

Solids Charging Systems

Optional Fittings



One of the modifications a port or other means to feed liquids, vessel without removing the head. This can be done in various ways.

most frequently requested is solids, or slurries into the

Ball Valve Solids Charging Ports

A ball valve with a 3/8 inch diameter opening can be installed on any one liter or larger vessel and used in conjunction with a high pressure pipette for injecting slurries under pressure. These are opened or closed with a quarter turn of the handle. Larger diameter valves are available for 1 gallon and larger vessels. These ball valves will withstand the full pressure developed in a reactor at moderate temperatures, but their pressure rating falls off rapidly at temperatures above 100 °C.

Ball Valve Solids Charging Ports		
Part No.	Nominal Size	Orifice Diameter
A143VB	1/4" NPT (F)	0.25"
A132VB	3/8" NPT (F)	0.375
A396VBAD	1/2" NPT (F)	0.406

Capped Openings

A capped opening in the head of a reactor can serve as a convenient solids charging port, offering the largest possible diameter and a significantly shorter passage than a ball valve. A male connector with a cap is usually used to close the opening. These will have a reliable metal to metal seal and the ability to withstand the full temperature and pressure for which the vessel is rated. Tubing can be connected to the fitting, but this type of connector is normally used only where solids or slurries will be added at atmospheric pressure.

Capped Openings	
Reactor	Available Fitting Sizes
Mini	1/4" NPT
1 & 2 Liter	3/8" or 1/2" NPT
Gallon and Larger	3/8" to 1" NPT

Catalyst Addition Devices

Parr has developed a unique device for adding small amounts of solids (or liquids) from a sealed container held within a reactor. It is of particular interest to users performing kinetic studies of catalytic reactions. This device consists of a small cylindrical chamber with a cap that is sealed to the body with an o-ring. It attaches to the underside of the vessel head with a 1/8"NPT connection. To discharge the contents of the holder, gas pressure is applied through a valve installed on the top of the head. When the applied pressure is greater than the pressure within the reactor, the cap is forced open and the

catalyst or other contents of the holder will be released into the reactor. This device works best in the taller, 450 mL and 600 mL Mini Reactors, and in the 1 liter and larger Parr Reactors.

Catalyst Addition Devices			
Complete Reactor	Mounting Size	Assembly No.	Thread
Mini	6 cc	A550HC3	1/8" NPT
One Liter	8 cc	A550HC	1/8" NPT
Larger	20 cc	A550HC2	1/8" NPT