion resistant, **Tuff-Flex** cover
MSHA approved

TEMPERATURE: -40°F to +250°F (-40°C to +120°C)

BRANDING: Clear Mylar / White letters with orange box

APPLICATION: Extreme high pressure hose suitable for use with petroleum based hydraulic fluids, lubricating oils, water, and water emulsion hydraulic fluids. **Tuff-Flex** high abrasion resistant proprietary compound cover.

Part #	Inside Diameter		Outside Diameter		W.P (PSI)	Burst (PSI)	Minimum Bend Rad (In.)	Weight Lbs / Ft	Couplings Series
	(In.)	(MM.)	(In.)	(MM.)					
4013-20	1-1/4	31.8	1.9	49.3	5,000	20,000	16.5	2.67	HW
4013-24	1-1/2	38.1	2.3	57.3	5,000	20,000	19.7	3.35	HW
4013-32	2	50.8	2.8	71.6	5,000	20,000	24.8	4.38	HW

Note: Series 5013 with “Armor-Clad” super long-life cover is available upon request.

TUFF-FLEX HOSES

SERIES 4015

SAE 100R15 / EN 856 R15



TUBE: Class A maximum oil resistant synthetic rubber (Nitrile)

REINFORCEMENT: 4 to 6 spirals of high tensile steel wire

COVER: Super abrasion resistant, **Tuff-Flex** cover
MSHA approved

TEMPERATURE: -40°F to +250°F (-40°C to +120°C)

BRANDING: Clear Mylar / White letters

APPLICATION: Extreme high pressure hose suitable for use with petroleum based hydraulic fluids, lubricating oils, water, and water emulsion hydraulic fluids. **Tuff-Flex** high abrasion resistant proprietary compound cover.

Part #	Inside Diameter		Outside Diameter		W.P (PSI)	Burst (PSI)	Minimum Bend Rad (In.)	Weight Lbs / Ft	Couplings Series
	(In.)	(MM.)	(In.)	(MM.)					
4015-12	3/4	19.1	1.20	32.0	6,090	24,360	10.4	1.04	HW
4015-16	1	25.4	1.51	38.4	6,090	24,360	13.0	1.44	HW
4015-20	1-1/4	31.8	1.94	49.3	6,090	24,360	17.5	2.67	HW
4015-24	1-1/2	38.1	2.26	57.3	6,090	24,360	20.9	3.35	HW

Note: Series 5015 with “Armor-Clad” super long-life cover is available upon request.

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SECTION A | **Hydraulic Hose**

Pressure-Flex Series

Tuff-Flex Series

“Polyflow” Thermoplastic Hoses

Specialty Hoses

“Polyflow” Thermoplastic Hoses offer a significant added value when compared to wire reinforced rubber hose. Thermoplastic provides extreme chemical compatibility, noise-level redirection, ultraviolet and corrosion resistance. They are lighter in weight and offer superior abrasion resistance over their rubber equivalents. Fiber braided thermoplastic hose also maintains better fatigue resistance than a wire reinforced hose.

"POLYFLOW" THERMOPLASTIC HOSES

SERIES 4700

MEDIUM PRESSURE
SAE 100R7



TUBE: Nylon

REINFORCEMENT: Polyester braid

COVER: Proprietary polyurethane ("Tuff-Skin")
Black, perforated

TEMPERATURE: -40°F to +212°F (-40°C to +100°C)
Limited to +135°F (+57°C) for water-based or fire resistant fluids)
(Delta) Working length @ rated WPSI: ±2% max.

BRANDING: Ink jet

APPLICATION: Medium pressure hydraulic applications including material handling and mobile equipment, agricultural equipment, and lubrication systems. Bonded construction has excellent kink resistance and long life. **Tuff-Skin** cover has excellent abrasion resistance and low coefficient of friction.

Part #	Inside Diameter		Outside Diameter		W.P (PSI)	Burst (PSI)	Minimum Bend Rad (In.)	Weight Lbs / Ft	Couplings Series
	(In.)	(MM.)	(In.)	(MM.)					
4700-02	1/8	3	.320	8	3,000	12,000	.50	.03	SW/SB
4700-03	3/16	5	.420	11	3,000	12,000	.75	.045	SW/SB
4700-04	1/4	6	.505	12	3,000	12,000	1.5	.057	SW/SB
4700-05	5/16	8	.570	14	2,500	10,000	1.75	.075	SW/SB
4700-06	3/8	10	.655	17	2,250	9,000	2.0	.097	SW/SB
4700-08	1/2	13	.810	21	2,000	8,000	3.0	.148	SW/SB

Note: Above hose not intended for use in static discharge applications—i.e. airless paint spray.

SERIES 4700T

TWIN-LINE
SAE 100R7



TUBE: Nylon

REINFORCEMENT: Polyester braid

COVER: Proprietary polyurethane ("Tuff-Skin")
Black, perforated

TEMPERATURE: -40°F to +212°F (-40°C to +100°C)
Limited to +135°F (+57°C) for water-based or fire resistant fluids)
(Delta) Working length @ rated WPSI: ±2% max.

BRANDING: Ink jet

APPLICATION: A twin-line medium pressure hydraulic hose for applications including material handling and mobile equipment, agricultural equipment, and lubrication systems. Bonded construction has excellent kink resistance and long life. **Tuff-Skin** cover has excellent abrasion resistance and low coefficient of friction.

Part #	Inside Diameter		Outside Diameter		W.P (PSI)	Burst (PSI)	Minimum Bend Rad (In.)	Weight Lbs / Ft	Couplings Series
	(In.)	(MM.)	(In.)	(MM.)					
4700T-04	1/4	6	.505	12	3,000	12,000	1.5	.114	SW/SB
4700T-06	3/8	10	.655	17	2,250	9,000	2.0	.194	SW/SB
4700T-08	1/2	13	.810	21	2,000	8,000	3.0	.296	SW/SB

Note: Above hose not intended for use in static discharge applications—i.e. airless paint spray.

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"POLYFLOW" THERMOPLASTIC HOSES

SERIES 4704NC

NON-CONDUCTIVE

SAE 100R7 (SAE J517 ANSI A92.2 COMPLIANT)



TUBE: Nylon

REINFORCEMENT: Polyester braid

COVER: Proprietary polyurethane ("Tuff-Skin") orange, non-perforated

TEMPERATURE: -40°F to +212°F (-40°C to +100°C)
Limited to +135°F (+57°C) for water-based or fire resistant fluids)
(Delta) Working length @ rated WPSI: ±2% max.

BRANDING: Ink jet

APPLICATION: Medium pressure hydraulic hose where electrical non-conductivity is required. Ideal for use on electrical utility truck hydraulic systems, aerial equipment (pickers), and rescue apparatus and tools. Bonded construction for kink resistance. Excellent abrasion and UV resistant cover **Tuff-Skin**. Meets J517 that requires less than 50 micro-amperes leakage when subjected to 75,000 volts/ft for five minutes. Complies with ANSI 92.2 for vehicle mounted aerial devices.

Part #	Inside Diameter		Outside Diameter		W.P. (PSI) ANSI A92.2	W.P. (PSI) SAE 100R7	Burst (PSI)	Min.Bend Rad (In.)	Weight Lbs/Ft	Couplings Series
	(In.)	(MM.)	(In.)	(MM.)						
4704NC-03	3/16	5	.420	11	3,000	3,000	12,000	.75	.045	SW/SB
4704NC-04	1/4	6	.475	12	3,000	3,000	12,000	1.5	.052	SW/SB
4704NC-05	5/16	8	.570	15	3,000	2,500	10,000	1.75	.075	SW/SB
4704NC-06	3/8	10	.640	16	3,000	2,250	9,000	2.0	.095	SW/SB
4704NC-08	1/2	13	.810	21	3,000	2,250	9,000	3.0	.148	SW/SB

Note: Above hose not intended for use in static discharge applications—i.e. airless paint spray.

Note: Lay lines will provide both ANSI and SAE maximum working pressure as listed with ANSI 92.2 - 1990 "Vehicle Mounted Elevating and Rotating Aerial Devices".

SERIES 4704NC-T

TWIN-LINE, NON-CONDUCTIVE

SAE 100R7 (SAE J517 ANSI A92.2 COMPLIANT)



TUBE: Nylon

REINFORCEMENT: Polyester braid

COVER: Proprietary polyurethane ("Tuff-Skin") Orange, non-perforated

TEMPERATURE: -40°F to +212°F (-40°C to +100°C)
Limited to +135°F (+57°C) for water-based or fire resistant fluids)
(Delta) Working length @ rated WPSI: ±2% max.

BRANDING: Ink jet

APPLICATION: A twin-line medium pressure hydraulic hose, used where electrical non-conductivity is required. Ideal for use on electrical utility truck hydraulic systems, aerial equipment (pickers), and rescue apparatus and tools. Bonded construction for kink resistance. Excellent abrasion and UV resistant **Tuff-Skin** cover. Meets J517 that requires less than 50 micro-amperes leakage when subjected to 75,000 volts/ft for five minutes. Complies with ANSI 92.2 for vehicle mounted aerial devices.

Part #	Inside Diameter		Outside Diameter		W.P. (PSI) ANSI A92.2	W.P. (PSI) SAE 100R7	Burst (PSI)	Min.Bend Rad (In.)	Weight Lbs/Ft	Couplings Series
	(In.)	(MM.)	(In.)	(MM.)						
4704NC-T-04	1/4	6	.475	12	3,000	3,000	12,000	1.5	.104	SW/SB
4704NC-T-06	3/8	10	.640	16	3,000	2,250	9,000	2.0	.19	SW/SB
4704NC-T-08	1/2	13	.810	21	3,000	2,250	9,000	3.0	.296	SW/SB

Note: Above hose not intended for use in static discharge applications—i.e. airless paint spray.

Note: Lay-line will provide both ANSI and SAE maximum working pressure as listed with ANSI 92.2 - 1990 "Vehicle Mounted Elevating and Rotating Aerial Devices".

SERIES 4730LT

LOW TEMPERATURE

SAE 100R18 (3000 PSI CONSTANT PRESSURE)



TUBE: Polyester elastomer

REINFORCEMENT: Polyester braid

COVER: Polyester elastomer (non-stick)
Black, perforated

TEMPERATURE: -70°F to +212°F (-57°C to +100°C)
Limited to +150°F (+65°C) for water-based or fire resistant fluids
(Delta) Working length @ rated WPSI: ±2% max.

BRANDING: Ink jet

APPLICATION: Designed for low-temperature applications on fork trucks (over-the-sheave), cold storage and refrigerated areas, material handling, construction equipment, general hydraulics and hydraulic tools, agricultural equipment, and lubrication equipment. Bonded construction for kink resistance and long life. Superior flexibility in cold temperature applications. Low coefficient of friction cover (non-stick). Excellent bend radius. Available in twin or multi-line.

Part #	Inside Diameter		Outside Diameter		W.P (PSI)	Burst (PSI)	Minimum Bend Rad (In.)	Weight Lbs / Ft	Couplings Series
	(In.)	(MM.)	(In.)	(MM.)					
4730LT-04	1/4	6	.505	13	3,000	12,000	1.75	.063	SW/SB
4730LT-06	3/8	10	.660	17	3,000	12,000	3.0	.130	SB
4730LT-08	1/2	13	.840	21	3,000	12,000	3.5	.165	SB

Note: Above hose not intended for use in static discharge applications—i.e. airless paint spray.

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"POLYFLOW" THERMOPLASTIC HOSES

SERIES 4800

MEDIUM PRESSURE
SAE 100R8



TUBE: Nylon

REINFORCEMENT: Aramid braid

COVER: Proprietary polyurethane ("Tuff-Skin")
Black, non-perforated

TEMPERATURE: -40°F to +212°F (-40°C to +100°C)
Limited to +150°F (+66°C) for water-based or fire resistant fluids)
(Delta) Working length @ rated WPSI: ±2% max.

BRANDING: Ink jet

APPLICATION: High pressure hydraulic hose for hydraulic and pneumatic systems, high-pressure gas and chemicals, mobile equipment, machine tools, and agricultural equipment. Bonded construction has excellent kink resistance and long life. Low volumetric expansion. Lighter and smaller O.D. than 100R2. 100R8 performance @ 100R7 dimensions. **Tuff-Skin** cover has excellent abrasion resistance with low coefficient of friction. Available in twin or multi-line.

Part #	Inside Diameter		Outside Diameter		W.P (PSI)	Burst (PSI)	Minimum Bend Rad (In.)	Weight Lbs / Ft	Couplings Series
	(In.)	(MM.)	(In.)	(MM.)					
4800-03	3/16	5	.420	11	5,000	20,000	1.5	.05	SW/SB
4800-04	1/4	6	.505	12	5,000	20,000	2.0	.06	SW/SB
4800-06	3/8	10	.655	16	4,000	16,000	2.5	.08	SW/SB
4800-08	1/2	13	.810	21	3,500	14,000	4.0	.13	SW/SB

Note: Above hose not intended for use in static discharge applications—i.e. airless paint spray.

Note: Not recommended for over-the-sheave (pulley systems) applications.

SERIES 4800NC

NON-CONDUCTIVE
SAE 100R8 (SAE J517 ANSI A92.2 COMPLIANT)



TUBE: Nylon

REINFORCEMENT: Aramid braid

COVER: Proprietary polyurethane ("Tuff-Skin")
Orange, non-perforated

TEMPERATURE: -40°F to +212°F (-40°C to +100°C)
Limited to +150°F (+66°C) for water-based or fire resistant fluids)
(Delta) Working length @ rated WPSI: ±2% max.

BRANDING: Ink jet

APPLICATION: High pressure hydraulic hose where electrical non-conductivity is required. Ideal for use on aerial equipment, mobile machinery, and rescue tools. Bonded construction for kink resistance. Abrasion and UV resistant **Tuff-Skin** cover with low coefficient of friction. Meets J517 that requires less than 50 micro-amperes leakage when subjected to 75,000 volts/ft for five minutes. Complies with ANSI 92.2 for vehicle mounted aerial devices. Low volumetric expansion. 100R8 performance @ 100R7 dimensions. Available in twin or multi-line.

Part #	Inside Diameter		Outside Diameter		W.P (PSI)	Burst (PSI)	Minimum Bend Rad (In.)	Weight Lbs / Ft	Couplings Series
	(In.)	(MM.)	(In.)	(MM.)					
4800NC-04	1/4	6	.505	12	5,000	20,000	2.0	.06	SW/SB
4800NC-06	3/8	10	.655	16	4,000	16,000	2.5	.08	SW/SB
4800NC-08	1/2	13	.810	21	3,500	14,000	4.0	.13	SW/SB

Note: Above hose not intended for use in static discharge applications—i.e. airless paint spray.

"POLYFLOW" THERMOPLASTIC HOSES

SERIES 4850

MEDIUM PRESSURE
SAE 100R8, (STANDARD O.D.)



TUBE: Nylon

REINFORCEMENT: Polyester braid

COVER: Proprietary polyurethane ("Tuff-Skin")
Black, perforated

TEMPERATURE: -40°F to +212°F (-40°C to +100°C)
Limited to +150°F (+66°C) for water-based or fire resistant fluids)
(Delta) Working length @ rated WPSI: ±2% max.

BRANDING: Ink jet

APPLICATION: High pressure hydraulic hose for hydraulic and pneumatic systems, high-pressure chemicals, mobile equipment, and hydraulic tools. Bonded construction has excellent kink resistance and long life. Superior impulse cycling and flexing. **Tuff-Skin** cover has excellent abrasion resistance with low coefficient of friction. Available in twin or multi-line.

Part #	Inside Diameter		Outside Diameter		W.P (PSI)	Burst (PSI)	Minimum Bend Rad (In.)	Weight Lbs / Ft	Couplings Series
	(In.)	(MM.)	(In.)	(MM.)					
4850-04	1/4	6	.625	16	5,000	20,000	2.0	.12	SB
4850-06	3/8	10	.760	19	4,000	16,000	2.5	.15	SB
4850-08	1/2	13	.890	23	3,500	14,000	4.0	.19	SB

Note: Above hose not intended for use in static discharge applications—i.e. airless paint spray.

SERIES 4850NC

NON-CONDUCTIVE
SAE 100R8, (STANDARD O.D.)



TUBE: Nylon

REINFORCEMENT: Polyester braid

COVER: Proprietary polyurethane ("Tuff-Skin")
Orange, non-perforated

TEMPERATURE: -40°F to +212°F (-40°C to +100°C)
Limited to +150°F (+66°C) for water-based or fire resistant fluids)
(Delta) Working length @ rated WPSI: ±2% max.

BRANDING: Ink jet

APPLICATION: High pressure hydraulic hose where electrical non-conductivity is required. Ideal for use on aerial and utility equipment, mobile machinery, and rescue tools. Bonded construction for kink resistance. Abrasion and UV resistant **Tuff-Skin** cover with low coefficient of friction. Superior impulse cycling and flexing. Meets J517 that requires less than 50 micro-amperes leakage when subjected to 75,000 volts/ft for five minutes. Available in twin or multi-line.

Part #	Inside Diameter		Outside Diameter		W.P (PSI)	Burst (PSI)	Minimum Bend Rad (In.)	Weight Lbs / Ft	Couplings Series
	(In.)	(MM.)	(In.)	(MM.)					
4850NC-04	1/4	6	.625	16	5,000	20,000	2.0	.12	SB
4850NC-06	3/8	10	.760	19	4,000	16,000	2.5	.15	SB
4850NC-08	1/2	13	.890	23	3,500	14,000	4.0	.19	SB

Note: Above hose not intended for use in static discharge applications—i.e. airless paint spray.

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SECTION A | **Hydraulic Hose**

Pressure-Flex Series

Tuff-Flex Series

“Polyflow” Thermoplastic Hoses

Specialty Hoses

Specialty Hoses consist of product specially designed for specific application.

SERIES 2112

QUICK LOCK RUBBER PUSH-ON HOSE



TUBE: Black Nitrile

REINFORCEMENT: Braided, high tensile textile

COVER: Black Nitrile/PVC

TEMPERATURE: -40°F to +212°F (-40°C to +100°C)

BRANDING: Ink brand – white or black letters

APPLICATION: This oil resistant hose is excellent for use with air tools, to convey water, mild chemicals, and various petroleum products. No clamps or special tools needed. Special braid angle for quick and secure push-on coupling retention. Not recommended for gasoline or diesel fuels. Available in various colors for color-coding. Black cover meets MSHA 30 CFR 18.65 (Flame Resistant).

Part #	Inside Diameter		Outside Diameter		W.P (PSI)	Burst (PSI)	Weight Lbs / Ft	Couplings Series
	(In.)	(MM.)	(In.)	(MM.)				
2112-025	1/4	6.4	.500	11.9	300	1,200	0.09	PL
2112-038	3/8	9.5	.650	16.0	300	1,200	0.11	PL
2112-050	1/2	12.7	.800	19.6	300	1,200	0.15	PL
2112-063	5/8	15.9	.940	13.7	300	1,200	0.20	PL
2112-075	3/4	19.1	1.08	26.9	300	1,200	0.24	PL

SERIES 3000

SAE J1402 AIR BRAKE



TUBE: EPDM

REINFORCEMENT: Spiraled textile yarns

COVER: Black EPDM

TEMPERATURE: -40°F. to +212°F (-40°C to +100°C)

BRANDING: Ink brand, white letters

APPLICATION: Meet SAE J1402 Table A requirements. DOT FMVSS 106 Air Brake Hose.

Part #	Inside Diameter		Outside Diameter		W.P (PSI)	Burst (PSI)	Minimum Bend Rad (In.)	Weight Lbs / Ft
	(In.)	(MM.)	(In.)	(MM.)				
3000-06	3/8	9.5	.750	19.1	225	900	3.5	.18
3000-08	1/2	12.7	.880	22.4	225	900	3.5	.21

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SPECIALTY HOSE

SERIES 3010 HYDRAULIC JACK HOSE



TUBE: Class A maximum oil resistant synthetic rubber

REINFORCEMENT: Two braids of high tensile steel wire

COVER: Abrasion, oil, chemical and weather resistant MSHA approved cover

TEMPERATURE: -40°F. to +212°F (-40°C to +100°C)

BRANDING: Embossed

APPLICATION: Hydraulic hose used for high-pressure jack line applications. Meets Material Handling Institute Specification 1J-100 (July 1979) for hydraulic hose and assemblies and in jacking systems. **Factory Assembly Only.**

Part #	Inside Diameter		Outside Diameter		W.P (PSI)	Burst (PSI)	Minimum Bend Rad (In.)	Weight Lbs / Ft	Couplings Series
	(In.)	(MM.)	(In.)	(MM.)					
3010-04	1/4	6.4	.59	15.0	10,000*	20,000	2.2	.19	KW
3010-06	3/8	9.5	.75	19.1	10,000*	20,000	3.7	.29	KW

* Static, non-impulse pressure rating for hydraulic jack applications.

SERIES 3014 PTFE HOSE - SAE 100R14 A



TUBE: Non-conductive white virgin PTFE

COVER: Overbraid of 300 series stainless steel wire

TEMPERATURE: -65°F. to +450°F (-54°C to +232°C) continuous
-100°F. to +500°F (-73°C to +260°C) intermittent

BRANDING: None

APPLICATION: For use with high temperature and/or corrosive fluids. Excellent choice for high temperature hydraulic fluids, water, and compressed air.

Part #	Inside Diameter (Nominal)		Outside Diameter		W.P (PSI)	Burst (PSI)	Minimum Bend Rad (In.)	Weight Lbs / Ft	Couplings Series
	(In.)	(MM.)	(In.)	(MM.)					
3014-04	.187	4.8	.312	7.9	3,000	12,000	2.0	.077	TC/TS
3014-05	.250	6.4	.375	9.5	3,000	12,000	3.0	.098	TC/TS
3014-06	.312	7.9	.445	11.3	2,500	10,000	4.0	.110	TC/TS
3014-08	.405	10.3	.549	13.9	2,000	8,000	5.2	.124	TC/TS
3014-10	.500	12.7	.648	16.5	1,500	6,000	6.5	.154	TC/TS
3014-12	.625	15.9	.778	19.8	1,200	4,800	7.7	.170	TC/TS
3014-16	.875	22.2	1.030	26.2	1,000	4,000	9.0	.273	TC/TS

SERIES 3307

FUEL LINE SAE 30R7



TUBE: Nitrile – Class A

REINFORCEMENT: Single textile braid

COVER: Oil and weather resistant

TEMPERATURE: -40°F to +250°F (-40°C to +120°C)

BRANDING: Ink brand - white letters

APPLICATION: Low pressure fuel and oil hose for use with diesel and gasoline fuels, lube oils, and related vapors.

Part #	Inside Diameter		Outside Diameter		W.P (PSI)	Burst (PSI)	Weight Lbs / Ft	Couplings Series
	(In.)	(MM.)	(In.)	(MM.)				
3307-03	3/16	4.8	.45	11.4	50	200	6.5	Clamps
3307-04	1/4	6.4	.50	12.7	50	200	8.5	Clamps
3307-05	5/16	7.9	.58	14.7	50	200	11.0	Clamps
3307-06	3/8	9.5	.65	16.5	50	200	12.0	Clamps
3307-08	1/2	12.7	.75	19.1	35	140	16.5	Clamps

SERIES 3500

PRESSURE FLEX SAE 100R5 TEXTILE COVER



TUBE: Type A maximum oil resistant synthetic rubber

REINFORCEMENT: One textile braid with one braid of high tensile steel wire

COVER: Extreme abrasion, oil, and weather resistant textile cover. Exceeds SAE J517 for ozone and external weathering effects

TEMPERATURE: -40°F to +212°F (-40°C to +100°C)

BRANDING: Black Mylar / white letters

APPLICATION: Medium pressure hydraulic hose suitable for petroleum based hydraulic fluids, water, oils, and pneumatic systems (textile cover).

Part #	Inside Diameter		Outside Diameter		W.P (PSI)	Burst (PSI)	Minimum Bend Rad (In.)	Weight Lbs / Ft	Couplings Series
	(In.)	(MM.)	(In.)	(MM.)					
3500-04	3/16	4.8	.52	13.2	3,000	12,000	3.0	.15	R5 / RW
3500-05	1/4	6.4	.58	14.7	3,000	12,000	3.3	.19	R5 / RW
3500-06	5/16	7.9	.68	17.3	2,250	9,000	4.0	.25	R5 / RW
3500-08	13/32	10.3	.77	19.6	2,000	8,000	4.6	.29	R5 / RW
3500-10	1/2	12.7	.92	23.4	1,750	7,000	5.5	.36	R5 / RW
3500-12	5/8	15.9	1.1	27.9	1,500	6,000	6.5	.43	R5 / RW
3500-16	7/8	22.2	1.2	30.5	800	3,200	7.3	.45	R5 / RW
3500-20	1-1/8	28.6	1.5	38.1	625	2,500	9.0	.54	R5
3500-24	1-3/8	34.9	1.8	45.7	490	1,970	10.4	.81	R5
3500-32	1-13/16	46.0	2.2	55.9	345	1,390	13.2	.99	R5

Hydraulic Hose

A

Hydraulic Fittings

B

Support Products &
Crimping Equipment

C

Technical Information &
Guidelines

D

SPECIALTY HOSE

SERIES 3500AT SAE 100R5 TEXTILE COVER "ALL TEMP"



TUBE: All temperature hydraulic oil resistant special synthetic rubber

REINFORCEMENT: One textile braid with one braid of high tensile steel wire

COVER: Extreme abrasion, oil, and weather resistant blue textile cover. Exceeds SAE J517 for ozone and external weathering effects

TEMPERATURE: -58°F to +275°F, 302°F intermittent

BRANDING: Black Mylar / red letters

APPLICATION: Medium pressure hydraulic hose suitable for both high and low-temperature petroleum based fluids, water, oils, and pneumatic systems (textile cover).

Part #	Inside Diameter		Outside Diameter		W.P (PSI)	Burst (PSI)	Minimum Bend Rad (In.)	Weight Lbs / Ft	Couplings Series
	(In.)	(MM.)	(In.)	(MM.)					
3500AT-04	3/16	4.8	.52	13.2	3000	12,000	3.0	.15	R5 / RW
3500AT-05	1/4	6.4	.58	14.7	3000	12,000	3.3	.19	R5 / RW
3500AT-06	5/16	7.9	.68	17.3	2250	9,000	4.0	.25	R5 / RW
3500AT-08	13/32	10.3	.77	19.6	2000	8,000	4.6	.29	R5 / RW
3500AT-10	1/2	12.7	.92	23.4	1750	7,000	5.5	.36	R5 / RW
3500AT-12	5/8	15.9	1.1	27.9	1500	6,000	6.5	.43	R5 / RW
3500AT-16	7/8	22.2	1.2	30.5	800	3,200	7.3	.45	R5 / RW
3500AT-20	1-1/8	28.6	1.5	38.1	625	2,500	9.0	.54	R5
3500AT-24	1-3/8	34.9	1.8	45.7	490	1,970	10.4	.81	R5
3500AT-32	1-13/16	46.0	2.2	55.9	345	1,390	13.2	.99	R5

A	Hydraulic Hose
B	Hydraulic Fittings
C	Support Products & Crimping Equipment
D	Technical Information & Guidelines

SECTION B

Hydraulic Fittings

Series HW Crimp Fittings

Series KW Crimp Fittings

Series PW Crimp Fittings

Series RW Crimp Fittings

Series R5 Reuseable Fittings

Series SB Crimp Fittings

Series SH Crimp Fittings

Series SW Crimp Fittings

Series TC/TS Crimp Fittings



SECTION B | **Hydraulic Fittings**

Series HW Crimp Fittings

Series KW Crimp Fittings

Series PW Crimp Fittings

Series RW Crimp Fittings

Series R5 Reuseable Fittings

Series SB Crimp Fittings

Series SH Crimp Fittings

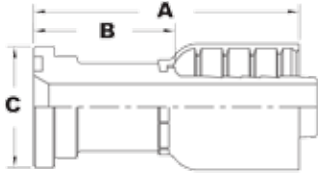
Series SW Crimp Fittings

Series TC/TS Crimp Fittings

Unisource “HW” series fittings are cost effective, permanent, Bite-the-Wire style crimp fittings made for easy and quick assembly using our family of Unisource crimpers. Compatible on all four (4) to six (6) wire spiral hydraulic hoses.

SERIES HW CRIMP FITTINGS

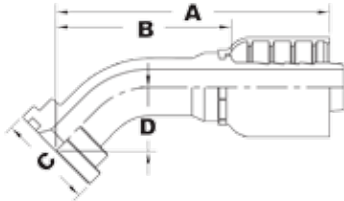
(FOR HOSE SERIES 3012, 3013, 3015, 4012, 4013, 4015, 5012, 5013, 5015)



STYLE CFHS-HW

Cat Flange
Straight

Part No.	Flange Size	Hose ID (Inches)	Dimensions					
			A		B		C	
			in	mm	in	mm	in	mm
12CFHS-12HW	3/4"	3/4	3.82	97	2.05	52	1.62	41.2
16CFHS-16HW	1"	1	4.09	104	2.36	60	1.87	47.6
20CFHS-20HW	1-1/4"	1-1/4	5.91	150	3.54	90	2.12	53.9
24CFHS-24HW	1-1/2"	1-1/2	7.05	179	4.29	109	2.50	63.5
32CFHS-32HW	2"	2	7.56	192	5.35	136	3.12	79.3



STYLE CFH45-HW

Cat Flange
45° Bent Tube

Part No.	Flange Size	Hose ID (Inches)	Dimensions							
			A		B		C		D	
			in	mm	in	mm	in	mm	in	mm
12CFH45-12HW	3/4"	3/4	5.15	131	3.11	79	1.62	41.2	1.25	32
16CFH45-16HW	1"	1	4.96	126	3.23	82	1.88	47.8	1.40	36
20CFH45-20HW	1-1/4"	1-1/4	6.69	170	4.29	109	2.12	53.8	1.50	46
24CFH45-24HW	1-1/2"	1-1/2	7.24	184	4.69	119	2.50	63.5	1.75	50

Hydraulic Hose

A

Hydraulic Fittings

B

Support Products &
Crimping Equipment

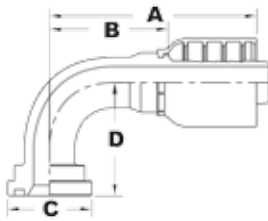
C

Technical Information &
Guidelines

D

SERIES HW CRIMP FITTINGS

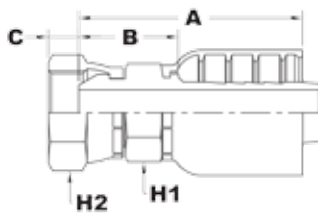
(FOR HOSE SERIES 3012, 3013, 3015, 4012, 4013, 4015, 5012, 5013, 5015)



STYLE CFH90-HW

Cat Flange
90° Bent Tube

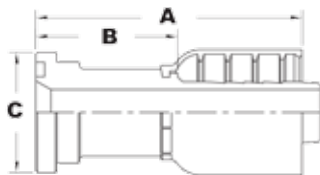
Part No.	Flange Size	Hose ID (Inches)	Dimensions							
			A		B		C		D	
			in	mm	in	mm	in	mm	in	mm
12CFH90-12HW	3/4"	3/4	4.41	112	3.11	79	1.62	41.2	2.28	58
16CFH90-16HW	1"	1	5.24	133	3.23	82	1.88	47.7	2.72	69
20CFH90-20HW	1-1/4"	1-1/4	6.06	154	4.29	109	2.12	53.9	3.54	90
24CFH90-24HW	1-1/2"	1-1/2	6.14	156	4.69	119	2.50	63.5	3.62	92
32CFH90-32HW	2"	2	8.31	211	6.02	153	3.12	79.3	6.02	153



STYLE FBSPP-HW

BSP Female Swivel
30° Cone

Part No.	Thread Size	Hose ID (Inches)	Dimensions									
			A		B		C		H1		H2	
			in	mm	in	mm	in	mm	in	mm	in	mm
12FBSPP-12HW	3/4-14	3/4	3.23	82	1.34	34	.350	8.9	1.26	32	1.42	36
16FBSPP-16HW	1-11	1	3.90	99	1.50	38	.421	10.7	1.42	36	1.61	41



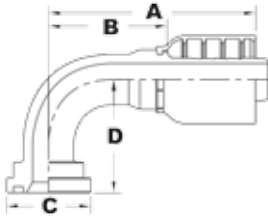
STYLE FHSA-HW

SAE Code 61 Flange
Straight

Part No.	Flange Size	Hose ID (Inches)	Dimensions					
			A		B		C	
			in	mm	in	mm	in	mm
20FHSA-20HW	1-1/4"	1-1/4	4.69	119	3.03	77	2.00	50.8
24FHSA-24HW	1-1/2"	1-1/2	4.49	114	3.11	79	2.37	60.3

SERIES HW CRIMP FITTINGS

(FOR HOSE SERIES 3012, 3013, 3015, 4012, 4013, 4015, 5012, 5013, 5015)

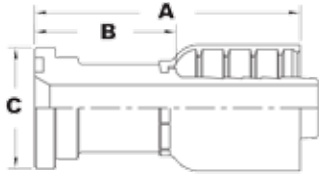


STYLE FH9A-HW

SAE Code 61 Flange

90° Bent Tube

Part No.	Flange Size	Hose ID (Inches)	Dimensions							
			A		B		C		D	
			in	mm	in	mm	in	mm	in	mm
20FH9A-20HW	1-1/4"	1-1/4	6.06	154	3.66	93	2.00	50.8	3.11	79
24FH9A-24HW	1-1/2"	1-1/2	6.14	156	3.58	91	2.37	60.3	3.27	83



STYLE FHSB-HW

SAE Code 62 Flange

Straight

Part No.	Thread Size	Hose ID (Inches)	Dimensions					
			A		B		C	
			in	mm	in	mm	in	mm
12FHSB-12HW	3/4"	3/4	3.82	97	2.05	52	1.62	41.2
16FHSB-16HW	1"	1	4.09	104	2.36	60	1.87	47.6
20FHSB-20HW	1-1/4"	1-1/4	5.91	150	3.54	90	2.12	53.9
24FHSB-24HW	1-1/2"	1-1/2	7.05	179	4.29	109	2.50	63.5
32FHSB-32HW	2"	2	7.56	192	5.35	136	3.12	79.3

Hydraulic Hose

A

Hydraulic Fittings

B

Support Products & Crimping Equipment

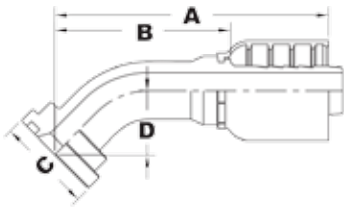
C

Technical Information & Guidelines

D

SERIES HW CRIMP FITTINGS

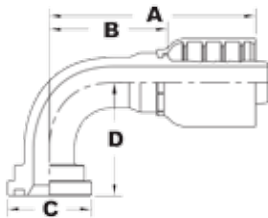
(FOR HOSE SERIES 3012, 3013, 3015, 4012, 4013, 4015, 5012, 5013, 5015)



STYLE FH4B-HW

SAE Code 62 Flange
45° Bent Tube

Part No.	Thread Size	Hose ID (Inches)	Dimensions							
			A		B		C		D	
			in	mm	in	mm	in	mm	in	mm
12FH4B-12HW	3/4"	3/4	5.16	131	3.11	79	1.62	41.2	1.26	32
16FH4B-16HW	1"	1	4.96	126	3.23	82	1.87	47.6	1.42	36
20FH4B-20HW	1-1/4"	1-1/4	6.69	170	4.29	109	2.12	53.9	1.81	46
24FH4B-24HW	1-1/2"	1-1/2	7.24	184	4.69	119	2.50	63.5	1.97	50
32FH4B-32HW	2"	2	9.01	229	6.02	153	3.12	79.3	2.95	75



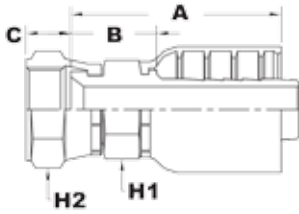
STYLE FH9B-HW

SAE Code 62 Flange
90° Bent Tube

Part No.	Thread Size	Hose ID (Inches)	Dimensions							
			A		B		C		D	
			in	mm	in	mm	in	mm	in	mm
12FH9B-12HW	3/4"	3/4	4.40	112	3.11	79	1.62	41.2	2.28	58
16FH9B-16HW	1"	1	5.24	133	3.23	82	1.87	47.6	2.72	69
20FH9B-20HW	1-1/4"	1-1/4	6.06	154	4.29	109	2.12	53.9	3.54	90
24FH9B-24HW	1-1/2"	1-1/2	6.14	156	4.69	119	2.50	63.5	3.62	92
32FH9B-32HW	2"	2	8.31	211	6.02	153	3.12	79.3	6.02	153

SERIES HW CRIMP FITTINGS

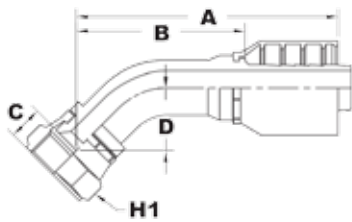
(FOR HOSE SERIES 3012, 3013, 3015, 4012, 4013, 4015, 5012, 5013, 5015)



STYLE FJ-HW

JIC Female Swivel
37° Flare

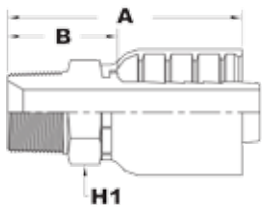
Part No.	Thread Size	Hose ID (Inches)	Dimensions									
			A		B		C		H1		H2	
			in	mm	in	mm	in	mm	in	mm	in	mm
12FJ-12HW	1-1/16-12	3/4	2.68	68	1.14	29	.563	14.3	1.25	32	1.42	36
16FJ-16HW	1-5/16-12	1	3.39	86	1.34	34	.594	15.1	1.42	36	1.61	41
20FJ-20HW	1-5/8-12	1-1/4	4.06	103	1.57	40	.626	15.9	1.81	46	1.97	50
24FJ-24HW	1-7/8-12	1-1/2	4.21	107	1.69	43	.732	18.6	2.17	55	2.17	55
32FJ-32HW	2-1/2-12	2	5.16	131	2.17	55	.937	23.8	2.50	63.5	2.87	73



STYLE FJ45T-HW

JIC Female Swivel
37° Flare
45° Bent Tube

Part No.	Thread Size	Hose ID (Inches)	Dimensions									
			A		B		C		H1		D	
			in	mm	in	mm	in	mm	in	mm	in	mm
16FJ45T-16HW	1-5/16-12	1	5.07	129	3.03	77	.595	15.1	1.22	31	1.50	38.1



STYLE MP-HW

NPTF Male Rigid

Part No.	Thread Size	Hose ID (Inches)	Dimensions					
			A		B		H1	
			in	mm	in	mm	in	mm
12MP-12HW	3/4-14	3/4	3.35	85	1.46	37	1.06	27
16MP-16HW	1-11.5	1	4.13	105	1.69	43	1.42	36
20MP-20HW	1-1/4-11.5	1-1/4	4.61	117	2.05	52	1.81	46
24MP-24HW	1-1/2-11.5	1-1/2	4.49	114	2.05	52	1.97	50
32MP-32HW	2-11.5	2	5.28	134	2.28	58	2.36	60
32AP-32HW(API)	2-11.5	2	7.16	182	4.32	110	2.50	64

Hydraulic Hose

A

Hydraulic Fittings

B

Support Products & Crimping Equipment

C

Technical Information & Guidelines

D

SECTION B | **Hydraulic Fittings**

Series HW Crimp Fittings

Series KW Crimp Fittings

Series PW Crimp Fittings

Series RW Crimp Fittings

Series R5 Reuseable Fittings

Series SB Crimp Fittings

Series SH Crimp Fittings

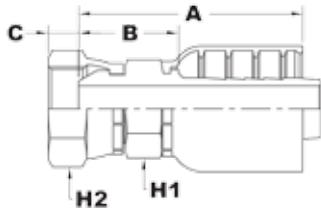
Series SW Crimp Fittings

Series TB/TS Crimp Fittings

Unisource “KW” series fittings are cost effective, permanent, Bite-the-Wire style crimp fittings made for easy and quick assembly using our family of Unisource crimpers. Compatible on all wire braided hydraulic hose.

