Quick Release Couplers

Hydraulink®

Technical Information

Section 1

Hydraulink Hose and Fittings

PRODUCT SELECTION

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.

A simple method to assist in remembering the key selection criteria is the anagram:

F.A.C.T.O.R.S.

F = Fluid
A = Application
C = Connections
T = Temperature
O = Operating Pressures
R = Rate(s) of Flow
S = Size

F - ***FLUID***
The materials in the products selected must be compatible with the fluid that is to be conveyed. Compatibility considerations will vary between products depending on the fluid in question.

When checking product fluid compatibility the following should be taken into account;

Hose; where the application requires the use of chemicals or special oils it is advisable to ensure that the cover is also resistant. For gaseous applications it is possible that permeation could occur. Permeation, sometimes referred to as effusion, is the migration of fluid through the pores of the tube polymer resulting in gradual fluid loss. Where permeation occurs it is important to ensure that as well as the hose tube the reinforcement and cover are compatible. When conveying gaseous liquids it is advisable to pin-prick the cover to prevent fluid build-up under the cover causing blistering. Continual build-up of fluid in this blistering could eventually cause the cover to split resulting in potential hazards such as the release of toxic fumes, fire or even explosions.

Couplings & other products; As well ensuring the body material is compatible any seals in hose connectors, positional adaptors, quick release couplings, ball Valves, live swivels etc are also compatible.

Hydraulink Hose and Fittings

PRODUCT SELECTION

A - *APPLICATION*

When selecting products it is important to check how and where they are going to be used as this will help to assess the likely demands that will be placed on the products.
Some of the aspects to consider are;

- ➢ Is the product going to be installed on mobile equipment or industrial plant?
- ➢ Is the application static or dynamic?
- ➢ Any installation constraints?
- ➢ Any mechanical loadings? Care should be taken not subject products to tension or torsional loads.
- ➢ Will it be subjected to constant impulsing?
- ➢ What fluid lines best suit the application? Flexible or rigid?
  - ❖ Flexible (hose). Hose has advantages such as;
    - *Easier to route around obstacles*
    - *Helps to dampen sound*
    - *Can absorb pressure spikes*
    - *Less prone to damage from vibration or movement*
    - *Generally easier to replace in the field*
  - ❖ Rigid (pipe or tube). Advantages of rigid lines;
    - *Less susceptible to mechanical damage*
    - *Good heat dissipation*
    - *Tube can be bent to tight radii*
    - *Does not breakdown through ageing*
- ➢ If selecting hose consider the following:
  - ❖ Does the cover need to be abrasion resistant?
  - ❖ Does it need to be non-conductive?
  - ❖ Any requirement for the hose to meet any specific Industry specifications? Such as mining, marine, military etc.
  - ❖ O.D of hose if it to run over pulleys (forklift application)
  - ❖ Composition of hose, rubber or thermoplastic? Note; Thermoplastic hose types are excellent for use in the marine and food industries.

Taking the time to get a good overview of the application will help when considering other aspects in the selection process, some of which are interrelated (such as pressure, flow & size).

Some accessory products such as Quick Release Couplings & Ball valves have specific selection requirements that need to be considered. These are discussed in detail in the relevant training modules.

C - *CONNECTIONS*

When replacing an existing hose assembly match the existing end connections with the new ones. If a new assembly is being specified consider what interface (thread/sealing face) type would best suit the application. In most cases the type of connection is determined by the exit thread of the adaptor fitted to the port machined into the component to which the assembly is being fitted.

Confirm what style of hose connection is required (or preferred by the customer), where wire braided hose is being used it is possible to fit either Crimp or Re-usable (field attachable) and in low pressure applications a Push-On.

For 90° hose connections check the configuration required e.g. compact or swept bend style.

Rigid lines: pipe or tube

For pipe the most common connection is the welded type, this can be either a socket or butt weld style. Of these the butt weld should be preferred for high pressure however the socket style is the most commonly used due to the ease of assembly.

For tube there are three main options;

1. Flareless type
2. Flare type
3. Socket weld

T - *TEMPERATURE*

Two aspects of temperature must be considered when selecting products;

1. Fluid temperature; Check capability of product to withstand system fluid temperature, both minimum and maximum. Hydraulic systems can generate heat but this should not be excessive in well designed systems. The most common causes of excessive heat are undersized components or flow restrictions within the system.

2. Ambient temperature;
   The exposure to high or low ambient temperatures should also be considered. Generally there are not many issues associated with this.

   Hose is most likely to affected, some situations where a problem could occur are;
   When an installation requires hose to be run near a hot manifold it may be advisable to use a heat shield or sleeving.

   Where a hose is subjected to a high ambient temperature in conjunction with an elevated fluid temperature the service life may be reduced.

   Hose used in a cold environment, such as hoses on a forklift working in a coolstore, may have exhibit cracking on the cover.

Notes;

1. The viscosity rating of most hydraulic oils is set at a temperature of 40° Celsius.
2. Rubber polymers are affected differently by hot air than hot oil.
3. Rubber stores heat

O - *OPERATING PRESSURES*

Determine maximum system or circuit pressures, this may vary depending on the circuit function. Always take into account the possibility of pressure spikes when establishing the maximum pressures that could be generated in a system.

Remember to look at the application or function, this will help to visualise the possible loadings on the product.

For example, the crowd cylinder circuit on an excavator is more likely to be subjected to spike pressure than the slew circuit.

Always ensure that the product is working within a 4:1 safety factor. That is; the maximum pressure the product will be exposed to is less than 25% of the products minimum burst pressure. Where pressure spikes or impulsing can occur it is good practice, where this is possible, to specify a product that will be working at 75% of its pressure rating for normal system pressure, this will give a safety buffer to absorb spikes.

Note;

Any product fitted between the pump and valve will always be exposed to the highest pressures of the system.

R - *RATES OF FLOW*

There are two areas to look at with regards to fluid flow.

Volume;

This is the amount of fluid that will be flowing through the product in a given time. When selecting product it is best to look at the maximum flow that is to be conveyed. Maximum pump output is a good starting point but consideration should also be given to return flow from the piston side of cylinders, this can be high depending on the bore to annulus ratio of the cylinder.
Volume is usually measured in Gallons (imperial) or Litres (metric) per minute.

Velocity;

This is the speed of the fluid through the product and is directly related to the fluid volume and the product size. Fluid speed is a key factor in determining pressure drops and heat build up in systems.
Velocity is stated as; feet per second (imperial) or metres per second (metric)

S - *SIZE*

The size (flow area) of the product is key part in ensuring the system functions efficiently.
The flow area of the product and the volume of fluid determines the velocity of the fluid in the system. If the fluid velocity is too high then in some cases excessive pressure drop or heat generation can occur.
A Nomograph is the easiest method of determining fluid velocity for any given volume versus product size.

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.

Hydraulink Hose and Fittings

THREAD IDENTIFICATION

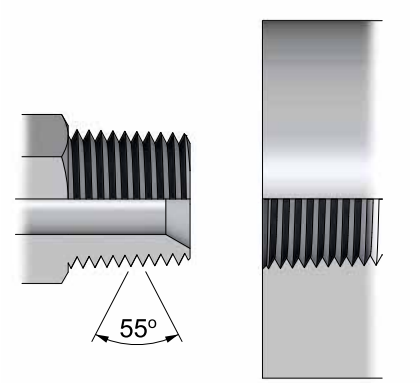
B.S.P.T. - BRITISH STANDARD PIPE TAPER

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°

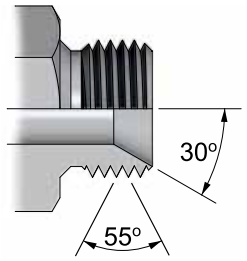
The British Standard Pipe Parallel (BSPP) male is typically coned 30° and will mate with either a BSPP swivel nut female or a BSPP female port.

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

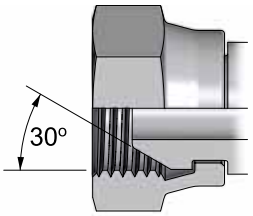
In some cases,the port is chamfered to accept an “O” ring seal. (Similar to the U.N.O. style).

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

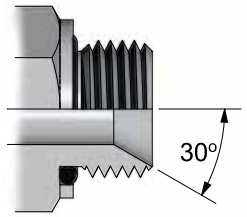
N.B. Torque values are nominal and supplied as a guide only.



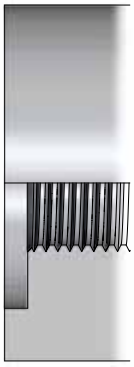
BSPP male



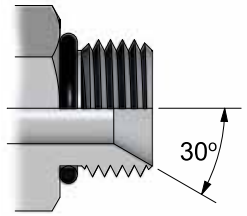
BSPP swivel nut female



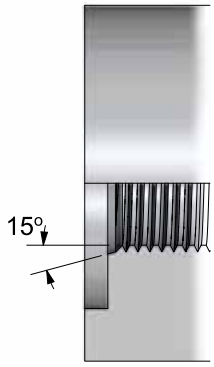
BSPP male with captive o-ring seal



BSPP female port (spot-faced)



BSPP male with o-ring seal



BSPP female port (chamfered)

Hydraulink Hose and Fittings

THREAD IDENTIFICATION

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

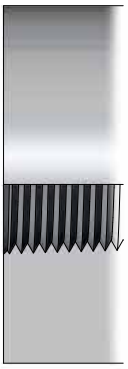
Taper: 1 in 16 by diameter.

