

ROLLERDRIVE SERIES EC5000

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



24V

48V

20W

35W

50W

AI

BI

Application area

Drive for unit handling conveyor systems, such as transporting cardboards, containers, workpiece carriers 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".

Compact design

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

Very energy-efficient

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

Flexible possible applications

RollerDrive is available in all types of versions, 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

20 W

Gear ratio	Maximum conveying speed [m/s]	Minimum 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	Maximum conveying speed [m/s]	Minimum 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	Maximum conveying speed [m/s]	Minimum 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 ± 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 dimensions of the conveyor roller depend on the shaft version. A sufficient axial play is already taken into account, so that only the actual lane width between side profiles is required for ordering.

RL = Reference length/ordering length

EL = Installation length, inside diameter between side profiles

Without grooves

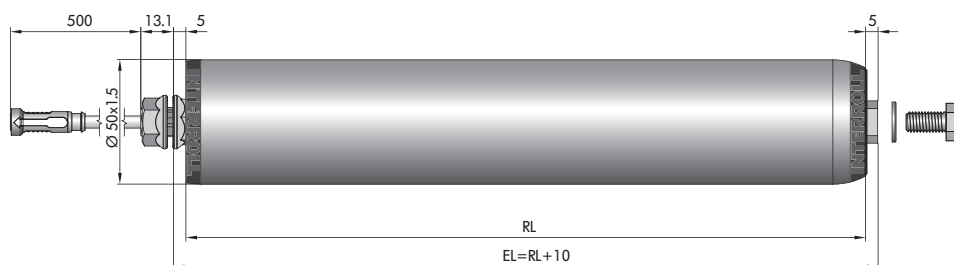


Fig.: With female thread

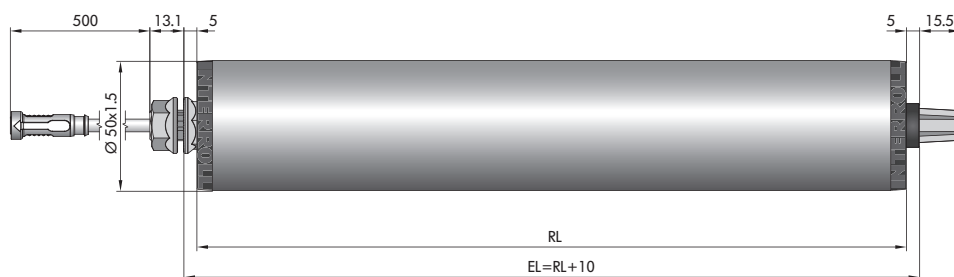


Fig.: With hexagon spring shaft

Grooves

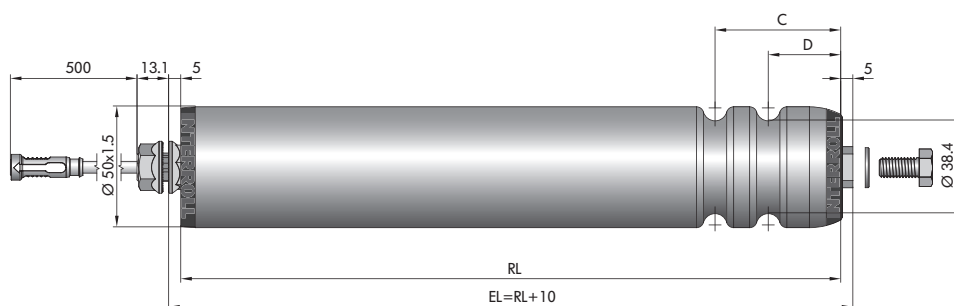


Fig.: With female thread

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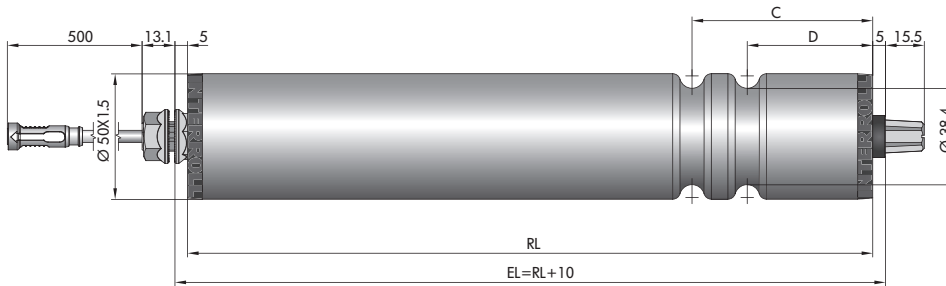


