Motor Rollers

Price Reduction 17%

Cad Data Folder Name: 15_Rollers

Selection Method

(1) Calculate the required tangential force

◆Formula for the required tangential force

Required Tangential Force (N) = 9.8 (constant value) x Object (kg) x Rolling Friction Coefficient

◆Rolling Friction Coefficient Chart

Wood	Metal	Cardboard	Plastic	Rubber Lining
0.02~0.05	0.01~0.02	0.05~0.1	0.02~0.04	0.1

Above values vary by roller pitch or condition of roller surface, etc..

Sample Calculation When carrying a cardboard box of weight 40 (kg)

* From the above chart of Rolling Friction Coefficient, maximum friction coefficient for cardboard is 0.10.
Required tangential force=**9.8x40 (kg)x0.10=39.2 (N)**

* Rolling friction coefficient depends on the material of the object. Refer to the table above.

(2) Select the model provisionally

Select the model that matches the caring speed from the specification table on the right page.

Example When carrying the objects at the speed of 20m/min, M0R57–(Length)–20.

(3) Determine the number of required rollers

Determine the number of required rollers considering the following 2 elements.

- Motor Roller Tangential Force (Start-up or at rated output) - Carried weight and Roller allowable static load (Please see the standards table "Roller Strength (N)" on right)

◆Calculate the required tangential force

Carrying Capability (N) = Starting Tangential Force of the Motor Roller (N) x 0.9 (Constant value)

◆Determine the number of required rollers

The Number of Required Rollers = Required Tangential Force (N) / Carrying Capability (N)

Sample Calculation Required tangential force for carrying is 39.2 (N) from the sample calculation above.

When MOR57–(Length)–20

•Carrying capability is 55 (N) (Starting tangential force) x 0.9 = 49.5 (N).

•The number of required rollers is 39.2 (N) (Required tangential force)/ 49.5(N) (Carrying capability) = 0.79 (pcs)…1roller is required to carry.

(4) Determine the length of the rollers

- Determine the length of the rollers from the size of the bottom surface (length and width) of the object

Sample Calculation When the length of the bottom surface is 300mm and the width is 400mm

- The width of the object is 400mm + Margin 100mm = 500mm.

It follows that in this case, the part numbers should be **MOR57-500-20**

[Caution in selection]

* The calculated value using carrying tangential force gives the minimum value for required tangential force needed to carry the work. Transfer capability could vary depending on roller level differences, carried object bottom surface shape (conditions) and material, motor roller speed, etc. Please use more rollers depending on usage conditions and considering safety. If rated speed is important, use rated tangential force for calculation.

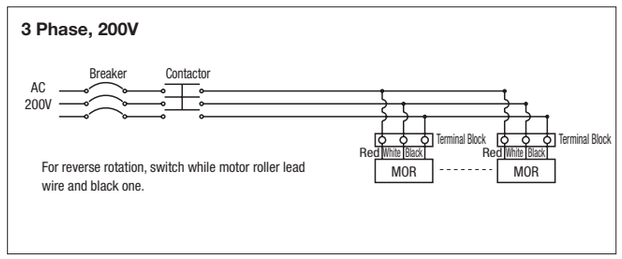
* When motor rollers are loaded at all times, use rated tangential force in calculating for selection.

* The object is assumed to start from on the motor rollers.

Features

- Built-in motor and gear enables space savings for driving mechanisms.
- Requires no maintenance such as lubrication.
- With multiple motor rollers used depending on transfer load size, one of the rollers in trouble does not result in production line shutdown.

Circuit Layout Diagram



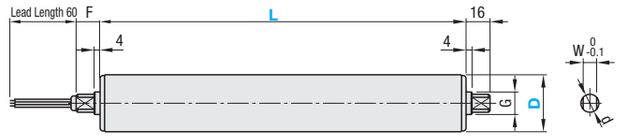
- For reverse rotation, switch white motor roller lead wire and black one.
- Normal / reverse rotation can be changed by switch.
- When red, white and black wires are connected in the identical manner, the rollers will rotate in the same direction.

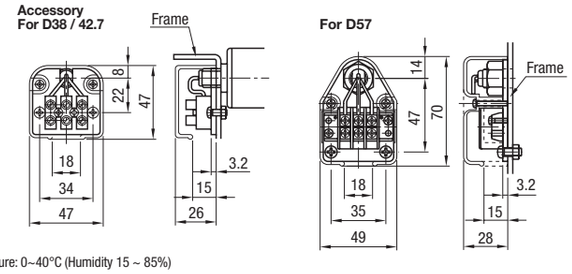
A motor and a decelerator are built in the conveyer roller.



