Bottom Drain Valves

Optional Fittings

Bottom drain valves can be added to most Parr reactors. These valves are particularly useful for those working with polymers or other material that must be discharged from the reactor while they are still hot and before they can solidify. These valves are also quite useful for the 1 gallon and larger vessels which are too large to conveniently lift from the heater for product recovery. At the other end of the spectrum, bottom valves are rarely installed on the micro and mini reactors with their small volumes and light vessel weights.

The standard bottom drain valve is a rising stem, process sampling valve. In the closed position the stem of the valve is flush with the inside bottom of the vessel so that there is no dead space between the bottom of the vessel and the shut off point of the valve. In the fully open position the stem is retracted completely to open a clear passage from the vessel.

When the valve is reclosed, any material in this passage will be pushed back into the reactor by the rising stem. Valves with 3/8 inch diameter clear passage are recommended for vessels with volumes from 1000 mL to 2 gallons. A 1/4 inch valve is available for 600 mL and smaller vessels. High pressure and larger diameter valves are available where required.

These valves will withstand the full operating pressures and temperatures of the vessels in which they are installed. They are available in nearly all of the current Parr materials of construction. Air actuated valves are available for larger reactors. Users can also specify that a reactor ordered with a bottom valve shall have a tapered bottom so that it will drain easily through the valve opening.

Not all Parr reactors will accept a bottom drain valve. Since the valve extends approximately 8 inches below the bottom of the vessel, the entire vessel must be raised by this amount to accommodate the valve. This makes some models too tall for convenient bench top operation. The specification tables for each model will identify those reactors in which a bottom drain can be readily installed, and those which will not accept a bottom drain, or those which will require custom modification of the heater and support stand to accommodate a bottom valve.

One Liter Bench Top Reactor with a

One Gallon Floor Stand Reactor with a

A465VB 3/8" NPTM Bottom

Bottom Drain Valve Bottom Drain Valve Drain Valve

Bottom Drain Valves				
Part No.	**Opening Diameter, in**	**Outlet Connection, in**	**Max. Pressure psi (T316SS)**	**Max. Temp. º C (T316SS)**
A485VB	0.25	1/4 NPT (F)	3000	225
A465VB	0.38	3/8 NPT (F)	2000	350
A177VB	0.31	3/8 NPT (F)	5000	500
A285VB	0.38	1/2 NPT (F)	1900	265
A296VB	0.69	1 NPT (F)	1900	265

Needle Valves and Ball Valves

Needle valves and ball valves can also be installed as bottom outlet valves. Needle valves are generally used on the smaller reactors. While ball valves can be used for large discharge passages, they are generally limited in their operating temperature/pressure capabilities and they leave a fairly large dead space between the bottom of the vessel and the seat of the valve.