Fig.: With hexagon spring shaft

PolyVee drive head

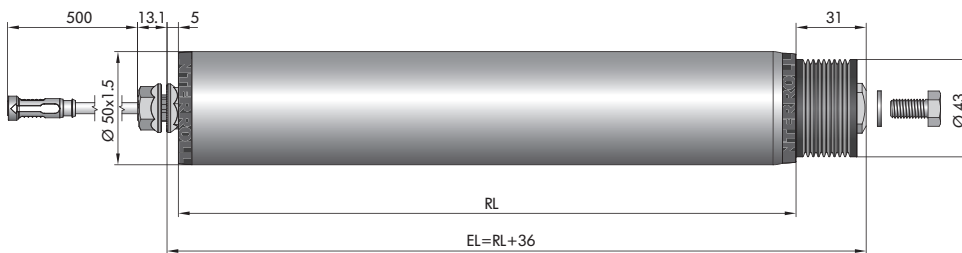


Fig.: With female thread

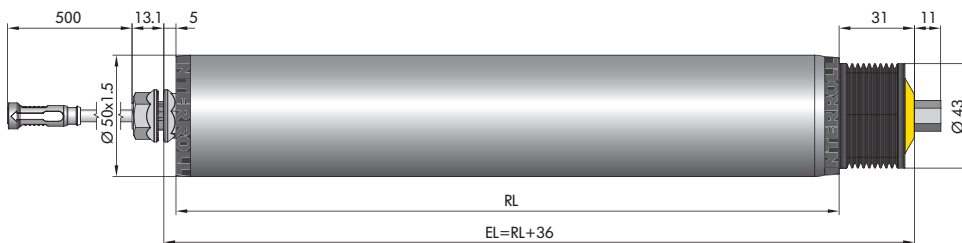


Fig.: With hexagon spring shaft

Round belt head

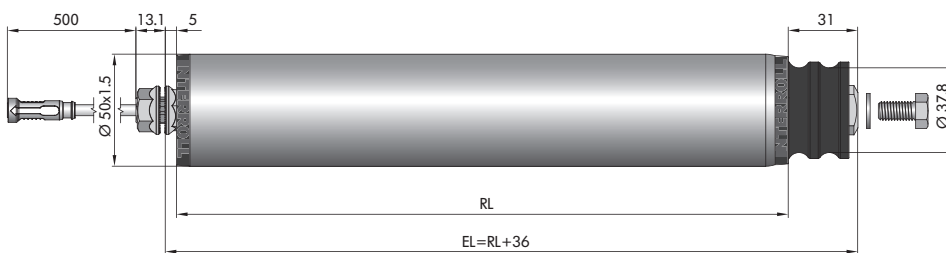


Fig.: With female thread

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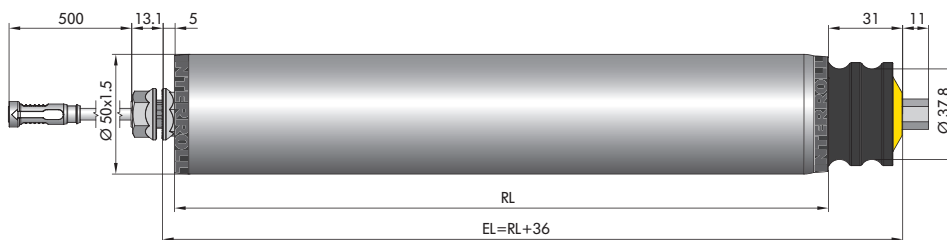


Fig.: With hexagon spring shaft

Toothed belt head

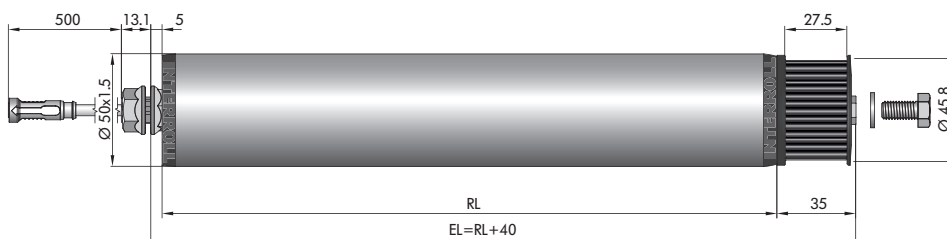


Fig.: With female thread