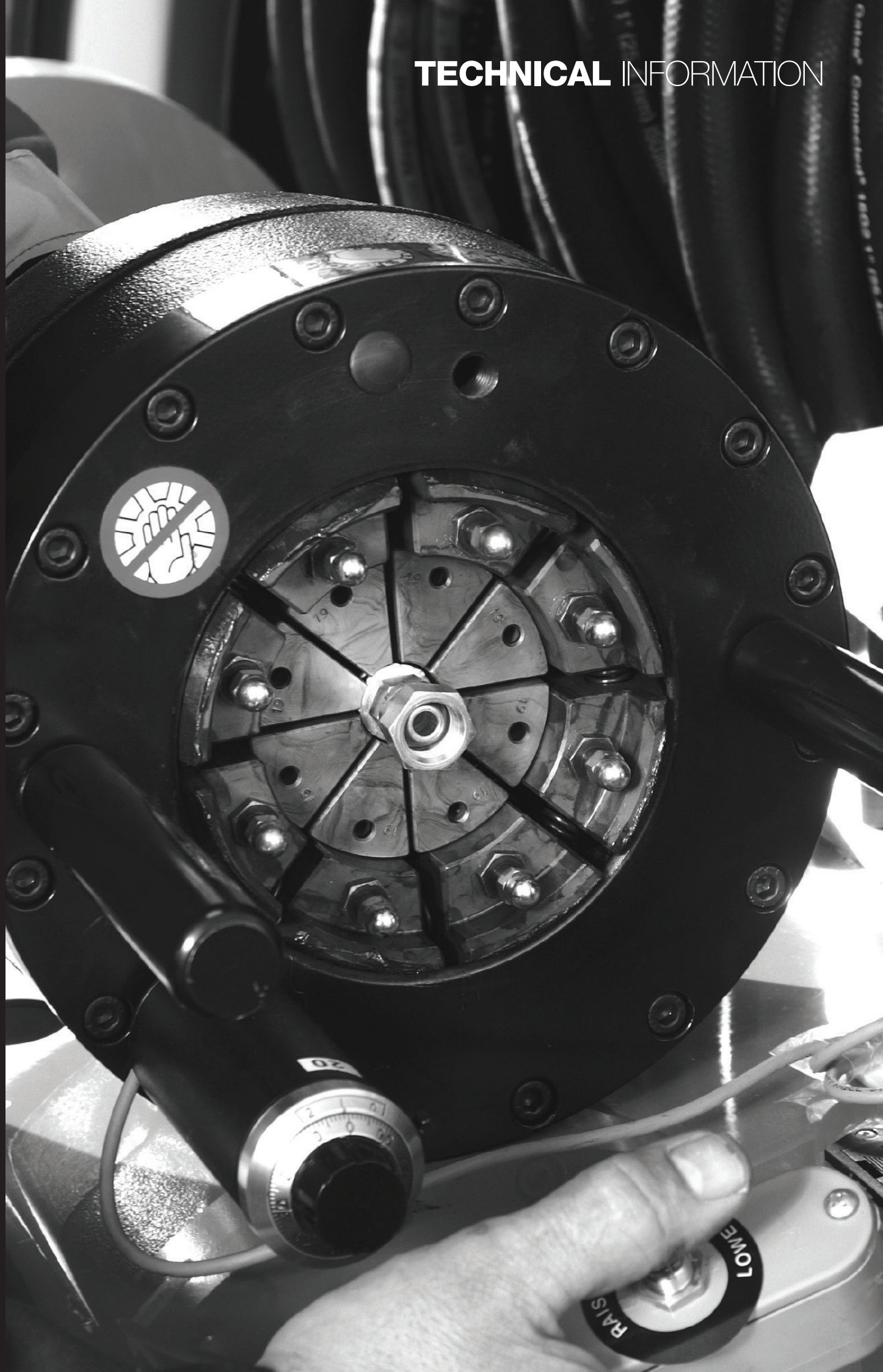


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GENERAL INFORMATION

An essential step in ensuring that a hydraulic system is safe and delivers optimum performance and service life is selecting the correct fluid conveying components.

Although a lot of the work undertaken in this industry is the replacement of existing components with a duplicate it is still good practice to check the product against the application especially if the service life of the product to be replaced was not acceptable or when fault finding on an existing system.

In some cases a problem with a hose assembly or other fluid conveying products can point to an underlying problem with the system itself or possibly the products have been incorrectly specified originally.

INFORMATION - HOSE

HOSE SELECTION & SERVICE LIFE RECOMMENDATIONS

Hydraulic hose (and hose assemblies) have a finite life span that is dependent upon the actual operating conditions the assembly is subjected to. An effective way to remember hose selection criteria is to remember the word STAMPED. STAMPED is an acronym for the following:

S = Size
T = Temperature
A = Application
M = Medium or Media
P = Pressure
E = Ends
D = Delivery

1. Size - Hose Internal Diameter can be determined using the Nomographic Chart found in this section. The correct hose I.D. must be selected for the flow required. Too small an I.D. for a given volume will result in pressure drop, heat generation, fluid turbulence and possible internal tube damage. If in doubt, select the next size up.

2. Temperature. Hose selection is determined by two variables of temperature; the ambient (external) temperature and the fluid/material (internal) temperature. The hose should not be exposed to internal or external temperatures which exceed the manufacturer's stated maximum and minimum limits. Both continual and intermittent temperatures must be accommodated within the recommended limits. Extra care must be taken when specifying hoses that are routed near to (or terminate on) hot components such as engine manifolds.

3. Application. The determination of how the hydraulic hose or hose assembly will be used. Questions that may need to be answered to ensure correct hose selection could include: What is the suitable hose construction? What type of equipment is it used on? What are the end connections? Are there applicable Government or Industry standards to be satisfied? Questions that may need to be answered to ensure correct hose selection could include; What are the environmental conditions the hose will be used in? Does the hose require a special cover or armour? Are there unusual mechanical loads or excessive movement? What are the routing requirements? What are the required lengths and bend radius to satisfy those routing requirements? (Further data regarding Hose Installation Recommendation can be found in this section.)

4. Medium (or media, material) to be conveyed. Hose selection must ensure compatibility of the hose tube (liner) and outer cover with the oil, chemical or gas to be conveyed. A chemical resistance table to rubber compounds can be found in this section. Similar care to ensure compatibility should be taken when specifying end connections (hosetails and adaptors), especially those that contain o-rings.

5. Pressure. The pressure in a hydraulic system should not exceed the stated hose working pressure at any time. System pressure spikes and surges must be considered and accommodated within the stated working pressure limits. Minimum burst pressures are reference pressures, and are intended for destructive testing and design purposes only.

6. Ends. The thread portions of the hose assembly must of course, be compatible with what it is connecting to. Different thread types have different working pressures, always insure that the threaded ends selected meet or exceed the designed working pressure. Check the technical section of this catalogue for pressure ratings. Also the chemical compatibility of the end fittings must be checked as per the hose. Ensure that the ends chosen are of the type matched to the hose.

7. Delivery. When a product is actually needed is important. A decision of what product is used can need to be altered by what is available when needed. Always specify up, not down to meet a timeline. A simple change of adaptor may be all that is needed to meet a requirement.

Exposure of hose or hose assemblies to operating conditions which exceed recommended or stated limits will significantly reduce the expected service life. If in doubt, over-specify hose assemblies to ensure as much safety margin on the recommended limits as possible.

Notes;

The potential service life of products can be significantly reduced if they are constantly operating at maximum limits.

Some areas of the selection process are interrelated however the key to correct product selection is the understanding of the application and what is required of the product.

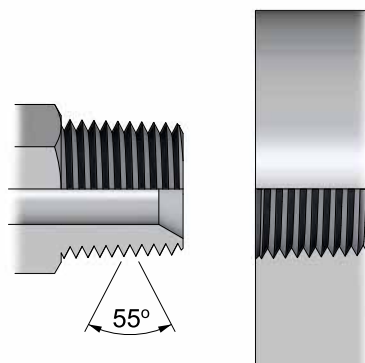
B.S.P.T. - BRITISH STANDARD PIPE TAPER

Taper: 1 in 16 by diameter

Thread Angle: 55°

The BSPT (British Standard Pipe Taper) male is intended to mate with the BSPT female only. Although the taper male will screw into BSP Parallel fixed female sockets, this is not recommended practice where avoidable as a reliable seal cannot be guaranteed.

While many BSPT males are coned 30° and will mate with BSP Parallel swivel nut females, this is not recommended practice as the taper form can deform the parallel thread and reduce the integrity of the seal.



Thread Size & TPI	Male Thread O.D. BSPT*	Female Thread I.D. BSPT
1/8-28	9.7	8.5
1/4-19	13.1	11.4
3/8-19	16.6	14.9
1/2-14	20.9	18.6
5/8-14	22.9	20.6
3/4-14	26.4	24.1
1-11	33.2	30.2
1.1/4-11	41.9	38.9
1.1/2-11	47.8	44.8
2-11	59.6	56.6

**Basic gauge plane diameter at basic gauge depth*

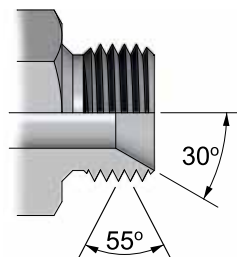
B.S.P.P. - BRITISH STANDARD PIPE PARALLEL

Thread Angle: 55°

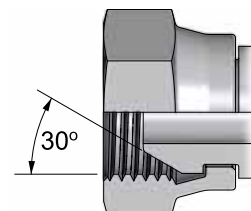
The British Standard Pipe Parallel (BSPP) male is typically coned 30° and will mate with either a BSPP swivel nut female or a BSPP female port.

BSPP female ports are normally spot faced, sealing is by either a soft metal washer, a bonded seal or a captive "O" ring.

In some cases, the port is chamfered to accept an "O" ring seal. (Similar to the U.N.O. style).

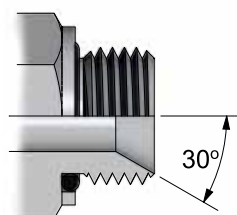


BSPP male



BSPP swivel nut female

Thread Size & TPI	Male Thread O.D. BSPP	Female Thread I.D. BSPP	Torque Settings BSPP nuts
1/8-28	9.7	8.5	12 Nm
1/4-19	13.1	11.4	26 Nm
3/8-19	16.6	14.9	47 Nm
1/2-14	20.9	18.6	79 Nm
5/8-14	22.9	20.6	104 Nm
3/4-14	26.4	24.1	128 Nm
1-11	33.2	30.2	160 Nm
1.1/4-11	41.9	38.9	200 Nm
1.1/2-11	47.8	44.8	270 Nm
2-11	59.6	56.6	350 Nm

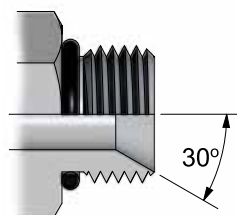


BSPP male with captive o-ring seal

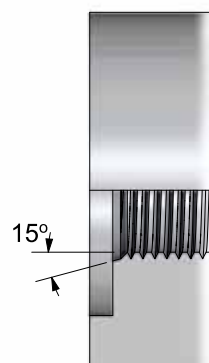


BSPP female port (spot-faced)

N.B. Torque values are nominal and supplied as a guide only.



BSPP male with o-ring seal



BSPP female port (chamfered)

N.P.T. - NATIONAL PIPE THREAD

N.P.T.F.; National Pipe Taper Fuel
N.P.S.M.; National Pipe Straight Mechanical
N.P.S.F.; National Pipe Straight Fuel

Taper: 1 in 16 by diameter.

Thread Angle: 60°

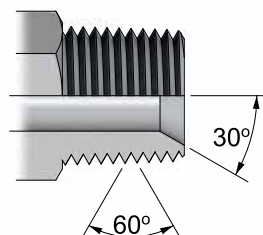
The National Pipe Taper Fuel (NPTF) male is coned 30° and will mate with the NPTF female port (taper), the National Pipe Straight Mechanical (NPSM) female (swivel nut female with 30° sealing cone), or the National Pipe Straight Fuel (NPSF) female port (parallel).

As NPTF is a “dryseal” thread, no sealing medium is required. However a sealing medium can be used to prevent thread galling.

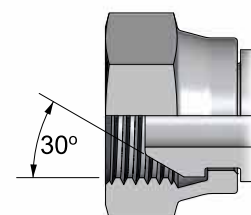
Thread Size & TPI	Male Thread O.D.	Female Thread I.D.	
	NPTF	NPTF	NPSF/SM
1/8-27	10.0	8.6	8.7
1/4-18	13.3	11.2	11.4
3/8-18	16.7	14.7	14.9
1/2-14	20.8	18.2	18.8
3/4-14	26.1	23.5	23.9
1-11.1/2	32.7	29.5	30.2
1.1/4-11.1/2	41.4	38.3	39.1
1.1/2-11.1/2	47.5	44.4	45
2-11.1/2	59.3	56.2	57



NPTF female port (taper)



NPTF male (taper)



NPSM swivel nut female



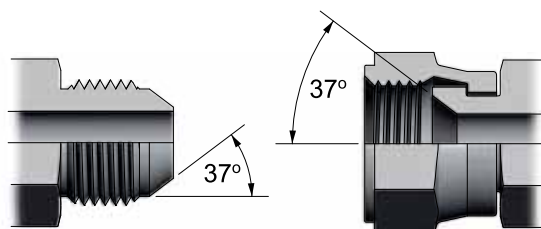
NPSF female port (parallel)

J.I.C / U.N. O-RING THREAD

J.I.C. and U.N. "O"-Ring threads are both of the Unified National Form.

J.I.C. refers to the 37° flare type sealing face. The J.I.C. female is usually a swivel nut, but can also be a fixed socket (port) with a 37° sealing face in the base of the socket.

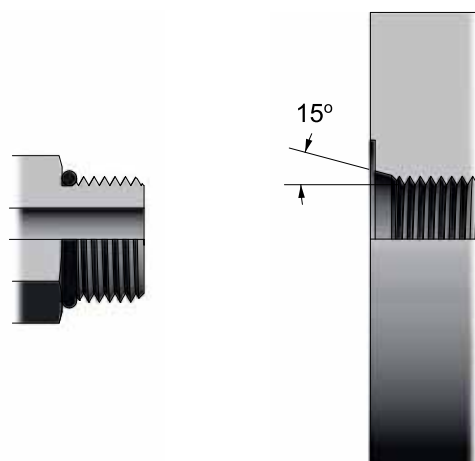
U.N. "O"-Ring refers to the thread type and "O"-Ring for sealing. The female U.N.O port has a chamfer to accept the o-ring.



JIC male

JIC swivel nut female

Thread Size & TPI	Female Thread I.D.	Tube O.D.	Torque Settings	
			JIC	UN"O"
7/16 x 20 UNF	9.8	1/4"	14 Nm	21 Nm
1/2 x 20 UNF	11.5	5/16"	19 Nm	25 Nm
9/16 x 18 UNF	13.0	3/8"	30 Nm	34 Nm
3/4 x 16 UNF	17.4	1/2"	50 Nm	72 Nm
7/8 x 14 UNF	20.3	5/8"	80 Nm	100 Nm
1 1/16 x 12 UN	24.8	3/4"	130 Nm	176 Nm
1 3/16 x 12 UN	28.2	7/8"	140 Nm	220 Nm
1 5/16 x 12 UN	31.2	1"	156 Nm	290 Nm
1 5/8 x 12 UN	39.2	1.1/4"	188 Nm	350 Nm
1 7/8 x 12 UN	45.5	1.1/2"	268 Nm	460 Nm
2 1/2 x 12 UN	61.5	2"	346 Nm	540 Nm



UNO male

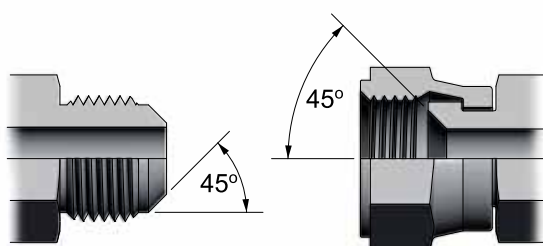
UNO female port (chamfered)

N.B. Torque values are nominal and supplied as a guide only.

S.A.E. - SOCIETY OF AUTOMOTIVE ENGINEERS

This system utilises the U.N. thread series and a 45° flare sealing face. Primarily used in the automotive and refrigeration industries.

This system uses an "O"-Ring for sealing. The "O"-Ring is housed in the face of the male and is compressed by the face of the female on connection. Connecting threads are U.N. form.

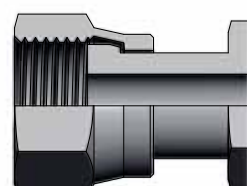


SAE male

**SAE swivel
nut female**



ORFS male



**ORFS swivel
nut female**

Thread Size & TPI	Tube O.D.	Female Thread I.D.
7/16-20	1/4"	9.8
1/2-20	5/16"	11.4
5/8-18	3/8"	14.3
11/16-16	7/16"	16
3/4-16	1/2"	17.5
7/8-14	5/8"	20.5
1.1/16-14	3/4"	24.8
1.1/4-12	7/8"	30.1
1.3/8-12	1"	33.2

Thread Size & TPI	Female Thread I.D.	Tube O.D.	"O"-ring size	Torque Settings *
9/16-18 UNF	12.8	1/4"	5/16x1/16	14-16 Nm
11/16-16 UN	16.0	3/8"	3/8x1/16	24-27 Nm
13/16-16 UN	19.1	1/2"	1/2x1/16	43-47 Nm
1-14 UN	23.5	5/8"	5/8x1/16	60-69 Nm
1.3/16-12UN	26.1	3/4"	3/4x1/16	90-95 Nm
1.7/16-12 UN	34.2	1"	15/16x1/16	125-135 Nm
1.11/16-12 UN	40.6	1.1/4"	1.3/16x1/16	170-190 Nm
2-12 UN	48.0	1.1/2"	1.1/2x1/16	200-225 Nm

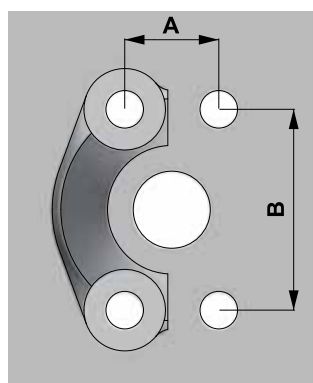
N.B. Torque values are nominal and supplied as a guide only.

S.A.E. O-RING FLANGES (SAE - J518)

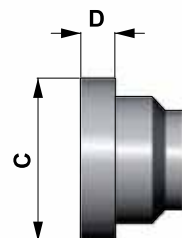
These connections utilise an “O”-Ring for sealing and are widely used for connecting to pump and motor parts as well as end terminations for pipe runs.

The “O”-Ring is housed in the flange head face and seals on a flat face female port, the flange is held in place by two clamp halves (or a one piece clamp) which are secured by four bolts.

SAE flanges are available in two pressure classes: **Standard Series, Code 61**, which goes to 5000 psi (dependent on size), and the **High Pressure Series, Code 62**, which is rated to 6000 psi for all sizes.



**SAE flange
clamp / port
bolt spacing**



**SAE flange
head
dimensions**

Nominal Flange Size	A (mm)		B (mm)		C (mm)		D (mm)	
	Code 61	Code 62	Code 61	Code 62	Code 61	Code 62	Code 61	Code 62
1/2	17.48	18.24	38.1	40.49	30.18	31.75	6.75	7.75
*5/8	19.8	-	42.90	-	34.0	-	6.73	-
3/4	22.23	23.80	47.63	50.80	38.10	41.28	6.73	8.76
1	26.19	27.76	52.37	57.15	44.45	47.63	8.0	9.53
1.1/4	30.18	31.75	58.72	66.68	50.80	53.98	8.0	10.29
1.1/2	35.71	36.50	69.85	79.38	60.33	63.50	8.0	12.57
2	42.88	44.45	77.77	96.82	71.42	79.38	9.53	12.57

Nominal Flange Size	Pressure Rating		"O"-ring size		UNC Bolt size		Bolt torque	
	Code 61	Code 62	Code 61 and 62	AS568A number	Code 61	Code 62	Code 61	Code 62
1/2	5000 psi	6000 psi	3/4x1/8	210	5/16x1.1/4	5/16x1.1/4	20-25 Nm	20-25 Nm
3/4	5000 psi	6000 psi	1x1/8	214	3/8x1.1/4	3/8x1.1/2	28-40 Nm	34-45 Nm
1	5000 psi	6000 psi	1.5/16x1/8	219	3/8x1.1/4	7/16x1.3/4	37-48 Nm	56-68 Nm
1.1/4	4000 psi	6000 psi	1.1/2x1/8	222	7/16x1.1/2	1/2x1.3/4	48-62 Nm	85-102 Nm
1.1/2	3000 psi	6000 psi	1.7/8x1/8	225	1/2x1.1/2	5/8x2.1/4	62-79 Nm	158-181 Nm
2	3000 psi	6000 psi	2.1/4x1/8	228	1/2x1.1/2	3/4x2.3/4	73-90 Nm	271-294 Nm

**The 5/8* size flange is not part of the SAE standard. It is included in the J.I.S. standards and is used by Komatsu and other O.E.M's.*

N.B. Torque values are nominal and supplied as a guide only

Caterpillar flanges used on XT3 hose are the same as the SAE Code 61, XT5 flanges have the same diameter as the SAE Code 62 but are thicker in the flange head.

French Gaz (Poclain) flanges are completely different to, and will not interchange with the SAE flanges.

J.I.S. - JAPANESE INDUSTRIAL STANDARDS

Japanese Industrial Standards (J.I.S.) incorporate B.S.P. and metric threads as well as flanges in their connection standards.

Taper Threads:

Type R; BSPT Male (*Identical to BSP standard*)

Parallel Threads:

Type G; BSPP Male (*Identical to BSP standard*)

Type C; BSPP Swivel Nut Female (*Identical to BSP standard - for thread data please refer to BSPP section*)

Type F; BSPP Swivel Nut Female, 30° Flare Seat

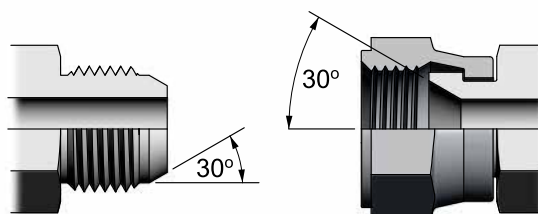
Type M; Metric, Male, 30° Cone

Type MF; Metric, Swivel Nut Female, 30° Flare Seat

“O”-Ring Flanges:

Type I; Equivalent to Code 61 (*Identical to SAE standard*)

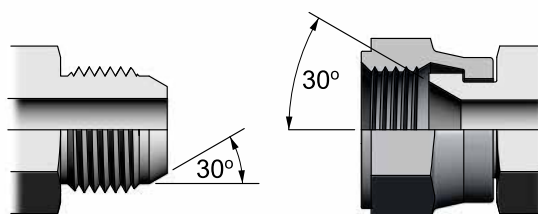
Type II; Equivalent to Code 62 (*Identical to SAE standard*)



Type F JIS male

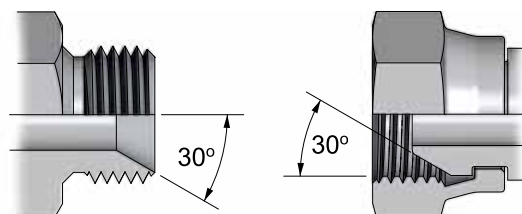
For thread data please refer to BSPP section

Type F JIS swivel nut female



Type MF JIS male

Type MF JIS swivel nut female



Type M JIS male

Type M JIS swivel nut female

THREAD SPECIFICATIONS			
Metric Threads (J.I.S)		Komatsu Threads (Metric)	
14-1.5*	12.5	14-1.5*	12.5
18-1.5*	16.5	18-1.5*	16.5
22-1.5*	20.5	22-1.5*	20.5
27-2.0	25	24-1.5	22.5
33-2.0	31	30-1.5	28.5
42-2.0	40	33-1.5	31.5
50-2.0	48	36-1.5	34.5
60-2.0	58	42-1.5	40.5

* denotes interchange sizes between JIS and Komatsu.

D.I.N. METRICS 24° CONE SYSTEM

The D.I.N. System allows for the connection of hose assemblies and tube in three main pressure series:

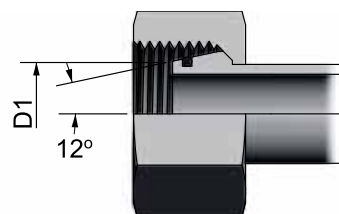
Series LL;	Extra Light, up to 100 bar
Series L;	Light up to 250 bar
Series S;	Heavy up to 640 bar

The pressure ranges are determined by the tube O.D. and the thread size e.g. a 12mm light coupling has an 18mm thread O.D. whereas a 12mm heavy coupling has a 20mm O.D. thread.

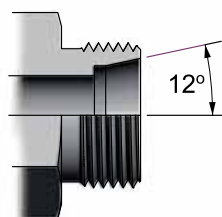
N.B: Rated coupling pressures are subject to the design pressures of the tube or hose being used.

Tubing is connected to the D.I.N. Male by the use of a cutting ring and nut. Hose assemblies can be connected by swivel nut females having either a spherical seal, 24° cone seal (can be fitted with "O"-Ring), or a standpipe with cutting ring and nut. Hose can also be connected directly to tube by use of a hose tail with the D.I.N. Male form

The male form will accept all three female styles shown (right).



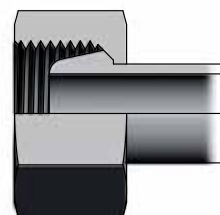
DIN 24° cone female with o-ring



DIN 24° cone male



DIN cutting ring and nut on tube



DIN female swivel nut with spherical seat

THREAD SPECIFICATIONS LIGHT (L) SERIES			
Thread O.D. & Pitch	Female Thread I.D.	Diameter D1 (mm)	Tube O.D.(mm)
M12-1.5	10.5	7.2	6
M14-1.5	12.5	9.2	8
M16-1.5	14.5	11.6	10
M18-1.5	16.5	13.8	12
M22-1.5	20.5	16.8	15
M26-1.5	24.5	19.8	18
M30-2.0	28	23.8	22
M36-2.0	34	29.8	28
M45-2.0	43	37.2	35
M52-2.0	50	44.2	42

THREAD SPECIFICATIONS HEAVY (S) SERIES			
Thread O.D. & Pitch	Female Thread I.D.	Diameter D1 (mm)	Tube O.D.(mm)
M14-1.5	12.5	7.2	6
M16-1.5	14.5	9.2	8
M18-1.5	16.5	11.6	10
M20-1.5	18.5	13.8	12
M22-1.5	20.5	15.8	14
M24-1.5	22.5	17.8	16
M30-2.0	28	22	20
M36-2.0	34	27	25
M42-2.0	40	32	30
M52-2.0	50	40	38

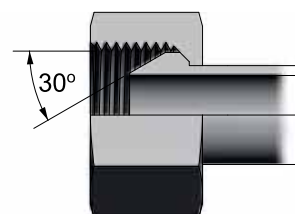
* N.B. Diameter D1 is nominal and may vary between manufacturers.

D.I.N. METRICS 60° CONE SYSTEM

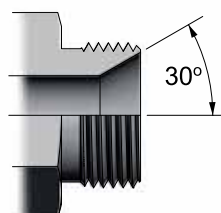
This series utilises a 60° cone seating angle and is used for the connection of hose assemblies and tube. It differs from the 24° series in that the threads are predominately 1.5mm pitch and there is no light or heavy pressure ranges.

The D.I.N. 60° male will accept the universal (spherical seat) female, a 60° coned female and tube fitted with a cutting ring and nut.

