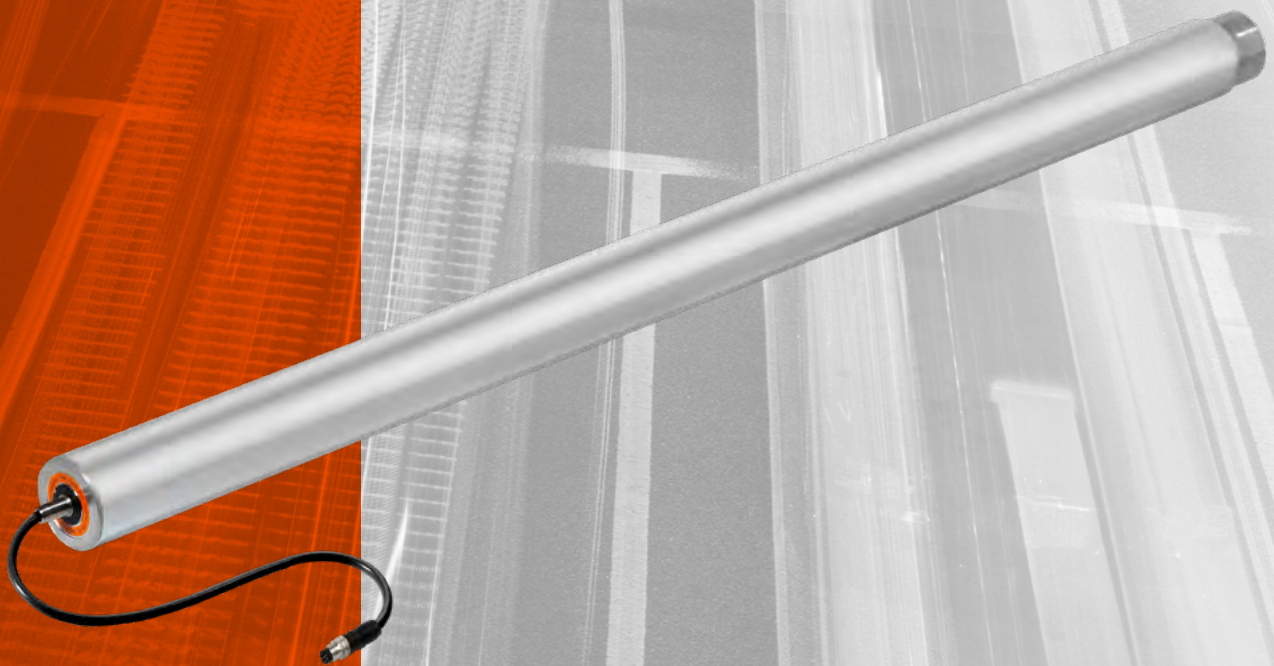




Evolution Center



Motorized Pallet E-roller

ER63/ER70/ER80/ER89 series

01.02
27-2-2020

MOTORIZED PALLET E-ROLLER

Product description

The ER63 to ER89 series consist of motorized E-rollers which are brushless DC motors integrated in a conventional NDW pallet roller with the primary purpose to drive non-driven rollers in pallet conveyor systems. Pallet E-rollers are available in a range of diameters: 63mm, 70mm, 80mm and 89mm.

Typical industrial applications range from intralogistics systems to manufacturing applications which include pallet handling. The E-roller can be used in straight conveyor systems but also in specialized modules such as turntables. Furthermore, the E-rollers are perfectly suitable for applications where zero-pressure accumulation is required.

E-roller transmissions

Pallet E-rollers can be equipped with poly-v and chain headers for transmission. The selection is based on the requirements of the application.



Key features

- 24Vdc powered motor
- Energy efficient
- Low start-up current
- Available in three different gear ratios to suit a wide range of applications
- Seamless integration with non-driven rollers with various transmission options
- Maintenance-free and low-noise
- Optimized PWM speed control via NDW controllers
- Overvoltage and stall protection integrated in NDW controllers
- Small minimum roller length
- Easy to install

E-roller controllers

Each motorized E-roller must be connected to a compatible NDW motor controller such as the BC50 or BP120 controller. All controllers are designed to precisely control the behaviour of the motorized roller.



- Single E-roller connection
- 24Vdc power input
- Basic I/O control
- IP20



- Dual E-roller connection
- 230Vac power input
- Integrated logic and ZPA functionalities
- Two sensor connections
- IP54

TECHNICAL DATA

Technical Data

Rated voltage	24Vdc
Rated current	2A (1)
Starting current	2A (1)
Power consumption (Max)	50W
Ambient temperature in operation	0 °C to +40 °C, non-condensing
Compatible NDW controllers	BC50 and BP120
Motor connector type and cable length	M8-6pin, length 900mm
Motor shaft	Stainless steel, 11 mm hexagon, thread M12 x 1.75
Tube diameter	63.5, 70, 80, 89 mm
Tube material	Zinc-plated steel or stainless steel
Stall protection	Yes
Overvoltage protection	Yes
Protection rate	IP54
Maximum Noise level	55 dB (2)

1. Actual current is depended on the conditions of the application, such as actual load, section length, slope etc. A very short current peak of <40ms will occur during startup of the E-roller.
2. Measured at 1 meter. Also dependent on the conditions of the application, such as conveyor frame, mounting type, load and resonance behavior of the system

PERFORMANCE DATA

Performance data - 100 RPM (36:1 gear ratio)

	Speed (m/s) at different roller diameters				Torque (Nm)	Starting torque (Nm)
	ER63	ER70	ER80	ER89		
Minimum speed (20%)	0.06	0.07	0.08	0.09	4.1	6.9
Average speed (50%)	0.17	0.18	0.21	0.23	3.2	6.9
Maximum speed (100%)	0.32	0.35	0.40	0.45	2.6	6.9