SERIES KW CRIMP FITTINGS

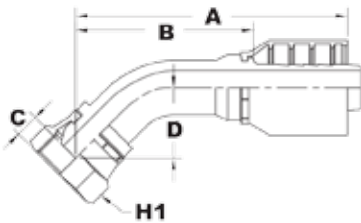
(FOR HOSE SERIES 3010, 3100, 3150, 3200, 3250, 3117, 3216, 4117, 4210, 4216, 5117, 5216)



STYLE FBSPK-KW

BSPP Female Swivel
60° Cone

Part No.	Thread Size	Hose ID (Inches)	Dimensions									
			A		B		C		H1		H2	
			in	mm	in	mm	in	mm	in	mm	in	mm
4FBSPK-4KW	1/4-19	1/4	1.77	45	.984	25	.173	4.4	.669	17	.748	19
6FBSPK-6KW	3/8-19	3/8	2.16	55	1.10	28	.244	6.2	.748	19	.866	22
8FBSPK-6KW	1/2-14	3/8	2.20	56	1.14	29	.264	6.7	.866	22	1.06	27
8FBSPK-8KW	1/2-14	1/2	2.36	60	1.14	29	.264	6.7	.866	22	1.06	27
10FBSPK-10KW	5/8-14	5/8	2.64	67	1.14	29	.295	7.5	1.06	27	1.06	27
12FBSPK-12KW	3/4-14	3/4	2.80	71	1.26	32	.350	8.9	1.06	27	1.42	36
16FBSPK-16KW	1-11	1	3.19	81	1.42	36	.421	10.7	1.42	36	1.61	41



STYLE FBSPK45T-KW

BSPP Female Swivel
60° Cone
45° Bent Tube

Part No.	Thread Size	Hose ID (Inches)	Dimensions									
			A		B		C		D		H1	
			in	mm	in	mm	in	mm	in	mm	in	mm
4FBSPK45T-4KW	1/4-19	1/4	2.28	58	1.50	38	.173	4.4	.669	17	.748	19
6FBSPK45T-6KW	3/8-19	3/8	2.80	71	1.73	44	.244	6.2	.748	19	.866	22
8FBSPK45T-8KW	1/2-14	1/2	3.31	84	2.05	52	.264	6.7	.906	23	1.06	27
12FBSPK45T-12KW	3/4-14	3/4	4.61	117	3.03	77	.350	8.9	1.18	30	1.42	36
16FBSPK45T-16KW	1-11	1	4.92	125	3.15	80	.421	10.7	1.73	44	1.61	41

Hydraulic Hose

A

Hydraulic Fittings

B

Support Products & Crimping Equipment

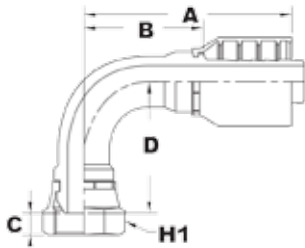
C

Technical Information & Guidelines

D

SERIES KW CRIMP FITTINGS

(FOR HOSE SERIES 3010, 3100, 3150, 3200, 3250, 3117, 3216, 4117, 4210, 4216, 5117, 5216)



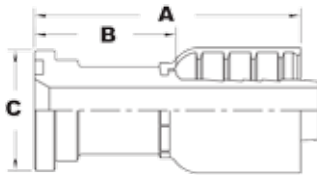
STYLE FBSPP90T-KW

BSPP Female Swivel

60° Con

90° Bent Tube

Part No.	Thread Size	Hose ID (Inches)	Dimensions									
			A		B		C		D		H1	
			in	mm	in	mm	in	mm	in	mm	in	mm
4FBSPP90T-4KW	1/4-19	1/4	2.01	51	1.18	30	.173	4.4	1.10	28	.748	19
6FBSPP90T-6KW	3/8-19	3/8	2.72	69	1.65	42	.244	1.26	1.26	32	.866	22
8FBSPP90T-8KW	1/2-14	1/2	2.76	70	1.50	38	.264	6.7	1.38	35	1.06	27
12FBSPP90T-12KW	3/4-14	3/4	3.98	101	2.40	61	.350	8.9	2.13	54	1.42	36
16FBSPP90T-16KW	1-11	1	4.96	126	3.19	81	.421	10.7	2.56	65	1.61	41



STYLE FHSA-KW

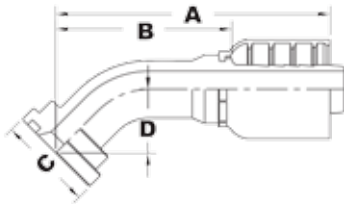
SAE Code 61 Flange

Straight

Part No.	Flange Size	Hose ID (Inches)	Dimensions					
			A		B		C	
			in	mm	in	mm	in	mm
8FHSA-8KW	1/2"	1/2	2.99	76	1.77	45	1.19	30.1
12FHSA-8KW	3/4"	1/2	2.99	76	1.77	45	1.50	38.1
12FHSA-12KW	3/4"	3/4	3.31	84	1.77	45	1.50	38.1
16FHSA-12KW	1"	3/4	3.15	80	1.61	41	1.75	44.4
16FHSA-16KW	1"	1	3.98	101	2.20	56	1.75	44.4

SERIES KW CRIMP FITTINGS

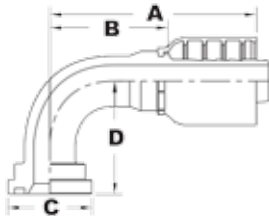
(FOR HOSE SERIES 3010, 3100, 3150, 3200, 3250, 3117, 3216, 4117, 4210, 4216, 5117, 5216)



STYLE FH4A-KW

SAE Code 61 Flange
45° Bent Tube

Part No.	Flange Size	Hose ID (Inches)	Dimensions							
			A		B		C		D	
			in	mm	in	mm	in	mm	in	mm
8FH4A-8KW	1/2"	1/2	3.15	80	1.89	48	1.19	30.1	.748	19
12FH4A-8KW	3/4"	1/2	3.27	83	2.01	51	1.50	38.1	.866	22
12FH4A-12KW	3/4"	3/4	4.57	116	2.99	76	1.50	38.1	1.14	29
16FH4A-12KW	1"	3/4	4.57	116	2.99	76	1.75	44.4	1.14	29
16FH4A-16KW	1"	1	4.91	112	3.03	77	1.75	44.4	1.22	31



STYLE FH9A-KW

SAE Code 61 Flange
90° Bent Tube

Part No.	Flange Size	Hose ID (Inches)	Dimensions							
			A		B		C		D	
			in	mm	in	mm	in	mm	in	mm
8FH9A-8KW	1/2"	1/2	2.76	70	1.50	38	.811	20.6	1.34	34
12FH9A-8KW	3/4"	1/2	2.76	70	1.50	38	1.50	38.1	1.38	35
12FH9A-12KW	3/4"	3/4	3.98	101	2.40	61	1.50	38.1	2.13	54
16FH9A-12KW	1"	3/4	3.98	101	2.40	61	1.75	44.4	2.13	54
16FH9A-16KW	1"	1	4.96	126	3.19	81	1.75	44.4	2.44	62

Hydraulic Hose

A

Hydraulic Fittings

B

Support Products & Crimping Equipment

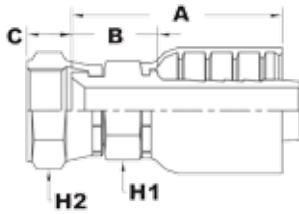
C

Technical Information & Guidelines

D

SERIES KW CRIMP FITTINGS

(FOR HOSE SERIES 3010, 3100, 3150, 3200, 3250, 3117, 3216, 4117, 4210, 4216, 5117, 5216)



STYLE FJ-KW

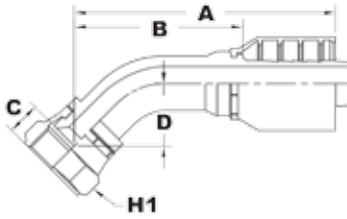
JIC Female Swivel
37° Flare

Part No.	Thread Size	Hose ID (Inches)	Dimensions									
			A		B		C		H1		H2	
			in	mm	in	mm	in	mm	in	mm	in	mm
4FJ-4KW*	7/16-20	1/4	1.61	41	.827	21	.343	8.7	.559	14.2	.559	14.2
5FJ-4KW	1/2-20	1/4	1.65	42	.866	22	.374	9.5	.559	14.2	.559	14.2
6FJ-4KW	9/16-18	1/4	1.65	42	.866	22	.374	9.5	.559	14.2	.685	17.4
4FJ-6KW	7/16-20	3/8	1.89	48	.827	21	.343	8.7	.685	17.4	.559	14.2
6FJ-6KW*	9/16-18	3/8	1.97	50	.906	23	.374	9.5	.685	17.4	.685	17.4
8FJ-6KW	3/4-16	3/8	1.97	50	.906	23	.421	10.7	.685	17.4	.874	22.2
10FJ-6KW	7/8-14	3/8	1.97	50	.906	23	.500	12.7	.874	22.2	1.00	25.4
6FJ-8KW	9/16-18	1/2	2.09	53	.906	23	.374	9.5	.874	22.2	.685	17.4
8FJ-8KW*	3/4-16	1/2	2.13	54	.906	23	.421	10.7	.874	22.2	.874	22.2
10FJ-8KW	7/8-14	1/2	2.17	55	.945	24	.500	12.7	.874	22.2	1.00	25.4
12FJ-8KW	1-1/16-12	1/2	2.27	58	1.06	27	.562	14.3	1.06	26.9	1.25	31.7
10FJ-10KW	7/8-14	5/8	2.48	63	.984	25	.500	12.7	.874	22.2	1.00	25.4
12FJ-10KW	1-1/16-12	5/8	2.56	65	1.06	27	.562	14.3	1.06	26.9	1.25	31.7
10FJ-12KW	7/8-14	3/4	2.52	64	.984	25	.500	12.7	.874	22.2	1.00	25.4
12FJ-12KW*	1-1/16-12	3/4	2.60	66	1.06	27	.562	14.3	1.06	26.9	1.25	31.7
14FJ-12KW	1-3/16-12	3/4	2.76	70	1.22	31	.571	14.5	1.38	34.9	1.50	38.1
16FJ-12KW	1-5/16-12	3/4	2.83	72	1.3	33	.590	15.1	1.5	38.1	1.37	39.9
12FJ-16KW	1-1/16-12	1	2.83	72	1.06	27	.562	14.3	1.06	26.9	1.25	31.7
16FJ-16KW*	1-5/16-12	1	3.07	78	1.30	33	.594	15.1	1.50	38.1	1.37	34.9
20FJ-20KW	1-5/8-12	1-1/4	3.23	82	1.38	35	.626	15.9	2.00	50.8	2.00	50.8

*Available in 316 stainless steel.

SERIES KW CRIMP FITTINGS

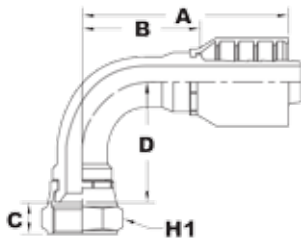
(FOR HOSE SERIES 3010, 3100, 3150, 3200, 3250, 3117, 3216, 4117, 4210, 4216, 5117, 5216)



STYLE FJ45T-KW

JIC Female Swivel
37° Flare
45° Bent Tube

Part No.	Thread Size	Hose ID (Inches)	Dimensions									
			A		B		C		D		H1	
			in	mm	in	mm	in	mm	in	mm	in	mm
4FJ45T-4KW	7/16-20	1/4	2.17	55	1.34	34	.343	8.7	.511	13	.559	14.2
5FJ45T-4KW	1/2-20	1/4	2.17	55	1.34	34	.374	9.5	.511	13	.685	17.4
6FJ45T-4KW	9/16-18	1/4	2.10	56	1.38	35	.374	9.5	.551	14	.685	17.4
6FJ45T-6KW	9/16-18	3/8	2.68	68	1.61	41	.374	9.5	.630	16	.685	17.4
8FJ45T-6KW	3/4-16	3/8	2.68	68	1.61	41	.421	10.7	.630	16	.874	22.2
8FJ45T-8KW	3/4-16	1/2	3.15	80	1.89	48	.421	10.7	.748	19	.874	22.2
10FJ45T-8KW	7/8-14	1/2	3.15	80	1.89	48	.499	12.7	.748	19	1.00	25.4
10FJ45T-10KW	7/8-14	5/8	3.54	90	2.00	51	.499	12.7	.748	19	1.00	25.4
12FJ45T-10KW	1-1/16-12	5/8	3.54	90	2.00	51	.563	14.3	.748	19	1.25	31.7
12FJ45T-12KW	1-1/16-12	3/4	4.45	113	2.87	73	.563	14.3	1.02	26	1.25	31.7
16FJ45T-12KW	1-5/16-12	3/4	4.61	117	3.03	77	.594	15.1	1.22	31	1.50	38.1
16FJ45T-16KW	1-5/16-12	1	4.80	122	3.03	77	.594	15.1	1.22	31	1.50	38.1



STYLE FJ90T-KW

JIC Female Swivel
37° Flare
90° Bent Tube

Part No.	Thread Size	Hose ID (Inches)	Dimensions									
			A		B		C		D		H1	
			in	mm	in	mm	in	mm	in	mm	in	mm
4FJ90T-4KW	7/16-20	1/4	2.00	51	1.18	30	.343	8.7	.945	24	.556	14.2
5FJ90T-4KW	1/2-20	1/4	2.00	51	1.18	30	.374	9.5	.945	24	.685	17.4
6FJ90T-4KW	9/16-18	1/4	2.00	51	1.18	30	.374	9.5	.984	25	.685	17.4
6FJ90T-6KW	9/16-18	3/8	2.72	69	1.65	42	.374	9.5	1.14	29	.685	17.4
8FJ90T-6KW	3/4-16	3/8	2.72	69	1.65	42	.421	10.7	1.14	29	.874	22.2
8FJ90T-8KW	3/4-16	1/2	2.76	70	1.50	38	.421	10.7	1.22	31	.874	22.2
10FJ90T-8KW	7/8-14	1/2	2.76	70	1.50	38	.500	12.7	1.22	31	1.00	25.4
10FJ90T-10KW	7/8-14	5/8	2.80	71	1.65	42	.500	12.7	1.38	35	1.00	25.4
12FJ90T-10KW	1-1/16-12	5/8	2.80	71	1.65	42	.563	14.3	1.50	38	1.25	31.7
12FJ90T-12KW	1-1/16-12	3/4	3.98	101	2.40	61	.563	14.3	1.97	50	1.25	31.7
16FJ90T-12KW	1-5/16-12	3/4	4.76	121	3.19	81	.563	15.1	2.44	62	1.5	38.1
16FJ90T-16KW	1-5/16-12	1	4.96	126	3.19	81	.563	15.1	2.44	62	1.5	38.1

Hydraulic Hose

A

Hydraulic Fittings

B

Support Products & Crimping Equipment

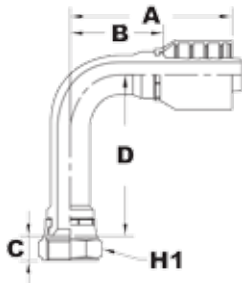
C

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D

SERIES KW CRIMP FITTINGS

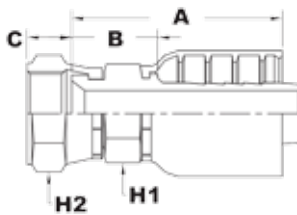
(FOR HOSE SERIES 3010, 3100, 3150, 3200, 3250, 3117, 3216, 4117, 4210, 4216, 5117, 5216)



STYLE FJ90TL-KW

JIC Female Swivel
30° Flare
90° Bent Tube—Long Drop

Part No.	Thread Size	Hose ID (Inches)	Dimensions									
			A		B		C		D		H1	
			in	mm	in	mm	in	mm	in	mm	in	mm
4FJ90TL-4KW	7/16—20	1/4	2.00	51	1.18	30	.343	8.7	1.81	46	.556	14.2
6FJ90TL-4KW	9/16—18	1/4	2.48	63	1.65	42	.374	9.5	2.17	55	.685	17.4
6FJ90TL-6KW	9/16—18	3/8	2.72	69	1.65	42	.374	9.5	2.17	55	.685	17.4
8FJ90TL-6KW	3/4—16	3/8	2.72	69	1.65	42	.421	10.7	2.44	62	.874	22.2
8FJ90TL-8KW	3/4—16	1/2	2.76	70	1.50	38	.421	10.7	2.44	62	.874	22.2
10FJ90TL-8KW	7/8—14	1/2	2.76	70	1.50	38	.500	12.7	2.56	65	1.00	25.4
10FJ90TL-10KW	7/8—14	5/8	2.80	71	1.65	42	.500	12.7	2.56	65	1.00	25.4
12FJ90TL-12KW	1-1/16—12	3/4	3.98	101	2.40	61	.562	14.3	3.74	95	1.25	31.7
16FJ90TL-16KW	1-5/16—12	1	4.96	126	3.19	81	.594	15.1	4.33	110	1.50	38.1



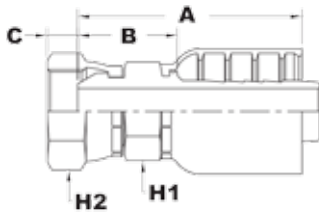
STYLE FJIS-KW

JIS Female Swivel
30° Flare

Part No.	Thread Size	Hose ID (Inches)	Dimensions									
			A		B		C		H1		H2	
			in	mm	in	mm	in	mm	in	mm	in	mm
4FJIS-4KW	1/4—19	1/4	1.73	44	.945	24	.236	6	.748	19	.748	19
6FJIS-6KW	3/8—19	3/8	1.73	44	.945	24	.276	7	.866	22	.866	22
8FJIS-8KW	1/2—14	1/2	2.24	57	1.02	26	.394	10	1.06	27	1.06	27
12FJIS-12KW	3/4—14	3/4	2.76	70	1.22	31	.394	10	1.26	32	1.42	36
16FJIS-16KW	1—11	1	3.15	80	1.38	35	.472	12	1.42	36	1.61	41

SERIES KW CRIMP FITTINGS

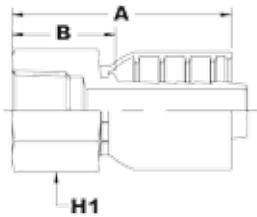
(FOR HOSE SERIES 3010, 3100, 3150, 3200, 3250, 3117, 3216, 4117, 4210, 4216, 5117, 5216)



STYLE FNPSM-KW

NPSM Female Swivel
30° Cone

Part No.	Thread Size	Hose ID (Inches)	Dimensions							
			A		B		H1		H2	
			in	mm	in	mm	in	mm	in	mm
4FNPSM-4KW	1/4-18	1/4	1.73	44	1.18	30	0.75	19	.748	19
6FNPSM-6KW	3/8-18	3/8	2.05	52	1.26	32	0.87	22	.866	22
8FNPSM-8KW	1/2-12	1/2	2.25	57	1.42	36	1.06	27	1.06	27
12FNPSM-12KW	3/4-14	3/4	2.76	70	1.61	41	1.26	32	1.42	36
16FNPSM-16KW	1-11-1/2	1	3.15	80	1.85	47	1.42	36	1.61	41



STYLE FP-KW

NPFT Female Rigid

Part No.	Thread Size	Hose ID (Inches)	Dimensions					
			A		B		H1	
			in	mm	in	mm	in	mm
2FP-4KW	1/8-27	1/4	1.74	44.3	.925	23.5	.626	15.9
4FP-4KW	1/4-18	1/4	1.74	44.3	.925	23.5	.748	19.0
4FP-6KW	1/4-18	3/8	2.02	51.3	.925	23.5	.748	19.0
6FP-6KW	3/8-18	3/8	2.17	55.0	1.10	28.0	.866	22.0
8FP-6KW	1/2-14	3/8	2.30	58.4	1.24	31.5	1.06	27.0
8FP-8KW	1/2-14	1/2	2.50	63.5	1.24	31.5	1.06	27.0
12FP-12KW	3/4-14	3/4	2.93	74.3	1.38	35.0	1.42	36.0

Hydraulic Hose

A

Hydraulic Fittings

B

Support Products & Crimping Equipment

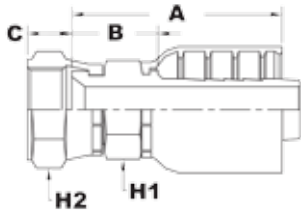
C

Technical Information & Guidelines

D

SERIES KW CRIMP FITTINGS

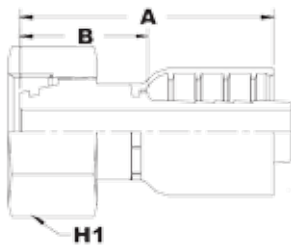
(FOR HOSE SERIES 3010, 3100, 3150, 3200, 3250, 3117, 3216, 4117, 4210, 4216, 5117, 5216)



STYLE FSAE-KW

SAE 45° Flare Female Swivel

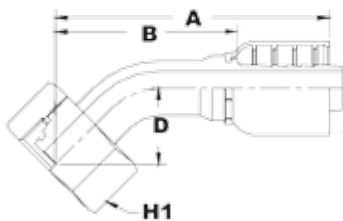
Part No.	Thread Size	Hose ID (Inches)	Dimensions									
			A		B		C		H1		H2	
			in	mm	in	mm	in	mm	in	mm	in	mm
6FSAE-6KW	5/8-18	3/8	1.97	50	.906	23	.374	9.5	.685	17.4	.685	17.4
12FSAE-12KW	1-1/16-14	3/4	2.60	66	1.06	27	.563	14.3	1.06	26.9	1.25	31.7



STYLE FSMH-KW

Metric Female Swivel
Heavy Series 24° Cone

Part No.	Thread Size	Hose ID (Inches)	Tube OD (mm)	Dimensions					
				A		B		H1	
				in	mm	in	mm	in	mm
16FSMH-4KW	M16x1.5	1/4	8	1.77	45	0.98	25	.866	22
18FSMH-4KW	M18x1.5	1/4	10	1.89	48	1.10	28	.866	22
20FSMH-6KW	M20x1.5	3/8	12	2.32	59	1.26	32	.945	24
24FSMH-8KW	M24x1.5	1/2	16	2.60	66	1.38	35	1.26	32
30FSMH-12KW	M30x2.0	3/4	20	2.80	71	1.26	32	1.42	36
36FSMH-12KW	M36x2.0	3/4	25	3.15	80	1.61	41	1.81	46
42FSMH-16KW	M42x2.0	1	30	3.58	91	1.81	46	1.97	50



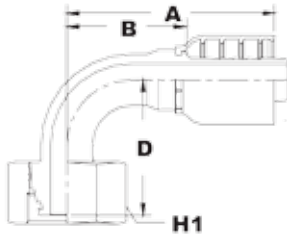
STYLE FSMH45T-KW

Metric Female Swivel
Heavy Series 24° Cone
45° Bent Tube

Part No.	Thread Size	Hose ID (Inches)	Tube OD (mm)	Dimensions							
				A		B		D		H1	
				in	mm	in	mm	in	mm	in	mm
16FSMH45T-4KW	M16x1.5	1/4	8	2.24	57	1.46	37	.630	16	1.42	36
18FSMH45T-4KW	M18x1.5	1/4	10	2.52	64	1.69	43	.826	21	.866	22
20FSMH45T-6KW	M20x1.5	3/8	12	2.95	75	1.89	48	.906	23	.945	24
24FSMH45T-8KW	M24x1.5	1/2	16	3.50	89	2.24	57	1.18	30	1.26	32
36FSMH45T-12KW	M36x2.0	3/4	25	4.88	124	3.31	84	1.46	37	1.81	46
42FSMH45T-16KW	M42x2.0	1	30	5.12	130	3.35	85	1.50	38	1.97	50

SERIES KW CRIMP FITTINGS

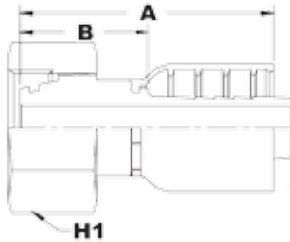
(FOR HOSE SERIES 3010, 3100, 3150, 3200, 3250, 3117, 3216, 4117, 4210, 4216, 5117, 5216)



STYLE FSMH90T-KW

Metric Female Swivel
Heavy Series 24° Cone
90° Bent Tube

Part No.	Thread Size	Hose ID (Inches)	Tube OD (mm)	Dimensions							
				A		B		D		H1	
				in	mm	in	mm	in	mm	in	mm
16FSMH90T-4KW	M16x1.5	1/4	8	2.01	51	1.18	30	1.06	27	1.42	36
18FSMH90T-4KW	M18x1.5	1/4	10	2.01	51	1.18	30	1.34	34	.866	22
20FSMH90T-6KW	M20x1.5	3/8	12	2.72	69	1.65	42	1.38	35	.945	24
22FSMH90T-6KW	M22x1.5	3/8	14	2.72	69	1.65	42	1.42	36	1.06	27
24FSMH90T-8KW	M24x1.5	1/2	16	2.76	70	1.50	38	1.57	40	1.26	32
36FSMH90T-12KW	M36x2.0	3/4	25	3.98	101	2.40	61	2.44	62	1.81	46
42FSMH90T-16KW	M42x2.0	1	30	4.96	126	3.19	81	2.76	70	1.97	50



STYLE FSML-KW

Metric Female Swivel
Light Series 24° Cone

Part No.	Thread Size	Hose ID (Inches)	Tube OD (mm)	Dimensions					
				A		B		H1	
				in	mm	in	mm	in	mm
14FSML-4KW	M14x1.5	1/4	8	1.89	48	1.10	28	.748	19
16FSML-6KW	M16x1.5	3/8	10	2.32	59	1.26	32	.866	22
18FSML-6KW	M18x1.5	3/8	12	2.28	58	1.22	31	.866	22
22FSML-8KW	M22x1.5	1/2	15	2.60	66	1.38	35	1.06	27
30FSML-12KW	M30x2.0	3/4	22	3.15	80	1.61	41	1.42	36
36FSML-16KW	M36x2.0	1	28	3.58	91	1.81	46	1.81	46

Hydraulic Hose

A

Hydraulic Fittings

B

Support Products & Crimping Equipment

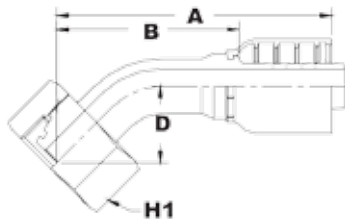
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Technical Information & Guidelines

D

SERIES KW CRIMP FITTINGS

(FOR HOSE SERIES 3010, 3100, 3150, 3200, 3250, 3117, 3216, 4117, 4210, 4216, 5117, 5216)



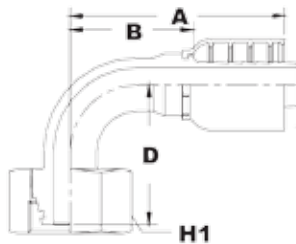
STYLE FSML45T-KW

Metric Female Swivel

24° Cone

45° Bent Tube

Part No.	Thread Size	Hose ID (Inches)	Tube OD (mm)	Dimensions							
				A		B		D		H1	
				in	mm	in	mm	in	mm	in	mm
14FSML45T-4KW	M14x1.5	1/4	8	2.36	60	1.54	39	.709	18	.748	19
16FSML45T-4KW	M16x1.5	1/4	10	2.87	73	1.81	46	.827	21	.866	22
18FSML45T-6KW	M18x1.5	3/8	12	2.87	73	1.81	46	.827	21	.866	22
22FSML45T-8KW	M22x1.5	1/2	15	3.43	87	2.16	55	1.10	28	1.06	27
30FSML45T-12KW	M30x2.0	3/4	22	4.84	123	3.27	83	1.42	36	1.42	36
36FSML45T-16KW	M36x2.0	1	28	5.08	129	3.31	84	1.46	37	1.81	46



STYLE FSML90T-KW

Metric Female Swivel

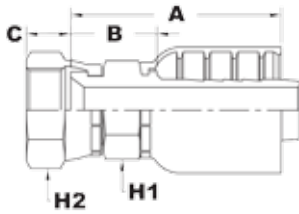
Light Series 24° Cone

90° Bent Tube

Part No.	Thread Size	Hose ID (Inches)	Tube OD (mm)	Dimensions							
				A		B		C		H1	
				in	mm	in	mm	in	mm	in	mm
14FSML90T-4KW	M14x1.5	1/4	8	2.01	51	1.18	30	1.18	30	.748	19
16FSML90T-4KW	M16x1.5	3/8	10	2.72	69	1.65	42	1.26	32	.866	22
18FSML90T-6KW	M28x1.5	3/8	12	2.72	69	1.65	42	1.30	33	.866	22
22FSML90T-8KW	M22x1.5	1/2	15	2.76	70	1.50	38	1.46	37	1.06	27
30FSML90T-12KW	M30x2	3/4	22	3.98	101	2.40	61	2.40	61	1.42	36
36FSML90T-16KW	M36x2	1	28	4.96	126	3.19	81	2.68	68	1.81	46

SERIES KW CRIMP FITTINGS

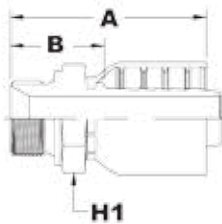
(FOR HOSE SERIES 3010, 3100, 3150, 3200, 3250, 3117, 3216, 4117, 4210, 4216, 5117, 5216)



STYLE KMFS-KW

Komatsu Female Swivel
30° Flare, Metric Thread

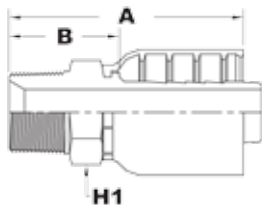
Part No.	Thread Size	Hose ID (Inches)	Dimensions									
			A		B		C		H1		H2	
			in	mm	in	mm	in	mm	in	mm	in	mm
14KMFS-4KW	M14x1.5	1/4	1.61	41	.827	21	.394	10	.669	17	.748	19
18KMFS-6KW	M18x1.5	3/8	1.97	50	.906	23	.433	11	.866	22	.945	24
22KMFS-8KW	M22x1.5	1/2	2.17	55	.945	24	.492	12.5	1.06	27	1.06	27
24KMFS-10KW	M24x1.5	5/8	2.72	69	1.22	31	.551	14	1.06	27	1.26	32
30KMFS-12KW	M30x1.5	3/4	2.99	76	1.46	37	.571	14.5	1.26	32	1.42	36
33KMFS-16KW	M33x1.5	1	3.11	79	1.34	34	.630	16	1.42	36	1.61	41



STYLE MBSPP-KW

BSPP Male Solid 60° Seat
Parallel Threads

Part No.	Thread Size	Hose ID (Inches)	Dimensions					
			A		B		H1	
			in	mm	in	mm	in	mm
4MBSPP-4KW	1/4-19	1/4	1.83	47	1.04	27	.748	19
6MBSPP-6KW	3/8-19	3/8	2.19	56	1.12	29	.866	22
8MBSPP-6KW	1/2-14	3/8	2.40	61	1.34	34	1.06	27
8MBSPP-8KW	1/2-14	1/2	2.52	64	1.34	34	1.06	27
12MBSPP-12KW	3/4-14	3/4	3.09	79	1.56	40	1.26	32



STYLE MBSPT-KW

BSPT Male Solid
Tapered Threads

Part No.	Thread Size	Hose ID (Inches)	Dimensions					
			A		B		H1	
			in	mm	in	mm	in	mm
4MBSPT-4KW	1/4-19	1/4	1.65	42	.866	22	.748	19
6MBSPT-6KW	3/8-19	3/8	2.13	54	1.06	27	.866	22
8MBSPT-8KW	1/2-14	1/2	2.32	62	1.10	31	1.06	27
12MBSPT-12KW	3/4-14	3/4	2.95	75	1.42	36	1.26	32