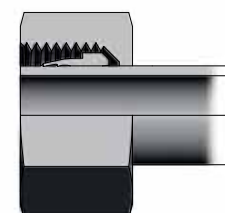
THREAD SPECIFICATIONS		
Thread O.D. & Pitch	Female Thread I.D.	Tube O.D.(mm)
M10-1.0	9.0	5
M12-1.5	10.5	6
M14-1.5	12.5	8
M16-1.5	14.5	10
M18-1.5	16.5	12
M22-1.5	20.5	15
M26-1.5	24.5	18
M30-1.5	28.5	22
M38-1.5	36.5	28
M45-1.5	43.5	35
M52-2.0	56.5	42



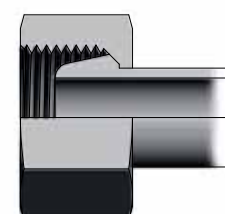
DIN 60° cone female



DIN 60° cone male



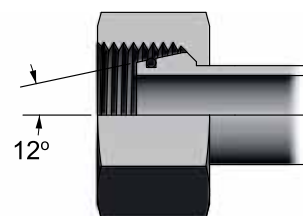
DIN cutting ring and nut on tube



DIN female swivel nut with spherical seat

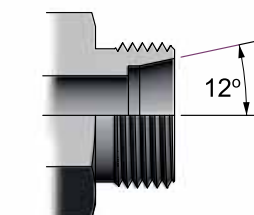
I.S.O. METRICS (INTERNATIONAL STANDARDS ORGANISATION)

The I.S.O. series of couplings is similar to the D.I.N. light and heavy in function. The male has a 24° included angle sealing cone and a recessed counter bore for locating the tube when used in conjunction with a cutting ring and nut. The male will also accept a swivel nut female with either a cone or a spherical seal.

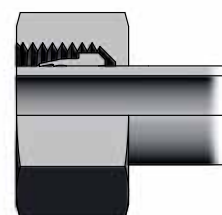


**ISO (24° cone)
female with o-ring**

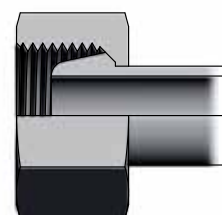
THREAD SPECIFICATIONS		
Thread O.D. & Pitch	Female Thread I.D.	Tube O.D.(mm)
M12-1.0	11.0	6
M14-1.5*	12.5	8
M16-1.5*	14.5	10
M18-1.5*	16.5	12
M20-1.5	18.5	14
M22-1.5*	20.5	15
M24-1.5**	22.5	16
M27-1.5	25.5	18
M30-1.5	28.5	22
M33-1.5	31.5	25
M36-1.5	34.5	28
M39-1.5	37.5	30
M42-1.5	40.5	32
M45-1.5	43.5	35
M48-1.5	46.5	38
M52-1.5	50.5	40



**ISO (24° cone)
male**



**ISO cutting ring and
nut on tube**



**ISO female swivel
nut with spherical
seat**

* Interchange with D.I.N. Light

** Interchange with D.I.N. Heavy

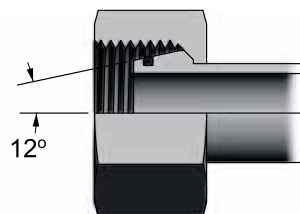
FRENCH METRICS (GAZ & MILLIMETRIQUE SERIES)

The series are similar to the D.I.N. 24° type where the male has a 24° included angle sealing cone and a recessed counterbore for locating the tube.

The male will accept a cutting ring and nut for use with tube or a swivel nut female with either a cone or spherical seal.

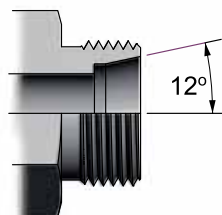
The Gaz and Millimetrique series are identical in all respects except for the O.D. of the tube:

- Gaz series uses fractional number O.D. metric tubing.
- Millimetrique series uses whole number O.D. metric tubing.

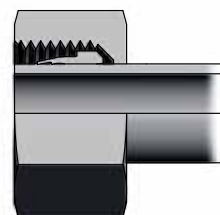


French 24° cone female with o-ring

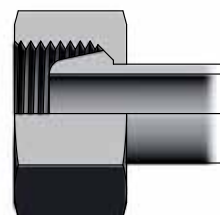
THREAD SPECIFICATIONS LIGHT (L) SERIES			
Thread O.D. & Pitch	Female Thread I.D.	Diameter	
		GAZ	Millimetrique
M12-1.0	11.0	-	6
M14-1.5	12.5	-	8
M16-1.5	14.5	-	10
M18-1.5	16.5	-	12
M20-1.5	18.5	13.25	14
M22-1.5	20.5	-	15
M24-1.5	22.5	16.75	16
M27-1.5	25.5	-	18
M30-1.5	28.5	21.25	22
M33-1.5	31.5	-	25
M36-1.5	34.5	26.75	28
M39-1.5	37.5	-	30
M42-1.5	40.5	-	32
M45-1.5	43.5	33.5	35
M48-1.5	46.5	-	38
M52-1.5	50.5	42.25	40
M54-2.0	52.0	-	45
M58-2.0	56.0	48.25	-



French 24° cone male



Cutting ring and nut on tube

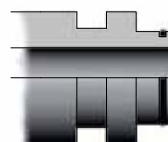


French female swivel nut with spherical seat

STAPLE-LOK COUPLINGS

Originally designed in Germany for underground mining equipment, the Staple-lok requires no spanners for connection or disconnection. The male and female are pushed together and held with a retaining staple or "U" clip.

Sealing is achieved by the captive "O"-Ring located on the male spigot. The female can either be fixed or swivel type. The coupling is not designed to swivel under pressure.

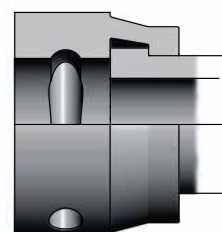


Staple-lok male



Staple-lok fixed female

Coupling Dash Size	Imperial Size	Male O.D.		Female I.D.	
		inch	mm	inch	mm
-4	1/4	0.58	14.8	.59	15.0
-6	3/8	0.78	19.8	.79	20.0
-8	1/2	0.94	23.9	.95	24.1
-12	3/4	1.13	28.8	1.14	29.0
-16	1	1.53	38.9	1.54	39.1
-20	1.1/4	1.80	45.7	1.81	46.0
-24	1.1/2	2.16	54.9	2.17	55.1
-32	2	2.52	64.0	2.53	64.3



Staple-lok swivel female

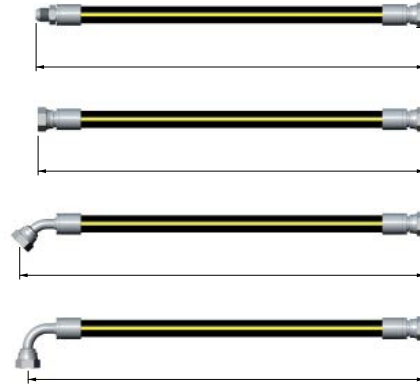


Staple-lok staple

STRAIGHT HOSE ASSEMBLY LENGTH

Overall hose assembly lengths are determined by measuring the centreline length between the coupling end faces for straight couplings, or through the sealing face centreline for angled couplings (examples to right).

Sufficient length allowance should be made to compensate for hose contraction and expansion under operating procedures.



BENT HOSE ASSEMBLY LENGTH

For installations that require a 180° bend in the hose assembly, the overall length can be calculated as follows:

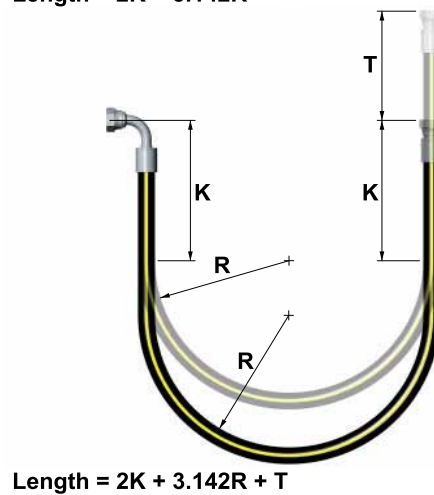
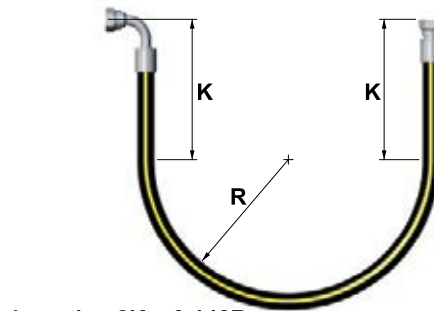
Static Installations

To avoid localised concentration of bending strain on the hose couplings, a free distance (K) of hose should be designed into the length of each assembly. Distance "K" includes length of coupling and adaptor (if used). Dimension "R" should not be less than the manufacturer's recommended bend radius for the hose used. Refer to chart below for "K" dimensions of hoses with I.D. from 3/16" to 2".

Hose I.D.	3/16	1/4	5/16	3/8	1/2	5/8	3/4	1	1 1/4	1 1/2	2
K (mm)	110	130	130	160	180	210	210	260	260	260	310

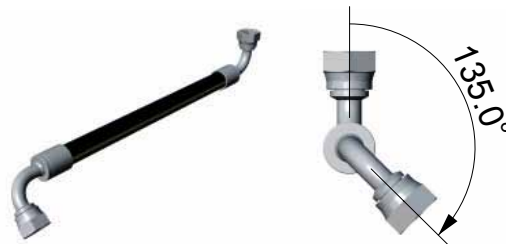
Dynamic Installations

When a hose assembly is subjected to relative motion between the two end couplings, additional hose length is required to accommodate the travel distance. In the diagram (right) "T" represents the amount of travel.



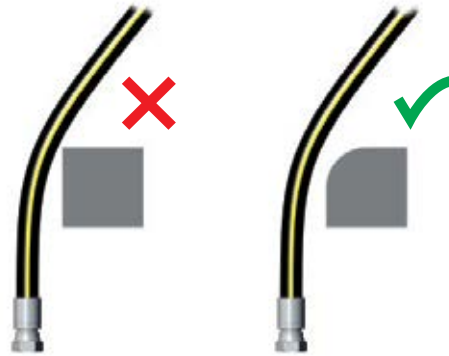
Off-Set Angle Measurement

Place hose assembly in line of sight position with coupling furthest away facing upwards. Determine off-set angle by comparing relative position of closest coupling to the far coupling in a clockwise direction.

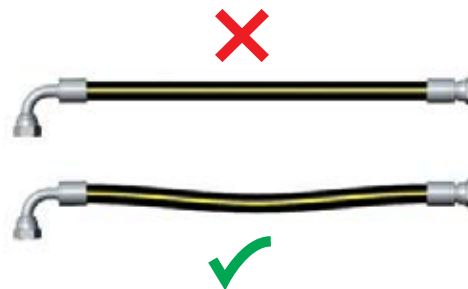


1. Hose Protection

Protect the hose cover from damage such as abrasion, erosion, snagging, and cutting. Where possible, route hose to reduce abrasion from hose rubbing other hose or objects that may abrade it (Fig. 1). Special abrasion-resistant hoses and hose guards are available for additional protection. Special consideration may also need to be given to hose assemblies near heat sources.

Fig. 1**2. Hose And Machine Tolerances**

Avoid tension on hose assemblies and adaptors. Design hose to allow for changes in length due to machine motion and tolerances (Fig. 2). Failure to do so may result in seal or assembly failure.

Fig. 2**3. Torsional Twist**

Do not transfer torque to hose while installing. This transfer of torque can result in torsional twist, which may result in premature hose assembly failure. Use swivel type couplings or adaptors for ease of alignment as needed to prevent twisting during installation. Use the brand lay-line as a guide to ensure the hose is not pre-loaded with torsional twist when installed (Fig. 3).

Fig. 3

4. Minimum Bend Radius

The minimum bend radius for hose supplied by Hydraulink is detailed in this catalogue. Routing at less than minimum bend radius is not recommended and may reduce hose life.

Prevent sharp bending at the hose/fitting juncture (Fig. 4a). Unnecessary stress at this point may result in leaking, hose rupturing, or the hose assembly blowing apart.

Stress at this point can be minimised by ensuring adequate hose length (Fig. 4b), or by use of angled adaptors and couplings (Fig 4c).

Fig. 4a

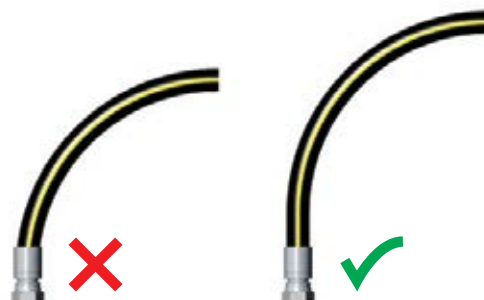


Fig. 4b

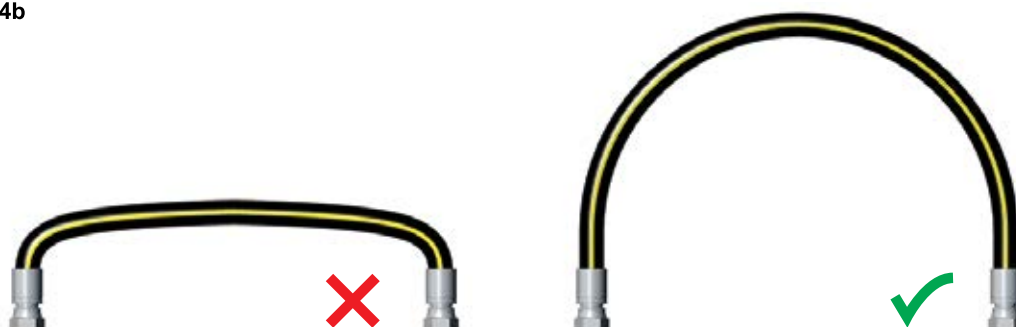


Fig. 4c



5. Hose Length Change

Hydraulic hose can expand longitudinally when pressurised, and this hose length change must be considered when specifying or installing hose assemblies (Fig. 5) When clamping hose lengths, always place clamps to avoid stressing the fitting end.

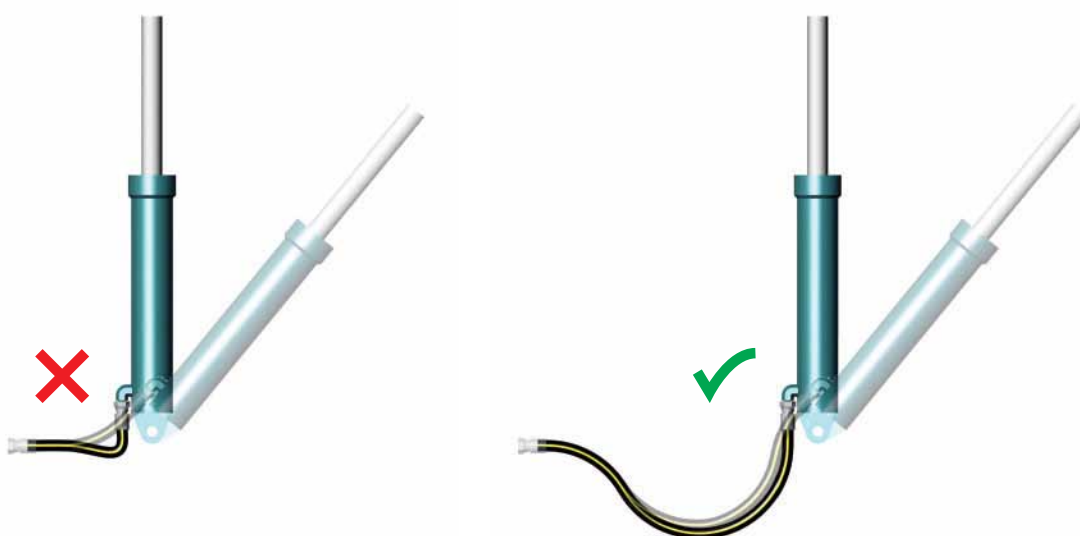
Fig. 5



6. Relative Movement

When specifying or installing hoses that have movement relative to each other, provide adequate hose length to absorb the required movement and prevent bends occurring that are smaller than the minimum bend radius (Fig. 6a).

Fig. 6a





GENERAL INFORMATION

The Hydraulink range of hose couplings are available in three main series; Swage, Field Attachable (often referred to as reusable) and Push-on.

The swage series hosetail is designed as a combination tail suitable for use with all hose types from multi-spiral wire to fibre-reinforced thermoplastic. Simply select the ferrule type to match the relevant hose. Please note that Hydraulink swage hositails should only be used with the ferrules listed in section four of this catalogue.

Hydraulink thread forms and sealing methods are manufactured to the relevant international standards where applicable. All dimensions shown are nominal, and subject to change due to ongoing product development. For critical applications, please contact Hydraulink to confirm dimensions.

Hydraulink swage hositails are typically manufactured from high quality steel and finished with a silver trivalent chromium plating and clear sealant to further increase protection against corrosion. Other material types (such as AISI 316 stainless steel) and finishes are available on request.

Hydraulink Fluid Connectors Ltd. reserves the right to discontinue, or to alter the design and specification of any product listed in this catalogue.

PART NUMBERING SYSTEM – STEEL SWAGE COUPLINGS

The Hydraulink part numbering system is a concise product description in coded form. The part number consists of four modules as follows:

Module 1. Prefix letter; denotes coupling type.

S = Swage

F = Field Attachable (Reusable)

P = Push-on

R5 = Field Attachable (Reusable) to suit SAE 100R5 hose

SU = Suction tail.

Module 2. Series Code; denotes the thread form or sealing method (coupling end) and the configuration of the hosetail.

E.g.; series code #51 denotes a BSPP swivel nut female in a swept 90° configuration,
series code #29 denotes a JIC female swivel nut in a compact 90° configuration.

Series codes may also have a suffix, denoting further information about the coupling.

Please refer to the following “Series Codes and Descriptions” for further information regarding coupling ends and configurations.

Module 3. Coupling end size; denotes the size of the thread form or sealing method of the hosetail. Sizes are expressed as follows;

English/American threads; expressed in 1/16th inch increments denoting the key diameter.
For example; 08 = $8/16 = 1/2$ " and 19 = $19/16 = 1\ 3/16$ ".

Metric threads; expressed in millimetres with prefix M, denoting the key diameter.
For example; M10 = 10mm O.D. thread.

Flanges; express the nominal size of the flange head. Nominal sizing refers to the maximum internal bore.

For example a 12 flange head would have a maximum internal bore of $12/16 = 3/4$ ".

Please refer technical section for further information regarding coupling ends, thread forms and sealing methods.

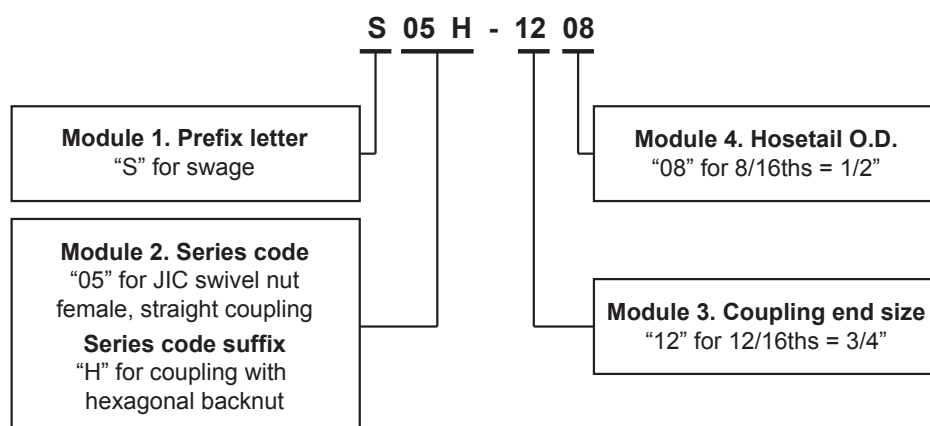
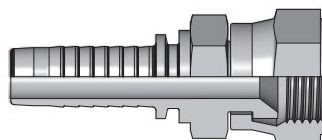
Module 4. Hosetail outside diameter; denotes both the nominal O.D. of the hosetail and the I.D. of the hose it would suit. Sizes are expressed in 1/16th inch increments.

For example; 06 = $6/16 = 3/8$ " and 20 = $20/16 = 1\ 1/4$ ".

PART NUMBERING SYSTEM - EXAMPLES

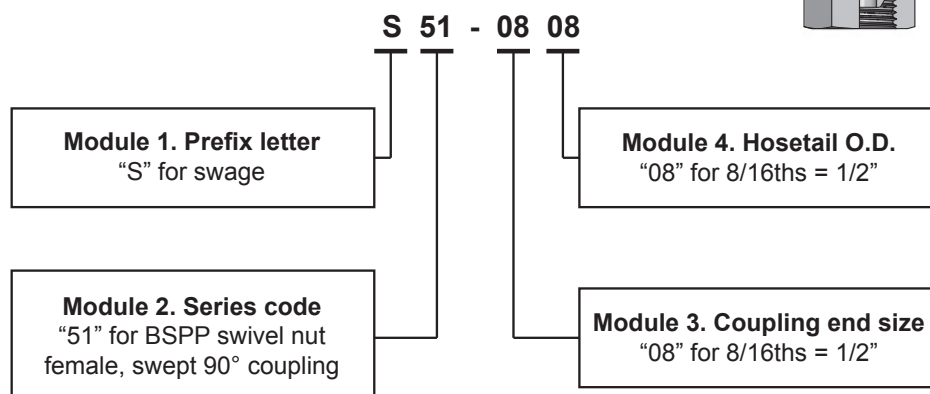
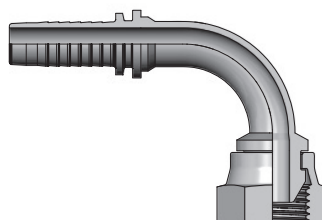
Part number: S05H-1208

Complete description: 3/4" JIC swivel nut female x 1/2" hose tail, straight swage coupling with back hex.



Part number: S51-0808

Complete description: 1/2" BSPP swivel nut female x 1/2" hose tail, swept 90° swage coupling.



SERIES CODES AND DESCRIPTIONS - HOSETAILS

CODE	DESCRIPTION	CODE	DESCRIPTION
01	BSP PARALLEL SWIVEL NUT FEMALE	51	BSPP SWIVEL NUT FEMALE 90° SWEPT BEND
02	BSP PARALLEL SWIVEL NUT FEMALE FLATFACE	52	ORFS SWIVEL NUT FEMALE 90° SWEPT BEND
03	SAE SWIVEL NUT FEMALE	53	METRIC ISO/GAZ SWIVEL NUT FEMALE 90° SWEPT BEND
04	JIC SOLID (FIXED) FEMALE	54	SAE CODE 62 FLANGE 60° SWEPT BEND
05	JIC SWIVEL NUT FEMALE	545	CAT XT5 FLANGE 60° SWEPT BEND
06	BSPT SOLID (FIXED) FEMALE	55	JIC SWIVEL NUT FEMALE 90° SWEPT BEND
07	NPSM SWIVEL NUT FEMALE	56	ORFS SWIVEL NUT FEMALE 90° LONG LEG SWEPT BEND
08	BSP PARALLEL SOLID (FIXED) FEMALE	57	BSPP SWIVEL NUT FEMALE 90° LONG LEG SWEPT BEND
09	SAE MALE	58	JIC SWIVEL NUT FEMALE 90° LONG LEG SWEPT BEND
10	SAE INVERTED FLARE MALE	59	SAE CODE 61 FLANGE 90° SWEPT BEND
11	NPTF SOLID (FIXED) FEMALE	60	BSPP SWIVEL NUT FEMALE 45° SWEPT BEND
110	SAE CODE 61 FLANGE 110° SWEPT BEND	61	SAE CODE 62 FLANGE 90° SWEPT BEND
12	BSP PARALLEL MALE	615	CAT XT5 FLANGE 90° SWEPT BEND
13	ORFS SWIVEL NUT FEMALE	616	O&K SAE CODE 62 FLANGE 90° SWEPT BEND
13R	ORFS SWIVEL NUT FEMALE, SHORT STEM	62	SAE CODE 62 FLANGE 45° SWEPT BEND
133	ORFS SWIVEL NUT FEMALE 30° SWEPT BEND	625	CAT XT5 FLANGE 45° SWEPT BEND
135	SAE CODE 61 FLANGE 135° SWEPT BEND	626	O&K SAE CODE 62 FLANGE 45° SWEPT BEND
14	BSP TAPER MALE SWIVEL	63	ORFS SWIVEL NUT FEMALE 45° SWEPT BEND
15	BSP TAPER MALE	64	JIC SWIVEL NUT FEMALE 45° SWEPT BEND
16	NPTF MALE	65	MINI-CHECK TEST POINT METRIC FEMALE/SPIGOT
17	METRIC MALE (STUD END)	66	SAE CODE 61 FLANGE 60° SWEPT BEND
18	JIC MALE	67	SAE CODE 61 FLANGE 22.5° SWEPT BEND
19	UNO MALE SWIVEL	674	SAE CODE 62 FLANGE 22.5° SWEPT BEND
20	UNO MALE	675	CAT XT5 FLANGE 22.5° SWEPT BEND
21	POCLAIN FLANGE	68	SAE CODE 61 FLANGE 45° SWEPT BEND
22	SAE CODE 62 FLANGE STRAIGHT	69	SAE CODE 61 FLANGE 67.5° SWEPT BEND
225	CAT XT5 FLANGE STRAIGHT	695	CAT XT5 FLANGE 67.5° SWEPT BEND
226	O&K SAE CODE 62 FLANGE STRAIGHT	70	JIS (KOMATSU) METRIC SWIVEL NUT FEMALE
23	SAE CODE 61 FLANGE STRAIGHT	71	JIS (KOMATSU) FLANGE STRAIGHT
236	O&K SAE CODE 61 FLANGE STRAIGHT	72	JIS (KOMATSU) FLANGE 90° SWEPT BEND
24	BSPT MALE SWIVEL 90°	73	JIS (KOMATSU) FLANGE 45° SWEPT BEND
25	BSP PARALLEL SWIVEL NUT FEMALE 90° COMPACT	74	FRENCH GAZ METRIC SWIVEL NUT FEMALE
26	BSPT MALE 90° COMPACT	75	JIS 30° FLARE (MITSUBISHI) SWIVEL NUT FEMALE
27	SAE SWIVEL NUT FEMALE 90° COMPACT	76	DIN METRIC 60° CONE SWIVEL NUT FEMALE
28	JIC MALE SWIVEL 90° COMPACT	77	METRIC GLOBESEAL SWIVEL NUT FEMALE
29	JIC SWIVEL NUT FEMALE 90° COMPACT	78	HEAVY DIN METRIC MALE
30	WATERBLAST SWIVEL NUT FEMALE	79	HEAVY DIN METRIC SWIVEL NUT FEMALE
31	DIN METRIC 60° CONE MALE STRAIGHT	80	LIGHT DIN METRIC MALE
32	UNO MALE SWIVEL 90° COMPACT	81	LIGHT DIN METRIC SWIVEL NUT FEMALE
33	JIC MALE 90° COMPACT	82	METRIC STANDPIPE
34	JIS (KOMATSU) METRIC MALE	83	HEAVY DIN METRIC SWIVEL NUT FEMALE 90° SWEPT BEND
35	JIS 30° FLARE (MITSUBISHI) MALE	84	HEAVY DIN METRIC SWIVEL NUT FEMALE 45° SWEPT BEND
36	BSP TAPER MALE 45°	85	HEAVY DIN METRIC SWIVEL NUT FEMALE 90° COMPACT
37	SAE SWIVEL NUT FEMALE 45° SWEPT BEND	86	LIGHT DIN METRIC SWIVEL NUT FEMALE 90° SWEPT BEND
38	BANJO	87	LIGHT DIN METRIC SWIVEL NUT FEMALE 45° SWEPT BEND
39	POCLAIN FLANGE	88	LIGHT DIN METRIC SWIVEL NUT FEMALE 90° COMPACT
39N	POCLAIN FLANGE 90°	89	JIS (KOMATSU) METRIC SWIVEL NUT FEMALE 90° SWEPT BEND
39F	POCLAIN FLANGE 45°	90	HOSE JOINER
40	ORFS MALE	91	JIS 30° FLARE (MITSUBISHI) SWIVEL NUT FEM. 90° SWEPT BEND
S40N	ORFS MALE 90° SWEPT BEND	92	IMPERIAL STANDPIPE
41	SAE SWIVEL NUT FEMALE 90° SWEPT BEND	93	METRIC 90° STANDPIPE
42	SAE INVERTED FLARE MALE 45° SWEPT BEND	94	SAE IMPERIAL TUBE CONNECTOR
43	SAE INVERTED FLARE MALE 90 SWEPT BEND	95	DIN 60° METRIC SWIVEL NUT FEMALE 90° SWEPT BEND
44	KOBELCO METRIC MALE	96	LIFESAVER
45	SAE CODE 61 FLANGE 30° SWEPT BEND	97	WEO (CEJN) STRAIGHT STANDPIPE
456	O&K SAE CODE 61 FLANGE 30° SWEPT BEND	109	METRIC 45° FLARE BULKHEAD
46	SAE CODE 62 FLANGE 30° SWEPT BEND	131	CHINESE FLAT FACE STRAIGHT FEMALE
465	CAT XT5 FLANGE 30° SWEPT BEND		
466	O&K SAE CODE 62 FLANGE 30° SWEPT BEND		
47	FRENCH GAZ METRIC MALE		
48	JIS (KOMATSU) METRIC MALE		
49	STAPLELOCK FEMALE		
50	STAPLELOCK MALE		

SUFFIX CODES FOR SERIES CODES

N	NINETY DEGREE	e.g. S40N
F	FORTY FIVE DEGREE	e.g. S40F
S	SWIVEL MALE	e.g. S18S
K	COMPACT BLOCK 45°	e.g. S64K, S60K
C	CYLINDRICAL/ROUND BAR TAIL STYLE	e.g. S01C
H	HEXAGONAL BAR TAIL STYLE	e.g. S05H

SUFFIX CODES FOR PART NUMBERS

X	EXTENDED DROP LENGTH IN MM e.g S615-1616-X132
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PREFIX CODES FOR SERIES

GS	GATES GLOBAL SPIRAL NON-SKIVE e.g. GS01-2020
GSM	GATES GLOBAL SPIRAL MAXIMUM NON-SKIVE e.g. GSM01-3232

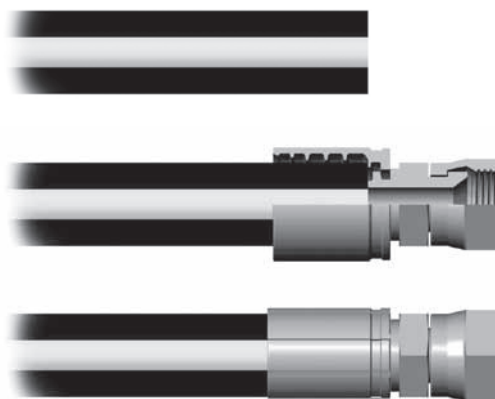
ASSEMBLY INSTRUCTIONS

Non-Skive Swage Couplings

Ensure hose is cut square, with minimal end "flaring".

