

Dust Handling Valves for Reliable Service

The Babcock & Wilcox Company (B&W) is the original equipment manufacturer and supplier of replacement parts, upgrade systems and standard air pollution control products formerly offered by Western Precipitation (WP) and Joy Environmental. Included in B&W's environmental equipment product offering are reliable dust handling valves. We have the technology and engineering experts to provide you with the most appropriate and effective dust handling solution.

Expert product support for your installation

WP was an early pioneer in the dust collection and handling industry. B&W provides a complete line of pollution control equipment and upgrade services to reduce emissions, improve plant performance and availability, reduce operating and maintenance costs, and improve reliability. The combined heritage of each of these organizations results in B&W providing you with the best product knowledge available for support of your installation.

The solution for dust handling applications

B&W's dust valves are available for a variety of applications. Our valve product line includes:

- Single flap tipping valve
- Double flap tipping valve
- R-1 motor operated tipping valve
- Floating seal rotary valve



Gravity-operated double flap tipping valve.



Motor-operated R-1 tipping valve.

Valves are available in two basic sizes: 8 in. and 10 in., with capacities to meet your specific dust handling requirements.

Designed to handle the toughest applications

WP dust valves are an industry standard. Many have been in service for decades in some of the toughest industrial and utility applications. Through a combination of careful design, material selection, and simplicity of operation, these dust valves often outlast the equipment around them. Today, B&W provides these valves to handle the toughest applications.

Tipping valves

Tipping valves facilitate the gravity flow of dry, free-flowing material from a hopper. B&W gravity-operated and motor-operated tipping valves are all designed to handle different pressure conditions and prevent material and air back flow.

Gravity-operated single flap and double flap tipping valves are set to operate automatically by balancing the flap counterweights and the weight of the dust that accumulates on the flap. The valve flap opens when there is a sufficient weight of dust on the flap to overcome the forces applied by the counterweight. The flap on any gravity-operated tipping valve can be adjusted to suit various dust densities and the desired operating frequencies.

The *single flap tipping valve* uses one counterweighted flap as a check valve to prevent material back flow. On the *double flap tipping valve* an upper and lower flap operate



Floating seal rotary valve.

alternately as the weight of dust is transferred from one flap to another. The alternately opening flaps allow the collected material to pass downward through a neutral pressure zone between the two flaps, preventing air or gas back flow through the valve.

The operating principle of the *motor-operated R-1 tipping valve* is very similar to the gravity-operated double flap tipping valve. However, the motorized R-1 valve features a fixed operating cycle and does not depend on the amount of material accumulating to open the flaps. The motorized R-1 valve is ideal for installations where the dust is too light to open the gravity-operated tipping valve or where operating pressures restrict valve operation. With the motor operated R-1 tipping valve, a body extension can be added between the upper and lower flap sections to increase the volumetric and operating capacity.

Rotary valves

Rotary valves can be thought of as revolving door valves. The rotor consists of pie-shaped compartments that fill with ash dust or other dry solids. The rotor conveys the dust entering each pie-shaped compartment from a zone at one pressure on the inlet side of the valve to a zone at a different pressure on the outlet side of the valve.

B&W rotary valves have a floating seal feature that provides positive isolation between two pressure zones. An ideal system application for this valve is between the hopper of a dust collector device at negative pressure and a transport conveyor. Additionally, valve components in contact with the dust will inevitably wear. The B&W valve design maintains a seal that prevents material back flow, uncontrolled material flow, or flow disruption, thereby, minimizing wear to the valve.

The floating seal rotary valve provides positive sealing and

positive material flow. While there are practical pressure differential limits for the operating range of a rotary valve, in the proper application, it provides very reliable material flow. B&W engineers will help you make the proper valve selection for your application.

The floating seal maintains a metal-to-metal seal without the necessity for clearance adjustment between the rotor and wipers. This floating design eliminates binding problems that may require readjustment of clearances due to thermal expansion and allows the valve

to operate at temperatures as high as 750F.