Hydraulic Hose

A

Hydraulic Fittings

B

Support Products &
Crimping Equipment

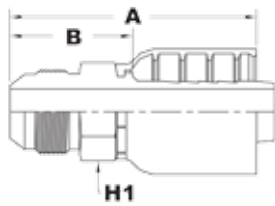
C

Technical Information &
Guidelines

D

SERIES KW CRIMP FITTINGS

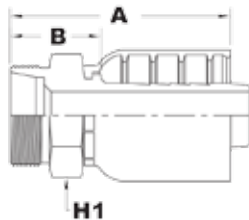
(FOR HOSE SERIES 3010, 3100, 3150, 3200, 3250, 3117, 3216, 4117, 4210, 4216, 5117, 5216)



STYLE MJ-KW

JIC Male Rigid
37° Flare

Part No.	Thread Size	Hose ID (Inches)	Dimensions					
			A		B		H1	
			in	mm	in	mm	in	mm
4MJ-4KW	7/16-20	1/4	1.81	46	1.02	26	.559	14.2
5MJ-4KW	1/2-20	1/4	1.81	46	1.02	26	.559	14.2
6MJ-4KW	9/16-18	1/4	1.85	47	1.06	27	.685	17.4
6MJ-6KW	9/16-18	3/8	2.13	54	1.06	27	.748	19.0
8MJ-6KW	3/4-16	3/8	2.24	57	1.18	30	.874	22.2
8MJ-8KW	3/4-16	1/2	2.40	61	1.18	30	.874	22.2
10MJ-8KW	7/8-14	1/2	2.48	63	1.26	32	.937	23.8
12MJ-8KW	1-1/16-12	1/2	2.71	69	1.50	38	1.12	28.5
10MJ-10KW	7/8-14	5/8	2.80	71	1.30	33	.937	23.8
12MJ-12KW	1-1/16-12	3/4	3.07	78	1.54	39	1.12	28.5
14MJ-12KW	1-3/16-12	3/4	3.11	79	1.57	40	1.25	31.7
16MJ-12KW	1-5/16-12	3/4	3.11	79	1.57	40	1.37	34.9
16MJ-16KW	1-5/16-12	1	3.35	85	1.57	40	1.37	34.9



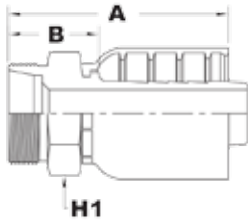
STYLE MMH-KW

Male Metric Rigid
Heavy Series 45° Seat

Part No.	Thread Size	Hose ID (Inches)	Tube OD (Inches)	Dimensions					
				A		B		H1	
				in	mm	in	mm	in	mm
16MMH-4KW	M16x1.5	1/4	8	1.65	42	.866	22	.669	17
18MMH-4KW	M18x1.5	1/4	10	1.65	42	.866	22	.748	19
20MMH-6KW	M20x1.5	3/8	12	1.97	50	.906	23	.866	22
22MMH-6KW	M22x1.5	3/8	14	2.17	55	.945	24	.866	22
24MMH-8KW	M24x1.5	1/2	16	2.20	56	.984	25	1.18	30

SERIES KW CRIMP FITTINGS

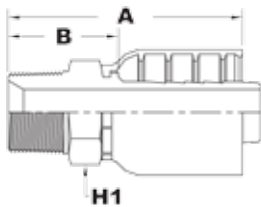
(FOR HOSE SERIES 3010, 3100, 3150, 3200, 3250, 3117, 3216, 4117, 4210, 4216, 5117, 5216)



STYLE MML-KW

Metric Male Rigid
Light Series 24° Seat

Part No.	Thread Size	Hose ID (Inches)	Tube OD (Inches)	Dimensions					
				A		B		H1	
				in	mm	in	mm	in	mm
14MML-4KW	M14x1.5	1/4	8	1.65	42	.866	22	.669	17
16MML-6KW	M16x1.5	3/8	10	1.97	50	.906	23	.669	17
18MML-6KW	M18x1.5	3/8	12	2.01	51	.944	24	.748	19
22MML-8KW	M22x1.5	1/2	15	2.20	56	.984	25	.866	22
30MML-12KW	M30x2.0	3/4	22	2.68	68	1.14	29	1.18	30



STYLE MP-KW

NPTF Male Rigid

Part No.	Thread Size	Hose ID (Inches)	Dimensions					
			A		B		H1	
			in	mm	in	mm	in	mm
2MP-4KW	1/8-27	1/4	1.74	44	.945	24	.559	14.2
4MP-4KW*	1/4-18	1/4	1.81	46	1.02	26	.559	14.2
6MP-4KW	3/8-18	1/4	1.92	49	1.14	29	.748	19.0
8MP-4KW	1/2-14	1/4	2.04	52	1.26	32	.874	22.2
4MP-6KW	1/4-18	3/8	2.13	54	1.06	27	.685	17.4
6MP-6KW*	3/8-18	3/8	2.20	56	1.14	29	.685	17.4
8MP-6KW	1/2-14	3/8	2.32	59	1.26	32	.874	22.2
6MP-8KW	3/8-18	1/2	2.13	54	1.06	27	.874	22.2
8MP-8KW*	1/2-14	1/2	2.48	63	1.30	33	.874	22.2
12MP-8KW	3/4-14	1/2	2.48	63	1.26	32	1.06	26.9
8MP-10KW	1/2-14	5/8	2.76	70	1.30	33	.937	23.8
12MP-10KW	3/4-14	5/8	2.76	70	1.26	32	1.06	26.9
8MP-12KW	1/2-14	3/4	2.80	71	1.26	32	1.06	26.9
12MP-12KW*	3/4-14	3/4	2.91	74	1.38	35	1.06	26.9
16MP-12KW	1-11.5	3/4	3.11	79	1.57	40	1.37	34.9
12MP-16KW	3/4-14	1	3.19	81	1.42	36	1.37	34.9
16MP-16KW*	1-11.5	1	3.43	87	1.61	41	1.37	34.9

*Available in 316 stainless steel.

Hydraulic Hose

A

Hydraulic Fittings

B

Support Products & Crimping Equipment

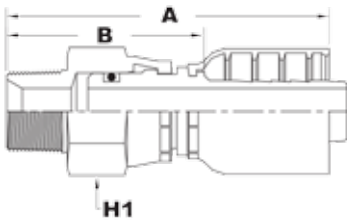
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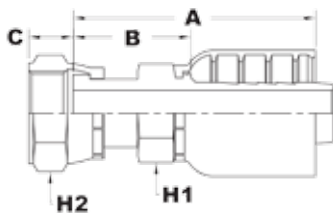
SERIES KW CRIMP FITTINGS

(FOR HOSE SERIES 3010, 3100, 3150, 3200, 3250, 3117, 3216, 4117, 4210, 4216, 5117, 5216)



STYLE MS-KW
NPTF Male Swivel

Part No.	Thread Size	Hose ID (Inches)	Dimensions					
			A		B		H1	
			in	mm	in	mm	in	mm
4MS-4KW	1/4-18	1/4	2.28	58	1.46	37	.685	17.4
6MS-6KW	3/8-18	3/8	2.80	71	1.73	44	.874	22.2
8MS-8KW	1/2-14	1/2	3.15	80	1.93	49	1.00	25.4
12MS-12KW	3/4-14	3/4	4.33	110	2.40	61	1.37	34.9
16MS-16KW	1-11.5	1	4.65	118	2.87	73	1.50	38.1

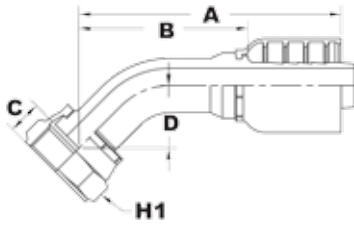


STYLE OFS-KW
O-Ring Face Seal
Female Swivel

Part No.	Thread Size	Hose ID (Inches)	Dimensions									
			A		B		C		H1		H2	
			in	mm	in	mm	in	mm	in	mm	in	mm
4OFS-4KW	9/16-18	1/4	1.89	48	1.10	28	.315	8	.559	14.2	.685	17.4
6OFS-4KW	11/16-16	1/4	1.97	50	1.18	30	.354	9	.685	17.4	.811	20.6
6OFS-6KW	11/16-16	3/8	2.20	56	1.14	29	.354	9	.685	17.4	.811	20.6
8OFS-6KW	13/16-16	3/8	2.32	59	1.26	32	.433	11	.685	17.4	.937	23.8
6OFS-8KW	11/16-16	1/2	2.36	60	1.14	29	.354	9	.811	20.6	.811	20.6
8OFS-8KW	13/16-16	1/2	2.48	63	1.26	32	.433	11	.811	20.6	.937	23.8
10OFS-8KW	1-14	1/2	2.76	70	1.54	39	.551	14	.811	20.6	1.12	28.5
12OFS-8KW	1-3/16-12	1/2	2.87	73	1.65	42	.591	15	.937	23.8	1.37	34.9
10OFS-10KW	1-14	5/8	2.76	70	1.54	39	.551	14	.811	20.6	1.12	28.5
12OFS-10KW	1-3/16-12	5/8	3.15	80	1.65	42	.591	15	1.00	25.4	1.37	34.9
10OFS-12KW	1-14	3/4	3.07	78	1.54	39	.551	14	1.06	26.9	1.12	28.5
12OFS-12KW	1-3/16-12	3/4	3.15	80	1.61	41	.591	15	1.12	28.5	1.37	34.9
16OFS-12KW	1-7/16-12	3/4	3.23	82	1.69	43	.630	16	1.25	31.7	1.62	41.2
16OFS-16KW	1-7/16-12	1	3.54	90	1.77	45	.630	16	1.37	34.9	1.62	41.2

SERIES KW CRIMP FITTINGS

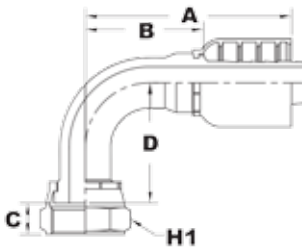
(FOR HOSE SERIES 3010, 3100, 3150, 3200, 3250, 3117, 3216, 4117, 4210, 4216, 5117, 5216)



STYLE OF45T-KW

O-Ring Face Seal
Female Swivel
45° Bent Tube

Part No.	Thread Size	Hose ID (Inches)	Dimensions									
			A		B		C		D		H1	
			in	mm	in	mm	in	mm	in	mm	in	mm
4OF45T-4KW	9/16-18	1/4	2.16	55	1.34	34	.315	8	.512	13	.685	17.4
6OF45T-4KW	11/16-16	1/4	2.20	56	1.38	35	.354	9	.551	14	.811	20.6
6OF45T-6KW	11/16-16	3/8	2.68	68	1.61	41	.354	9	.630	16	.811	20.6
8OF45T-6KW	13/16-16	3/8	3.03	77	1.97	50	.433	11	.827	21	.937	23.8
8OF45T-8KW	13/16-16	1/2	3.23	82	1.97	50	.433	11	.827	21	.937	23.8
10OF45T-8KW	1-14	1/2	3.27	83	2.00	51	.551	14	.827	21	1.12	28.5
10OF45T-10KW	1-14	5/8	3.66	93	2.13	54	.551	14	.827	21	1.12	28.5
12OF45T-10KW	1-3/16-12	5/8	3.62	92	2.09	53	.591	15	.787	20	1.37	34.9
12OF45T-12KW	1-3/16-12	3/4	4.53	115	2.95	75	.591	15	1.10	28	1.37	34.9
16OF45T-12KW	1-7/16-12	3/4	4.53	115	2.95	75	.630	16	1.18	30	1.62	41.2
16OF45T-16KW	1-7/16-12	1	4.76	121	2.99	76	.630	16	1.14	29	1.62	41.2



STYLE OF90T-KW

O-Ring Face Seal
Female Swivel
90° Bent Tube

Part No.	Thread Size	Hose ID (Inches)	Dimensions									
			A		B		C		D		H1	
			in	mm	in	mm	in	mm	in	mm	in	mm
4OF90T-4KW	9/16-18	1/4	2.00	51	1.18	30	.315	8	.945	24	.685	17.4
6OF90T-4KW	11/16-16	1/4	2.00	51	1.18	30	.354	9	1.02	26	.811	20.6
6OF90T-6KW	11/16-16	3/8	2.72	69	1.65	42	.354	9	1.02	26	.811	20.6
8OF90T-6KW	13/16-16	3/8	2.72	69	1.65	42	.433	11	1.10	28	.937	23.8
8OF90T-8KW	13/16-16	1/2	2.76	70	1.50	38	.433	11	1.18	30	.937	23.8
10OF90T-8KW	1-14	1/2	2.76	70	1.50	38	.551	14	1.22	31	1.12	28.5
10OF90T-10KW	1-14	5/8	2.80	71	1.65	42	.551	14	1.50	38	1.12	28.5
12OF90T-10KW	1-3/16-12	5/8	2.80	71	1.65	42	.591	15	1.46	37	1.37	34.9
12OF90T-12KW	1-3/16-12	3/4	3.98	101	2.40	61	.591	15	1.93	49	1.37	34.9
16OF90T-12KW	1-7/16-12	3/4	3.98	101	2.40	61	.630	16	1.93	49	1.62	41.2
16OF90T-16KW	1-7/16-12	1	4.96	126	3.19	81	.630	16	2.24	57	1.62	41.2

Hydraulic Hose

A

Hydraulic Fittings

B

Support Products & Crimping Equipment

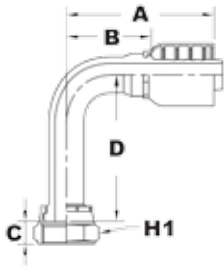
C

Technical Information & Guidelines

D

SERIES KW CRIMP FITTINGS

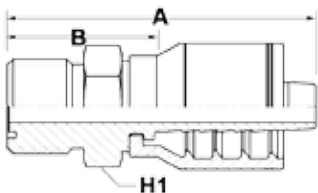
(FOR HOSE SERIES 3010, 3100, 3150, 3200, 3250, 3117, 3216, 4117, 4210, 4216, 5117, 5216)



STYLE OF90TL-KW

O-Ring Face Seal
Female Swivel
90° Bent Tube—Long Drop

Part No.	Thread Size	Hose ID (Inches)	Dimensions									
			A		B		C		D		H1	
			in	mm	in	mm	in	mm	in	mm	in	mm
4OF90T-4KW	9/16—18	1/4	2.01	51	1.18	30	.315	8	1.81	46	.685	17.4
6OF90T-4KW	11/16—16	1/4	2.01	51	1.18	30	.354	9	2.13	54	.811	20.6
6OF90T-6KW	11/16—16	3/8	2.72	69	1.65	42	.354	9	2.13	54	.811	20.6
8OF90T-6KW	13/16—16	3/8	2.72	69	1.65	42	.433	11	2.52	64	.937	23.8
8OF90T-8KW	13/16—16	1/2	2.76	70	1.65	42	.433	11	2.52	64	.937	23.8
10OF90T-8KW	1—14	1/2	2.76	70	1.65	42	.551	14	2.76	70	1.12	28.5
10OF90T-10KW	1—14	5/8	2.80	71	1.65	42	.551	14	2.76	70	1.12	28.5
12OF90T-12KW	1-3/16—12	3/4	3.98	101	2.40	61	.591	15	3.78	96	1.37	34.9
16OF90T-16KW	1-7/16—12	1	4.96	126	3.19	81	.629	16	4.49	114	1.62	41.2



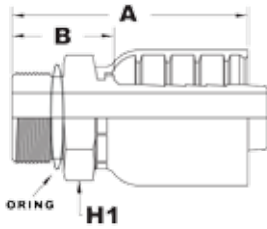
STYLE OM-KW

O-Ring Face Seal
Male Rigid

Part No.	Thread Size	Hose ID (Inches)	Dimensions					
			A		B		H1	
			in	mm	in	mm	in	mm
4OM-4KW	9/16—18	1/4	1.73	44	.945	24	.669	17
6OM-6KW	11/16—16	3/8	2.11	54	1.06	27	.748	19
8OM-8KW	13/16—16	1/2	2.34	60	1.18	30	.866	22
10OM-10KW	1—14	5/8	2.70	69	1.22	31	1.06	27
12OM-12KW	1-3/16—12	3/4	3.02	77	1.50	38	1.26	32
16OM-16KW	1-7/16—12	1	3.44	88	1.65	42	1.50	38

SERIES KW CRIMP FITTINGS

(FOR HOSE SERIES 3010, 3100, 3150, 3200, 3250, 3117, 3216, 4117, 4210, 4216, 5117, 5216)



STYLE OR-KW ORB Male Rigid

Part No.	Thread Size	Hose ID (Inches)	Dimensions					
			A		B		H1	
			in	mm	in	mm	in	mm
4OR-4KW	7/16-20	1/4	1.69	43	.866	22	.559	14.2
5OR-4KW	1/2-20	1/4	1.77	45	.925	23.5	.669	17.0
6OR-4KW	9/16-18	1/4	1.81	46	.984	25	.685	17.4
6OR-6KW	9/16-18	3/8	2.05	52	.984	25	.685	17.4
8OR-6KW	3/4-16	3/8	2.05	52	.984	25	.874	22.2
10OR-6KW	7/8-14	3/8	2.09	53	1.02	26	1.00	25.4
8OR-8KW	3/4-16	1/2	2.24	57	.984	25	1.06	26.9
10OR-8KW	7/8-14	1/2	2.28	58	1.02	26	1.00	25.4
12OR-8KW	1-1/16-12	1/2	2.44	62	1.18	30	1.25	31.7
10OR-10KW	7/8-14	5/8	2.56	65	1.02	26	1.00	25.4
12OR-10KW	1-1/16-12	5/8	2.72	69	1.18	30	1.25	31.7
12OR-12KW	1-1/16-12	3/4	2.76	70	1.18	30	1.25	31.7
16OR-16KW	1-5/16-12	1	3.07	78	1.30	33	1.50	38.1

Hydraulic Hose

A

Hydraulic Fittings

B

Support Products & Crimping Equipment

C

Technical Information & Guidelines

D

SECTION B | **Hydraulic Fittings**

Series HW Crimp Fittings

Series KW Crimp Fittings

Series PW Crimp Fittings

Series RW Crimp Fittings

Series R5 Reuseable Fittings

Series SB Crimp Fittings

Series SH Crimp Fittings

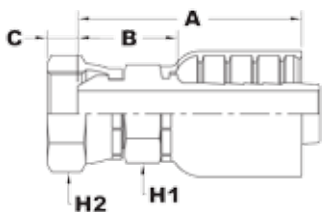
Series SW Crimp Fittings

Series TC/TS Crimp Fittings

Unisource “PW” series fittings are cost effective, permanent, Bite-the-Wire style crimp fittings made for easy and quick assembly using our family of Unisource crimpers. Specifically design for all four (4) spiral hose, excluding hose series 3012, 4012, 5012 (-24 thru -32) and some braided construction.

SERIES PW CRIMP FITTINGS

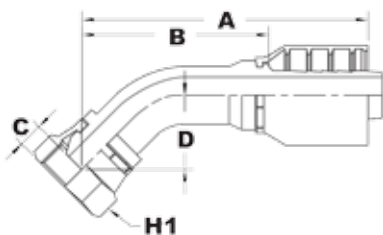
(FOR HOSE SERIES 3012, 3100/3150 (-20, -24 & -32), 3200, 3250, 4210, 4012, 5012)



STYLE FBSPP-PW

BSPP Female Swivel
60° Cone

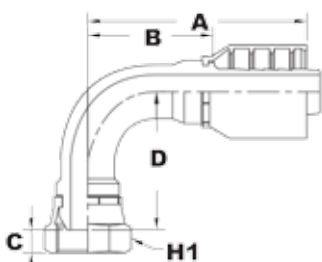
Part No.	Thread Size	Hose ID (Inches)	Dimensions									
			A		B		C		H1		H2	
			in	mm	in	mm	in	mm	in	mm	in	mm
12FBSPP-12PW	3/4-14	3/4	2.83	72	1.26	32	.350	8.9	1.06	27	1.26	32
16FBSPP-16PW	1-11	1	3.27	83	1.42	36	.421	10.7	1.42	36	1.61	41
20FBSPP-20PW	1-1/4-11	1-1/4	3.66	93	1.81	46	.406	10.3	1.81	46	1.97	50



STYLE FBSPP45T-PW

BSPP Female Swivel
60° Cone
45° Bent Tube

Part No.	Thread Size	Hose ID (Inches)	Dimensions									
			A		B		C		H1		H2	
			in	mm	in	mm	in	mm	in	mm	in	mm
12FBSPP-12PW	3/4-14	3/4	2.83	72	1.26	32	.350	8.9	1.06	27	1.26	32
16FBSPP-16PW	1-11	1	3.27	83	1.42	36	.421	10.7	1.42	36	1.61	41
20FBSPP-20PW	1-1/4-11	1-1/4	3.66	93	1.81	46	.406	10.3	1.81	46	1.97	50



STYLE FBSPP90T-PW

BSPP Female Swivel
60° Cone
90° Bent Tube

Part No.	Thread Size	Hose ID (In)	Dimensions									
			A		B		C		H1		H2	
			in	mm	in	mm	in	mm	in	mm	in	mm
12FBSPP90T-12PW	3/4-14	3/4	4.02	102	2.40	61	.350	8.9	2.13	54	1.26	32
16FBSPP90T-16PW	1-11	1	5.04	128	3.19	81	.421	10.7	2.56	65	1.61	41
20FBSPP90T-20PW	1-1/4-11	1-1/4	5.51	140	3.66	93	.406	10.3	3.39	86	1.97	50

Hydraulic Hose

A

Hydraulic Fittings

B

Support Products & Crimping Equipment

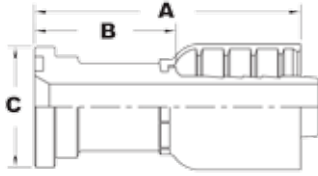
C

Technical Information & Guidelines

D

SERIES PW CRIMP FITTINGS

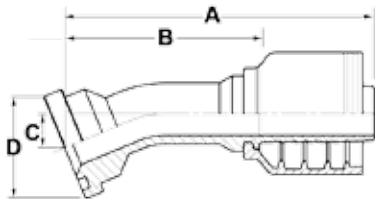
(FOR HOSE SERIES 3012, 3100/3150 (-20, -24 & -32), 3200, 3250, 4210, 4012, 5012)



STYLE FHSA-PW

SAE Code 61 Flange
Straight

Part No.	Flange Size	Hose ID (Inches)	Dimensions					
			A		B		C	
			in	mm	in	mm	in	mm
8FHSA-8PW	1/2"	1/2	3.07	78	1.77	45	1.19	30.1
12FHSA-8PW	3/4"	1/2	3.07	78	1.77	45	1.50	38.1
12FHSA-12PW	3/4"	3/4	3.35	85	1.77	45	1.50	38.1
16FHSA-12PW	1"	3/4	3.19	81	1.61	41	1.75	44.4
16FHSA-16PW	1"	1	4.06	103	2.20	56	1.75	44.4
20FHSA-16PW	1-1/4"	1	3.98	101	2.13	54	2.00	50.8
20FHSA-20PW	1-1/4"	1-1/4	4.33	110	2.48	63	2.00	50.8
24FHSA-20PW	1-1/2"	1-1/4	4.57	116	2.72	69	2.37	60.3
24FHSA-24PW	1-1/2"	1-1/2	5.16	131	2.83	72	2.37	60.3
32FHSA-32PW	2"	2	5.91	150	3.11	79	2.81	71.4



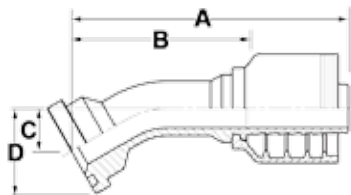
STYLE FH2A-PW

SAE CODE 61 Flange
22-1/2° Bent Tube

Part No.	Flange Size	Hose ID (Inches)	Dimensions							
			A		B		C		D	
			in	mm	in	mm	in	mm	in	mm
12FHSA-12PW	3/4"	3/4	3.35	85	1.77	45	1.50	38.1	1.50	38.1
16FHSA-16PW	1"	1	4.06	103	2.20	56	1.75	44.4	1.75	44.4
20FHSA-20PW	1-1/4"	1-1/4	4.33	110	2.48	63	2.00	50.8	2.00	50.8

SERIES PW CRIMP FITTINGS

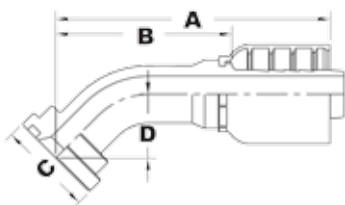
(FOR HOSE SERIES 3012, 3100/3150 (-20, -24 & -32), 3200, 3250, 4210, 4012, 5012)



STYLE FH3A-PW

SAE Code 61 Flange
30° Bent Tube

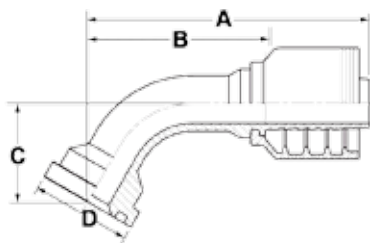
Part No.	Flange Size	Hose ID (Inches)	Dimensions							
			A		B		C		D	
			in	mm	in	mm	in	mm	in	mm
12FH3A-12PW	3/4"	3/4	4.46	113.4	2.89	73.4	.590	15.0	1.50	38.1
16FH3A-16PW	1"	1	4.68	118.9	2.83	71.9	.640	16.3	1.75	44.5
20FH3A-20PW	1-1/4"	1-1/4	5.05	128.0	3.19	81.0	.720	18.3	2.00	50.8



STYLE FH4A-PW

SAE Code 61 Flange
45° Bent Tube

Part No.	Flange Size	Hose ID (Inches)	Dimensions							
			A		B		C		D	
			in	mm	in	mm	in	mm	in	mm
8FH4A-8PW	1/2"	1/2	3.19	81	1.89	48	1.19	30.1	.748	19
12FH4A-8PW	3/4"	1/2	3.31	84	2.01	51	1.50	38.1	.866	22
12FH4A-12PW	3/4"	3/4	4.61	117	2.99	76	1.50	38.1	1.14	29
16FH4A-12PW	1"	3/4	4.61	117	2.99	76	1.75	44.4	1.14	29
16FH4A-16PW	1"	1	4.49	114	3.03	77	1.75	44.4	1.22	31
20FH4A-16PW	1-1/4"	1	4.49	114	3.03	77	2.00	50.8	1.22	31
20FH4A-20PW	1-1/4"	1-1/4	5.83	148	3.98	101	2.00	50.8	1.50	38
24FH4A-20PW	1-1/2"	1-1/4	5.91	150	4.06	103	2.37	60.3	1.57	40
24FH4A-24PW	1-1/2"	1-1/2	6.81	173	4.45	113	2.37	60.3	1.73	44
32FH4A-32PW	2"	2	8.23	209	5.43	138	2.81	71.4	2.36	60



STYLE FH6A-PW

SAE Code 61 Flange
60° Bent Tube

Part No.	Flange Size	Hose ID (Inches)	Dimensions							
			A		B		C		D	
			in	mm	in	mm	in	mm	in	mm
12FH6A-12PW	3/4"	3/4	4.48	113.9	2.91	73.9	1.38	35.1	1.50	38.1
16FH6A-16PW	1"	1	5.07	128.8	3.22	81.8	1.51	38.4	1.75	44.5
20FH6A-20PW	1-1/4"	1-1/4	5.85	148.6	4.00	101.6	1.69	42.9	2.00	50.8

Hydraulic Hose

A

Hydraulic Fittings

B

Support Products & Crimping Equipment

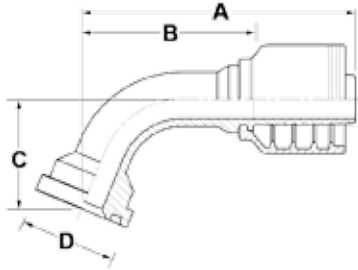
C

Technical Information & Guidelines

D

SERIES PW CRIMP FITTINGS

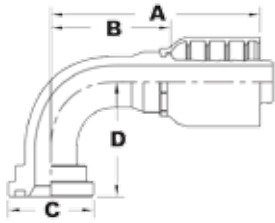
(FOR HOSE SERIES 3012, 3100/3150 (-20, -24 & -32), 3200, 3250, 4210, 4012, 5012)



STYLE FH7A-PW

SAE Code 61 Flange
67-1/2° Bent Tube

Part No.	Flange Size	Hose ID (Inches)	Dimensions							
			A		B		C		D	
			in	mm	in	mm	in	mm	in	mm
12FH7A-12PW	3/4"	3/4	4.53	115.2	2.96	75.2	1.59	40.4	1.50	38.1
16FH7A-16PW	1"	1	5.20	132.1	3.35	85.1	1.76	44.7	1.75	44.5
20FH7A-20PW	1-1/4"	1-1/4	6.00	152.4	4.15	105.4	1.94	49.3	2.00	50.8



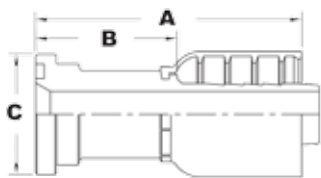
STYLE FH9A-PW

SAE Code 61 Flange
90° Bent Tube

Part No.	Flange Size	Hose ID (Inches)	Dimensions							
			A		B		C		D	
			in	mm	in	mm	in	mm	in	mm
8FH9A-8PW	1/2"	1/2	2.80	71	1.50	38	.811	30.1	1.34	34
12FH9A-8PW	3/4"	1/2	2.80	71	1.50	38	1.50	38.1	1.38	35
12FH9A-12PW	3/4"	3/4	4.02	102	2.40	61	1.50	38.1	2.13	54
16FH9A-12PW	1"	3/4	4.02	102	2.40	61	1.75	44.4	2.13	54
16FH9A-16PW	1"	1	5.04	128	3.19	81	1.75	44.4	2.44	62
20FH9A-16PW	1-1/4"	1	5.04	128	3.19	81	2.00	50.8	2.44	62
20FH9A-20PW	1-1/4"	1-1/4	5.51	140	3.66	93	2.00	50.8	3.11	79
24FH9A-20PW	1-1/2"	1-1/4	5.51	140	3.66	93	2.37	60.3	3.19	81
24FH9A-24PW	1-1/2"	1-1/2	5.94	151	3.58	91	2.37	60.3	3.27	83
32FH9A-24PW	2"	1-1/2	5.94	151	3.58	91	2.81	71.4	3.27	83
32FH9A-32PW	2"	2	8.11	206	5.31	135	2.81	71.4	5.16	131

SERIES PW CRIMP FITTINGS

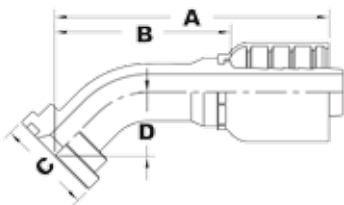
(FOR HOSE SERIES 3012, 3100/3150 (-20, -24 & -32), 3200, 3250, 4210, 4012, 5012)



STYLE FHSB-PW

SAE Code 62 Flange
Straight

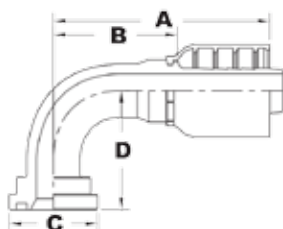
Part No.	Flange Size	Hose ID (Inches)	Dimensions							
			A		B		C		D	
			in	mm	in	mm	in	mm	in	mm
12FHSB-12PW	3/4"	3/4	4.53	115.2	2.96	75.2	1.59	40.4	1.50	38.1
16FHSB-16PW	1"	1	5.20	132.1	3.35	85.1	1.76	44.7	1.75	44.5
20FHSB-20PW	1-1/4"	1-1/4	6.00	152.4	4.15	105.4	1.94	49.3	2.00	50.8



STYLE FH4B-PW

SAE Code 62 Flange
45° Bent Tube

Part No.	Flange Size	Hose ID (Inches)	Dimensions							
			A		B		C		D	
			in	mm	in	mm	in	mm	in	mm
12FH4B-12PW	3/4"	3/4	4.72	120	3.11	79	1.62	41.2	1.26	32
16FH4B-16PW	1"	1	4.69	119	3.23	82	1.87	47.6	1.42	36
20FH4B-20PW	1-1/4"	1-1/4	6.14	156	4.29	109	2.12	53.9	1.81	46
24FH4B-24PW	1-1/2"	1-1/2	7.05	179	4.69	119	2.50	63.5	1.97	50
32FH4B-32PW	2"	2	8.82	224	6.02	153	3.12	79.3	2.95	75



STYLE FH9B-PW

SAE Code 62 Flange
90° Bent Tube

Part No.	Flange Size	Hose ID (Inches)	Dimensions							
			A		B		C		D	
			in	mm	in	mm	in	mm	in	mm
12FH9A-12PW	3/4"	3/4	3.98	101	3.11	79	1.62	41.2	2.28	58
16FH9A-12PW	1"	3/4	4.80	122	3.23	82	1.87	47.6	2.72	69
16FH9A-16PW	1"	1	4.96	126	3.23	82	1.87	47.6	2.72	69
20FH9A-16PW	1-1/4"	1	5.51	140	4.29	109	2.12	53.9	3.54	90
20FH9A-20PW	1-1/4"	1-1/4	5.51	140	4.29	109	2.12	53.9	3.54	90
24FH9A-24PW	1-1/2"	1-1/2	5.94	151	4.69	119	2.50	63.5	3.62	92
32FH9A-32PW	2"	2	8.11	206	6.02	153	3.12	79.3	6.02	153

Hydraulic Hose

A

Hydraulic Fittings

B

Support Products & Crimping Equipment

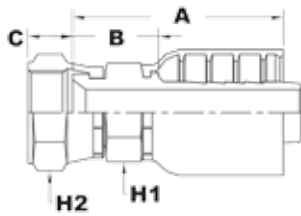
C

Technical Information & Guidelines

D

SERIES PW CRIMP FITTINGS

(FOR HOSE SERIES 3012, 3100/3150 (-20, -24 & -32), 3200, 3250, 4210, 4012, 5012)

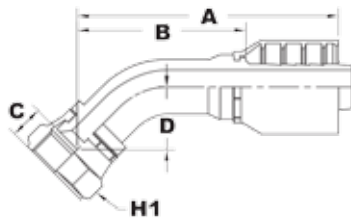


STYLE FJ-PW

JIC Female Swivel
37° Flare

Part No.	Thread Size	Hose ID (Inches)	Dimensions									
			A		B		C		H1		H2	
			in	mm	in	mm	in	mm	in	mm	in	mm
8FJ-8PW*	3/4-16	1/2	2.13	54	.906	23	.421	10.7	.874	22.2	1.00	25.4
10FJ-8PW	7/8-14	1/2	2.20	56	.945	24	.500	12.7	.874	22.2	1.00	25.4
12FJ-8PW	1-1/16-12	1/2	2.32	59	1.06	27	.563	14.3	1.13	28.6	1.25	31.8
12FJ-12PW*	1-1/16-12	3/4	2.64	67	1.06	27	.563	14.3	1.06	26.9	1.25	31.8
14FJ-12PW	1-3/16-12	3/4	2.68	68	1.10	28	.578	14.7	1.25	31.8	1.50	38.1
16FJ-12PW	1-5/16-12	3/4	2.87	73	1.30	33	.594	15.1	1.38	34.9	1.50	38.1
12FJ-16PW	1-1/16-12	1	2.87	73	1.06	27	.563	14.3	1.38	34.9	1.38	34.9
16FJ-16PW*	1-5/16-12	1	3.11	79	1.30	33	.594	15.1	1.50	38.1	1.38	34.9
20FJ-16PW	1-5/8-12	1	3.23	82	1.34	34	.591	15.0	1.62	41.2	2.00	50.8
20FJ-20PW*	1-5/8-12	1-1/4	3.23	82	1.38	35	.626	15.9	1.87	47.6	2.00	50.8
24FJ-24PW*	1-7/8-12	1-1/2	4.02	102	1.69	43	.732	18.6	2.12	53.9	2.12	53.9
32FJ-32PW*	2-1/2-12	2	4.96	126	2.17	55	.937	23.8	2.50	63.5	2.87	73.0

*Available in 316 stainless steel.