Insert hose into ferrule, ensuring sufficient clearance for location of tail locking collar between hose end and ferrule shoulder. Lightly lubricate tailpiece and insert into hose until collar abuts the ferrule. Check alignment of ferrule shoulder and tailpiece locking collar before swaging.

Select correct die set, and swage to diameter nominated on latest Hydraulink Crimp Chart. Check final swage diameter with verniers, and adjust crimp dimensions if necessary.

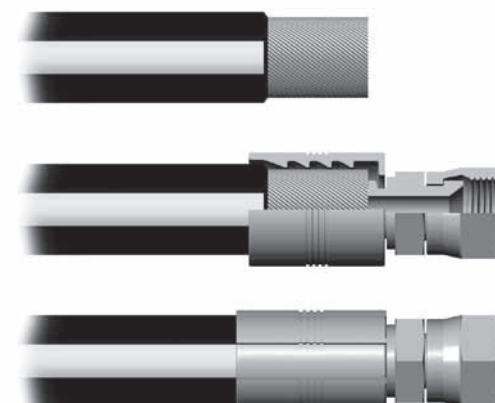


Skive Swage Couplings

Ensure hose is cut square, and refer to latest Hydraulink Crimp Chart for skive dimension. Mark dimension from cut end, then cut and strip the rubber cover, exposing the wire.

Insert hose into ferrule, ensuring sufficient clearance for location of tail locking collar between hose end and ferrule shoulder. Lightly lubricate tailpiece and insert into hose until collar abuts the ferrule. Check alignment of ferrule shoulder and tailpiece locking collar before swaging.

Select correct die set, and swage to diameter nominated on latest Hydraulink Crimp Chart. Check final swage diameter with verniers, and adjust crimp dimensions if necessary.



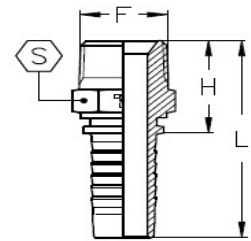
Please refer to training manual for more detailed assembly instructions.

Our product range is constantly evolving and Hydraulink reserve the right to change technical specifications without notice

BSP

S15

BSP TAPER MALE STRAIGHT

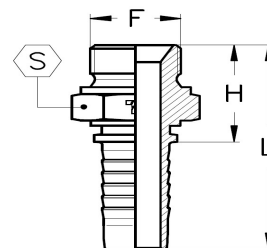


Part Number	BSPT Male Thread - F	Hose I.D (in)	Hose I.D (mm)	Dash size	Hex A/F - S (mm)	Cutoff - H (mm)	Length - L (mm)	Working Pressure (bar)	Working Pressure (psi)
S15-0204	1/8-28	1/4	6.4	04	12	21	49	350	5000
S15-0404	1/4-19	1/4	6.4	04	15	25	53	350	5000
S15-0406	1/4-19	3/8	9.5	06	15	26	56	350	5000
S15-0408	1/4-19	1/2	12.7	08	22	29	62	350	5000
S15-0604	3/8-19	1/4	6.4	04	19	26	54	280	4000
S15-0605	3/8-19	5/16	7.9	05	19	26	54	280	4000
S15-0606	3/8-19	3/8	9.5	06	19	27	57	280	4000
S15-0608	3/8-19	1/2	12.7	08	19	28	64	280	4000
S15-0806	1/2-14	3/8	9.5	06	22	32	63	280	4000
S15-0808	1/2-14	1/2	12.7	08	22	33	66	280	4000
S15-0812	1/2-14	3/4	19	12	27	38	78	280	4000
S15-1010	5/8-14	5/8	15.9	10	25	35	72	280	4000
S15-1208	3/4-14	1/2	12.7	08	27	36	68	280	4000
S15-1210	3/4-14	5/8	15.9	10	27	35	71	280	4000
S15-1212	3/4-14	3/4	19	12	27	36	77	280	4000
S15-1216	3/4-14	1	25.4	16	32	42	98	280	4000
S15-1612	1-11	3/4	19	12	36	41	82	280	4000
S15-1616	1-11	1	25.4	16	36	44	101	280	4000
S15-1620	1-11	1 1/4	31.8	20	41	52	118	280	4000
S15-2016	1 1/4-11	1	25.4	16	48	52	108	210	3000
S15-2020	1 1/4-11	1 1/4	31.8	20	46	51	118	210	3000
S15-2424	1 1/2-11	1 1/2	38	24	50	54	137	185	2700
S15-3232	2-11	2	51	32	65	64	160	175	2500

S12

BSPP MALE STRAIGHT
BSP 60° CONE

- ISO 12151-6

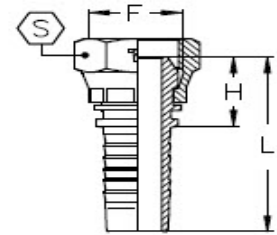


Part Number	BSPP Male Thread - F	Hose I.D (in)	Hose I.D (mm)	Dash size	Hex A/F - S (mm)	Cutoff - H (mm)	Length - L (mm)	Working Pressure (bar)	Working Pressure (psi)
S12-0204	1/8-28	1/4	6.4	04	12	21	49	350	5000
S12-0404	1/4-19	1/4	6.4	04	19	25	53	450	6500
S12-0406	1/4-19	3/8	9.5	06	19	25	55	450	6500
S12-0604	3/8-19	1/4	6.4	04	22	27	55	450	6500
S12-0606	3/8-19	3/8	9.5	06	22	27	58	450	6500
S12-0608	3/8-19	1/2	12.7	08	22	28	61	420	6000
S12-0806	1/2-14	3/8	9.5	06	27	32	62	420	6000
S12-0808	1/2-14	1/2	12.7	08	27	33	66	420	6000
S12-1008	5/8-14	1/2	12.7	08	30	35	68	350	5000
S12-1010	5/8-14	5/8	15.9	10	30	35	71	350	5000
S12-1208	3/4-14	1/2	12.7	08	32	36	69	350	5000
S12-1212	3/4-14	3/4	19	12	32	37	77	350	5000
S12-1612	1-11	3/4	19	12	41	42	82	280	4000
S12-1616	1-11	1	25.4	16	41	45	101	280	4000
S12-2020	1.1/4-11	1 1/4	31.8	20	46	51	118	210	3000

S01C

BSPP FEMALE STRAIGHT
BSP 60° CONE SWIVEL NUT

- ISO 12151-6



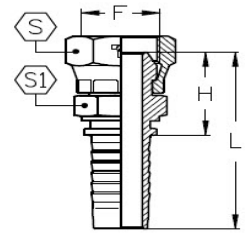
Part Number	BSPP Female Thread - F	Hose I.D (in)	Hose I.D (mm)	Dash size	Hex A/F - E (mm)	Cutoff - H (mm)	Length - L (mm)	Working Pressure (bar)	Working Pressure (psi)
S01C-0203	1/8-28	3/16	4.8	03	14	16	41	350	5000
S01C-0204	1/8-28	1/4	6.4	04	14	17	45	350	5000
S01C-0403	1/4-19	3/16	4.8	03	19	19	44	420	6000
S01C-0404	1/4-19	1/4	6.4	04	19	19	47	450	6500
S01C-0406	1/4-19	3/8	9.5	06	19	19	49	450	6500
S01C-0604	3/8-19	1/4	6.4	04	22	22	50	450	6500
S01C-0605	3/8-19	5/16	7.9	05	22	22	50	350	5000
S01C-0606	3/8-19	3/8	9.5	06	22	21	51	450	6500
S01C-0608	3/8-19	1/2	12.7	08	22	22	56	420	6000
S01C-0806	1/2-14	3/8	9.5	06	27	23	54	420	6000
S01C-0808	1/2-14	1/2	12.7	08	27	23	54	420	6000
S01C-1010	5/8-14	5/8	15.9	10	30	23	59	350	5000
S01C-1208	3/4-14	1/2	12.7	08	32	27	60	350	5000
S01C-1210	3/4-14	5/8	15.9	10	32	27	63	350	5000
S01C-1212	3/4-14	3/4	19	12	32	27	67	350	5000
S01C-1612	1-11	3/4	19	12	41	30	70	280	4000
S01C-1616	1-11	1	25.4	16	41	34	90	380	5500
S01C-2020	1.1/4-11	1 1/4	31.8	20	50	39	106	325	4700
S01C-2420	1.1/2-11	1 1/4	31.8	20	60	42	109	290	4200
S01C-2424	1.1/2-11	1 1/2	38.1	24	60	43	125	290	4200
S01C-3232	2-11	2	50.8	32	75	47	143	250	3600

S01H

BSPP FEMALE STRAIGHT

BSP 60° CONE SWIVEL NUT - BACK HEX

- ISO 12151-6



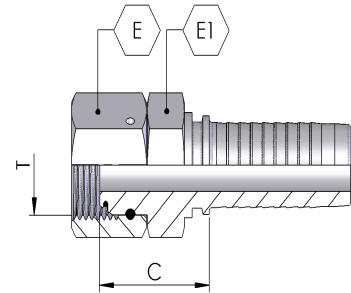
Part Number	BSPP Female Thread - F	Hose I.D (in)	Hose I.D (mm)	Dash size	Hex A/F - S (mm)	Hex A/F - S1 (mm)	Cutoff - H (mm)	Length - L (mm)	Working Pressure (bar)
S01H-0204	1/8-28	1/4	6.4	04	14	16	22	50	350
S01H-0404	1/4-19	1/4	6.4	04	19	14	24	52	450
S01H-0405	1/4-19	5/16	7.9	05	19	16	24	52	450
S01H-0406	1/4-19	3/8	9.5	06	19	19	27	55	450
S01H-0408	1/4-19	1/2	12.7	08	19	22	27	59	450
S01H-0604	3/8-19	1/4	6.4	04	22	17	26	54	450
S01H-0605	3/8-19	5/16	7.9	05	22	17	26	54	350
S01H-0606	3/8-19	3/8	9.5	06	22	17	26	57	450
S01H-0608	3/8-19	1/2	12.7	08	22	22	29	63	420
S01H-0806	1/2-14	3/8	9.5	06	27	22	29	60	420
S01H-0808	1/2-14	1/2	12.7	08	27	22	30	63	420
S01H-0810	1/2-14	5/8	15.9	10	27	25	31	67	420
S01H-0812	1/2-14	3/4	19	12	27	28	35	75	420
S01H-1008	5/8-14	1/2	12.7	08	28	25	30	63	350
S01H-1010	5/8-14	5/8	15.9	10	29	24	31	67	350
S01H-1208	3/4-14	1/2	12.7	08	32	28	33	67	350
S01H-1210	3/4-14	5/8	15.9	10	32	27	34	70	350
S01H-1212	3/4-14	3/4	19	12	32	27	36	76	350
S01H-1216	3/4-14	1	25.4	16	32	32	39	95	350
S01H-1612	1-11	3/4	19	12	38	32	39	79	250
S01H-1616	1-11	1	25.4	16	38	38	45	101	250
S01H-1620	1-11	1 1/4	31.8	20	38	41	46	112	250
S01H-2016	1 1/4-11	1	25.4	16	51	41	45	101	200
S01H-2020	1 1/4-11	1 1/4	31.8	20	51	44	54	120	200
S01H-2424	1 1/2-11	1 1/2	38.1	24	55	51	53	135	160
S01H-3232	2-11	2	50.8	32	70	70	64	160	125

S01XH

BSPP FEMALE STRAIGHT

BSP 60° CONE SWIVEL NUT - BACK HEX HEAVY DUTY

- ISO 12151-6

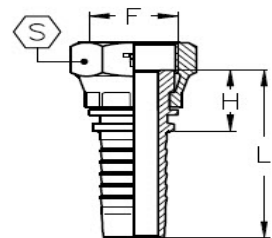


Part Number	BSPP Female Thread - T	Hose I.D (in)	Hose I.D (mm)	Dash size	Hex A/F - E (mm)	Hex A/F - E1 (mm)	Cutoff - C (mm)
S01XH-1212	3/4-14	3/4	19	12	32	28	36
S01XH-1616	1-11	1	25.4	16	38	38	42

S02C

BSPP FLAT FACE FEMALE STRAIGHT

BSP FLAT FACE SWIVEL NUT



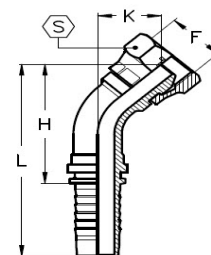
Part Number	BSPP Female Thread - F	Hose I.D (in)	Hose I.D (mm)	Dash size	Hex A/F - S (mm)	Cutoff - H (mm)	Length - L (mm)	Working Pressure (bar)	Working Pressure (psi)
S02C-0404	1/4-19	1/4	6.4	04	19	15	43	450	6500
S02C-0606	3/8-19	3/8	9.5	06	22	17	47	450	6500
S02C-0608	3/8-19	1/2	12.7	08	22	16	48	450	6500
S02C-0806	1/2-14	3/8	9.5	06	27	19	49	420	6000
S02C-0808	1/2-14	1/2	12.7	08	27	19	52	420	6000
S02C-1208	3/4-14	1/2	12.7	08	32	23	56	350	5000
S02C-1212	3/4-14	3/4	19	12	32	22	63	350	5000
S02C-1616	1-11	1	25.4	16	38	29	85	250	3600

S60

BSPP FEMALE 45° ELBOW

BSP 60° CONE FEMALE SWIVEL NUT

- ISO 12151-6



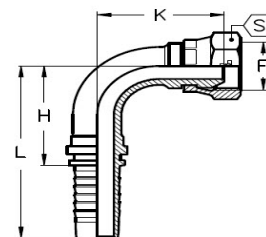
Part Number	BSPP Female Thread - F	Hose I.D (in)	Hose I.D (mm)	Dash size	Hex A/F - S (mm)	Drop - K (mm)	Cutoff - H (mm)	Length - L (mm)	Working Pressure (bar)
S60-0404	1/4-19	1/4	6.4	04	19	16	37	65	450
S60-0604	3/8-19	1/4	6.4	04	22	19	40	68	450
S60-0606	3/8-19	3/8	9.5	06	22	19	42	73	450
S60-0806	1/2-14	3/8	9.5	06	27	21	44	75	420
S60-0808	1/2-14	1/2	12.7	08	27	22	49	82	420
S60-1010	5/8-14	5/8	15.9	10	30	24	54	90	350
S60-1212	3/4-14	3/4	19	12	32	28	66	106	350
S60-1616	1-11	1	25.4	16	36	41	86	142	380
S60-2020	1 1/4-11	1 1/4	31.8	20	43	50	103	169	325
S60-2424	1 1/2-11	1 1/2	38	24	51	60	123	203	290
S60-3232	2-11	2	51	32	65	75	160	257	250

S51

BSPP FEMALE 90° ELBOW

BSP 60° CONE FEMALE SWIVEL NUT

- ISO 12151-6

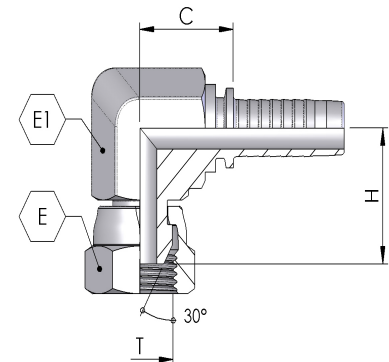


Part Number	BSPP Female Thread - F	Hose I.D (in)	Hose I.D (mm)	Dash size	Hex A/F - S (mm)	Drop - K (mm)	Cutoff - H (mm)	Length - L (mm)	Working Pressure (bar)
S51-0204	1/8-28	1/4	6.4	04	14	28	26	54	350
S51-0404	1/4-19	1/4	6.4	04	19	28	26	54	450
S51-0604	3/8-19	1/4	6.4	04	22	32	26	54	450
S51-0606	3/8-19	3/8	9.5	06	22	35	31	61	450
S51-0806	1/2-14	3/8	9.5	06	27	38	31	61	420
S51-0808	1/2-14	1/2	12.7	08	27	42	37	70	420
S51-1010	5/8-14	5/8	15.9	10	30	46	45	80	350
S51-1208	3/4-14	1/2	12.7	08	32	48	37	70	350
S51-1210	3/4-14	5/8	15.9	10	32	50	45	80	350
S51-1212	3/4-14	3/4	19	12	32	56	54	95	350
S51-1616	1-11	1	25.4	16	41	72	71	128	380
S51-2020	1 1/4-11	1 1/4	31.8	20	50	88	87	154	325
S51-2424	1 1/2-11	1 1/2	38	24	60	104	105	188	290
S51-3232	2-11	2	51	32	75	137	140	237	250

S25

BSPP FEMALE 90° COMPACT ELBOW
BSP 60° CONE SWIVEL NUT

- ISO 12151-6

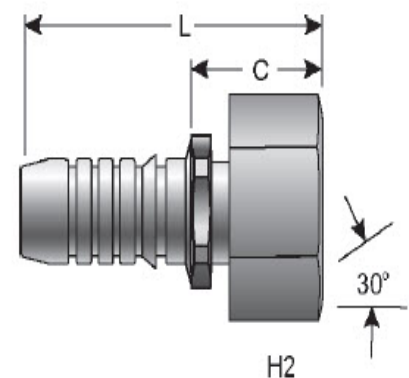


Part Number	BSPP Female Thread - T	Hose I.D (in)	Hose I.D (mm)	Dash size	Hex A/F - E (mm)	Body Hex - E1 (mm)	Cutoff - C (mm)	Drop - H (mm)	Working Pressure (bar)
S25-0404	1/4-19	1/4	6.4	04	19	14	19	21	400
S25-0604	3/8-19	1/4	6.4	04	22	19	22	25	400
S25-0606	3/8-19	3/8	9.5	06	22	19	23	25	400
S25-0806	1/2-14	3/8	9.5	06	27	24	25	31	350
S25-0808	1/2-14	1/2	12.7	08	27	24	25	31	350
S25-1010	5/8-14	5/8	15.9	10	29	30	32	31	350
S25-1212	3/4-14	3/4	19.0	12	32	27	32	36	315
S25-1616	1-11	1	25.4	16	41	36	42	42	250

GS-FBSPORX (GS01)

GATES GS BSP FEMALE STRAIGHT
60° CONE SWIVEL NUT

- FOR GATES 20EFG4K, 20EFG5K, OR 20EFG6K HOSE ONLY.
- USE WITH GATES GSF4N OR GSF6N FERRULES ONLY.



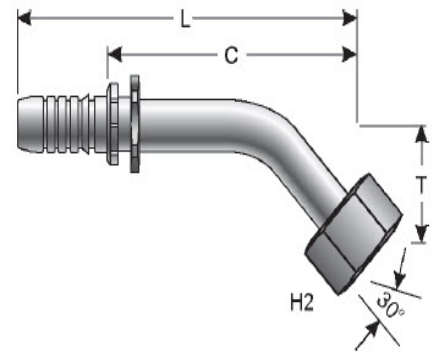
Part Number	Gates Code	BSPP Female Thread	Hose I.D (in)	Hose I.D (mm)	Dash size	Length - L (mm)	Hex A/F - H2 (mm)	Cutoff - C (mm)
20GS-20FBS PORX	20GS-20FBS PORX	1 1/4-11	1 1/4	31.8	20	116.6	50	45.5

GS-FBSPORX45 (GS60)

GATES GS BSP FEMALE 45° ELBOW

60° CONE SWIVEL NUT

- FOR GATES 20EFG4K, 20EFG5K, OR 20EFG6K HOSE ONLY.
- USE WITH GATES GSF4N OR GSF6N FERRULES ONLY.



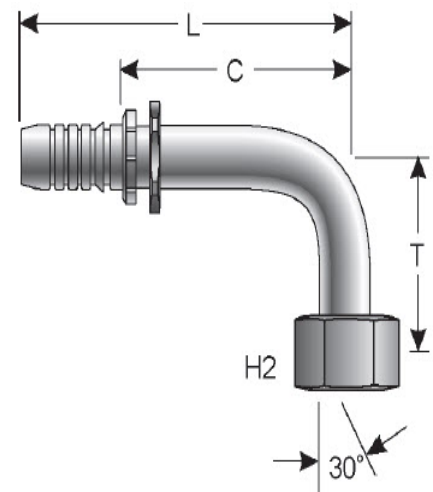
Part Number	Gates Code	BSPP Female Thread	Hose I.D (in)	Dash size	Length - L (mm)	Hex A/F - H2 (mm)	Cutoff - C (mm)	Drop - T (mm)
20GS-20FBS PORX45	20GS-20FBS PORX45	1 1/4-11	1 1/4	20	191	50	119.9	37.6

GS-FBSPORX90 (GS51)

GATES GS BSP FEMALE 90° ELBOW

60° CONE SWIVEL NUT

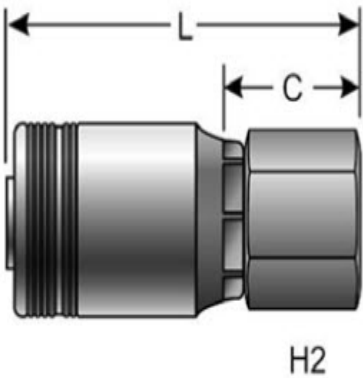
- FOR GATES 20EFG4K, 20EFG5K, OR 20EFG6K HOSE ONLY.
- USE WITH GATES GSF4N OR GSF6N FERRULES ONLY.



Part Number	Gates Code	BSPP Female Thread	Hose I.D (in)	Dash size	Length - L (mm)	Hex A/F - H2 (mm)	Cutoff - C (mm)	Drop - T (mm)
20GS-20FBS PORX90	20GS-20FBS PORX90	1 1/4-11	1 1/4	20	180.6	50	109.5	80

GSM-FBSPORX (GSM01)
GATES GSM BSP FEMALE STRAIGHT
60° CONE SWIVEL NUT ONE PIECE

- FOR GATES 24 AND 32 EFG5K OR EFG6K HOSE ONLY.



