



2.7 Locking means: ball locking quick connect 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. Sleeves designed with flanges to provide better gripping for oily or gloved hands are especially susceptible to accidental disconnection and should not be used where these conditions exist. Sleeve lock or union (threaded) sleeve designs should be considered where there is a potential for accidental uncoupling.

2.8 Mechanical loads: external forces can significantly reduce quick connect couplings' life or cause failure. Mechanical loads which must be considered include excessive tensile or side loads and vibration. Unusual applications may require special testing prior to quick connect couplings selection.

2.9 Specifications and standards: when selecting quick connect couplings, government, industry and Parker specifications must be reviewed and followed as applicable.

2.10 Vacuum: not all quick connect couplings are suitable or recommended for vacuum service. Quick connect couplings used for vacuum applications must be selected to ensure that the quick connect couplings will withstand the vacuum and pressure of the system.

2.11 Fire resistant fluids: some fire resistant fluids require seals other than the standard NBR (nitrile) used in many coupling systems.

2.12 Radiant heat: quick connect couplings can be heated to destruction or loss of sealing 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 connect couplings.

2.13 Welding and brazing: heating of plated parts, including quick connect couplings and port adapters, above 450 °F (232 °C) such as during welding, brazing, or soldering may emit deadly gases and may cause coupling seal damage.

3.0 INSTALLATION INSTRUCTIONS

3.1 Pre-installation inspection: before installing a quick connect coupling, visually inspect it and check for correct style, body material, seal material, and catalogue number. Before final installation, coupling halves should be connected and disconnected with a sample of the mating half with which they will be used.

3.2 Quick connect coupling halves from other manufacturers: if a quick connect coupling assembly is made up of one Parker RectusTema half and one half from another manufacturer, the lowest pressure rating of the two halves should not be exceeded.

3.3 Fitting installation: use a thread sealant, when assembling taper pipe thread joints in quick connect 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 connect coupling when installing fittings. Do not use pipe wrenches or a vice on other parts of the coupling to hold it when installing or a 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.

3.4 Caps and plugs: use dust caps and plugs when quick connect couplings are not coupled to exclude dirt and contamination and to protect critical surfaces from damage.

3.5 Coupling location: locate quick connect couplings where they can be reached for connection or disconnection without exposing the operator to slipping, falling, getting sprayed or coming in contact with hot or moving parts.

3.6 Hose whips: 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.

4.0 MAINTENANCE INSTRUCTIONS

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

4.2 Visual inspection of quick connect couplings: any of the following conditions require immediate shut down and replacement of the quick connect coupling:

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

4.3 Visual inspection all other:

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

4.4 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.

4.5 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. See instruction 1.2 above.

We are Developing a Cool Solution!

Quick connect coupling system – efficient components in the area of thermal management

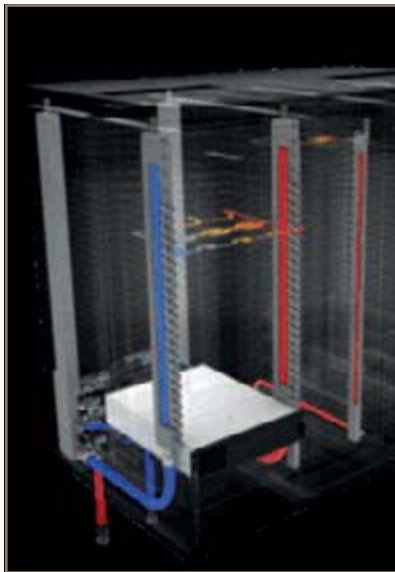
“Plug & Play” - Customized Systems

We offer engineering support to our customers for the co-development of the complete cooling installation. A special care is accorded to the pressure drop for energy saving and to assure the optimal temperature management.







We propose a complete 100% tested solution integrating our products, between the chiller to the component to be cooled.