B&W rotary valves incorporate wear resistant cast components wherever there is contact with the conveyed dust. All other valve components are equally rugged, with the selection

Valve Operating Pressure Ranges

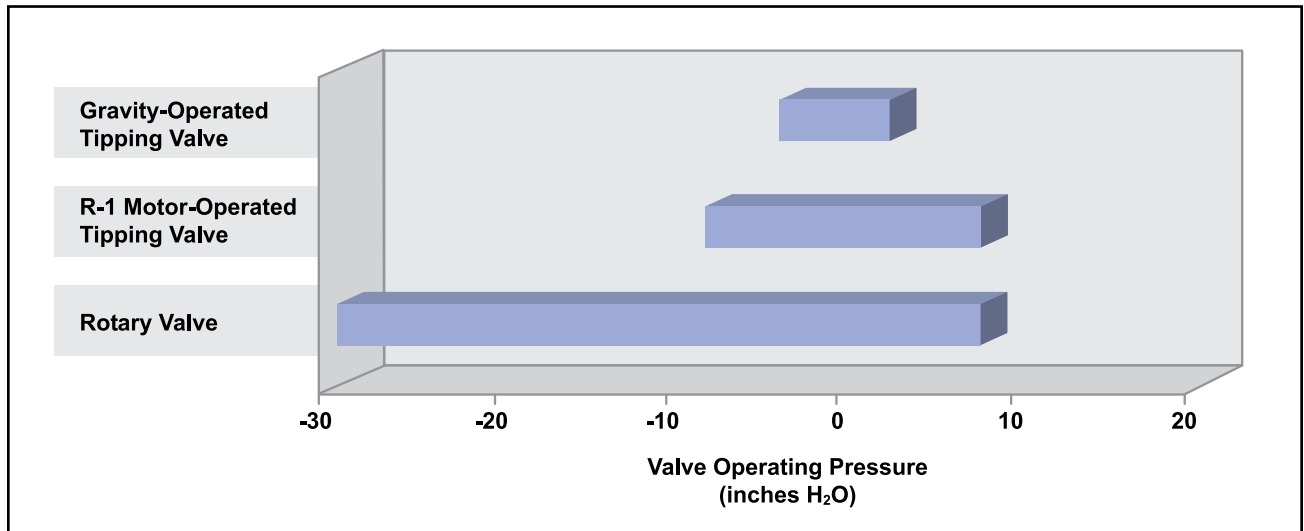


Figure 1 B&W supplies a variety of dust handling valves based upon operating pressure and other factors such as dust composition.

R-1 Motor-Operated Tipping Valve Capacity

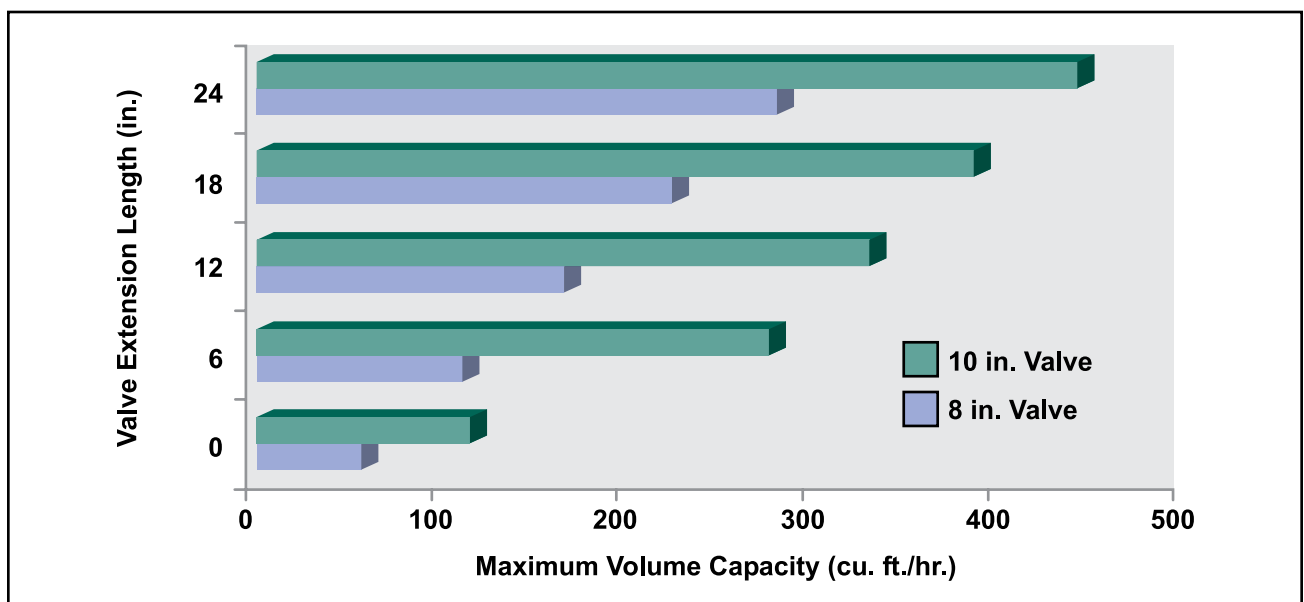


Figure 2 R-1 motor-operated tipping valve capacity for various extension lengths.

