

HP Electromagnetic Vibrating Feeders

Highest capacity for deck size in bulk material feeding industry.



Operation

Jeffrey Rader HP electromagnetic feeders operate through controlled, high-frequency vibration. This is accomplished with electrical pulses and a machine that is tuned to a mechanical resonant frequency that is higher than the electrical frequency of the power supply (sub-resonant tuning).

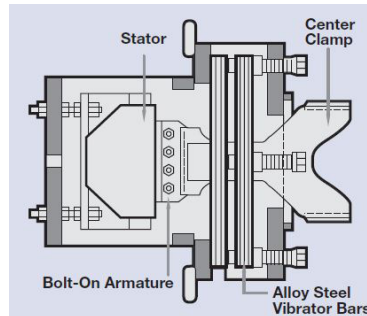
Electrical pulses in the coils create a series of magnetic pulls that attract the armature and the deck. Restoring forces in the bar oppose each pull, causing the armature to spring away from the magnet. At an electrical frequency of 60 cycles per second, the armature and the deck operate at 3,600 times per minute (the vibration rate of the feeder). Material is moved by a series of “jumps” that correspond to the frequency of the vibrations. The distance the deck moves (stroke) can be changed by varying the voltage to the coils. With this variation in the length of each “jump,” or vibration amplitude, the conveying speed of the material on the feeder deck changes, resulting in a capacity rate that fits your requirements.

Features/Advantages

HP feeders feature a homogenous core design. Only fine-grain, high flux density steel laminations are used for their wound stator core.

This produces a more powerful electromagnetic drive for higher stroke, larger capacity, and thus a smaller feeder than the competition.

The result is more tonnage per deck size than our competition.

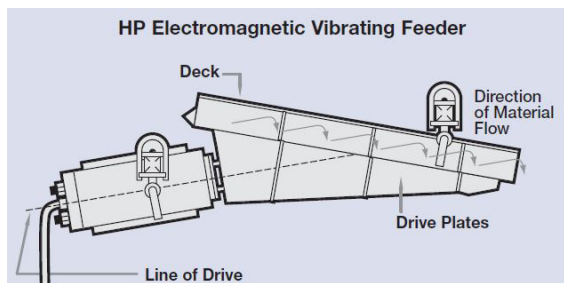


Electromagnetic Operation

There are no moving parts on HP feeders that could wear and require replacement. With a well-maintained feeder, you're assured trouble-free service.

Sub-Resonance Tuning

As the deck liner wears, sub-resonance tuning assures efficient, continued feeder operation.



Hopper Design

A recommended hopper design is supplied with every feeder. Proper installation assures correct deck loading, proper material flow from the hopper, and continuous production.

Vibration Absorbers

Vibration-absorbing spring assemblies for either suspension or support mounting are shipped with each feeder.



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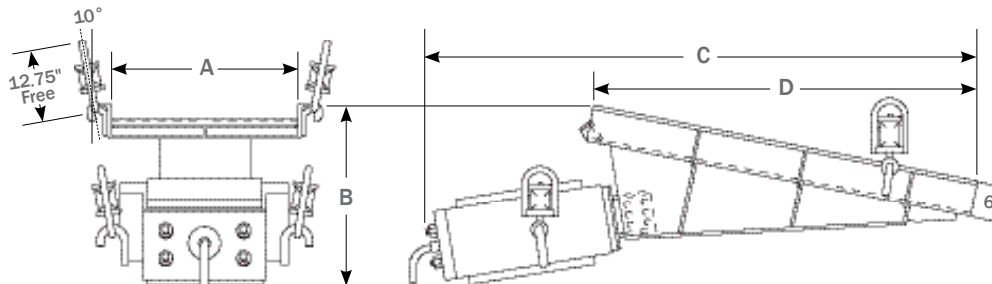
Features/Advantages

Feeder Control

The electrical controllers are designed around halfwave rectification of AC power. All feeders include a control which accepts a 4-20mA feedback signal. All standard controllers comply with NEMA 12 design standards. A variety of custom controllers are available (consult factory).

The solid state control circuit includes a “soft-start” feature. A regulator, requiring no additional connection to the feeder(s), maintains vibration to within ± 0.002 ", provided the line voltage variations do not exceed +5% and the line frequency is ± 0.5 Hz. Manual or process variable controllers are available.

Dimensions and Weights



APPROXIMATE LAYOUT DIMENSIONS* AND SHIPPING WEIGHTS IN. (MM)

MODEL NO.	DECK SIZES (W X L)	CAPACITY (IN STPH)	SLOPE	A	B	C	D	LBS (KG)
HP050	12" x 42" (305 x 1067)	180	10°	12" (305)	21" (533)	73" (1854)	42" (1067)	580 (263)
	12" x 48" (305 x 1219)			12" (305)	22" (559)	69" (1753)	48" (1219)	
	18" x 30" (457 x 762)			18" (457)	19" (483)	56" (1422)	30" (762)	
	18" x 36" (457 x 914)			18" (457)	19" (483)	60" (1524)	36" (914)	
HP100	12" x 60" (305 x 1524)	275	10°	12" (305)	25" (635)	80" (2032)	60" (1524)	1,055 (479)
	18" x 42" (457 x 1067)			18" (457)	23" (584)	73" (1854)	42" (1067)	
	18" x 48" (457 x 1219)			18" (457)	23" (584)	69" (1753)	48" (1219)	
	24" x 30" (610 x 762)			24" (610)	21" (533)	62" (1575)	30" (762)	
	24" x 42" (610 x 1067)			24" (610)	21" (533)	73" (1854)	42" (1067)	
HP200	12" x 72" (305 x 1829)	345	10°	12" (305)	30" (762)	100" (2540)	72" (1829)	1,300 (590)
	18" x 60" (457 x 1524)			18" (457)	24" (610)	85" (2159)	60" (1524)	
	24" x 48" (610 x 1219)			24" (610)	24" (610)	76" (1930)	48" (1219)	
	30" x 42" (762 x 1067)			30" (762)	23" (737)	73" (1854)	42" (1067)	
	HP250			18" x 72" (457 x 1829)	415	10°	18" (457)	
24" x 60" (610 x 1524)	24" (610)	29" (737)	85" (2159)	60" (1524)				
30" x 48" (762 x 1219)	30" (762)	27" (686)	80" (2032)	48" (1219)				
30" x 54" (762 x 1372)	30" (762)	29" (737)	84" (2134)	54" (1372)				
36" x 36" (914 x 914)	36" (914)	22" (559)	67" (1702)	36" (914)				

*Certified drawings will be furnished for installation. Installation supervision is available. **Stock units appear in bold type.**



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