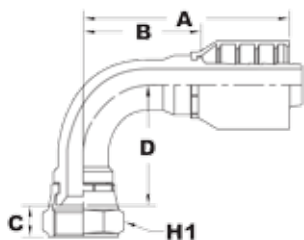
STYLE FJ45T-PW

JIC Female Swivel
37° Flare
45° Bent Tube

Part No.	Thread Size	Hose ID (Inches)	Dimensions									
			A		B		C		D		H1	
			in	mm	in	mm	in	mm	in	mm	in	mm
8FJ45T-8PW	3/4-16	1/2	3.19	81	1.93	49	.421	10.7	.748	19	.874	22.2
12FJ45T-12PW	1-1/16-12	3/4	4.53	115	2.95	75	.563	14.3	1.02	26	1.25	31.7
16FJ45T-12PW	1-5/16-12	3/4	4.61	117	3.03	77	.594	15.1	1.22	31	1.50	38.1
16FJ45T-16PW	1-5/16-12	1	4.80	122	3.03	77	.594	15.1	1.22	31	1.50	38.1
20FJ45T-20PW	1-5/8-12	1-1/4	5.91	150	4.06	103	.626	15.9	1.57	40	2.00	50.8
24FJ45T-24PW	1-7/8-12	1-1/2	6.89	175	4.53	115	.732	18.6	1.81	46	2.12	53.9
32FJ45T-32PW	2-1/2-12	2	8.31	211	5.51	140	.937	23.8	2.44	62	2.87	73.0

SERIES PW CRIMP FITTINGS

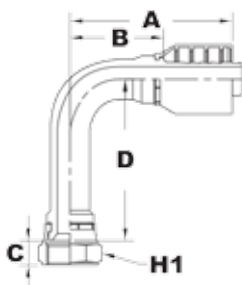
(FOR HOSE SERIES 3012, 3100/3150 (-20, -24 & -32), 3200, 3250, 4210, 4012, 5012)



STYLE FJ90T-PW

JIC Female Swivel
37° Flare
90° Bent Tube

Part No.	Thread Size	Hose ID (Inches)	Dimensions									
			A		B		C		D		H1	
			in	mm	in	mm	in	mm	in	mm	in	mm
8FJ90T-8PW	3/4-16	1/2	2.80	71	1.50	38	.421	10.7	1.22	31	.874	22.2
12FJ90T-12PW	1-1/16-12	3/4	4.02	102	2.40	61	.563	14.3	1.97	50	1.25	31.7
16FJ90T-12PW	1-5/16-12	3/4	4.80	122	3.19	81	.594	15.1	2.44	62	1.50	38.1
16FJ90T-16PW	1-5/16-12	1	5.04	128	3.19	81	.594	15.1	2.44	62	1.50	38.1
20FJ90T-20PW	1-5/8-12	1-1/4	5.51	140	3.66	93	.626	15.9	3.23	82	1.98	50.4
24FJ90T-24PW	1-7/8-12	1-1/2	5.94	151	3.58	91	.732	18.6	3.39	86	2.12	53.9
32FJ90T-32PW	2-1/2-12	2	8.11	206	5.31	135	.937	23.8	5.28	134	2.87	73.0



STYLE FJ90TL-PW

JIC Female Swivel
37° Flare
90° Bent Tube-Long Drop

Part No.	Thread Size	Hose ID (Inches)	Dimensions									
			A		B		C		D		H1	
			in	mm	in	mm	in	mm	in	mm	in	mm
12FJ90TL-12PW	1-1/16-12	3/4	4.02	102	2.40	61	.563	14.3	3.74	95	1.25	31.7
16FJ90TL-16PW	1-5/16-12	1	5.04	128	3.19	81	.594	15.1	4.33	110	1.50	38.1

Hydraulic Hose

A

Hydraulic Fittings

B

Support Products & Crimping Equipment

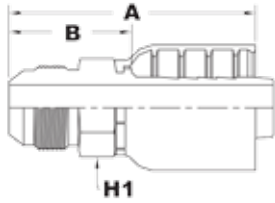
C

Technical Information & Guidelines

D

SERIES PW CRIMP FITTINGS

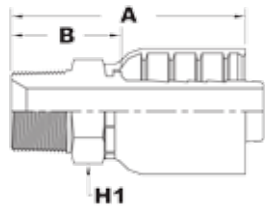
(FOR HOSE SERIES 3012, 3100/3150 (-20, -24 & -32), 3200, 3250, 4210, 4012, 5012)



STYLE MJ-PW

JIC Male Rigid
37° Flare

Part No.	Thread Size	Hose ID (Inches)	Dimensions					
			A		B		H1	
			in	mm	in	mm	in	mm
8MJ-8PW	3/4-16	1/2	2.40	61	1.18	30	.874	22.2
12MJ-12PW	1-1/16-12	3/4	3.11	79	1.54	39	1.11	28.5
16MJ-16PW	1-5/16-12	1	3.43	87	1.57	40	1.37	34.9
20MJ-20PW	1-5/8-12	1-1/4	3.86	98	1.73	44	1.87	47.6



STYLE MP-PW

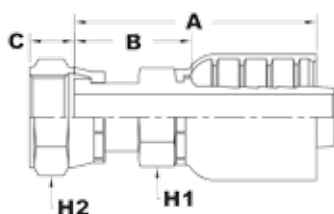
NPTF Male Rigid

Part No.	Thread Size	Hose ID (Inches)	Dimensions					
			A		B		H1	
			in	mm	in	mm	in	mm
8MP-8PW*	1/2-14	1/2	2.52	64	1.30	33	.874	22.2
12MP-12PW*	3/4-14	3/4	2.91	74	1.38	35	1.06	26.9
16MP-16PW*	1-11.5	1	3.43	87	1.61	41	1.37	34.9
20MP-20PW*	1-1/4-11.5	1-1/4	3.78	96	1.93	49	1.69	42.8
24MP-24PW*	1-1/2-11.5	1-1/2	4.29	109	1.97	50	2.00	50.8
32MP-32PW*	2-11.5	2	5.08	129	2.28	58	2.50	63.5

*Available in 316 stainless steel.

SERIES PW CRIMP FITTINGS

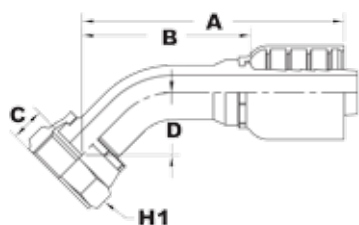
(FOR HOSE SERIES 3012, 3100/3150 (-20, -24 & -32), 3200, 3250, 4210, 4012, 5012)



STYLE OFS-PW

O-Ring Face Seal
Female Swivel

Part No.	Thread Size	Hose ID (Inches)	Dimensions									
			A		B		C		H1		H2	
			in	mm	in	mm	in	mm	in	mm	in	mm
8OFS-8PW	13/16-16	1/2	2.52	64	1.26	32	.433	11	.811	20.6	.937	23.8
10OFS-8PW	1-14	1/2	2.80	71	1.54	39	.551	14	.811	20.6	1.12	28.5
12OFS-12PW	1-3/16-12	3/4	3.19	81	1.61	41	.591	15	1.12	28.5	1.37	34.9
16OFS-12PW	1-7/16-12	3/4	3.27	83	1.69	43	.630	16	1.33	33.3	1.62	41.2
16OFS-16PW	1-7/16-12	1	3.62	92	1.77	45	.630	16	1.33	33.3	1.62	41.2
20OFS-20PW	1-11/16-12	1-1/4	3.39	86	1.54	39	.630	16	1.37	34.9	1.87	47.6
24OFS-24PW	2-12	1-1/2	3.94	100	1.61	41	.630	16	1.87	47.6	2.25	57.1



STYLE OF45T-PW

O-Ring Face Seal
Female Swivel
45° Bent Tube

Part No.	Thread Size	Hose ID (Inches)	Dimensions									
			A		B		C		D		H1	
			in	mm	in	mm	in	mm	in	mm	in	mm
8OF45T-8PW	13/16-16	1/2	3.66	93	1.96	50	.433	11	.787	20	.937	23.8
12OF45T-12PW	1-3/16-12	3/4	4.57	116	2.95	75	.591	15	1.10	28	1.37	34.9
16OF45T-16PW	1-7/16-12	1	4.84	123	2.99	76	.630	16	1.18	30	1.62	41.2
20OF45T-20PW	1-11/16-12	1-1/4	5.91	150	4.06	103	.630	16	1.57	40	1.87	47.6

Hydraulic Hose

A

Hydraulic Fittings

B

Support Products & Crimping Equipment

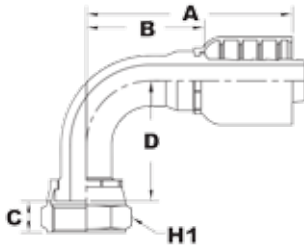
C

Technical Information & Guidelines

D

SERIES PW CRIMP FITTINGS

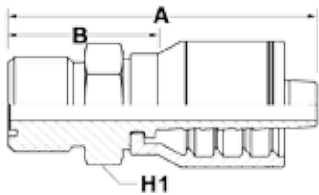
(FOR HOSE SERIES 3012, 3100/3150 (-20, -24 & -32), 3200, 3250, 4210, 4012, 5012)



STYLE OF90T-PW

O-Ring Face Seal
Female Swivel
90° Bent Tube

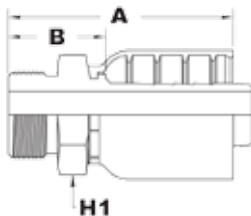
Part No.	Thread Size	Hose ID (Inches)	Dimensions									
			A		B		C		D		H1	
			in	mm	in	mm	in	mm	in	mm	in	mm
8OF90T-8PW	13/16-16	1/2	2.80	71	1.50	38	.433	11	1.18	30	.937	23.8
10OF90T-8PW	1-14	1/2	2.80	71	1.50	38	.551	14	1.22	31	1.12	28.5
12OF90T-12PW	1-3/16-12	3/4	4.02	102	2.40	61	.591	15	1.93	49	1.37	34.9
16OF90T-16PW	1-7/16-12	1	5.04	128	3.19	81	.630	16	2.24	57	1.62	41.2
20OF90T-20PW	1-11/16-12	1-1/4	5.51	140	3.66	93	.630	16	3.03	77	1.87	47.6
24OF90T-24PW	2-12	1-1/2	5.94	151	3.58	91	.630	16	3.15	80	2.25	57.1



STYLE OM-PW

O-Ring Face Seal
Male Rigid

Part No.	Thread Size	Hose ID (Inches)	Dimensions					
			A		B		H1	
			in	mm	in	mm	in	mm
8OM-8PW	13/16-16	1/2	2.26	57.3	1.04	26.3	0.87	22.2
12OM-12PW	1-3/16-12	3/4	2.80	71.0	1.26	32.0	1.26	32.0
16OM-16PW	1-7/16-12	1	3.27	83.0	1.46	37.0	1.50	38.0



STYLE OR-PW

ORB Male Rigid

Part No.	Thread Size	Hose ID (Inches)	Dimensions					
			A		B		H1	
			in	mm	in	mm	in	mm
12OR-12PW	1-1/16-12	3/4	2.80	71	1.06	27	1.06	26.9
16OR-16PW	1-5/16-12	1	3.15	80	1.30	33	1.50	38.1

A	Hydraulic Hose
B	Hydraulic Fittings
C	Support Products & Crimping Equipment
D	Technical Information & Guidelines

SECTION B | **Hydraulic Fittings**

Series HW Crimp Fittings

Series KW Crimp Fittings

Series PW Crimp Fittings

Series RW Crimp Fittings

Series R5 Reuseable Fittings

Series SB Crimp Fittings

Series SH Crimp Fittings

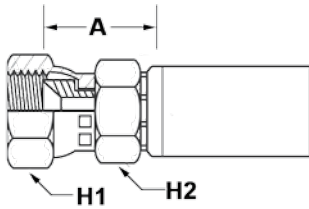
Series SW Crimp Fittings

Series TC/TS Crimp Fittings

Unisource “RW” series fittings are cost effective, permanent, compression style crimp fittings made for easy and quick assembly using our family of Unisource crimpers. Compatible with 100R5 specifications as an alternate to reusable style fittings.

RW CRIMP FITTINGS

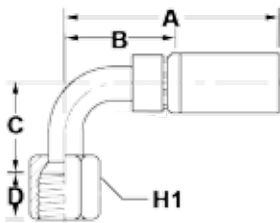
(FITTINGS FOR HOSE SERIES 3500/3500AT SAE 100R5)



STYLE FJ-RW

JIC Female Swivel
37° Flare

Part No.	Thread Size	Hose ID (Inches)	Dimensions					
			B		H1		H2	
			in	mm	in	mm	in	mm
4FJ-4RW	7/16-20	3/16	1.10	27.9	.563	14.3	.563	14.3
6FJ-6RW	9/16-18	5/16	1.20	30.5	.688	17.5	.688	17.5
8FJ-8RW	3/4-16	13/32	1.15	29.2	.875	22.2	.750	19
10FJ-10RW	7/8-14	1/2	1.30	33.0	1.00	25.4	.875	22.2
12FJ-12RW	1-1/16-12	5/8	1.94	49.3	1.25	31.8	1.00	25.4
16FJ-16RW	1-5/16-12	7/8	2.09	53.1	1.50	38.1	1.26	32.0



STYLE FJ90T-RW

JIC Female Swivel
37° Flare
90° Bent Tube

Part No.	Thread Size	Hose ID (Inches)	Dimensions							
			B		C		D		H1	
			in	mm	in	mm	in	mm	in	mm
4FJ90T-4RW	7/16-20	3/16	0.94	23.9	0.33	8.4	.810	20.6	.563	14.3
6FJ90T-6RW	9/16-18	5/16	1.18	30.0	0.37	9.4	.910	23.1	.688	17.5
8FJ90T-8RW	3/4-16	13/32	1.24	31.5	0.42	10.7	1.18	30.0	.875	22.2
10FJ90T-10RW	7/8-14	1/2	1.67	42.4	0.49	12.5	1.23	31.2	1.00	25.4
12FJ90T-12RW	1-1/16-12	5/8	1.91	48.5	0.54	13.7	1.87	47.5	1.25	31.8
16FJ90T-16RW	1-5/16-12	7/8	2.99	75.9	0.63	16.0	2.20	55.9	1.50	38.1

Hydraulic Hose

A

Hydraulic Fittings

B

Support Products & Crimping Equipment

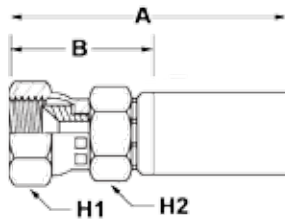
C

Technical Information & Guidelines

D

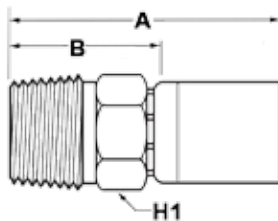
RW CRIMP FITTINGS

(FITTINGS FOR HOSE SERIES 3500/3500AT SAE 100R5)



STYLE FSAE-RW
SAE 45° Flare Female Swivel

Part No.	Thread Size	Hose ID (Inches)	Dimensions					
			B		H1		H2	
			in	mm	in	mm	in	mm
6FSAE-6RW	5/8-18	5/16	1.37	34.8	.750	19	.688	17.5



STYLE MP-RW
NPTF Male Rigid

Part No.	Thread Size	Hose ID (Inches)	Dimensions			
			A		H1	
			in	mm	in	mm
4MP-4RW	1/4-18	3/16	1.02	25.9	.563	14.3
6MP-6RW	3/8-18	5/16	1.10	27.9	.688	17.5
8MP-8RW	1/2-14	13/32	1.30	33.0	.875	22.2
12MP-12RW	3/4-14	5/8	1.61	40.9	1.06	26.2
16MP-16RW	1-11-1/2	7/8	1.87	47.5	1.38	35.1

A	Hydraulic Hose
B	Hydraulic Fittings
C	Support Products & Crimping Equipment
D	Technical Information & Guidelines

SECTION B | **Hydraulic Fittings**

Series HW Crimp Fittings

Series KW Crimp Fittings

Series PW Crimp Fittings

Series RW Crimp Fittings

Series R5 Reusable Fittings

Series SB Crimp Fittings

Series SH Crimp Fittings

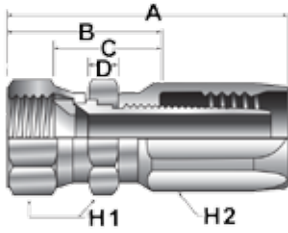
Series SW Crimp Fittings

Series TC/TS Crimp Fittings

Unisource “R5” series fittings are field attachable (reusable) style fittings, which enable you to quickly and easily make hose assemblies right on the job site without special tools or crimping machines. Compatible with 100R5 specifications.

R5 CRIMP FITTINGS

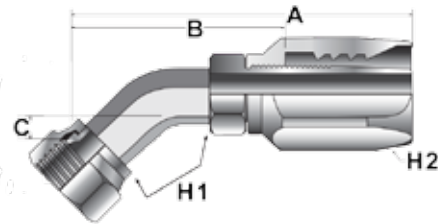
(REUSABLE FITTINGS FOR HOSE SERIES 3500/3500AT SAE 100R5)



STYLE FJ-R5

JIC Female Swivel
37° Flare

Part No.	Thread Size	Hose ID (Ins)	Dimensions											
			A		B		C		D		H1		H2	
			in	mm	in	mm	in	mm	in	mm	in	mm	in	mm
4FJ-4R5	7/16-20	3/16	1.94	49.3	1.19	30.2	.831	21.1	.190	4.8	.563	14.3	.626	15.9
5FJ-5R5	1/2-20	1/4	2.08	52.8	1.30	33.0	.941	23.9	.190	4.8	.630	15.9	.690	17.5
6FJ-6R5	9/16-18	5/16	2.31	58.7	1.41	35.8	1.02	25.9	.230	5.8	.690	17.5	.810	20.6
8FJ-8R5	3/4-16	13/32	2.84	72.1	1.58	40.1	1.14	29.0	.280	7.1	.875	22.2	.940	23.8
10FJ-10R5	7/8-14	1/2	3.06	77.7	1.67	42.4	1.17	29.7	.310	7.9	1.00	25.4	1.13	28.6
12FJ-12R5	1-1/16-12	5/8	3.50	88.9	1.92	48.8	1.34	34.0	.380	9.7	1.25	31.8	1.25	31.8
16FJ-16R5	1-5/16-12	7/8	3.19	81.0	1.92	48.8	1.30	33.0	.380	9.7	1.50	38.1	1.44	36.5
20FJ-20R5	1-5/8-12	1-1/8	3.38	85.9	2.03	51.6	1.38	35.1	.410	10.4	2.00	50.8	1.75	44.5



STYLE FJ45T-R5

JIC Female Swivel
37° Flare
45° Bent Tube

Part No.	Thread Size	Hose ID (Ins)	Dimensions											
			A		B		C		D		H1		H2	
			in	mm	in	mm	in	mm	in	mm	in	mm	in	mm
4FJ45T-4R5	7/16-20	3/16	1.84	46.7	1.10	27.9	.330	8.4	.563	14.3	.563	14.3	.626	15.9
6FJ45T-6R5	9/16-18	5/16	2.23	56.6	1.33	33.8	.390	9.9	.690	17.5	.563	14.3	.810	20.6
8FJ45T-8R5	3/4-16	13/32	2.98	75.7	1.84	46.7	.551	14.0	.875	22.2	.690	17.5	.940	23.8
10FJ45T-10R5	7/8-14	1/2	3.23	82.0	1.64	41.7	.630	16.0	1.00	25.4	.875	22.2	1.13	28.6
12FJ45T-12R5	1-1/16-12	5/8	3.78	96.0	2.22	56.4	.772	19.6	1.25	31.8	1.13	28.6	1.25	31.8

Hydraulic Hose

A

Hydraulic Fittings

B

Support Products & Crimping Equipment

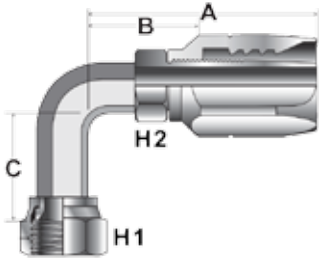
C

Technical Information & Guidelines

D

R5 CRIMP FITTINGS

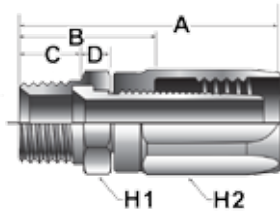
(REUSABLE FITTINGS FOR HOSE SERIES 3500/3500AT SAE 100R5)



STYLE FJ90T-R5

JIC Female Swivel
37° Flare
90° Bent Tube

Part No.	Thread Size	Hose ID (Ins)	Dimensions											
			A		B		C		D		H1		H2	
			in	mm	in	mm	in	mm	in	mm	in	mm	in	mm
4FJ90T-4R5	7/16-20	3/16	1.75	44.5	1.00	25.4	.690	17.5	.563	14.3	.563	14.3	.626	15.9
6FJ90T-6R5	9/16-18	5/16	2.13	54.1	1.23	31.2	.839	21.3	.690	17.5	.690	17.5	.811	20.6
8FJ90T-8R5	3/4-16	13/32	2.75	69.9	1.61	40.9	1.09	27.7	.875	22.2	.875	22.2	.940	23.8
10FJ90T-10R5	7/8-14	1/2	2.94	74.7	1.66	42.2	1.23	31.2	1.00	25.4	1.00	25.4	1.13	28.6
12FJ90T-12R5	1-1/16-12	5/8	3.75	95.3	2.17	55.1	1.81	46.0	1.25	31.8	1.25	31.8	1.25	31.8



STYLE MP-R5

Rigid Male Pipe
NPTF
(Non-Mandrel Style)

Part No.	Thread Size	Hose ID (Ins)	Dimensions											
			A		B		C		D		H1		H2	
			in	mm	in	mm	in	mm	in	mm	in	mm	in	mm
4MP-4R5	1/4-18	3/16	1.86	47.2	1.11	28.2	.559	14.2	.190	4.8	.559	14.2	.630	16.0
4MP-5R5	1/4-18	1/4	1.97	50.0	1.19	30.2	.559	14.2	.190	4.8	.559	14.2	.690	17.5
6MP-6R5	3/8-18	5/16	2.20	55.9	1.27	32.2	.559	14.2	.250	6.4	.690	17.5	.811	20.6
8MP-8R5	1/2-14	13/32	2.72	69.1	1.56	39.6	.750	19.1	.310	7.9	.880	22.3	.940	23.9
8MP-10R5	1/2-14	1/2	2.86	72.6	1.59	40.4	.750	19.1	.280	7.1	.880	22.3	1.13	28.7
12MP-12R5	3/4-14	5/8	3.20	81.3	1.67	42.4	.750	19.1	.340	8.6	1.13	28.7	1.25	31.8
16MP-16R5	1-11-1/2	7/8	2.98	75.7	1.72	43.7	.940	23.9	.390	9.9	1.38	35.1	1.44	36.6

A	Hydraulic Hose
B	Hydraulic Fittings
C	Support Products & Crimping Equipment
D	Technical Information & Guidelines

SECTION B | **Hydraulic Fittings**

Series HW Crimp Fittings

Series KW Crimp Fittings

Series PW Crimp Fittings

Series RW Crimp Fittings

Series R5 Reusable Fittings

Series SB Crimp Fittings

Series SH Crimp Fittings

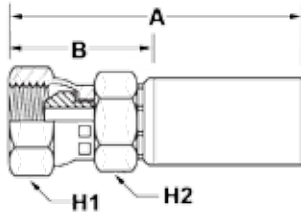
Series SW Crimp Fittings

Series TC/TS Crimp Fittings

Unisource “SB” series fittings are cost effective, permanent, compression style crimp fittings made for easy and quick assembly using our family of Unisource crimpers. Compatible on all wire braided hydraulic hose excluding hose series 4210.

SERIES SB CRIMP FITTINGS

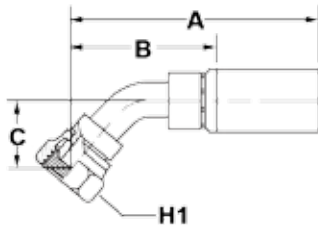
(FOR HOSE SERIES 3100, 3117, 3150, 3200, 3216, 3250, 4117, 4216, 4700, 4704NC, 4730LT, 4800, 4800NC, 4850, 4850NC, 5117, 5216)



STYLE FBSP-5B

BSPP Female Swivel
60° Cone

Part No.	Thread Size	Hose ID (Inches)	Dimensions							
			A		B		H1		H2	
			in	mm	in	mm	in	mm	in	mm
4FBSP-4SB	1/4-19	1/4	2.58	65.5	1.10	27.9	.752	19.1	.563	14.3
6FBSP-6SB	3/8-19	3/8	2.76	70.1	1.30	33.0	.875	22.2	.752	19.1
8FBSP-6SB	1/2-14	3/8	2.88	73.2	1.42	36.1	1.00	25.4	.752	19.1
8FBSP-8SB	1/2-14	1/2	3.14	79.8	1.49	37.9	1.00	25.4	.874	22.2
10FBSP-10SB	5/8-14	5/8	3.48	88.4	1.72	43.7	1.19	30.2	.937	23.8
12FBSP-12SB	3/4-14	3/4	3.53	89.7	1.70	43.2	1.25	31.8	1.13	28.6
16FBSP-16SB	1-11	1	3.99	101.4	1.78	45.2	1.87	47.6	1.69	42.9



STYLE FBSP45T-5B

BSPP Female Swivel
60° Cone
45° Bent Tube

Part No.	Thread Size	Hose ID (Inches)	Dimensions							
			A		B		C		H1	
			in	mm	in	mm	in	mm	in	mm
4FBSP45T-4SB	1/4-19	1/4	2.61	66.2	1.13	28.6	.910	23.1	.752	19.1
6FBSP45T-6SB	3/8-19	3/8	2.72	69.2	1.26	32.0	.902	22.9	.875	22.2
8FBSP45T-8SB	1/2-14	1/2	3.19	81.1	1.54	39.1	.870	22.1	1.00	25.4
12FBSP45T-12SB	3/4-14	3/4	4.20	106.7	2.36	60.0	1.31	33.2	1.25	31.8

Hydraulic Hose

A

Hydraulic Fittings

B

Support Products & Crimping Equipment

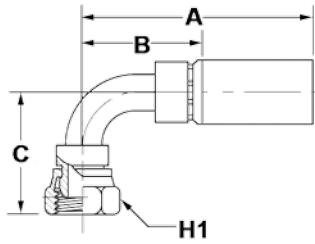
C

Technical Information & Guidelines

D

SERIES SB CRIMP FITTINGS

(FOR HOSE SERIES 3100, 3117, 3150, 3200, 3216, 3250, 4117, 4216, 4700,
4704NC, 4730LT, 4800, 4800NC, 4850, 4850NC, 5117, 5216)



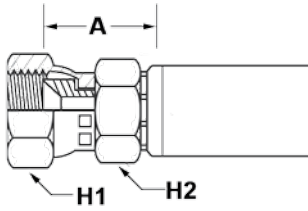
STYLE FBSP90T-SB

BSPP Female Swivel
60° Cone
90° Bent Tube

Part No.	Thread Size	Hose ID (Inches)	Dimensions							
			A		B		C		H1	
			in	mm	in	mm	in	mm	in	mm
4FBSP90T-4SB	1/4-19	1/4	2.70	68.6	1.22	31.0	1.50	38.1	.752	19.1
6FBSP90T-6SB	3/8-19	3/8	2.66	67.6	1.20	30.5	1.60	40.6	.874	22.2
8FBSP90T-8SB	1/2-14	1/2	2.93	74.4	1.28	32.5	1.89	48.0	1.00	25.4
10FBSP90T-10SB	5/8-14	5/8	3.46	87.9	1.70	43.2	1.83	46.5	1.19	30.2
12FBSP90T-12SB	3/4-14	3/4	4.04	102.6	2.21	56.2	2.49	63.3	1.25	31.8
16FBSP90T-16SB	1-11	1	5.39	136.9	3.18	80.8	2.98	75.7	1.50	38.1

SERIES SB CRIMP FITTINGS

(FOR HOSE SERIES 3100, 3117, 3150, 3200, 3216, 3250, 4117, 4216, 4700, 4704NC, 4730LT, 4800, 4800NC, 4850, 4850NC, 5117, 5216)



STYLE FJ-SB JIC Female Swivel 37° Flare

Part No.	Thread Size	Hose ID (Inches)	Dimensions									
			A		B		C		H1		H2	
			in	mm	in	mm	in	mm	in	mm	in	mm
4FJ-4SB*	7/16-20	1/4	2.25	57.2	.770	19.4	.330	8.3	.626	15.9	.563	14.3
5FJ-4SB	1/2-20	1/4	2.28	57.9	.800	20.3	.330	8.3	.563	14.3	.626	15.9
6FJ-4SB	9/16-18	1/4	2.28	60.5	.900	22.8	.380	9.5	.690	17.5	.748	19.0
4FJ-6SB	7/16-20	3/8	2.26	57.4	.770	19.4	.330	8.3	.563	14.2	.626	15.9
6FJ-6SB*	9/16-18	3/8	2.36	60.0	.900	22.8	.380	9.5	.748	19.0	.690	17.5
8FJ-6SB	3/4-16	3/8	2.49	63.3	1.00	25.4	.460	11.7	.874	22.2	.748	19.0
10FJ-6SB	7/8-14	3/8	2.49	63.3	1.00	25.4	.530	13.3	1.00	22.2	.874	22.3
6FJ-8SB	9/16-18	1/2	2.62	66.5	.963	24.5	.380	9.5	.874	22.2	.690	17.5
8FJ-8SB*	3/4-16	1/2	2.65	67.3	1.00	25.3	.460	11.7	.874	22.2	.874	22.2
10FJ-8SB	7/8-14	1/2	2.65	67.3	1.00	25.4	.500	12.7	.874	22.2	.874	22.2
12FJ-8SB	1-1/16-12	1/2	2.75	69.9	1.10	28.0	.630	1.2	1.25	32.0	1.13	28.6
8FJ-10SB	3/4-16	5/8	2.77	70.3	1.00	25.4	.460	11.7	.874	22.0	.937	23.8
10FJ-10SB	7/8-14	5/8	2.86	72.7	1.08	27.4	.530	13.3	1.00	25.4	.937	23.8
12FJ-10SB	1-1/16-12	5/8	2.88	73.2	1.10	28.0	.560	14.2	1.13	28.6	1.25	32.0
10FJ-12SB	7/8-14	3/4	2.92	74.2	1.08	27.4	.530	13.3	1.00	25.4	1.13	28.6
12FJ-12SB*	1-1/16-12	3/4	2.94	74.7	1.10	28.0	.550	14.2	1.25	32.0	1.13	28.6
14FJ-12SB	1-3/16-12	3/4	3.02	76.7	1.18	30.0	.590	15.0	1.50	38.1	1.25	28.6
16FJ-12SB	1-5/16-12	3/4	3.19	81.0	1.35	34.3	.640	16.1	1.50	38.1	1.38	34.9
12FJ-16SB	1-1/16-12	1	3.41	86.6	1.18	28.0	.560	14.2	1.25	32.0	1.38	34.9
16FJ-16SB*	1-5/16-12	1	3.59	91.2	1.35	34.3	.640	16.1	1.50	38.1	1.38	34.9

*Available in 316 stainless steel.

