

Detail

See fitting detail.

Distribution fitting

A generic term for tees, crosses, and manifolds, used to provide multiple access points to "distribute" a gas or liquid through a system. CAUTION! Using a distribution fitting in reverse to coalesce multiple streams may create dead volume. Special manifolds are available for this application.

F**FIA**

Flow Injection Analysis.

A simple and versatile analytical technique for automating wet chemical analyses based on the manipulation of a sample zone formed from the injection of the sample into a continuous stream of fluid used as a carrier.

Female nut

A nut with female threads; also called external nut.

Ferrule

One of the components of a compression fitting; the conical piece of metal or plastic that compresses onto the tube as it is forced into a tapered seat. Valco metal ferrules are unique in that they attach to and seal at the tube by cutting a shallow ring into it, instead of by actually swaging it. This is preferable since it introduces no flow restriction.

Filter

A type of union or reducing union which traps the particulates in a stream. The filtering element is typically a mesh screen or sintered frit.

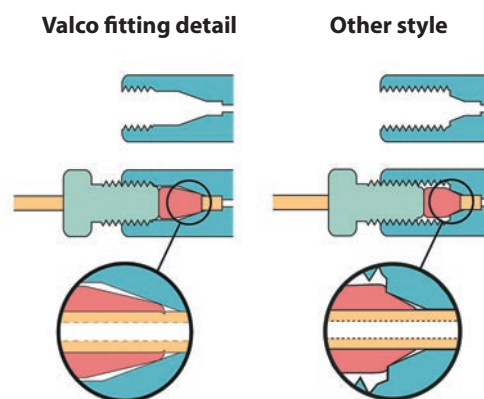
Fingertight fitting

A fingertight fitting is a knurled or winged nut which is hand tightened to compress the ferrule. Note: Polymeric ferrules rely on surface compression to form a seal and hold the tube by friction.

Fitting detail

A fitting detail includes the thread to accept the nut, a tapered ferrule seat, and the pilot for the tube. The nut, ferrule, and tube go into the fitting detail to make the seal.

Valco fitting details have the perfect shape, with a smooth transition from the ferrule seat into the cylindrical and threaded part. Many other fitting details are poor in design where the ferrule is forced in a too shallow ferrule seat. The result is a "nicked" ferrule which can no longer apply its sealing force to the front of the ferrule.

**Flanged fitting**

A type of fitting used with fluoropolymer tubing (PTFE, FEP) in which a flange is made at the tube end. Connections are made at the flange either by compressing the flange into a flat detail (typically 1/4-28 threaded) or by butting two flanges together. A special flanging tool forms the flanges.

Flangeless fitting

Similar in application to the flanged fitting, but the flange is not required. A ferrule system is used which grips/compresses the tube. This fitting type can be used with virtually any polymeric tubing since the tube end does not have to be formed, but simply square cut. Typically used in 1/4-28 threaded fittings, it is usually interchangeable with flanged fittings.

Frit

A filter element typically made of stainless, Hastelloy, Titanium, or polymers, usually 0.75 mm or 1 mm thick. Frits may provide better filtration than screens, but because they are thicker there is greater mixing potential, and they typically result in increased pressure drop.