of bearings, shaft seals, and drives all made with severe duty in mind. The rotary valves are offered with both flanged bearings for applications below 300F and pedestal style bearings for handling dusts at temperatures above 300F.

Valve selection process and capacities

B&W experts can help you select the right dust handling

valve for your application. Figures 1, 2 and 3 illustrate parameters for our most popular valve sizes. Additional sizes and capacities are available.

A history of pollution control solutions

B&W provides a complete line of environmental equipment, upgrades, services and replacement parts. In addition, we are the original equipment

manufacturer of replacement parts, upgrade systems and standard air pollution control products formerly offered by Western Precipitation and Joy Environmental. For more information on dust handling valves, or any of B&W's environmental equipment, call 1-800-BABCOCK (222-2625).

Rotary Valve Capacity

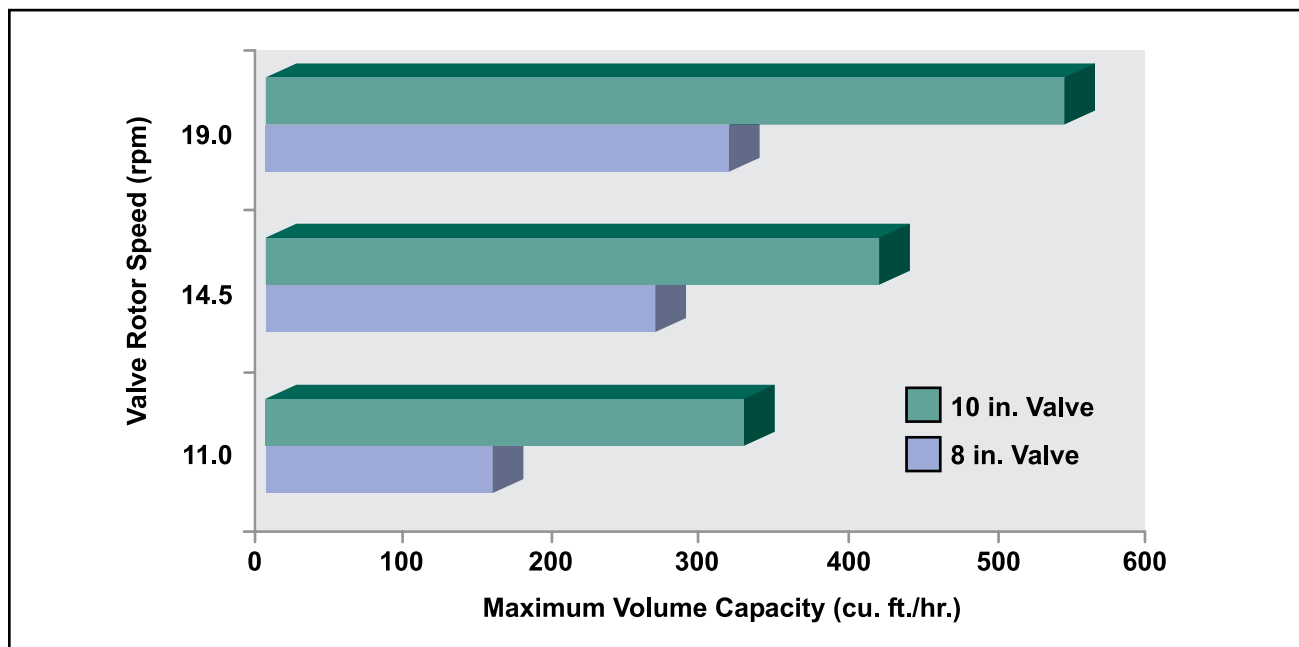


Figure 3 Rotary valve capacity for various rotor speeds.

delivering
proven results

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For more information, or a complete listing of our sales and service offices, call 1-800-BABCOCK (222-2625), send an e-mail to info@babcock.com, or access our Web site at www.babcock.com.

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