RoHS

MOR





Operation Temperature: 0~40°C (Humidity 15 ~ 85%)

Part Number Type	D	L Selection	Nominal Speed Selection	Unit Price Qty. 1~5 L300	L400	L500
MOR	38	300 400 500	10 15 20	5,453	5,610	5,772
	42.7					
	57					

For orders larger than indicated quantity, please request a quotation.

D	Velocity Nominal	Power Supply	Rated Current	d	G	W	F	Speed (m/min) 50Hz	Speed (m/min) 60Hz	Tangential force (N) 50Hz Rating	Tangential force (N) 50Hz Starting	Tangential force (N) 60Hz Rating	Tangential force (N) 60Hz Starting	Torque (N-cm) 50Hz Rating	Torque (N-cm) 50Hz Starting	Torque (N-cm) 60Hz Rating	Torque (N-cm) 60Hz Starting	Roller Strength (N)* L300	L400	L500
38	10	Three-Phase 200V 50/60Hz Input 16/12W	0.055 / 0.050 (A)	12	18	8	16	10.4	13.1	16.7	37.3	12.4	31.3	31.8	70.9	23.6	59.6	343	294	294
	15							14.2	16.1	12.3	39.6	9.2	30.9	23.3	75.3	17.5	58.7			
	20							22.2	25.2	7.8	25.3	5.8	19.7	14.9	48.0	11.1	37.4			
42.7	10	Three-Phase 200V 50/60Hz Input 18/17W	0.065 / 0.062 (A)					12.3	14.0	14.2	30.7	14.2	23.4	30.3	65.5	30.3	50.1	490	441	392
	15							18.2	20.7	9.6	20.8	9.6	15.9	20.5	44.4	20.5	33.9			
	20							24.8	28.3	7.0	15.2	7.0	11.6	15.0	32.5	15.0	24.8			
57	10	Three-Phase 200V 50/60Hz Input 33/27W	0.120 / 0.100 (A)		15		23	11.2	13.3	44.5	83.1	37.0	74.8	126.8	236.8	105.4	213.1	980	980	784
	15							12.4	14.8	40.2	75.1	33.5	67.6	114.5	214.1	95.4	192.6			
	20							17.0	20.2	29.4	55.0	24.5	49.5	83.7	156.7	69.8	141.0			

kgf=Nx0.101972

Applicable voltage variation for 50Hz is ±3%. (When 60Hz, up to ±5% of voltage variation is applicable.)
In case 50Hz is applied at ±5% of voltage variation, torque value diminishes by 40% from the values shown in the table above.
Speed in the table indicates the values at rated current. Also rotational velocity and torque change when load is light or excessive.
Roller strength varies considerably by extent of impact load, weight or material of the object. Add extra value to allow for a margin. (recommended additional value: 1/3 to 1/2 of the above value)

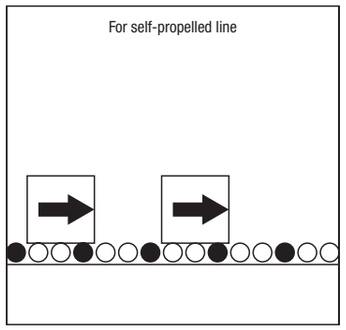
Order Example: Part Number MOR38 - L 300 - Nominal Speed 10

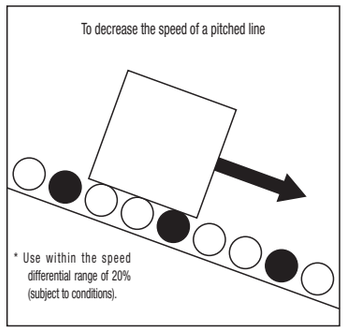
Delivery: 7 Days

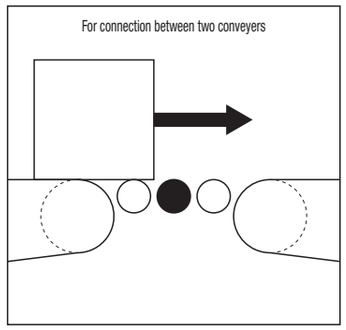
Express A 370 Baht/piece P.88

A flat charge of 990 Baht for 3 or more identical pieces.

Example







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