# TOSO



- •L-shaped, S-shaped and more motorized curve rails are available.
- Ready for use in those motorized rails up to 30 kg (66 lb). (\*for straight rail with Two-way Draw type.)

## Powerful + CM2000

Powerful + CM2000's Unique Features

### Many types of motorized curve rails are obtainable according to window shapes.

Ready for use in those motorized rails up to 30 kg (66 lb). (\*for straight rail with Two-way Draw type.)

### Motor Specifications

Item			Powerful	I 3L Series		Powerful 4P Series		
		Powerful 3L 220 V		Powerful Little N3L 220 V		Powerful 4P 220 V		
Rated power voltage	VAC	220		220		220		
Rated power frequency	Hz	50	60	50	60	50	60	
Rated power current	А	0.4	0.35	0.25	0.3	0.4	0.35	
Power consumption	W	80	75	60	70	80	75	
Operating voltage	VAC	Same as power source		Same as power source		Same as power source		
Operating current	А							
Time rating	min.	:	5		5		5	
Overheat protection operating temperature	°C	120±10		120±10		120±10		
Internal electric circuit		Built-in Inter rock circuit		Built-in Inter rock circuit		Auto keep circuit, built-in Inter rock circuit		
Operating switch spec.		Locker switch		Locker switch		3-button momentary contact switch Open: A contact Stop: B contact Close: A contact		
Weight of main unit	kg (lb)	1.8 (4.0)		1.8 (4.0)		1.8 (4.0)		
Operating time	sec./m	5	4	5	4	5	4	
Maximum curtain weight	kg (lb)	Two-way Draw: 30 (66) One-way Draw: 20 (44)		Two-way Draw: 30 (66) One-way Draw: 20 (44)		Two-way Draw: 30 (66) One-way Draw: 20 (44)		
Maximum rail length m (in)		4 (158)		4 (158)		4 (158)		

#### Applicable Range CM 2000 22.5 mm (.89") Type of curtain track . 19.7 mm (.78") 27 mm (1.1") Straight Single curve Two curves U-shaped curve (90 degree or more) 200 mm (7.9") or more L-shaped curve (90 degree or more) Master roller (300 mmR/11.8"R) Rail overlap (90 degree or more) М (300 mmR/ 11.8"R) Installation pattern M Μ Rail overlap 350 mm \_ (300 mmR/11.8"R) Overlap rail (14") \_ 60 mm Μ M (2.4") S-shaped curve (300 mmR/11.8"R) (90 degree or more) Μ 200 mm (7.9") or more Power transmission type Kepler cord Kepler cord Kepler cord One-way draw: 20 (44) One-way draw: 8 (18) One-way draw: 4 (9) Maximum kg curtain weight (lb) Powerful 3L Two-way draw: 30 (66) One-way draw: 15 (33) Two-way draw: 10 (22) One-way draw: 5 (11) Two-way draw: 6 (13) One-way draw: 3 (7) Powerful 4P Maximum m 4 (158) rail length (in) One-way draw: 20 (44) One-way draw: 8 (18) One-way draw: 4 (9) Maximum kg curtain weight Powerful Little N3L (lb) Two-way draw: 30 (66) Two-way draw: 10 (22) Two-way draw: 6 (13) One-way draw: 15 (33) One-way draw: 5 (11) One-way draw: 3 (7) Maximum m 4 (158) rail length (in)

### Bending Conditions

Item	Conditions			
Radius	300 mmR (12"R)			
Overall curve half	1,000 mmR (39"R) or more (Unit: 10 mm/.39")			
Angle	90° or more			
Aligie	90 01 more			
Number of curves	Maximum of two			
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### Stack-off Allowance Guide

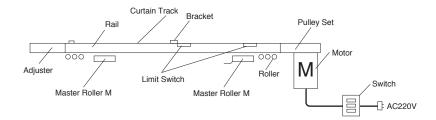
Turne	One-way Draw	Two-way Draw			
Туре	One-way Draw	Master Roller	Rail Overlap		
Straight	<u>(ℓ−260 mm)</u> X 16 mm + 400 mm	<u>(ℓ−260 mm)</u> X 16 mm + 400 mm	$\frac{(\ell - 210 \text{ mm})}{200 \text{ mm}} \text{ X 16 mm} + 350 \text{ mm}$		
	<u>(ℓ−10.2")</u> 3.9" X .63" + 16"	<u>(ℓ−10.2")</u> 7.9" X .63" + 16"	<u>(ℓ−8.3")</u> 7.9" X .63" + 14"		

\*Number of rollers: 8 pieces per meter. Overlap space for the rail overlap: 300 mm (12").  $\ell$ : total length. Two-way Draw in the table shows a length of stack-off space for one (half) panel.

### Component Parts

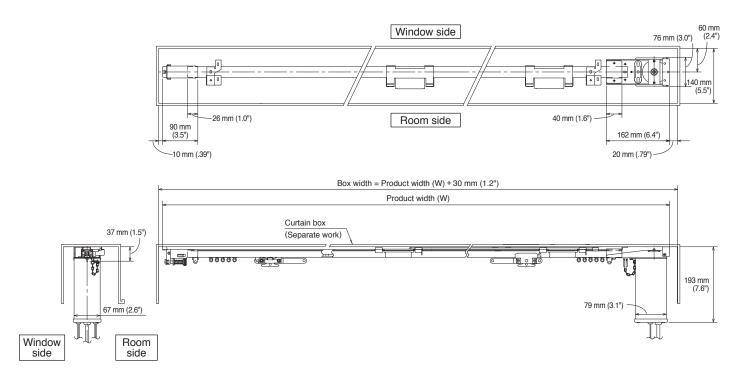
### Two-way draw (Master roller)