Our solutions include:

- **Manifolds** – several materials available
- **Couplings or cartridges** – from 3mm ID to 25 mm ID available in different materials and seals
- **Hose assemblies** – including Push-lok (hose barb) end connections for an optimal number of components
- **Bleeding valves, flow regulators, etc.**
- **Pressure and flow sensors**
- **Others...**



Our support:

-  **Co-design of your cooling system**
-  **Mechanical, thermal & flow simulation**
-  **Building sample & prototype**
-  **Laboratory validation**
-  **Tightness test 100% serial parts**
-  **Packaging optimization**





Information Technologies

Processors (microprocessors) generate waste heat during operation. This results in overheating of the unit, which can cause malfunction even to the point of destruction of components.

A cooling system is then mandatory to guarantee the rapid dissipation of the waste heat.

Small dissipation areas and high temperatures demand optimized and highly efficient solutions. As water is 10 times more efficient than air, we provide support to our customers to build complete systems for water cooling for high performance computers, data Centers, microelectronics and telecommunication applications.



Energy Management

Our knowledge in the use of quick connect couplings in the area of solar and wind energy allows the development of bespoke solutions for everything to do with the subject of efficient cooling circuits. For example, intelligent solutions are vital because of the constantly improving performance of the new generation of energy

production plants based on high-performance cooling circuits with liquid.

Here, our systems are optimally geared to the parameters of pressure, flow and temperature. As the systems are often used in salty sea air, corrosion-resistant materials are essential.



Mobile & Transportation

Rapidly increasing flows of goods and further increases in mobility demand extremely reliable and efficient vehicle concepts.

Here, the cooling of diesel-powered and electrically driven rail vehicles is highly important, and we provide light weight couplings and connection products adapted

to this application. More recently the environmental care drives more and more to the usage of electrical vehicles and ships. Our products are part of the systems built for the liquid cooling of the batteries.



Industrial Applications

From the individual machine to production lines and high-performance lasers, cooling is present in different industries.

Quick connect couplings are used in liquid cooling systems both for cooling tools in the production process and for the machine itself.

Therefore, Parker provides solutions for liquid cooling and tempering for all types of industries, as semiconductors, laser projectors, plastic industry, electronics (inverters, converters), etc.



Others

Based on more than 60 years experience, our products are designed to operate for all kind of thermal management applications. We will be happy to support for the development of your system whatever would be the sector of industry and design the future together.

Please consider our security advices on the pages 14/15



Applications Area



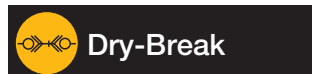
Technical Description

The NSI are dry-break couplings with flat face valves. The compact design makes them suitable for reduced spaces. Coupling system with two-hand operation, i.e. both hands are required when connecting/disconnecting.

Push to connect version available on request: NSP series

Working Temperature

-20°C up to +200°C (FKM) depending on the medium. Other seals materials are available on request.



Advantages

- No spillage during connection/disconnection
- Low pressure drop
- Advanced internal design for cooling applications
- Can be used either with water or heat transfer oils
- Excellent resistance to vibrations and mechanical stresses

Max. Working Pressure* **Material**

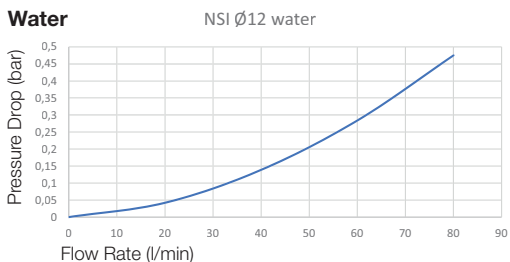
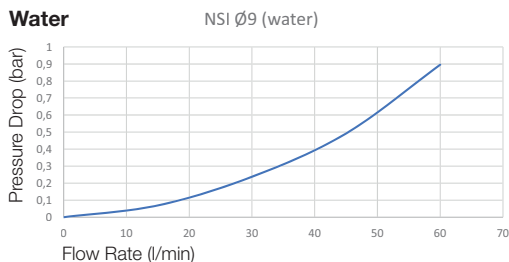
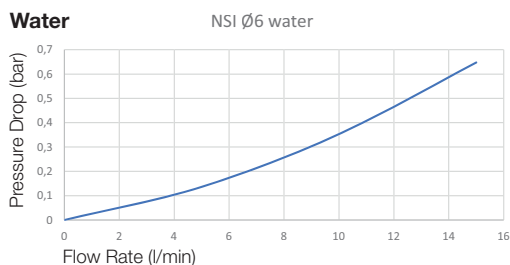
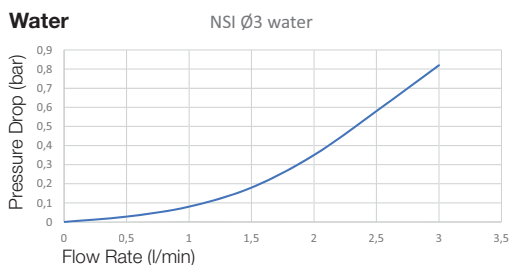
20 bar
* maximum static working pressure with design factor 4 to 1.

