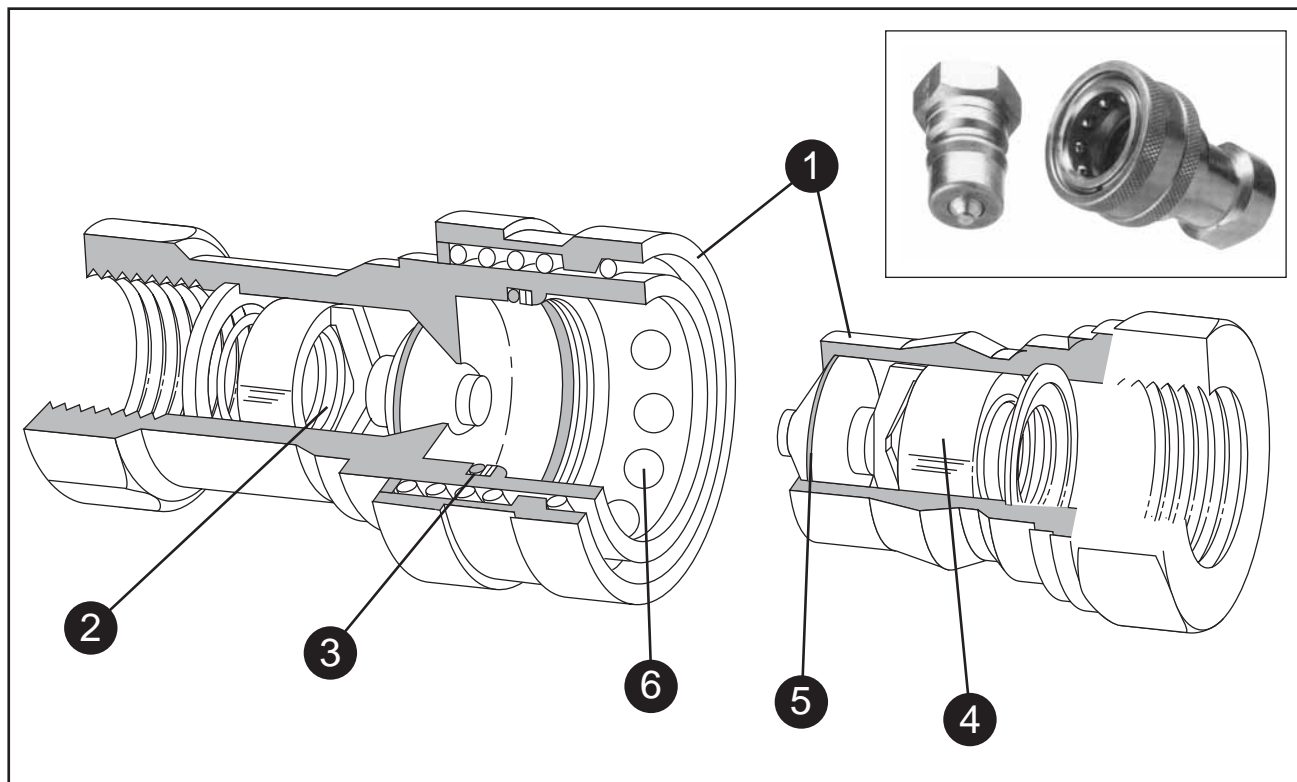




Quick action couplings

Data Sheet

A range of double shut-off industrial quick action couplings. 60 Series.



Features

1. **Hardened nipples and sleeves** along with solid bar-stock construction assures long service life by providing maximum resistance to damage caused by hydraulic and mechanical shock
2. **High flow capacity** is the result of the large areas provided for flow through the valves
3. **High pressure seal design.** Nitrile 'O' rings supported by Teflon back-up rings
4. **Parker's cylindrical valve** with its 360° metal to metal valve stop maintains valve alignment and ensures that poppets open fully every time
5. **Captive valve seal** assures 'bubble tight' poppet sealing. The valve seal is positively captured by the metal poppet to minimise seal washout or damage from high fluid velocity
6. **Durable ball locking mechanism** assures reliable connections every time. Many ball bearings distribute the load while providing alignment and excellent swivelling action to reduce hose torque and prolong hose life.

