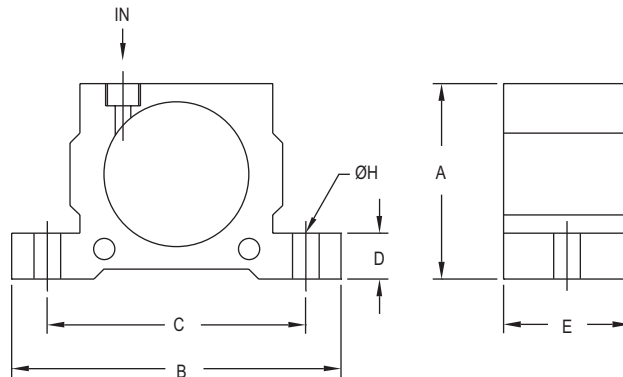




Series PRV Pneumatic Roller Vibrator

Specifications - Installation and Operating Instructions



DIMENSIONS							
Model	A	B	C	D	E	H	IN
PRV-1	2-1/32 [51.59]	3-27/64 [86.92]	2-11/16 [68.26]	31/64 [12.30]	1-5/32 [29.37]	9/32 [7.14]	1/8 BSPT
PRV-2	2-41/64 [67.07]	4-29/64 [113.11]	3-35/64 [90.09]	41/64 [16.27]	1-15/32 [37.31]	23/64 [9.13]	1/4 BSPT
PRV-3	3-9/32 [83.34]	5-3/64 [128.19]	4-7/64 [104.38]	41/64 [16.27]	1-11/16 [42.86]	23/64 [9.13]	1/4 BSPT
PRV-4	4-1/16 [103.19]	6-5/16 [160.34]	5-1/8 [130.18]	51/64 [20.24]	2-1/16 [52.39]	7/16 [11.11]	3/8 BSPT

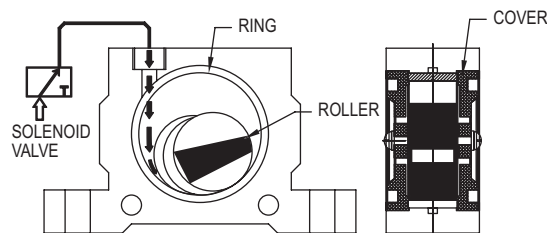
Series PRV Pneumatic Roller Vibrator has a high vibration frequency feature that can prevent material jams in pipe delivery. It can also be applied for bridge-break or concrete injection operation conditions.

PRV Series Pneumatic Roller Vibrators

- Special aluminum body is small in size and light-weight.
- Frequency and amplitude of vibration can be adjusted as required.
- The strongest vibration force driven by rollers among the same size products.

HOW IT OPERATES

The special aluminum body is equipped with a roller and ring with multi-nozzles. It is tightly closed by plastic side covers. Vibration is caused when the roller pushed by compressed air runs in a rotary motion to produce centrifugal force.



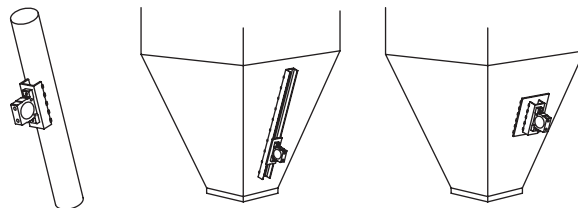
SPECIFICATIONS

Temperature Limit: 212°F (100°C).
Noise Level Range: 75-100 dBA.
Supply Pressure: 29 to 87 psi (2 to 6 bar).
Air Consumption: See model chart.
Air Connection: 1/8" BSPT female with 1/4" OD push to connect adapter on PRV-1; 1/4" BSPT female with 1/4" OD push to connect adapter on PRV-2 and PRV-3; 3/8" BSPT female with 3/8" OD push to connect adapter on PRV-4.

INSTALLATION

Vibration force transmits more efficiently in a conical hopper tank as opposed to a rectangular hopper. It is recommended that you install two vibrators in rectangular hoppers.