Part Number	Gates Code	BSPP Female Thread	Hose I.D (in)	Dash Size	Hose I.D (mm)	Length - L (mm)	Hex A/F - H2 (mm)	Cutoff - C (mm)
24GSM-24FB SPORX	24GSM-24FB SPORX	1 1/2 - 11	1 1/2	24	38.1	154	55	58.8
32GSM-32FB SPORX	32GSM-32FB SPORX	2 - 11	2	32	50.8	183.9	70.1	69.9

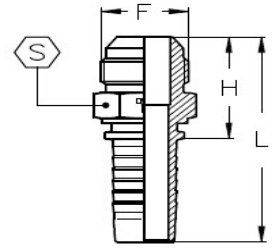
JIC

S18

JIC MALE STRAIGHT

JIC 37° FLARE MALE STRAIGHT

- ISO 12151-5/SAE J516

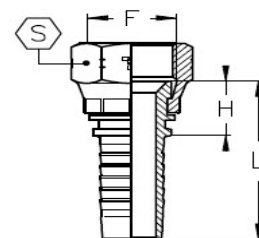


Part Number	JIC Male Thread - F	Hose I.D (in)	Hose I.D (mm)	Dash size	Hex A/F - S (mm)	Cutoff - H (mm)	Length - L (mm)	Working Pressure (bar)	Working Pressure (psi)
S18-0704	7/16-20	1/4	6.4	04	12	25.5	53.5	400	5800
S18-0804	1/2-20	1/4	6.4	04	14	25.5	53.5	400	5800
S18-0904	9/16-18	1/4	6.4	04	15	26.6	54.6	350	5000
S18-0906	9/16-18	3/8	9.5	06	15	26.6	57.1	350	5000
S18-1204	3/4-16	1/4	6.4	04	22	32	60	350	5000
S18-1206	3/4-16	3/8	9.5	06	19	29.7	60.2	350	5000
S18-1208	3/4-16	1/2	12.7	08	19	30.7	63.7	350	5000
S18-1408	7/8-14	1/2	12.7	08	24	35.3	68.3	350	5000
S18-1410	7/8-14	5/8	15.9	10	24	35.5	71.3	350	5000
S18-1412	7/8-14	3/4	19	12	27	37.3	77.8	350	5000
S18-1708	1 1/16-12	1/2	12.7	08	27	38.9	71.9	350	5000
S18-1710	1 1/16-12	5/8	15.9	10	27	39.1	74.9	350	5000
S18-1712	1 1/16-12	3/4	19	12	27	39.9	80.4	350	5000
S18-1716	1 1/16-12	1	25.4	16	32	43	99.5	350	5000
S18-1912	1 3/16-12	3/4	19	12	32	41.6	82.1	280	4000
S18-2112	1 5/16-12	3/4	19	12	34	42.1	82.6	280	4000
S18-2116	1 5/16-12	1	25.4	16	36	45	101.5	280	4000
S18-2616	1 5/8-12	1	25.4	16	46	48	104.5	210	3000
S18-2620	1 5/8-12	1 1/4	31.8	20	46	50.5	117	210	3000
S18-3024	1 7/8-12	1 1/2	38	24	50	57	139.5	185	2700
S18-4032	2 1/2-12	2	51	32	65	68.5	165	175	2500

S05C

JIC FEMALE STRAIGHT
37° CONE ROLLED NUT

- ISO 12151-5/SAE J516

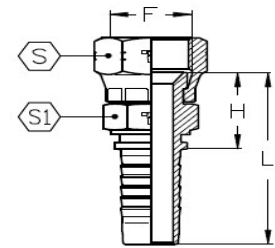


Part Number	JIC Female Thread - F	Hose I.D (in)	Hose I.D (mm)	Dash size	Hex A/F - E (mm)	Cutoff - C (mm)	Working Pressure (bar)	Working Pressure (psi)
S05C-0703	7/16-20	3/16	4.8	03	15	14	420	6000
S05C-0704	7/16-20	1/4	6.4	04	15	14.2	400	5800
S05C-0804	1/2-20	1/4	6.4	04	17	14.5	400	5800
S05C-0806	1/2-20	3/8	9.5	9.5	17	14.8	350	5000
S05C-0904	9/16-18	1/4	6.4	04	19	16.1	350	5000
S05C-0905	9/16-18	5/16	7.9	05	19	16.1	350	5000
S05C-0906	9/16-18	3/8	9.5	06	19	16.1	350	5000
S05C-1204	3/4-16	1/4	6.4	04	22	15.5	350	5000
S05C-1206	3/4-16	3/8	9.5	06	22	17.3	350	5000
S05C-1208	3/4-16	1/2	12.7	08	22	18.3	350	5000
S05C-1406	7/8-14	3/8	9.5	06	27	21.3	350	5000
S05C-1408	7/8-14	1/2	12.7	08	27	19.3	350	5000
S05C-1410	7/8-14	5/8	15.9	10	27	19.3	350	5000
S05C-1412	7/8-14	3/4	19	12	27	19.8	350	5000
S05C-1708	1.1/16-12	1/2	12.7	08	32	23.5	350	5000
S05C-1710	1.1/16-12	5/8	15.9	10	32	21	350	5000
S05C-1712	1.1/16-12	3/4	19	12	32	21.5	350	5000
S05C-1912	1.3/16-12	3/4	19	12	36	21	280	4000
S05C-2112	1.5/16-12	3/4	19	19	38	22.7	280	4000

S05H

JIC FEMALE STRAIGHT
37° FLARE SWIVEL NUT - BACK HEX

- ISO 12151-5/SAE J516



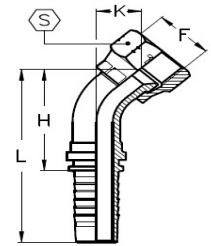
Part Number	JIC Female Thread - F	Hose I.D (in)	Hose I.D (mm)	Dash size	Hex A/F - S (mm)	Hex A/F - S1 (mm)	Cutoff - H (mm)	Length - L (mm)	Working Pressure (bar)
S05H-0703	7/16-20	3/16	5	03	14	12	19	44	420
S05H-0704	7/16-20	1/4	6.4	04	14	14	20.5	48.5	420
S05H-0804	1/2-20	1/4	6.4	04	17	14	21	49	400
S05H-0904	9/16-18	1/4	6.4	04	19	14	22	50	350
S05H-0906	9/16-18	3/8	9.5	06	19	16	22.5	53	350
S05H-0908	9/16-18	1/2	12.7	08	19	19	24.5	57.5	350
S05H-1206	3/4-16	3/8	9.5	06	22	19	24.5	55	350
S05H-1208	3/4-16	1/2	12.7	08	22	19	25.5	58.5	350
S05H-1210	3/4-16	5/8	15.9	10	22	22	26.7	62.5	350
S05H-1408	7/8-14	1/2	12.7	08	27	22	27.5	60.5	350
S05H-1410	7/8-14	5/8	15.9	10	27	22	27.7	63.5	350
S05H-1412	7/8-14	3/4	19	12	27	27	30	70.5	350
S05H-1708	1 1/16-12	1/2	12.7	08	32	25	30.3	63.3	350
S05H-1710	1 1/16-12	5/8	15.9	10	32	25	30.5	66.3	350
S05H-1712	1 1/16-12	3/4	19	12	32	27	31.8	72.3	350
S05H-1716	1 1/16-12	1	25.4	16	32	32	37	93	350
S05H-1912	1 3/16-12	3/4	19	12	36	30	34.5	75	280
S05H-2112	1 5/16-12	3/4	19	12	41	32	35.5	76	280
S05H-2116	1 5/16-12	1	25.4	16	41	32	39.5	96	280
S05H-2616	1 5/8-12	1	25.4	16	50	41	46	102.5	210
S05H-2620	1 5/8-12	1 1/4	31.8	20	50	41	42.8	114.5	210
S05H-3020	1 7/8-12	1 1/4	31.8	20	60	46	51	117.5	185
S05H-3024	1 7/8-12	1 1/2	38	24	60	46	53	135.5	185
S05H-4032	2 1/2-12	2	51	32	75	60	69	165.5	175

S64

JIC FEMALE 45° ELBOW

JIC 37° FLARE SWIVEL NUT

- ISO 12151-5/SAE J516



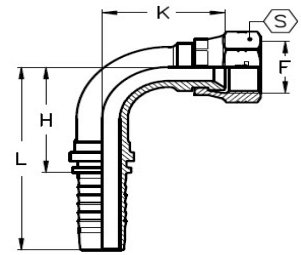
Part Number	JIC Female Thread - F	Hose I.D (in)	Hose I.D (mm)	Dash size	Hex A/F - S (mm)	Drop - K (mm)	Cutoff - H (mm)	Length - L (mm)	Working Pressure (bar)
S64-0703	7/16-20	3/16	4.8	03	14	10	29	54	420
S64-0704	7/16-20	1/4	6.4	04	14	10	31	59	400
S64-0804	1/2-20	1/4	6.4	04	17	11	32	60	400
S64-0904	9/16-18	1/4	6.4	04	19	12	33	61	350
S64-0906	9/16-18	3/8	9.5	06	19	12	35.5	66	350
S64-1206	3/4-16	3/8	9.5	06	22	14	37.5	68	350
S64-1208	3/4-16	1/2	12.7	08	22	14.5	41	76	350
S64-1408	7/8-14	1/2	12.7	08	27	16	43	76	350
S64-1410	7/8-14	5/8	15.9	10	27	16	47	83	350
S64-1412	7/8-14	3/4	19	12	27	27	64	105	350
S64-1708	1 1/16-12	1/2	12.7	08	32	19	50	86	350
S64-1710	1 1/16-12	5/8	15.9	10	32	19	45.5	78.5	350
S64-1712	1 1/16-12	3/4	19	12	32	22	59	99	350
S64-1912	1 3/16-12	3/4	19	12	36	22	59	100	280
S64-2112	1 5/16-12	3/4	19	12	41	24	61	101	280
S64-2116	1 5/16-12	1	25.4	16	41	32	82	138	280
S64-2620	1 5/8-12	1 1/4	31.8	20	50	38	98	164	210
S64-3024	1 7/8-12	1 1/2	38	24	60	46	118	201	185
S64-4032	2 1/2-12	2	51	32	75	62	157	253	175

S55

JIC FEMALE 90° ELBOW

JIC 37° FLARE SWIVEL NUT

- ISO 12151-5/SAE J516



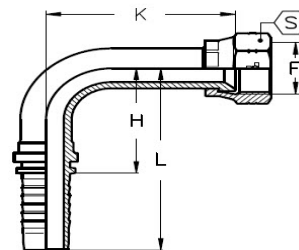
Part Number	JIC Female Thread - F	Hose I.D (in)	Hose I.D (mm)	Dash size	Hex A/F - S (mm)	Drop - K (mm)	Cutoff - H (mm)	Length - L (mm)	Working Pressure (bar)
S55-0703	7/16-20	3/16	5	03	14	21	21	46	420
S55-0704	7/16-20	1/4	6.4	04	14	26	25.5	53.5	420
S55-0804	1/2-20	1/4	6.4	04	17	26	25.5	53.5	400
S55-0904	9/16-18	1/4	6.4	04	19	27	25.5	53.5	350
S55-0906	9/16-18	3/8	9.5	06	19	33	31	61.5	350
S55-1204	3/4-16	1/4	6.4	04	24	30	25	53.78	350
S55-1206	3/4-16	3/8	9.5	06	22	33	31	61.5	350
S55-1208	3/4-16	1/2	12.7	08	22	39	37	70	350
S55-1406	7/8-14	3/8	9.5	06	27	31	31	61.5	350
S55-1408	7/8-14	1/2	12.7	08	27	40	37	70	350
S55-1410	7/8-14	5/8	15.9	10	27	45	45	81	350
S55-1412	7/8-14	3/4	19	12	27	54	55	95	350
S55-1708	1 1/16-12	1/2	12.7	08	32	40	40	73	350
S55-1710	1 1/16-12	5/8	15.9	10	32	47	45	81	350
S55-1712	1 1/16-12	3/4	19	12	32	53	55	95	350
S55-1716	1 1/16-12	1	25.4	16	32	71	71	122	280
S55-1912	1 3/16-12	3/4	19	12	36	54	55	95	280
S55-2112	1 5/16-12	3/4	19	12	41	56	55	95	280
S55-2116	1 5/16-12	1	25.4	16	41	67	71	128	280
S55-2620	1 5/8-12	1 1/4	31.8	20	50	81	87	154	210
S55-3020	1 7/8-12	1 1/4	31.8	20	60	82	87	154	185
S55-3024	1 7/8-12	1 1/2	38	24	60	97	105	188	185
S55-4032	2 1/2-12	2	51	32	75	132	140	237	175

S58

JIC FEMALE 90° ELBOW - EXTENDED

JIC 37° FLARE SWIVEL NUT

- ISO 12151-5/SAE J516



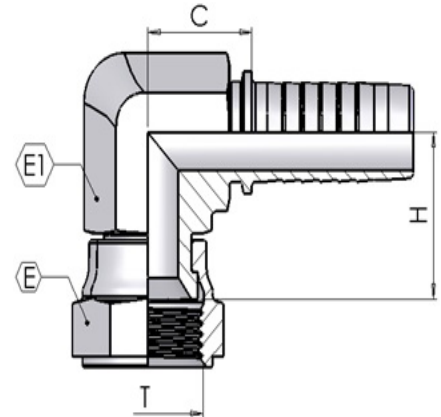
Part Number	JIC Female Thread - F	Hose I.D (in)	Hose I.D (mm)	Dash size	Hex A/F - S (mm)	Drop - K (mm)	Cutoff - H (mm)	Length - L (mm)	Working Pressure (bar)
S58-0704	7/16-20	1/4	6.4	04	14	46	25.5	53.5	400
S58-0904	9/16-18	1/4	6.4	04	17	46	25.5	53.5	350
S58-0906	9/16-18	3/8	9.5	06	19	54	31	61.5	350
S58-1206	3/4-16	3/8	9.5	06	22	64	31	61.5	350
S58-1208	3/4-16	1/2	12.7	08	22	64	38	71	350
S58-1408	7/8-14	1/2	12.7	08	27	70	38	71	350
S58-1712	1 1/16-12	3/4	19	12	32	96	55	95	350
S58-2116	1 5/16-12	1	25.4	16	41	116	71	128	280

S29

JIC FEMALE 90° COMPACT ELBOW

JIC 37° FLARE SWIVEL NUT

- ISO 12151-5/SAE J516



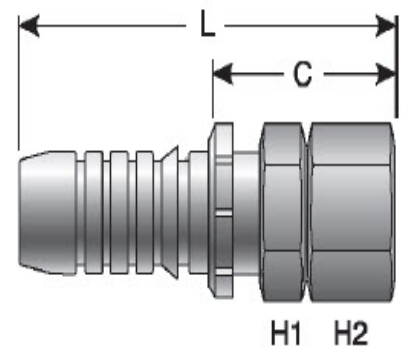
Part Number	JIC Female Thread - T	Hose I.D (in)	Hose I.D (mm)	Dash size	Hex A/F - E (mm)	Body Hex - E1 (mm)	Cutoff - C (mm)	Drop - H (mm)	Working Pressure (bar)
S29-0703	7/16-20	3/16	4.8	03	15	17	19	17	350
S29-0704	7/16-20	1/4	6.4	04	14	14	18	17	350
S29-0804	1/2-20	1/4	6.4	04	16	21	20	18	350
S29-0904	9/16-18	1/4	6.4	04	19	14	18	19	350
S29-0906	9/16-18	3/8	9.5	06	19	19	23	22	350
S29-1206	3/4-16	3/8	9.5	06	22	19	23	23	310
S29-1208	3/4-16	1/2	12.7	08	22	24	25	27	310
S29-1408	7/8-14	1/2	12.7	08	27	24	25	27	240
S29-1410	7/8-14	5/8	15.9	10	27	24	25	27	240
S29-1712	1.1/16-12	3/4	19.0	12	32	27	32	30	240
S29-2116	1.5/16-12	1	25.4	16	41	36	42	38	210

GS-FJX (GS05)

GATES GS JIC FEMALE STRAIGHT

JIC 37° FLARE SWIVEL NUT

- FOR GATES 20EFG4K, 20EFG5K, OR 20EFG6K HOSE ONLY.
- USE WITH GATES GSF4N OR GSF6N FERRULES ONLY.

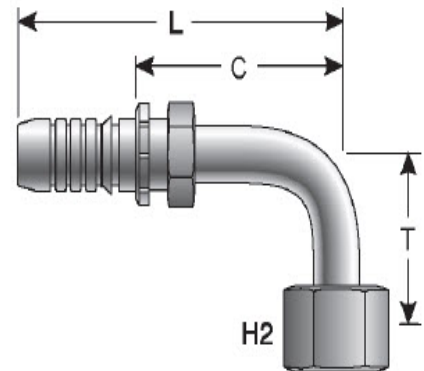


Part Number	Gates Code	JIC Female Thread	Hose I.D (in)	Hose I.D (mm)	Dash size	Length - L (mm)	Cutoff - C (mm)	Hex A/F - H1 (mm)	Hex A/F - H2 (mm)
20GS-20FJ X	20GS-20FJ X	1 5/8-12	1 1/4	31.8	20	134.4	65	47.6	50.8

GS-FJX90M (GS55)

GATES GS JIC FEMALE 90° ELBOW
JIC 37° FLARE SWIVEL NUT

- FOR GATES 20EFG4K, 20EFG5K, OR 20EFG6K HOSE ONLY.
- USE WITH GATES GSF4N OR GSF6N FERRULES ONLY.

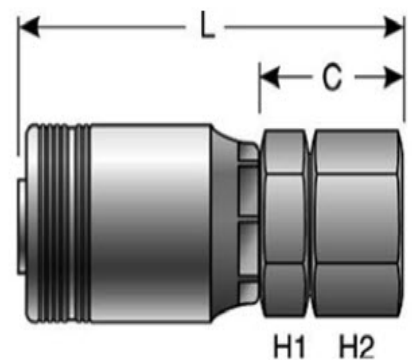


Part Number	Gates Code	JIC Female Thread	Hose I.D (in)	Hose I.D (mm)	Dash size	Length - L (mm)	Cutoff - C (mm)	Drop - T (mm)	Hex A/F - H2 (mm)
20GS-20FJ X90M	20GS-20FJ X90M	1 5/8-12	1 1/4	31.8	20	174	102.9	64	50.8

GSM-FJX (GSM05)

GATES GSM JIC FEMALE STRAIGHT
JIC 37° FLARE SWIVEL NUT

- FOR GATES 24 AND 32 EFG5K OR EFG6K HOSE ONLY.

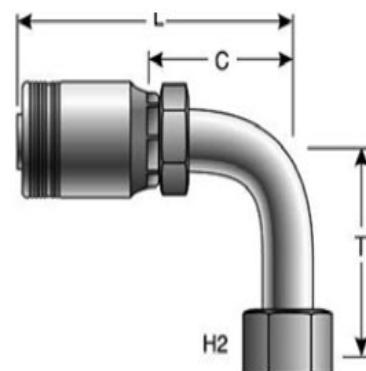


Part Number	Gates Code	JIC Female Thread	Hose I.D (in)	Dash Size	Hose I.D (mm)	Length - L (mm)	Hex A/F - H2 (mm)	Hex A/F - H1 (mm)	Cutoff - C (mm)
24GSM-24F JX	24GSM-24F JX	1 7/8 - 12	1 1/2	24	38.1	172.2	59.9	55	77.2
32GSM-32F JX	32GSM-32F JX	2 1/2 - 12	2	32	50.8	205.1	74.9	70.1	90.9

GSM-FJX90M (GSM55)

GATES GSM JIC FEMALE 90° ELBOW
JIC 37° FLARE SWIVEL NUT

- FOR GATES 24 AND 32 EFG5K OR EFG6K HOSE ONLY.

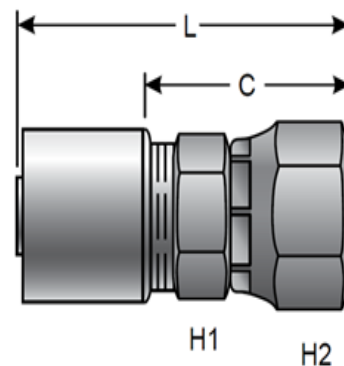


Part Number	Gates Code	JIC Female Thread	Hose I.D (in)	Dash Size	Hose I.D (mm)	Length - L (mm)	Hex A/F - H2 (mm)	Cutoff - C (mm)	Drop - T (mm)
24GSM-24F JX90M	24GSM-24F JX90M	1 7/8 - 12	1 1/2	24	38.1	227.6	60	132.3	86.1

G4H-FJX (GL05)

JIC FEMALE STRAIGHT
GATES GL JIC 37° FLARE THRUST-WIRE NUT

- GATES GL RANGE



Part Number	Gates Code	JIC Female Thread - A	Hose I.D (in)	Hose I.D (mm)	Dash size	Hex A/F - H1 (mm)	Hex A/F - H2 (mm)	Length - L (mm)	Cutoff - C (mm)
40G4H-40F JX	40GL-40FJ X	3-12	2 1/2	63.5	40	76.2	88.9	151.9	74.2

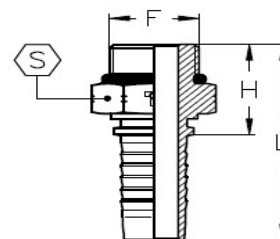
UNO

S20

UNO MALE STRAIGHT

UNO FIXED STUD STRAIGHT

- SAE J516



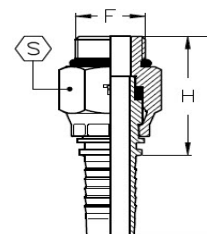
Part Number	Uno Male Thread - F	Hose I.D (in)	Hose I.D (mm)	Dash size	Hex A/F - S (mm)	Cutoff - H (mm)	Length - L (mm)	O-Ring	Working Pressure (bar)
S20-0704	7/16-20	1/4	6.4	04	14	21.5	49.5	8.92x1.83	400
S20-0906	9/16-18	3/8	9.5	06	17	23.5	54	11.89x1.98	350
S20-1206	3/4-16	3/8	9.5	06	22	26	56.5	16.36x2.21	350
S20-1208	3/4-16	1/2	12.7	08	22	27	60	16.36x2.21	350
S20-1408	7/8-14	1/2	12.7	08	25	29.5	62.5	19.18x2.46	350
S20-1708	1.1/16-12	1/2	12.7	08	32	33.5	66.5	23.47x2.95	350

S19

UNO MALE STRAIGHT SWIVEL

UNF O-RING

- Do not use as a live swivel

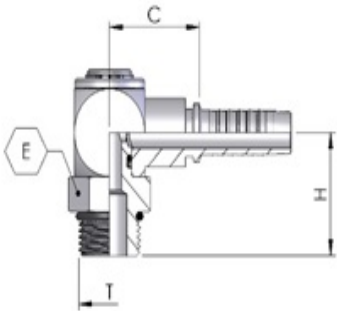


Part Number	Uno Male Thread - F	Hose I.D (in)	Hose I.D (mm)	Dash size	Hex A/F - S (mm)	Cutoff - H (mm)	Length - L (mm)	Working Pressure (bar)	Working Pressure (psi)
S19-0906	9/16-18	3/8	9.5	06	18	40	70	210	3000
S19-1206	3/4-16	3/8	9.5	06	22	42	72	210	3000

S32

UNO MALE STUD 90° COMPACT ELBOW SWIVEL

- Do not use as a live swivel



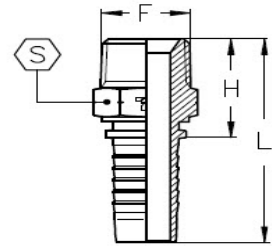
Part Number	Uno Male Thread - T	Hose I.D (in)	Hose I.D (mm)	Dash size	Hex A/F - E (mm)	Drop - H (mm)	Cutoff - C (mm)	O-Ring	Working Pressure (bar)
S32-1408K	7/8-14	1/2	12.5	08	25.4	36	32	19.18x2.46	210

NPT

S16

NPTF MALE STRAIGHT
30° CONE

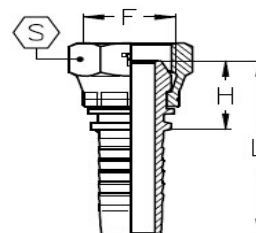
- SAE J516



Part Number	NPTF Male Thread - F	Hose I.D (in)	Hose I.D (mm)	Dash size	Hex A/F - S (mm)	Cutoff - H (mm)	Length - L (mm)	Working Pressure (bar)	Working Pressure (psi)
S16-0203	1/8-27	3/16	5	03	12	20.5	45.5	350	5000
S16-0204	1/8-27	1/4	6.4	04	12	21	49	350	5000
S16-0403	1/4-18	3/16	5	03	14	26.5	51.5	350	5000
S16-0404	1/4-18	1/4	6.4	04	14	27	55	350	5000
S16-0406	1/4-18	3/8	9.5	06	16	27.5	58	350	5000
S16-0604	3/8-18	1/4	6.4	04	19	28.5	56.5	280	4000
S16-0606	3/8-18	3/8	9.5	06	19	28.5	59	280	4000
S16-0608	3/8-18	1/2	12.7	08	22	30.5	63.5	280	4000
S16-0806	1/2-14	3/8	9.5	06	22	34	64.5	280	4000
S16-0808	1/2-14	1/2	12.7	08	22	35	68	280	4000
S16-0812	1/2-14	3/4	19	12	27	37.5	78	280	4000
S16-1208	3/4-14	1/2	12.7	08	27	37	70	280	4000
S16-1210	3/4-14	5/8	15.9	10	27	37	73	280	4000
S16-1212	3/4-14	3/4	19	12	27	38	78.5	280	4000
S16-1616	1-11.1/2	1	25.4	16	36	48.5	105	280	4000
S16-2016	1.1/4-11.1/2	1	25.4	16	46	53	109.5	210	3000
S16-2020	1 1/4-11.1/2	1 1/4	31.8	20	46	55	121.5	210	3000
S16-2424	1 1/2-11.1/2	1 1/2	38	24	50	61	143.5	185	2700
S16-3232	2-11.1/2	2	51	32	65	70.5	167	175	2500

S07

NPSM FEMALE STRAIGHT
60° CONE SWIVEL NUT

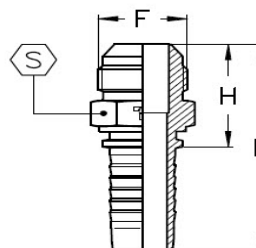


Part Number	NPSM Female Thread - F	Hose I.D (in)	Hose I.D (mm)	Dash size	Hex A/F - S (mm)	Cutoff - H (mm)	Length - L (mm)	Working Pressure (bar)	Working Pressure (psi)
S07C-0404	1/4-18	1/4	6.4	04	17	19	47	350	5000
S07C-0606	3/8-18	3/8	9.5	06	22	21	51	280	4000
S07C-0808	1/2-14	1/2	12.7	08	25	23	56	280	4000

SAE

S09

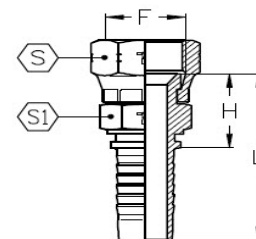
SAE MALE STRAIGHT
45° FLARE



Part Number	SAE Male Thread - F	Hose I.D (in)	Hose I.D (mm)	Dash size	Hex A/F - S (mm)	Cutoff - H (mm)	Length - L (mm)	Working Pressure (bar)	Working Pressure (psi)
S09-1006	5/8-18	3/8	9.5	06	16	28.2	58.7	350	5000

S03H

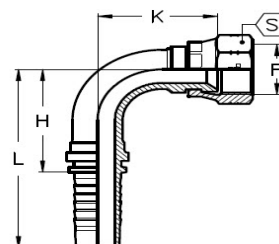
SAE FEMALE STRAIGHT
45° FLARE SWIVEL NUT - BACK HEX



Part Number	SAE Female Thread - F	Hose I.D (in)	Hose I.D (mm)	Dash size	Hex A/F - S (mm)	Hex A/F - S1 (mm)	Cutoff - H (mm)	Length - L (mm)	Working Pressure (bar)
S03H-0704	7/16 - 20	1/4	6.4	04	14	13	20	48	350
S03H-1004	5/8 - 18	1/4	6.4	04	19	16	23	51	350
S03H-1006	5/8 - 18	3/8	9.5	06	22	16	23.5	54	350
S03H-1208	3/4 - 16	1/2	12.7	08	22	22	26	59	350
S03H-1712	1 1/16 - 14	3/4	19	12	32	27	31.8	72.3	350

S41

SAE FEMALE 90° ELBOW
45° FLARE SWIVEL NUT



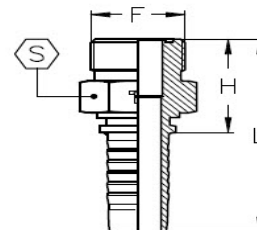
Part Number	SAE Female Thread - F	Hose I.D (in)	Hose I.D (mm)	Dash size	Hex A/F - S (mm)	Drop - K (mm)	Cutoff - H (mm)	Length - L (mm)	Working Pressure (bar)
S41-1006	5/8 - 18	3/8	9.5	06	22	31	31	61	350

ORFS

S40

ORFS MALE STRAIGHT

- ISO 12151-1/SAE J516

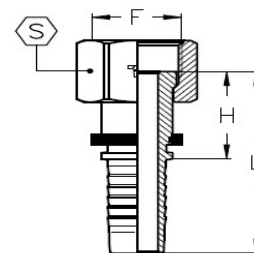


Part Number	ORFS Female Thread - F	Hose I.D (in)	Hose I.D (mm)	Dash size	Hex A/F - S (mm)	Cutoff - H (mm)	Length - L (mm)	O-Ring	Working Pressure (bar)
S40-0904	9/16-18	1/4	6.4	04	17	23.5	51.5	7.65X1.78	450
S40-1104	11/16-16	1/4	6.4	04	19	25.5	53.5	9.25X1.78	450
S40-1106	11/16-16	3/8	9.5	06	19	25.5	56	9.25X1.78	450
S40-1306	13/16-16	3/8	9.5	06	22	28.5	59	12.42X1.78	450
S40-1308	13/16-16	1/2	12.7	08	22	29.5	62.5	12.42X1.78	420
S40-1608	1-14	1/2	12.7	08	27	34	67	15.6X1.78	420
S40-1610	1-14	5/8	15.9	10	27	34	70	15.6X1.78	350
S40-1910	1 3/16-12	5/8	15.9	10	32	37	73	18.77X1.78	350
S40-1912	1 3/16-12	3/4	19	12	32	38	78.5	18.77X1.78	350
S40-2312	1 7/16-12	3/4	19	12	41	42.5	83	23.52x1.78	350
S40-2316	1 7/16-12	1	25.4	16	41	41	97	23.52x1.78	420
S40-2720	1 11/16-12	1 1/4	31.8	20	46	44	111	29.87x1.78	345

S13C

ORFS FEMALE STRAIGHT
SLIP-ON NUT

- ISO 12151-1/SAE J516

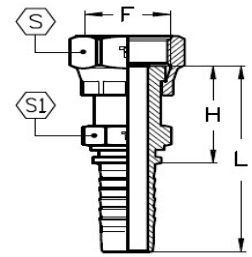


Part Number	ORFS Female Thread - F	Hose I.D (in)	Hose I.D (mm)	Dash size	Hex A/F - E (mm)	Cutoff - C (mm)	Length - L (mm)	Working Pressure (bar)	Working Pressure (psi)
S13C-0904	9/16-18	1/4	6.4	04	17	22.5	55	450	6500
S13C-1104	11/16-16	1/4	6.4	04	22	25	53	450	6500
S13C-1106	11/16-16	3/8	9.5	06	22	24.5	55	450	6500
S13C-1306	13/16-16	3/8	9.5	06	24	28.5	59	450	6500
S13C-1308	13/16-16	1/2	12.7	08	24	28.5	61.5	420	6000
S13C-1608	1-14	1/2	12.7	08	30	33	66	420	6000
S13C-1610	1-14	5/8	15.9	10	30	33	68.5	350	5000
S13C-1910	1.3/16-12	5/8	15.9	10	36	35.5	71.5	350	5000
S13C-1912	1.3/16-12	3/4	19	12	36	37.5	78	350	5000
S13C-2312	1.7/16-12	3/4	19	12	41	39	79.5	350	5000