Applications

60 Series couplings incorporate valves in both the body and nipple halves to prevent fluid loss when the coupling is disconnected. These couplings are normally referred to as 'hydraulic couplings', but they are used extensively with other media where fluid loss on disconnect is objectionable.

Technical specification

Body material _____ Mild steel with zinc plated
and yellow passivated finish
or _____ Brass
or _____ Stainless steel A1S1 303
Seals _____ Nitrile rubber
Operating temp. range _____ -40°C to +80°C
Female thread _____ BSPP

Coupler

Thread size BSPP	Length (mm)	Flats (mm)	Maximum operating pressure (bar)		
			Steel	Brass	St. Steel
1/8in.	48.4	14	350	210	350
1/4in.	57	19	350	255	350
3/8in.	65.8	22	280	185	350
1/2in.	74.8	28.5	280	240	350
3/4in.	90.2	33.3	175	150	210
1in.	106.3	41	140	105	210

Nipple

Thread size BSPP	Length (mm)	Flats (mm)	Maximum operating pressure (bar)		
			Steel	Brass	St. Steel
1/8in.	29.6	17	350	210	350
1/4in.	35	19	350	255	350
3/8in.	40.6	22	280	185	350
1/2in.	46.9	28.5	280	240	350
3/4in.	54.7	35	175	150	210
1in.	65.8	41	140	105	210

Note: Maximum operating pressure provides the pressure above which the coupler shows a permanent deformation.

System characteristics such as high cycling rates and/or high amplitude shocks, either hydraulic or mechanical, can reduce the functional life of a coupling, even if the system's nominal pressure is equal to or less than the rated pressure of the coupling.

Temperatures exceeding that specified (see technical specification) will reduce the maximum operating pressure.

Coupler

Thread size BSPP	RS stock number		
	Steel	Brass	St. Steel
1/8in.	110-703	263-0883	263-0754
1/4in.	110-719	263-0899	263-0760
3/8in.	110-725	263-0906	263-0776
1/2in.	110-731	263-0912	263-0782
3/4in.	110-747	263-0928	263-0798
1in.	110-753	263-0940	263-0805

Nipple

Thread size BSPP	RS stock number		
	Steel	Brass	St. Steel
1/8in.	110-769	263-0956	263-0811
1/4in.	110-775	263-0962	263-0827
3/8in.	110-781	263-0978	263-0833
1/2in.	110-797	263-0984	263-0849
3/4in.	110-804	263-0990	263-0855
1in.	110-810	263-1016	263-0861

Flow curves

Figure 4 1/8in. to 1/4in.

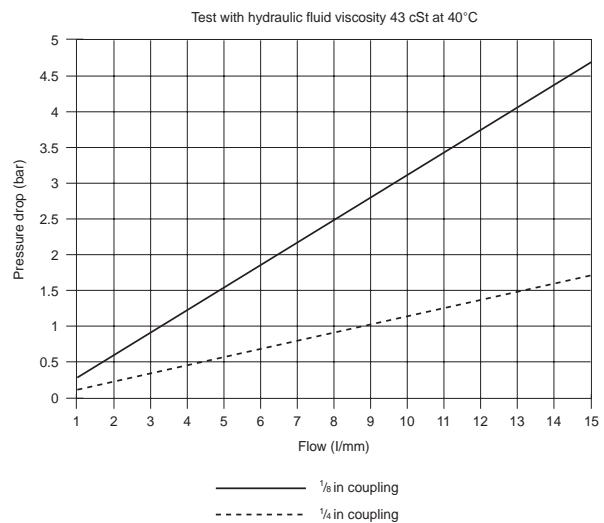


Figure 4 3/8in. to 1/2in.