Thread Angle: 60°

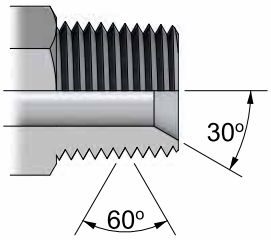
The National Pipe Taper Fuel (NPTF) male is coned 30° and will mate with the NPTF female port (taper), the National Pipe Straight Mechanical (NPSM) female (swivel nut female with 30° sealing cone), or the National Pipe Straight Fuel (NPSF) female port (parallel).

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

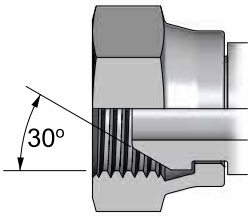
Thread Size & TPI	Male Thread O.D.	Female Thread I.D.	
	NPTF	NPTF	NPSF/SM
1/8-27	10.0	8.6	8.7
1/4-18	13.3	11.2	11.4
3/8-18	16.7	14.7	14.9
1/2-14	20.8	18.2	18.8
3/4-14	26.1	23.5	23.9
1-11.1/2	32.7	29.5	30.2
1.1/4-11.1/2	41.4	38.3	39.1
1.1/2-11.1/2	47.5	44.4	45
2-11.1/2	59.3	56.2	57



NPTF female port (taper)



NPTF male (taper)



NPSM swivel nut female

NPSF female port (parallel)

Hydraulink Hose and Fittings

THREAD IDENTIFICATION

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

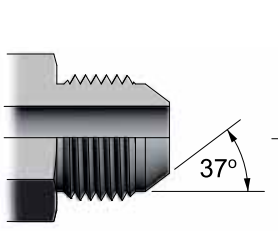
J.I.C. and U.N.“O”-Ring threads are both of the Unified National Form.

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.

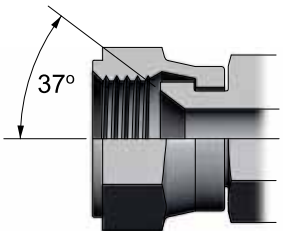
U.N.“O”-Ring refers to the thread type and “O”-Ring for sealing. The female U.N.O port has a chamfer to accept the o-ring.

Thread Size & TPI	Female Thread I.D.	Tube O.D.	Torque Settings JIC	Torque Settings 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

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

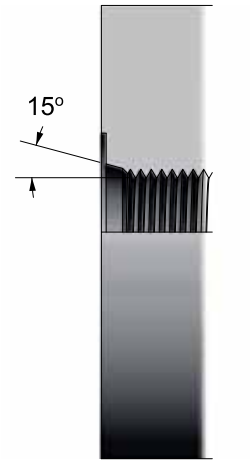


JIC male



JIC swivel nut female

UNO male



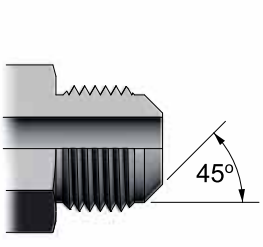
UNO female port (chamfered)

Hydraulink Hose and Fittings

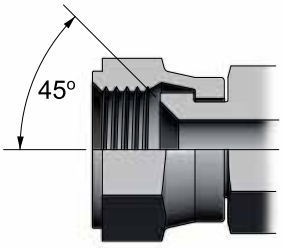
THREAD IDENTIFICATION

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.



SAE male



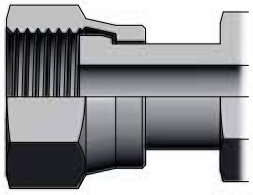
SAE swivel nut female

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

O.R.F.S. - O-RING FACE SEAL

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.

ORFS male



ORFS swivel nut female

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.

Hydraulink Hose and Fittings

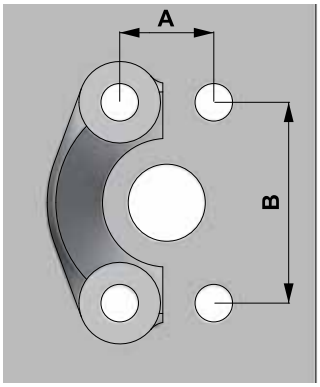
THREAD IDENTIFICATION

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

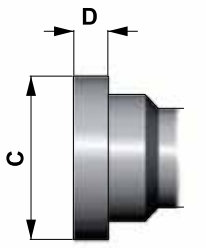
These connections utilise an “O”-Ring for sealing and are widely used for connecting to pump and motor parts as well as end terminations for pipe runs.

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) Code 61	A (mm) Code 62	B (mm) Code 61	B (mm) Code 62	C (mm) Code 61	C (mm) Code 62	D (mm) Code 61	D (mm) 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 Code 61	Pressure Rating Code 62	"O"-ring size Code 61 and 62	"O"-ring size AS568A number	UNC Bolt size Code 61	UNC Bolt size Code 62	Bolt torque Code 61	Bolt torque 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.

THREAD IDENTIFICATION

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

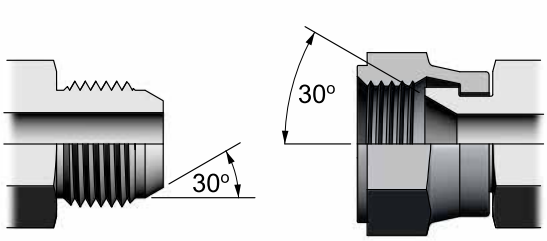
"O"-Ring Flanges:

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

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

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

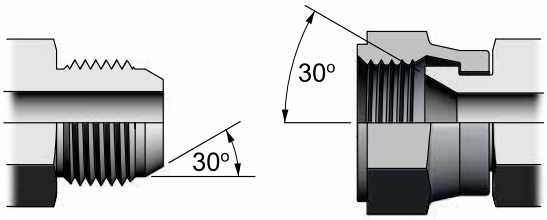
** denotes interchange sizes between JIS and Komatsu.*



Type F JIS male

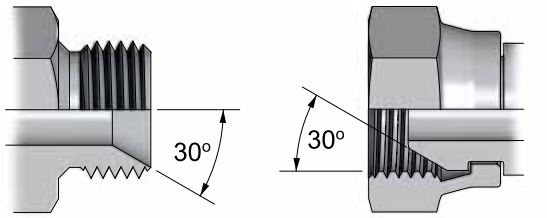
For thread data please refer to BSPP section

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

Hydraulink Hose and Fittings

THREAD IDENTIFICATION

D.I.N. METRICS 24° CONE SYSTEM

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

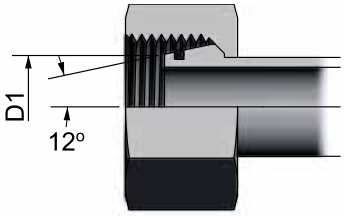
Series LL;	Extra Light, up to 100 bar
Series L;	Light up to 250 bar
Series S;	Heavy up to 640 bar

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.

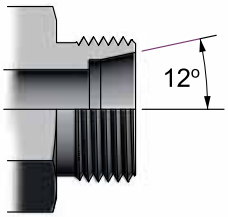
N.B: Rated coupling pressures are subject to the design pressures of the tube or hose being used.

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 cuttting ring and nut. Hose can also be connected directly to tube by use of a hose tail with the D.I.N. Male form

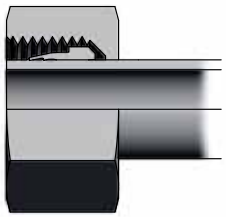
The male form will accept all three female styles shown (right).



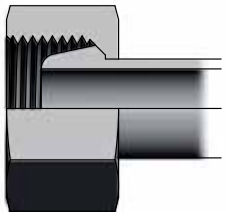
DIN 24° cone female with o-ring



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.*

Hydraulink Hose and Fittings

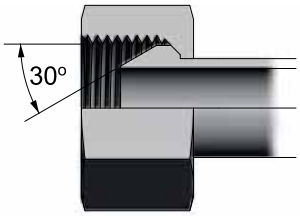
THREAD IDENTIFICATION

D.I.N. METRICS 60° CONE SYSTEM

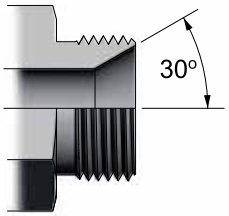
This series utilises a 60° cone seating angle and is used for the connection of hose assemblies and tube. It differs from the 24° series in that the threads are predominately 1.5mm pitch and there is no light or heavy pressure ranges.

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.