S13H

ORFS FEMALE STRAIGHT
SWIVEL NUT - BACK HEX

- ISO 12151-1/SAE J516

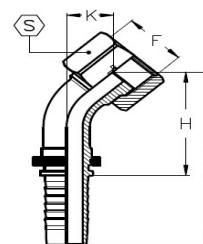


Part Number	ORFS Female Thread - F	Hose I.D (in)	Hose I.D (mm)	Dash size	Hex A/F - S (mm)	Hex A/F - S1 (mm)	Cutoff - H (mm)	Length - L (mm)	Working Pressure (bar)
S13H-0904	9/16-18	1/4	6.4	04	17	14	26.5	54.5	450
S13H-1104	11/16-16	1/4	6.4	04	22	16	28.5	56.5	450
S13H-1106	11/16-16	3/8	9.5	06	22	16	28.5	59	450
S13H-1306	13/16-16	3/8	9.5	06	24	19	32.5	63	450
S13H-1308	13/16-16	1/2	12.7	08	24	19	33.5	66.5	420
S13H-1608	1-14	1/2	12.7	08	30	24	39.5	72.5	420
S13H-1610	1-14	5/8	15.9	10	30	24	39.5	75.5	350
S13H-1612	1-14	3/4	19	12	30	27	41.5	82	350
S13H-1910	1 3/16-12	5/8	15.9	10	36	27	43.5	79.5	350
S13H-1912	1 3/16-12	3/4	19	12	36	27	44.5	85	350
S13H-2312	1 7/16-12	3/4	19	12	41	36	47.5	88	350
S13H-2316	1 7/16-12	1	25.4	16	41	36	51	107	420
S13H-2716	1 11/16-12	1	25.4	16	50	41	52	109	345
S13H-2720	1 11/16-12	1 1/4	31.8	20	50	41	55	121	345
S13H-3224	2-12	1 1/2	38	24	60	50	60	142	290

S63

ORFS FEMALE 45° ELBOW
SWIVEL NUT

- ISO 12151-1/SAE J516

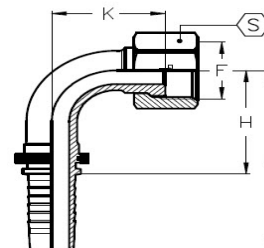


Part Number	ORFS Female Thread - F	Hose I.D (in)	Hose I.D (mm)	Dash size	Hex A/F - S (mm)	Drop - K (mm)	Cutoff - H (mm)	Length - L (mm)	Working Pressure (bar)
S63-0904	9/16-18	1/4	6.4	04	17	10.5	32.5	60.5	450
S63-1104	11/16-16	1/4	6.4	04	22	12.5	34.5	62.5	450
S63-1106	11/16-16	3/8	9.5	06	22	12.5	36	66.5	450
S63-1306	13/16-16	3/8	9.5	06	24	15	38.5	69	450
S63-1308	13/16-16	1/2	12.7	08	24	15.5	42.5	75.5	420
S63-1608	1-14	1/2	12.7	08	30	17.5	45	78	420
S63-1610	1-14	5/8	15.9	10	30	18	49	85	350
S63-1910	1 3/16-12	5/8	15.9	10	36	20.5	51.5	87.5	350
S63-1912	1 3/16-12	3/4	19	12	36	21	58	99	350
S63-2312	1 7/16-12	3/4	19	12	41	23.5	60.5	101	350
S63-2316	1 7/16-12	1	25.4	16	41	29	78	134	420
S63-2720	1 11/16-12	1 1/4	31.8	20	50	34	93	159	345
S63-3224	2-12	1 1/2	38	24	60	41	113	195	290

S52

ORFS FEMALE 90° ELBOW
SWIVEL NUT

- ISO 12151-1/SAE J516

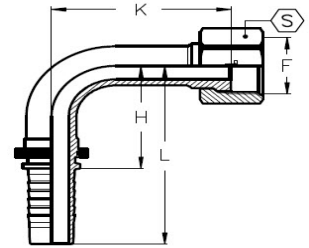


Part Number	ORFS Female Thread - F	Hose I.D (in)	Hose I.D (mm)	Dash size	Hex A/F - S (mm)	Drop - K (mm)	Cutoff - H (mm)	Length - L (mm)	Working Pressure (bar)
S52-0904	9/16-18	1/4	6.4	04	17	21	27	55	450
S52-1104	11/16-16	1/4	6.4	04	22	24	27	55	450
S52-1106	11/16-16	3/8	9.5	06	22	24.5	31.5	62	450
S52-1306	13/16-16	3/8	9.5	06	24	30	31	61	450
S52-1308	13/16-16	1/2	12.7	08	24	31	39	72	420
S52-1608	1-14	1/2	12.7	08	30	34	39	72	420
S52-1610	1-14	5/8	15.9	10	30	35	45	81	350
S52-1910	1 3/16-12	5/8	15.9	10	36	42	45	81	350
S52-1912	1 3/16-12	3/4	19	12	36	45	55	95	350
S52-2312	1 7/16-12	3/4	19	12	41	49	55	95	350
S52-2316	1 7/16-12	1	25.4	16	41	62	71	127	420
S52-2720	1 11/16-12	1 1/4	31.8	20	50	75	87	153	345
S52-3224	2-12	1 1/2	38	24	60	90	105	187	290

S56

ORFS FEMALE 90° ELBOW - EXTENDED
SWIVEL NUT

- ISO 12151-1/SAE J516

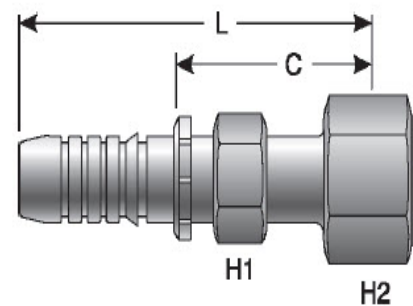


Part Number	ORFS Female Thread - F	Hose I.D (in)	Hose I.D (mm)	Dash size	Hex A/F - S (mm)	Drop - K (mm)	Cutoff - H (mm)	Length - L (mm)	Working Pressure (bar)
S56-0904	9/16-18	1/4	6.4	04	17	46	29	57	450
S56-1104	11/16-16	1/4	6.4	04	22	54	27	55	450
S56-1106	11/16-16	3/8	9.5	06	22	54	34	64.5	450
S56-1306	13/16-16	3/8	9.5	06	24	64	34	64.5	450
S56-1308	13/16-16	1/2	12.7	08	24	64	39	72	420
S56-1608	1-14	1/2	12.7	08	30	70	39	72	420
S56-1610	1-14	5/8	15.9	10	30	70	45	81	350
S56-1912	1 3/16-12	3/4	19	12	36	96	55	95	350
S56-2316	1 7/16-12	1	25.4	16	41	114	71	127	420

GS-FFORX (GS13)

GATES GS ORFS FEMALE STRAIGHT
SWIVEL NUT - BACK HEX

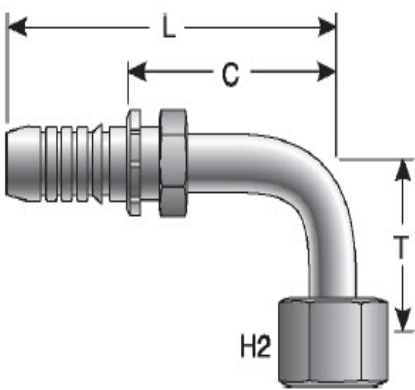
- FOR GATES 20EFG4K, 20EFG5K, OR 20EFG6K HOSE ONLY.
- USE WITH GATES GSF4N OR GSF6N FERRULES ONLY.



Part Number	Gates Code	ORFS Female Thread	Hose I.D (in)	Hose I.D (mm)	Dash size	Length - L (mm)	Cutoff - C (mm)	Hex A/F - H1 (mm)	Hex A/F - H2 (mm)
20GS-20FF ORX	20GS-20FF ORX	1 11/16-12	1 1/4	31.8	20	128	56.9	50	50

GS-FFORX90M (GS52)
GATES GS ORFS FEMALE 90° ELBOW
SWIVEL NUT - BACK HEX

- FOR GATES 20EFG4K, 20EFG5K, OR 20EFG6K HOSE ONLY.
- USE WITH GATES GSF4N OR GSF6N FERRULES ONLY.



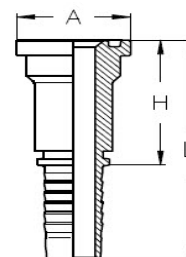
Part Number	Gates Code	ORFS Female Thread	Hose I.D (in)	Hose I.D (mm)	Dash size	Length - L (mm)	Cutoff - C (mm)	Drop - T (mm)	Hex A/F - H2 (mm)
20GS-20FF ORX90M	20GS-20FF ORX90M	1 11/16-12	1 1/4	31.8	20	172	100.8	78	50

SAE FLANGES CODE 61

S23

SAE CODE 61 STRAIGHT

- ISO 12151-3/SAE J516

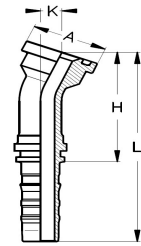


Part Number	Nominal SAE Flange size - A	Hose I.D (in)	Hose I.D (mm)	Dash size	Flange O.D - A (mm)	Cutoff - H (mm)	Length - L (mm)	Working Pressure (bar)	Working Pressure (psi)
S23-0808	1/2	1/2	12.7	08	30.2	47	80	350	5000
S23-1208	3/4	1/2	12.7	08	38.1	51	80	350	5000
S23-1210	3/4	5/8	15.9	10	38.1	55	84	350	5000
S23-1212	3/4	3/4	19	12	38.1	62	94.5	350	5000
S23-1612	1	3/4	19	12	44.5	64	94.5	350	5000
S23-1616	1	1	25.4	16	44.5	58	114.5	350	5000
S23-2016	1 1/4	1	25.4	16	50.8	63	119.5	280	4000
S23-2020	1 1/4	1 1/4	31.8	20	50.8	65	130.5	280	4000
S23-2420	1 1/2	1 1/4	31.8	20	60.4	68	134.5	210	3000
S23-2424	1 1/2	1 1/2	38	24	60.4	73	155.5	210	3000
S23-3224	2	1 1/2	38	24	71.4	76	158.5	210	3000
S23-3232	2	2	51	32	71.4	77	176.5	210	3000

S67

SAE CODE 61 22.5 ELBOW

- ISO 12151-3/SAE J516

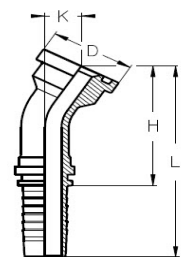


Part Number	Nominal SAE Flange size	Hose I.D (Inches)	Hose I.D (mm)	Dash size	Flange O.D mm (A)	Drop mm (K)	Cutoff mm (H)	Length mm (L)	Working Pressure (bar)
S67-1212	3/4	3/4	19	12	38.1	11	69	110	350
S67-1612	1	3/4	19	12	44.5	12	72	112	350
S67-1616	1	1	25.4	16	44.5	12	86	142	350
S67-2016	1.1/4	1	25.4	16	50.8	12	86	142	280
S67-2020	1.1/4	1.1/4	31.8	20	50.8	13	100	166	280
S67-2420	1.1/2	1.1/4	31.8	20	60.4	13	100	166	280
S67-2424	1.1/2	1.1/2	38.1	24	60.4	15	118	201	210
S67-3224	2	1.1/2	38.1	24	71.4	14	116	199	210
S67-3232	2	2	50.8	32	71.4	22	165	262	210

S45

SAE CODE 61 30° ELBOW

- ISO 12151-3/SAE J516

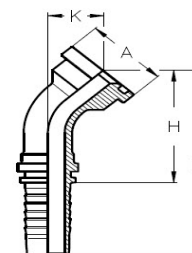


Part Number	Nominal SAE Flange size - D	Hose I.D (in)	Hose I.D (mm)	Dash size	Flange O.D - D (mm)	Drop - K (mm)	Cutoff - H (mm)	Length - L (mm)	Working Pressure (bar)
S45-1212	3/4	3/4	19	12	38.1	16	65	106	350
S45-1612	1	3/4	19	12	44.5	17	68	108	350
S45-1616	1	1	25.4	16	44.5	17	84	140	350
S45-2016	1 1/4	1	25.4	16	50.8	17	84	140	280
S45-2020	1 1/4	1 1/4	31.8	20	50.8	19	98	164	280
S45-2420	1 1/2	1 1/4	31.8	20	60.4	19	98	164	210
S45-2424	1 1/2	1 1/2	38	24	60.4	22	116	199	210
S45-3224	2	1 1/2	38	24	71.4	21	114	197	210
S45-3232	2	2	51	32	71.4	31	162	258	210

S68

SAE CODE 61 45° ELBOW

- ISO 12151-3/SAE J516

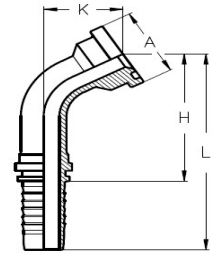


Part Number	Nominal SAE Flange size - A	Hose I.D (in)	Hose I.D (mm)	Dash size	Flange O.D - A (mm)	Drop - K (mm)	Cutoff - H (mm)	Length - L (mm)	Working Pressure (bar)
S68-0808	1/2	1/2	12.7	08	30.2	20	47	80	350
S68-1208	3/4	1/2	12.7	08	38.1	24	51	84	350
S68-1212	3/4	3/4	19	12	38.1	25	62	102	350
S68-1612	1	3/4	19	12	44.5	27	64	104	350
S68-1616	1	1	25.4	16	44.5	28	78	134	350
S68-2016	1 1/4	1	25.4	16	50.8	28	78	134	280
S68-2020	1 1/4	1 1/4	31.8	20	50.8	32	91	157	280
S68-2420	1 1/2	1 1/4	31.8	20	60.4	32	91	157	210
S68-2424	1 1/2	1 1/2	38	24	60.4	36	108	191	210
S68-3224	2	1 1/2	38	24	71.4	35	107	189	210
S68-3232	2	2	51	32	71.4	57	151	245	210

S66

SAE CODE 61 60° ELBOW

- ISO 12151-3/SAE J516

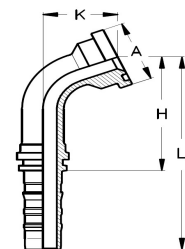


Part Number	Nominal SAE Flange size - A	Hose I.D (in)	Hose I.D (mm)	Dash size	Flange O.D - A (mm)	Drop - K (mm)	Cutoff - H (mm)	Length - L (mm)	Working Pressure (bar)
S66-1212	3/4	3/4	19	12	38.1	34	73	113	350
S66-1612	1	3/4	19	12	44.5	36	74	114	350
S66-1616	1	1	25.4	16	44.5	40	98	154	350
S66-2016	1 1/4	1	25.4	16	50.8	40	98	154	280
S66-2020	1 1/4	1 1/4	31.8	20	50.8	45	118	184	280
S66-2420	1 1/2	1 1/4	31.8	20	60.4	45	118	184	210
S66-2424	1 1/2	1 1/2	38	24	60.4	52	140	223	210
S66-3224	2	1 1/2	38	24	71.4	50	139	222	210
S66-3232	2	2	51	32	71.4	73	192	289	210

S69

SAE CODE 61 67.5° ELBOW

- ISO 12151-3/SAE J516

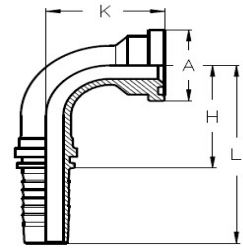


Part Number	Nominal SAE Flange size	Hose I.D (Inches)	Hose I.D (mm)	Dash size	Flange O.D mm (A)	Drop mm (K)	Cutoff mm (H)	Length mm (L)	Working Pressure (bar)
S69-1212	3/4	3/4	19	12	38.1	38	68	108	350
S69-1612	1	3/4	19	12	44.5	41	69	109	350
S69-1616	1	1	25.4	16	44.5	45	92	148	350
S69-2016	1.1/4	1	25.4	16	50.8	45	92	148	280
S69-2020	1.1/4	1.1/4	31.8	20	50.8	52	111	178	280
S69-2420	1.1/2	1.1/4	31.8	20	60.4	52	111	178	210
S69-2424	1.1/2	1.1/2	38.1	24	60.4	60	133	216	210
S69-3232	2	2	50.8	32	71.4	84	181	278	210

S59

SAE CODE 61 90° ELBOW

- ISO 12151-3/SAE J516

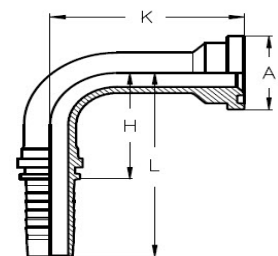


Part Number	Nominal SAE Flange size - A	Hose I.D (in)	Hose I.D (mm)	Dash size	Flange O.D - A (mm)	Drop - K (mm)	Cutoff - H (mm)	Length - L (mm)	Working Pressure (bar)
S59-0808	1/2	1/2	12.7	08	30.2	40	38	71	350
S59-1208	3/4	1/2	12.7	08	38.1	45	38	71	350
S59-1212	3/4	3/4	19	12	38.1	51	55	95	350
S59-1612	1	3/4	19	12	44.5	54	55	95	280
S59-1616	1	1	25.4	16	44.5	61	71	128	350
S59-2016	1 1/4	1	25.4	16	50.8	61	71	128	280
S59-2020	1 1/4	1 1/4	31.8	20	50.8	71	87	154	280
S59-2420	1 1/2	1 1/4	31.8	20	60.4	71	87	154	210
S59-2424	1 1/2	1 1/2	38	24	60.4	83	105	188	210
S59-3224	2	1 1/2	38	24	71.4	81	105	188	210
S59-3232	2	2	51	32	71.4	122	140	237	210

S59L

SAE CODE 61 90° ELBOW - LONG DROP

- ISO 12151-3/SAE J516

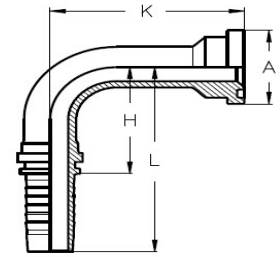


Part Number	Nominal SAE Flange size - A	Hose I.D (in)	Hose I.D (mm)	Dash size	Flange O.D - A (mm)	Drop - K (mm)	Cutoff - H (mm)	Length - L (mm)	Working Pressure (bar)
S59L-0808	1/2	1/2	12.7	08	30.2	83	38	71	350
S59L-1212	3/4	3/4	19	12	38.1	127	55	95	350
S59L-1616	1	1	25.4	16	44.5	118	71	128	350

S59-X

SAE CODE 61 90° ELBOW - EXTENDED LONG DROP

- ISO 12151-3/SAE J516

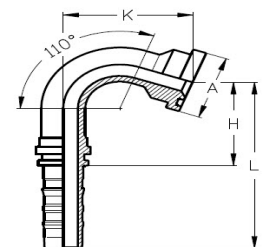


Part Number	Nominal SAE Flange size - A	Hose I.D (in)	Hose I.D (mm)	Dash size	Flange O.D - A (mm)	Drop - K (mm)	Cutoff - H (mm)	Length - L (mm)	Working Pressure (bar)
S59-1616-X 150	1	1	25	16	44.5	150	71	128	350
S59-2020-X 168	1 1/4	1 1/4	31.5	20	50.8	168	87	154	280
S59-2424-X 172	1.1/2	1 1/2	38.1	24	60.4	172	105	188	210
S59-3232-X 203	2	2	51	32	71.4	203	140	237	210

S110

SAE CODE 61 110° ELBOW

- ISO 12151-3/SAE J516

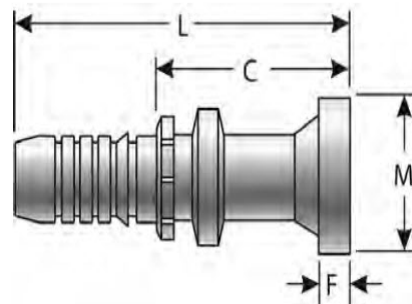


Part Number	Nominal SAE Flange size - A	Hose I.D (in)	Hose I.D (mm)	Dash size	Flange O.D - A (mm)	Drop - K (mm)	Cutoff - C (mm)	Length - L (mm)	Working Pressure (bar)
S110-1212	3/4	3/4	19	12	38.1	62	51	102	350
S110-1616	1	1	25.4	16	44.5	73	65	121	350
S110-2016	1 1/4	1	25.4	16	50.8	73	65	121	280
S110-2020	1 1/4	1 1/4	31.8	20	50.8	83	82	148	280
S110-2420	1 1/2	1 1/4	31.8	20	60.4	83	82	148	210
S110-2424	1.1/2	1 1/2	38.1	24	60.4	97	95	178	210

GS-FL (GS23)

GATES GS SAE CODE 61 STRAIGHT

- FOR GATES 20EFG4K, 20EFG5K, OR 20EFG6K HOSE ONLY.
- USE WITH GATES GSF4N OR GSF6N FERRULES ONLY.

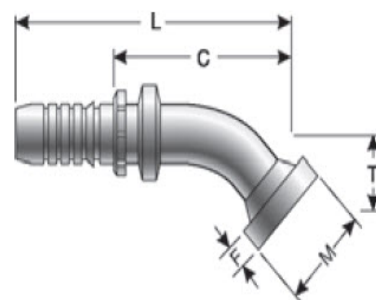


Part Number	Gates Code	Nominal SAE Flange size - M	Hose I.D (in)	Hose I.D (mm)	Dash size	Length - L (mm)	Cutoff - C (mm)	Flange O.D - M (mm)	Thickness - F (mm)
20GS-20FL	20GS-20FL	1 1/4	1 1/4	31.8	20	146.1	74.9	50.8	8.1
20GS-24FL	20GS-24FL	1 1/2	1 1/4	31.8	20	160	88.9	60.5	8.1

GS-FL22M (GS67)

GATES GS SAE CODE 61 22.5° ELBOW

- FOR GATES 20EFG4K, 20EFG5K, OR 20EFG6K HOSE ONLY.
- USE WITH GATES GSF4N OR GSF6N FERRULES ONLY.

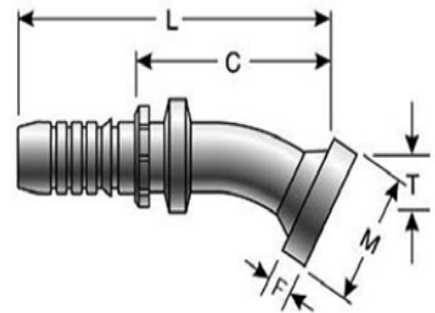


Part Number	Gates Code	Nominal SAE Flange size - M	Hose I.D (in)	Hose I.D (mm)	Dash size	Length - L (mm)	Cutoff - C (mm)	Flange O.D - M (mm)	Drop - T (mm)
20GS-20FL 22M	20GS-20FL 22M	1 1/4	1 1/4	31.8	20	178.1	106.9	50.8	15.0
20GS-24FL 22M	20GS-24FL 22M	1 1/2	1 1/4	31.8	20	185.9	114.8	60.5	18.0

GS-FL30M (GS45)

GATES GS SAE CODE 61 30° ELBOW

- FOR GATES 20EFG4K, 20EFG5K, OR 20EFG6K HOSE ONLY.
- USE WITH GATES GSF4N OR GSF6N FERRULES ONLY.

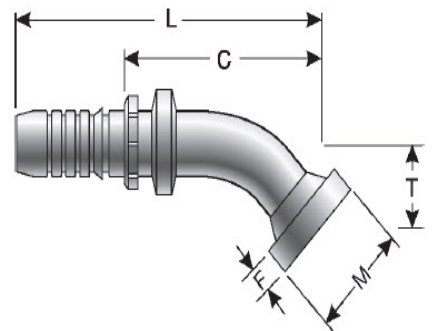


Part Number	Gates Code	Nominal SAE Flange size - M	Hose I.D (in)	Hose I.D (mm)	Dash size	Length - L (mm)	Cutoff - C (mm)	Flange O.D - M (mm)	Drop - T (mm)
20GS-20FL 30M	20GS-20FL 30M	1 1/4	1.1/4	32	20	176.0	176.0	50.8	22.1
20GS-24FL 30M	20GS-24FL 30M	1 1/2	1 1/4	31.8	20	182.1	111	60.5	30

GS-FL45S (GS68)

GATES GS SAE CODE 61 45° ELBOW

- FOR GATES 20EFG4K, 20EFG5K, OR 20EFG6K HOSE ONLY.
- USE WITH GATES GSF4N OR GSF6N FERRULES ONLY.

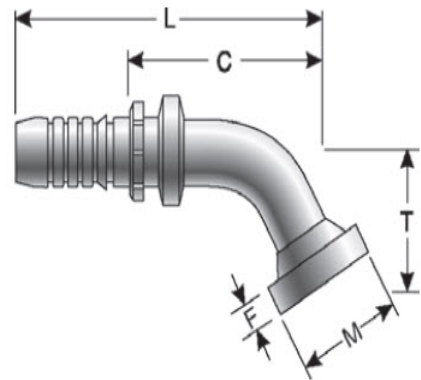


Part Number	Gates Code	Nominal SAE Flange size - M	Hose I.D (in)	Hose I.D (mm)	Dash size	Length - L (mm)	Cutoff - C (mm)	Flange O.D - M (mm)	Drop - T (mm)
20GS-20FL 45S	20GS-20FL 45S	1 1/4	1 1/4	31.8	20	169.9	98.8	50.8	30
20GS-24FL 45S	20GS-24FL 45S	1 1/2	1 1/4	31.8	20	176	104.9	60.5	38.1

GS-FL60M (GS66)

GATES GS SAE CODE 61 60° ELBOW

- FOR GATES 20EFG4K, 20EFG5K, OR 20EFG6K HOSE ONLY.
- USE WITH GATES GSF4N OR GSF6N FERRULES ONLY.

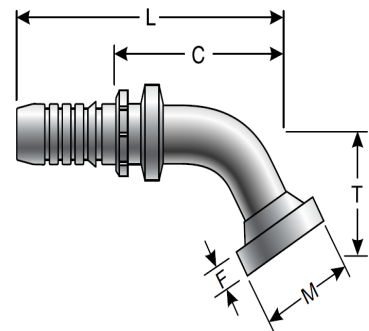


Part Number	Gates Code	Nominal SAE Flange size - M	Hose I.D (in)	Hose I.D (mm)	Dash size	Length - L (mm)	Cutoff - C (mm)	Flange O.D - M (mm)	Drop - T (mm)
20GS-20FL 60M	20GS-20FL 60M	1 1/4	1 1/4	31.8	20	186.9	115.8	50.8	55.1
20GS-24FL 60M	20GS-24FL 60M	1 1/2	1 1/4	31.8	20	195.1	124.0	60.5	64.0

GS-FL67M (GS69)

GATES GS SAE CODE 61 67.5° ELBOW

- FOR GATES 20EFG4K, 20EFG5K, OR 20EFG6K HOSE ONLY.
- USE WITH GATES GSF4N OR GSF6N FERRULES ONLY.

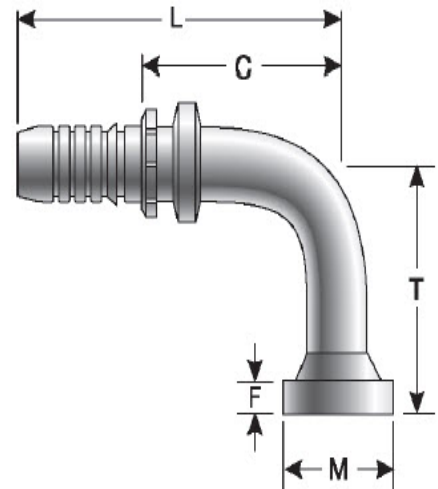


Part Number	Gates Code	Nominal SAE Flange size - M	Hose I.D (in)	Hose I.D (mm)	Dash size	Length - L (mm)	Cutoff - C (mm)	Flange O.D - M (mm)	Drop - T (mm)
20GS-20FL 67M	20GS-20FL 67M	1 1/4	1 1/4	31.8	20	178.1	106.9	50.8	64.0
20GS-24FL 67M	20GS-24FL 67M	1 1/2	1 1/4	31.8	20	164.1	93.0	60.5	51.1

GS-FL90M (GS59)

GATES GS SAE CODE 61 90° ELBOW

- FOR GATES 20EFG4K, 20EFG5K, OR 20EFG6K HOSE ONLY.
- USE WITH GATES GSF4N OR GSF6N FERRULES ONLY.