### (Master roller)

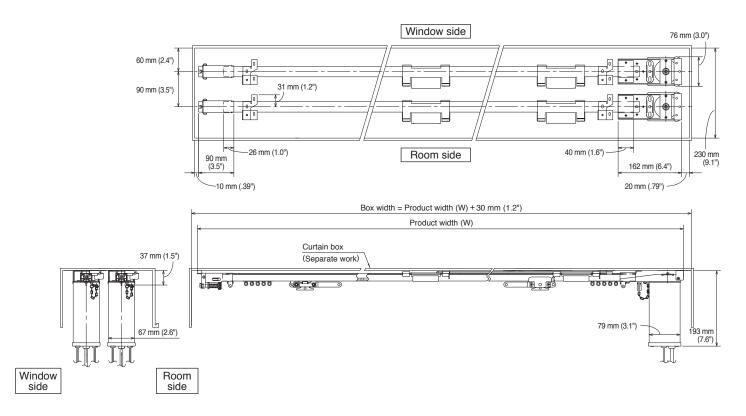


### Installation Dimensions and Diagram

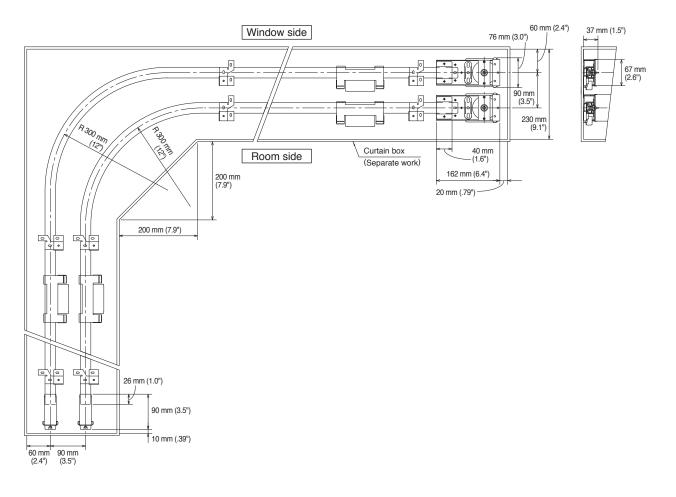
### Straight: ceiling single attachment



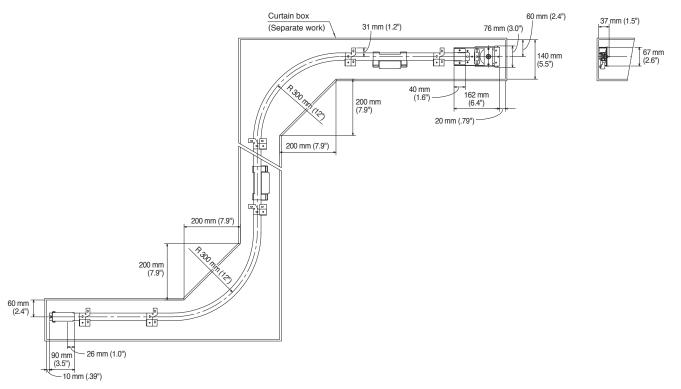
Straight: ceiling double attachment

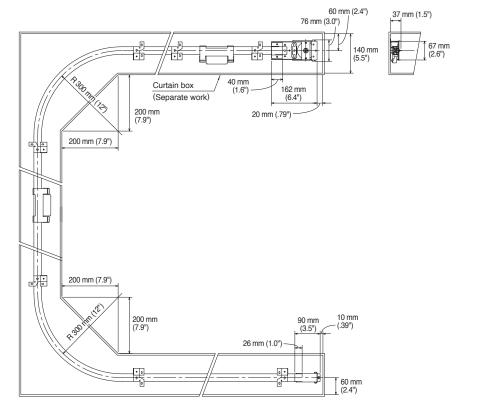


#### L-shaped curve: ceiling double attachment



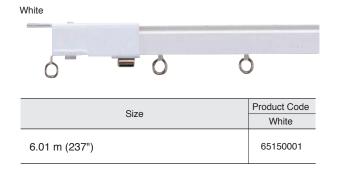
S-shaped curve: ceiling single attachment

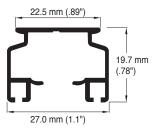




U-shaped curve: ceiling single attachment (Master roller)

### CM2000 Rail





### Powerful + CM2000 Parts

Product Name	Product Code	Product Name	Product Code	Product Name Prod		Product Code
Ceiling Single Bracket M2	00510327	CM2000 Pilot Roller for Powerful Left	01200015	5 CM2000 Limit Switch A	Silver	00510305
CM2000 Master Roller for Powerful Right		New Delac Roller (8 pieces per strip) Natura	al 00210027	10 m (394") or less One-way draw: 5 m (197") or less Rail overlap (1000 mm/39"): 9 m (354") or less	White	00510328
	00510205	New Delac Intermediate Stop	00210134	CM2000 Limit Switch B	Silver	00510306
CM2000 Master Roller for Powerful Left		CM2000 Pulley Set	01200003	Two-way draw: 10 m (394") to 20 m (787") One-way draw: 5 m (197") to 10 m (394") Rail overlap (500 mm/20"): 9.5 m (374") to 19 m (748")	White	00510329
	01200014			Kevler Cord Ø 2.8		00510200
CM2000 Pilot Roller for Powerful Right	01200016	CM2000 Adjuster	00510197			