1. Vibrator force can be transmitted more efficiently by using "U" shape steel supports. It can help materials run smoother in the tank or pipe. It also reduces tank damage accidents.
2. To avoid tank wall amplitude caused by the vibrator moving in a left or right direction, use "U" shape steel.
3. Reinforced board is required between "U" shape steel and a thin tank wall.
4. To increase vibration fields in a big hopper tank, criss-cross "U" shape steel.



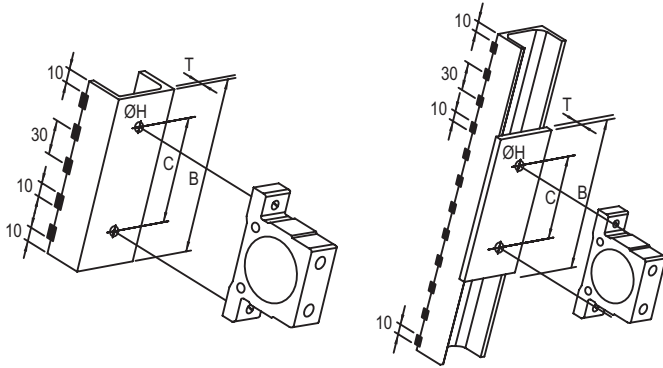
MODEL CHART										
Model	Frequency (V.P.M.) Pressure Input			Force lbf (N) Pressure Input			Air Consumption cfm (l/min) Pressure Input			Weight lb (kg)
	29 psi (2 bar)	58 psi (4 bar)	87 psi (6 bar)	29 psi (2 bar)	58 psi (4 bar)	87 psi (6 bar)	29 psi (2 bar)	58 psi (4 bar)	87 psi (6 bar)	
PRV-1	25000	35000	36000	241 (1070)	656 (2920)	948 (4200)	3.53 (100)	5.12 (145)	6.89 (195)	.53 (0.24)
PRV-2	19000	21000	26000	614 (2730)	1086 (4830)	1376 (6120)	7.06 (200)	10.59 (300)	14.13 (400)	1.19 (0.54)
PRV-3	15500	18500	19000	674 (3000)	1369 (6090)	1675 (7450)	0.24 (290)	15.19 (430)	20.13 (570)	2.1 (0.95)
PRV-4	11000	14000	16000	843 (3750)	1517 (6750)	2001 (8900)	13.07 (370)	19.42 (550)	25.78 (730)	3.97 (1.8)

V.P.M. = vibrations per minute

Attention: Vibration has to be fixed by a high tension bolt, washer, and spring washer. Connect with a security cable if the vibrator is installed onto a hopper.

MAINTENANCE

Upon final installation of the Series PRV Pneumatic Roller Vibrator, no routine maintenance is required. A periodic check of the system calibration is recommended. The Series PRV is not field serviceable and should be returned if repair is needed (field repair should not be attempted and may void warranty). Be sure to include a brief description of the problem plus any relevant application notes. Contact customer service to receive a return good authorization number before shipping.



Note: Various tanks are based on application requirement. Customers choose appropriate vibrator types to meet with various applicant demand (tank shape, material, applied material, etc). Suitable vibrators will not only prevent obstruction problems but won't damage the tank walls.

Large amplitude and low frequency piston types fit in granule with low specific gravity applied material. It is recommended to use multiple vibrators in serious clog situations or large tank surroundings.

VIBRATION FORCE CALCULATION

Taking the accumulated situation into consideration, the appropriate vibrator will give 0.2-0.5 G accelerated vibration onto the target object.

$F=0.2-0.4 GW$

- F: Vibration force (N)
- G: Acceleration of gravity
- W: Material weight (KG)

MATERIAL WEIGHT CALCULATION

Generally speaking, the hopper portion of the tank should be taken into consideration.

W: MATERIAL WEIGHT (KG)
V: CHUTE VOLUME (M³)
y: SPECIFIC GRAVITY

$W = 1000V y$

$W = \frac{\pi H}{3} (R^2 + Rr + r^2)$

$V = \frac{H}{6} [A \times B + (A + a)(B + b) + a \times b]$