

External Valves and Fittings

Optional Fittings

Materials of Construction

In the standard configuration, the valves, gage, magnetic drive and other external parts on Parr reactors are furnished in stainless steel, even when a different material is specified for the cylinder, head and internal wetted parts. The external stainless components are typically only exposed to the the vapor of the reactants and are at a much lower temperature than the cylinder and internal fittings. These conditions allow stainless steel external fittings to perform satisfactorily in most cases. If external parts made of a material other than stainless steel are required for safety or other reasons, Parr can accommodate this in most cases. Any request for external parts made of a specific material must be stated clearly when ordering.

Valves

Most reactor valves are available in Alloy 400 as well as stainless steel at a reasonable cost premium. Valves made of Alloy C-276 are also available, but generally only on special designs and at a considerable cost premium. Soft materials such as titanium and zirconium generally make poor performing valves.

Gages

Pressure gages are available in Alloy 400 and stainless steel. Other materials of construction are not available. The standard method for protecting the gage in a corrosive environment is to install a diaphragm gage protector. These have a flexible diaphragm which isolates the gage from the reactants and a sealed hydraulic connection for pressure transfer to the gage. These assemblies are too large to install on all but the largest Parr reactors.

As an alternative, Parr has designed an oil filled piston isolator gage protector to isolate the gage (and transducer, if required) on small reactors and pressure vessels where space is limited. These isolators can be furnished in any of the current Parr materials of construction.

Pressure Transducers

Pressure transducers are only available in stainless steel and Alloy C-276. Parr provides a mounting adapter with a water cooling jacket on pressure transducers to protect them from excessive temperatures. These can be augmented with piston style isolators similar to gage protectors when corrosion resistance is required. When a gage and a pressure transducer are installed, a single isolator can protect both.

Magnetic Drives

Magnetic drives can be furnished in all of the current Parr materials of construction except nickel, which is magnetic.

Rupture Discs

The standard material of construction for rupture discs is Alloy 600. A gold facing is available for the smaller discs used on vessels up through 2 liters in volume. Alloy C-276, Tantalum and other premium materials are available on special order.