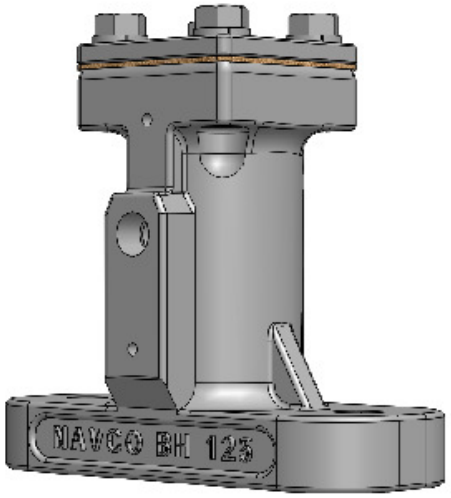
BH 1¼

Stainless Steel Bin Hopper



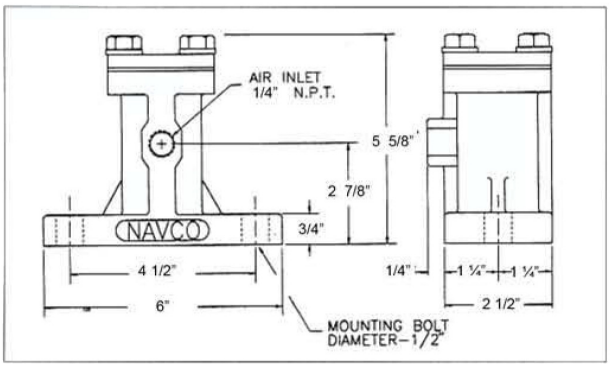
OPERATING CHARACTERISTICS

FREQUENCY	
IGO impacting	5250 vpm
SGO silent	3150 vpm
AIR CONSUMPTION	
IGO impacting	4.2 C.F.M. @ 50 psi
SGO silent	4.0 C.F.M. @ 50 psi
SOUND PRESSURE	
IGO impacting	91 dbA
SGO silent	71 dbA

SIZING CRITERIA

Hopper capacity	7 cu. ft.
Wall thickness range	1/16 to 1/8
Weight	8 lbs.

BH Stainless Steel 1 1/4 General Arrangement:



The Stainless Steel NAVCO BH 1¼ is a Pneumatic Piston Vibrator designed to provide reliable performance. Stainless Steel makes for easy cleanability which is important for food and pharmaceutical applications. This vibrator is ideal for ensuring consistent material flow of light duty bulk material in any environment.

Operation and Construction

The Stainless Steel BH 1¼ vibrator incorporates a special low friction coating on the piston and bore. The piston is the only moving part, which makes the pneumatic piston vibrator reliable and low maintenance. The stainless steel material of construction lends the vibrator to suitability for clean or wash-down environments.

During operation compressed air is alternately directed from one end of the piston to the other through a series of internal ports moving the piston mass to create vibration.

The compressed air exhaust can be ported away from the production environment or to the atmosphere.

Linear vibration offers the following advantages:

• The work, or energy generated by the vibrator, can be directed normal or perpendicular, to the flow of the bulk material to address a specific material flow problem. The vibrator work is used very efficiently to reduce the sliding friction angle of the hopper and to overcome bulk material strength in the hopper. These two factors are key to promoting the flow of bulk solid materials.

• Low frequency vibrators that generate linear vibration do not develop high shearing forces at the bin wall. This allows a simple, more direct approach to mounting the vibrators.

11929 Brittmoore Park Dr. ♦ Houston, Texas 77041 ♦ 832-467-3636 ♦ Fax 832-467-3800
P.O. Box 40563 ♦ Houston, Texas 77240-0563 ♦ Toll Free 800-231-0164 ♦ www.navco.us

Model Types

The NAVCO Stainless Steel BH 1¼ is available in three model types: Impacting, Timed Impact, and Silent. Stainless steel construction and just one moving part make all three uniquely suitable for clean or wash down environments. Exhaust on these models can be ported away from the production environment.

The Impacting model (ITW0W017) develops a high amplitude repetitive impulse when the piston strikes the base of the bore sharply on each cycle. Energy is transmitted through the bin wall to the material by each elastic collision between the piston and the vibrator base.

Repetitive strikes enable the vibrator to generate a large "area of influence," reducing the wall friction angle and strength of the bulk material. NAVCO Impacting Pneumatic Piston Vibrators are excellent for bulk material flow problems, especially those involving cohesive materials with marginal to poor flow characteristics. They are also effective in cleaning adhering material from empty bins and process vessels.

The Silent model (ST0W017) generates a sinusoidal output by forcing the piston mass back and forth in the bore with an air cushion at each end of the stroke.

NAVCO Silent Pneumatic Piston Vibrators are effective in applications involving non-cohesive or free flowing materials where a slight increase in energy is required to initiate or maintain flow. The silent units are also ideal as drives for vibratory tables and feeders.

The Timed Impact model (MT0W017) delivers a single, high amplitude impulse each time it is energized. Timed Impact units may be operated using pneumatic or electronic timers, programmable controllers, or any other device that can deliver an intermittent control signal to the unit. The impulse of a timed impact unit is very effective in evacuating hoppers and process vessels. Specific advantages of NAVCO Timed Impact units are low average noise levels and low air consumption.

Sizing and Installation

Proper sizing and installation of vibrators are critical to the success of the flow aid system. The three major factors to consider in selecting pneumatic piston vibrators for hopper applications are:

- The wall thickness of the hopper
- The volume and mass of material in the hopper
- The flow characteristics of the bulk material

The NAVCO Stainless Steel BH 1¼ is a light duty vibrator, generally applied to hoppers with a wall thickness of 1/16" to 1/8".

Reinforcement plates are recommended for mounting. The optimal location for a vibrator in a typical hopper application is at the material free surface where the flow restriction occurs. If the exact point is unknown, the vibrator should be located from 12" to 18" up from the discharge.

For large hoppers, hoppers with unusual geometry, or particularly difficult material flow problems, multiple vibrators may be required. In difficult cases, please consult NAVCO for a customized Bin Map solution.

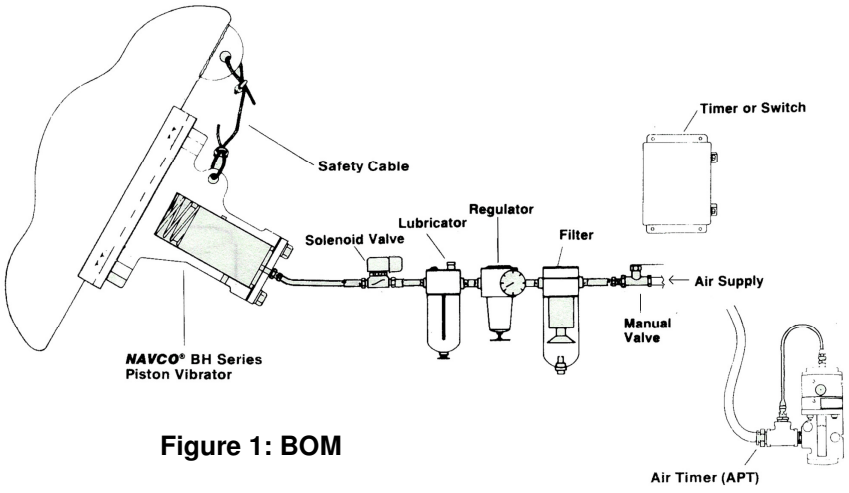


Figure 1: BOM

High amplitude, light duty, linear vibrators