



Alfa Laval Vortex Bulk Booster

High performance pneumatic conveying line booster

Introduction

Dense phase pneumatic transfer is a safe, efficient method of moving large volumes of dry bulk materials and powders. In a basic dense phase pneumatic transport application, air pressure is built up inside of a bulk storage silo and the accumulated energy is used to push bulk powder through transfer piping to a vented receiving vessel. As the air and powder move through the transfer piping, the air pressure gradually bleeds off as the air expands. When this happens, the air begins moving at higher velocities, and the powder transfer rate decreases. In order to maintain high powder transfer rates, more air pressure needs to be introduced into the transfer piping in the zones of greatest estimated pressure loss to keep the air pressure close to constant from the beginning to the end of the transfer line. The Alfa Laval Vortex Bulk Booster is a simple solution for increasing the transfer rates of bulk powders through the guided injection of air into bulk pneumatic transfer lines.

Application

The Alfa Laval Vortex Bulk Booster is a high performance pneumatic conveying line booster that is used to maintain constant conveying pressure within bulk transport lines and enhance the rate of transfer of bulk materials. It can be used in any high rate, industrial bulk conveyance application and has been successfully applied industries such as oil & gas drilling, chemical processing, manufacturing, and many more.

Benefits

- Maintains bulk conveyance rates over long distances
- Simple, robust design, no moving parts
- Low maintenance with easy to replace internals
- Easy installation into existing transfer piping

Standard Design

The Alfa Laval Vortex Bulk Booster is offered in two styles. The Bulk Booster Inline, Model BI6000, consists of a stainless steel body with grooved end pipe connections, two pipe couplings, and a 25 mm (1 inch) air inlet. The body houses two specially made nozzle inserts constructed of UHMW polyethylene. The Bulk Booster Elbow, Model BE6000, also consists of a stainless steel body with grooved end pipe connections and two 152 mm (6 in) couplings, but features a 76 mm (3 in) port on the outer radius of the elbow with a



grooved end pipe connection, coupling, and molded polyurethane Lobestar Mixing Nozzle® insert where motive air is injected.

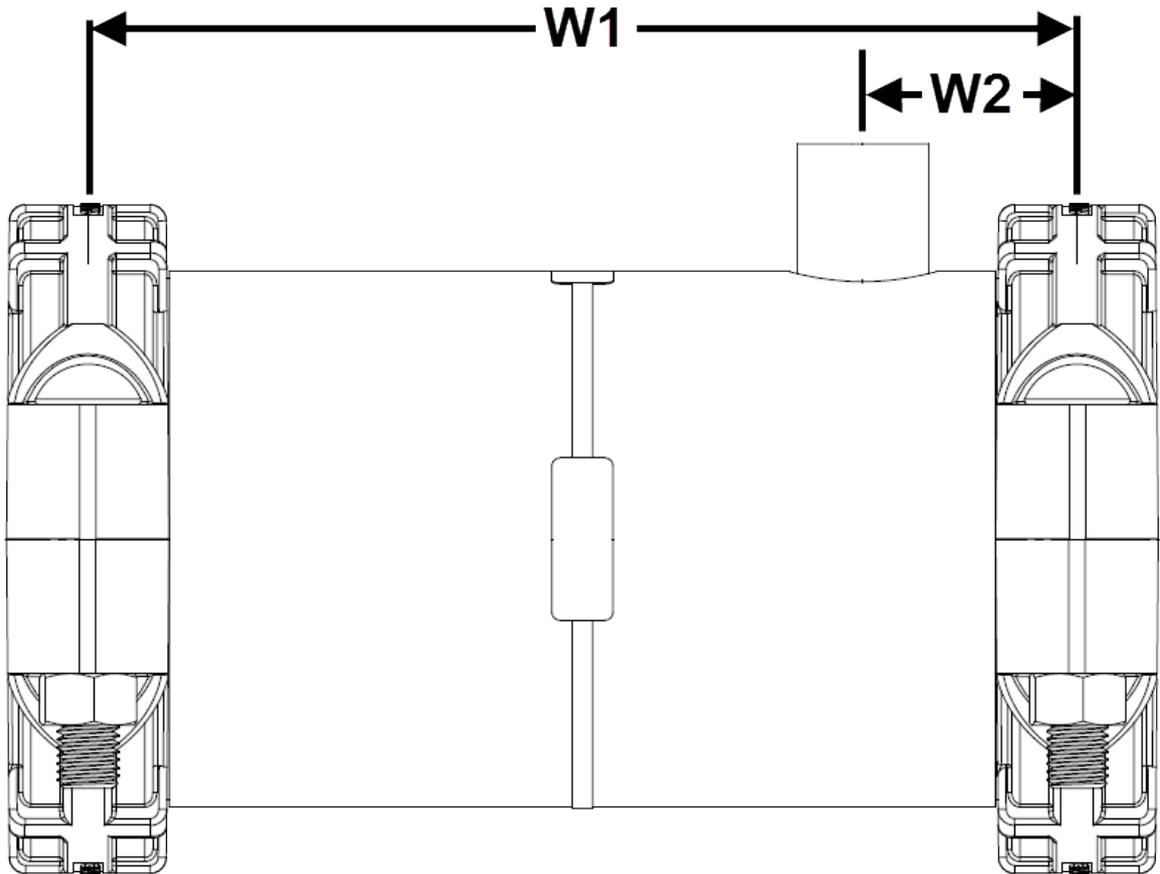
Working Principle

The Alfa Laval Vortex Bulk Booster is installed in the transfer line of a positive, dilute-phase conveying system. Motive air from an air compressor or blower is supplied to the motive air inlet of the Bulk Booster. When the motive air passes through the nozzle gap of the Bulk Booster, the resulting velocity increase generates a partial vacuum that works to suck the upstream bulk material through the transfer line, and the added air elevates the conveying pressure in the downstream line, which pushes the bulk material along and keeps it flowing through the line at high rates.

