Electromechanical Vibrating Feeders

Models RF and MF

Steel plants • Mining • Gravel • Chemicals
Glass • Aggregates • Quarries • Foods

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TARNOS

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models

The high-capacity Electromechanical Feeders, are available in four RF models and seven MF models, to meet the varying bulk material handling requirements. These units will provide feed rate capacities ranging from just a few tons up to 6,000 T.P.H.

TARNOS high-capacity Electromechanical - the RF model for Medium-Duty work and the MF for Heavy-Duty - are capable of feeding a wide variety of bulk materials from storage piles, hoppers and silos.

operating principle

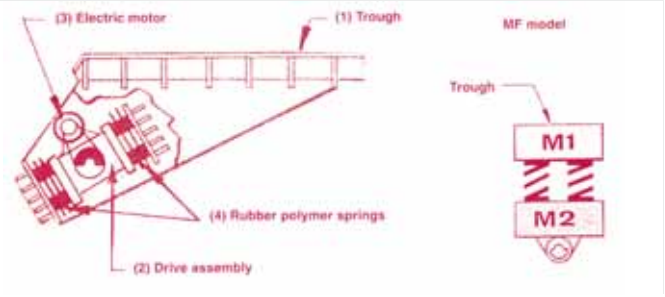
The operating principle of the RF and MF models Electromechanical Feeders is based on a subresonant system of two masses that are elastically connected. One of them, the moving mass, is the trough itself (1).

The other, the fixed mass, is a strong cast part (2), housing a shaft supported on sturdy bearings, the shaft being rotated by a conventional electric motor (3).

The shaft is eccentric in the RF model, and concentric with adjustable counterweights in the MF model.

The two masses are connected by rubber polymer springs (4).

This sub-resonant operation provides the advantages of less installed power and rapid and smooth starting and stoping



controllers

The Electromechanical Feeders, type RF and MF, can be optionally equipped with Controller, which provides feed rate regulation by acting on the revolution rate of the motor and this varying the speed at which material on the trough moves foward.

Other regulation possibilities include: Two speed flow control, by means of an external signal; automatic flow rate control by means of a DC signal; automatic flow regulation in response to the current drain of a motor (crusher).

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hopper design

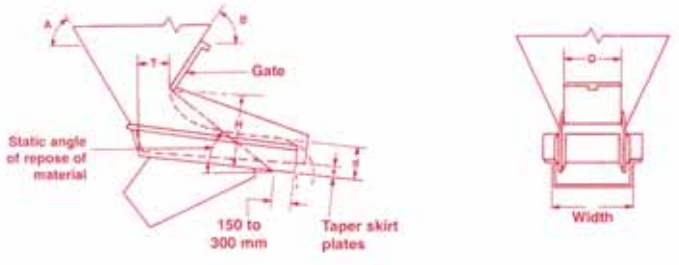
The right design in the hopper is needed to achieve good material flow and to choose the feeder giving the best return on the investment. The characteristics of the materials handled, such as their particle size, density and humidity, are important in choosing the feeder and the hopper configuration.

The figure shows the recommended hopper design.

- A: Rear wall angle: 60º or more.
- B: Front wall angle: 5º less than “A”
- H: The height between the front outleft of the hopper (gate opening) and the bottom of the trough must be at least twice the largest particle of material, an between 1.2 and 1.5 times the material depth required for discharge, in order to achieve the desired flow rate.
- T: The optimum proportion is for “T” to be equal to or slightly larger than “H/2”. If “T>H”, the result is a non-uniform flow of material.
- D: Hopper opening width: 2.5 times the largest particle for random size material, and 5 times largest particle size for sized material.

The trough length should be long enoungh to retain the material when the feeder is stopped.

Drives design enables to withstand massive headloads.



trough models

The standard Electromechanical Feeders are furnished with open troughs made of carbon steel with unions made by electric welding. As an option, troughs made of special steels can be supplied, or ones lined with wear-resistant, refractory or plastic coatings.