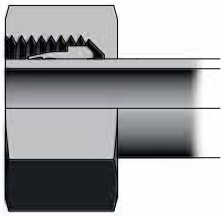
THREAD SPECIFICATIONS		
Thread O.D. & Pitch	Female Thread I.D.	Tube O.D.(mm)
M10-1.0	9.0	5
M12-1.5	10.5	6
M14-1.5	12.5	8
M16-1.5	14.5	10
M18-1.5	16.5	12
M22-1.5	20.5	15
M26-1.5	24.5	18
M30-1.5	28.5	22
M38-1.5	36.5	28
M45-1.5	43.5	35
M52-2.0	56.5	42



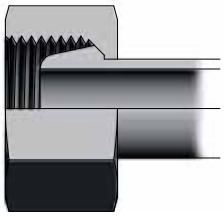
DIN 60° cone female



DIN 60° cone male



DIN cutiing ring and nut on tube

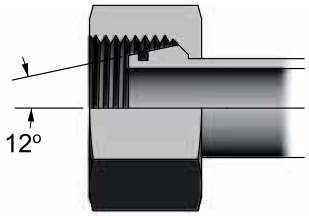


DIN female swivel nut with spherical seat

THREAD IDENTIFICATION

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

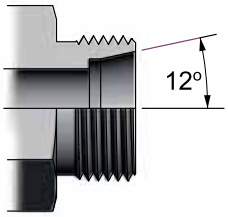
The I.S.O. series of couplings is similar to the D.I.N. light and heavy in function. The male has a 24° included angle sealing cone and a recessed counter bore for locating the tube when used in conjunction with a cutting ring and nut. The male will also accept a swivel nut female with either a cone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



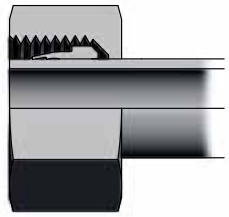
ISO (24° cone) female with o-ring

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

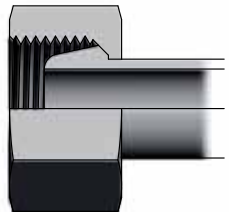
** Interchange with D.I.N. Light*
*** Interchange with D.I.N. Heavy*



ISO (24° cone) male



ISO cutting ring and nut on tube



ISO female swivel nut with spherical seat

Hydraulink Hose and Fittings

THREAD IDENTIFICATION

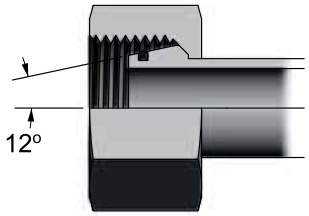
FRENCH METRICS (GAZ & MILLIMETRIQUE SERIES)

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.

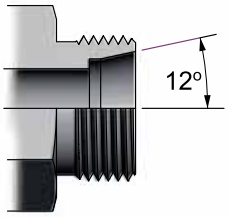
The Gaz and Millimetrique series are identical in all respects except for the O.D. of the tube:

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

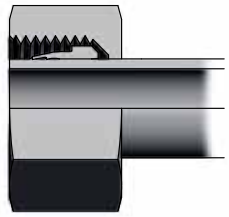


French 24° cone female with o-ring

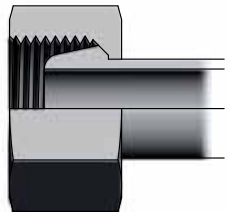
THREAD SPECIFICATIONS LIGHT (L) SERIES			
Thread O.D. & Pitch	Female Thread I.D.	Diameter GAZ	Diameter Millimetrique
M12-1.0	11.0	-	6
M14-1.5	12.5	-	8
M16-1.5	14.5	-	10
M18-1.5	16.5	-	12
M20-1.5	18.5	13.25	14
M22-1.5	20.5	-	15
M24-1.5	22.5	16.75	16
M27-1.5	25.5	-	18
M30-1.5	28.5	21.25	22
M33-1.5	31.5	-	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



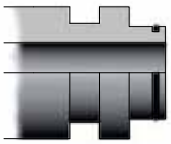
French female swivel nut with spherical seat

THREAD IDENTIFICATION

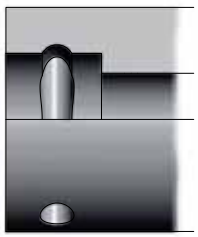
STAPLE-LOK COUPLINGS

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.

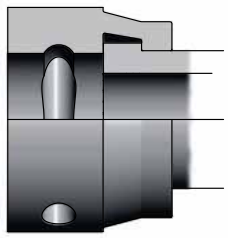


Staple-lok male



Staple-lok fixed female

THREAD SPECIFICATIONS					
Coupling Dash Size	Imperial Size	Male O.D. inch	Male O.D. mm	Female I.D. inch	Female I.D. 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

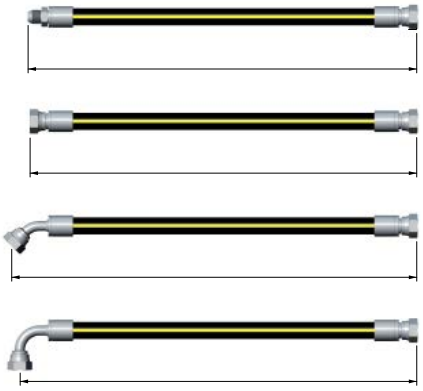
Hydraulink Hose and Fittings

HOSE ASSEMBLY MEASUREMENT

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.



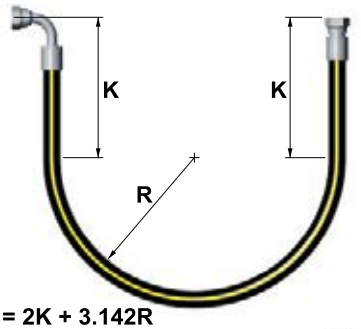
BENT HOSE ASSEMBLY LENGTH

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”.

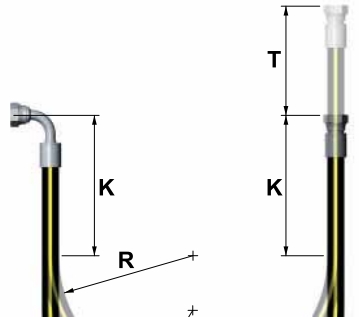
Hose I.D.	3/16	1/4	5/16	3/8	1/2	5/8	3/4	1	1.1/4	1.1/2	2
K (mm)	110	130	130	160	180	210	210	260	260	260	310



Length = 2K + 3.142R

Dynamic Installations

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



Length = 2K + 3.142R + T

Off-Set Angle Measurement

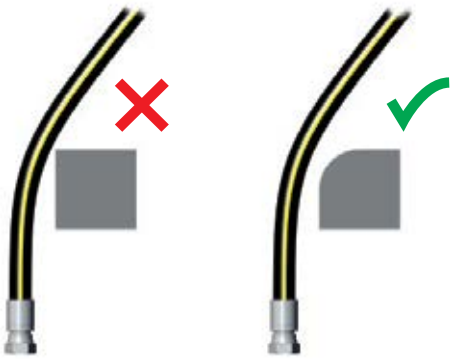
Place hose assembly in line of sight position with coupling furthest away facing upwards. Determine off-set angle by comparing relative position of closest coupling to the far coupling in a clockwise direction.

Hydraulink Hose and Fittings

HOSE INSTALLATION RECOMMENDATIONS

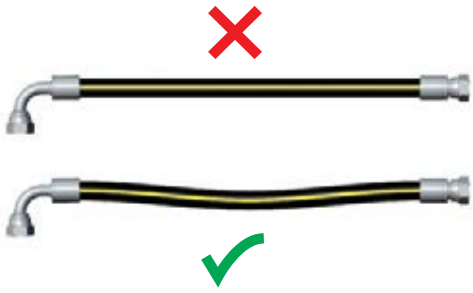
1. Hose Protection
Protect the hose cover from damage such as abrasion, erosion, snagging, and cutting. Where possible, route hose to reduce abrasion from hose rubbing other hose or objects that may abrade it (Fig. 1). Special abrasion-resistant hoses and hose guards are available for additional protection.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

Fig. 1



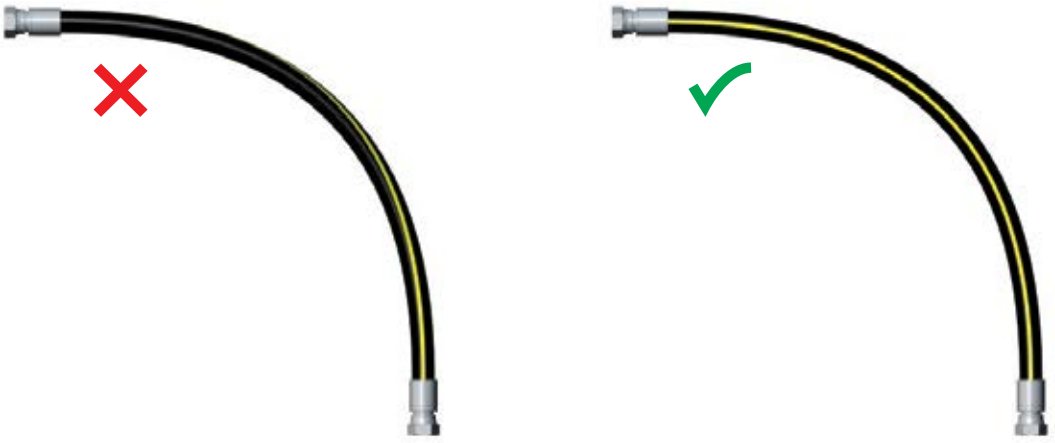
2. Hose And Machine Tolerances
Avoid tension on hose assemblies and adaptors. Design hose to allow for changes in length due to machine motion and tolerances (Fig. 2). Failure to do so may result in seal or assembly failure.