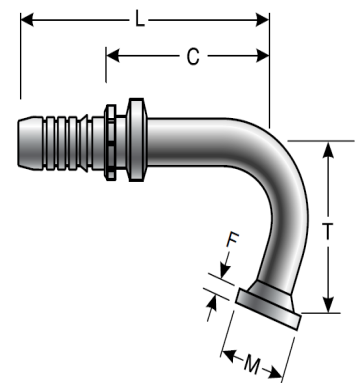


Part Number	Gates Code	Nominal SAE Flange size - M	Hose I.D (in)	Hose I.D (mm)	Dash size	Length - L (mm)	Cutoff - C (mm)	Flange O.D - M (mm)	Drop - T (mm)
20GS-20FL 90M	20GS-20FL 90M	1 1/4	1 1/4	31.8	20	165.1	94	50.8	89.9
20GS-24FL 90S	20GS-24FL 90S	1 1/2	1 1/4	31.8	20	165.1	94	60.5	81

GS-FL110 (GS110)

GATES GS SAE CODE 61 SWEPT 110°

- FOR GATES 20EFG4K, 20EFG5K, OR 20EFG6K HOSE ONLY.
- USE WITH GATES GSF4N OR GSF6N FERRULES ONLY.

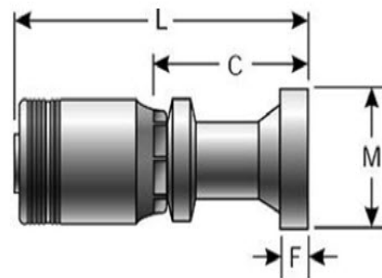


Part Number	Gates Code	Nominal Flange size - A	Hose I.D (in)	Hose I.D (mm)	Dash Size	Length - L (mm)	Cutoff - C (mm)	Flange O.D - M (mm)	Drop - T (mm)
20GS-20FL 110	20GS-20FL 110-080	1 1/4	1 1/4	31.8	20	181.1	110.0	50.8	80.0
20GS-24FL 110	20GS-24FL 110-080	1 1/2	1 1/4	31.8	20	181.1	110.0	60.5	80.0

GSM-FL (GSM23)

GATES GSM SAE CODE 61 STRAIGHT
ONE PIECE

- FOR GATES 24 AND 32 EFG5K OR EFG6K HOSE ONLY.

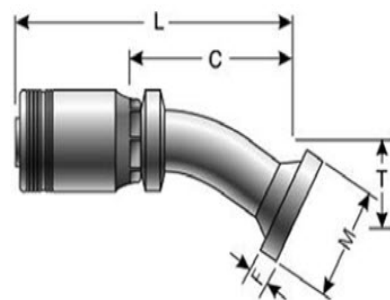


Part Number	Gates Code	Nominal SAE Flange size - M	Hose I.D (in)	Dash Size	Hose I.D (mm)	Length - L (mm)	Cutoff - C (mm)	Flange O.D - M (mm)	Thickness - F (mm)
24GSM-24F L	24GSM-24F L	1 1/2	1 1/2	24	38.1	180.0	85.1	60.5	7.9
32GSM-32F L	32GSM-32F L	2	2	32	50.8	251.4	137.4	71.4	9.7

GSM-FL30M (GSM45)

GATES GSM SAE CODE 61 30° ELBOW
ONE PIECE

- FOR GATES 24 AND 32 EFG5K OR EFG6K HOSE ONLY.

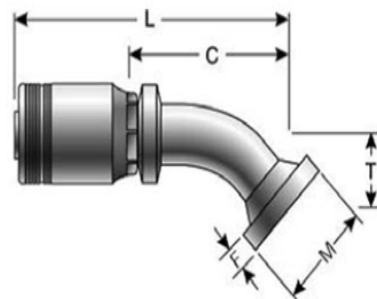


Part Number	Gates Code	Nominal SAE Flange size - M	Hose I.D (in)	Dash Size	Hose I.D (mm)	Length - L (mm)	Cutoff - C (mm)	Flange O.D - M (mm)	Drop - T (mm)
24GSM-24F L30M	24GSM-24F L30M	1 1/2	1 1/2	24	38.1	216.4	127	60.5	45

GSM-FL45M (GSM68)

GATES GSM SAE CODE 61 45° ELBOW
ONE PIECE

- FOR GATES 24 AND 32 EFG5K OR EFG6K HOSE ONLY.

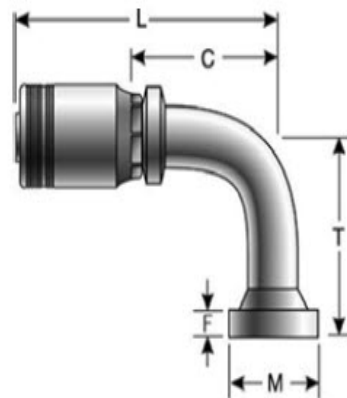


Part Number	Gates Code	Nominal SAE Flange size - M	Hose I.D (in)	Dash Size	Hose I.D (mm)	Length - L (mm)	Cutoff - C (mm)	Flange O.D - M (mm)	Drop - T (mm)
24GSM-24F L45M	24GSM-24F L45M	1 1/2	1 1/2	24	38.1	230.0	135.0	60.5	44.0
32GSM-32F L45M	32GSM-32F L45M	2	2	32	50.8	287.0	173.5	79.5	56.0

GSM-FL90S (GSM59)

GATES GSM SAE CODE 61 90° ELBOW
ONE PIECE

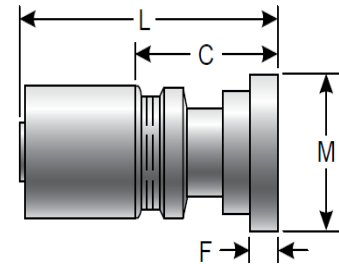
- FOR GATES 24 AND 32 EFG5K OR EFG6K HOSE ONLY.



Part Number	Gates Code	Nominal SAE Flange size - M	Hose I.D (in)	Dash Size	Hose I.D (mm)	Length - L (mm)	Cutoff - C (mm)	Flange O.D - M (mm)	Drop - T (mm)
24GSM-24F L90S	24GSM-24F L90S	1 1/2	1 1/2	24	38.1	214.9	119.9	60.5	81.0
32GSM-32F L90-130	32GSM-32F L90-130	2	2	32	50.8	264.0	150.5	71.4	130.0

G4H-FL (GL23)

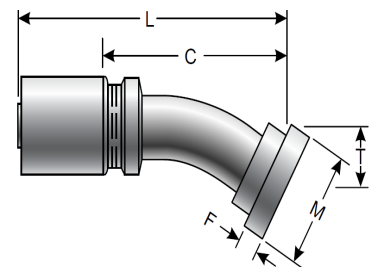
GATES MEGAVAC SAE CODE 61 STRAIGHT
SUCTION TAIL



Part Number	Gates Code	Nominal Flange size - A	Hose I.D (in)	Hose I.D (mm)	Dash Size	Length - L (mm)	Cutoff - C (mm)	Flange O.D - M (mm)	Thickness - F (mm)
40G4H-40FL	40GL-40FL	2 1/2	2 1/2	63.5	40	143.8	80.0	84.1	9.7
40G4H-48FL	40GL-48FL	3	2 1/2	63.5	40	143.8	81.5	101.6	9.7
48G4H-48FL	48GL-48FL	3	3	76.2	48	166.1	87.9	101.6	8.1
56G4H-56FL	56GL-56FL	3 1/2	3 1/2	88.9	56	170.2	77.7	114.3	8.1

G4H-FL30 (GL45)

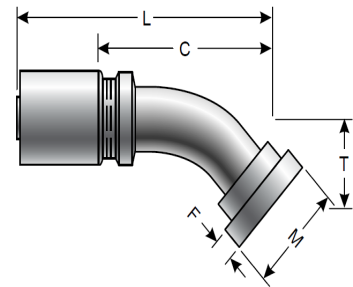
GATES MEGAVAC SAE CODE 61 30° ELBOW
SUCTION TAIL



Part Number	Gates Code	Nominal Flange size - A	Hose I.D (in)	Hose I.D (mm)	Dash Size	Length - L (mm)	Cutoff - C (mm)	Drop - T (mm)	Flange O.D - M (mm)
40G4H-40FL30	40GL-40FL30	2 1/2	2 1/2	63.5	40	185.4	123.2	27.4	84.1
48G4H-48FL30	48GL-48FL30	3	3	76.2	48	209.0	130.8	28.5	101.6

G4H-FL45 (GL68)

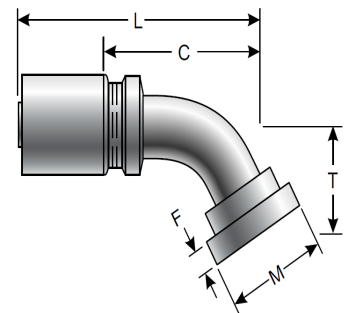
GATES MEGAVAC SAE CODE 61 45° ELBOW
SUCTION TAIL



Part Number	Gates Code	Nominal Flange size - A	Hose I.D (in)	Hose I.D (mm)	Dash Size	Length - L (mm)	Cutoff - C (mm)	Drop - T (mm)	Flange O.D - M (mm)
40G4H-40F L45	40GL-40FL 45	2 1/2	2 1/2	63.5	40	196.1	133.9	43.7	84.1
40G4H-48F L45	40GL-48FL 45	3	2 1/2	63.5	40	197.1	134.9	44.7	101.6
48G4H-48F L45	48GL-48FL 45	3	3	76.2	48	233.2	154.9	51.6	101.6
56G4H-56F L45	56GL-56FL 45	3 1/2	3 1/2	88.9	56	245.4	152.9	54.1	114.3

G4H-FL60 (GL66)

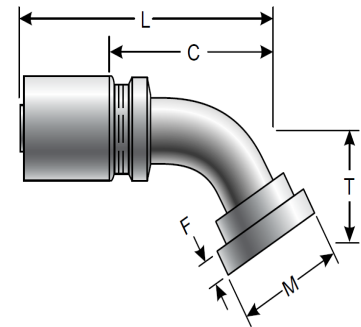
GATES MEGAVAC SAE CODE 61 60° ELBOW
SUCTION TAIL



Part Number	Gates Code	Nominal Flange size - A	Hose I.D (in)	Hose I.D (mm)	Dash Size	Length - L (mm)	Cutoff - C (mm)	Drop - T (mm)	Flange O.D - M (mm)
40G4H-40F L60	40GL-40FL 60	2 1/2	2 1/2	63.5	40	206.5	144.3	66.8	84.1
48G4H-48F L60	48GL-48FL 60	3	3	76.2	48	245.4	167.1	79.0	101.6

G4H-FL67 (GL69)

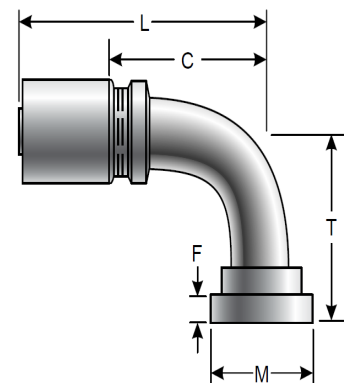
GATES MEGAVAC SAE CODE 61 67.5° ELBOW
SUCTION TAIL



Part Number	Gates Code	Nominal Flange size - A	Hose I.D (in)	Hose I.D (mm)	Dash Size	Length - L (mm)	Cutoff - C (mm)	Drop - T (mm)	Flange O.D - M (mm)
40G4H-40F L67	40GL-40FL 67	2 1/2	2 1/2	63.5	40	208.8	146.6	79.5	84.1
48G4H-48F L67	48GL-48FL 67	3	3	76.2	48	241.3	163.1	98.3	101.6

G4H-FL90 (GL59)

GATES MEGAVAC SAE CODE 61 90° ELBOW
SUCTION TAIL



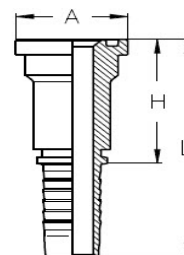
Part Number	Gates Code	Nominal Flange size - A	Hose I.D (in)	Hose I.D (mm)	Dash Size	Length - L (mm)	Cutoff - C (mm)	Drop - T (mm)	Flange O.D - M (mm)
40G4H-40F L90	40GL-40FL 90	2 1/2	2 1/2	63.5	40	204.7	142.5	117.4	84.1
40G4H-48F L90	40GL-48FL 90	3	2 1/2	63.5	40	206.3	144.0	117.4	101.6
48G4H-48F L90	48GL-48FL 90	3	3	76.2	48	246.4	168.2	139.7	101.6
56G4H-56F L90	56GL-56FL 90	3 1/2	3 1/2	88.9	56	258.3	165.9	143.0	114.3

SAE FLANGES CODE 62

S22

SAE CODE 62 STRAIGHT

- ISO 12151-3/SAE J516

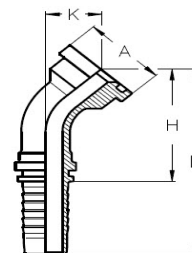


Part Number	Nominal SAE Flange size - A	Hose I.D (in)	Hose I.D (mm)	Dash size	Flange O.D - A (mm)	Cutoff - H (mm)	Length - L (mm)	Working Pressure (bar)	Working Pressure (psi)
S22-0808	1/2	1/2	12.7	08	31.8	47	80	420	6000
S22-1212	3/4	3/4	19	12	41.3	58	98.5	350	5000
S22-1612	1	3/4	19	12	47.6	58	98.5	350	5000
S22-1616	1	1	25.4	16	47.6	65	121.5	420	6000
S22-1620	1	1 1/4	31.8	20	47.6	70	136.5	420	6000
S22-2016	1 1/4	1	25.4	16	54	69	125.5	420	6000
S22-2020	1 1/4	1 1/4	31.8	20	54	70	136.5	420	6000
S22-2420	1 1/2	1 1/4	31.8	20	63.5	80	146.5	420	6000
S22-2424	1 1/2	1 1/2	38.0	24	63.5	84	116.5	420	6000
S22-3224	2	1 1/2	38.0	24	79.4	99	181.5	420	6000
S22-3232	2	2	51.0	32	79.4	100	196.5	420	6000

S62

SAE CODE 62 45° ELBOW

- ISO 12151-3/SAE J516

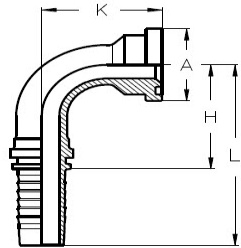


Part Number	Nominal SAE Flange size - A	Hose I.D (in)	Hose I.D (mm)	Dash size	Flange O.D - A (mm)	Drop - K (mm)	Cutoff - H (mm)	Length - L (mm)	Working Pressure (bar)
S62-0808	1/2	1/2	12.7	08	31.8	20	47	80	420
S62-1210	3/4	5/8	15.9	10	41.3	26	57	93	350
S62-1212	3/4	3/4	19	12	41.3	26	64	104	350
S62-1612	1	3/4	19	12	47.6	31	68	108	350
S62-1616	1	1	25.4	16	47.6	30	80	136	420
S62-2016	1 1/4	1	25.4	16	54	30	80	136	420
S62-2020	1 1/4	1 1/4	31.8	20	54	34	93	160	420
S62-2420	1 1/2	1 1/4	31.8	20	63.5	35	94	161	420
S62-2424	1.1/2	1 1/2	38.1	24	63.5	40	112	195	420
S62-3224	2	1 1/2	38.1	24	79.4	43	115	198	420
S62-3232	2	2	50.8	32	79.4	56	150	247	350

S61

SAE CODE 62 90° ELBOW

- ISO 12151-3/SAE J516

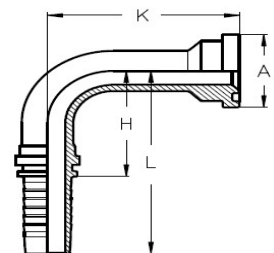


Part Number	Nominal SAE Flange size - A	Hose I.D (in)	Hose I.D (mm)	Dash size	Flange O.D - A (mm)	Drop - K (mm)	Cutoff - H (mm)	Length - L (mm)	Working Pressure (bar)
S61-0808	1/2	1/2	12.7	08	31.8	40	38	71	420
S61-1208	3/4	1/2	12.7	08	41.3	47	38	71	420
S61-1210	3/4	5/8	15.9	10	41.3	50	45	81	350
S61-1212	3/4	3/4	19	12	41.3	54	55	95	350
S61-1612	1	3/4	19	12	47.6	60	55	95	350
S61-1616	1	1	25.4	16	47.6	64	71	128	420
S61-2016	1 1/4	1	25.4	16	54	64	71	128	420
S61-2020	1 1/4	1 1/4	31.8	20	54	74	87	154	420
S61-2420	1 1/2	1 1/4	31.8	20	63.5	76	87	154	420
S61-2424	1.1/2	1 1/2	38.1	24	63.5	88	105	188	420
S61-3224	2	1 1/2	38.1	24	79.4	93	105	188	420
S61-3232	2	2	50.8	32	79.4	123	140	237	350

S61L

SAE CODE 62 90° ELBOW - EXTENDED

- ISO 12151-3/SAE J516

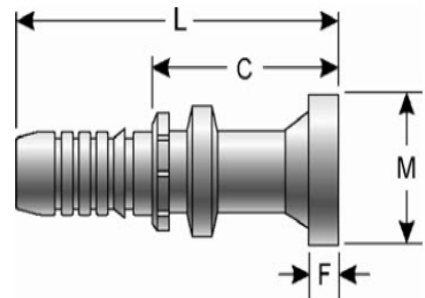


Part Number	Nominal SAE Flange size - A	Hose I.D (in)	Hose I.D (mm)	Dash size	Flange O.D - A (mm)	Drop - K (mm)	Cutoff - H (mm)	Length - L (mm)	Working Pressure (bar)
S61L-0808	1/2	1/2	12.7	08	31.7	75	40	72	350
S61L-1212	3/4	3/4	19	12	41.3	100	55	95	350
S61L-1616	1	1	25.4	16	47.6	120	71	128	420
S61L-2020	1 1/4	1 1/4	31.8	20	54	120	87	154	420

GS-FLH (GS22)

GATES GS SAE CODE 62 STRAIGHT

- FOR GATES 20EFG4K, 20EFG5K, OR 20EFG6K HOSE ONLY.
- USE WITH GATES GSF4N OR GSF6N FERRULES ONLY.

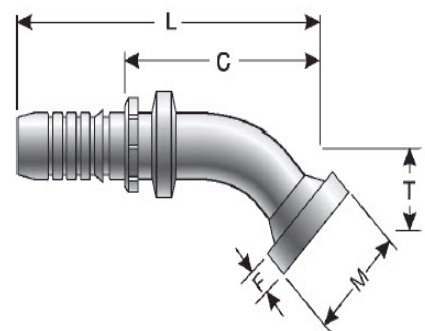


Part Number	Gates Code	Nominal SAE Flange size - M	Hose I.D (in)	Hose I.D (mm)	Dash size	Length - L (mm)	Cutoff - C (mm)	Flange O.D - M (mm)	Thickness - F (mm)
20GS-20FL H	20GS-20FL H	1 1/4	1 1/4	31.8	20	146.1	74.9	54.1	10.4
20GS-24FL H	20GS-24FL H	1 1/4	1 1/2	31.8	20	160	88.9	63.5	12.7

GS-FLH45M (GS62)

GATES GS SAE CODE 62 45° ELBOW

- FOR GATES 20EFG4K, 20EFG5K, OR 20EFG6K HOSE ONLY.
- USE WITH GATES GSF4N OR GSF6N FERRULES ONLY.

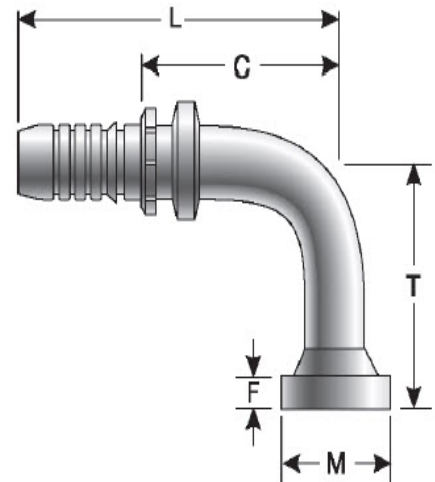


Part Number	Gates Code	Nominal SAE Flange size - M	Hose I.D (in)	Hose I.D (mm)	Dash size	Length - L (mm)	Cutoff - C (mm)	Flange O.D - M (mm)	Drop - T (mm)
20GS-20FL H45M	20GS-20FL H45M	1 1/4	1 1/4	31.8	20	176	104.9	54.1	38.1
20GS-24FL H45M	20GS-24FL H45M	1 1/2	1 1/4	31.8	20	176	104.9	63.5	43.9

GS-FLH90M (GS61)

GATES GS SAE CODE 62 90° ELBOW

- FOR GATES 20EFG4K, 20EFG5K, OR 20EFG6K HOSE ONLY.
- USE WITH GATES GSF4N OR GSF6N FERRULES ONLY.

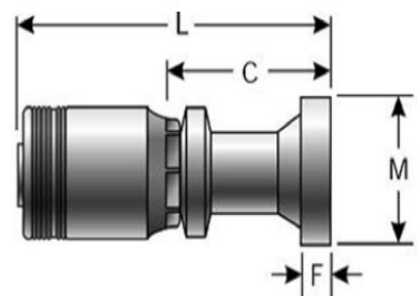


Part Number	Gates Code	Nominal SAE Flange size - M	Hose I.D (in)	Hose I.D (mm)	Dash size	Length - L (mm)	Cutoff - C (mm)	Flange O.D - M (mm)	Drop - T (mm)
20GS-20FL H90M	20GS-20FL H90M	1 1/4	1 1/4	31.8	20	165.1	94	54.1	89.9
20GS-24FL H90S	20GS-24FL H90S	1 1/2	1 1/4	31.8	20	165.1	94	63.5	81

GSM-FLH (GSM22)

GATES GSM SAE CODE 62 STRAIGHT ONE PIECE

- FOR GATES 24 AND 32 EFG5K OR EFG6K HOSE ONLY.

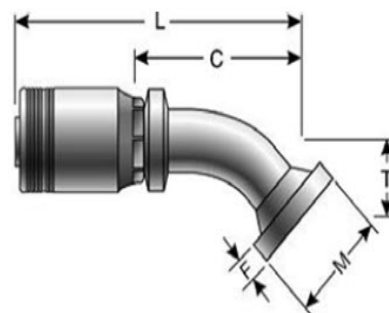


Part Number	Gates Code	Nominal SAE Flange size - M	Hose I.D (in)	Dash Size	Hose I.D (mm)	Length - L (mm)	Cutoff - C (mm)	Flange O.D - M (mm)	Thickness - F (mm)
24GSM-24F LH	24GSM-24F LH	1 1/2	1 1/2	24	38.1	199.9	104.9	63.5	12.7
24GSM-32F LH	24GSM-32F LH	2	1 1/2	24	38.1	199.9	104.9	79.5	12.7
32GSM-32F LH	32GSM-32F LH	2	2	32	50.8	251.4	137.4	79.5	12.7

GSM-FLH45M (GSM62)

GATES GSM SAE CODE 62 45° ELBOW
ONE PIECE

- FOR GATES 24 AND 32 EFG5K OR EFG6K HOSE ONLY.

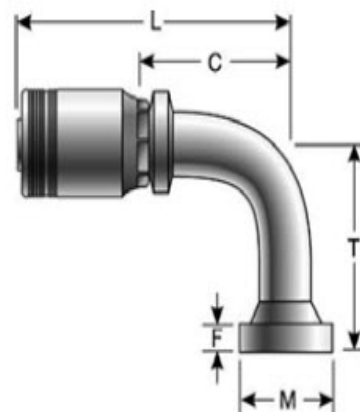


Part Number	Gates Code	Nominal SAE Flange size - M	Hose I.D (in)	Dash Size	Hose I.D (mm)	Length - L (mm)	Cutoff - C (mm)	Flange O.D - M (mm)	Drop - T (mm)
24GSM-24F LH45M	24GSM-24F LH45M	1 1/2	1 1/2	24	38.1	232	137	63.5	43.9
24GSM-32F LH45M	24GSM-24F LH45M	2	1 1/2	24	38.1	240.8	146	79.5	55.9

GSM-FLH90 (GSM61)

GATES GSM SAE CODE 62 90° ELBOW
ONE PIECE

- FOR GATES 24 AND 32 EFG5K OR EFG6K HOSE ONLY.