The troughs can be manufactured in many shapes:

- Flat bottom
- Straight or diagonal discharge, or with tapered walls
- Tubular
- Closed
- Stepped
- Grizzly bar trough

features and advantages

- Ruggedly constructed
- Long-life service
- High reliability
- Very steady operation
- Low-power electric motor
- High vibrating stroke
- Driven by conventional asynchronous motor
- Rapid and smooth starting and stopping
- Optional Controller for varying the material flow rate
- Minimal maintenance

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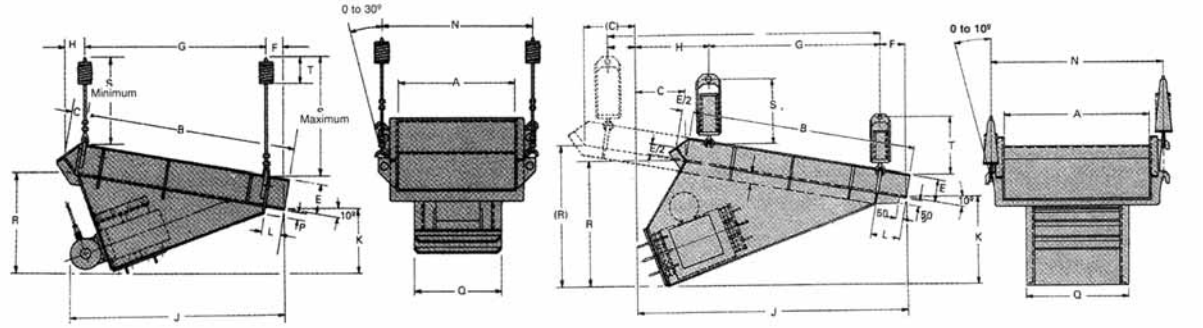
specifications and dimensions (mm)

specifications	Model	Standard trough (mm)	Power H.P.	Weight (Kg.)	Maximum Capacity TPH	
					Coal *	Sand •
	RF-20	460 x 760	0,25	90	90	160
	RF-40	610 x 1.070	0,5	180	160	270
	RF-80	760 x 1.220	1	360	270	450
	RF-120	915 x 1.370	2	545	360	650
	MF-200	1.220 x 1.830	5,5	910	700	1.200
	MF-400	1.525 x 2.140	10	1.820	1.200	2.000
	MF-600	1.830 x 2.440	15	2.725	1.550	2.600
	MF-800	2.140 x 2.745	20	3.640	1.900	3.200
	MF-1000	2.440 x 3.050	25	4.540	2.400	4.000
	MF-1600	2.745 x 3.360	30	7.270	3.000	5.000
	MF-2000	3.050 x 3.660	40	9.100	3.600	6.000

* Based on dry coal with a density of 0,8 T/m³ • Based on dry sand with a density of 1,6 T/m³



Model RF Model MF

dimensions (mm)	Model	A	B	C	D	F	G	H	J	K	L	N	P	Q	R	S Mín.	S Máx.	T
	RF-20	460	760	130	130	87	648	119	775	320	95	550	40	355	455	460	815	160
	RF-40	610	1.070	120	150	85	850	110	1.115	340	100	780	55	450	530	460	915	180
	RF-80	760	1.220	150	180	165	1.010	140	1.295	450	185	935	95	570	660	610	1.245	190
	RF-120	915	1.370	100	200	133	1.175	135	1.340	440	150	1.085	95	650	680	610	1.295	225
	MF-200	1.220	1.830	260	200	76	1.600	390	2.065	585	100	1.460	75	760	900	550		480
	MF-400	1.525	2.140	420	200	210	1.760	560	2.520	745	230	1.765	150	965	1.120	635		555
	MF-600	1.830	2.440	540	200	355	1.875	710	2.940	810	380	2.080	150	1.145	1.230	845		845
	MF-800	2.140	2.745	635	255	416	2.100	820	3.310	845	450	2.410	180	1.245	1.320	845		845
	MF-1000	2.440	3.050	620	255	480	2.350	790	3.625	840	510	2.710	200	1.425	1.370	845		845

CAUTION: These units are to be installed, operated and maintained in accordance with accompanying Service Instructions. Failure to follow thes instructions may results in harm to people and/or things.

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