

Powder Pump Product Description

The Powder Pump safely and efficiently moves powder from one piece of equipment to another using a process known as dense phase flow. Simple in design, construction and operation, the Powder Pump enables charging of a vessel in an inert atmosphere, without opening the manway. It is a multipurpose solution for transferring powder with a range of flow characteristics and particle sizes.

Powder Pump Applications

Powder pump utilizes dense phase flow, an operating principle that has been proven on a wide range of solid types, including wet solids. This technology makes Powder Pump an ideal solution for controlled material addition. Suitable for the transfer of raw, intermediate or finished products, it is a versatile work horse for the chemical and pharmaceutical industries, as well as other industries with various solid handling needs.

POWDER PUMP ADVANTAGES

There are many health, safety and money-saving advantages of Powder Pump:

- Closed system provides a dust free environment
- Ability to charge with vessel under pressure or vacuum or with solvents already in the vessel
- Ability to charge carcinogens, oxygen or skin sensitive and explosive powders safely.
- Reduction/elimination of operator exposure/injury
- Reduction in manpower required to charge vessel
- Improved agitation reduces batch time
- Elimination of exterior contaminants
- Agitator and seal system are protected from deflection or damage due to overcharging of solids during mixing
- Eliminates need to start the agitator in excess solids
- Reduces solids handling and eliminates hoists and handling equipment over the reactor
- Substantially reduces equipment maintenance
- Permits easy scale-up from pilot to production plant
- Much easier to clean than conventional vacuum conveying equipment



Powder Pump Features

Powder Pump's standard design includes the body, top head flange and filter assembly. This innovative filter design is based on proven dust filter technology. Notable features of the filter assembly include:

Filter cage:

- Chamfered machined edge
- Sits proud of filter mounting plate to ensure pressure sealing o-ring is compressed when assembled

Filter sock:

- Wire sewn into ring at top, forms a seal when assembled

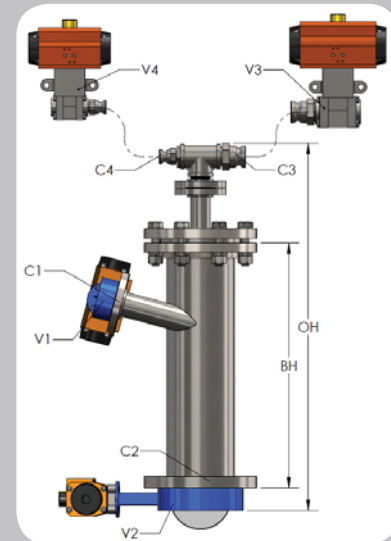
Filter mounting plate:

- Machine chamfered edge mates with equivalent chamfer on filter cage and sealed by filter sock
- Pressure sealing o-rings on both top and bottom
- Sandwiched between upper body and top head flanges

All components are supplied from the US for faster delivery.

POWDER PUMP DIMENSIONAL AND UTILITY DATA

- Sizes from 4" to 16" (outlet flange diameter)
- Available in stainless steel, Hastelloy, and glass



Powder Pump	Valves				Connections			
	V1 Inlet Butterfly inches	V2 Outlet Butterfly inches	V3 Vacuum Ball inches	V4 Pressure Ball inches	C1 Inlet Tri-clamp inches	C2 Outlet ANSI flange inches	C3 Vacuum Kamlok inches	C4 Pressure Kamlok inches
PP-04	2	4	1.5	0.75	1.5	4	1.5	0.75
PP-06	2	6	1.5	0.75	1.5	6	1.5	0.75
PP-08	3	8	1.5	0.75	2	8	1.5	0.75
PP-10	3	10	1.5	0.75	2	10	1.5	0.75
PP-12	3	12	2	1	2.5	12	2	1
PP-16	4	12	2.5	1	3	12	2	1

Powder Pump	Approx. weights and capacities				Approx. dimensions			Recommended Busch R5 series	
	Total Weight lbs	Pump body lbs	Cover w/o valves lbs	Maximum charge gals	Diameter ID inches	Body height inches	Overall height OH inches	Vacuum Pump Model	Nom. flow rate acfm
PP-04	117	42	18	1.3	4.3	24	33.5	R5-100	56
PP-06	149	60	26	3.3	6.4	24	33.5	R5-0205 or 0255	130
PP-08	209	94	38	5.6	8.3	24	33.5	R5-0255 or 0305	170
PP-10	275	125	51	8.8	10.4	24	33.5	R5-0305 or 0400	196
PP-12	350	175	71	12.5	12.4	24	33.5	R5-0305 or 0400	196
PP-16	440	175	120	22.2	16.5	24	34	R5-0400 or 630	305

Powder Pump	Vacuum requirement		Nominal Capacity*
	Pressure in Hg	Suction Capacity cfm	
PP-04	0.6-3	35-94	15
PP-06	0.6-3	59-118	40
PP-08	0.6-3	59-177	65
PP-10	0.6-3	59-177	100
PP-12	0.6-3	118-355	150
PP-16	0.6-3	176-588	250

*Transfer capacity is dependent upon a number of factors, including properties of the powder, transfer distance, and packaging of the powder to be transferred. These values are representative of typical capacity but should not be used for actual sizing.

Please contact DDPS to discuss your specific application and determine the system that is appropriate.

Maximum transfer distances are typically 60-75 feet overall and 25 feet in the vertical direction.

This data is for the standard Powder Pump, other configurations are available.

Powder Pump Options

- PLC or Pneumatic Controls
- WIP design
- Bulk Discharge solutions: including suction hopper, big bag station, and bag emptying station
- Powder Handling Systems: DDPS can design, construct and support a complete solution for your solids handling process.
- Customization: customer wants can be incorporated into Powder Pump design to create a unique system for your specific needs.
- Seminars, demonstrations, rental units