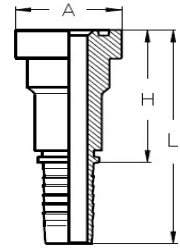


Part Number	Gates Code	Nominal SAE Flange size - M	Hose I.D (in)	Dash Size	Hose I.D (mm)	Length - L (mm)	Cutoff - C (mm)	Flange O.D - M (mm)	Drop - T (mm)
24GSM-32F LH90S	24GSM-32F LH90S	2	1 1/2	24	38.1	213.9	118.9	79.5	119.9
32GSM-32F LH90S	32GSM-32F LH90M	2	2	32	50.8	264	150	79.5	120

SUPERCAT FLANGE

S225

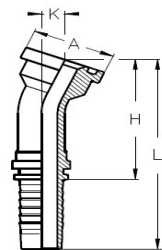
SUPERCAT STRAIGHT



Part Number	Nominal SAE Flange size - A	Hose I.D (in)	Hose I.D (mm)	Dash size	Flange O.D - A (mm)	Cutoff - H (mm)	Length - L (mm)	Working Pressure (bar)	Working Pressure (psi)
S225-1212	3/4	3/4	19	12	41.3	66	106.5	350	5000
S225-1612	1	3/4	19	16	47.6	68	108.5	350	5000
S225-1616	1	1	25.4	16	47.6	90	146.5	420	6000
S225-2016	1 1/4	1	25.4	16	54	90	146.5	420	6000
S225-2020	1 1/4	1 1/4	31.8	20	54	88	154.4	420	6000
S225-2420	1 1/2	1 1/4	31.8	20	63.5	88	154.4	420	6000
S225-2424	1 1/2	1 1/2	38.1	24	63.5	84	166.5	420	6000
S225-3224	2	1 1/2	38.1	24	79.4	110	192.5	420	6000
S225-3232	2	2	50.8	32	79.4	130	226.5	350	5000

S675

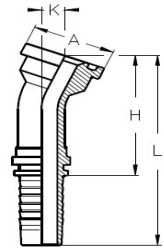
SUPERCAT 22.5° ELBOW



Part Number	Nominal SAE Flange size - A	Hose I.D (in)	Hose I.D (mm)	Dash size	Flange O.D - A (mm)	Drop - K (mm)	Cutoff - H (mm)	Length - L (mm)	Working Pressure (bar)
S675-1212	3/4	3/4	19	12	41.3	16	82	118	420
S675-1612	1	3/4	19	12	47.6	17	82	118	420
S675-1616	1	1	25.4	16	47.6	17	97	153	420
S675-2016	1 1/4	1	25.4	16	54	17	97	153	420
S675-2020	1 1/4	1 1/4	31.8	20	54	16	406	172	420
S675-2420	1 1/2	1 1/4	31.8	20	63.5	16	406	174	420
S675-2424	1 1/2	1 1/2	38.1	24	63.5	18	125	208	420
S675-3224	2	1 1/2	38.1	24	79.4	19	129	211	420

S465

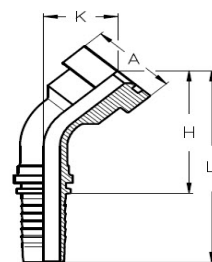
SUPERCAT 30° ELBOW



Part Number	Nominal SAE Flange size - A	Hose I.D (in)	Hose I.D (mm)	Dash size	Flange O.D - A (mm)	Drop - K (mm)	Cutoff - H (mm)	Length - L (mm)	Working Pressure (bar)
S465-1212	3/4	3/4	19	12	41.3	22	79	130	420
S465-1612	1	3/4	19	12	47.6	23	79	130	420
S465-1616	1	1	25.4	16	47.6	23	94	151	420
S465-2016	1 1/4	1	25.4	16	54	23	94	151	420
S465-2020	1 1/4	1 1/4	31.8	20	54	22	103	170	420
S465-2420	1 1/2	1 1/4	31.8	20	63.5	23	104	170	420
S465-2424	1 1/2	1 1/2	38.1	24	63.5	25	123	205	420
S465-3224	2	1 1/2	38.1	24	79.4	27	126	208	420
S465-3232	2	2	50.8	32	79.4	35	164	264	350

S625

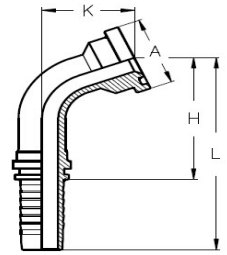
SUPERCAT 45° ELBOW



Part Number	Nominal SAE Flange size - A	Hose I.D (in)	Hose I.D (mm)	Dash size	Flange O.D - A (mm)	Drop - K (mm)	Cutoff - H (mm)	Length - L (mm)	Working Pressure (bar)
S625-1212	3/4	3/4	19	12	41.3	34	71	112	350
S625-1612	1	3/4	19	12	47.6	36	71	112	350
S625-1616	1	1	25.4	16	47.6	36	86	143	420
S625-2016	1 1/4	1	25.4	20	54	36	86	143	420
S625-2020	1 1/4	1 1/4	31.8	20	54	36	96	162	420
S625-2420	1 1/2	1 1/4	31.8	20	63.5	36	96	162	420
S625-2424	1 1/2	1 1/2	38.1	24	63.5	41	114	196	420
S625-3224	2	1 1/2	38.1	24	79.4	44	116	199	420
S625-3232	2	2	50.8	32	79.4	57	152	250	350

S545

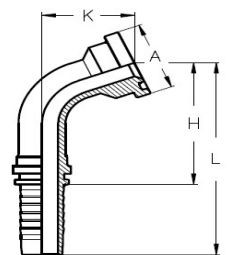
SUPERCAT 60° ELBOW



Part Number	Nominal SAE Flange size - A	Hose I.D (in)	Hose I.D (mm)	Dash size	Flange O.D - A (mm)	Drop - K (mm)	Cutoff - H (mm)	Length - L (mm)	Working Pressure (bar)
S545-1212	3/4	3/4	19	12	41.3	45	76	117	420
S545-1612	1	3/4	19	12	47.6	48	76	117	420
S545-1616	1	1	25.4	16	47.6	50	103	160	420
S545-2016	1 1/4	1	25.4	16	54	50	103	160	420
S545-2020	1 1/4	1 1/4	31.8	20	54	50	121	187	420
S545-2420	1 1/2	1 1/4	31.8	20	63.5	51	121	187	420
S545-2424	1 1/2	1 1/2	38.1	24	63.5	58	144	226	420
S545-3224	2	1 1/2	38.1	24	79.4	61	146	228	420
S545-3232	2	2	50.8	32	79.4	81	194	290	420

S695

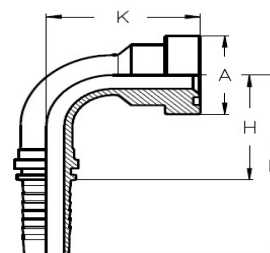
SUPERCAT 67.5° ELBOW



Part Number	Nominal SAE Flange size - A	Hose I.D (in)	Hose I.D (mm)	Dash size	Flange O.D - A (mm)	Drop - K (mm)	Cutoff - H (mm)	Length - L (mm)	Working Pressure (bar)
S695-1212	3/4	3/4	19	12	41.3	50	74	115	420
S695-1612	1	3/4	19	12	47.6	53	74	115	420
S695-1616	1	1	25.4	16	47.6	56	97	153	420
S695-2016	1 1/4	1	25.4	16	54	56	97	153	420
S695-2020	1 1/4	1 1/4	31.8	20	54	57	114	181	420
S695-2420	1 1/2	1 1/4	31.8	20	63.5	58	114	181	420

S615

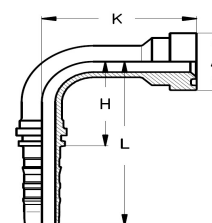
SUPERCAT 90° ELBOW



Part Number	Nominal SAE Flange size - A	Hose I.D (in)	Hose I.D (mm)	Dash size	Flange O.D - A (mm)	Drop - K (mm)	Cutoff - H (mm)	Length - L (mm)	Working Pressure (bar)
S615-1212	3/4	3/4	19	12	41.3	64	55	106	420
S615-1612	1	3/4	19	12	47.6	64	55	106	420
S615-1616	1	1	25.4	16	47.6	73	71	128	420
S615-2016	1 1/4	1	25.4	16	54	73	71	128	420
S615-2020	1 1/4	1 1/4	31.8	20	54	77	87	154	420
S615-2420	1 1/2	1 1/4	31.8	20	63.5	78	87	154	420
S615-2424	1 1/2	1 1/2	38.1	24	63.5	90	105	188	420
S615-3224	2	1 1/2	38.1	24	79.4	94	105	188	420
S615-3232	2	2	50.8	32	79.4	125	140	237	350

S615-X

SUPERCAT 90° ELBOW - EXTENDED

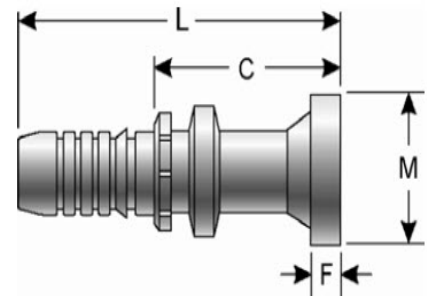


Part Number	Nominal SAE Flange size - A	Hose I.D (in)	Hose I.D (mm)	Dash size	Flange O.D - A (mm)	Drop - K (mm)	Cutoff - H (mm)	Length - L (mm)	Working Pressure (bar)
S615-1616-X132	1	1	25.4	16	47.6	132	71	128	420
S615-2020-X150	1 1/4	1 1/4	31.8	20	54	150	87	154	420

GS-FLC (GS225)

GATES GS SUPERCAT STRAIGHT

- FOR GATES 20EFG4K, 20EFG5K, OR 20EFG6K HOSE ONLY.
- USE WITH GATES GSF4N OR GSF6N FERRULES ONLY.

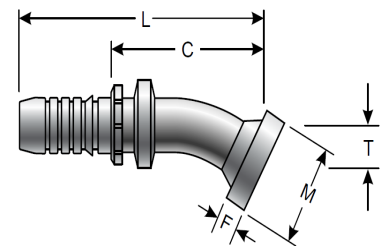


Part Number	Gates Code	Flange Size - M	Hose I.D (in)	Hose I.D (mm)	Dash size	Length - L (mm)	Cutoff - C (mm)	Flange O.D - M (mm)	Thickness - F (mm)
20GS-20FL C	20GS-20FL C	1 1/4	1 1/4	31.8	20	186.9	115.8	54.1	14.2
20GS-24FL C	20GS-24FL C	1 1/2	1 1/4	31.8	20	186.9	115.8	63.5	14.2

GS-FLC22 (GS675)

GATES GS SUPERCAT 22.5° ELBOW

- FOR GATES 20EFG4K, 20EFG5K, OR 20EFG6K HOSE ONLY.
- USE WITH GATES GSF4N OR GSF6N FERRULES ONLY.

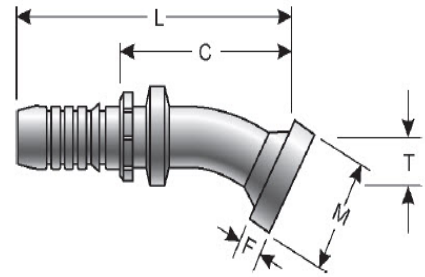


Part Number	Gates Code	Nominal Flange size - A	Hose I.D (in)	Hose I.D (mm)	Dash Size	Length - L (mm)	Cutoff - C (mm)	Drop - T (mm)	Flange O.D - M (mm)
20GS-20FL C22	20GS-20FL C22-017	1 1/4	1 1/4	31.8	20	184.9	113.8	17.0	54.1
20GS-24FL C22	20GS-24FL C22-017	1 1/2	1 1/4	31.8	20	184.9	113.8	17.0	63.5

GS-FLC30 (GS465)

GATES GS SUPERCAT 30° ELBOW

- FOR GATES 20EFG4K, 20EFG5K, OR 20EFG6K HOSE ONLY.
- USE WITH GATES GSF4N OR GSF6N FERRULES ONLY.

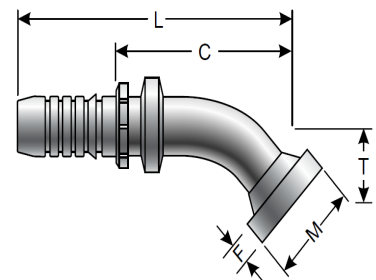


Part Number	Gates Code	Flange Size - M	Hose I.D (in)	Hose I.D (mm)	Dash size	Length - L (mm)	Cutoff - C (mm)	Drop - T (mm)	Flange O.D - M (mm)
20GS-20FL C30	20GS-20FL C30	1 1/4	1 1/4	31.8	20	182.9	112	23.9	54.1
20GS-24FL C30	20GS-24FL C30	1 1/2	1 1/4	31.8	20	182.9	112	23.9	63.5

GS-FLC45 (GS625)

GATES GS SUPERCAT 45° ELBOW

- FOR GATES 20EFG4K, 20EFG5K, OR 20EFG6K HOSE ONLY.
- USE WITH GATES GSF4N OR GSF6N FERRULES ONLY.

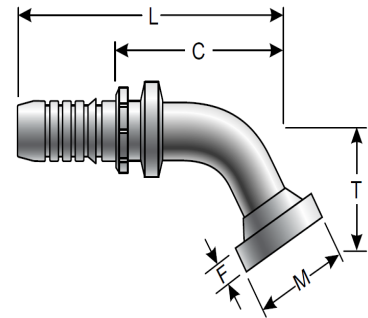


Part Number	Gates Code	Nominal Flange size - A	Hose I.D (in)	Hose I.D (mm)	Dash Size	Length - L (mm)	Cutoff - C (mm)	Drop - T (mm)	Flange O.D - M (mm)
20GS-20FL C45	20GS-20FL C45-037	1 1/4	1 1/4	31.8	20	176.0	104.9	37.1	54.1
20GS-24FL C45	20GS-24FL C45-037	1 1/2	1 1/4	31.8	20	176.0	104.9	37.1	63.5

GS-FLC60 (GS545)

GATES GS SUPERCAT 60° ELBOW

- FOR GATES 20EFG4K, 20EFG5K, OR 20EFG6K HOSE ONLY.
- USE WITH GATES GSF4N OR GSF6N FERRULES ONLY.

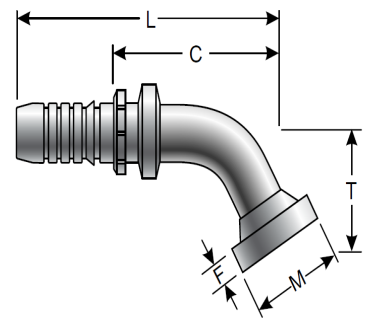


Part Number	Gates Code	Flange Size - M	Hose I.D (in)	Hose I.D (mm)	Dash size	Length - L (mm)	Cutoff - C (mm)	T (mm)	Flange O.D - M (mm)
20GS-20FL C60	20GS-20FL C60	1 1/4	1 1/4	31.8	20	198.1	127.0	52.1	54.1

GS-FLC67 (GS695)

GATES GS SUPERCAT 67.5° ELBOW

- FOR GATES 20EFG4K, 20EFG5K, OR 20EFG6K HOSE ONLY.
- USE WITH GATES GSF4N OR GSF6N FERRULES ONLY.

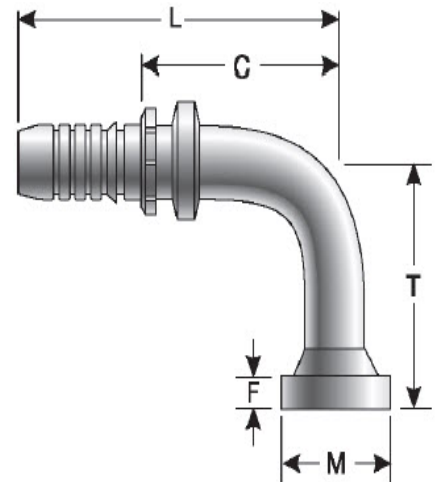


Part Number	Gates Code	Nominal Flange size - A	Hose I.D (in)	Hose I.D (mm)	Dash Size	Length - L (mm)	Cutoff - C (mm)	Drop - T (mm)	Flange O.D - M (mm)
20GS-20FL C67	20GS-20FL C67-059	1 1/4	1 1/4	31.8	20	191.0	119.9	58.9	54.1
20GS-24FL C67	20GS-24FL C67-059	1 1/2	1 1/4	31.8	20	191.0	119.9	58.9	63.5

GS-FLC90 (GS615)

GATES GS SUPERCAT 90° ELBOW

- FOR GATES 20EFG4K, 20EFG5K, OR 20EFG6K HOSE ONLY.
- USE WITH GATES GSF4N OR GSF6N FERRULES ONLY.

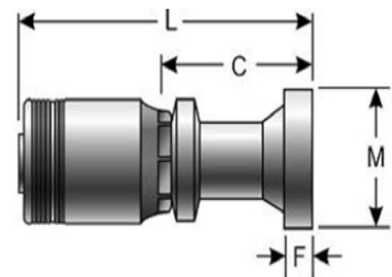


Part Number	Gates Code	Flange Size - M	Hose I.D (in)	Hose I.D (mm)	Dash size	Length - L (mm)	Cutoff - C (mm)	Drop - T (mm)	Flange O.D - M (mm)
20GS-20FL C90	20GS-20FL C90	1 1/4	1 1/4	31.8	20	166.1	95	77	54.1
20GS-24FL C90	20GS-24FL C90	1 1/2	1 1/4	31.8	20	166.1	95	77	63.5

GSM-FLC (GSM225)

GATES GSM SUPERCAT STRAIGHT ONE PIECE

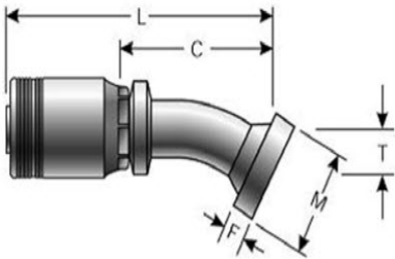
- FOR GATES 24 AND 32 EFG5K OR EFG6K HOSE ONLY.



Part Number	Gates Code	Flange Size - M	Hose I.D (in)	Dash Size	Hose I.D (mm)	Length - L (mm)	Cutoff - C (mm)	Flange O.D - M (mm)	Thickness - F (mm)
24GSM-24F LC	24GSM-24F LC	1 1/2	1 1/2	24	38.1	189.0	94.2	63.5	14.2
32GSM-32F LC	32GSM-32F LC	2	2	32	50.8	227.7	113.8	79.5	14.2

GSM-FLC22 (GSM675)
GATES GSM SUPERCAT 22° ELBOW
ONE PIECE

- FOR GATES 24 AND 32 EFG5K OR EFG6K HOSE ONLY.



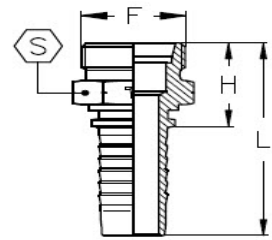
Part Number	Gates Code	Flange Size - M	Hose I.D (in)	Dash Size	Hose I.D (mm)	Length - L (mm)	Cutoff - C (mm)	Drop - T (mm)	Flange O.D - M (mm)
24GSM-24F LC22	24GSM-24F LC22	1 1/2	1 1/2	24	38.1	236	141.5	16.8	63.5

METRIC 24°

S80

METRIC LIGHT MALE STRAIGHT
24° CONE

- ISO 12151-5

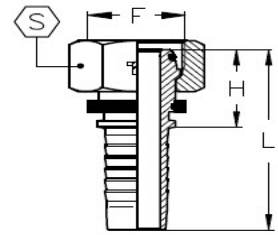


Part Number	Metric Male Thread - F	Hose I.D (in)	Hose I.D (mm)	Dash size	Tube Size	Hex A/F - S (mm)	Cutoff - H (mm)	Length - L (mm)	Working Pressure (bar)
S80-M1203	M12-1.5	3/16	4.8	03	6	12	21	46	280
S80-M1204	M12x1.5	1/4	6.4	04	6	12	21	49	280
S80-M1404	M14x1.5	1/4	6.4	04	8	14	21	49	280
S80-M1604	M16x1.5	1/4	6.4	04	10	17	23	51	280
S80-M1605	M16x1.5	5/16	7.9	05	10	17	23	51	280
S80-M1606	M16x1.5	3/8	9.5	06	10	17	23	53	280
S80-M1806	M18x1.5	3/8	9.5	06	12	19	23	53	280
S80-M1808	M18x1.5	1/2	12.7	08	12	19	25	56.3	280
S80-M2206	M22x1.5	3/8	9.5	06	15	22	25	56	280
S80-M2208	M22x1.5	1/2	12.7	08	15	22	26	59	280
S80-M2608	M26x1.5	1/2	12.7	08	18	27	28	61	210
S80-M2610	M26x1.5	5/8	15.9	10	18	27	28	64	210
S80-M2612	M26x1.5	3/4	19	12	18	27	29	70	210
S80-M3012	M30x2	3/4	19	12	22	30	31	72	210
S80-M3616	M36x2	1	25.4	16	28	41	36	92	210
S80-M4520	M45x2	1 1/4	31.8	20	35	48	42	108	210
S80-M5224	M52x2	1 1/2	38.1	24	42	55	47	130	210

S81C

METRIC LIGHT FEMALE STRAIGHT
24° CONE SWIVEL NUT

- ISO 12151-5

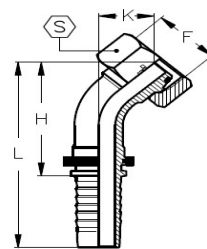


Part Number	Metric Female Thread - F	Hose I.D (in)	Hose I.D (mm)	Dash size	Tube Size	Hex A/F - S (mm)	Cutoff - H (mm)	Length - L (mm)	Working Pressure (bar)
S81C-M1203	M12x1.5	3/16	5	03	6	14	21	46	280
S81C-M1204	M12x1.5	1/4	6.4	04	6	17	23	51	280
S81C-M1404	M14x1.5	1/4	6.4	04	8	17	22	50	280
S81C-M1604	M16x1.5	1/4	6.4	04	10	19	24	52	280
S81C-M1605	M16x1.5	5/16	7.9	05	10	19	24	52	280
S81C-M1606	M16x1.5	3/8	9.5	06	10	19	23	54	280
S81C-M1804	M18x1.5	1/4	6.4	04	12	22	24	52	280
S81C-M1806	M18x1.5	3/8	9.5	06	12	22	24	54	280
S81C-M1808	M18x1.5	1/2	12.7	08	12	22	28	61	280
S81C-M2206	M22x1.5	3/8	9.5	06	15	27	24	54	280
S81C-M2208	M22x1.5	1/2	12.7	08	15	27	24	57	280
S81C-M2608	M26x1.5	1/2	12.7	08	18	32	26	59	210
S81C-M2610	M26x1.5	5/8	15.9	10	18	32	27	62	210
S81C-M2612	M26x1.5	3/4	19	12	18	32	34	75	210
S81C-M3010	M30x2	5/8	15.9	10	22	36	28	64	210
S81C-M3012	M30x2	3/4	19	12	22	36	31	71	210
S81C-M3612	M36x2	3/4	6.3	12	28	41	28	69	100
S81C-M3616	M36x2	1	25.4	16	28	41	34	90	100
S81C-M4520	M45x2	1 1/4	31.8	20	35	50	40	106	100

S87

METRIC LIGHT FEMALE 45° ELBOW
24° CONE SWIVEL NUT

- ISO 12151-5

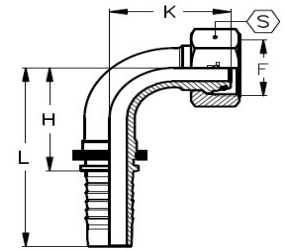


Part Number	Metric Female Thread - F	Hose I.D (in)	Hose I.D (mm)	Dash size	Tube Size	Hex A/F - S (mm)	Drop - K (mm)	Cutoff - H (mm)	Length - L (mm)
S87-M1204	M12x1.5	1/4	6.4	04	6	17	14	35	63
S87-M1404	M14x1.5	1/4	6.4	04	8	17	14	36	64
S87-M1604	M16x1.5	1/4	6.4	04	10	19	16	38	66
S87-M1606	M16x1.5	3/8	9.5	06	10	19	16	39	69
S87-M1806	M18x1.5	3/8	9.5	06	12	22	18	40	71
S87-M2208	M22x1.5	1/2	12.7	08	15	27	19	46	79
S87-M2610	M26x1.5	5/8	15.9	10	18	32	22	53	89
S87-M3012	M30x2	3/4	19	12	22	36	25	62	103
S87-M3616	M36x2	1	25.4	16	28	41	32	80	136
S87-M4520	M45x2	1 1/4	31.8	20	28	50	34	102	167

S86

METRIC LIGHT FEMALE 90° ELBOW
24° CONE SWIVEL NUT

- ISO 12151-5

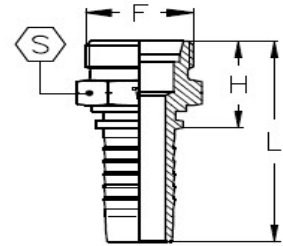


Part Number	Metric Female Thread - F	Hose I.D (in)	Hose I.D (mm)	Dash size	Tube Size	Hex A/F - S (mm)	Drop - K (mm)	Cutoff - H (mm)	Length - L (mm)
S86-M1204	M12x1.5	1/4	6.4	04	6	17	26	26	53
S86-M1404	M14x1.5	1/4	6.4	04	8	17	29	29	57
S86-M1406	M14x1.5	3/8	9.5	06	8	19	42	30	61
S86-M1604	M16x1.5	1/4	6.4	04	10	19	30	29	57
S86-M1605	M16x1.5	5/16	7.9	05	10	19	33	31	59
S86-M1606	M16x1.5	3/8	9.5	06	10	19	31	31	61
S86-M1806	M18x1.5	3/8	9.5	06	12	22	33	31	61
S86-M1808	M18x1.5	1/2	12.7	08	12	22	71	41	47
S86-M2208	M22x1.5	1/2	12.7	08	15	27	38	37	70
S86-M2608	M26x1.5	1/2	12.7	08	18	32	40	37	70
S86-M2610	M26x1.5	5/8	15.9	10	18	32	45	44	80
S86-M2612	M26x1.5	3/4	19	12	18	32	57	54	94
S86-M3012	M30x2	3/4	19	12	22	36	52	54	94
S86-M3612	M36x2	3/4	19	12	28	41	51	56	95
S86-M3616	M36x2	1	25.4	16	28	41	63	72	128
S86-M4520	M45x2	1 1/4	31.8	20	38	50	73	93	159
S86-M5224	M52-2	1 1/2	38.1	24	42	60	83	93	175

S78

METRIC HEAVY MALE STRAIGHT
24° CONE

- ISO 12151-5

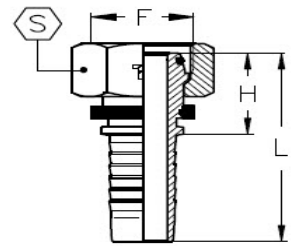


Part Number	Metric Male Thread - F	Hose I.D (in)	Hose I.D (mm)	Dash size	Tube Size	Hex A/F - S (mm)	Cutoff - H (mm)	Length - L (mm)	Working Pressure (bar)
S78-M1404	M14x1.5	1/4	6.4	04	6	14	23	51	450
S78-M1604	M16x1.5	1/4	6.4	04	8	17	23	51	450
S78-M1606	M16x1.5	3/8	9.5	06	8	17	28	56	450
S78-M1804	M18x1.5	1/4	6.4	04	10	19	24	52	450
S78-M1806	M18x1.5	3/8	9.5	06	10	19	24	55	450
S78-M2005	M20x1.5	5/16	7.9	05	12	22	25	53	350
S78-M2006	M20x1.5	3/8	9.5	06	12	22	25	56	450
S78-M2008	M20x1.5	1/2	12.5	08	12	22	27	60	415
S78-M2206	M22x1.5	3/8	9.5	06	14	22	27	58	450
S78-M2208	M22x1.5	1/2	12.7	08	14	22	28	61	420
S78-M2408	M24x1.5	1/2	12.7	08	16	24	29	62	420
S78-M3010	M30x2	5/8	15.9	10	20	30	32	68	350
S78-M3012	M30x2	3/4	19	12	20	30	33	74	350
S78-M3612	M36x2	3/4	19	12	25	36	37	78	350
S78-M4216	M42x2	1	25.4	16	30	46	44	101	380
S78-M5220	M52x2	1 1/4	31.8	20	38	55	51	117	325

S79C

METRIC HEAVY FEMALE STRAIGHT
24° CONE SWIVEL NUT

- ISO 12151-5

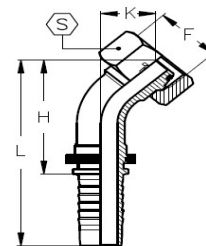


Part Number	Metric Female Thread - F	Hose I.D (in)	Hose I.D (mm)	Dash size	Tube Size	Hex A/F - S (mm)	Cutoff - H (mm)	Length - L (mm)	Working Pressure (bar)
S79C-M1404	M14x1.5	1/4	6.4	04	6	17	23	51	450
S79C-M1604	M16x1.5	1/4	6.4	04	8	19	22	50	450
S79C-M1606	M16x1.5	3/8	9.5	06	8	19	26	56	450
S79C-M1804	M18x1.5	1/4	6.4	04	10	22	24	52	450
S79C-M1806	M18x1.5	3/8	9.5	06	10	22	25	55	450
S79C-M2005	M20x1.5	5/16	7.9	05	12	24	24	52	350
S79C-M2006	M20x1.5	3/8	9.5	06	12	24	24	54	450
S79C-M2008	M20x1.5	1/2	12.5	08	12	22	28	61	415
S79C-M2206	M22x1.5	3/8	9.5	06	14	27	28	58	450
S79C-M2208	M22x1.5	1/2	12.7	08	14	27	28	61	420
S79C-M2408	M24x1.5	1/2	12.7	08	16	30	29	62	420
S79C-M3010	M30x2	5/8	15.9	10	20	36	33	69	350
S79C-M3012	M30x2	3/4	19	12	20	36	36	76	350
S79C-M3612	M36x2	3/4	19	12	25	46	38	78	350
S79C-M3616	M36x2	1	25.4	16	25	46	41	97	380
S79C-M4216	M42x2	1	25.4	16	30	50	42	98	380
S79C-M4220	M42x2	1 1/4	31.8	20	30	50	43	109	325
S79C-M5220	M52x2	1 1/4	31.8	20	38	60	48	115	325

S84

METRIC HEAVY FEMALE 45° ELBOW
24° CONE SWIVEL NUT

- ISO 12151-5

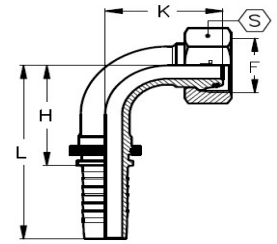


Part Number	Metric Female Thread - F	Hose I.D (in)	Hose I.D (mm)	Dash size	Tube Size	Hex A/F - S (mm)	Drop - K (mm)	Cutoff - H (mm)	Length - L (mm)
S84-M1404	M14x1.5	1/4	6.4	04	6	17	14	35	63
S84-M1604	M16x1.5	1/4	6.4	04	8	19	14	36	64
S84-M1804	M18x1.5	1/4	6.4	04	10	22	16	38	66
S84-M1806	M18x1.5	3/8	9.5	06	10	22	17	40	70
S84-M2006	M20x1.5	3/8	9.5	06	12	24	18	40	71
S84-M2206	M22x1.5	3/8	9.5	06	14	27	19	42	72
S84-M2208	M22x1.5	1/2	12.7	08	14	27	20	46	79
S84-M2408	M24x1.5	1/2	12.7	08	16	30	21	47	80
S84-M3010	M30x2	5/8	15.9	10	20	36	25	56	92
S84-M3012	M30x2	3/4	19	12	20	36	27	64	105
S84-M3612	M36x2	3/4	19	12	25	46	28	64	105
S84-M3616	M36x2	1	25.4	16	25	46	34	83	140
S84-M4216	M42x2	1	25.4	16	30	50	32	82	138
S84-M5220	M52x2	1 1/4	31.8	20	38	60	38	97	164

S83

METRIC HEAVY FEMALE 90° ELBOW
24° CONE SWIVEL NUT

- ISO 12151-5

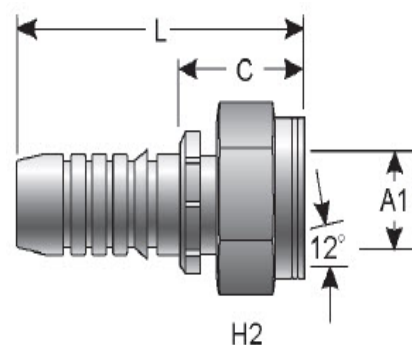


Part Number	Metric Female Thread - F	Hose I.D (in)	Hose I.D (mm)	Dash size	Tube Size	Hex A/F - S (mm)	Drop - K (mm)	Cutoff - H (mm)	Length - L (mm)
S83-M1404	M14x1.5	1/4	6.4	04	6	17	26	25	53
S83-M1604	M16x1.5	1/4	6.4	04	8	19	29	29	57
S83-M1804	M18x1.5	1/4	6.4	04	10	22	30	29	57
S83-M1806	M18x1.5	3/8	9.5	06	10	22	33	30	61
S83-M1808	M18x1.5	1/2	12.7	08	12	24	48	35	70.3
S83-M2005	M20x1.5	5/16	7.9	05	12	24	32	28	56
S83-M2006	M20x1.5	3/8	9.5	06	12	24	33	31	61
S83-M2008	M20x1.5	1/2	12.7	08	12	25	52	37	67
S83-M2206	M22x1.5	3/8	9.5	06	14	27	37	34	64
S83-M2208	M22x1.5	1/2	12.7	08	14	27	41	39	71
S83-M2408	M24x1.5	1/2	12.7	08	16	30	42	39	71
S83-M3010	M30x2	5/8	15.9	10	20	36	50	44	80
S83-M3012	M30x2	3/4	19	12	20	36	55	54	94
S83-M3612	M36x2	3/4	19	12	25	46	57	54	94
S83-M3616	M36x2	1	25.4	16	25	46	69	71	128
S83-M4216	M42x2	1	25.4	16	30	50	67	71	128
S83-M5220	M52x2	1 1/4	31.8	20	38	60	80	87	154

GS-FDHORX (GS79)

GATES GS METRIC HEAVY FEMALE STRAIGHT
24° CONE SWIVEL NUT

- FOR GATES 20EFG4K, 20EFG5K, OR 20EFG6K HOSE ONLY.
- USE WITH GATES GSF4N OR GSF6N FERRULES ONLY.