Hydraulic Hose

A

Hydraulic Fittings

B

Support Products & Crimping Equipment

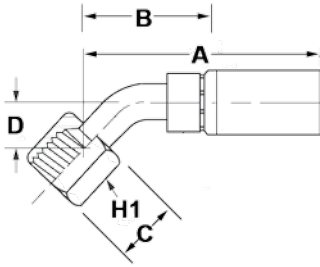
C

Technical Information & Guidelines

D

SERIES SB CRIMP FITTINGS

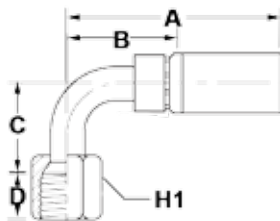
(FOR HOSE SERIES 3100, 3117, 3150, 3200, 3216, 3250, 4117, 4216, 4700,
4704NC, 4730LT, 4800, 4800NC, 4850, 4850NC, 5117, 5216)



STYLE FJ45T-SB

JIC Female Swivel
37° Flare
45° Bent Tube

Part No.	Thread Size	Hose ID (Inches)	Dimensions									
			A		B		C		D		H1	
			in	mm	in	mm	in	mm	in	mm	in	mm
4FJ45T-4SB	7/16—20	1/4	2.60	66.2	1.13	28.6	.400	10.2	.380	8.4	.560	14.2
6FJ45T-4SB	9/16—18	1/4	2.67	67.8	1.19	30.2	.370	9.5	.440	11.1	.685	17.4
6FJ45T-6SB	9/16—18	3/8	2.72	69.2	1.26	32.0	.350	9.0	.450	11.3	.685	17.4
8FJ45T-6SB	3/4—16	3/8	2.89	73.5	1.43	36.3	.460	11.7	.580	14.6	.874	22.2
8FJ45T-8SB	3/4—16	1/2	3.19	81.1	1.54	39.1	.460	11.7	.580	14.8	.874	22.2
10FJ45T-8SB	7/8—14	1/2	3.25	82.6	1.60	40.6	.500	12.7	.640	16.3	1.06	27.0
10FJ45T-10SB	7/8—14	5/8	3.36	85.3	1.60	40.6	.500	12.7	.640	16.3	1.06	27.0
12FJ45T-10SB	1-1/16—12	5/8	4.12	104.7	2.36	60.0	.560	14.2	.820	20.7	1.26	32.0
12FJ45T-12SB	1-1/16—12	3/4	4.20	106.7	2.36	60.0	.560	14.2	.820	20.7	1.26	32.0
16FJ45T-16SB	1-5/16—12	1	5.27	133.9	3.06	77.7	.560	14.2	1.15	29.2	1.50	38.0



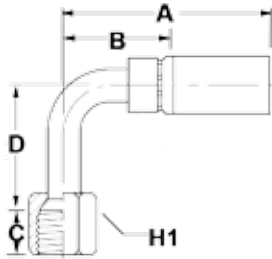
STYLE FJ90T-SB

JIC Female Swivel
37° Flare
90° Bent Tube

Part No.	Thread Size	Hose ID (Inches)	Dimensions									
			A		B		C		D		H1	
			in	mm	in	mm	in	mm	in	mm	in	mm
4FJ90T-4SB	7/16—20	1/4	2.44	62.0	.960	24.4	.340	8.7	.740	18.7	.560	14.2
6FJ90T-4SB	9/16—18	1/4	2.44	62.0	.960	24.4	.370	9.5	.830	21.0	.685	17.4
6FJ90T-6SB	9/16—18	3/8	2.43	61.6	.960	24.4	.370	9.5	.830	21.0	.685	17.4
8FJ90T-6SB	3/4—16	3/8	2.76	70.2	1.30	33.0	.460	11.7	1.09	27.6	.874	22.2
8FJ90T-8SB	3/4—16	1/2	2.95	75.0	1.30	33.0	.460	12.7	1.09	27.6	.874	22.2
10FJ90T-8SB	7/8—14	1/2	3.06	77.8	1.41	35.8	.500	12.7	1.23	31.3	1.06	27.0
10FJ90T-10SB	7/8—14	5/8	3.26	82.8	1.50	38.1	.500	12.7	1.23	31.3	1.06	27.0
12FJ90T-10SB	1-1/16—12	5/8	4.00	101.9	2.25	57.2	.560	14.2	1.65	41.9	1.25	32.0
12FJ90T-12SB	1-1/16—12	3/4	4.09	103.9	2.25	57.2	.560	14.2	1.65	41.9	1.25	32.0

SERIES SB CRIMP FITTINGS

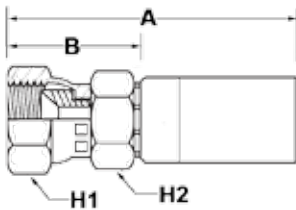
(FOR HOSE SERIES 3100, 3117, 3150, 3200, 3216, 3250, 4117, 4216, 4700, 4704NC, 4730LT, 4800, 4800NC, 4850, 4850NC, 5117, 5216)



STYLE FJ90TL-SB

JIC Female Swivel
37° Flare
90° Bent Tube—Long Drop

Part No.	Thread Size	Hose ID (Inches)	Dimensions									
			A		B		C		D		H1	
			in	mm	in	mm	in	mm	in	mm	in	mm
4FJ90TL-4SB	7/16—20	1/4	2.98	75.7	1.72	43.7	.340	8.7	1.80	45.7	.560	14.3
6FJ90TL-4SB	9/16—18	1/4	3.12	79.3	1.87	47.5	.370	9.5	2.18	55.4	.690	17.5
6FJ90TL-6SB	9/16—18	3/8	3.38	85.9	1.87	47.5	.370	9.5	2.18	55.4	.690	17.5
8FJ90TL-6SB	3/4—16	3/8	3.68	93.5	2.18	55.4	.460	11.7	2.50	63.5	.874	22.2
8FJ90TL-8SB	3/4—16	1/2	3.75	95.3	2.25	57.2	.460	11.7	2.50	63.5	.874	22.2
10FJ90TL-8SB	7/8—14	1/2	3.50	88.9	2.00	50.8	.500	12.7	2.75	70.0	1.00	25.4
10FJ90TL-10SB	7/8—14	5/8	3.73	94.7	2.23	56.6	.500	12.7	2.75	70.0	1.00	25.4
12FJ90TL-12SB	1-1/16—12	3/4	3.88	98.6	2.30	58.4	.560	14.2	3.73	94.7	1.25	31.8
16FJ90TL-16SB	1-5/16—12	1	4.67	118.6	2.94	74.7	0.57	14.4	4.50	114.3	1.50	38.1



STYLE FJIS-SB

JIS Female Swivel
30° Flare

Part No.	Thread Size	Hose ID (Inches)	Dimensions							
			A		B		H1		H2	
			in	mm	in	mm	in	mm	in	mm
4FJIS-4SB	1/4—19	1/4	2.73	69.3	1.25	31.8	.750	19.1	.560	14.2
6FJIS-6SB	3/8—19	3/8	2.71	68.8	1.23	31.2	.874	22.2	.690	17.5
8FJIS-8SB	1/2—14	1/2	2.74	69.6	1.27	32.3	1.06	26.9	.874	22.2
12FJIS-12SB	3/4—14	3/4	3.53	89.7	1.70	43.2	1.25	31.8	1.13	28.7
16FJIS-16SB	1—11	1	3.67	93.2	1.84	46.7	1.50	38.1	1.38	35.1

Hydraulic Hose

A

Hydraulic Fittings

B

Support Products & Crimping Equipment

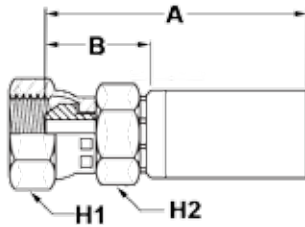
C

Technical Information & Guidelines

D

SERIES SB CRIMP FITTINGS

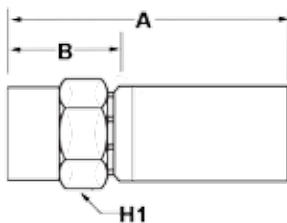
(FOR HOSE SERIES 3100, 3117, 3150, 3200, 3216, 3250, 4117, 4216, 4700,
4704NC, 4730LT, 4800, 4800NC, 4850, 4850NC, 5117, 5216)



STYLE FNPSM-SB

NPSM Female Swivel
30° Cone

Part No.	Thread Size	Hose ID (Inches)	Dimensions							
			A		B		H1		H2	
			in	mm	in	mm	in	mm	in	mm
4FNPSM-4SB	1/4-18	1/4	2.50	63.6	1.03	26.0	.748	19.0	.560	14.3
6FNPSM-6SB	3/8-18	3/8	2.51	63.7	1.04	26.5	.870	22.0	.690	17.5
8FNPSM-8SB	1/2-18	1/2	2.74	69.5	1.08	27.5	1.06	27.0	.874	22.2
12NPSM-12SB	3/4-18	3/4	3.17	80.6	1.33	33.9	1.25	32.0	1.13	28.6



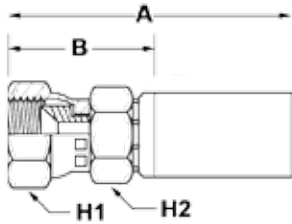
STYLE FP-SB

NPTF Female Rigid

Part No.	Thread Size	Hose ID (Inches)	Dimensions					
			A		B		H1	
			in	mm	in	mm	in	mm
2FP-4SB	1/8-27	1/4	2.48	63.0	1.00	25.4	.626	15.9
4FP-4SB	1/4-18	1/4	2.48	63.0	1.00	25.4	.748	19.0
4FP-6SB	1/4-18	1/4	2.46	62.5	1.00	25.4	.748	19.0
6FP-6SB	3/8-18	3/8	2.62	66.5	1.15	29.3	.874	22.0
8FP-6SB	1/2-12	3/8	2.75	69.9	1.28	32.5	1.06	27.0
8FP-8SB	1/2-12	1/2	2.93	74.5	1.28	32.5	1.06	27.0
12FP-12SB	3/4-14	3/4	3.56	90.4	1.43	36.3	1.13	28.6

SERIES SB CRIMP FITTINGS

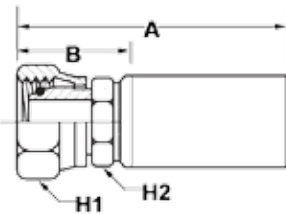
(FOR HOSE SERIES 3100, 3117, 3150, 3200, 3216, 3250, 4117, 4216, 4700, 4704NC, 4730LT, 4800, 4800NC, 4850, 4850NC, 5117, 5216)



STYLE FSAE-SB

SAE 45° Flare Female Swivel

Part No.	Thread Size	Hose ID (Inches)	Dimensions							
			A		B		H1		H2	
			in	mm	in	mm	in	mm	in	mm
6FSAE-6SB	5/8-18	3/8	2.86	72.6	1.36	34.5	.750	19.1	.690	17.5
12FSAE-12SB	1-1/16-14	3/4	3.25	82.6	1.66	42.2	1.25	31.8	1.13	28.6



STYLE FSMH-SB

Metric Female Swivel
Heavy Series 45° Cone

Part No.	Thread Size	Hose ID (Inches)	Tube OD (mm)	Dimensions							
				A		B		H1		H2	
				in	mm	in	mm	in	mm	in	mm
16FSMH-4SB	M16x1.5	1/4	8	2.73	69.3	1.25	31.8	.750	19.1	.560	14.3
18FSMH-4SB	M18x1.5	1/4	10	2.71	68.8	1.23	31.2	.874	22.2	.626	15.9
20FSMH-6SB	M20x1.5	3/8	12	2.88	73.2	1.42	36.1	1.00	25.4	.750	19.1
22FSMH-6SB	M22x1.5	3/8	14	2.74	69.6	1.27	32.3	1.06	26.9	.810	20.7
24FSMH-8SB	M24x1.5	1/2	16	2.99	76.0	1.34	34.0	1.13	28.6	.874	22.2
30FSMH-12SB	M30x2.0	3/4	20	3.67	93.2	1.84	46.7	1.50	38.1	1.13	28.6
36FSMH-12SB	M36x2.0	3/4	25	3.67	93.2	1.84	46.7	1.63	41.3	1.25	31.8
42FSMH-16SB	M42x2.0	1	30	4.15	105.4	1.94	49.3	2.00	50.8	1.69	42.9

Hydraulic Hose

A

Hydraulic Fittings

B

Support Products & Crimping Equipment

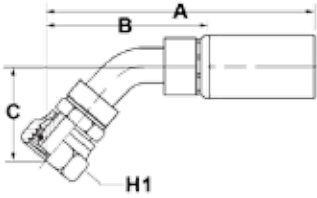
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SERIES SB CRIMP FITTINGS

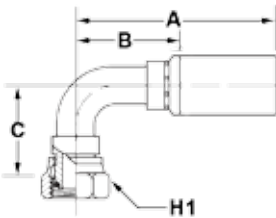
(FOR HOSE SERIES 3100, 3117, 3150, 3200, 3216, 3250, 4117, 4216, 4700,
4704NC, 4730LT, 4800, 4800NC, 4850, 4850NC, 5117, 5216)



STYLE FSMH45T-SB

Metric Female Swivel
Heavy Series 24° Cone
45° Bent Tube

Part No.	Thread Size	Hose ID (Inches)	Tube OD (mm)	Dimensions							
				A		B		C		H1	
				in	mm	in	mm	in	mm	in	mm
18FSMH45T-4SB	M18x1.5	1/4	10	3.43	87.1	1.97	50.0	.960	24.4	.874	22.2
20FSMH45T-6SB	M20x1.5	3/8	12	4.11	104.4	2.65	67.3	1.13	28.7	1.00	25.4
24FSMH45T-8SB	M24x1.5	1/2	16	4.73	120.1	3.08	78.2	1.25	31.8	1.06	26.9



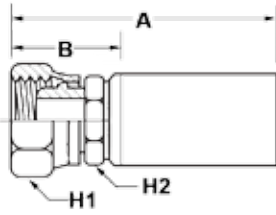
STYLE FSMH90T-SB

Metric Female Swivel
Heavy Series 24° Cone
90° Bent Tube

Part No.	Thread Size	Hose ID (Inches)	Tube OD (mm)	Dimensions							
				A		B		C		H1	
				in	mm	in	mm	in	mm	in	mm
18FSMH90T-4SB	M18x1.5	1/4	10	2.67	67.8	1.19	30.2	1.50	38.1	.874	22.2
20FSMH90T-6SB	M20x1.5	3/8	12	3.24	84.8	1.88	47.8	1.95	49.5	1.00	25.4
22FSMH90T-6SB	M22x1.5	3/8	14	3.34	84.8	1.88	47.8	2.07	52.6	1.06	26.9
24FSMH90T-8SB	M24x1.5	1/2	16	3.90	99.1	2.25	57.2	2.05	52.1	1.13	28.6

SERIES SB CRIMP FITTINGS

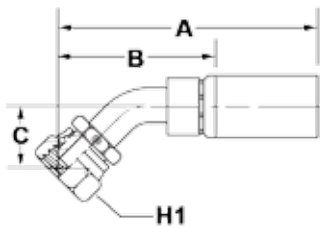
(FOR HOSE SERIES 3100, 3117, 3150, 3200, 3216, 3250, 4117, 4216, 4700, 4704NC, 4730LT, 4800, 4800NC, 4850, 4850NC, 5117, 5216)



STYLE FSML-SB

Metric Female Swivel
Light Series 24° Cone

Part No.	Thread Size	Hose ID (Inches)	Tube OD (mm)	Dimensions							
				A		B		H1		H2	
				in	mm	in	mm	in	mm	in	mm
12FSML-4SB	M12x1.5	1/4	6	2.62	66.6	1.14	29.0	.690	17.5	.563	14.3
14FSML-4SB	M14x1.5	1/4	8	2.64	67.1	1.16	29.5	.690	17.5	.563	14.3
16FSML-4SB	M16x1.5	1/4	10	2.69	68.3	1.21	30.7	.750	19.1	.563	14.3
16FSML-6SB	M16x1.5	3/8	10	2.82	71.6	1.36	34.5	.750	19.1	.690	17.5
18FSML-6SB	M18x1.5	3/8	12	2.70	68.6	1.24	31.5	.880	22.2	.690	17.5
22FSML-8SB	M22x1.5	1/2	15	3.00	76.2	1.35	34.3	1.06	26.9	.874	22.2
30FSML-12SB	M30x2.0	3/4	22	3.52	89.4	1.69	42.9	1.50	38.1	1.13	28.6
36FSML-16SB	M36x2.0	1	28	4.07	103.4	1.86	47.2	1.88	47.6	1.38	34.9



STYLE FSML45T-SB

Metric Female Swivel
Light Series 24° Cone
45° Bent Tube

Part No.	Thread Size	Hose ID (Inches)	Tube OD (mm)	Dimensions							
				A		B		C		H1	
				in	mm	in	mm	in	mm	in	mm
14FSML45T-4SB	M14x1.5	1/4	8	2.74	69.6	1.26	31.0	.960	24.4	.690	17.5
16FSML45T-4SB	M16x1.5	3/8	10	2.73	69.3	1.25	31.7	.960	24.4	.750	19.1
16FSML45T-6SB	M16x1.5	3/8	10	2.88	71.9	1.37	34.8	.960	24.4	.750	19.1
18FSML45T-6SB	M18x1.5	3/8	12	3.00	76.2	1.54	39.0	1.00	25.4	.874	22.2
22FSML45T-8SB	M22x1.5	1/2	15	3.19	81.0	1.54	39.0	1.18	30.0	1.06	26.9
30FSML45T-12SB	M30x2.0	3/4	22	4.24	107.7	2.41	61.2	1.41	35.8	1.50	38.1

Hydraulic Hose

A

Hydraulic Fittings

B

Support Products & Crimping Equipment

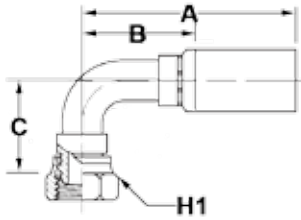
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SERIES SB CRIMP FITTINGS

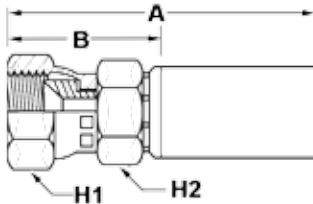
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4704NC, 4730LT, 4800, 4800NC, 4850, 4850NC, 5117, 5216)



STYLE FSML90T-SB

Metric Female Swivel
Light Series 24° Cone
90° Bent Tube

Part No.	Thread Size	Hose ID (Inches)	Tube OD (mm)	Dimensions							
				A		B		C		H1	
				in	mm	in	mm	in	mm	in	mm
14FSML90T-4SB	M14x1.5	1/4	8	2.70	68.6	1.22	31.0	1.48	37.6	.690	17.5
16FSML90T-4SB	M16x1.5	3/8	10	2.73	69.3	1.25	31.7	1.65	41.9	.750	19.1
16FSML90T-6SB	M16x1.5	3/8	10	2.66	67.6	1.20	30.5	1.65	41.9	.750	19.1
18FSML90T-6SB	M18x1.5	3/8	12	2.66	67.6	1.20	30.5	1.65	41.9	.874	22.2
22FSML90T-8SB	M22x1.5	1/2	15	2.93	74.4	1.28	32.5	1.93	49.0	1.06	26.9
30FSML90T-12SB	M30x2.0	3/4	22	4.04	102.6	2.21	56.2	2.70	68.6	1.50	38.1



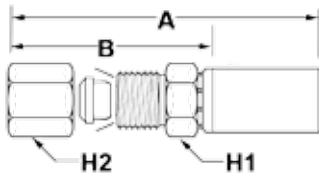
STYLE KMFS-SB

Komatsu Female Swivel
30° Flare Metric Thread

Part No.	Thread Size	Hose ID (Inches)	Dimensions							
			A		B		H1		H2	
			in	mm	in	mm	in	mm	in	mm
14KMFS-4SB	M14x1.5	1/4	2.77	70.4	1.29	32.8	.750	19.1	.563	14.3
18KMFS-6SB	M18x1.5	3/8	2.69	68.3	1.23	31.2	.874	22.2	.690	17.5
22KMFS-8SB	M22x1.5	1/2	3.27	83.1	1.62	41.0	1.00	25.4	.690	17.5
24KMFS-10SB	M24x1.5	5/8	3.30	83.8	1.54	39.1	1.25	31.8	1.00	25.4
30KMFS-12SB	M30x1.5	3/4	3.71	94.3	1.88	47.8	1.38	34.9	1.13	28.6
33KMFS-16SB	M33x1.5	1	4.29	109.0	2.08	52.8	1.63	41.3	1.38	34.9

SERIES SB CRIMP FITTINGS

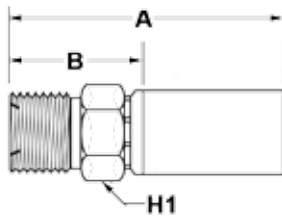
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STYLE LMN-SB

Tube
Compression

Part No.	Thread Size	Hose ID (Inches)	Hose OD (Inches)	Dimensions							
				A		B		H1		H2	
				in	mm	in	mm	in	mm	in	mm
4LMN-4SB	7/16-20	1/4	1/4	2.42	61.48	.940	23.8	.563	14.3	.563	14.3
5LMN-4SB	1/2-20	1/4	5/16	2.41	61.22	.930	23.6	.626	15.9	.626	15.9
5LMN-6SB	1/2-20	3/8	5/16	2.41	61.22	9.30	23.6	.690	17.5	.626	15.9
6LMN-6SB	9/16-18	3/8	3/8	2.46	62.50	1.00	25.4	.690	17.5	.690	17.5
8LMN-6SB	3/4-16	3/8	1/2	2.59	65.80	1.13	28.7	.750	19.1	.874	22.2
8LMN-8SB	3/4-16	1/2	1/2	2.78	70.60	1.13	28.7	.874	22.2	.874	22.2
10LMN-8SB	7/8-14	1/2	5/8	2.90	73.65	1.25	31.8	.940	23.8	1.00	25.4
12LMN-12SB	1-1/16-12	3/4	3/4	3.21	81.55	1.38	35.1	1.13	28.6	1.25	31.8
16LMN-16SB	1-5/16-12	1	1	3.96	100.65	1.75	44.5	1.38	34.9	1.50	38.1



STYLE MBSP-6SB

BSPP Male Solid
60° Seat

Part No.	Thread Size	Hose ID (Inches)	Dimensions					
			A		B		H1	
			in	mm	in	mm	in	mm
4MBSP-4SB	1/4-19	1/4	2.63	66.8	1.15	29.2	.690	17.5
6MBSP-6SB	3/8-19	3/8	2.68	68.1	1.22	31.0	.750	19.1
8MBSP-6SB	1/2-14	3/8	2.79	70.9	1.33	26.7	1.00	25.4
6MBSP-8SB	3/8-19	1/2	2.95	74.9	1.30	33.0	.874	22.2
8MBSP-8SB	1/2-14	1/2	3.07	78.0	1.42	36.1	1.00	25.4
12MBSP-12SB	3/4-14	3/4	3.32	84.3	1.49	37.9	1.13	28.6

Hydraulic Hose

A

Hydraulic Fittings

B

Support Products & Crimping Equipment

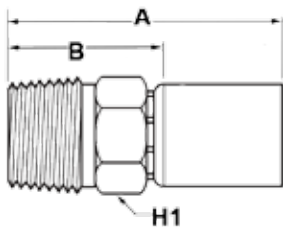
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SERIES SB CRIMP FITTINGS

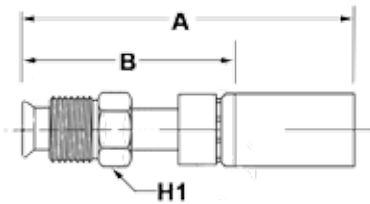
(FOR HOSE SERIES 3100, 3117, 3150, 3200, 3216, 3250, 4117, 4216, 4700,
4704NC, 4730LT, 4800, 4800NC, 4850, 4850NC, 5117, 5216)



STYLE MBSPT-SB

Male Solid BSPT
Tapered Threads

Part No.	Thread Size	Hose ID (Inches)	Dimensions					
			A		B		H1	
			in	mm	in	mm	in	mm
4MBSPT-4SB	1/4-19	1/4	2.63	66.8	1.15	29.2	.626	15.9
6MBSPT-6SB	3/8-19	3/8	2.68	68.1	1.22	31.0	.750	19.1
8MBSPT-8SB	1/2-14	1/2	3.07	78.0	1.42	36.1	.874	22.2
12MBSPT-12SB	3/4-14	3/4	3.32	84.3	1.49	37.9	1.13	28.6



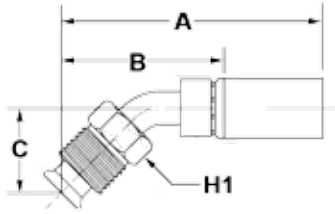
STYLE MIF-SB

MIF Male Swivel

Part No.	Thread Size	Hose ID (Inches)	Dimensions					
			A		B		H1	
			in	mm	in	mm	in	mm
3MIF-4SB	3/8-24	1/4	3.23	82.0	1.75	44.5	.375	9.5
4MIF-4SB	7/16-24	1/4	3.44	87.4	1.96	49.8	.440	11.1
5MIF-4SB	1/2-20	1/4	3.48	88.3	2.00	50.8	.500	12.7
4MIF-6SB	7/16-24	3/8	3.11	79.0	1.65	41.9	.440	11.1
5MIF-6SB	1/2-20	3/8	3.27	83.1	1.81	46.0	.500	12.7
6MIF-6SB	5/8-18	3/8	3.78	96.0	2.32	58.9	.626	15.9
8MIF-8SB	3/4-16	1/2	3.96	100.6	2.31	58.7	.740	19.0
10MIF-8SB	7/8-14	1/2	3.61	91.7	1.96	49.8	0.88	22.2

SERIES SB CRIMP FITTINGS

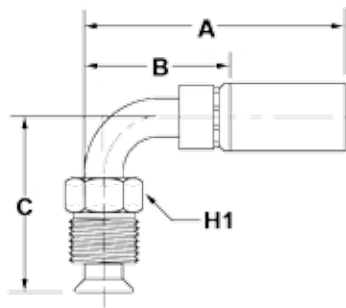
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STYLE MIF45T-SB

MIF Male Swivel
45° Bent Tube

Part No.	Thread Size	Hose ID (Inches)	Dimensions							
			A		B		C		H1	
			in	mm	in	mm	in	mm	in	mm
3MIF45T-4SB	3/8-24	1/4	3.17	80.5	1.69	42.9	.690	17.5	.375	9.5
4MIF45T-4SB	7/16-24	1/4	3.18	80.8	1.70	43.2	1.08	27.4	.440	11.1
5MIF45T-4SB	1/2-20	1/4	3.32	84.3	1.84	46.7	1.10	27.9	.500	12.7
4MIF45T-6SB	7/16-24	3/8	3.18	80.8	1.70	43.2	.930	23.6	.440	11.1
5MIF45T-6SB	1/2-20	3/8	3.30	83.8	1.84	46.7	1.10	27.9	.500	12.7
6MIF45T-6SB	5/8-18	3/8	3.94	100.1	2.48	63.0	1.03	26.1	.626	15.9
8MIF45T-8SB	3/4-16	1/2	4.53	115.1	2.88	73.2	1.13	28.7	.750	19.1
10MIF45T-8SB	7/8-14	1/2	4.08	103.6	2.43	61.7	.92	23.4	.880	22.2



STYLE MIF90T-SB

MIF Male Swivel
90° Bent Tube

Part No.	Thread Size	Hose ID (Inches)	Dimensions							
			A		B		C		H1	
			in	mm	in	mm	in	mm	in	mm
3MIF90-4SB	3/8-24	1/4	3.24	82.3	1.76	44.7	1.06	26.9	.375	9.5
4MIF90T-4SB	7/16-24	1/4	2.59	65.8	1.11	28.2	1.23	31.2	.440	11.1
5MIF90T-4SB	1/2-20	1/4	2.76	70.1	1.28	32.5	1.38	35.0	.500	12.7
4MIF90T-6SB	7/16-24	3/8	2.59	65.8	1.13	28.7	1.36	34.5	.440	11.1
5MIF90T-6SB	1/2-20	3/8	2.65	67.3	1.19	30.2	1.38	35.0	.500	12.7
6MIF90T-6SB	5/8-18	3/8	4.15	105.4	2.69	68.3	1.63	41.4	.626	15.9
8MIF90T-6SB	3/4-16	3/8	3.64	92.5	2.18	55.4	1.88	47.8	.750	19.1
8MIF90T-8SB	3/4-16	1/2	3.90	99.1	2.25	57.2	2.20	55.9	.750	19.1

Hydraulic Hose

A

Hydraulic Fittings

B

Support Products & Crimping Equipment

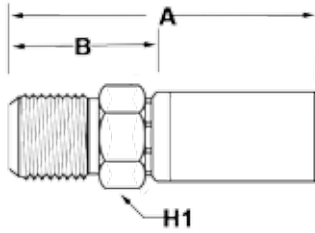
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Technical Information & Guidelines

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SERIES SB CRIMP FITTINGS

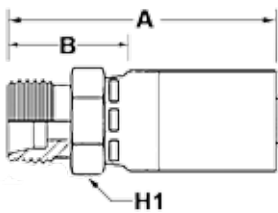
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4704NC, 4730LT, 4800, 4800NC, 4850, 4850NC, 5117, 5216)



STYLE MJ-SB

Rigid Male JIC
37° Flare

Part No.	Thread Size	Hose ID (Inches)	Dimensions					
			A		B		H1	
			in	mm	in	mm	in	mm
4MJ-4SB	7/16-20	1/4	2.48	63.0	1.00	25.4	.563	14.3
5MJ-4SB	1/2-20	1/4	2.48	63.0	1.00	25.4	.563	14.3
6MJ-4SB	9/16-18	1/4	2.52	63.9	1.04	26.3	.626	15.9
6MJ-6SB	9/16-18	3/8	2.52	63.9	1.04	26.3	.626	15.9
8MJ-6SB	3/4-16	3/8	2.71	68.9	1.25	31.8	.874	22.2
10MJ-6SB	7/8-14	3/8	2.77	70.3	1.31	33.3	.874	22.2
8MJ-8SB	3/4-16	1/2	2.84	72.1	1.19	30.2	.874	22.2
10MJ-8SB	7/8-14	1/2	3.00	76.3	1.35	34.3	.874	22.2
12MJ-8SB	1-1/16-12	1/2	3.09	78.5	1.44	36.6	1.13	28.6
10MJ-10SB	7/8-14	5/8	3.32	84.3	1.38	35.1	.940	23.8
12MJ-10SB	1-1/16-12	5/8	3.42	86.9	1.44	36.6	1.13	28.6
10MJ-12SB	7/8-14	3/4	3.64	92.5	1.44	36.6	1.13	28.6
12MJ-12SB	1-1/16-12	3/4	3.68	93.5	1.56	39.6	1.13	28.6
14MJ-12SB	1-3/16-12	3/4	3.81	96.8	1.63	41.4	1.38	34.9
16MJ-12SB	1-5/16-12	3/4	3.81	96.8	1.63	41.4	1.38	34.9
16MJ-16SB	1-5/16-12	1	4.20	106.7	2.00	50.8	1.38	34.9



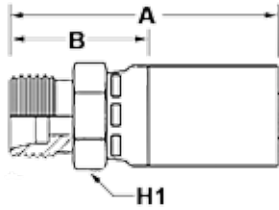
STYLE MMH-SB

Metric Male Rigid
Heavy Series 24° Cone

Part No.	Thread Size	Hose ID (Inches)	Tube OD (mm)	Dimensions					
				A		B		H1	
				in	mm	in	mm	in	mm
16MMH-4SB	M16x1.5	1/4	8	2.60	66.0	1.12	28.5	.690	17.5
18MMH-4SB	M18x1.5	1/4	10	2.60	66.0	1.12	28.5	.750	19.1
20MMH-6SB	M20x1.5	3/8	12	2.67	67.8	1.21	30.7	.810	20.7
22MMH-6SB	M22x1.5	3/8	14	2.69	68.3	1.23	31.2	.874	22.2
24MMH-8SB	M24x1.5	1/2	16	2.95	74.9	1.30	33.0	.874	22.2

SERIES SB CRIMP FITTINGS

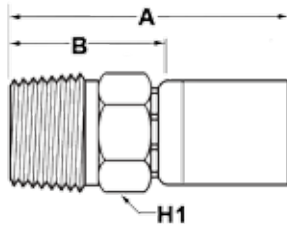
(FOR HOSE SERIES 3100, 3117, 3150, 3200, 3216, 3250, 4117, 4216, 4700, 4704NC, 4730LT, 4800, 4800NC, 4850, 4850NC, 5117, 5216)



STYLE MML-SB

Metric Male Rigid
Light Series 24° Cone

Part No.	Thread Size	Hose ID (Inches)	Tube OD (mm)	Dimensions					
				A		B		H1	
				in	mm	in	mm	in	mm
14MML-4SB	M14x1.5	1/4	8	2.37	60.2	.890	22.60	.563	14.3
16MML-6SB	M16x1.5	3/8	10	2.64	67.1	1.14	28.96	.750	19.1
18MML-6SB	M18x1.5	3/8	12	2.56	65.0	1.10	27.95	.750	19.1
22MML-8SB	M22x1.5	1/2	15	2.87	72.9	1.22	30.99	.880	22.2
30MML-12SB	M30x2.0	3/4	22	3.14	79.8	1.31	33.27	1.25	31.8



STYLE MP-SB

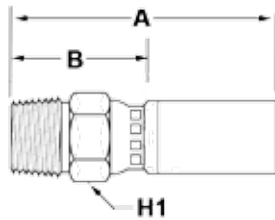
NPTF Male Rigid

Part No.	Thread Size	Hose ID (Inches)	Dimensions					
			A		B		H1	
			in	mm	in	mm	in	mm
2MP-4SB	1/8-27	1/4	2.31	58.6	.750	19.1	.563	14.3
4MP-4SB*	1/4-18	1/4	2.51	63.8	1.03	26.2	.626	15.9
6MP-4SB	3/8-18	1/4	2.57	65.3	1.09	27.7	.690	17.4
8MP-4SB	1/2-14	1/4	2.77	70.4	1.06	26.9	.874	22.2
4MP-6SB	1/4-18	3/8	2.55	64.8	1.09	27.6	.750	19.0
6MP-6SB*	3/8-18	3/8	2.54	64.5	1.08	27.3	.750	19.0
8MP-6SB	1/2-14	3/8	2.79	70.8	1.32	33.6	.874	22.2
6MP-8SB	3/8-18	1/2	2.80	71.0	1.14	29.0	.874	22.2
8MP-8SB*	1/2-14	1/2	2.99	76.0	1.34	34.0	.874	22.2
12MP-8SB	3/4-14	1/2	3.09	78.5	1.43	36.3	1.13	28.6
12MP-12SB*	3/4-14	3/4	3.56	90.3	1.43	36.3	1.13	28.6
16MP-12SB	1-11.5	3/4	3.58	90.8	1.74	44.1	1.38	35.0
16MP-16SB*	1-11.5	1	3.95	100.3	1.74	44.1	1.38	35.0

*Available in 316 stainless steel.

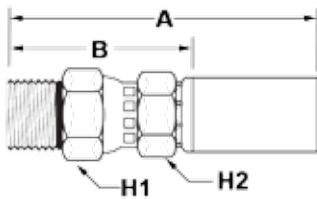
SERIES SB CRIMP FITTINGS

(FOR HOSE SERIES 3100, 3117, 3150, 3200, 3216, 3250, 4117, 4216, 4700,
4704NC, 4730LT, 4800, 4800NC, 4850, 4850NC, 5117, 5216)



STYLE MS-SB NPTF Male Swivel

Part No.	Thread Size	Hose ID (Inches)	Dimensions					
			A		B		H1	
			in	mm	in	mm	in	mm
2MS-4SB	1/8-27	1/4	2.75	69.9	1.25	31.8	.563	14.3
4MS-4SB	1/4-18	1/4	3.19	81.0	1.88	47.8	.690	17.4
6MS-6SB	3/8-18	3/8	3.48	88.4	1.83	46.5	.874	22.2
8MS-8SB	1/2-14	1/2	3.60	91.4	2.19	55.6	1.00	25.4
12MS-12SB	3/4-14	3/4	5.94	150.9	2.56	64.9	1.38	35.0

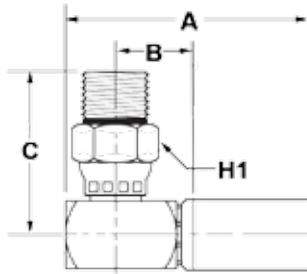


STYLE MSOR-SB ORB Male Swivel

Part No.	Thread Size	Hose ID (Inches)	Dimensions							
			A		B		H1		H2	
			in	mm	in	mm	in	mm	in	mm
4MSOR-4SB	7/16-20	1/4	2.98	75.7	1.50	38.1	.626	15.9	.560	14.3
6MSOR-6SB	9/16-18	3/8	3.12	79.3	1.64	41.7	.750	19.1	.690	17.5
8MSOR-6SB	3/4-16	3/8	3.08	78.3	1.62	41.1	.874	22.2	.750	19.0
8MSOR-8SB	3/4-16	1/2	3.68	93.5	2.03	51.6	0.874	22.2	.810	20.7
10MSOR-8SB	7/8-14	1/2	3.50	88.9	1.85	47.0	1.00	25.4	.810	20.7
12MSOR-12SB	1-1/16-12	3/4	4.17	105.9	2.34	59.4	1.25	31.8	1.13	28.6
16MSOR-16SB	1-5/16-12	1	4.46	113.3	2.25	57.2	1.50	38.1	1.38	34.9

SERIES SB CRIMP FITTINGS

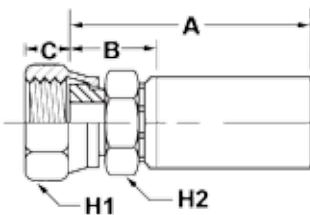
(FOR HOSE SERIES 3100, 3117, 3150, 3200, 3216, 3250, 4117, 4216, 4700, 4704NC, 4730LT, 4800, 4800NC, 4850, 4850NC, 5117, 5216)



STYLE MSOR90T-SB

ORB Male Swivel
90° Bend

Part No.	Thread Size	Hose ID (In)	Dimensions							
			A		B		C		H1	
			in	mm	in	mm	in	mm	in	mm
6MSOR90T-6SB	9/16-18	3/8	2.77	70.4	.740	18.8	1.54	39.1	.874	22.2
8MSOR90T-6SB	3/4-16	3/8	2.77	70.4	.740	18.8	1.61	40.9	.874	22.2
8MSOR90T-8SB	3/4-16	1/2	2.91	73.9	.874	22.4	1.68	42.7	.874	22.2
10MSOR90T-8SB	7/8-14	1/2	2.91	73.9	.874	22.4	1.74	44.2	1.00	25.4
12MSOR90T-12SB	1-1/16-12	3/4	3.63	92.2	1.00	25.4	2.36	59.9	1.25	31.8
16MSOR90T-16SB	1-5/16-12	1	3.84	97.5	1.13	28.6	2.75	69.9	1.50	38.1



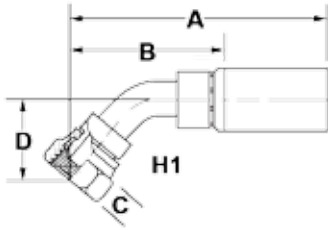
STYLE OFS-SB

O-Ring Face Seal
Female Swivel

Part No.	Thread Size	Hose ID (Inches)	Dimensions									
			A		B		C		H1		H2	
			in	mm	in	mm	in	mm	in	mm	in	mm
4OFS-4SB	9/16-18	1/4	2.37	60.3	.890	22.7	.340	8.5	.690	17.5	.626	15.9
6OFS-4SB	11/16-16	1/4	2.33	59.2	.850	21.6	.370	9.5	.810	20.6	.690	17.5
6OFS-6SB	11/16-16	3/8	2.31	58.7	.850	21.6	.370	9.5	.810	20.6	.690	17.5
8OFS-6SB	13/16-16	3/8	2.49	63.3	.970	24.6	.420	10.7	.940	23.9	.874	22.2
6OFS-8SB	11/16-16	1/2	2.50	63.5	0.850	21.6	.370	9.5	.810	20.6	.945	17.5
8OFS-8SB	13/16-16	1/2	2.69	68.3	1.04	26.3	.420	10.7	.940	23.9	1.26	22.2
10OFS-8SB	1-14	1/2	2.68	68.0	1.02	26.0	.520	13.1	1.13	28.6	.945	24.0
12OFS-8SB	1-3/16-12	1/2	2.87	72.9	1.22	31.1	.570	14.5	1.38	34.9	1.26	32.0
10OFS-10SB	1-14	5/8	2.78	70.6	1.02	26.0	.520	13.1	1.13	28.6	.945	24.0
12OFS-10SB	1-3/16-12	5/8	2.98	75.7	1.22	31.1	.570	14.5	1.38	34.9	1.26	32.0
10OFS-12SB	1-14	3/4	2.85	72.4	1.02	26.0	.520	13.1	1.13	28.6	.945	24.0
12OFS-12SB	1-3/16-12	3/4	3.06	77.8	1.22	31.1	.570	14.5	1.38	35.0	1.26	32.0
16OFS-12SB	1-7/16-12	3/4	3.18	80.7	1.35	34.4	.560	14.2	1.63	41.3	1.38	34.7
16OFS-16SB	1-7/16-12	1	3.57	90.6	1.35	34.4	.560	14.2	1.62	41.0	1.42	36.0

