

# Pneumatic Vibrator Selection

In this section you will find some suggestions on how to size pneumatic vibrators. Selection of the best vibrator for an application cannot be done solely by using a calculator or sizing tables. Every single application is to be treated in a different way.

Very often the actual vibration that reaches the product is the vibration produced less the vibration loss due to structural reinforcements, stiffeners or other impediments.

The table below may give you an approximate idea of the most appropriate size, but in the end the final adjustment has to be done by varying the air pressure and tuning in to the object's natural frequency or a frequency that provides best working conditions.

In many applications more than one vibrator type can accomplish the same work. In these cases the decision of which vibrator to use can be made depending on noise and cost (both initial and long-term).

Generally speaking there are 7 factors to be taken into consideration:

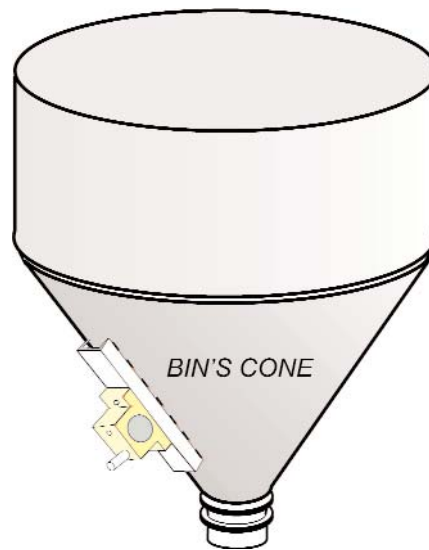
- ~ air consumption
- ~ noise
- ~ dimensions of the unit / mounting area
- ~ frequency required
- ~ amplitude / vibrating force
- ~ cost / maintenance cost
- ~ air supply
- ~ environments where oil mist released in the air by oil lubrication might not be allowed.

You will find different types of vibrators listed in the following table, listed according to their force and amplitude.

Other factors which are important are cost, noise and air consumption. For example, it might sometimes be important to use a GT Turbine Vibrator, which is less noisy and consumes less than half the air that a K Ball Vibrator with similar characteristics. For other applications with no noise restrictions a ball vibrator might be sufficient.

How to proceed :

1. Select all the possible vibrator types and models according to the force needed in the following table.
2. If silent operation is required, then do not use noisy types.
3. If oil-free running is required, then do not use DAR, and FP vibrators.
4. If low air consumption is required, do not use Ball and Roller Vibrators (K, R and DAR vibrators). For air consumption data please refer our technical catalog data.
5. Check for the mounting space needed.
6. Compare the costs. Take into consideration that one single GT-vibrator may do the job of two ball vibrators and that it might be less expensive in the long run.



GUIDELINES FOR SELECTING A PNEUMATIC VIBRATOR					
<b>WEIGHT</b> OF THE MATERIAL INSIDE THE <b>BIN'S CONE</b> (lbs)	<b>FORCE</b> OUTPUT NEEDED (lbs)	<b>GT</b> VIBRATOR TURBINE	<b>K</b> BALL VIBRATOR	<b>DAR</b> ROLLER VIBRATOR	<b>FP</b> PISTON VIBRATOR
50	10	GT 6	K 10		FP 12
100	20	GT 8	K 13	DAR 2	FP 18
200	40	GT 10	K 16	DAR 2	FP 18
300	60	GT 10	K 16	DAR 3	FP 25
500	100	GT 13	K 20	DAR 3	FP 25
800	150	GT 13	K 25	DAR 3	FP 35
1000	200	GT 16	K 25	DAR 4	FP 35
1500	300	GT 16	K 30	DAR 4	FP 50
2000	400	GT 25	K 36	DAR 5	FP 60
3000	600	GT 25	K 36	DAR 5	FP 95
5000	1000	GT 36		DAR 6	FP 95
8000	1500	GT 48		DAR 7	

Force needed can vary depending on  
*the angle of the cone's walls,*  
*moisture content and*  
*wall thickness.*