

ROLLERDRIVE SERIES EC5000

ø 50 mm, cylindrical, IP54, for 0 to 40 °C



24V

Application area

Drive for unit handling conveyor systems, such as transporting cardboard cartons, containers, platens or tires at normal ambient temperature. Suitable for straight conveyors, small belt conveyors and especially zero-pressure accumulation conveyors. Also usable in shuttle systems, aligning conveyor segments or transfers to other "conveyor system branches".

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, round or toothed belts can be used for the transmission of force. Nine gear ratios allow selecting the perfect pairing between speed and torque. The electronic holding brake (Zero-Motion-Hold) holds conveying goods in position, even on gravity conveyors.

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	24 V	48 V	48 V	48 V
Power	20 W	35 W	50 W	20 W	35 W	50 W
Rated current	1.4 A	2.4 A	3.4 A	0.7 A	1.2 A	1.7 A
Starting current	3.0 A	5.5 A	7.5 A	1.5 A	2.8 A	3.8 A
Max. noise emission (mounted)	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 ø 51 mm: 2 mm					
Tube material	Zinc-plated steel, 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]	Continuous blocking torque [Nm]
9:1	2.01	0.09	0.25	0.63	0.63
13:1	1.39	0.06	0.36	0.91	0.91
18:1	1.00	0.04	0.50	1.26	1.26
21:1	0.86	0.04	0.59	1.47	1.47
30:1	0.60	0.03	0.85	2.13	2.13
42:1	0.43	0.02	1.18	2.95	2.95
49:1	0.37	0.02	1.37	3.44	3.44
78:1	0.23	0.01	2.02	5.43	5.43
108:1	0.17	0.01	2.82	7.57	7.57

35 W

Gear ratio	Max. conveying speed [m/s]	Min. conveying speed [m/s]	Rated torque [Nm]	Acceleration torque [Nm]	Continuous blocking torque [Nm]
9:1	2.01	0.09	0.44	1.11	1.11
13:1	1.39	0.06	0.64	1.60	1.60
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

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50 W

Gear ratio	Max. conveying speed [m/s]	Min. conveying speed [m/s]	Rated torque [Nm]	Acceleration torque [Nm]	Continuous blocking torque [Nm]
9:1	2.01	0.09	0.63	1.58	1.58
13:1	1.39	0.06	0.91	2.29	2.29
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 $\pm 20\%$. After a run-in phase, the values vary only in the range of $\pm 10\%$ for 95 % of all RollerDrive used.

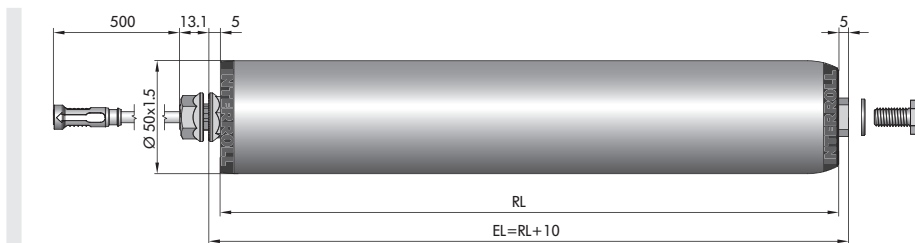
Dimensions

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 lane width between side profiles is required. When using the tapered hexagon spring shaft, it must be ensured that the design of the axial play is not too high. If the RollerDrive selected is too short, the shaft may have play in the hexagon hole. A hexagon hole with a size of at least 11.2 mm is recommended. If the RollerDrive is installed obliquely, the fastening hole must be designed larger accordingly.

Ordering dimensions for tube sleeves starting at page 80

- RL = Reference length/ordering length
- EL = Installation length, inside diameter between side profiles

Female thread, without grooves



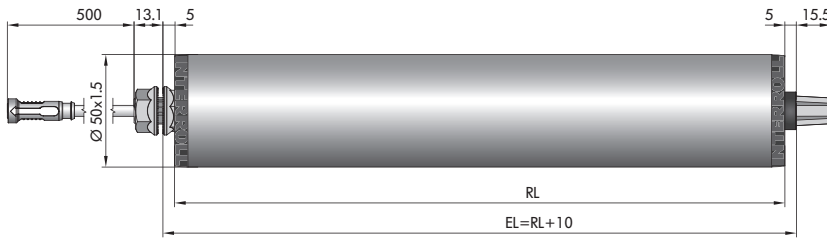
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Hexagon spring shaft, without grooves