SERIES SB CRIMP FITTINGS

(FOR HOSE SERIES 3100, 3117, 3150, 3200, 3216, 3250, 4117, 4216, 4700,
4704NC, 4730LT, 4800, 4800NC, 4850, 4850NC, 5117, 5216)



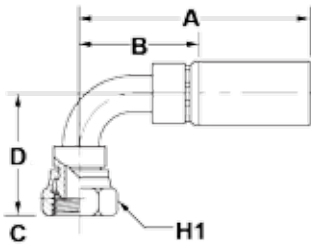
STYLE OF45T-SB

O-Ring Face Seal
Female Swivel
45° Bent Tube

Part No.	Thread Size	Hose ID (Inches)	Dimensions									
			A		B		C		D		H1	
			in	mm	in	mm	in	mm	in	mm	in	mm
4OF45T-4SB	9/16-18	1/4	2.70	68.6	1.22	31.0	.340	8.5	.470	11.8	.690	17.5
6OF45T-4SB	11/16-16	1/4	2.73	69.3	1.25	31.7	.370	9.5	.490	12.5	.810	20.6
6OF45T-6SB	11/16-16	3/8	2.83	72.0	1.37	34.8	.370	9.5	.450	11.3	.810	20.6
8OF45T-6SB	13/16-16	3/8	3.00	76.2	1.54	39.0	.420	10.7	.610	15.5	.940	23.9
6OF45T-8SB	11/16-16	1/2	3.02	76.7	1.37	34.8	.370	9.5	.430	10.9	.810	20.7
8OF45T-8SB	13/16-16	1/2	3.19	81.0	1.54	39.0	.420	10.7	.580	14.7	.940	23.9
10OF45T-8SB	1-14	1/2	3.86	98.0	2.21	56.1	.520	13.1	.630	16.0	1.13	28.6
10OF45T-10SB	1-14	5/8	4.00	101.6	2.24	56.9	.520	13.1	.630	16.0	1.38	34.9
12OF45T-10SB	1-3/16-12	5/8	4.17	105.9	2.41	61.2	.570	14.5	.860	21.9	1.38	35.0
12OF45T-12SB	1-3/16-12	3/4	3.97	100.9	2.41	61.2	.570	14.5	.860	21.9	1.37	35.0
16OF45T-12SB	1-7/16-12	3/4	4.54	115.3	2.95	76.0	.560	14.2	1.14	29.0	1.61	41.0
16OF45T-16SB	1-7/16-12	1	4.76	121.0	2.99	76.0	.560	14.2	1.14	29.0	1.61	41.0

SERIES SB CRIMP FITTINGS

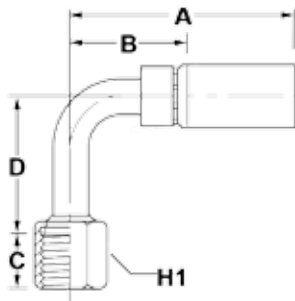
(FOR HOSE SERIES 3100, 3117, 3150, 3200, 3216, 3250, 4117, 4216, 4700, 4704NC, 4730LT, 4800, 4800NC, 4850, 4850NC, 5117, 5216)



STYLE OF90T-SB

O-Ring Face Seal
Female Swivel
90° Bent Tube

Part No.	Thread Size	Hose ID (Inches)	Dimensions									
			A		B		C		D		H1	
			in	mm	in	mm	in	mm	in	mm	in	mm
4OF90T-4SB	9/16-18	1/4	2.70	68.6	1.22	31.0	.340	8.5	.470	11.8	.690	17.5
6OF90T-4SB	11/16-16	1/4	2.73	69.3	1.25	31.7	.370	9.5	.490	12.5	.810	20.6
6OF90T-6SB	11/16-16	3/8	2.67	67.7	1.20	30.5	.370	9.5	.910	23.0	.810	20.6
8OF90T-6SB	13/16-16	3/8	2.67	67.7	1.20	30.5	.420	10.7	1.14	29.0	.940	23.9
6OF90T-8SB	11/16-16	1/2	2.85	72.4	1.20	30.5	.370	9.5	.900	22.9	.810	20.7
8OF90T-8SB	13/16-16	1/2	2.93	74.5	1.28	32.5	.420	10.7	1.14	29.0	.940	23.9
10OF90T-8SB	1-14	1/2	3.35	85.1	1.70	43.2	.430	10.8	1.27	32.3	1.13	28.6
10OF90T-10SB	1-14	5/8	3.46	87.9	1.70	43.2	.430	10.8	1.27	32.3	1.13	28.6
12OF90T-10SB	1-3/16-12	5/8	3.89	98.8	2.21	56.2	.570	14.5	1.93	49.0	1.38	34.9
12OF90T-12SB	1-3/16-12	3/4	4.05	102.9	2.21	56.2	.507	14.5	1.93	49.0	1.38	35.0
16OF90T-12SB	1-7/16-12	3/4	5.01	127.3	3.18	80.8	.560	14.2	0.56	57.0	1.61	41.0
16OF90T-16SB	1-7/16-12	1	5.39	137.0	3.18	80.8	.560	14.2	0.56	57.0	1.61	41.0



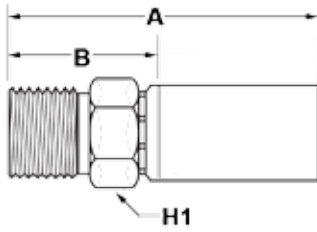
STYLE OF90TL-SB

O-Ring Face Seal
Female Swivel
90° Bent Tube-Long Drop

Part No.	Thread Size	Hose ID (Inches)	Dimensions									
			A		B		C		D		H1	
			in	mm	in	mm	in	mm	in	mm	in	mm
4OF90T-4SB	9/16-18	1/4	2.70	68.6	1.22	31.0	.340	8.5	1.80	45.7	.690	17.5
6OF90T-4SB	11/16-16	1/4	2.73	69.3	1.25	31.7	.370	9.5	2.13	54.1	.810	20.7
6OF90T-6SB	11/16-16	3/8	2.66	67.6	1.20	30.5	.370	9.5	2.13	54.1	.810	20.7
8OF90T-6SB	13/16-16	3/8	2.66	67.6	1.20	30.5	.420	10.7	2.51	63.8	.940	23.8
8OF90T-8SB	13/16-16	1/2	2.93	74.4	1.28	32.5	.420	10.7	2.51	63.8	.940	23.8
10OF90T-8SB	1-14	1/2	3.35	85.1	1.70	43.1	.520	13.1	2.76	70.1	1.13	28.6
10OF90T-10SB	1-14	5/8	3.46	87.9	1.70	43.1	.520	13.1	2.76	70.1	1.13	28.6
12OF90T-12SB	1-3/16-12	3/4	4.04	102.6	2.21	56.2	.570	14.5	3.78	96.0	1.38	34.9
16OF90T-16SB	1-7/16-12	1	5.39	136.9	3.18	80.8	.560	14.2	4.50	114.3	1.63	41.3

SERIES SB CRIMP FITTINGS

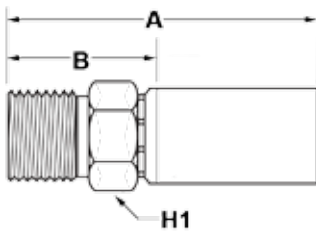
(FOR HOSE SERIES 3100, 3117, 3150, 3200, 3216, 3250, 4117, 4216, 4700,
4704NC, 4730LT, 4800, 4800NC, 4850, 4850NC, 5117, 5216)



STYLE OM-SB

O-Ring Face Seal
Male Rigid

Part No.	Thread Size	Hose ID (Inches)	Dimensions					
			A		B		H1	
			in	mm	in	mm	in	mm
40M-4SB	9/16-18	1/4	2.55	64.8	1.07	27.2	.626	15.9
60M-6SB	11/16-16	3/8	2.41	61.2	0.95	24.1	.750	19.1
80M-6SB	13/16-16	3/8	2.48	63.0	1.02	25.9	.874	22.2
80M-8SB	13/16-16	1/2	2.74	69.6	1.09	27.7	.874	22.2
100M-8SB	1-14	1/2	3.01	76.5	1.36	34.5	1.06	26.9
100M-10SB	1-14	5/8	3.13	79.5	1.37	34.8	1.06	26.9
120M-10SB	1-3/16-12	5/8	3.19	81.0	1.43	36.4	1.25	31.8
120M-12SB	1-3/16-12	3/4	3.26	82.8	1.43	36.2	1.25	31.8
160M-16SB	1-7/16-12	1	3.68	93.5	1.47	37.3	1.50	38.1



STYLE OR-SB

ORB Male Rigid

Part No.	Thread Size	Hose ID (Inches)	Dimensions					
			A		B		H1	
			in	mm	in	mm	in	mm
40R-4SB	7/16-20	1/4	2.34	59.4	.860	21.8	.563	14.3
50R-4SB	1/2-20	1/4	2.34	59.4	.860	21.8	.626	15.9
60R-6SB	9/16-18	3/8	2.46	62.5	1.00	25.4	.690	17.5
80R-6SB	3/4-16	3/8	2.50	63.5	1.04	26.4	.874	22.2
100R-6SB	7/8-14	3/8	2.61	66.3	1.15	29.2	1.00	25.4
80R-8SB	3/4-16	1/2	2.83	71.9	1.18	30.0	.874	22.2
100R-8SB	7/8-14	1/2	2.90	73.7	1.25	31.8	1.00	25.4
120R-8SB	1-1/16-12	1/2	2.99	76.0	1.34	34.0	1.25	31.8
100R-10SB	7/8-14	5/8	3.02	76.7	1.26	32.0	1.00	25.4
120R-10SB	1-1/16-12	5/8	3.12	79.3	1.36	34.5	1.25	31.8
120R-12SB	1-1/16-12	3/4	3.19	81.0	1.36	34.5	1.25	31.8
160R-16SB	1-5/16-12	1	3.69	93.7	1.48	37.6	1.50	38.1

A	Hydraulic Hose
B	Hydraulic Fittings
C	Support Products & Crimping Equipment
D	Technical Information & Guidelines

SECTION B | **Hydraulic Fittings**

Series HW Crimp Fittings

Series KW Crimp Fittings

Series PW Crimp Fittings

Series RW Crimp Fittings

Series R5 Reusable Fittings

Series SB Crimp Fittings

Series SH Crimp Fittings

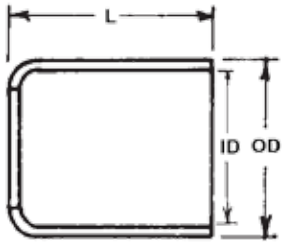
Series SW Crimp Fittings

Series TC/TS Crimp Fittings

Unisource “SH” series fittings are cost effective, permanent, compression style crimp fittings made for easy and quick assembly using our family of Unisource crimpers. Compatible on 100R4 suction return line hose.

SERIES SH CRIMP FITTINGS

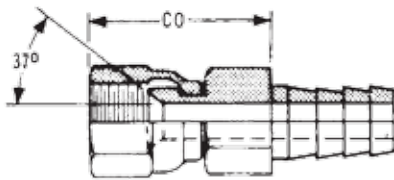
(R4 FITTINGS FOR HOSE SERIES 3400)



STYLE CF-SH

Crimp
Ferrule

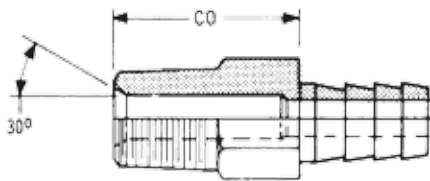
Part No.	Hose Size	Hose ID (Inches)	Dimensions			
			L		OD	
			in	mm	in	mm
12CF-12SH	1.375	3/4	1.000	25.4	1.50	38.1
16CF-16SH	1.625	1	1.125	28.6	1.75	44.5
20CF-20SH	1.870	1-1/4	1.520	38.6	2.00	50.8
24CF-24SH	2.152	1-1/2	1.560	39.6	2.25	57.2
32CF-32SH	2.625	2	2.000	50.8	2.75	69.9



STYLE FJ-SH

JIC Female Swivel
37° Flare

Part No.	Thread Size	Hose ID (Inches)	Dimensions									
			Stem I.D.		OAL		CO		Stem Hex		Nut Hex	
			in	mm	in	mm	in	mm	in	mm	in	mm
12FJ-12SH	1-1/16-12	3/4	.625	15.9	2.64	67.1	1.32	33.5	1.63	41.4	1.25	31.8
16FJ-16SH	1-5/16-12	1	.843	21.4	2.83	71.8	1.45	36.9	1.38	34.9	1.50	38.1
20FJ-20SH	1-5/8-12	1-1/4	1.063	27.0	3.58	90.9	1.70	43.2	1.75	41.5	2.00	50.8
24FJ-24SH	1-7/8-12	1-1/2	1.312	33.3	3.98	101.0	2.09	53.1	2.00	50.8	2.25	57.2
32FJ-32SH	2-1/2-12	2	1.687	42.9	4.94	125.5	2.59	65.8	2.50	63.5	2.88	73.0



STYLE MP-SH

NPTF Male Rigid

Part No.	Thread Size	Hose ID (Inches)	Dimensions					
			Stem I.D.		Hex		CO	
			in	mm	in	mm	in	mm
12MP-12SH	3/4-14	3/4	.625	15.8	1.06	26.9	1.13	28.7
16MP-16SH	1-11-1/2"	1	.843	21.4	1.38	35.1	1.44	36.6
20MP-20SH	1-1/4-11-1/2"	1-1/4	1.06	26.9	1.75	44.4	1.59	40.4
24MP-24SH	1-1/2-11-1/2"	1-1/2	1.13	28.7	2.00	50.8	1.76	44.7
32MP-32SH	2-11-1/2"	2	1.69	42.9	2.50	63.5	1.91	48.5

Hydraulic Hose

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SECTION B | **Hydraulic Fittings**

Series HW Crimp Fittings

Series KW Crimp Fittings

Series PW Crimp Fittings

Series RW Crimp Fittings

Series R5 Reusable Fittings

Series SB Crimp Fittings

Series SH Crimp Fittings

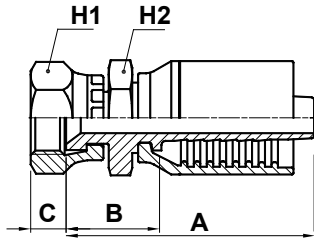
Series SW Crimp Fittings

Series TC/TS Crimp Fittings

Unisource “SW” series fittings are cost effective, permanent, style crimp fittings made for easy and quick assembly using our family of Unisource crimpers. Compatible with thermoplastic hydraulic hose.

SERIES SW CRIMP FITTINGS

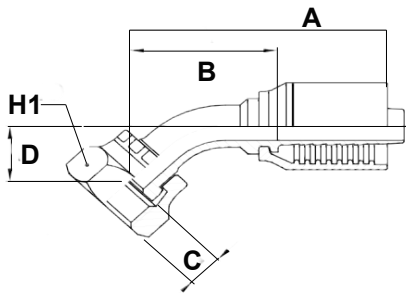
(FOR THERMOPLASTIC HOSE SERIES 4700, 4700T, 4704NC, 4704NC-T, 4730LT, 4800, 4800NC)



STYLE FJ-SW

JIC Female Swivel
37° Flare

Part No.	Thread Size	Hose ID (Inches)	Dimensions									
			A		B		C		H1		H2	
			in	mm	in	mm	in	mm	in	mm	in	mm
4FJ-3SW	7/16-20	3/16	1.44	36.6	.720	18.3	.340	8.7	.560	14.2	.560	14.2
4FJ-4SW	7/16-20	1/4	1.71	43.4	.720	18.3	.340	8.7	.560	14.2	.560	14.2
5FJ-4SW	1/2-20	1/4	1.75	44.5	.760	19.3	.370	9.5	.625	15.8	.560	14.2
6FJ-4SW	9/16-18	1/4	1.77	45.0	.820	20.8	.370	9.5	.690	17.5	.560	14.2
5FJ-5SW	1/2-20	5/16	1.84	46.7	.820	20.8	.370	9.5	.625	15.8	.625	15.8
6FJ-5SW	9/16-18	5/16	1.86	47.2	.820	20.8	.370	9.5	.690	17.5	.625	15.8
6FJ-6SW	9/16-18	3/8	1.85	47.0	.880	22.4	.370	9.5	.690	17.5	.690	17.5
8FJ-6SW	3/4-16	3/8	1.90	48.3	.915	23.2	.460	11.7	.874	22.2	.690	17.5
8FJ-8SW	3/4-16	1/2	2.08	52.8	.978	24.8	.460	11.7	.874	22.2	.813	20.7
10FJ-8SW	7/8-14	1/2	2.10	53.3	1.00	25.4	.500	12.7	1.00	25.4	.874	22.0



STYLE FJ45T-SW

JIC Swivel Female
37° Flare
45° Bent Tube

Part No.	Thread Size	Hose ID (Inches)	Dimensions									
			A		B		C		D		H1	
			in	mm	in	mm	in	mm	in	mm	in	mm
4FJ45T-3SW	7/16-20	3/16	1.93	49.0	1.25	31.8	.340	8.7	.390	9.9	.560	14.2
4FJ45T-4SW	7/16-20	1/4	2.19	55.6	1.25	31.8	.340	8.7	.390	9.9	.560	14.2
6FJ45T-5SW	9/16-18	5/16	2.53	64.3	1.50	38.1	.370	9.5	.430	10.9	.690	17.5
6FJ45T-6SW	9/16-18	3/8	2.57	65.3	1.56	39.7	.370	9.5	.430	10.9	.690	17.5
8FJ45T-6SW	3/4-16	3/8	2.76	70.1	1.75	44.5	.460	11.7	.590	15.0	.874	22.2
8FJ45T-8SW	3/4-16	1/2	2.72	69.1	1.63	41.4	.460	11.7	.590	15.0	.874	22.2
10FJ45T-8SW	7/8-14	1/2	2.76	70.1	1.63	41.4	.500	12.7	.630	16.0	1.00	25.4

Hydraulic Hose

A

Hydraulic Fittings

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Support Products & Crimping Equipment

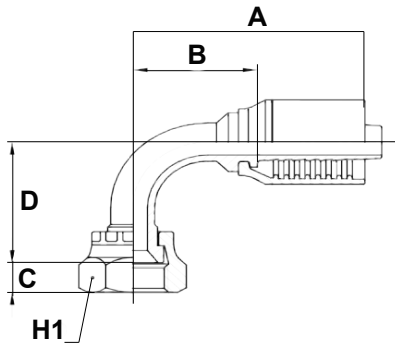
C

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SERIES SW CRIMP FITTINGS

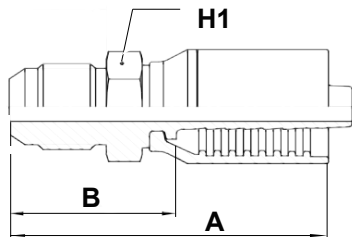
(FOR THERMOPLASTIC HOSE SERIES 4700, 4700T, 4704NC, 4704NC-T, 4730LT, 4800, 4800NC)



STYLE FJ90T-SW

JIC Swivel Female
37° Flare
90° Bent Tube

Part No.	Thread Size	Hose ID (Inches)	Dimensions									
			A		B		C		D		H1	
			in	mm	in	mm	in	mm	in	mm	in	mm
4FJ90T-3SW	7/16-20	3/16	1.75	44.0	1.06	27.0	.34	8.7	.830	21.0	.560	14.2
4FJ90T-4SW	7/16-20	1/4	2.01	51.0	1.06	27.0	.34	8.7	.830	21.0	.560	14.2
6FJ90T-4SW	9/16-18	1/4	2.01	51.0	1.06	27.0	.37	9.5	.910	23.1	.690	17.4
6FJ90T-5SW	9/16-18	5/16	2.14	54.0	1.13	28.0	.37	9.5	.910	23.1	.690	17.5
6FJ90T-6SW	9/16-18	3/8	2.22	56.0	1.25	32.0	.37	9.5	.910	23.1	.690	17.5
8FJ90T-6SW	3/4-16	3/8	2.55	64.8	1.56	39.6	.46	11.7	1.15	29.1	.874	22.2
8FJ90T-8SW	3/4-16	1/2	2.48	63.0	1.38	35.0	.46	11.7	1.15	29.1	.874	22.2
10FJ90T-8SW	7/8-14	1/2	2.48	63.0	1.38	35.0	.50	12.7	1.26	32.0	1.00	25.4



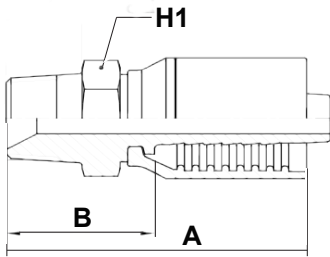
STYLE MJ-SW

JIC Male Rigid
37° Flare

Part No.	Thread Size	Hose ID (Inches)	Dimensions					
			A		B		H1	
			in	mm	in	mm	in	mm
4MJ-3SW	7/16-20	3/16	1.83	46.0	1.13	28.0	.560	14.2
4MJ-4SW	7/16-20	1/4	2.10	53.0	1.13	28.0	.560	14.2
5MJ-4SW	1/2-20	1/4	2.10	53.0	1.13	28.0	.560	14.2
6MJ-4SW	9/16-18	1/4	2.14	54.0	1.19	30.0	.688	17.5
6MJ-5SW	9/16-18	5/16	2.22	56.0	1.19	30.0	.688	17.5
6MJ-6SW	9/16-18	3/8	2.15	55.0	1.19	30.0	.625	17.5
8MJ-6SW	3/4-16	3/8	2.25	57.0	1.25	31.8	.812	20.6
8MJ-8SW	3/4-16	1/2	2.40	61.0	1.31	33.0	.874	22.2
10MJ-8SW	7/8-14	1/2	2.60	66.0	1.50	38.0	.938	23.8

SERIES SW CRIMP FITTINGS

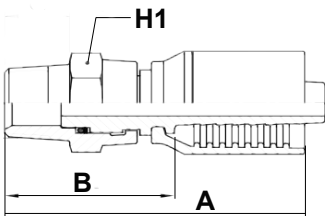
(FOR THERMOPLASTIC HOSE SERIES 4700, 4700T, 4704NC, 4704NC-T, 4730LT, 4800, 4800NC)



STYLE MP-SW

NPTF Male Rigid

Part No.	Thread Size	Hose ID (Inches)	Dimensions					
			A		B		H1	
			in	mm	in	mm	in	mm
4MP-4SW	1/4-18	1/4	2.09	53.0	1.13	28.0	.560	14.2
6MP-4SW	3/8-18	1/4	2.16	55.0	1.19	30.0	.690	17.5
4MP-5SW	1/4-18	5/16	2.11	54.0	1.12	28.0	.560	14.2
4MP-6SW	1/4-18	3/8	2.16	55.0	1.19	30.0	.690	17.5
6MP-6SW	3/8-18	3/8	2.16	55.0	1.19	30.0	.750	19.1
8MP-6SW	1/2-14	3/8	2.25	57.0	1.25	32.0	.874	22.2
8MP-8SW	1/2-14	1/2	2.55	65.0	1.48	37.0	.874	22.2



STYLE MS-SW

NPTF Male Swivel

Part No.	Thread Size	Hose ID (Inches)	Dimensions					
			A		B		H1	
			in	mm	in	mm	in	mm
4MS-4SW	1/4-18	1/4	2.24	57.0	.965	24.5	.690	17.5
6MS-6SW	3/8-18	3/8	2.56	65.0	1.09	27.7	.874	22.2
8MS-8SW	1/2-14	1/2	2.80	71.2	1.16	29.4	1.00	25.4

Hydraulic Hose

A

Hydraulic Fittings

B

Support Products & Crimping Equipment

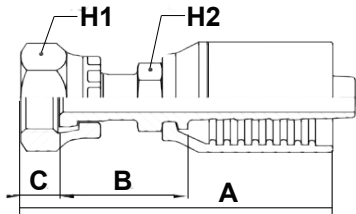
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SERIES SW CRIMP FITTINGS

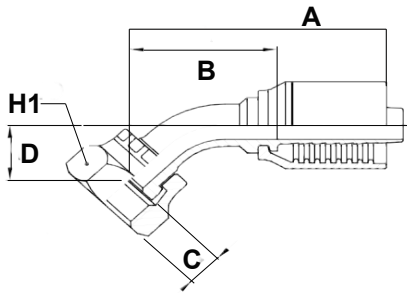
(FOR THERMOPLASTIC HOSE SERIES 4700, 4700T, 4704NC, 4704NC-T, 4730LT, 4800, 4800NC)



STYLE OFS-SW

O-Ring Face Seal
Female Swivel

Part No.	Thread Size	Hose ID (Inches)	Dimensions									
			A		B		C		H1		H2	
			in	mm	in	mm	in	mm	in	mm	in	mm
4OFS-4SW	9/16-18	1/4	1.84	46.7	.860	21.8	.330	8.5	.690	17.5	.560	14.2
6OFS-5SW	11/16-16	5/16	1.92	48.8	.880	22.3	.370	9.5	.810	20.6	.690	17.5
6OFS-6SW	11/16-16	3/8	1.91	48.5	.940	23.9	.370	9.5	.810	20.6	.690	17.5
8OFS-8SW	13/16-16	1/2	2.10	53.3	.960	24.4	.420	10.7	.938	23.8	.866	22.0



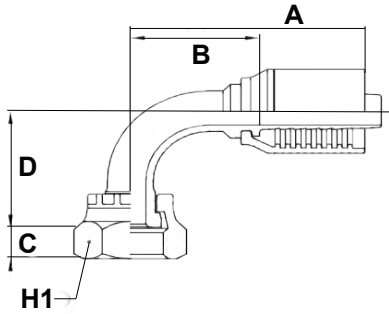
STYLE OF45T-SW

O-Ring Face Seal
Female Swivel
45° Bent Tube

Part No.	Thread Size	Hose ID (Inches)	Dimensions									
			A		B		C		D		H1	
			in	mm	in	mm	in	mm	in	mm	in	mm
4OF45T-4SW	9/16-18	1/4	2.25	51.0	1.25	32.0	.330	8.5	.390	10.0	.668	17.5
6OF45T-4SW	11/16-16	5/16	2.27	58.0	1.31	33.0	.370	9.5	.810	.430	.812	20.6
6OF45T-6SW	11/16-16	3/8	2.35	60.0	1.38	35.0	.370	9.5	.810	.430	.812	20.6
8OF45T-8SW	13/16-16	1/2	2.72	69.0	1.63	41.0	.420	10.7	.930	.590	.988	23.8

SERIES SW CRIMP FITTINGS

(FOR THERMOPLASTIC HOSE SERIES 4700, 4700T, 4704NC, 4704NC-T, 4730LT, 4800, 4800NC)



STYLE OF90T-SW

O-Ring Face Seal
Female Swivel
90° Bent Tube

Part No.	Thread Size	Hose ID (Inches)	Dimensions									
			A		B		C		D		H1	
			in	mm	in	mm	in	mm	in	mm	in	mm
4OF90T-4SW	9/16-18	1/4	2.14	53	1.13	28.0	.330	8.5	1.26	32.0	.688	32.0
6OF90T-6SW	11/16-16	3/8	2.22	56	1.25	32.0	.370	9.5	1.50	38.0	.810	20.6
8OF90T-8SW	13/16-16	1/2	3.48	63	1.38	35.0	.430	11.0	1.61	41.0	.938	23.8

Hydraulic Hose

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Hydraulic Fittings

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Support Products & Crimping Equipment

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SECTION B | **Hydraulic Fittings**

Series HW Crimp Fittings

Series KW Crimp Fittings

Series PW Crimp Fittings

Series RW Crimp Fittings

Series R5 Reusable Fittings

Series SB Crimp Fittings

Series SH Crimp Fittings

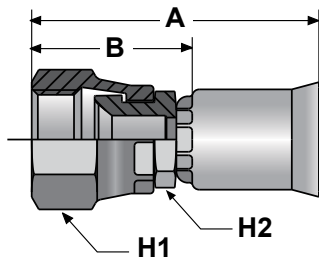
Series SW Crimp Fittings

Series TC/TS Crimp Fittings

Unisource “TC/TS” series fittings are cost effective, permanent, style crimp fittings made for easy and quick assembly using our family of Unisource crimpers. Compatible with Series 3014 (PTFE) and available in carbon steel and 316SS.

SERIES TC/TS CRIMP FITTINGS

(FOR PTFE SERIES 3014)



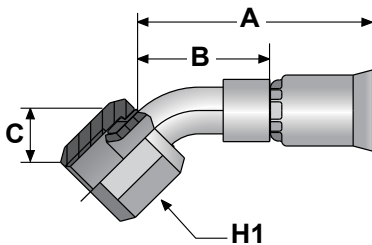
STYLE FJ-TC/TS

JIC Swivel Female
37° Flare

Part No.	Thread Size	Hose Size	Dimensions							
			A		B		H1		H2	
			in	mm	in	mm	in	mm	in	mm
4FJ-4TC/TS	7/16-20	-4	1.43	36	7/8	22	.563	14.2	.375	9.5
6FJ-6TC/TS	9/16-18	-6	1.63	41	1	25	.688	17.5	.500	12.7
6FJ-8TC/TS	9/16-18	-8	1.69	43	1	25	.688	17.5	.563	14.2
8FJ-8TC/TS	3/4-16	-8	1.89	48	1-3/16	30	.875	22.2	.688	17.5
8FJ-10TC/TS	7/8-14	-10	2.86	58	1-1/8	29	.875	22.2	.750	19.1
10FJ-10TC/TS	7/8-14	-10	2.03	52	1-5/16	33	1.00	25.4	.813	20.7
12FJ-12TC/TS	1-1/16-12	-12	2.12	54	1-5/16	33	1.25	31.8	1.00	25.4
16FJ-16TC/TS	1-5/16-12	-16	2.45	62	1-9/16	40	1.50	38.1	1.25	31.8

TC = Carbon Steel

TS = 316 Stainless Steel



STYLE FJ45T-TS

JIC Swivel Female
37° Flare
45° Bent Tube

Part No.	Thread Size	Hose Size	Dimensions							
			A		B		C		H1	
			in	mm	in	mm	in	mm	in	mm
4FJ45T-4TS	7/16	-4	1.74	44	1.19	30	0.33	8	.563	14.2
6FJ45T-6TS	9/16-18	-6	1.94	49	1.31	33	0.43	11	.688	17.5
8FJ45T-8TS	3/4-16	-8	2.28	58	1.56	37	0.55	14	.875	22.2
10FJ45T-10TS	7/8-14	-10	2.42	61	1.69	43	0.64	43	1.00	25.4
12FJ45T-12TS	1-1/16-12	-12	2.83	58	1.06	52	0.78	20	1.25	31.8
16FJ45T-16TS	1-5/16-12	-16	3.18	81	2.25	57	0.89	23	1.50	38.0

TS = 316 Stainless Steel

Hydraulic Hose

A

Hydraulic Fittings

B

Support Products &
Crimping Equipment

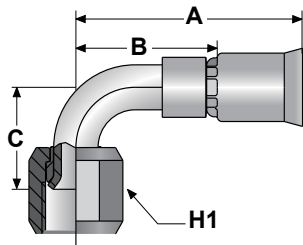
C

Technical Information &
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SERIES TC/TS CRIMP FITTINGS

(FOR PTFE SERIES 3014)

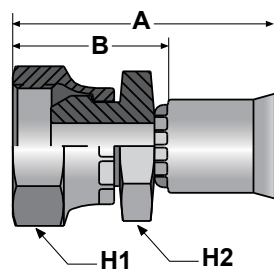


STYLE FJ90T-TC/TS

JIC Swivel Female
37° Flare
90° Bent Tube

Part No.	Thread Size	Hose Size	Dimensions							
			A		B		C		H1	
			in	mm	in	mm	in	mm	in	mm
4FJ90T-4TC/TS	7/16-20	-4	1.62	41	1.06	26.9	0.68	17	.563	14.2
6FJ90T-6TC/TS	9/16-18	-6	1.91	49	1.25	31.8	0.91	23	.688	17.5
8FJ90T-8TC/TS	3/4-16	-8	2.03	52	1.31	33	1.09	28	.875	22.2
10FJ90T-10TC/TS	7/8-14	-10	2.27	58	1.56	37	1.23	43	1.00	25.4
12FJ90T-12TC/TS	1-1/16-12	-12	2.75	58	1.94	49	1.82	46	1.50	38.1
16FJ90T-16TC/TS	1-5/16-12	-16	3.15	80	2.19	56	2.14	52	1.50	38.1

TC = Carbon Steel
TS = 316 Stainless Steel



STYLE FNPSM-TS

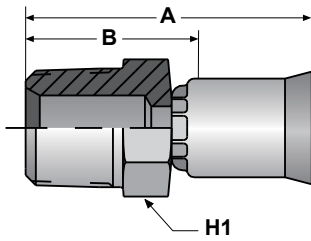
Female Pipe Swivel

Part No.	Thread Size	Hose Size	Dimensions							
			A		B		H1		H2	
			in	mm	in	mm	in	mm	in	mm
4FNPSM-4TS	1/4-18	-4	1.50	38	15/16	24	.688	17.5	.563	14.2
6FNPSM-6TS	3/8-18	-6	1.67	42	1	25	.875	22.2	.625	15.9
8FNPSM-8TS	1/2-14	-8	1.83	46	1-1/8	29	1.00	25.4	.750	19.1
12FNPSM-12TS	3/4-14	-12	2.09	53	1-5/16	33	1.25	31.8	1.00	25.4
16FNPSM-16TS	1-11-1/2	-16	2.26	57	1-5/16	33	1.38	34.9	1.12	28.7

TS = 316 Stainless Steel

SERIES TC/TS CRIMP FITTINGS

(FOR PTFE SERIES 3014)

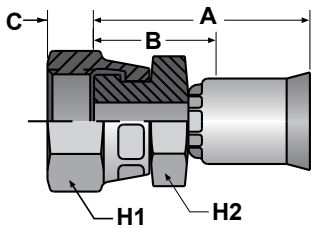


STYLE MP-TC/TS NPTF Male Rigid

Part No.	Thread Size	Hose Size	Dimensions					
			A		B		H1	
			in	mm	in	mm	in	mm
2MP-4TC/TS	1/8-27	-4	1.27	32	.750	19	.563	14.3
4MP-4TC/TS	1/4-18	-4	1.50	38	.938	24	.563	14.3
4MP-5TC/TS	1/4-18	-5	1.55	39	.938	24	.563	14.3
6MP-6TC/TS	3/8-18	-6	1.65	58	1.00	25	.688	17.5
8MP-8TC/TS	1/2-14	-8	1.94	49	1.25	32	.875	22.2
8MP-10TC/TS	1/2-14	-10	1.96	50	1.25	32	.875	22.2
12MP-12TC/TS	3/4-14	-12	2.19	56	1.38	35	1.13	28.6
16MP-16TC/TS	1-11-1/2	-16	2.46	62	1.50	38	1.38	35.0

TC = Carbon Steel

TS = 316 Stainless Steel



STYLE OFS-TS O-Ring Face Seal Female Swivel

Part No.	Thread Size	Hose Size	Dimensions									
			A		B		C		H1		H2	
			in	mm	in	mm	in	mm	in	mm	in	mm
4OFS-4TS	9/16-18	-4	1.46	37	.625	15.9	.32	8	.688	17.5	.563	14.2
6OFS-6TS	11/16-16	-6	1.62	41	.688	17.5	.32	8	.875	20.7	.625	15.9
8OFS-8TS	13/16-16	-8	1.93	49	.813	20.7	.43	11	.938	23.8	.750	19.1
12OFS-12TS	1-3/16-12	-12	2.05	58	1.25	31.8	.57	14	1.38	35.1	.938	23.8
16OFS-16TS	1-7/16-12	-16	2.56	65	1.06	27	.58	15	1.63	41.4	1.38	35.1

TS = 316 Stainless Steel

Hydraulic Hose

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Support Products &
Crimping Equipment

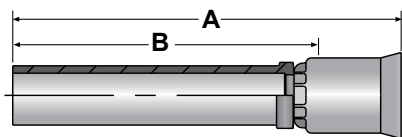
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SERIES TC/TS CRIMP FITTINGS

(FOR PTFE SERIES 3014)



STYLE TE-TS

Inch Tube End

Part No.	Tube O.D.	Hose Size	Dimensions			
			A		B	
			in	mm	in	mm
8TE-8TS	1/2	-8	2.80	71	2-1/8	54
8TE-10TS	1/2	-8	2.81	71	2-18	54
12TE-12TS	3/4	-12	3.37	86	2-9/16	65

TS = 316 Stainless Steel

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B	Hydraulic Fittings
C	Support Products & Crimping Equipment
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Support Products & Crimping Equipment

Sections

- Flange Kits
- Spring Guards
- Tuff-Guard
- Spiral-Guard
- Crimpers
 - D160
 - D165
 - CC30
 - CC150
 - UA - 4
 - S4-Ecoline

FLANGE KITS

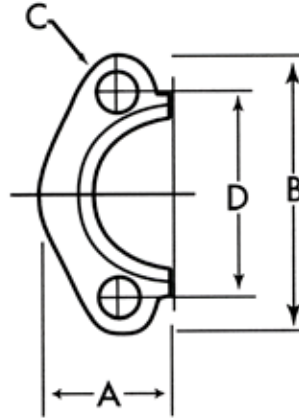
FOR CODE 61 (3000 TO 5000 PSI)
& CODE 62 (6000 PSI)

MATERIAL: Plated steel

PARTS: (2) each flange halves; (4) hex head grade 8 bolts and lockwashers; (1) Buna-N O-Ring

QUANTITY: One kit

DESCRIPTION: Code 61 and Code 62 split flange kits.