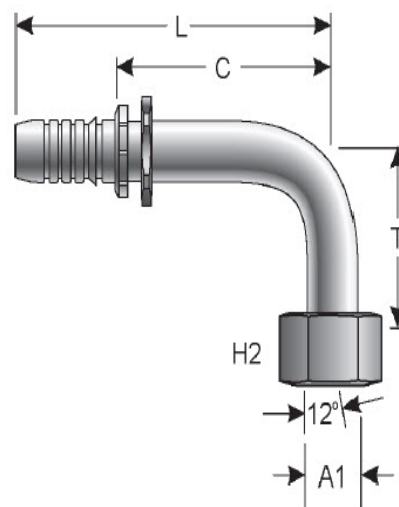


Part Number	Gates Code	Metric Female Thread	Hose I.D (in)	Hose I.D (mm)	Dash size	Tube Size	Length - L (mm)	Cutoff - C (mm)	Hex A/F - H2 (mm)
20GS-38FD HORX	20GS-38FD HORX	M52x2	1 1/4	31.8	20	28	145	73.9	60

GS-FDHORX90 (GS83)

GATES GS METRIC HEAVY FEMALE 90° ELBOW
24° CONE SWIVEL NUT

- FOR GATES 20EFG4K, 20EFG5K, OR 20EFG6K HOSE ONLY.
- USE WITH GATES GSF4N OR GSF6N FERRULES ONLY.

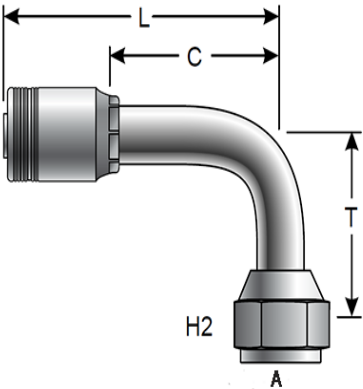


Part Number	Gates Code	Metric Female Thread	Hose I.D (in)	Hose I.D (mm)	Dash size	Tube Size	Length - L (mm)	Cutoff - C (mm)	Drop - T (mm)
20GS-38FD HORX90	20GS-38FD HORX90	M52x2	1 1/4	31.8	20	28	180.6	109.5	87.1

GS-FDHORX (GSM79)

GATES GSM HEAVY METRIC FEMALE
24° CONE SWIVEL NUT ONE PIECE

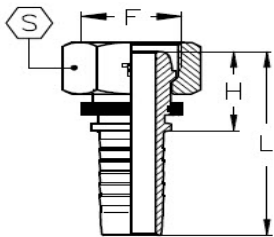
- FOR GATES 32 EFG5K OR EFG6K HOSE ONLY.



Part Number	Gates Code	Metric Female Thread	Hose I.D (in)	Hose I.D (mm)	Hose I.D (mm)	Dash Size	Hex A/F - H2 (mm)	Length - L (mm)	Cutoff - C (mm)
24GSM-38F DHORX	24GSM-38F DHORX	M52X2.0	1 1/2	1.5	38.1	24	60	180.1	85.1

METRIC MULTI SEAL

S77C
METRIC MULTI-SEAL CONE FEMALE STRAIGHT
SWIVEL NUT

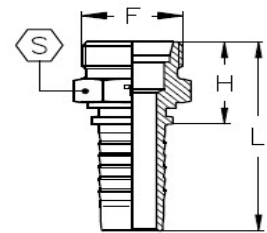


Part Number	Metric Female Thread - F	Hose I.D (in)	Hose I.D (mm)	Dash size	Hex A/F - S (mm)	Cutoff - H (mm)	Length - L (mm)	Working Pressure (bar)	Working Pressure (psi)
S77C-M1404	M14-1.5	1/4	6.4	04	17	20	48	280	4000
S77C-M1606	M16-1.5	3/8	9.5	06	19	21	53	280	4000
S77C-M1806	M18-1.5	3/8	9.5	06	22	20	50	280	4000

METRIC FRENCH GAZ

S47

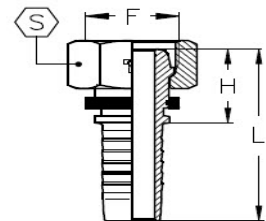
METRIC FRENCH GAZ MALE STRAIGHT
24° CONE



Part Number	Metric Male Thread - F	Hose I.D (in)	Hose I.D (mm)	Dash size	Hex A/F - S (mm)	Cutoff - H (mm)	Length - L (mm)	Working Pressure (bar)	Working Pressure (psi)
S47-M2006	M20x1.5	3/8	9.5	06	22	25	55.5	330	4800
S47-M2408	M24x1.5	1/2	12.7	08	24	27	60	280	4000
S47-M3010	M30x1.5	5/8	15.9	10	30	30	66	280	4000
S47-M3612	M36x1.5	3/4	19	12	36	33	73.5	210	3000
S47-M4516	M45x1.5	1	25.4	16	46	38.5	89.5	210	3000

S74C

METRIC FRENCH GAZ FEMALE STRAIGHT
24° CONE SLIP NUT



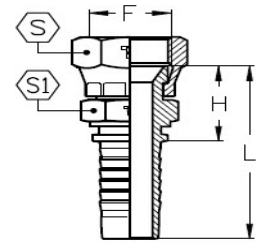
Part Number	Metric Female Thread - F	Hose I.D (in)	Hose I.D (mm)	Dash size	Hex A/F - S (mm)	Cutoff - H (mm)	Length - L (mm)	Working Pressure (bar)	Working Pressure (psi)
S74C-M2006	M20-1.5	3/8	9.5	06	24	21.5	52	330	4800
S74C-M2408	M24-1.5	1/2	12.7	08	30	25.5	58.5	280	4000
S74C-M3010	M30-1.5	5/8	15.9	10	36	26.5	62	280	4000
S74C-M3612	M36x1.5	3/4	19	12	41	29	68.5	210	3000
S74C-M4516	M45x1.5	1	25.4	16	51	34	90	210	3000

JIS

S75H

JIS BSP FEMALE STRAIGHT
30° FLARE SWIVEL NUT - BACK HEX

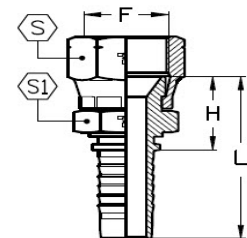
- JIS B 8363



Part Number	JIS (BSP) Female Thread - A	Hose I.D (in)	Hose I.D (mm)	Dash size	Hex A/F - S (mm)	Hex A/F - S1 (mm)	Cutoff - H (mm)	Length - L (mm)	Working Pressure (bar)
S75H-0404	1/4-19	1/4	6.4	04	19	17	21.5	49.5	350
S75H-0606	3/8-19	3/8	9.5	06	22	19	22.5	53	350
S75H-0808	1/2-14	1/2	12.7	08	27	22	26	59	350
S75H-1212	3/4-14	3/4	19	12	32	27	31	71.5	280
S75H-1616	1-11	1	25.4	16	41	36	38	94	210
S75H-2020	1 1/4-11	1 1/4	31.8	20	51	47.6	44	110	170

S70H

JIS METRIC FEMALE STRAIGHT
KOMATSU STYLE 30° FLARE SWIVEL NUT

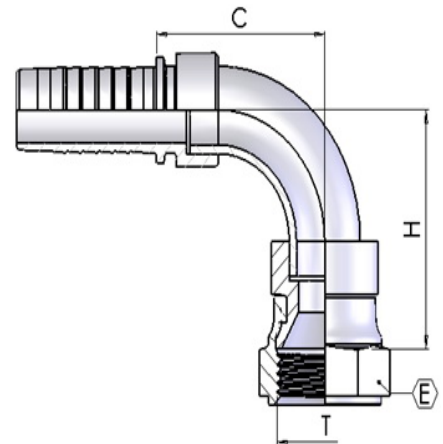


Part Number	JIS Female Thread - F	Hose I.D (in)	Hose I.D (mm)	Dash size	Hex A/F - S (mm)	Hex A/F - S1 (mm)	Cutoff - H (mm)	Length - L (mm)	Working Pressure (bar)
S70H-M1204	M12x1.5	1/4	6.4	04	16	16	21	49	350
S70H-M1404	M14x1.5	1/4	6.4	04	19	17	21.5	49.5	350
S70H-M1406	M14x1.5	3/8	9.5	06	19	17	21.5	52	350
S70H-M1605	M16x1.5	5/16	7.9	05	22	17	22	50	350
S70H-M1606	M16x1.5	3/8	9.5	06	22	17	22	52.5	350
S70H-M1804	M18x1.5	1/4	6.4	04	24	19	25	53	350
S70H-M1806	M18x1.5	3/8	9.5	06	24	19	22.5	53	350
S70H-M1808	M18x1.5	1/2	12.7	08	24	22	27	60	350

M1808									
S70H-M2006	M20x1.5	3/8	9.5	06	25	19	26	56	350
S70H-M2008	M20x1.5	1/2	12.7	08	25	22	27	60	350
S70H-M2206	M22x1.5	3/8	9.5	06	27	22	27	57	350
S70H-M2208	M22x1.5	1/2	12.7	08	27	22	26	59	350
S70H-M2212	M22x1.5	3/4	19	12	27	27	31	71	350
S70H-M2408	M24x1.5	1/2	12.7	08	32	27	30	63	350
S70H-M2410	M24x1.5	5/8	15.9	10	32	27	60	66	280
S70H-M2412	M24x1.5	3/4	19	12	32	27	31	71	280
S70H-M3012	M30x1.5	3/4	19	12	36	32	33.5	74	280
S70H-M3312	M33x1.5	3/4	19	12	41	32	36	76	210
S70H-M3316	M33x1.5	1	25.4	16	41	36	39	95	210
S70H-M3612	M36x1.5	3/4	19.0	12	44.5	36	36	76	170
S70H-M3616	M36x1.5	1	25.4	16	44.5	36	39	95	170
S70H-M3620	M36x1.5	1 1/4	31.8	20	44.5	41	43	109	170
S70H-M4220	M42x1.5	1 1/4	31.8	20	51	48	46	112	170
S70H-M4224	M42x1.5	1 1/2	38.1	24	51	48	48	130	170

S89

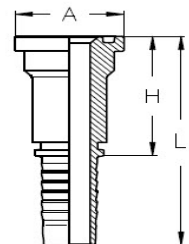
JIS METRIC FEMALE 90° ELBOW
KOMATSU STYLE 30° FLARE SWIVEL NUT



Part Number	JIS Female Thread - T	Hose I.D (in)	Hose I.D (mm)	Dash size	Hex A/F - E (mm)	Drop - H (mm)	Cutoff - C (mm)	Working Pressure (bar)	Working Pressure (psi)
S89-M1404	M14-1.5	1/4	6.4	04	19	35	38	350	5000
S89-M1406	M14-1.5	3/8	9.5	06	19	33	31	350	5000
S89-M1606	M16x1.5	3/8	9.5	06	22	34	30	350	5000
S89-M1806	M18x1.5	3/8	9.5	06	24	33	31	350	5000
S89-M2208	M22x1.5	1/2	12.7	08	27	39	33	350	5000
S89-M3012	M30x1.5	3/4	19	12	36	43	48	280	4000

S71

JIS FLANGE STRAIGHT
KOMATSU STYLE FLANGE STRAIGHT

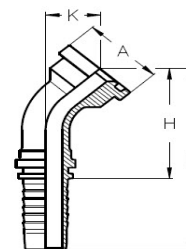


Part Number	Nominal SAE Flange size - A	Hose I.D (in)	Hose I.D (mm)	Dash size	Flange O.D - A (mm)	Cutoff - H (mm)	Length - L (mm)	Working Pressure (bar)	Working Pressure (psi)
S71-1010	5/8	5/8	15.9	10	34 x 6.7	48	84	350	5000

S73

JIS FLANGE 45° ELBOW

KOMATSU STYLE FLANGE 45° ELBOW

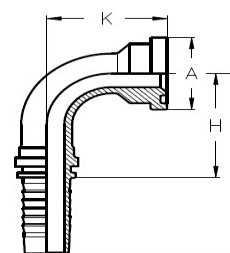


Part Number	Nominal SAE Flange size - A	Hose I.D (in)	Hose I.D (mm)	Dash size	Flange O.D - A (mm)	Drop - K (mm)	Cutoff - H (mm)	Length - L (mm)	Working Pressure (bar)
S73-1010	5/8	5/8	15.9	10	34	22	53	89	350

S72

JIS FLANGE 90° ELBOW

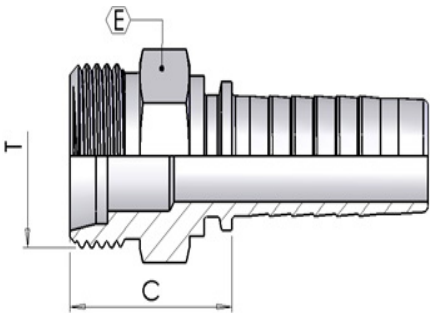
KOMATSU STYLE FLANGE 90° ELBOW



Part Number	Nominal SAE Flange size - A	Hose I.D (in)	Hose I.D (mm)	Dash size	Flange O.D - A (mm)	Drop - K (mm)	Cutoff - H (mm)	Length - L (mm)	Working Pressure (bar)
S72-1010	5/8	5/8	15.9	10	34	44	45	81	350

METRIC KOBELCO

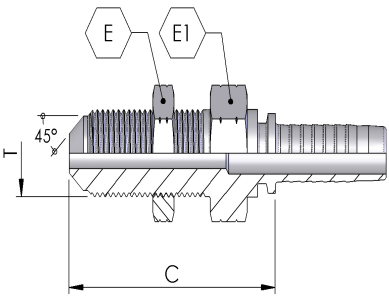
S44
METRIC KOBELCO STYLE MALE STRAIGHT
24° CONE



Part Number	Metric Male Thread - T	Hose I.D (in)	Hose I.D (mm)	Dash size
S44-M3010	M30x1.5	5/8	15.9	10
S44-M3612	M36x1.5	3/4	19	12
S44-M3616	M36-1.5	1	25.4	16

METRIC 45° FLARE

S109
METRIC MALE BULKHEAD
45° FLARE GB/T 5626



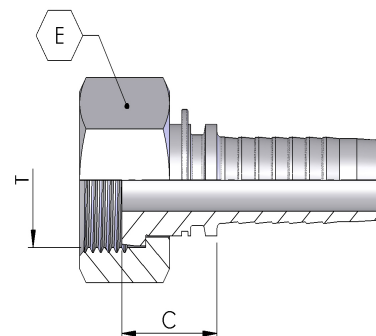
Part Number	Metric Male Thread - T	Hose I.D (in)	Hose I.D (mm)	Dash size	Hex A/F - E (mm)	Hex A/F - E1 (mm)	Cutoff - C (mm)
S109-M1606	M16x1.5	3/8	9.5	06	22	19	48.5
S109-M2006	M20x1.5	3/8	9.5	06	27	27	56.5
S109-M2008	M20x1.5	1/2	12.7	08	27	27	58.5

METRIC FLAT FACE

S131

METRIC FLAT FACE STRAIGHT SWIVEL NUT

- GB/T 9065.3

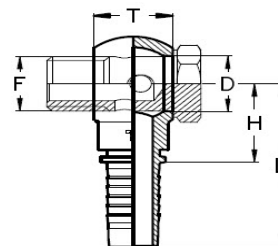


Part Number	Metric Female Thread - T	Hose I.D (in)	Hose I.D (mm)	Dash size	Hex A/F - E (mm)	Cutoff - C (mm)
S131-M1604	M16x1.5	1/4	6.4	04	19	16.5
S131-M1606	M16x1.5	3/8	9.5	06	19	17
S131-M1806	M18x1.5	3/8	9.5	06	22	17.5
S131-M2006	M20x1.5	3/8	9.5	06	24	17.5
S131-M2206	M22x1.5	3/8	9.5	06	27	17.5
S131-M2208	M22x1.5	1/2	12.7	08	27	18
S131-M2408	M24x1.5	1/2	12.7	08	30	18
S131-M2710	M27x1.5	5/8	15.9	10	32	19.5
S131-M3012	M30x2	3/4	19	12	36	21.5
S131-M3312	M33x2	3/4	19	12	41	21.5
S131-M3616	M36x2	1	25.4	16	41	22.5

BANJO TAIL

S38

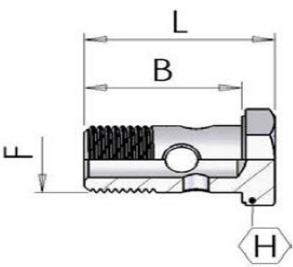
BSP BANJO TAIL
TO SUIT BSP BOLT



Part Number	Banjo ID - D (mm)	Hose I.D (in)	Hose I.D (mm)	Dash size	Suits BSP Bolt - F	Thickness - T (mm)	Cutoff - H (mm)	Length - L (mm)	Working Pressure (bar)
S38-0404	13.3	1/4	6.4	04	1/4-19	14	23	51	280
S38-0604	16.8	1/4	6.4	04	3/8-19	17.5	26.5	54.5	280
S38-0605	16.8	5/16	7.9	05	3/8-19	17.5	26.5	54.5	280
S38-0606	16.8	3/8	9.5	06	3/8-19	17.5	24	54.5	280
S38-0806	21	3/8	9.5	06	1/2-14	23	32	62.5	250
S38-0808	21	1/2	21.5	08	1/2-14	23	28.5	61.5	250
S38-1010	23.1	5/8	15.9	10	5/8-14	23.5	28.2	64	210
S38-1212	26.5	3/4	19	12	3/4-14	29.5	37.5	78	210

BANJO BOLT

BJ-B
BSP BANJO BOLT

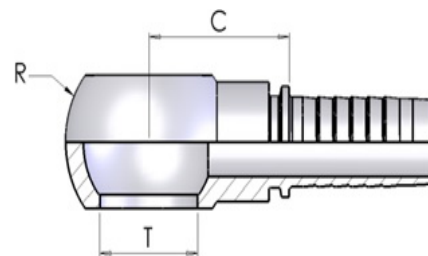


Part Number	BSPP Thread - F	Bolt Length mm (B)	Overall Length - L (mm)	Hex A/F (H)
BJ-B04	1/4-19	29	34	19
BJ-B06	3/8-19	33	41	22
BJ-B08	1/2-14	38	46	27
BJ-B10	5/8-14	44	54	30
BJ-B12	3/4-14	47	56	32

METRIC BANJO TAIL

S38-M

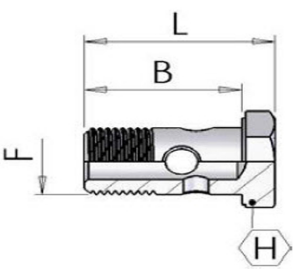
METRIC BANJO TAIL
TO SUIT METRIC BOLT



Part Number	Banjo ID - D (mm)	Hose I.D (in)	Hose I.D (mm)	Dash size	Suits Bolt - F	Thickness - T (mm)	Cutoff - H (mm)	Length - L (mm)	Working Pressure (bar)
S38-M1003	10.2	3/16	5	03	M10x1	10	20	45	200
S38-M1004	10.2	1/4	6.4	04	M10x1	10	23	51	200
S38-M1204	12.1	1/4	6.4	04	M12x1.5	12	23	51	200
S38-M1404	14.2	1/4	6.4	04	M14x1.5	14	23	51	200
S38-M1405	14.2	5/16	7.9	05	M14x1.5	14	25	52	200
S38-M1406	14.2	3/8	9.5	06	M14x1.5	14	24	54.5	200
S38-M1604	16.2	1/4	6.4	04	M16x1.5	17.5	26.5	54.5	200
S38-M1606	16.2	3/8	9.5	06	M16X1.5	17.5	24	54.5	200
S38-M1806	18.2	3/8	9.5	06	M18X1.5	20.5	27	57.5	200
S38-M1808	18.2	1/2	12.7	08	M18X1.5	20.5	28.1	61.1	200
S38-M2208	22.2	1/2	12.7	08	M22X1.5	22.2	28.5	61.5	200
S38-M2210	22.2	5/8	15.9	10	M22X1.5	22.2	31	63	200
S38-M2612	26	3/4	19	12	M26X1.5	26	38	78	200

METRIC BANJO BOLT

BJ-M
METRIC BANJO BOLT

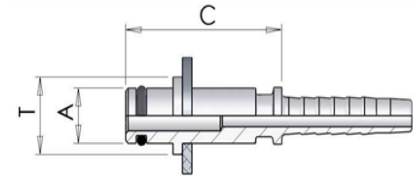


Part Number	BSPP Thread - F	Bolt Length mm (B)	Overall Length - L (mm)	Hex A/F (H)
BJ-M10	M10x1.0	19	24	14
BJ-M12	M12x1.5	26	31	17
BJ-M14	M14-1.5	29	34	19
BJ-M16	M16x1.5	33	41	22
BJ-M18	M18x1.5	37	44	24
BJ-M22	M22x1.5	38	46	27
BJ-M26	M26-1.5	47	56	32

KARCHER

KARCHER

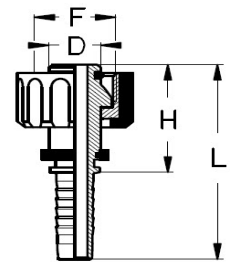
METRIC KARCHER MALE STRAIGHT



Part Number	Metric Male Thread - T	Hose I.D (in)	Hose I.D (mm)	Dash size	Spigot Diameter - A (mm)	Cutoff - C (mm)
KARCHER-04	M22x1.5	1/4	6.4	04	10	33
KARCHER-05	M22-1.5	5/16	7.9	05	10	33
KARCHER-06	M22-1.5	3/8	9.5	06	10	33

S30

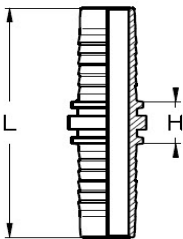
METRIC KARCHER FEMALE STRAIGHT



Part Number	Metric Female Thread - F	Hose I.D (in)	Hose I.D (mm)	Dash size	Cutoff - H (mm)	Length - L (mm)	O-Ring size
S30-M2204	M22x1.5	1/4	6.4	04	34.8	62.8	10x2
S30-M2205	M22x1.5	5/16	7.9	05	37.8	65.8	10x2
S30-M2206	M22x1.5	3/8	9.5	06	37.8	68.9	10x2

HOSE JOINER

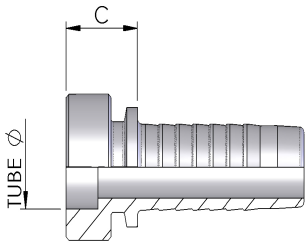
S90
HOSE JOINER STRAIGHT



Part Number	Hose I.D (in)	Hose I.D (mm)	Dash size	Cutoff - H (mm)	Length - L (mm)	Working Pressure (bar)	Working Pressure (psi)
S90-0404	1/4	6.3	04	13	69	450	6500
S90-0505	5/16	8	05	13	69	350	5000
S90-0606	3/8	10	06	13	74	450	6500
S90-0808	1/2	12.5	08	15	81	420	6000
S90-1010	5/8	16	10	16	88	350	5000
S90-1212	3/4	19	12	18	99	350	5000
S90-1616	1	25.4	16	21	137	350	5000
S90-2020	1 1/4	31.8	20	24	162	350	5000

BRAZE SOCKET

S96
IMPERIAL BRAZE SOCKET STRAIGHT

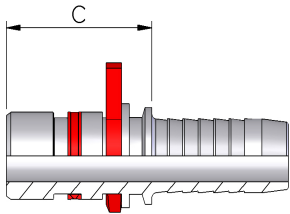


Part Number	Socket I.D (mm)	Hose I.D (in)	Hose I.D (mm)	Dash size	Cutoff - C (mm)
S96-0404	1/4	1/4	6.4	04	12
S96-0505	5/16	5/16	7.9	05	12
S96-0606	3/8	3/8	9.5	06	13
S96-0808	1/2	1/2	12.7	08	14
S96-1010	5/8	5/8	15.9	10	15
S96-1212	3/4	3/4	19	12	22
S96-1616	1	1	25.4	16	25
S96-2020	1 1/4	1 1/4	31.8	20	29
S96-2424	1 1/2	1 1/2	38.1	24	33
S96-3232	2	2	50.8	32	34

CEJN CONNECTOR STRAIGHT

S97

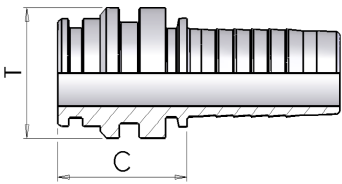
WEO PUSH CONNECT STRAIGHT
TO SUIT WEO PUSH CONNECT ADAPTORS



Part Number	Hose I.D (in)	Hose I.D (mm)	Dash size	O.D - C (mm)	Cutoff - C (mm)
S97-0404	1/4	6.4	04	10	30
S97-0606	3/8	9.5	06	13	33
S97-0808	1/2	12.7	08	16	33

STAPLELOCK

S50
STAPLELOCK MALE
STAPLELOCK MALE STRAIGHT



Part Number	Staplelock Male Thread - T	Hose I.D (in)	Hose I.D (mm)	Dash size	Cutoff - C (mm)
S50-0404	1/4	1/4	6.4	04	32
S50-0606	3/8	3/8	9.5	06	35
S50-0808	1/2	1/2	12.7	08	33
S50-1212	3/4	3/4	19	12	33