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

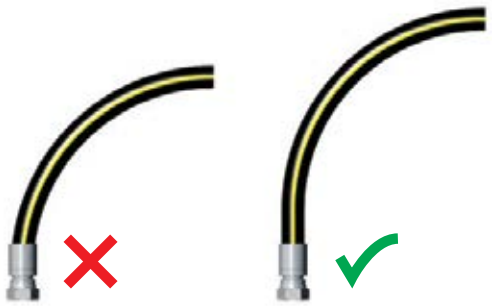


Fig. 4b

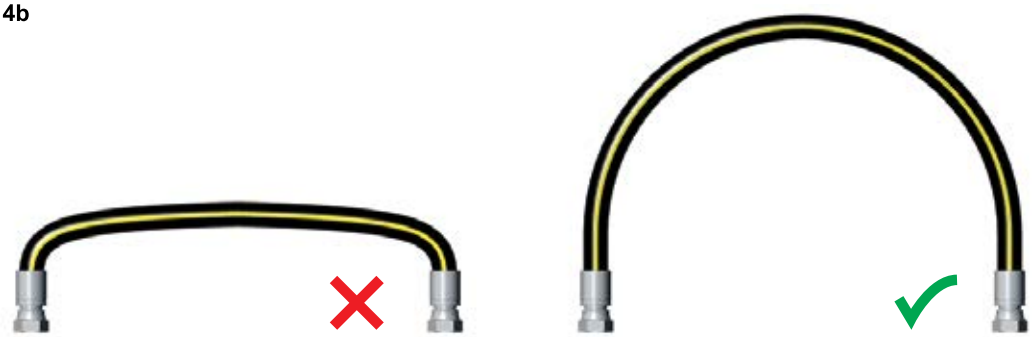


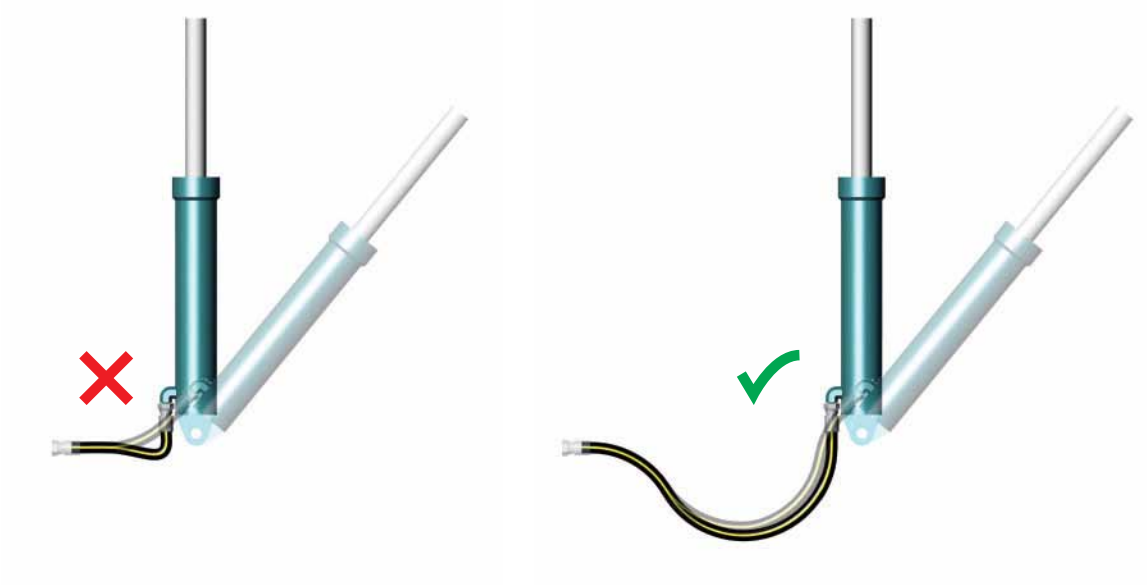
Fig. 4c

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 occuring that are smaller than the minimum bend radius (Fig. 6a).

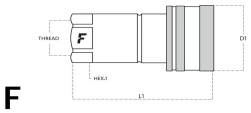
Fig. 6a



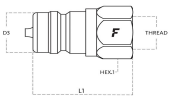
STANDARD SERIES

QNV

POPPET SEAL COUPLINGS
INTERCHANGE WITH ISO 7241-1 PART A IN 08 SIZE



F

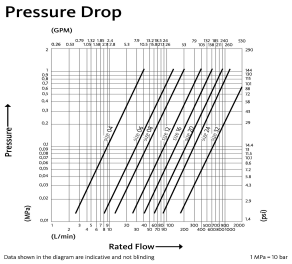


M

- Please enquire for other thread forms and sizes.
- Overall length when connected is calculated based on both couplings having the same thread form and size.
- Recommended for: Agriculture, industrial, construction, earthmoving.
- Connection: Connect without pressure - pull back female sleeve and push couplings to connect. Disconnect under pressure not allowed - pull back female sleeve to disconnect.
- Latching: Balls latching.
- Shut-off system: Poppet valve. Guidevalve with mechanical backstop.
- Temperature range: -25°C to +125°C
- Standards: 08 (1/2) size only; Interchangeability according to ISO 7241-1 part A
- All other sizes; Faster proprietary standard.
- Interchangeability with all QNS series couplings to 16 (1)

QNV - TECHNICAL DATA

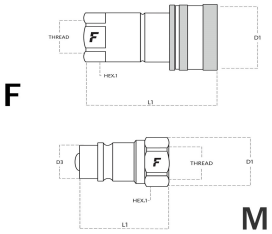
POPPET SEAL COUPLINGS
INTERCHANGE WITH ISO 7241-1 PART A IN 08 SIZE



Part Number	Rated Flow (l/min)	Force to connect - N	Force to connect - lb	Maximum WP Connected - bar	Maximum WP Connected - psi	Minimum BP Disconnected - psi	Minimum BP Connected - psi	Fluid Spill - ml max
QNV-F04	15	55	12.1	350	5000	20000	20000	0.8
QNV-F06	50	85	18.7	300	4500	20000	17400	1.3
QNV-F08	75	80	17.9	300	4500	17400	17400	1.8
QNV-F0812Q	75	80	17.9	300	4500	17400	17400	1.8
QNV-F0814Q	75	80	17.9	300	4500	17400	17400	1.8
QNV-F08M22	75	80	17.9	300	4500	17400	17400	1.8
QNV-F12	150	150	33.7	300	4500	17400	17400	8
QNV-F16	220	130	28.6	250	3625	14500	14500	13
QNV-F20	340	145	31.9	220	3300	13500	13500	30
QNV-F24	450	265	58.4	200	3000	12000	12000	34
QNV-F32	1000	250	56.2	150	2250	9000	9000	100
QNV-M04	15	55	12.1	350	5000	20000	20000	0.8
QNV-M06	50	85	18.7	300	4500	17400	17400	1.3
QNV-M08	75	80	17.9	300	4500	17400	17400	1.8
QNV-M0812Q	75	80	17.9	300	4500	17400	17400	1.8
QNV-M0814Q	75	80	17.9	300	4500	17400	17400	1.8
QNV-M08M22	75	80	17.9	300	4500	17400	17400	1.8
QNV-M12	150	150	33.7	300	4500	17400	17400	8
QNV-M16	220	130	28.6	250	3625	14500	14500	13
QNV-M20	340	145	31.9	220	3300	13500	13500	30
QNV-M24	450	265	58.4	200	3000	12000	12000	34
QNV-M32	1000	250	56.2	150	2250	9000	9000	100

QNS

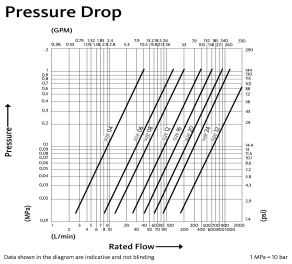
BALL SEAL COUPLINGS
INTERCHANGE WITH ISO 7241-1 PART A IN 08 SIZE



- Please enquire for other thread forms and sizes. For sizes larger than 16 (1) refer to QNV series.
- NOTE: Only size 08 (1/2) is interchangeable with ISO 7241-1 part A.
- Recommended for: Agriculture, industrial, construction, earthmoving.
- Connection: Connect without pressure - pull back female sleeve and push couplings to connect. Disconnect under pressure not allowed - pull back female sleeve to disconnect.
- Latching: Balls latching.
- Shut-off system: Ball valve.
- Temperature range: -25°C to +125°C
- Standards: 08 (1/2) size only; Interchangeability according to ISO 7241-1 part A
- All other sizes; Interchangeability according to Faster internal standard. Interchangeability with all QNV series couplings (all sizes).