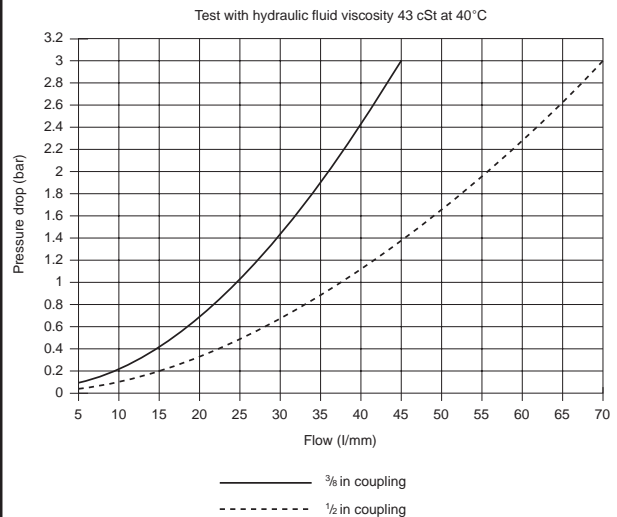
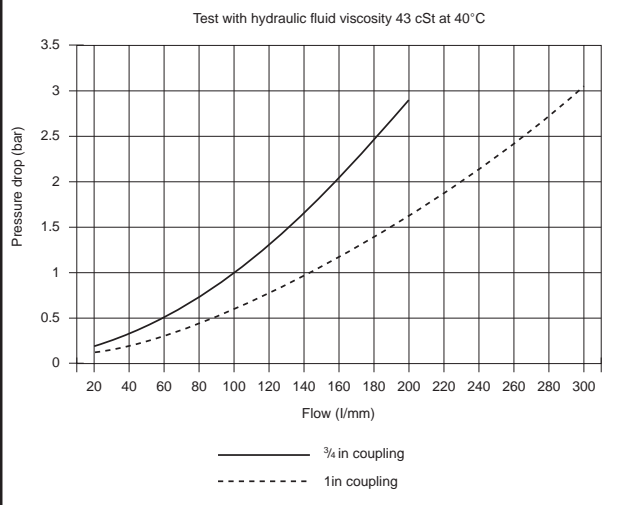


Figure 4 3/4in. to 1in.



Media chart

The following seal compound and body material compatibility chart is intended as a guide only and is not to be considered as a recommendation to use RS/Parker quick couplings in a specific application or with a specific fluid. Other factors that must be considered include but are not limited to; fluid and ambient temperature, system pressure, both operating and peak, frequency of connect and disconnect and applicable standards or regulations.

Media	Body material			NBR (Nitrile)
	Brass	Steel	St.Steel	rubber
3M FC-75	4	4	4	1
Acetamide	4	4	2	1
Acetic acid (5%)	3	3	1	2
Acetone	1	2	1	3
Acetophenone	2	2	1	3
Acetyl acetone	2	2	2	3
Acetyl chloride	4	2	2	3
Acetylene	3	2	1	1
Air (100°C)	1	2	1	1
Air (150°C)	1	2	1	2
Air (200°C)	1	2	1	3
Aluminium acetate	4	4	4	2
Aluminium bromide	4	4	4	1
Aluminium chloride (10%)	3	3	3	1
Aluminium chloride (100%)	3	2	2	1
Aluminium fluoride	3	3	3	1
Aluminium nitrate	3	3	2	1
Aluminium salts	4	4	4	1
Aluminium sulphate	2	3	3	1
Alums (NH ₃ , Cr, K)	4	4	4	1
Ammonia (anhydrous)	3	2	1	2
Ammonia (cold, gas)	3	2	1	1
Ammonia (hot, gas)	3	2	1	3
Ammonium carbonate	3	2	3	3
Ammonium chloride	3	3	3	1
Ammonium hydroxide	3	3	2	3
Ammonium nitrate	3	3	1	1
Ammonium persulphate solution	3	3	2	3
Ammonium phosphate (Mono-, Di-, Tri-basic)	3	3	2	1
Ammonium salts	4	4	4	1
Ammonium sulphate	3	3	3	1
Amyl borate	4	4	4	1
Amyl chloride	4	2	1	4
Amyl chloronaphthalene	4	4	4	3
Amyl naphthalen	4	4	4	3
Animal oil (lard oil)	2	2	2	1
Aroclor 1248	2	3	3	3
Aroclor 1254	2	3	3	3
Aroclor	2	3	3	1
Aromatic fuel - 50%	4	4	4	2
Arsenic acid	3	3	1	1
Asphalt	3	3	1	2
ASTM oil, No.1	1	1	1	1
ASTM oil, No.2	1	1	1	1
ASTM oil, No. 3	1	1	1	1
ASTM oil, No. 4	1	1	1	2
ASTM reference fuel A	3	2	1	1
ASTM reference fuel B	3	2	1	1
ASTM reference fuel C	3	2	1	2
Automotive brake fluid	4	4	4	3
Barium chloride	3	3	3	1
Barium hydroxide	3	2	3	1
Barium salts	4	4	4	1
Barium sulphide	3	2	3	1