Code 61 Split Flange

Flange Kit Part #	IA ± .030	B ± .030	C ± .010	D ± .010	Width Mount	O-Ring Size
FK-8	0.86	2.12	0.34	1.50	0.50	- 210
FK-12	0.98	2.56	0.41	1.88	0.56	- 214
FK-16	1.11	2.75	0.41	2.06	0.62	- 219
FK-20	1.39	3.12	0.47	2.31	0.56	- 222
FK-24	1.58	3.69	0.53	2.75	0.62	- 225
FK-32	1.86	4.00	0.53	3.06	0.62	- 228

Code 62 Split Flange

Flange Kit Part #	IA ± .030	B ± .030	C ± .010	D ± .010	Width Mount	O-Ring Size
FK-12H	1.14	2.81	0.41	2.00	0.75	- 214
FK-16H	1.33	3.19	0.47	2.25	0.94	- 219
FK-20H	1.48	3.75	0.53	2.63	1.06	- 222
FK-24H	1.83	4.44	0.66	3.13	1.19	- 225
FK-32H	2.20	5.25	0.78	3.81	1.44	- 228

SUPPORT PRODUCTS



JACK HOSE 1J100 SPRING GUARD BEND RESTRICTORS

Part #	For Hose Size:	Quantity	Length
GOC10-9	-4	1 each	10 in.
GOC12-9	-6	1 each	12 in.
608066 Warning (Jack Hose Warning Tag)	—	1 each	—

MATERIAL: Plated steel wire

PARTS: (1) Spring coil – Mylar warning tag sold separately

DIAMETER: Inside diameter is minimum dimension at closed wound end

SIZES: 0.50" to 2.07" I.D. available upon request

DESCRIPTION: Open/closed coil hose guards are designed to act as a bend restrictor behind the coupling attached on the hose. This protects the hose from being bent too excessively behind the coupling. Each coil has a closed end which enables firm attachment onto the coupling. Each coil is constructed of steel wire and plated with a zinc coating to resist rust. Warning tags available also.



TUFF-GUARD NYLON HOSE SLEEVING

MATERIAL: Bulked woven continuous Nylon filament

COLOR: Black is standard – other colors available

DIAMETER: From 0.71 in I.D. to 3.665 in. I.D.

TEMPERATURE: 250°F. maximum ambient

THICKNESS: 0.90 inch wall

DESCRIPTION: Tuff-Guard is the industry leader for abrasion resistant woven sleeving used on hose, cable, and related products. Woven from high-density Nylon yarns, **Tuff-Guard** maximizes the application life of hose and cable by reducing or eliminating frictional wear in abrasive situations. Excellent for use as a shield from various chemicals, paints, and solvents and may be also used for bundling two or more hose or cable lines together.

Part #	Roll Quantity	Opened I.D. Dimension (In.)
TG-071	300 ft	0.710
TG-077	300 ft	0.775
TG-090	300 ft	0.905
TG-100	300 ft	1.000
TG-114	300 ft	1.145
TG-125	300 ft	1.255
TG-130	300 ft	1.300
TG-138	300 ft	1.380
TG-153	300 ft	1.535
TG-159	300 ft	1.590
TG-175	300 ft	1.750
TG-185	300 ft	1.850
TG-207	300 ft	2.075
TG-225	300 ft	2.250
TG-238	300 ft	2.385
TG-254	300 ft	2.540
TG-264	300 ft	2.640
TG-296	300 ft	2.965
TG-334	300 ft	3.340
TG-366	300 ft	3.665

SPIRAL-GUARD

POLYETHYLENE HOSE GUARD



MATERIAL: High Density Polyethylene (high molecular weight)

COLOR: Black is standard – other colors available

DIAMETER: From 3/16" I.D.

TEMPERATURE: -100 °F to +240°F

LENGTH: 66 feet

DESCRIPTION: Spiral-Guard hose sleeving is constructed of a specially compounded material that resists oils, lubricants, gasoline, and most solvents. It can withstand ambient temperatures ranging from -100°F to +240°F, and it has a high resistance against ultraviolet weathering. Spiral-Guard is designed with an outside edge radius. This eliminates snagging and cut fingers when bundling groups of hose or cable. Spiral-Guard is used on, but not limited to, hydraulic, pneumatic, suction pump hoses and cables of all sorts. It is used in a wide variety of industries ranging from agriculture and mining to transport and distribution.

Products available and suggested applications:

Part #	Hose I.D. (Inches)	1-Wire	2-Wire	Multi-Spiral	Dash Size
SGX16-SR	3/16	X	—	—	-3
	1/4	X	—	—	-4
SGX20-SR	1/4	—	X	—	-4
	5/16	X	—	—	-5
	3/8	X	X	X	-6
	1/2	X	X	X	-8
SGX32-SR	5/8	X	X	—	-10
	3/4	X	X	X	-12
	1	X	X	X	-16
SGX50-SR	1-1/4	X	X	X	-20
	1-1/2	X	X	X	-24
SGX75	2	X	X	X	-32
SGX90	BUNDLING MULTIPLE HOSES				

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CRIMPING EQUIPMENT

D160 PORTABLE CRIMPER

WITH HAND PUMP OR
PNEUMATIC / OIL PUMP

MATERIAL: High strength aluminum flanges and tubular frame

HOSE DIAMETER: Up to 1-1/4" 4-wire; Up to 1" 6-wire

PUMP: Hand or pneumatic/oil 10,000 psi pumps

DIES: 7mm to 39mm

DESCRIPTION: Weighing only 50 lbs, the 60-ton cylinder has the capacity to crimp up to 1-1/4 inch 4-wire hose, and up to 1 inch 6-wire hose. The D160 is a truly portable crimper that can be carried to most any location where service is required. The removable pusher and inverted die position make accurate fitting positioning easy. "Micro Site" indicator assures accurate and repeatable crimps. Base mounting holes allow the crimper to be bench or truck bed mounted if required. Choose either the hand or pneumatic 10,000 PSI pump. Crimpers and pumps also available separately. Dies available from 7mm to 39mm are ordered separately.



D160



D100-01 Dual Stage Hand



D100-02 Pneumatic / Oil Foot



D105-101431 Optional Shelf

Crimpers

Part #	Description
D160-SH	D160S Crimper with Hand Pump (D100-01)
D160-SP	D160S with Pneumatic/Oil Pump (D100-02)
D160S	D160S Crimper Only with Stand-Up Frame
D105-101431	Die Shelf
D100-01	Dual Stage Hand Pump
D100-02	Pneumatic/Oil Foot Pump
D105-101431	Optional Die Shelf

Crimp Dies

Part #	Description
D105-16MM (Red)	Die Set
D105-17MM (Yellow)	Die Set
D105-19MM (Silver)	Die Set
D105-21MM (Blue)	Die Set
D105-24MM (Black)	Die Set
D105-26MM (Orange)	Die Set
D105-30MM (Green)	Die Set
D105-39MM (Brown)	Die Set

Note: Wide range of custom dies available upon request.

D165 60-TON CRIMPER WITH HYDRAULIC ONE-HP PUMP

MATERIAL: High strength aluminum flanges and tubular frame

HOSE DIAMETER: Up to 1-1/4" 4-wire; Up to 1" 6-wire

PUMP: Electric / hydraulic – 1 HP

DIES: 7mm to 50mm

DESCRIPTION: The D165 crimper has the capacity to crimp up to 1-1/4 inch 4-wire hose and up to 1 inch 6-wire hose. This crimper is designed for higher production requirements. Utilizes an electric/hydraulic 1 HP pump. The removable pusher and inverted die position make accurate fitting positioning easy. "Micro Site" indicator assures accurate and repeatable crimps. Base mounting holes allow the crimper to be bench or truck bed mounted if required. Dies available from 7mm to 39mm are ordered separately.



D165

Crimper

Part #	Description
D165	Crimper with Hydraulic 1-HP Pump, 110-115V Single Phase (D100-01)
D105-101431	Die Shelf

Crimp Dies

Part #	Description
D105-16MM (Red)	Die Set
D105-17MM (Yellow)	Die Set
D105-19MM (Silver)	Die Set
D105-21MM (Blue)	Die Set
D105-24MM (Black)	Die Set
D105-26MM (Orange)	Die Set
D105-30MM (Green)	Die Set
D105-39MM (Brown)	Die Set
D105-50MM (Purple)	Die Set



D105-101431 Optional Shelf

Note: Wide range of custom dies available upon request.

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CRIMPING EQUIPMENT

CC30/220 V – 155 TON CRIMPER

PRODUCTION CRIMPER
TWO-HP PUMP

ELECTRICAL POWER: 110V or 220V 1 phase

HOSE DIAMETER: Up to 2" 2 wire; Up to 1-1/4" 6 wire

PUMP: Electric / hydraulic – 2 HP

DIES: From 8mm to 39mm

DESCRIPTION: An ideal fit for many small shops where space is at a premium and the ability to crimp a wide variety of hose and fittings is needed. The increased capacity while still maintaining a compact head size and small footprint is made possible by the use of the 11,000 PSI pump and improved design of the internal head components. 155 ton crimping force can crimp up to 2 inch 2 wire hose or 1-1/4 inch 6 wire hose. Large 4.9 inch throat opening allows right angle and special fittings to be inserted from the rear of the crimper.



CC30

Crimper

Part #	Description
CC30/220V	Crimper & Pump, 2HP 220 Volt 1 Phase*

*Notes: 3-phase available upon request.

Complete list of specifications and dimensions available upon request.

Dies & Parts

Part #	Description
CC30-102616-84MM	9 Station Die Holder
CC30 Stand	Crimper Stand
CC30-84S-08-57	8MM Die Set
CC30-84S-10-57	10MM Die Set
CC30-84S-12-57	12MM Die Set
CC30-84S-14-57	14MM Die Set
CC30-84S-16-57	16MM Die Set
CC30-84S-17-57	17MM Die Set
CC30-84S-21-57	21MM Die Set
CC30-84S-24-57	24MM Die Set
CC30-84S-26-57	26MM Die Set
CC30-84S-28-57	28MM Die Set
CC30-84S-30-57	30MM Die Set
CC30-84S-39-57	39MM Die Set

Note: Wide range of custom dies available upon request.



D105-101431 Optional Shelf

CC150 MIC – 240 TON CRIMPER

**PRODUCTION CRIMPER
FIVE-HP PUMP**

ELECTRICAL POWER: 230V 3 phase

HOSE DIAMETER: Up to 2" 2 wire; Up to 1-1/4" 6 wire

PUMP: Electric / hydraulic – 5 HP

DIES: From 10mm to 58mm

DESCRIPTION: A high production crimper. 240 ton crimping force can crimp up to 2 inch 2 wire hose or 1-1/4 inch or 6 wire hose. Large 4.7 inch throat opening allows right angle and special fittings to be inserted from the rear of the crimper. Powerful five HP 230 V, 3-phase pump. Optional nine station die holder.



CC150 MIC

Crimper

Part #	Description
CC150 MIC	Crimper, 5HP 230V 3 Phase

Note: Complete list of specifications and dimensions available upon request.

Dies & Parts

Part #	Description
CC101247-99	Crimper Stand
CC30-84S-10-57	10MM Die Set
CC30-84S-12-57	12MM Die Set
CC30-84S-14-57	14MM Die Set
CC30-84S-16-57	16MM Die Set
CC30-84S-17-57	17MM Die Set
CC30-84S-21-57	21MM Die Set
CC30-84S-30-57	30MM Die Set
CC30-84S-34-57	34MM Die Set
CC30-84S-39-57	39MM Die Set
CC30-84S-45-57	45MM Die Set
CC30-84S-50-57	50MM Die Set
CC30-84S-58-57	58MM Die Set

Note: Wide range of custom dies available upon request.

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CRIMPING EQUIPMENT

UNIFLEX UA4 – 135 TON CRIMPER

GREASELESS VERTICAL CRIMPER

1-HP PUMP

ELECTRICAL POWER: 110-115 V Single Phase

HOSE DIAMETER: Up to 1-1/2" 4-wire | 1-1/4" R15 6-wire

PUMP: Electric / hydraulic – 1 HP

DIES: From 9 mm to 57 mm

DESCRIPTION: The powerful workshop UA4 crimper with its capability to crimp a wide range of hoses, up to 1-1/2 inch 4-wire or 1-1/4 inch 6-wire (even two piece versions) offers maximum flexibility at a great value. The open, horizontally slideable compression dies spring open to facilitate crimping of short 90° fittings with long necks. Thanks to the standard-equipped 110-115V single-phase power unit, the UA4 is ready for operation globally.

This crimper is also equipped with the legendary **GREASELESS** slide bearing technology.



UA4

Crimper

Part #	Description
UA4	Crimper, 1 HP 110-115V Single Phase

Note: Complete list of specifications and dimensions available upon request.

Dies & Parts

Part #	Description
UA4-Stand	Crimper Stand
PB280-09	9MM Die Set
PB280-12	12MM Die Set
PB280-14	14MM Die Set
PB280-17	17MM Die Set
PB280-19	19MM Die Set
PB280-22	22MM Die Set
PB280-24	24MM Die Set
PB280-28	28MM Die Set
PB280-32	32MM Die Set
PB280-36	36MM Die Set
PB280-40	40MM Die Set
PB280-44	44MM Die Set
PB280-47	47MM Die Set
PB280-50	50MM Die Set
PB280-57	57MM Die Set

Note: Wide range of custom dies available upon request.



UA4 - Stand

S4 ECOLINE – 180 TON CRIMPER

**GREASELESS PRODUCTION CRIMPER
SELF CONTAINED UNIT WITH 230V 3-PHASE**

ELECTRICAL POWER: 230 V 3-Phase

HOSE DIAMETER: Up to 2 Inch 4 Spiral Wire | Up to 1-1/2 inch 6-wire

PUMP: Electric / hydraulic 3hp

DIES: From 9 mm to 62mm

DESCRIPTION: This service crimper, features a crimp force of 180-tons and is designed for a crimp range of up to 70 mm od. It's the perfect choice for hydraulic hose assemblies up to 1 1/2" and for industrial hose assemblies up to 2". **THIS CRIMPER IS ALSO EQUIPPED WITH THE LEGENDARY GREASELESS SLIDE BEARING TECHNOLOGY.**



S4 Ecoline

Crimper

Part #	Description
S4	Crimper, 230V 3-Phase

Note: Complete list of specifications and dimensions available upon request.

Dies & Parts

Part #	Description
S4-Stand	Crimper Stand
QDS-239B	9-Station Die Rack
PB239-09	9MM Die Set
PB239-12	12MM Die Set
PB239-14	14MM Die Set
PB239-17	17MM Die Set
PB239-19	19MM Die Set
PB239-22	22MM Die Set
PB239-24	24MM Die Set
PB239-28	28MM Die Set
PB239-32	32MM Die Set
PB239-36	36MM Die Set
PB239-40	40MM Die Set
PB239-44	44MM Die Set
PB239-47	47MM Die Set
PB239-50	50MM Die Set
PB239-57	57MM Die Set
PB239-62	62MM Die Set

Note: Wide range of custom dies available upon request.



S4 - Stand

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Sections

- Do's and Don't
- S.T.A.M.P.E.D.
- Flow Capacity
- Routing & Installation
- Pressure Drop Chart
- Thread Identification
- Torque Ratings
- Hose Assembly

It is important that the following precautions are read prior to use. Unisource hydraulic hose, couplings, and accessories are developed for hydraulic components. Follow each product's application and specifications.

AVOID HOSE BURST, LEAKAGE, AND OTHER DANGERS BY FOLLOWING IMPORTANT STEPS.

System working pressure should not exceed the rated working pressure of the hose assembly. Exceeding the rated working pressure of the hose may result in the hose bursting or hose coupling blow-off. Follow the maximum working pressure ratings listed in this catalog.

Do not touch a pressurized hydraulic hose assembly with any part of your body. If hoses, couplings, or accessories are broken, and a fluid touches the skin, even if no pain is felt, a serious injury including burns may be caused. In case of multi-spiraled hose, be sure to use safety chains. Use of plastic hose guards will help a person avoid injury.

Leaking hoses can be hazardous and polluting. Leaking hydraulic fluid from a hose or hose connection is not only unsightly, but hazardous. It can make floors slippery and dangerous and can pollute and contaminate the environment. As little as one quart of oil can pollute up to 250,000 gallons of water. Before cleaning an oil spill, always check EPA, state and local regulations.

Avoid applications where the hose is or will be twisted or pulled. Twisting or stretching a hydraulic hose under pressure may result in hose bursting or hose coupling blow-off. If it is sound, replace with a new one, then install a live swivel joint.

Protect the hose from abrasions. If the hose reinforcement is exposed, it is susceptible to rust and accelerated damage leading to serious failure like hose burst. If it is found, replace with a new one.

Do not apply an electrical current to a hose assembly. Electrifying a hose may lead to a hose failure or an electric shock.

Do not snap the hose. Snapping and deforming will lead to hose burst, leakage, and hose coupling blow-off. If found, replace with a new one.

Use compatible hydraulic fluid. The use of an incompatible hydraulic fluid will deteriorate the inner tube and the reinforcement resulting in the hose bursting or coupling blow-off.

Tighten hose assemblies to the recommended torque. If tightening is improper, there are possibilities of leakage, connection portion breakage, and separation. Be sure to apply the recommended torque by using a torque spanner. In case of over torque, replace with a new one. In case of under torque, re-tighten with the recommended torque.

Avoid excessive vibration. Excessive vibration may cause leakage and hose coupling blow-off by fatigue.

Avoid the usage exceeding the minimum bending radius. The usage exceeding the minimum bending radius may cause kinking, leading to hose burst and leakage. Be sure to follow the specified minimum bending radius listings in this catalog.

Hydraulic fluid can be flammable. Nearly all hydraulic fluids are flammable when exposed to certain conditions. Leaking pressurized fluids may develop a mist or fine spray that can flash or explode upon contact with a source ignition. Precautions should be taken to eliminate all ignition sources from contact with escaping fluids, including electrical discharges (sparks), open flames, hot manifolds, and engine blocks.

Avoid vacuum pressure (except for suction hose). Excessive vacuum pressure may result in inner tube damage which leads to hose failure.

Avoid the usage exceeding the applicable temperature. The usage exceeding applicable temperature may cause leakage and hose coupling blow-off.

Remove all air from hydraulic hose assemblies. Air may cause damage to the inner tube which will lead to hose failure.

Avoid submerging hose assemblies in water or any other liquid. Hose assemblies submerged in water are exposed to external pressure which will reduce the service life of a hose and/or have bad effect on hose assembly performance.

Never repair or rework a hose assembly. Old or used hose assemblies do not have the same physical characteristics as a new hose and cannot be used. Old hoses or damaged hoses should be replaced with a new one, and should not be repaired or reworked.

Follow minimum hose exposed (or live) length. Follow minimum hose exposed (live) length. Improper length may result in inferior performance to catalog specifications.

Storage. Cap the couplings or hose cut ends. Keep out of direct sunlight. Do not expose to corrosive gas, oil, or chemicals. Store in dark and dry place at a temperature between 14°F to 104°F (-10°C to +40°C).

SELECTING THE CORRECT HYDRAULIC HOSE

An effective way to remember hose selection criteria is to remember the word...

STAMPED

S = Size

T = Temperature

A = Application

M = Material to be Conveyed

P = Pressure

E = Ends or Couplings

D = Delivery (Volume & Velocity)

1. HOSE SIZE (DASH NUMBERS)

The inside diameter of the hose must be adequate to keep pressure loss to a minimum and avoid damage to the hose due to heat generation or excessive pressures (see Section 10-Determining Hose Size for Given Flow). To determine the replacement hose size, read the layline printing on the side of the original hose. If the original hose layline is worn off, the original hose must be cut and inside diameter measured for size. NOTE: Before cutting on original hose assembly, measure the overall assembly length. The measurement will be required to build the replacement assembly. Hose O.D. can be a critical factor when hose routing clamps are used or hoses are routed through bulkheads. Check individual hose specification tables for O.D.'s. Most Unisource hydraulic hose series are available in a variety of sizes.

2. TEMPERATURE

When selecting a replacement assembly, two areas of temperature must be considered. These are fluid temperature and ambient temperature (the temperature outside of the cover of the hose). The hose selected must be capable of withstanding the minimum and maximum temperature seen by the system. Care must be taken when routing near hot manifolds and in extreme cases a heat shield may be advisable.

3. APPLICATION

Determine where or how the replacement hose or assembly is to be used. To fulfill the requirements of the application, additional questions may need to be answered...such as:

Where will the hose be used?	Minimum bend radius?	Fluid and/or ambient temperature
Equipment type?	Excessive abrasion?	Fluid compatibility?
Hose construction?	Environmental conditions?	Thread end connection type?
Working & surge pressures?	Routing requirements?	Thread type?
Suction application?	Non-conductive hose required?	Permanent or field attachable fittings?

4. MATERIAL TO BE CONVEYED

Some applications require specialized oils or chemicals to be conveyed through the system. Hose selection must assure compatibility of the hose tube, cover, couplings, and "O" rings with the fluid used.

5. PRESSURE

Most important in the hose selection process is knowing system pressure, including pressure spikes. Published working pressures must be equal to or greater than the system pressure. Pressure spikes greater than the published working pressure will shorten hose life and must be taken into consideration. Unisource does not recommend using hoses on applications having pressure spikes greater than published working pressures of the hose.

6. ENDS OR COUPLINGS

Identify end connections. Once thread ends have been identified, consult the appropriate section of the catalog for specific part number selection.

7. DELIVERY (VACUUM & VELOCITY)

If the same I.D. of the original hose is used, assume the system is properly sized to efficiently transport fluid. If the system is new or altered, determine the hose I.D. needed to transport required fluid volume flow by using the Flow Chart by hose I.D. included in this catalog. Also select a compatible hose in your stock which will give immediate delivery to the application.

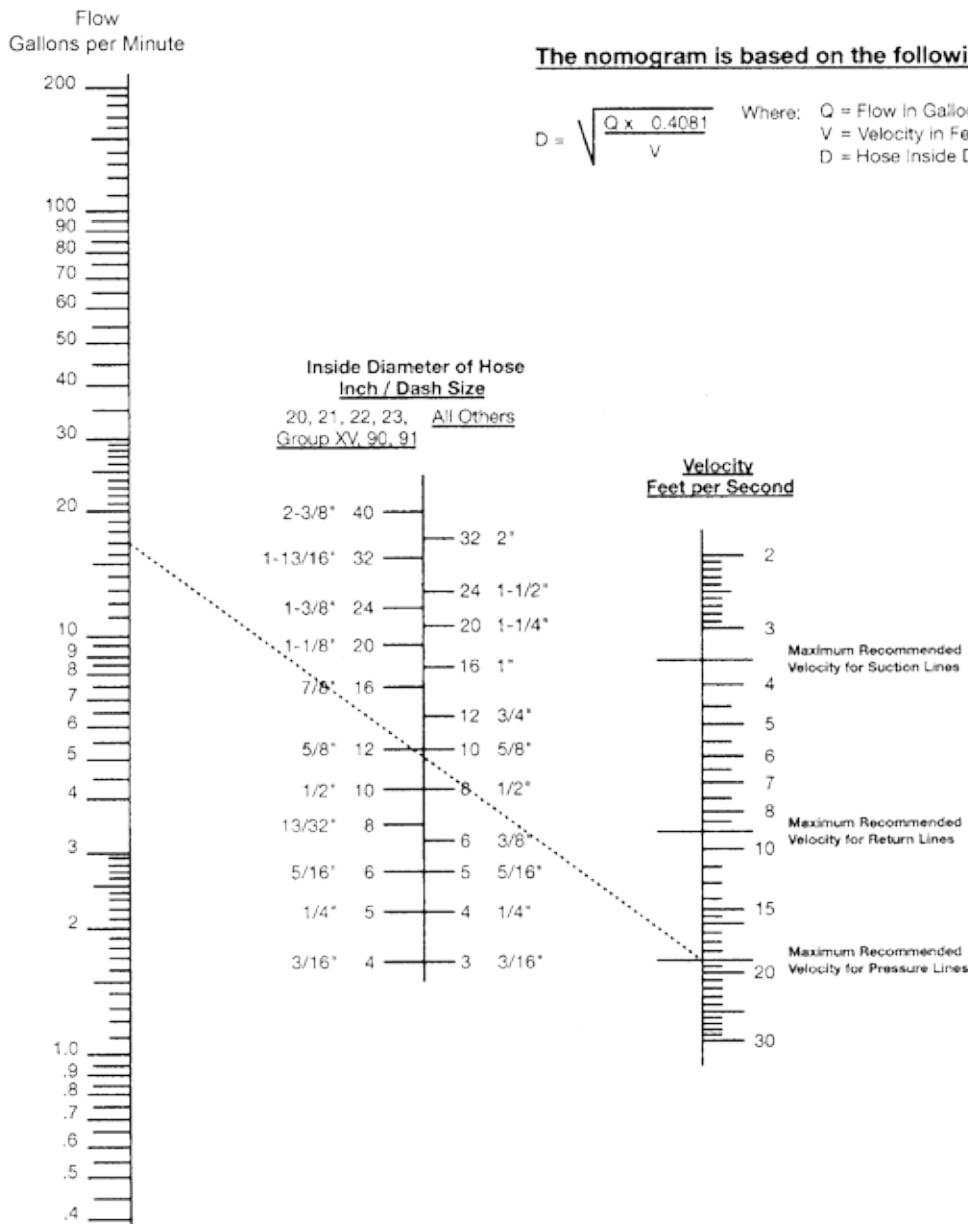
SELECTING HOSE I.D. BY FLOW CAPACITY

HOW TO USE THIS CHART:

Determine the proper flow rate your system requires, then connect a straight edge from the selected flow rate to the recommended velocity range. The required hose I.D. will appear at the intersection of the straight edge and the center column. If the straight edge passes through the scale between sized listed, use the next larger I.D. hose.

Example:

The flow rate your system requires is 17 gallons per minute. Connect your straight edge from the 17 gallon per minute flow rate column to the recommended velocity range for pressure lines of 20 feet per second (fps). The straight edge intersects at 5/8, so the recommended hose I.D. is 5/8 inch.



Hydraulic Hose	A
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HOSE ROUTING & INSTALLATION TIPS

PRE-INSTALLATION CHECK-LIST

1) Check to ensure the hose is the correct specification in style, size, and length; 2) Check that the hose assembly has no visible non-conformity; 3) Check fittings for any damage including nicks or burrs; 4) Check that the hose is routed properly using suggested guidelines; 5) Check that the hose is not damaged (kinked, crushed, twisted).

INSTALLING STRAIGHT SECTIONS

Under pressure, a hose's length may change. When pressurized, a flexible hose assembly can change length by as much as +3% or -6% compared to its original length. Always provide some slack in the hose to allow for shortening or elongation. However, excessive slack in hose lines may cause poor appearance. Also, in applications where there is considerable vibration or flexing, allow additional hose length. The metal fittings, naturally, are not flexible, and proper installation protects metal parts from undue stress, and avoids kinks in the hose.

WRONG



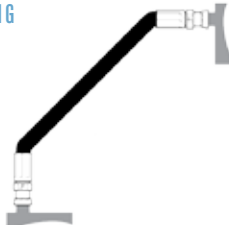
RIGHT



WHEN HOSE ASSEMBLY MUST TURN 90 DEGREES

At bends, provide sufficient hose to avoid a bend radius less than the hose's recommended minimum bend radius. Too tight a bend may kink the hose and restrict or snap the fluid flow. In most cases, the proper use of adapters and hose fittings can eliminate tight bends or kinks.

WRONG



RIGHT



AVOID TWISTS IN THE HOSE

If a hose is installed with a twist in it, operating pressures tend to force it to straighten. This can loosen the fitting nut. Twisting can cause reinforcement separation and the hose could burst at the point of strain.

WRONG



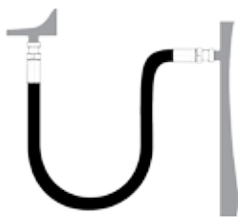
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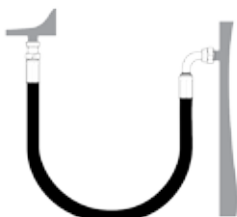
THE USE OF ADAPTERS TO AVOID SHARP BENDS

Always consider the minimum bend radius of the hose. Use adapters where necessary to avoid sharp bends.

WRONG



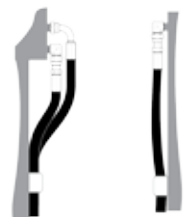
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WRONG



RIGHT

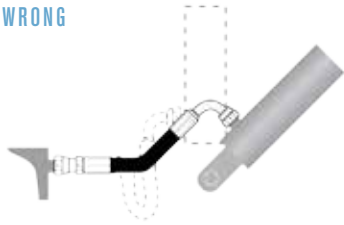


HOSE ROUTING & INSTALLATION TIPS

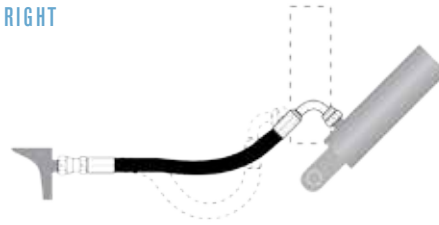
PROVIDE ADEQUATE LENGTH FOR APPLICATIONS WHERE HOSES FLEX

Where hoses flex, be sure to allow adequate hose length for all positions to avoid kinking or exceeding the minimum bend radius. Refer to formulas for determining live length of hose.

WRONG



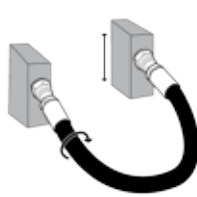
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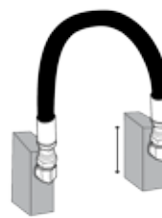
ROUTE HOSES TO CREATE BENDS

Design installations so that machine motion produces bending rather than twisting. Torque can loosen the fitting nut. Twisting can cause reinforcement separation and the hose could burst at the point of strain.

WRONG



RIGHT



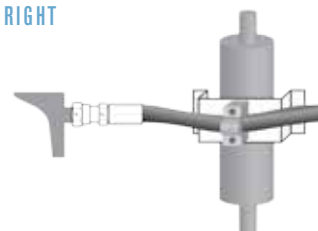
ROUTE TO AVOID DAMAGE FROM EXHAUST LINES OR OTHER HEAT SOURCES

Use support clamps to reduce damage from heat or abrasion. Where clamps cannot be used, install a protective spring or sleeve.

WRONG



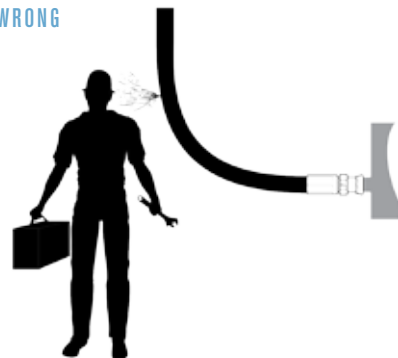
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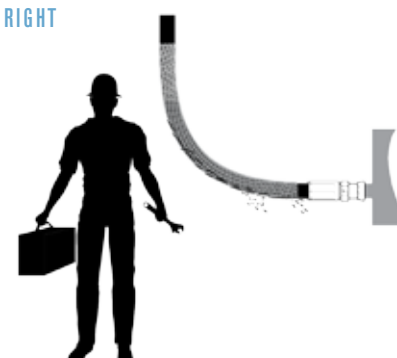
SAFETY CONSIDERATIONS IN HOSE INSTALLATION

Where a leaking hose may result in injury from oil spray, and skin injection, install a woven sleeve to absorb the impact of the oil stream.

WRONG



RIGHT



Hydraulic Hose

A

Hydraulic Fittings

B

Support Products & Crimping Equipment

C

Technical Information & Guidelines

D

PRESSURE DROP PER 100 FEET OF HOSE

Pressure drop in PSI (pounds per square inch) per 10 feet of hose (smooth bore) without fittings.

Hose Dash Size	-04		-05		-06		-08		-10		-12		-16		-20		-24		-32		-40		-48		
Hose I.D (in.)	0.19	0.25	0.25	0.31	0.31	0.38	0.41	0.50	0.50	0.63	0.63	0.75	0.88	1.00	1.13	1.25	1.38	1.50	1.81	2.00	2.38	3.00			
U.S. Gallons Per Minute	0.25	10.0	3.1	3.1																					
	0.5	19.0	6.0	6.0	2.7	2.7																			
	1	40.0	12.0	12.0	5.5	5.5	2.4																		
	2	95.0	24.0	24.0	10.0	10.0	4.8	3.5																	
	3	185.0	46.0	46.0	17.0	17.0	7.0	5.0	2.2	2.2															
	4		78.0	78.0	29.0	29.0	12.0	8.0	3.0	3.0	1.2	1.2													
	5		120.0	120.0	44.0	44.0	18.0	12.0	4.5	4.5	1.6	1.6	0.7												
	8				95.0	95.0	39.0	26.0	10.0	10.0	3.6	3.6	1.4	0.6											
	10					59.0	40.0	15.0	15.0	5.7	5.7	2.0	1.0	0.6											
	12					80.0	52.0	20.0	20.0	7.2	7.2	2.8	1.5	0.8	0.4										
	15						75.0	30.0	30.0	10.0	10.0	4.2	2.2	1.2	0.7	0.4									
	18						107.0	40.0	40.0	15.0	15.0	6.3	3.0	1.5	0.7	0.6	0.4								
	20							49.0	49.0	19.0	19.0	8.0	3.4	2.0	1.1	0.7	0.4	0.3							
	25							72.0	72.0	26.0	26.0	11.0	5.5	3.0	1.6	1.0	0.6	0.4	0.2						
	30									34.0	34.0	14.0	7.0	3.6	2.2	1.3	0.8	0.5	0.2	0.1					
	35									47.0	47.0	19.0	9.5	5.0	2.8	1.7	1.1	0.7	0.3	0.2					
	40											25.0	12.0	6.5	3.4	2.2	1.4	0.9	0.4	0.2					
	50											36.0	17.0	9.0	5.3	3.3	2.0	1.3	0.5	0.4	0.2				
	60											50.0	23.0	12.0	7.5	4.4	2.8	1.8	0.8	0.5	0.2				
	70											31.0	17.0	9.3	6.0	3.8	2.4	1.0	0.7	0.3					
	80											38.0	21.0	12.0	7.1	4.6	3.0	1.2	0.8	0.3	0.1				
	90											49.0	27.0	15.0	9.0	5.9	3.8	1.5	1.0	0.5	0.1				
	100												33.0	19.0	12.0	7.0	4.7	1.9	1.3	0.6	0.2				
	150												60.0	36.0	22.0	13.0	8.5	3.4	2.2	1.0	0.3				
	200														36.0	23.0	15.0	6.0	3.9	1.7	0.6				
250															54.0	33.0	22.0	8.5	5.3	2.5	0.8				
300																45.0	29.0	12.0	7.5	4.0	1.1				
400																	51.0	21.0	14.0	6.5	2.2				
500																		32.0	20.0	10.0	3.0				
800																					18.0	5.0			
1000																								10.0	

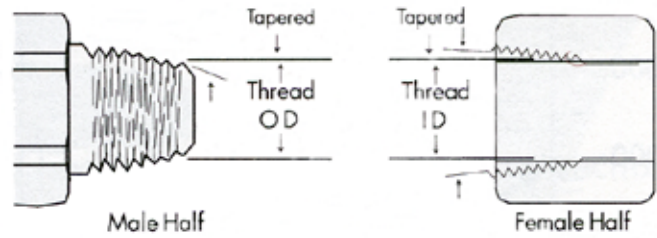
Note: Fluid specification - Specific gravity = 0.85; Viscosity = ν = 20 centistokes (C.S.), (20 C.S. = 97 S.S.U.). Pressure drop values listed are typical of many petroleum based hydraulic oils at approximately +100°F (+38°C). Differences in fluids, fluid temperature and viscosity can increase or decrease actual pressure drop compared to the values listed.