QNS - TECHNICAL DATA

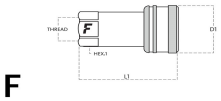
BALL SEAL COUPLINGS
INTERCHANGE WITH ISO 7241-1 PART A IN 08 SIZE



Part Number	Rated Flow (l/min)	Force to connect - N	Force to connect - lb	Maximum WP Connected - bar	Maximum WP Connected - psi	Minimum BP Disconnected - psi	Minimum BP Connected - psi	Fluid Spill - ml max
QNS-F04	15	55	12.1	250	3625	14500	20300	0.7
QNS-F06	30	83	18.3	250	3625	14500	20300	1
QNS-F08	50	89	19.6	200	2900	11600	17400	1.5
QNS-F12	80	170	37.4	170	2465	13775	21750	7
QNS-F16	140	140	30.8	220	3190	17400	23200	11
QNS-M04	15	55	12.1	250	3625	14500	20300	0.7
QNS-M06	30	83	18.3	250	3625	14500	20300	1
QNS-M08	50	89	19.6	200	2900	12325	17400	1.5
QNS-M12	80	170	37.4	170	2465	9860	21750	7
QNS-M16	140	140	30.8	220	3190	13050	23200	11

QANV

POPPET SEAL COUPLINGS
INTERCHANGE ACCORDING TO ISO 7241-1 PART A



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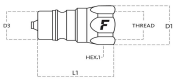
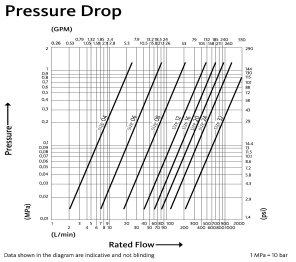


M

- Please enquire for other combinations of base size and thread form.
- Overall length when connected is calculated based on both couplings having the same thread form and size.
- Recommended for: Agricultural applications.
- Connection: Connect without pressure - pull back female sleeve and push couplings to connect. Disconnect under pressure not allowed - pull back female sleeve to disconnect.
- Latching: Balls latching.
- Shut-off system: Poppet valve. Guidevalve with mechanical backstop.
- Temperature range: -25°C to +125°C
- Standards: Interchangeability according to ISO 7241-1 part A

QANV - TECHNICAL DAT

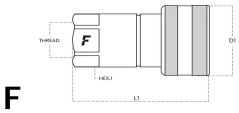
POPPET SEAL COUPLINGS
INTERCHANGE ACCORDING TO ISO 7241-1 PART A



Part Number	Rated Flow (l/min)	Force to connect - N	Force to connect - lb	Maximum WP Connected - bar	Maximum WP Connected - psi	Minimum BP Disconnected - psi	Minimum BP Connected - psi	Fluid Spill - ml max
QANV-F04	9	45	10	500	7500	30000	30000	0.5
QANV-F06	30	80	17.6	300	4500	18000	21000	1.1
QANV-F12	180	150	34	300	4500	18000	18000	8
QANV-F16	270	180	40	250	3625	14500	14500	13
QANV-M04	9	45	10	500	7500	30000	30000	0.5
QANV-M06	30	80	17.6	300	4500	24000	21000	1.1
QANV-M12	180	150	34	300	4500	18000	18000	8
QANV-M16	270	180	40	250	3625	14500	14500	13

QHNV

POPPET SEAL COUPLINGS
INTERCHANGE ACCORDING TO ISO 7241-1 PART B



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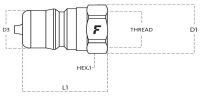


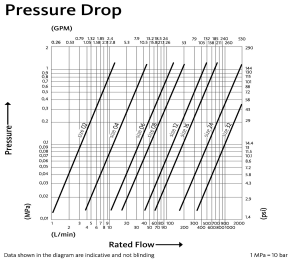
M

- Please enquire for other combinations of base size and thread form.
- Overall length when connected is calculated based on both couplings having the same thread form and size.
- Recommended for: Industrial applications.
- Connection: Connect without pressure - pull back female sleeve and push couplings to connect. Disconnect under pressure not allowed - pull back female sleeve to disconnect.
- Latching: Balls latching.
- Shut-off system: Poppet valve. Guide valve with mechanical backstop.
- Temperature range: -25°C to +125°C
- Standards: Interchangeability according to ISO 7241-1 part B
- Interchangeability with all QBHNV and SQHNV series couplings.

Part Number	Base Size	Threadform	Thread size	Coupling Length - L1	Coupling O.D - D1	Hex Size A/F (Hex 1)	Inner Coupling O.D - D3
QHNV-F02	02	BSPPF socket	1/8-27	50.0	23	18	
QHNV-M02	02	BSPPF socket	1/8-27	31.5	18.5	17	10.8

QHNV - TECHNICAL DAT

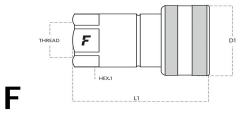
POPPET SEAL COUPLINGS
INTERCHANGE ACCORDING TO ISO 7241-1 PART B



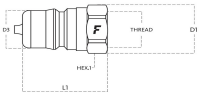
Part Number	Rated Flow (l/min)	Force to connect - N	Force to connect - lb	Maximum WP Connected - bar	Maximum WP Connected - psi	Minimum BP Disconnected - psi	Minimum BP Connected - psi	Fluid Spill - ml max
QHNV-F04	17	65	14.3	450	6750	27000	30000	1
QHNV-F06	50	80	17.6	300	4500	19500	18000	1.5
QHNV-F08	75	92	20.3	350	5250	21000	21000	2.8
QHNV-F12	190	120	26.4	250	3625	16500	14500	10
QHNV-F16	270	180	39.6	300	4500	18000	18000	13
QHNV-M04	17	65	14.3	450	6750	27000	30000	1
QHNV-M06	50	80	17.6	300	4500	27000	18000	1.5
QHNV-M08	75	92	20.3	350	5250	22500	21000	2.8
QHNV-M12	190	120	26.4	250	3625	14500	14500	10
QHNV-M16	270	180	39.6	300	4500	18000	18000	13

QBHNV

BRASS POPPET SEAL
INTERCHANGE ACCORDING TO ISO 7241-1 PART B



F

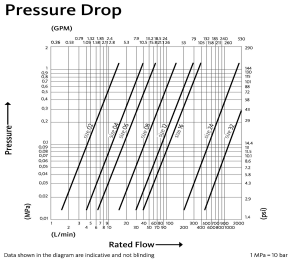


M

- Please enquire for other combinations of base size and thread form.
- Overall length when connected is calculated based on both couplings having the same thread form and size.
- Recommended for: Industrial or chemical applications.
- Connection: Connect without pressure - pull back female sleeve and push couplings to connect. Disconnect under pressure not allowed - pull back female sleeve to disconnect.
- Latching: Balls latching.
- Shut-off system: Poppet valve. Guidevalve with mechanical backstop.
- Temperature range: -25°C to +125°C
- Standards: Interchangeability according to ISO 7241-1 part B Interchangeability with all QHNV and SQHNV series couplings.

QBHNV - TECHNICAL DA

BRASS POPPET SEAL
INTERCHANGE ACCORDING TO ISO 7241-1 PART B

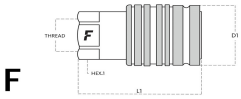


Part Number	Rated Flow (l/min)	Maximum WP Connected - bar	Maximum WP Connected - psi	Minimum BP Disconnected - psi	Minimum BP Connected - psi
QBHNV-F02	6	220	3175	20300	21750
QBHNV-F04	16	200	2900	17400	17400
QBHNV-F06	25	150	2175	10150	14500
QBHNV-F08	60	170	2450	13050	13050
QBHNV-F12	110	100	1450	7250	14775
QBHNV-M02	6	220	3175	13050	21750
QBHNV-M04	16	200	2900	11600	17400
QBHNV-M06	25	150	2175	8700	14500
QBHNV-M08	60	170	2450	10150	13050
QBHNV-M12	110	100	1450	5800	14775

AGRICULTURAL SERIES

QPS

POPPET SEAL COUPLINGS
INTERCHANGE ACCORDING TO ISO 7241-1 PART A



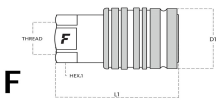
F

- QPS are only available in 08 (1/2) base size.
- Please enquire for thread forms and sizes.
- NOTE: Male coupling is base size 08 (1/2) QNS series. QPS series is only female couplings.
- Recommended for: Agricultural equipment.
- Connection: Connect without pressure - push male coupling to connect. Disconnect under pressure not allowed - pull male coupling to disconnect.
- Latching: Balls latching.
- Shut-off system: Poppet valve.
- Temperature range: -25°C to +125°C
- Standards: Interchangeability according to ISO 7241-1 part A standard.

Part Number	Base Size	Threadform	Thread size	Coupling Length (L1)	Coupling O.D (D1)	Hex Size A/F (Hex 1)
QPS-F08	08	BSPPF socket	1/2-14	66.0	38	27

QPV

PUSH/PULL POPPET SEAL
INTERCHANGE ACCORDING TO ISO 7241-1 PART A

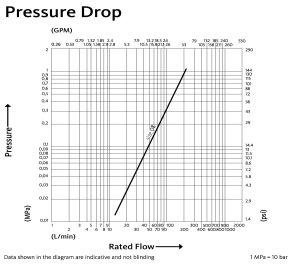


F

- QPV are only available in 08 (1/2) base size.
- Please enquire for thread forms and sizes.
- NOTE: Male coupling is base size 08 (1/2) QNV series. QPV series is only female couplings.
- Recommended for: Agricultural equipment.
- Connection: Connect without pressure - push male coupling to connect. Disconnect under pressure not allowed - pull male coupling to disconnect.
- Latching: Balls latching.
- Shut-off system: Poppet valve.
- Temperature range: -25°C to +125°C
- Standards: Interchangeability according to ISO 7241-1 part A standard.