Codes: **1 = Satisfactory** **2 = Fair** **3 = Not recommended** **4 = Insufficient data available**

Media	Body material			NBR (Nitrile) rubber
	Brass	Steel	St.Steel	
Beer	3	3	1	1
Beet sugar liquors	3	3	1	1
Benzaldehyde	3	3	3	3
Benzene	3	2	3	3
Benzenesulphonic acid (10%)	3	3	3	3
Benzine	4	4	4	1
Benzolic acid	3	3	3	3
Benzyl alcohol	4	3	2	3
Benzyl chloride	3	3	3	3
Bleach liquor	4	4	4	3
Borax	3	2	3	2
Bordeaux mixture	4	4	4	2
Boric acid	3	3	3	1
Brake fluid (non-petroleum)	4	4	4	3
Brine (sodium chloride)	3	3	1	1
Bromine	4	4	4	3
Bromine water	4	4	4	3
Bunker oil	4	4	4	1
Butadiene (monomer)	3	2	2	3
Butane	3	1	1	1
Butane (2, 2 & 2, 3-dimethyl)	4	4	4	1
Butanol (butyl alcohol)	2	1	1	1
Butter - animal fat	2	3	2	1
Butyl butyrate	4	4	4	3
Butyl stearate	4	4	4	2
Calcine liquors	4	4	4	1
Calcium acetate	4	4	4	2
Calcium bisulphite	3	3	3	2
Calcium carbonate	3	2	3	1
Calcium chloride	3	3	3	1
Calcium hydroxide	3	3	3	1
Calcium hypochlorite	3	3	3	2
Calcium salts	4	4	4	1
Calcium sulphide	3	3	2	1
Caliche liquors	4	4	4	1
Cane sugar liquors	4	2	1	1
Carbon bisulphide	4	4	4	3
Carbon dioxide	1	2	1	1
Carbon disulphide	2	2	2	3
Carbon monoxide	1	1	1	1
Carbon tetrachloride	2	3	3	2
Carbonic acid	3	3	2	2
Castor oil	1	1	1	1
Celluguard	4	4	4	1
Cellulube (now fyrquel)	4	4	4	3
China wood oil (tung oil)	2	2	1	1
Chlorinated salt brine	4	4	4	3
Chlorinated solvents	4	4	4	3
Chlorobenzene	3	3	3	3
Chlorobutadiene	4	4	4	3
Chloroform	3	2	1	3
Chlorophenol	4	4	4	3
Coconut oil	4	4	4	1
Copper chloride	4	4	4	1
Copper salts	4	4	4	1
Copper sulphate	3	3	3	1