American Thread Types

NPTF—National Pipe Tapered Fuel

The NPTF male will mate with NPTF, NPSF, NPSM female.

The NPTF male has tapered threads and a 30° inverted seat. The NPTF female has tapered threads and no seat. The seal takes place by deformation of the threads. The NPSM female has straight threads and a 30° inverted seat. The seal takes place on the 30° seat.

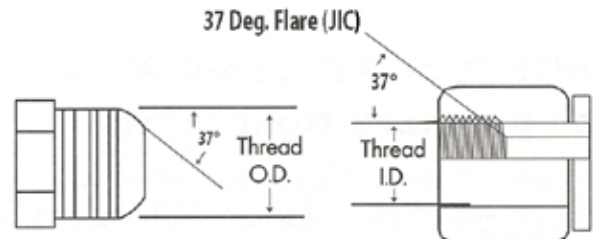


THREAD IDENTIFICATION TABLE: NATIONAL PIPE STRAIGHT MECHANICAL (NPSM) | NATIONAL PIPE TAPERED FOR FUELS (NPTF)

Dash Size	Inch Size (in)	Thread Size (in-TPI)	Female Thread I.D.		Male Thread O.D.	
			(mm)	(in)	(mm)	(in)
-2	1/8	1/8-27	8.7	0.34	10.3	0.41
-4	1/4	1/4-18	11.9	0.47	14.3	0.56
-6	3/8	3/8-18	15.1	0.59	17.5	0.69
-8	1/2	1/2-14	18.3	0.72	21.4	0.84
-12	3/4	3/4-14	23.8	0.94	27.0	1.06
-16	1	1-11-1/2	30.2	1.19	33.3	1.31
-20	1-1/4	1-1/4-11-1/2	38.9	1.53	42.9	1.69
-24	1-1/2	1-1/2-11-1/2	44.5	1.75	48.4	1.91
-32	2	2-11-1/2	57.2	2.25	60.3	2.38

SAE J514 37° (JIC)

The JIC 37° flare male will mate with a JIC female only. The JIC male has straight threads and a 37° flare seat. The JIC female has straight threads and a 37° flare seat. The seal is made on the 37° flare seat by establishing a line contact between the male flare and the female cone seat. The threads hold the connection mechanically. CAUTION: In the -02, -03, -04, -05, -08, and -10 sizes, the threads of the SAE 45° flare and the SAE 37° flare are the same. However, the sealing surface angles are not the same. Carefully measure the seat angle to differentiate.



THREAD IDENTIFICATION TABLE: SAE J514 37° FLARE (JIC)

Dash Size	Inch Size (in)	Thread Size (in-TPI)	Female Thread I.D.		Male Thread O.D.	
			(mm)	(in)	(mm)	(in)
-2	1/8	5/16-24	6.9	0.27	7.8	0.31
-3	3/16	3/8-24	8.5	0.34	9.4	0.37
-4	1/4	7/16-20	9.9	0.39	11.2	0.44
-5	5/16	1/2-20	11.5	0.45	12.6	0.49
-6	3/8	9/16-18	12.9	0.51	14.1	0.56
-8	1/2	3/4-16	17.5	0.69	18.9	0.74
-10	5/8	7/8-14	20.5	0.81	22.1	0.87
-12	3/4	1-1/16-12	24.9	0.98	26.9	1.06
-14	7/8	1-3/16-12	28.1	1.11	30.0	1.18
-16	1	1-5/16-12	31.3	1.23	33.1	1.31
-20	1-1/4	1-5/8-12	39.2	1.54	41.1	1.62

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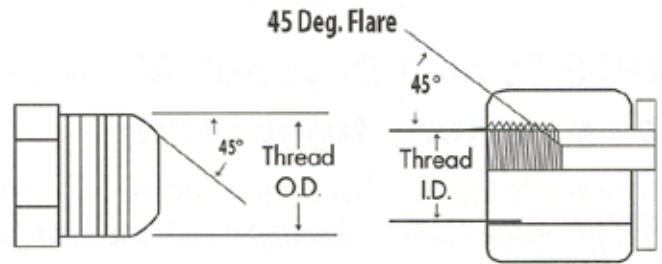
TYPES OF HOSE COUPLINGS

THREAD IDENTIFICATION TABLE: SAE J514 37° FLARE (JIC) continued.

Dash Size	Inch Size (in)	Thread Size (in-TPI)	Female Thread I.D.		Male Thread O.D.	
			(mm)	(in)	(mm)	(in)
-24	1-1/2	1-7/8-12	45.6	1.79	47.4	1.87
-32	2	2-1/2-12	61.4	2.42	63.3	2.49

SAE J512 45°

The SAE 45° flare male will mate with an SAE 45° flare female only. The SAE male has straight threads and a 45° flare seat. The seal is made on the 45° flare seat. The threads hold the connection mechanically. CAUTION: In the -02, -03, -04, -05, -08, and -10 sizes, the threads of the SAE 45° flare and the SAE 37° flare are the same. However the sealing surface angles are not the same. Carefully measure the seat angle to differentiate.

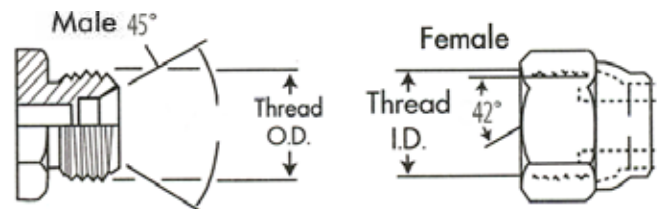


THREAD IDENTIFICATION TABLE: SAE J512 45° FLARE

Dash Size	Inch Size (in)	Thread Size (in-TPI)	Female Thread I.D.		Male Thread O.D.	
			(mm)	(in)	(mm)	(in)
-2	1/8	5/16-24	6.9	0.27	7.9	0.31
-3	3/16	3/8-24	8.6	0.34	9.6	0.38
-4	1/4	7/16-20	9.9	0.39	11.2	0.44
-5	5/16	1/2-20	11.4	0.45	12.7	0.50
-6	3/8	9/16-18	14.2	0.56	15.7	0.62
-7	7/16	1-1/16-16	15.7	0.62	17.3	0.68
-8	1/2	3/4-16	17.0	0.68	19.0	0.75
-10	5/8	7/8-14	20.3	0.80	22.3	0.88
-12	3/4	1-1/16-12	25.1	0.99	26.9	1.06
-14	7/8	1-3/16-12	29.5	1.16	31.7	1.25
-16	1	1-5/16-12	32.5	1.28	35.0	1.38

SAE J512 Inverted Flare

The male connector can either be a 45° flare in the tube fitting form or a 42° seat in the machined adapter form. The female has a straight thread with a 42° inverted flare. The seat takes place on the flared surface. The threads hold the connection



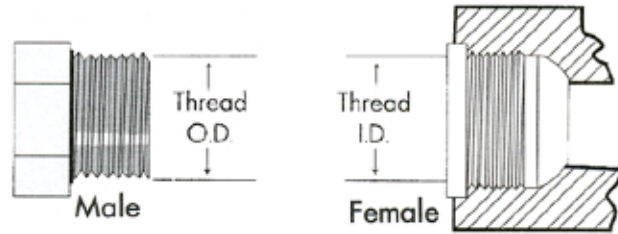
THREAD IDENTIFICATION TABLE: SAE J512 INVERTED FLARE

Dash Size	Inch Size (in)	Thread Size (in-TPI)	Female Thread I.D.		Male Thread O.D.	
			(mm)	(in)	(mm)	(in)
-2	1/8	5/16-28	6.9	0.27	7.9	0.31
-3	3/16	3/8-24	8.6	0.34	9.6	0.38
-4	1/4	7/16-24	9.9	0.39	11.2	0.44
-5	5/16	1/2-20	11.4	0.45	12.7	0.50
-6	3/8	5/8-18	14.2	0.56	15.7	0.62
-7	7/16	11/16-18	15.7	0.62	17.3	0.68
-8	1/2	3/4-18	17.0	0.68	19.0	0.75
-10	5/8	7/8-18	20.3	0.80	22.3	0.88
-12	3/4	1-1/16-16	25.1	0.99	26.9	1.06

TYPES OF HOSE COUPLINGS

SAE J514 Straight Thread O-Ring Boss

The O-ring boss male will mate with an O-ring boss female only. The female is generally found on ports. The male has straight threads and a sealing face. The seal is made at the O-ring on the male and the sealing face on the female. The threads hold the connection mechanically.

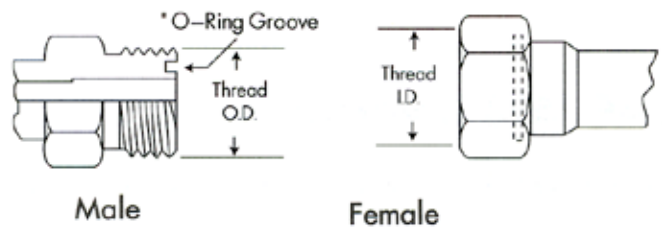


THREAD IDENTIFICATION TABLE: SAE J514 STRAIGHT THREAD O-RING BOSS

Dash Size	Inch Size (in)	Thread Size (in-TPI)	Female Thread I.D.		Male Thread O.D.	
			(mm)	(in)	(mm)	(in)
-2	1/8	5/16-24	6.9	0.27	7.8	0.31
-3	3/16	3/8-24	8.5	0.34	9.4	0.37
-4	1/4	7/16-20	9.9	0.39	11.2	0.44
-5	5/16	1/2-20	11.5	0.45	12.6	0.49
-6	3/8	9/16-18	12.9	0.51	14.1	0.56
-8	1/2	3/4-16	17.5	0.69	18.9	0.74
-10	5/8	7/8-14	20.5	0.81	22.1	0.87
-12	3/4	1-1/16-12	24.9	0.98	26.9	1.06
-14	7/8	1-3/16-12	28.1	1.11	30.0	1.18
-16	1	1-5/16-12	31.3	1.23	33.1	1.31
-20	1-1/4	1-5/8-12	39.2	1.54	41.1	1.62
-24	1-1/2	1-7/8-12	45.6	1.79	47.4	1.87
-32	2	2-1/2-12	61.4	2.42	63.3	2.49

SAE J1453 O-Ring Face Seal (ORFS)

A seal is made when the O-ring in the male contacts the flat face on the female. Couplings are intended for hydraulic systems where elastomeric seals are acceptable to overcome leakage and leak resistance is crucial. This connection offers the very best leakage control available today. The male connector has a straight thread and a machined flat face. The female has a straight thread and a machined flat face. The seal takes place by compressing the O-ring onto the flat face of the female, similar to the split flange type fitting. The threads hold the connection mechanically.



THREAD IDENTIFICATION TABLE: SAE J1453 O-RING FACE SEAL (ORFS)

Dash Size	Inch Size (in)	Thread Size (in-TPI)	Female Thread I.D.		Male Thread O.D.	
			(mm)	(in)	(mm)	(in)
-4	1/4	9/16-18	12.9	0.51	14.1	0.56
-6	3/8	11/16-16	15.9	0.63	17.3	0.68
-8	1/2	13/16-16	19.1	0.75	20.5	0.81
-10	5/8	1-14	23.6	0.93	25.2	0.99
-12	3/4	1-3/16-12	28.1	1.11	30.0	1.18
-16	1	1-7/16-12	34.4	1.36	36.3	1.43
-20	1-1/4	1-11/16-12	40.8	1.61	42.7	1.68
-24	1-1/2	2-12	48.7	1.92	50.6	1.99

Hydraulic Hose

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Support Products & Crimping Equipment

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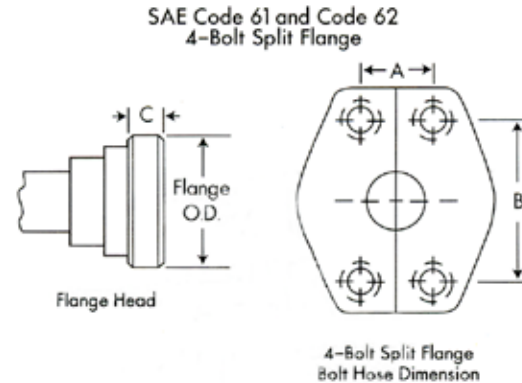
Technical Information & Guidelines

D

TYPES OF HOSE COUPLINGS

SAE J518 / DIN20066 / ISO-DIS 6162 / JIS B8363 O-Ring Flange

There are two pressure ratings. Code 61 Form R, PN 35/350 bar, Type 1, is referred to as the “standard” series and Code 62 Form S, PN 415 bar, Type II is the “heavy duty” “6000 PSI” series. The design concept for both series is the same, but the bolt hole spacing and flanged head diameters are larger for the higher pressure, Code 62 connection. The female (port) is an unthreaded hole with four bolt holes in a rectangular pattern around the port. The male consists of a flanged head, grooved for an O-ring, which is compressed between the flange head and the flat surface surrounding the port. The threaded bolts hold the connection together.



FLANGE HEAD GUIDE

Dash Size	SAE CODE 61* FORM R-PN 35/350 - TYPE I				SAE CODE 62* FORM S-PN 415 - TYPE II				CATERPILLAR			
	Flange Size		Flange Thickness		Flange Size		Flange Thickness		Flange Size		Flange Thickness	
	(in)	(mm)	(in)	(mm)	(in)	(mm)	(in)	(mm)	(in)	(mm)	(in)	(mm)
-8	1.19	30.2	.265	6.7	1.25	31.8	.305	7.7	—	—	—	—
-10*	1.34	34.0	.265	6.7	—	—	—	—	—	—	—	—
-12	1.50	38.1	.265	6.7	1.63	41.3	.345	8.7	1.63	41.3	.56	14.2
-16	1.75	44.5	.315	8.0	1.88	47.6	.375	9.5	1.88	47.6	.56	14.2
-20	2.00	50.8	.315	8.0	2.13	54.0	.405	10.3	2.13	54.0	.56	14.2
-24	2.38	60.3	.315	8.0	2.50	63.5	.495	12.6	2.50	63.5	.56	14.2
-32	2.81	71.4	.375	9.5	3.13	79.4	.495	12.6	3.13	79.4	.56	14.2
-30	3.31	84.1	.375	9.5	—	—	—	—	—	—	—	—

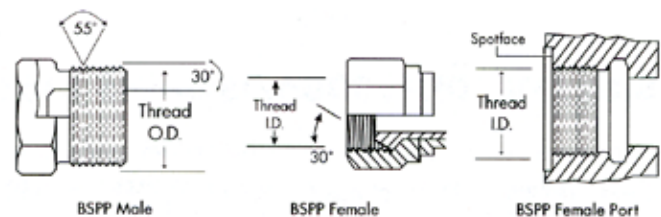
* -10 is a non SAE size flange.

SAE J518, DIN 20066, ISO / DIS 6162 and JISD B 8363 are interchangeable, except bolt size.

British Connections

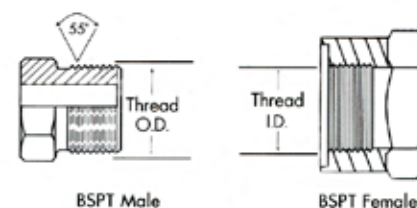
British Standard Pipe Parallel

The BSPP (parallel) male will mate with a BSPP (parallel) female or a female port. The BSPP male has straight threads and a 30° seat. The BSPP female has straight threads and a 30° seat. The female port has straight threads and a spotface. The seal on the port is made with an O-ring or soft metal washer on the male.



British Standard Pipe Tapered

The BSPT (tapered) male will mate with a BSPT (tapered) female, or a BSPP (parallel) female. The BSPT male has tapered threads. When mating with either the BSPT (tapered) female or the BSPP (parallel) female port, the seal is made on the threads, accomplished by thread distortion. A thread sealant is recommended. The BSPT connector is similar to, but not interchangeable with the NPTF connector. The thread pitch is different in most cases, and the thread angle is 55° instead of the 60° angle found on the NPTF threads.



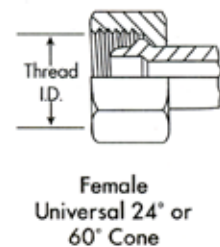
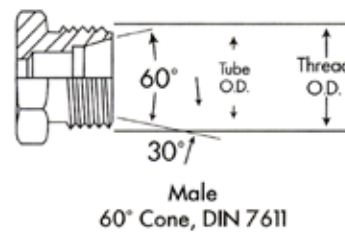
TYPES OF HOSE COUPLINGS

THREAD IDENTIFICATION TABLE: BRITISH STANDARD PIPE PARALLELS AND TAPERED (BSPP AND BSPT)

Dash Size	Inch Size (in)	Thread Size (in-TPI)	Female Thread I.D.		Male Thread O.D.	
			(mm)	(in)	(mm)	(in)
-2	1/8	1/8-28	8.7	0.34	9.5	0.38
-4	1/4	1/4-19	11.1	0.44	13.5	0.53
-6	3/8	3/8-19	15.1	0.59	16.7	0.66
-8	1/2	1/2-14	18.3	0.72	20.6	0.81
-10	5/8	5/8-14	20.6	0.81	23.0	0.91
-12	3/4	3/4-14	23.8	0.94	26.2	1.03
-16	1	1-11	30.2	1.19	33.3	1.31
-20	1-1/4	1-1/4-11	38.9	1.53	32.1	1.66
-24	1-1/2	1-1/2-11	45.2	1.78	47.6	1.88
-32	2	2-11	56.4	2.22	59.5	2.34

DIN 3863 60° Cone

This connection is frequently used in hydraulic systems. The DIN 60° cone male will mate with the female universal 24° or 60° cone only. The male has a 60° seat and straight metric threads. The female has a 24° and a 60° universal seat and straight metric threads. The seal takes place by contact between the cone of the male and the nose of the flareless swivel. The threads hold the connection mechanically.



THREAD IDENTIFICATION TABLE: DIN 60° CONE

Metric Thread (dia x pitch)	Female Thread I.D.		Male Thread O.D.		Tube O.D. 60° Cone	
	(mm)	(in)	(mm)	(in)	(mm)	(in)
M12x1.5	10.5	0.41	12	0.47	6	0.24
M14x1.5	12.5	0.49	14	0.55	8	0.31
M16x1.5	14.5	0.57	16	0.63	10	0.39
M18x1.5	16.5	0.65	18	0.71	12	0.47
M22x1.5	20.5	0.81	22	0.87	15	0.59
M26x1.5	24.5	0.96	26	1.02	18	0.71
M30x1.5	28.5	1.12	30	1.18	22	0.87
M38x1.5	36.5	1.44	38	1.50	28	1.10
M45x1.5	43.5	1.71	45	1.77	35	1.38
M52x1.5	50.5	1.99	52	2.05	42	1.65

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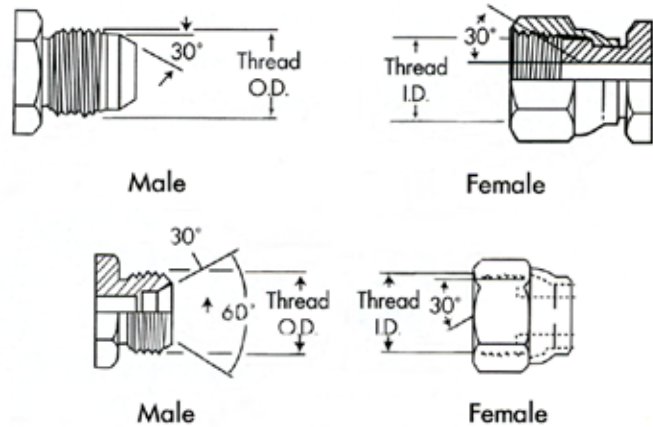
TYPES OF HOSE COUPLINGS

Japanese Connections

Japanese equipment uses JIS (Japanese Industrial Standard) couplings with a 30° seat and British Standard Pipe Parallel threads. All flanges are Code 61 or Code 62 (except -10).

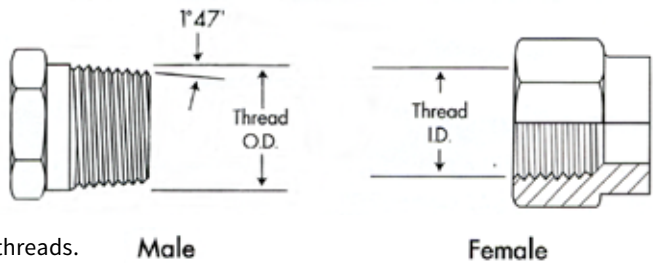
JIS 30° Flare Parallel Pipe Threads JIS B 0202

These Japanese 30° flare male couplings will mate with a Japanese 30° flare only. The male and female have straight threads and a 30° seat. The seal is made on the 30° seat. The threads on the Japanese 30° flare connector conform to JIS B 0202, the same on the BSPP threads. Both the British and Japanese connectors have a 30° seat, but they are not interchangeable, because the British seat is inverted.



JIS Tapered Pipe Thread (PT) JIS B 0203

The JIS tapered pipe thread connection is similar to the BSPT connection and fully interchangeable. The Japanese connection does not have a 30° flare, and will not mate with the BSPP female. The threads conform to JIS B 0203, same as BSPT threads. The seal on the JIS tapered pipe thread connection is made on the threads.



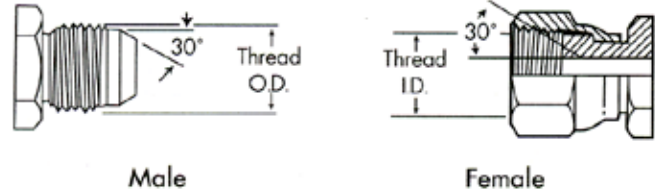
THREAD IDENTIFICATION TABLE: JIS TAPERED PIPE, 30° FLARE PARALLEL PIPE, AND 30° MALE INVERTED SEAT

Dash Size	Inch Size (in)	Thread Size (in-TPI)	Female Thread I.D.		Male Thread O.D.	
			(mm)	(in)	(mm)	(in)
-2	1/8	1/8-28	8.7	0.34	9.5	0.38
-4	1/4	1/4-19	11.9	0.47	13.5	0.53
-6	3/8	3/8-19	15.1	0.59	16.7	0.66
-8	1/2	1/2-14	19.1	0.75	20.6	0.81
-10*	5/8	5/8-14	20.6	0.81	23.1	0.91
-12	3/4	3/4-14	23.8	0.94	26.2	1.03
-16	1	1-11	30.2	1.19	33.3	1.31
-20	1-1/4	1-1/4-11	38.9	1.53	42.1	1.66
-24	1-1/2	1-1/2-11	45.2	1.78	47.6	1.88
-32	2	2-11	56.4	2.22	59.5	2.34

TYPES OF HOSE COUPLINGS

Komatsu Style 30° Flare Parallel Threads

The Komatsu style 30° flare parallel thread coupling is identical to the Japanese 30° flare parallel except for the threads. The Komatsu uses Metric fine threads which conform to JIS B 0207. The Komatsu connector seals on the 30° flare.

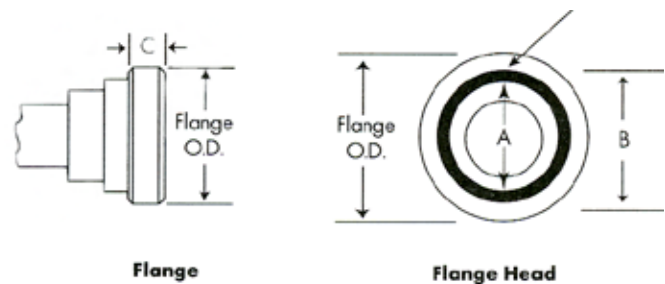


THREAD IDENTIFICATION TABLE: KOMATSU STYLE 30° FLARE PARALLEL

Dash Size	Nominal Size		Metric Thread Size	Male Thread O.D. (mm)	Female Thread I.D. (mm)
	(in)	(mm)			
-6	3/8	9.5	M18x1.5	18	16.4
-8	1/2	13	M22x1.5	22	20.4
-10	5/8	16	M24x1.5	24	22.4
-12	3/4	19	M30x1.5	30	28.4
-16	1	25	M33x1.5	33	31.4
-20	1-1/4	32	M36x1.5	36	34.4
-24	1-1/2	38	M42x1.5	42	40.4

Komatsu Flange Fitting

The Komatsu flange fitting is nearly identical to and fully interchangeable with the SAE Code 61 flange fitting. In all sizes the O-ring dimensions are different. When replacing a Komatsu flange with an SAE style flange, an SAE style O-ring must be used.



Flange Dash Size	Nominal Size		Flange Size (in)	A (in)	B (in)
	(in)	(mm)			
-8	1/2	12.7	1.19	0.73	0.98
-10*	5/8	15.9	1.34	0.73	1.10
-12	3/4	19.1	1.50	0.85	1.22
-16	1	25.4	1.75	1.12	1.50
-20	1-1/4	31.8	2.00	1.36	1.73
-24	1-1/2	38.1	2.38	1.75	2.12
-32	2	50.8	2.81	2.22	2.56

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RECOMMENDED FITTING AND ADAPTER INSTALLATION TORQUE

SAE J514 37° FLARE (JIC)

Dash Size	Thread Size	Lb. ft		Nm	
		Min	Max	Min	Max
-4	7/16–20	11	12	15	16
-5	1/2–20	14	15	19	21
-6	9/16–18	18	20	24	28
-8	3/4–16	36	39	49	53
-10	7/8–14	57	63	77	85
-12	1-1/16–12	79	88	107	119
-14	1-3/16–12	94	103	127	140
-16	1-5/16–12	108	113	147	154
-20	1-5/8–12	127	133	172	181
-24	1-7/8–12	158	167	215	226
-32	2-1/2–12	245	258	332	350

SAE J1453 O-RING FACE SEAL

Dash Size	Thread Size	Lb. ft		Nm	
		Min	Max	Min	Max
-4	9/16–18	10	12	14	16
-6	11/16–16	18	20	24	27
-8	13/16–16	32	35	43	47
-10	1–14	46	50	60	68
-12	1-3/16–12	65	70	90	95
-16	1-7/16–12	92	100	125	135
-20	1-11/16–12	125	140	170	190
-24	2–12	150	165	200	225

SAE 518 CODE 61 – FLANGE HALF BOLT

Dash Size	Thread Size	Lb. ft		Nm	
		Min	Max	Min	Max
-8	1/2	15	19	20	25
-12	3/4	21	29	28	40
-16	1	27	35	37	48
-20	1-1/4	35	46	48	62
-24	1-1/2	46	58	62	79
-32	2	54	66	73	90
-40	2-1/2	79	91	107	124
-48	3	137	149	186	203

RECOMMENDED FITTING AND ADAPTER INSTALLATION TORQUE

SAE 518 CODE 62 – FLANGE HALF BOLT

Dash Size	Thread Size	Lb. ft		Nm	
		Min	Max	Min	Max
-8	1/2	15	19	20	25
-12	3/4	25	33	34	45
-16	1	42	50	56	68
-20	1-1/4	62	75	85	102
-24	1-1/2	116	133	158	181
-32	2	199	216	271	294

BSPP

Dash Size	Thread	Lb. ft	Nm
-2	1/8	15	20
-4	1/4–19	19	25
-6	3/8–19	36	49
-8	1/2–14	44	60
-12	3/4–14	87	118
-16	1–11	100	137
-20	1-1/4–11	123	167
-24	1-1/2–11	151	206
-32	2–11	170	220

JIS (B8363)

Dash Size	Thread	Lb. ft	Nm
-4	1/4–19	19	25
-6	3/8–19	25	34
-8	1/2–14	49	64
-10	5/8–14	100	132
-12	3/4–14	100	132
-16	1–11	149	196
-20	1-1/4–11	171	225
-24	1-1/2–11	194	255
-32	2–11	240	316

Metric

Thread mm	Lb. ft	Nm
M12x1.5	15	15
M14x1.5	19	25
M16x1.5	33	45
M18x1.5	37	50
M20x1.5	52	70
M22x1.5	55	75
M24x1.5	74	100
M26x1.5	81	110
M30x2	96	160

Note 1: A pound-foot (lb•ft or lbf•ft) is a unit of torque. One pound-foot is the torque created by one pound force acting at a perpendicular distance of one foot from a pivot point.

Note 2: The Nm or newton metre is a unit of torque (also called “moment”) in the SI system. The symbolic form is N m or N•m.[1] One newton metre, sometimes hyphenated newton-metre, is equal to the torque resulting from a force of one newton applied perpendicularly to a moment arm which is one metre long.

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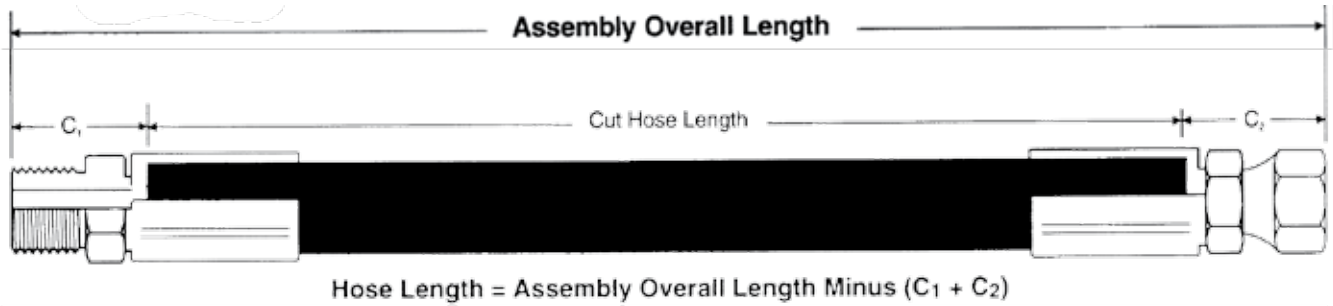
MAKING HOSE ASSEMBLIES

Hose Crimping Procedures

Select the hose and couplings required to make the desired hydraulic assembly. Measure the length of the entire assembly. Then use the formula below to calculate the required hose cut length for the assembly.

Hose Cut Length = Assembly Overall Length minus C1 minus C2

Cut-off value “C” is the length of that part of the coupling not directly in contact with or applied to the hose. Therefore, subtract the two “C” values from the total length of the assembly and you will have the approximate hose length to be replaced.



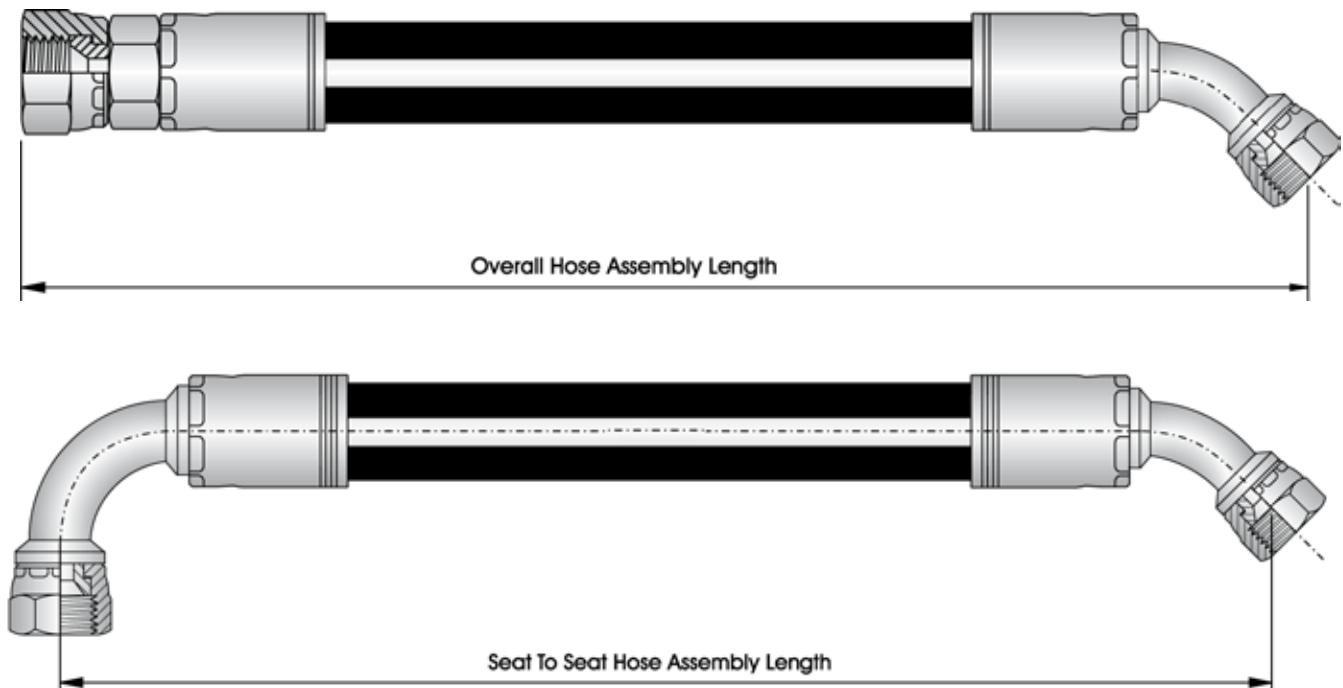
Example: Total assembly overall length = 12.5 inches. (Assembly consists of 3/8 inch 3100-06 hose with 1/2 inch male pipe (8MP-6KW) and 3/8 inch female JIC (6FJ-6KW) end connections.)

$$\text{Assembly Overall Length} - C_1 - C_2 = \text{Hose Cut Length } (\pm 3/16" \text{ tolerance})$$

$$12.5 \text{ inches} - 1.28 - 1.26 = 9.96 \text{ Inches}$$

Angle Couplings

For hose assemblies with bent tube fittings on one or both ends, the overall length of the assembly is measured from the tip of the straight fitting to the tip to the center of the bent tube fitting.



Length Tolerances

SAE length tolerances for hydraulic hose assemblies and specified hose lengths:

Length	Tolerance
For cut lengths from 0 up to and including 12"	± 1/8"
For cut lengths > 12" up to and including 18"	± 3/16"
For cut lengths > 18" up to and including 36"	± 1/4"
For cut lengths > 36"	1% of length, measured to the nearest 1/8"

Orientation Of Fittings

Proper positioning of elbow end fittings on a hose is governed by the offset angle, or the amount of angular offset between connecting parts in the installation. If this angle of orientation is not correct in the construction of a hose assembly, the performance and life of the assembly will be greatly reduced.

Orientation is determined by the number of degrees between the fitting furthest from the viewer and the fitting nearest to the viewer, measured in a clockwise direction.