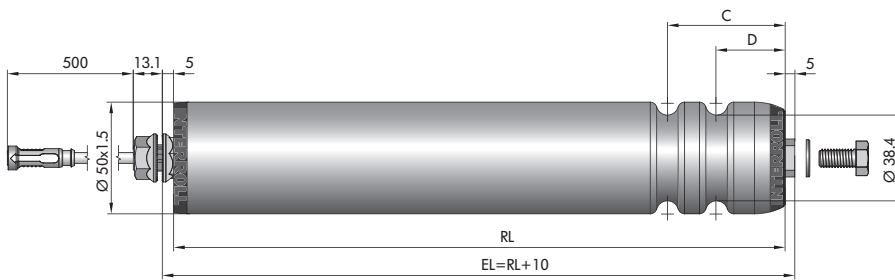
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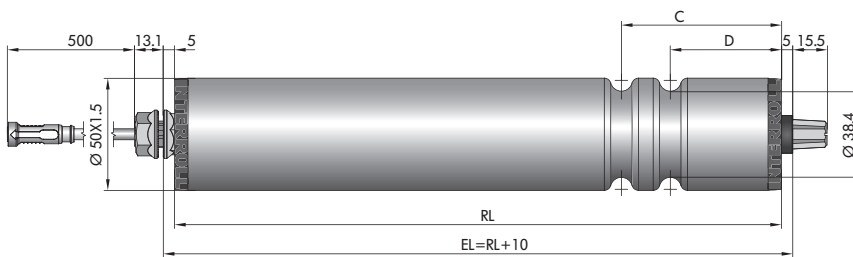
Female thread, with grooves



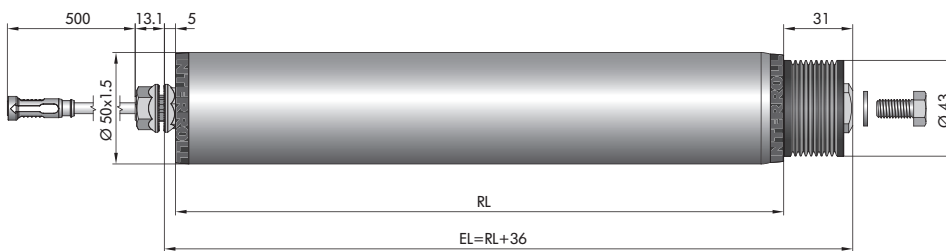
AI

BI

Hexagon spring shaft, with grooves



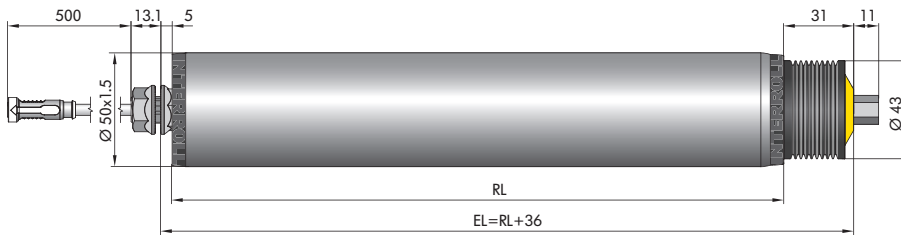
PolyVee drive head with female thread



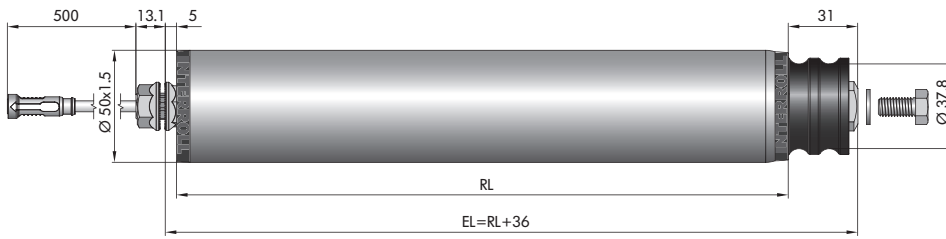
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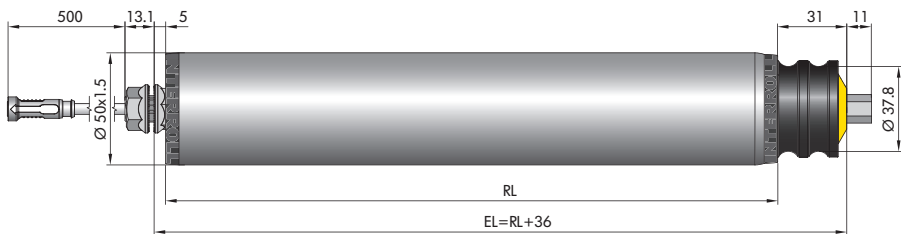
PolyVee drive head with hexagon spring shaft



Round belt drive head with female thread



Round belt drive head with hexagon spring shaft



Toothed belt drive head with female thread