Technical Data

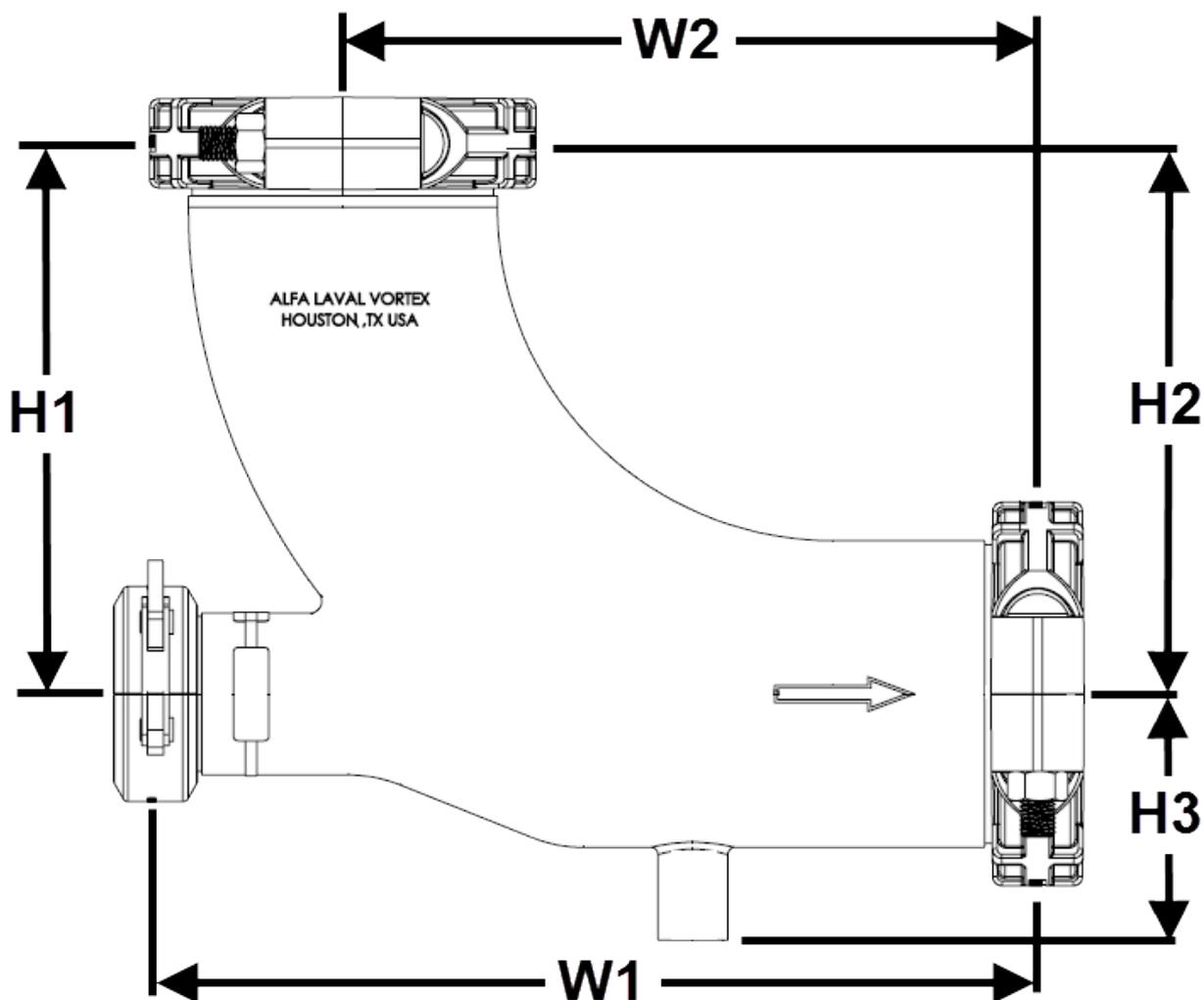
Model Number	BI6000	BE6000
Transfer line connections	152 mm (6 in) grooved end pipe	152 mm (6 in) grooved end pipe
Motive air connections	26 mm (1 in) female NPT	76 mm (3 in) grooved end pipe
Body Material	304 stainless steel	304 stainless steel
Insert Material	UHMW polyethylene	Molded polyurethane
Gaskets	Buna	Buna
Weight	21 kg (46 lbs)	29.5 kg (65 lbs)
Design Temperature	-28.8°C to 57°C (-20°F to 135°F)	-28.8°C to 57°C (-20°F to 135°F)

Dimensional Drawings



Model BI6000

W1	309 mm (12.2 in)
W2	67 mm (2.6 in)



Model BE6000

H1	298 mm (11.8 in)
H2	298 mm (11.8 in)
H3	135 mm (5.3i in)
W1	473 mm (18.6 in)
W2	368 mm (14.5)

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