

# EF Electromagnetic Vibrating Feeders

Highest capacity for deck size in bulk material feeding industry.

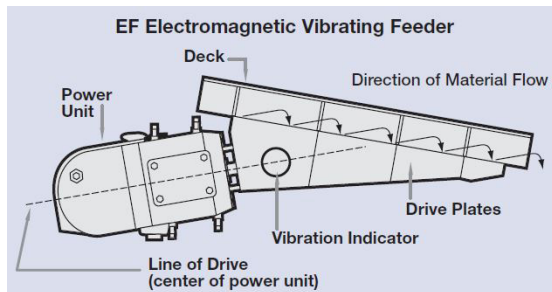
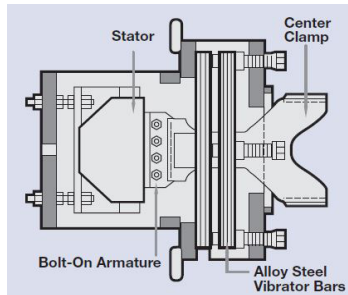


## Operation

Jeffrey Rader EF 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

EF feeders feature easy-access power units that are designed to be rebuildable.

- Removable rear cover allows easy access to power unit.
- Rebuildable power unit assembly simplifies maintenance and lowers the total cost of ownership.

## Electromagnetic Operation

There are no moving parts on EF 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.



# EF Electromagnetic Vibrating Feeders

## 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 with  $\pm 0.002''$ , provided the line voltage variations do not exceed +5% and the line frequency is  $\pm 0.5$  Hz.

Manual or process variable controllers are available.

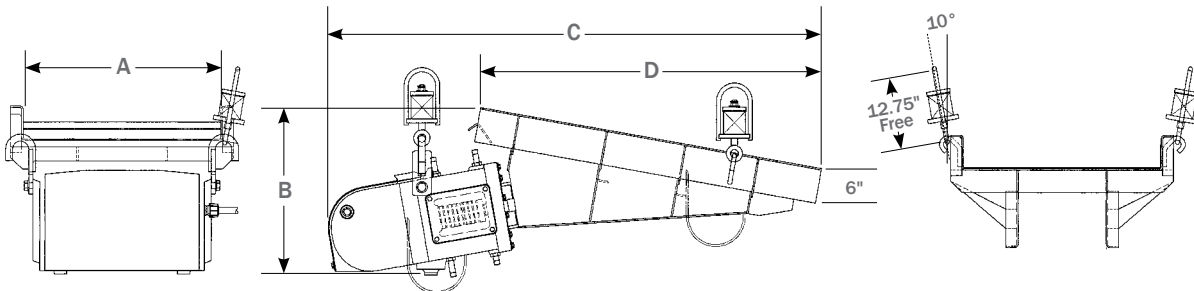
### Applications

- Coal (for non-XP environments)
- Aggregates
- Minerals
- Industrial materials
- Various blending materials for steel manufacture

### Other Features

- Highest capacity per deck size due to the tuning of the unit
- Outstanding material control
- Ease of maintenance; no bearing to grease
- All components made in North America
-  (CSA) approved controls (available upon request)

## 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)
EF3	24" x 60" (610 x 1524)	600	10°	24" (610)	34" (864)	111" (2178)	84" (2134)	2,700 (1,225)
	30" x 60" (762 x 1524)			30" (762)	30" (762)	91" (2223)	60" (1524)	
<b>STOCK</b>	<b>36" x 60"</b> (914 x 1524)			36" (914)	30" (762)	90" (2235)	60" (1524)	
EF4	30" x 84" (762 x 2134)	850	10°	30" (610)	35" (889)	113" (2629)	84" (2134)	3,400 (1,542)
	36" x 72" (914 x 1829)			36" (762)	33" (838)	100" (2629)	72" (1829)	
<b>STOCK</b>	<b>42" x 60"</b> (1067 x 1524)			42" (1067)	31" (787)	91" (2813)	60" (1524)	
EF5	36" x 84" (914 x 2134)	1000	10°	36" (914)	39" (991)	123" (2813)	84" (2134)	4,600 (2,087)
	42" x 72" (1067 x 1829)			42" (1067)	37" (940)	112" (2991)	72" (1829)	
	48" x 72" (1219 x 1829)			48" (1219)	37" (940)	112" (2991)	72" (2921)	
EF6	42" x 84" (1067 x 2134)	1200	10°	42" (1067)	40" (1016)	121" (2991)	84" (2134)	5,900 (2,676)
	48" x 84" (1219 x 2134)			48" (1219)	40" (1016)	124" (2991)	84" (2134)	
	54" x 72" (1372 x 1829)			54" (1372)	38" (965)	112" (2991)	72" (1829)	
EF8	60" x 96" (1524 x 2438)	1400	10°	60" (1829)	48" (1219)	138" (3505)	96" (2438)	9,950 (4,513)

\*Certified drawings will be furnished for installation. Installation supervision is available.



+1-855-483-7721 ■ www.terrasource.com ■ info@terrasource.com