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Media	Body material			NBR (Nitrile)
	Brass	Steel	St.Steel	rubber
Corn oil	2	1	1	1
Cottonseed oil	3	2	2	1
Creosols	3	2	2	3
Creosote	3	3	1	1
Cresylic acid	4	2	2	3
Crude oil	3	2	1	2
Cutting oil	4	1	1	1
Decane	4	4	4	1
Denatured alcohol	4	4	4	1
Detergent, water solution	3	3	1	1
Diesel fuel	1	1	1	1
Diethylene glycol	3	1	1	1
Dimethyl formamide	4	4	1	2
Dow chemical HD50-4	4	4	4	4
Dow corning 200, 510, 550	4	4	4	2
Dowtherm A, E	3	1	2	3
Ethanol	1	3	3	3
Ethyl chloride	2	3	3	1
Ethyl hexanol	4	4	4	1
Ethylene dichloride	3	3	2	3
Ethylene glycol	3	2	2	1
Fatty acids	3	3	2	2
Freon 11	1	4	4	2
Freon 12	1	1	1	2
Freon 22	1	3	1	3
Fuel oil	3	1	1	1
Gallic acid	3	3	2	2
Gas, liquid, propane (LPG)	1	1	1	1
Gas natural	2	1	1	1
Gasoline/petrol	1	2	1	1
Gelatine	3	3	1	1
Glucose	1	1	1	1
Glycerine (glycerol)	2	1	1	1
Glycols	3	2	2	1
Green sulphate liquor	3	3	3	2
Gulf - FR fluid (emulsion)	4	4	4	1
Gulf - FR fluid G	4	4	4	1
Gulf - FR fluid P	4	4	4	3
Helium	1	1	1	1
Heptane	1	1	1	1
Hydraulic oil (petroleum base)	1	1	1	1
Hydraulic oil (water base)	4	1	1	2
Hydrazine	4	3	1	2
Hydrogen gas	1	1	1	1
Hydrolube	4	4	4	1
ISO octane	1	1	1	1
Isobutyl alcohol	4	4	1	2
Isopropyl alcohol	1	1	1	2
Isopropyl ether	1	1	1	2
JP3 and JP4	1	1	1	1
Kerosene	1	1	1	1
Lard, animal fat	1	1	1	1
Linseed oil	3	1	1	1
Lubricating oil SAE 10, 20, 30, 40, 50	1	1	1	1
Magnesium salts	4	4	4	1
Magnesium sulphate	3	3	2	1
Mercury	3	3	1	1
Methane	1	3	1	1
Methanol	1	1	1	1
Methyl bromide	4	1	1	2
Methyl chloride (wet)	1	3	3	3
Methyl chloride (dry)	2	3	1	3
Methyl ether	4	4	4	1

Codes: **1 = Satisfactory** **2 = Fair** **3 = Not recommended** **4 = Insufficient data available**

Media	Body material			NBR (Nitrile) rubber
	Brass	Steel	St.Steel	
Methyl ethyl ketone (MEK)	1	1	1	3
MIL - F - 81912 (JP-9)	1	1	1	3
MIL -H - 5606	1	1	1	1
MIL -H - 6083	1	1	1	1
MIL - H - 7083	1	1	1	1
MIL - H - 8446 (MLO-8515)	2	1	1	2
MIL - L - 2104 and 2104B	1	1	1	1
MIL - L - 7808	3	2	1	2
Milk	2	1	1	1
Mineral oils	1	1	1	1
MLO - 7277 and MLO - 7557	2	1	1	3
Mobile HF	1	1	1	1
Monomethyl hydrazine	4	4	4	2
Naphtha (coal or petroleum)	2	1	2	2
Naphthalene	2	1	2	3
Naphthenic acid	2	1	2	2
Neastfoot oil	4	4	4	1
Nickel, acetate	3	2	1	2
Nickel chloride	3	3	2	1
Nickel salts	4	4	4	1
Nickel sulphate	3	3	1	1
Nitrogen	1	1	1	1
Nitrous oxide	2	2	1	1
Octyl alcohol	1	1	1	2
Olive oil	2	1	1	1
Ortho-dichlorobenzene	2	2	2	3
Oxalic acid	3	3	1	2
Oxygen (100-200°C)	1	1	1	3
Oxygen, cold	1	1	1	2
Ozone	3	3	1	3
Palmitic acid	1	2	1	1
Para-dichlorobenzene	2	1	2	3
Parker O-Lube	1	1	1	1
Peanut oil	2	1	1	1
Pentane (2-3 methyl, and 2-4 dimethyl)	2	2	2	1
Perchloric acid - 2N	3	3	2	3
Perchloroethylene	3	2	2	2
Petrolatum	1	1	1	1
Petroleum oil, below 120°C	1	1	1	1
Phenol	1	1	1	3
Phosphoric acid (3 molar)	3	3	2	1
Phosphoric acid (concentrated)	3	3	2	3
Phosphorous trichloride	3	3	1	3
Picric acid, molten	3	3	2	2
Picric acid, water solution	3	3	2	1
Pine oil	2	2	2	1
Plating solutions (chrome)	1	3	1	4
Plating solutions (other)	4	1	1	1
Pneumatic service	1	1	1	1
Potassium acetate	2	1	2	2
Potassium chloride	3	3	2	1
Potassium cyanide	3	2	2	1
Potassium dichromate	3	1	2	1
Potassium hydroxide (50%)	3	2	2	2
Potassium nitrate	2	1	1	1
Potassium salts	4	4	4	1
Potassium sulphate	3	2	1	1
PRL - high temp. hydr. oil	4	4	4	2
Producer gas	2	1	1	1
Propane	1	1	1	1