Coupling: Brass/Stainless Steel
Plug: Brass/Stainless Steel
Seals: FKM or EPDM
Other materials available on request.

Applications

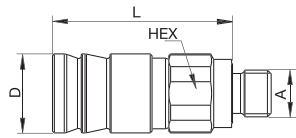
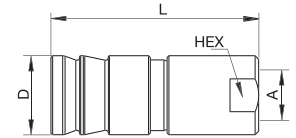
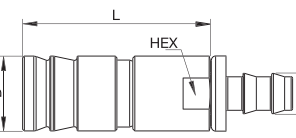
- Molding
- Electronic cabinets
- Laser
- Converters
- Radar, etc.
- Computers and telecommunications

Flow diagrams



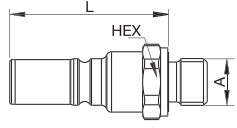
Couplings

Series NSI

	DN	Connection A	HEX mm	L mm	D mm	Part Number
 <p>Male Thread</p>	3	G 1/8	14	38	17	NSI-121-2MBE ¹
	6	M 16 x 1,5	20	44,8	22	NSI-251-16MCL-2 ²
	9	G 3/8	27	63	30	NSI-371-6MBO
	12	G 1/2	35	90,4	42	NSI-501-8MBO
 <p>Female Thread</p>	6	G 1/4	20	57,9	22	NSI-251-4FB
	9	G 3/8	27	72	30	NSI-371-6FB
	12	G 1/2	35	99,4	42	NSI-501-8FB
 <p>Parker Push-Lok</p>	6	10 mm	20	55,2	22	NSI-251-6PL

Plugs

Series NSI

	DN	Connection A	HEX mm	L mm	D mm	Part Number
 <p>Male Thread</p>	3	G 1/8	14	36,5		NSI-122-2MBE ¹
	6	G 1/4	19	44		NSI-252-4MBE-2
	9	G 3/8	24	60,2		NSI-372-6MBO
	12	G 1/2	32	79,1		NSI-502-8MBO

¹ End connection according to ISO1179-2 ED seal
² End connection according to DIN 2353 24° cone



Applications Area



Technical Description

The NSE are dry-break couplings with flat face valves. The compact design makes them suitable for reduced spaces when high flow is needed. Coupling system with two-hand operation, i.e. both hands are required when connecting/disconnecting.

Working Temperature

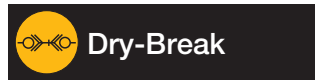
-20°C up to +200°C (FKM) depending on the medium.

Other seals materials are available on request.

Screw to connect version available on request (easy connection under residual pressure).

Advantages

- High flow with low pressure drop
- No spillage during connection/disconnection
- Specific design for cooling applications
- Reduced dimensions compared to flow capacities



Max. Working Pressure*

15 bar
* maximum static working pressure with safety factor 4 to 1.

Material

Coupling: Stainless Steel
Plug: Stainless Steel
Seals: FKM

Applications

- Molding
- Electronic cabinets
- Laser
- Converters
- Radar, etc.

Flow diagrams