QPV - TECHNICAL DATA

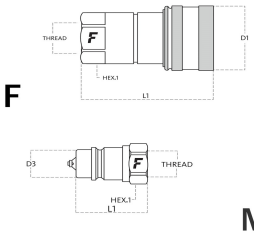
PUSH/PULL POPPET SEAL
INTERCHANGE ACCORDING TO ISO 7241-1 PART A



Part Number	Rated Flow (l/min)	Force to connect - N	Force to connect - lb	Maximum WP Connected - bar	Maximum WP Connected - psi	Minimum BP Disconnected - psi	Minimum BP Connected - psi	Fluid Spill - ml max
QPV-F08	75	160	35	260	3770	15950	21460	2

Q4

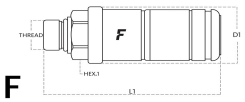
POPPET SEAL WITH DECOMPRESSION POPPET
INTERCHANGE ACCORDING TO ISO 7241-1 PART A



Part Number	Base Size	Threadform	Thread size	Coupling Length (L1)	Coupling O.D (D1)	Hex Size A/F (Hex 1)	Inner Coupling O.D - D3
Q4NV-M08	08	BSPPF socket	1/2-14	44.0	30	27	20.5
Q4PV-F08	08	BSPPF socket	1/2-14	66.0	38	27	

Q3CFHF

AGRICULTURAL BREAKAWAY - HIGH FLOW
INTERCHANGE ACCORDING TO ISO 7241-1 PART A



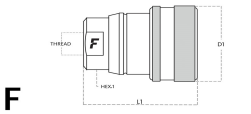
F

- Q3CFHF are only available in 08 (1/2) base size.
- Please enquire for optional thread forms and sizes.
- NOTE: Male coupling is base size 08 (1/2) QNV series.
- Recommended for: Agricultural equipment.
- Connection: Connect without pressure, or with only male coupling under pressure.
- Disconnect under pressure in emergency only.
- Latching: Ball lock latching.
- Shut-off system: Poppet valve.
- Temperature range: -25°C to +125°C.

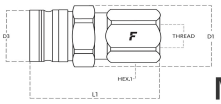
Part Number	Base Size	Threadform	Thread size	Coupling Length (L1)	Coupling O.D (D1)	Hex Size A/F (Hex 1)
Q3CFHF-F08	08	BSPPF socket	1/2-14	106.2	42	27
Q3CFHF-F0812GK	08	JICM bulkhead	3/4-16	123.7	42	32
Q3CFHF-F0822M	08	Male metric	M22-1.5	109.2	42	32

QVF

HYDRAULIC BRAKE COUPLINGS
INTERCHANGE ACCORDING TO ISO 5676



F

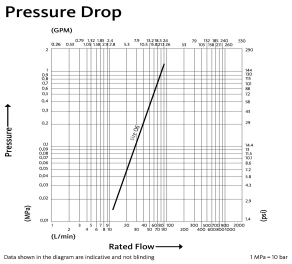


M

- Recommended for: Agricultural hydraulic brake systems.
- QVF series are only available in base size 06 (3/8).
- Please enquire for alternative thread forms.
-
- Connection/Disconnection: Without pressure.

QVF - TECHNICAL DATA

HYDRAULIC BRAKE COUPLINGS
INTERCHANGE ACCORDING TO ISO 5676



Part Number	Base Size	Rated Flow (l/min)	Force to connect - N	Force to connect - lb	Maximum WP Connected - bar	Maximum WP Connected - psi	Minimum BP Disconnected - psi	Minimum BP Connected - psi
QVF-F06X	06	40	125	27.5	220	3175	24200	13050
QVF-M0618MK	06	40	125	27.5	220	3175	13050	13050

TRANSPORT SERIES

QNZV

POPPET SEAL COUPLINGS
PBR INTERCHANGE

QNZV - TECHNICAL DAT

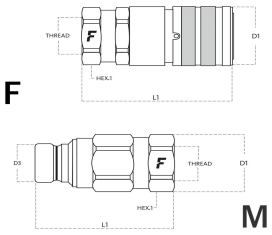
POPPET SEAL COUPLINGS
COUPLINGS SPECIFICALLY DESIGNED FOR
AUST/NZ TRANSPORT MARKET

Part Number	Rated Flow (l/min)	Maximum WP Connected - bar	Maximum WP Connected - psi	Minimum BP Disconnected - psi	Minimum BP Connected - psi
QNZV-F16	160	230	3335	13340	17200
QNZV-M16	160	230	3335	13340	17200

FLAT FACE SERIES

QFFH

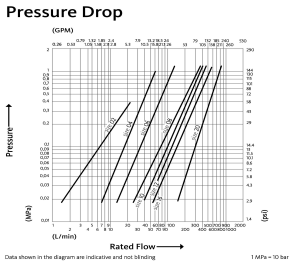
FLAT FACE COUPLINGS
INTERCHANGE ACCORDING TO ISO 16028



- Sizes above 16 are available on request, but are to a proprietary standard not ISO 16028.
- Please enquire for other combinations of base size and thread form.
- Overall length when connected is calculated based on both couplings having the same thread form and size.
- Recommended for: Agriculture, industrial, construction, earthmoving.
- Connection: Connect without pressure - push couplings to connect. Disconnect under pressure not allowed - pull back female sleeve to disconnect.
- Latching: Balls latching.
- Shut-off system: Flat valve (male coupling with double valve).
- Temperature range: -25°C to +100°C
- Standards: Interchangeability according to ISO 16028.

QFFH - TECHNICAL DAT

FLAT FACE COUPLINGS
INTERCHANGE ACCORDING TO ISO 16028

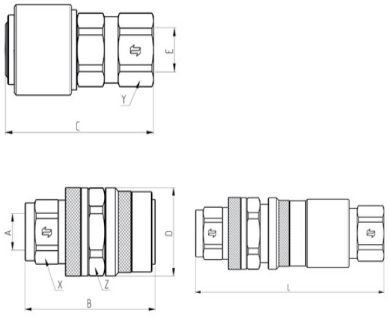


Part Number	ISO Size	Rated Flow (l/min)	Force to connect - N	Force to connect - lb	Maximum WP Connected - bar	Maximum WP Connected - psi	Minimum BP Disconnected - psi	Minimum BP Connected - psi	Fluid Spill - ml max
QFFH-F04	6.3	25	110	24.7	350	5000	24200	25700	0.006
QFFH-F06	10	50	150	33.7	350	5000	24200	24200	.008
QFFH-F0608	12.5	50	150	33.7	350	5000	24200	24200	.008
QFFH-F0612Q	12.5	50	150	33.7	350	5000	24200	24200	.008
QFFH-F08	12.5	110	210	47.2	350	5000	20000	24200	0.01
QFFH-F0812	12.5	110	210	47.2	350	5000	20000	24200	0.01
QFFH-F0814Q	12.5	110	210	47.2	350	5000	20000	24200	0.01
QFFH-F0816RK	12.5	110	210	47.2	350	5000	20000	24200	0.01
QFFH-F0817Q	12.5	110	210	47.2	350	5000	20000	24200	0.01
QFFH-F1017Q	16	125	205	46.1	350	5000	20000	20000	0.01
QFFH-F12	19	160	215	48.3	350	5000	20000	20000	0.01
QFFH-F1216	19	160	215	48.3	350	5000	20000	20000	0.01
QFFH-F1217Q	19	160	215	48.3	350	5000	20000	20000	0.01
QFFH-F16	25	230	280	62.9	350	5000	20000	24200	0.01
QFFH-M04	6.3	25	110	24.7	350	5000	20000	25700	0.006
QFFH-M06	10	50	150	33.7	350	5000	20000	24200	.008
QFFH-M0608	12.5	50	150	33.7	350	5000	20000	24200	.008
QFFH-M0612Q	12.5	50	150	33.7	350	5000	20000	24200	.008
QFFH-M08	12.5	110	210	47.2	350	5000	20000	24200	0.01
QFFH-M0812	12.5	110	210	47.2	350	5000	20000	24200	0.01
QFFH-M0814GK	12.5	110	210	47.2	350	5000	20000	24200	0.01
QFFH-M0814Q	12.5	110	210	47.2	350	5000	20000	24200	0.01
QFFH-	12.5	110	210	47.2	350	5000	20000	24200	0.01

M0816RK									
QFFH-M0817Q	12.5	110	210	47.2	350	5000	20000	24200	0.01
QFFH-M1017Q	16	125	205	46.1	350	5000	20000	20000	0.01
QFFH-M12	19	160	215	48.3	350	5000	20000	20000	0.01
QFFH-M1216	19	160	215	48.3	350	5000	20000	20000	0.01
QFFH-M1217Q	19	160	215	48.3	350	5000	20000	20000	0.01
QFFH-M16	25	230	280	62.9	350	5000	20000	24200	0.01

Q3FFV

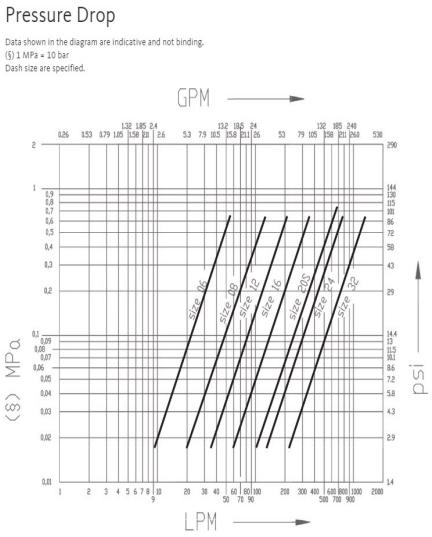
FLAT FACE SCREW-LOCK
FASTER PROPRIETARY STANDARD



- Please enquire for other combinations of base size and thread form.
- Overall length when connected is calculated based on both couplings having the same thread form and size.
- Recommended for: Industrial, construction, earthmoving.
- Connection: Connect with pressure - screw couplings together to connect. Disconnect with pressure - unscrew couplings to disconnect. Female coupling has safety lock to prevent loosening when connected.
- NOTE: Can be connected with pressure in either or both couplings.
- Latching: Threaded with safety lock.
- Shut-off system: Flat valve.
- Temperature range: -25°C to +100°C
- Standards: Interchangeability according to Faster internal standard.

