Advantages of Different Hose End Connections

The overwhelming majority of hose failures occur at or near the end connection. Selection of the proper hose for your application, as well as proper routing and installation are keys to extended hose life. However, certain methods and surely some end connections work better than others. Many manufacturers have similar hose offerings, but the end connections set different suppliers apart. By detailing advantages and considerations for some of the most popular end connections we hope to offer you some help to make the best choice when integrating a flexible hose line into your system.

Swagelok tube adapter

**Advantage**: Direct connection to tubing valves or fittings; entire Swagelok catalog available to make connections to ISO or fractional ends. It’s an easy way to make a long delivery hose a leak free, standard part. No torque installation to a tube fitting end of valve or regulator.

**Consideration**: Adapter fitting is needed to mate to pipe or flared connections.

NPT

**Advantage**: Large installed market base; among most used ends. Popular with quick connects as installation torque may loosen opposite port as one side is tightened. It adapts to many systems.

**Consideration**: NPT spiral leak path design requires thread sealant or TFE tape, turning hose to install may loosen other end or lessen the flexibility of the hose.

**Swagelok tube fitting**

**Advantage**: Perfect way to adapt to a tubing system; lowest leak rate in industry; no twisting or torque transferred to hose to decrease flexibility or that would leave the hose in a weakened condition, subject to an early fatigue failure.

**Consideration**: Adapter fittings needed to mate to pipe or flared connections.

**Quick connects**

**Advantage**: User-friendly — made for many makes and remakes. No torque required to install. Some incorporate small valve or vent options for safety. Can be a perfect complement for flexible hose. One-handed operation makes these great for sample panels. No tools required.

**Consideration**: Not for all applications. Added expense.
Get the Right End Connections for Your Hose

**Pre-swaged tube adapter**

*Advantage:* Tubing swivel connection for easiest installation. Certified installers will deliver a hose that is tested, and has leak free ends. Will ease alignment issues with captive swivel nut.

*Consideration:* Still a secret, not as popular as historically standard end connections.

**JIC Swivel**

*Advantage:* Inexpensive, large installed base, easy to install.

*Consideration:* Old sealing technology, no live load to combat vibration. Interference seal tends to leak over time. Metal-to-metal static seal limits applications to hydraulics, liquids, and non-critical support applications.

Many hoses are placed on critical machines or hands-on grab samples. A hose audit may help to determine the condition, safe use and troubleshoot problem areas where there simply may be a better way. Swagelok technical assistance is available to help identify the best hose product for your needs. Please consider contacting and trying Swagelok hose products at your facility.

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