

Good  
Vibrations

**TARNOS**

***Electromechanical Vibrating Feeders  
Models RF y MF***

**The leading brand in vibration**



Manufacturing Licences

**FMC**  
Syntron®



## 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.

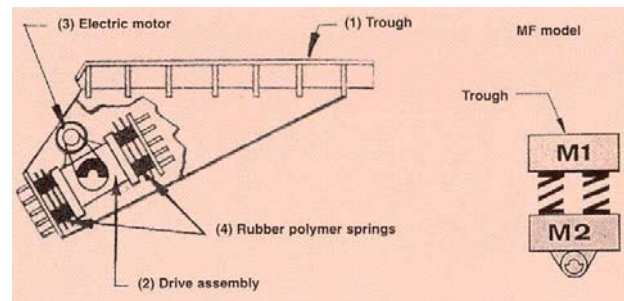
## High feed capacities for increasing productivity

### Operating Principle

## Tarnos

high-capacity Electromechanical Feeders – 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.

The operating principle of the RF and MF models Electromechanical Feeders is based on a sub resonant 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.



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

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

## 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 thus varying the speed at which material on the trough moves forward.

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

## Hopper Design

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

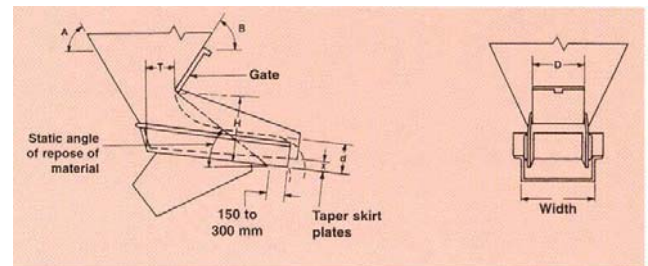
The figure shows the recommended hopper design.

- A: Rear wall angle:  $60^\circ$  or more.
- B: Front wall angle:  $5^\circ$  less than "A".
- H: The height between the front outlet of the hopper (gate opening) and the bottom of the trough must be at least twice the largest particle of material, and 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 best for random size material, and 5 times largest particle of the size for sized material.

The trough length should be long enough 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.

## 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.

The troughs can be manufactured in many shapes:

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



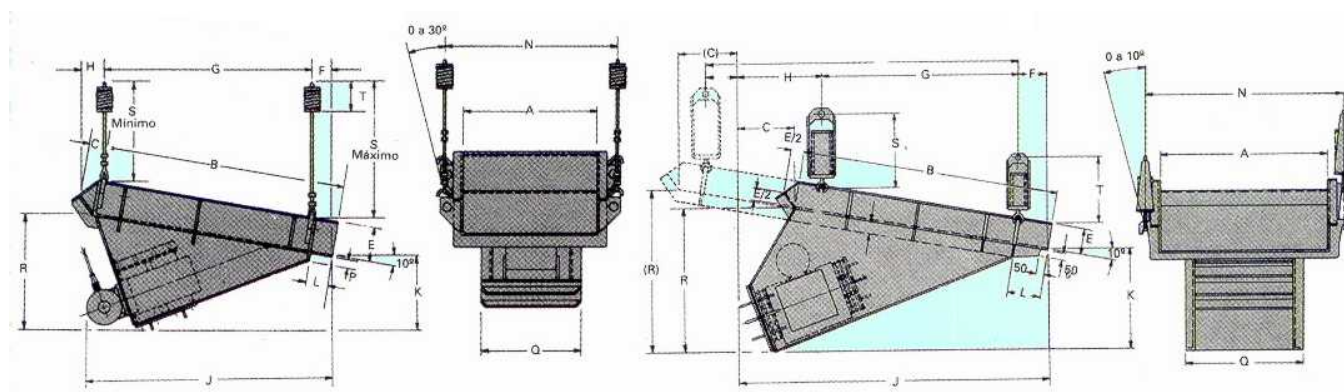
## Specifications and Dimensions (mm)

The versatility of these equipments allows for adapting the trough to any size requirement: widths 250 to 3000 mm. and lengths from 600 to 6000 mm.

Model	Standard trough (mm.)	Power H.P.	Weight (Kg.)	Maximum Capacity T/h	
				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 0,8 T/m<sup>3</sup>

• Based on dry sand with a density 1,6 T/m<sup>3</sup>



**Model RF**

**Model MF**

Model	A	B	C	D	F	G	H	J	K	L	N	P	Q	R	S		T
															Mín.	Máx.	
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 these instructions may result in harm to people and/or things.

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