

Design and build A vibratory material discharge drive

Air-piston vibrators are most frequently used as discharge flow aids on bins, hoppers and chutes. They also provide more specific services primarily in the solids handling industries like chemical, fertilizer, cement, agriculture etc. Additionally air-piston vibrators have been used successfully as drives for vibratory equipment. This would include vibrating feeders, screeners, conveyors, tables and bowl feeders, as well as other vibratory equipment. Their ease of attachment and linear force output also make them useful for a wide variety of other applications.

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When in operation, it is imperative that the compressed air be dry and lubricated. The lubricant should be injected into the air stream to create a fog or mist. This will maintain an oil film on the piston and the bore of the body

[Special surface treatment to combat wear](#)

The machined pistons are then hardened using a distinctive process we refer to as Gas Nitriding. This new process replaces case hardening and chrome plating without harming the environment. Gas Nitriding has proven to be superior to chrome plating in the following areas:

- Longer Wear Resistance
- Better Corrosion Resistance
- No Distortion
- Improved Fatigue Strength
- Excellent Sliding Properties

[Automatic or manual operation. microcontroller control panel](#)

Air-piston vibrators require a quick-acting valve to start and stop. The valve can be a manual type, activated by hand, or foot. Or it can be an electrically-controlled solenoid type activated by a switch or control relay. The valve should be located within 20 feet of the vibrator(s). (see control panel view for such application) The air-piston vibrator should be controlled by means of an FRL (Filter, Regulator and Lubricator). The filter helps keep the air clean and dry. The regulator allows adjustment of the air pressure vary the force and frequency of vibration. The lubricator injects lubricant for the moving parts. Air-piston vibrators are recommended for use in hazardous areas, and are ideal for atmospheres containing explosive dust, vapor or gas. The vibrators must be activated by a proper explosion-proof valve to ensure safe operation in hazardous areas.

[Some aspects to consider when choosing](#)

They have excellent start and speed-up capability even (2 Kg/cm.sq)at low pressure. The size is chosen by the volume of the silo's output funnel or cone. Please make sure to position the vibrators at 1/3 the height of the cone, up from the bottom (see drawing). The size is chosen by the volume of the silo's output funnel or cone. Please make sure to position the vibrators at 1/3 the height of the cone, up from the bottom (see drawing).