Q3FFV - TECHNICAL DA

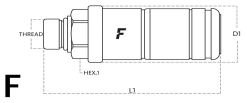
FLAT FACE SCREW-LOCK
FASTER PROPRIETARY STANDARD



Part Number	ISO Size	Rated Flow (l/min)	Force to connect - lb	Maximum WP Connected - bar	Maximum WP Connected - psi	Minimum BP Disconnected - psi	Minimum BP Connected - psi	Fluid Spill - ml max
Q3FFV-F08	12.5	19	67.4	250	3625	14500	14500	0.01
Q3FFV-F12	20	39.7	67.4	250	3625	14500	14500	0.03
Q3FFV-F16	25	50.2	89.9	300	4350	17400	23200	0.03
Q3FFV-M08	12.5	19	67.4	250	3625	14500	14500	0.01
Q3FFV-M12	20	39.7	67.4	250	3625	14500	14500	0.03
Q3FFV-M16	25	50.2	89.9	300	4350	17400	23200	0.03

Q3FFH

FLAT FACE COUPLINGS
INTERCHANGE ACCORDING TO ISO 16028



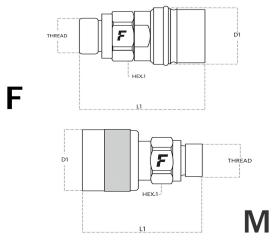
F

Part Number	Base Size	Threadform	Thread Size	Coupling Length - L1	Coupling O.D - D1	Hex Size A/F (Hex 1)	Inner Coupling O.D - D3
Q3FFH-F06	06	BSPPF socket	3/8-19	75	30	27	
Q3FFH-F08	08	BSPPF socket	1/2-14	81.3	38	34	
Q3FFH-F12	12	BSPPF socket	3/4-14	100	48	42	
Q3FFH-M06	06	BSPPF socket	3/8-19	100	30	32	19.7
Q3FFH-M08	08	BSPPF socket	1/2-14	115.7	37	34	24.5
Q3FFH-M12	12	BSPPF socket	3/4-14	128.4	46	42	30

SCREW LOCK SERIES

QCVV

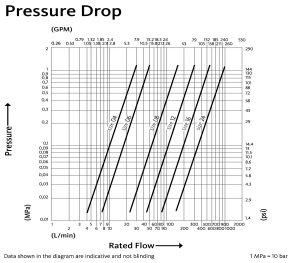
POPPET SEAL COUPLINGS
INTERCHANGE ACCORDING TO ISO 14541



- For sizes above 16 please enquire.
- Please enquire for other combinations of base size and thread form.
- Overall length when connected is calculated based on both couplings having the same thread form and size.
- Recommended for: Agriculture, industrial, construction, earthmoving.
- Connection: Connect or disconnect under residual pressure.
- Latching: Threaded.
- Shut-off system: Poppet valve.
- Temperature range: -25°C to +125°C
- Standards: Interchangeability according to ISO 14541.

QCVV - TECHNICAL DAT

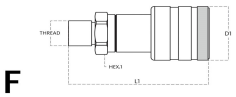
POPPET SEAL COUPLINGS
INTERCHANGE ACCORDING TO ISO 14541



Part Number	Rated Flow (l/min)	Maximum WP Connected - bar	Maximum WP Connected - psi	Minimum BP Disconnected - psi	Minimum BP Connected - psi
QCVV-F08	75	400	5800	20000	20000
QCVV-F12	135	350	5000	17100	20000
QCVV-F16	250	350	5000	18600	20000
QCVV-M08	75	400	5800	17100	20000
QCVV-M12	135	350	5000	15700	20000
QCVV-M16	250	350	5000	15700	20000

QPVV

HYDRAULIC TOOL COUPLINGS
INTERCHANGE WITH EUROPE AND US MARKETS



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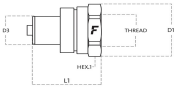
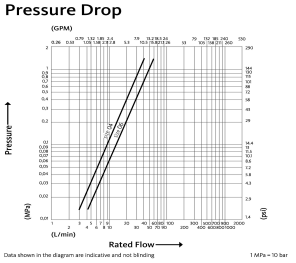


M

- QPVV series are only available in base sizes 04 and 06 (1/4 and 3/8).
- Please enquire for further thread forms and sizes.
- Connection: Connect with pressure - screw couplings together to connect.
- Disconnect with pressure - unscrew couplings to disconnect.
- NOTE: Can be connected with pressure in either or both couplings.
- Latching: Threaded with safety lock.
- Shut-off system: Poppet valve. Interchanges with ball-type hydraulic tool couplings.
- Temperature range: -25°C to +125°C
- Standards: Faster proprietary standard; interchange with US and European hydraulic tool couplings.

QPVV - TECHNICAL DAT

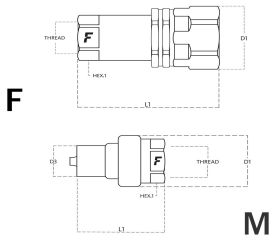
HYDRAULIC TOOL COUPLINGS
INTERCHANGE WITH EUROPE AND US MARKETS



Part Number	Rated Flow (l/min)	Maximum WP Connected - bar	Maximum WP Connected - psi	Minimum BP Disconnected - psi	Minimum BP Connected - psi
QPVV-F04L	15	1030	14935	47850	47850
QPVV-F06L	20	1000	14500	43500	43500
QPVV-M04AC	15	1030	14935	44950	47850
QPVV-M06AC	20	1000	14500	47850	43500

QVV

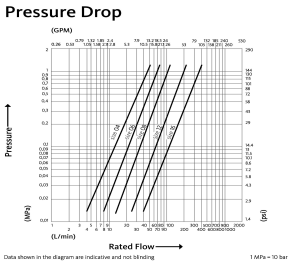
DUAL LOCK
FASTER PROPRIETARY STANDARD
(INTERCHANGES WITH QVV AND QNV MALES)



- For sizes above 16 please refer to QVVS series.
- Please enquire for other combinations of base size and thread form.
- Overall length when connected is calculated based on both couplings having the same thread form and size.
- Recommended for: Agriculture, industrial, construction, earthmoving.
- Connection: For QVV male couplings (A); connect or disconnect under pressure.
- Latching: Threaded.
- Shut-off system: Poppet valve. Guidevalve with mechanical backstop.
- Connection: For QNV male couplings (B); connect without pressure - pull back female sleeve and push couplings to connect. Disconnect under pressure not allowed - pull back female sleeve to disconnect.
- Latching: Balls latching.
- Shut-off system: Poppet valve. Reinforced guidevalve with mechanical backstop.
- Temperature range: -25°C to +125°C
- Standards: 08 (1/2) size female only; Interchangeability according to ISO 7241-1 part A. All other sizes; Faster proprietary standard.

QVV - TECHNICAL DATA

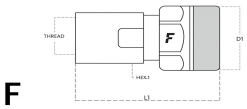
DUAL LOCK
FASTER PROPRIETARY STANDARD



Part Number	Rated Flow (l/min)	Maximum WP Connected - bar	Maximum WP Connected - psi	Minimum BP Disconnected - psi	Minimum BP Connected - psi	Fluid Spill - ml max
QVV-F04	18	350	5075	24650	21750	1.5
QVV-F06	30	300	4350	17400	21750	2
QVV-F08	45	300	4350	18850	23200	3
QVV-F12	90	250	3625	14500	17400	10
QVV-F16	140	230	3625	14210	17400	15
QVV-M04	18	350	5075	20300	21750	1.5
QVV-M06	30	300	4350	17400	21750	2
QVV-M08	45	300	4350	17400	23200	3
QVV-M12	90	250	3625	14500	17400	10
QVV-M16	140	230	3625	13500	17400	15

QVVS

DUAL LOCK
FASTER PROPRIETARY STANDARD



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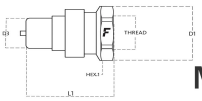


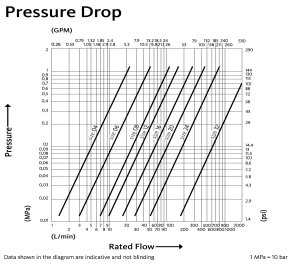
M

- Sizes above 20 (1.1/4) are available on request.
- Please enquire for other combinations of base size and thread form.
- Overall length when connected is calculated based on both couplings having the same thread form and size.
- Recommended for: Construction, earthmoving, hydraulic tools.
- Connection: Connect with pressure - screw couplings together to connect. Disconnect with pressure - unscrew couplings to disconnect.
- NOTE: Can be connected with pressure in either or both couplings.
- Latching: Threaded.
- Shut-off system: Poppet valve. Reinforced guidevalve with mechanical backstop.
- Temperature range: -25°C to +125°C
- Standards: Faster proprietary standard. Interchangeability with all QVV series couplings to size 16 (1).

