

ROLLERDRIVE SERIES EC5000

ø 50 mm, cylindrical, IP66, for 0 to 40 °C



24V

Application area

Drive for unit handling conveyor systems, such as transporting cardboard cartons, containers or platens at normal ambient temperature. Suitable for straight conveyors and especially zero-pressure accumulation conveyors. Often used at locations for cleaning with water jets due to the high protection rating.

48V

20W

35W

50W

AI

BI

Compact design

The motor integrated in the tube allows a very compact design of the conveyor system.

Very energy-efficient

The brushless drive features energy recovery when braking. The conveyor system can operate without pneumatics or conventional drives, which must be operated continually.

Flexible possible applications

RollerDrive is available in many variations, allowing it to be used in all types of different conveyor systems. For the user, this translates into a single interface instead of many. Depending on the application area, PolyVee or round belts can be used for the transmission of force. The many gear ratios allow selecting the perfect pairing between speed and torque.

Low-noise

The use of decoupling elements achieves particularly low-noise running.

Maintenance-free and installation-friendly

The drive with internal commutation electronics does not require any maintenance. It features an overload protection that prevents damages due to overtemperature or blockage. It is connected securely without complex screw connection by using a motor cable with 5-pin snap-in plug.



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Technical data

Rated voltage	24 V	24 V	48 V	48 V
Power	35 W	50 W	35 W	50 W
Rated current	2.4 A	3.4 A	1.2 A	1.7 A
Starting current	5.5 A	7.5 A	2.8 A	3.8 A
Max. noise emission (installed)	55 dB (A), application-dependent			
Length of motor cable	500 mm			
Max. reference length	1500 mm			
Ambient temperature in operation	0 to 40 °C			
Motor shaft	Stainless steel, 11 mm HEX, thread M12 x 1			
Anti-static version	Yes (< 10 ⁶ Ω)			
Tube wall thickness	ø 50 mm: 1.5 mm			
Tube material	Stainless steel			
Tube sleeving	PVC sleeve 2 mm, 5 mm PU sleeve 2 mm Lagging 2 to 5 mm			

Maximum load capacity

The maximum load capacity of the RollerDrive EC5000 depends on the drive head and the length of the RollerDrive.

Length of RollerDrive	≤ 1000 mm	1100 mm	1200 mm	1300 mm	1400 mm	1500 mm
Maximum load capacity per RollerDrive without drive head	1100 N	925 N	750 N	650 N	550 N	475 N
Maximum load capacity per RollerDrive with drive head (PolyVee, round or toothed belt)	350 N					

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Design versions

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Gear ratio	Max. conveying speed [m/s]	Min. conveying speed [m/s]	Rated torque [Nm]	Acceleration torque [Nm]	Zero motion hold [Nm]
18:1	1.00	0.04	0.89	2.22	2.22
21:1	0.86	0.04	1.04	2.59	2.59
30:1	0.60	0.03	1.49	3.74	3.74
42:1	0.43	0.02	2.07	5.18	5.18
49:1	0.37	0.02	2.42	6.04	6.04
78:1	0.23	0.01	3.55	9.54	9.54
108:1	0.17	0.01	4.95	13.00	13.00

50 W

Gear ratio	Max. conveying speed [m/s]	Min. conveying speed [m/s]	Rated torque [Nm]	Acceleration torque [Nm]	Zero motion hold [Nm]
18:1	1.00	0.04	1.27	3.17	3.17
21:1	0.86	0.04	1.48	3.70	3.70
30:1	0.60	0.03	2.13	5.34	5.34
42:1	0.43	0.02	2.96	7.40	7.40
49:1	0.37	0.02	3.45	8.63	8.63
78:1	0.23	0.01	5.07	13.00	13.00
108:1	0.17	0.01	7.07	13.00	13.00

Before the run-in, the values may differ up to ±20 %. After a run-in phase, the values vary only in the range of ±10 % for 95 % of all RollerDrive used.

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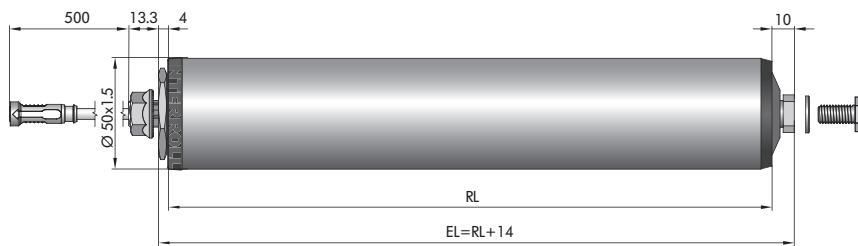
Dimensions

The minimum reference length depends on the gear box variant, the grooves in the tube and the drive or the bearing assembly. A sufficient axial play is already taken into account, so that the actual clear width between side profiles is required. A hexagon hole measuring at least 11.2 mm is recommended for fastening on the cable side. If the RollerDrive is inserted obliquely, the fastening hole must be designed larger accordingly. The fastening hole of the EC5000 on the opposite side depends on its version. When fastening using the hexagon spring shaft, a hexagon hole measuring at least 11.2 mm should also be planned. In case of a screw fastening, a drilled hole with a diameter of 8.5 mm should be planned. Ordering dimensions for tube sleeves starting at page 99

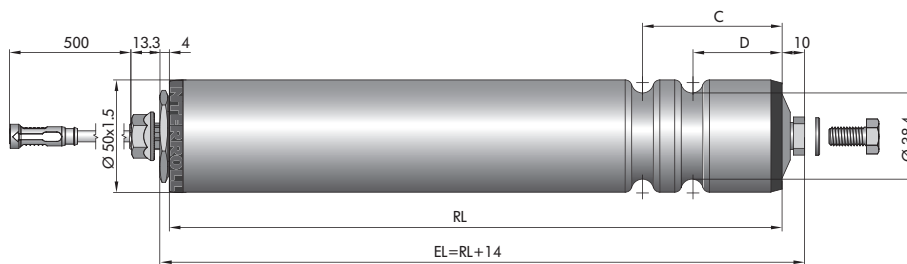
- RL = Reference length/ordering length
- EL = Installation length, clear width between side profiles

The female thread solution for the IP66 designs consists of a shaft bolt using a floating bearing. Ball bearings are not used.

M8 female thread, without grooves



M8 female thread, with grooves



PolyVee drive head with M8 female thread