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Media	Body material			NBR (Nitrile)
	Brass	Steel	St.Steel	rubber
Propyl acetate	3	1	1	3
Propyl alcohol	1	1	1	1
Propylene	1	1	1	3
Pydraul 10E	3	1	1	3
Pydraul A-200, C series	3	1	1	3
Pydraul 3 series	3	1	1	3
Pyrogard 42, 43, 53, 55 (phosphate ester)	4	4	4	3
Pyrogard D	4	4	4	1
Sea water (salt water)	2	3	1	1
Shell irus 905	4	4	4	1
Silicone greases	1	1	1	1
Silver nitrate	3	3	2	2
Skydrol 500, type 2	3	1	1	3
Skydrol 7000, type 2	3	1	1	3
Soap solutions	3	3	1	1
Sodium acetate	1	1	1	2
Sodium bicarbonate (baking soda)	2	2	1	1
Sodium bisulphate or bisulphite	3	3	1	1
Sodium borate	3	2	2	1
Sodium carbonate (soda ash)	4	1	1	1
Sodium chloride	3	2	2	1
Sodium cyanide	3	1	1	1
Sodium hydroxide (caustic soda, lye)	3	2	2	2
Sodium hydroxide, 50%	3	3	2	2
Sodium metaphosphate	2	1	2	1
Sodium nitrate	3	2	1	2
Sodium perborate	3	3	1	2
Sodium peroxide	3	1	2	2
Sodium phosphates	1	3	1	1
Sodium salts	4	4	4	1
Sodium sulphate	3	2	1	1
Sodium sulphide and sulphite	3	3	3	1
Sodium thiosulphate	3	3	2	2
Soybean oil	2	1	1	1
Stannous chloride (15%)	3	3	3	1
Steam, below 200°C	1	2	1	3
Stoddard solvent	2	1	1	1
Sucrose solutions	1	1	1	1
Sulphur	2	1	1	3
Sulphur liquors	1	1	1	2
Sulphur (molten)	3	3	1	3
Sulphur dioxide (dry)	3	1	3	3
Sulphur trioxide (dry)	2	2	3	3
Sunsafe	3	1	1	1
Tannic acid (10%)	1	3	3	1
Tar, bituminous	2	1	1	2
Tartaric acid	2	3	2	1
Terpineol	4	4	4	2
Tertiary butyl alcohol	1	1	1	2
Tetrachloroethane	4	2	2	3
Tetrachloroethylene	3	2	4	3
Tetraethyl lead	1	1	1	2
Tetraethyl lead (blend)	1	1	1	2
Titanium tetrachloride	2	1	3	2
Toluene	1	1	1	3
Transformer oil	1	1	1	1
Transmission fluid (type A)	1	1	1	1
Trichloroethane	4	2	4	3
Trichloroethylene	3	2	2	3
Tricresyl phosphate	4	1	2	3