QVVS - TECHNICAL DAT

DUAL LOCK

FASTER PROPRIETARY STANDARD

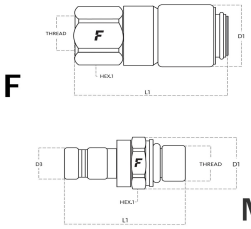


Part Number	Rated Flow (l/min)	Maximum WP Connected - bar	Maximum WP Connected - psi	Minimum BP Disconnected - psi	Minimum BP Connected - psi	Fluid Spill - ml max
QVVS-F20	140	600	8700	26100	29000	15
QVVS-M04	8	800	11600	34800	36250	1
QVVS-M06	18	760	11020	42050	33350	1.5
QVVS-M08	30	730	10585	34510	31900	2
QVVS-M12	45	700	10150	30740	31030	3
QVVS-M16	90	530	7685	23200	28130	10
QVVS-M20	140	600	8700	26100	29000	15
QVVS-F04	8	800	11600	34800	36250	1
QVVS-F06	18	760	11020	36250	33350	1.5
QVVS-F08	30	730	10585	31900	31900	2
QVVS-F12	45	700	10150	33350	31030	3
QVVS-F16	90	530	7685	32480	28130	10

DIAGNOSTIC SERIES

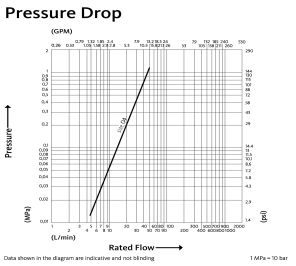
QDF

FLAT FACE DIAGNOSTIC COUPLINGS
INTERCHANGE ACCORDING TO ISO 15171-1



QDF - TECHNICAL DATA

FLAT FACE DIAGNOSTIC COUPLINGS
INTERCHANGE ACCORDING TO ISO 15171-1



Part Number	Rated Flow (l/min)	Maximum WP Connected - bar	Maximum WP Connected - psi	Minimum BP Disconnected - psi	Minimum BP Connected - psi
QDF-F0402AC	2	470	6815	21750	26100
QDF-F04AC	2	470	6815	21750	26100
QDF-M0402AC	2	470	6815	27550	26100
QDF-M0409N	2	470	6815	27550	26100
QDF-M04AC	2	470	6815	27550	26100

COUPLING REPAIR KITS

QRK

QNV REPAIR KITS
REPLACEMENT SEALS FOR FEMALE COUPLINGS

- When seals are damaged due to foreign material, it can be economic to replace them rather than the entire coupling.

Part Number	Suits coupling with base size	Coupling size - in
QRK-04	04	1/4
QRK-06	06	3/8
QRK-08	08	1/2
QRK-12	12	3/4
QRK-16	16	1
QRK-20	20	1.1/4

QRK-4BD / 4FI

FLAT FACE MANIFOLD COUPLINGS
COUPLINGS FOR FLAT FACE MANIFOLD (BOBCAT)

Part Number	Base Size	Standard
QRK-4BD-FFHF08	08	ISO 16028
QRK-4BD-FFHM08	08	ISO 16028
QRK-4BD-FFNM06	06	ISO 16028 /HTMA
QRK-4FIF08	08	ISO 16028
QRK-4FIM08	08	ISO 16028

QSK

FFH and MULTIFASTER MALE SEAL REPLACEMENT SEALS FOR MALE COUPLINGS

- When seals are damaged due to foreign material, it can be economic to replace them rather than the entire coupling.

Part Number	Suits coupling with base size	Coupling size - in
QSK-M06MF	06	3/8

COUPLING PROTECTION

QT

QNV DUST COVERS
PVC COVERS FOR QNV SERIES COUPLINGS

Part Number	QNV Male Size	QNV Female Size	Colour
QT-F04B	04		Blue
QT-F04BLK	04		Black
QT-F04Y	04		Yellow
QT-F06B	06		Blue
QT-F06Y	06		Yellow
QT-F08B	08		Blue
QT-F08BLK	08		Black
QT-F08G	08		Green
QT-F08O	08		Orange
QT-F08R	08		Red
QT-F08Y	08		Yellow
QT-F12B	12		Blue
QT-F12Y	12		Yellow
QT-F16B	16		Blue
QT-M04B		04	Blue
QT-M04BLK		04	Black
QT-M04Y		04	Yellow
QT-M06B		06	Blue
QT-M06G		06	Green
QT-M06Y		06	Yellow
QT-M08B		08	Blue
QT-M08BLK		08	Black
QT-M08G		08	Green
QT-M08O		08	Orange
QT-M08R		08	Red
QT-M08Y		08	Yellow
QT-M12B		12	Blue
QT-M16B		16	Blue

QAT

AUTOMATIC DUST COVER
NYLON DUST COVER FOR PUSH/PULL COUPLINGS

- Only available in 08 (1/2) size.
- This dust cap has been specifically designed for QPV and QCPV series couplings.
- It closes itself automatically when the male is disconnected, sealing off dust and dirt.
- It is produced in Nylon with stainless steel springs and is particularly resistant to weather changes and aging factors.
- It is available in various colours as above.

Part Number	Base Size	Colour
QAT-08B	08	blue

QTNZ

QNZV DUST COVERS
PVC COVERS FOR QNZV SERIES COUPLINGS

- QNZV protective covers are only available in base size 16 (1).
- QTNZ series covers protect QNZV series couplings from contamination and atmospheric agents when disconnected and not in use. Standard colour is yellow.
- Temperature range: -25°C to +100°C

Part Number	QNZV Male size	QNZV Female Size
QTNZ-F16	16	
QTNZ-M16		16

QTP

QPVV DUST COVERS
ALUMINIUM COVERS FOR HYDRAULIC TOOL COUPLINGS

- Only available in 04 and 06 (1/4 and 3/8) size.
- QTP series covers protect QPVV series couplings from contamination, atmospheric agents and damage to sealing faces and connection threads when disconnected and not in use.

Part Number	QPVV Male	QPVV Female
QTP-F04S	04	
QTP-F06S	06	
QTP-M04S		04
QTP-M06S		06

QTVV

QVV / QVVS DUST COVERS
ALUMINIUM COVERS FOR SCREW-LOCK COUPLINGS

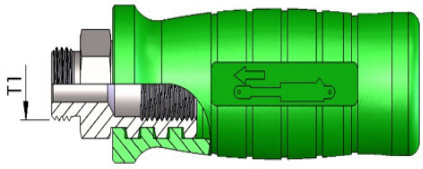
- Please enquire for QTVV aluminium covers larger than size 20 (1.1/4).
- QTVV series covers protect QVV and QVVS series couplings from contamination, atmospheric agents and damage to sealing faces and connection threads when disconnected and not in use.

Part Number	QVV/QVVS Male	QVV/QVVS Female
QTVV-F04S	04	
QTVV-F06S	06	
QTVV-F08S	08	
QTVV-F12S	12	
QTVV-F16S	16	
QTVV-F20S	20	
QTVV-M04S		04
QTVV-M06S		06
QTVV-M08S		08
QTVV-M12S		12
QTVV-M16S		16
QTVV-M20S		20

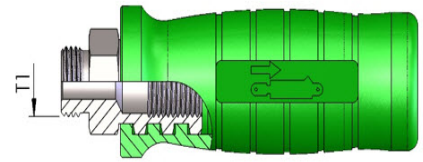
COUPLING ACCESSORIES

QHGP

QUICK-GRIPS



- Only available in 08 (1/2) size
- The QUICK-GRIP handle has been specifically designed for 08 Push-Pull series couplings
- Produced from a heat & UV compound which is particularly resistant to weather changes and aging factors
- Available in various colours and directional symbols as listed



Part Number	Base Size	Threadform	Thread Size - T1	Colour	Flow Symbol
QHGP-08BLP	08	BSPP Male	1/2 - 14	Black	Pressure
QHGP-08BLR	08	BSPP Male	1/2 - 14	Black	Return
QHGP-08BP	08	BSPP Male	1/2 - 14	Blue	Pressure
QHGP-08BR	08	BSPP Male	1/2 - 14	Blue	Return
QHGP-08GP	08	BSPP Male	1/2 - 14	Green	Pressure
QHGP-08GR	08	BSPP Male	1/2 - 14	Green	Return
QHGP-08GRP	08	BSPP Male	1/2 - 14	Grey	Pressure
QHGP-08GRR	08	BSPP Male	1/2 - 14	Grey	Return
QHGP-08RP	08	BSPP Male	1/2 - 14	Red	Pressure
QHGP-08RR	08	BSPP Male	1/2 - 14	Red	Return
QHGP-08YP	08	BSPP Male	1/2 - 14	Yellow	Pressure
QHGP-08YR	08	BSPP Male	1/2 - 14	Yellow	Return