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Media	Body material			NBR (Nitrile) rubber
	Brass	Steel	St.Steel	
Turbine oil #5 (MIL-L-7808A)	4	2	1	2
Turpentine	3	2	1	1
Varnish	1	1	1	2
Water	1	2	1	1
Whisky	1	3	1	1
Wine	1	3	1	1
Wood oil	4	2	1	1
Xylene	1	2	1	3
Zinc sulphate	3	3	2	1

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Safety guide

- Quick action couplings or the hose they are attached to can fail without warning for many reasons. Design all systems and equipment in a fail-safe mode, so that failure of the quick action coupling or hose will not endanger persons or property.
- Ball locking quick action couplings can unintentionally disconnect if they are dragged over obstructions on the end of a hose or if the sleeve is bumped or moved enough to cause disconnection.
- Mechanical loads: External forces can significantly reduce quick action couplings' life or cause failure. Mechanical loads which must be considered include excessive tensile or side loads, and vibration.
- Quick action couplings can be heated to destruction or loss of sealability without contact by such nearby items as hot manifolds or molten metal. The same heat source may then initiate a fire. This can occur despite the presence of cool air around the quick action couplings.
- Heating of plated parts, including quick action couplings and port adaptors, above 232°C such as during welding, brazing or soldering may emit deadly gases and may cause coupling seal damage.

Installation

- Ensure the quick action coupling maximum operating pressure (see technical specification) is equal to, or greater than the maximum system pressure. Surge pressures in the system, higher than the maximum operating pressure of the coupling, will shorten the quick action couplings life.
- Visually inspect and check for correct style and material. Coupling should be connected and disconnected with a sample of the mating half with which they will be used.
- If different manufacturer's component parts are to be used in the same system, the lowest pressure rating of the two halves should not be exceeded.
- Use a thread sealant, lubricant or a combination of both when assembling pipe thread joints in quick action couplings. Be sure the sealant is compatible with the system fluid or gas. To avoid system contamination, use a liquid or paste type sealant rather than a tape style. Use the flats provided to hold the quick action coupling when installing fittings. Do not use pipe wrenches or a vice on other parts of the coupling to hold it when installing or removing fittings as damage or loosening of threaded joints in the coupling assembly could result. Do not apply excessive torque to taper pipe threads because cracking or splitting of the female component can result.

- Locate quick action couplings where they can be reached for connect or disconnect without exposing the operator to slipping, falling, getting sprayed, or coming in contact with hot or moving parts.
- Use dust caps and plugs when quick action couplings are not coupled to exclude dirt and contamination and to protect critical surfaces from damage.
- Use a hose whip (a short length of hose between the tool and the coupling half) instead of rigidly mounting a coupling half on hand tools or other devices. This reduces the potential for coupling damage if the tool is dropped and provides some isolation from mechanical vibration which could cause uncoupling.

Maintenance of quick action couplings

Even with proper selection and installation, quick action coupling life may be significantly reduced without a continuing maintenance programme. Frequency should be determined by the severity of the application and risk potential. A maintenance programme must be established and followed by the user and must include the following as a minimum:

Visual inspection of quick action couplings: Any of the following conditions require immediate shut down and replacement of the quick action coupling:

- Cracked, damaged, or corroded quick action coupling parts
- Leaks at the fitting, valve or mating seal
- Broken coupling mounting hardware, especially breakaway clamps.

Visual inspection all other: The following items must be tightened, repaired or replaced as required:

- Leaking seals or port connections
- Remove excess dirt build-up on the coupling locking means or on the interface area of either coupling half
- Clamps, guards and shields
- System fluid level, fluid type and any air entrapment.

Functional test: Operate the system at maximum operating pressure and check for possible malfunctions and freedom from leaks. Personnel must avoid potential hazardous areas while testing and using the system.

Replacement intervals: Specific replacement intervals must be considered based on previous service life, government or industry recommendations, or when failures could result in unacceptable downtime, damage or injury risk.

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