Performance data - 50 RPM (75:1 gear ratio)

	Speed (m/s) at different roller diameters				Torque (Nm)	Starting torque (Nm)
	ER63	ER70	ER80	ER89		
Minimum speed (20%)	0.04	0.04	0.05	0.05	4.9	12.7
Average speed (50%)	0.09	0.10	0.11	0.12	5.7	12.7
Maximum speed (100%)	0.16	0.18	0.21	0.23	6.5	12.7

Performance data - 30 RPM (75:1 gear ratio)

	Speed (m/s) at different roller diameters				Torque (Nm)	Starting torque (Nm)
	ER63	ER70	ER80	ER89		
Minimum speed (20%)	0.02	0.02	0.03	0.03	11.0	19.4
Average speed (50%)	0.05	0.05	0.06	0.07	9.6	19.4
Maximum speed (100%)	0.10	0.11	0.13	0.14	7.8	19.4

These values are given as guideline. Actual transfer capacity depends on application parameters such as nature of transported load, quality of the bearings, duty-cycle, type of transmission to non-driven rollers etc.

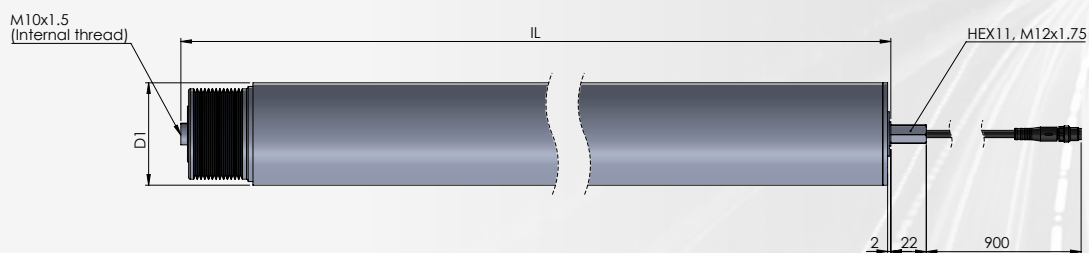
Dimensions of the Pallet E-roller

The dimensions of the E-roller depend on the type of transmission. When ordering a E-roller, the IL-value (enclosed length or frame width) should be used. Since NDW also manufactures the non-driven rollers, alignment between E-rollers and other rollers can be guaranteed.

For other tube diameters, transmission types or mounting type contact NDW.

With Poly-V (Steel)

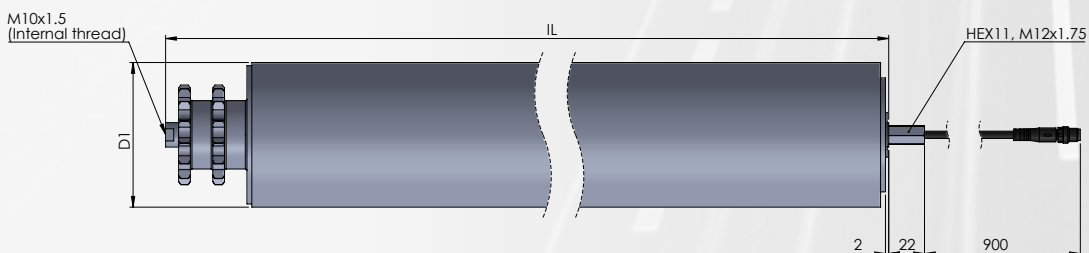
Available diameters D1	63.5, 70, 80, 89 mm
internal thread	M10



Poly-V, Not available in Germany

With chain head

Available diameters D1	63.5, 70, 80, 89 mm
internal thread	M10



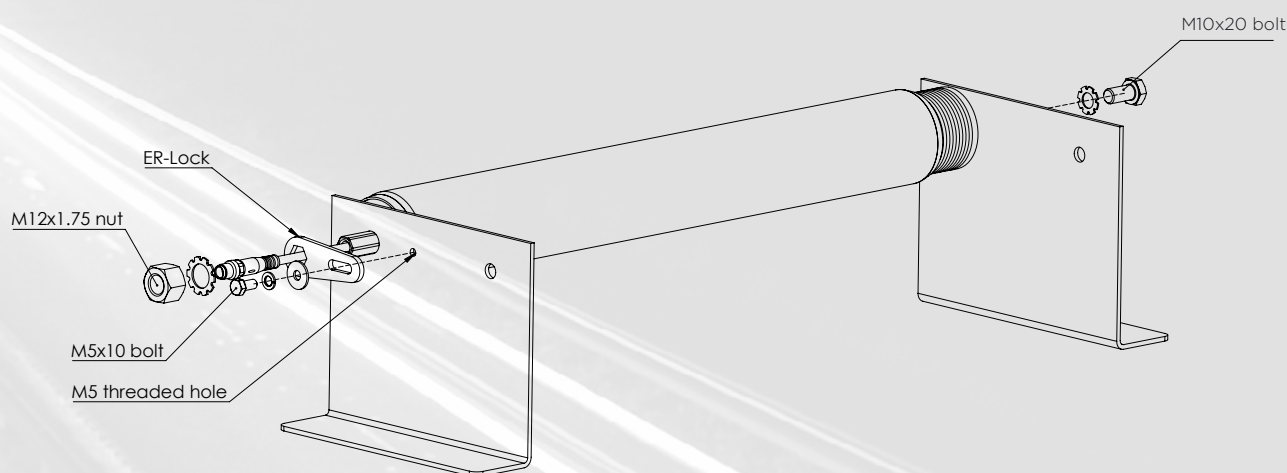
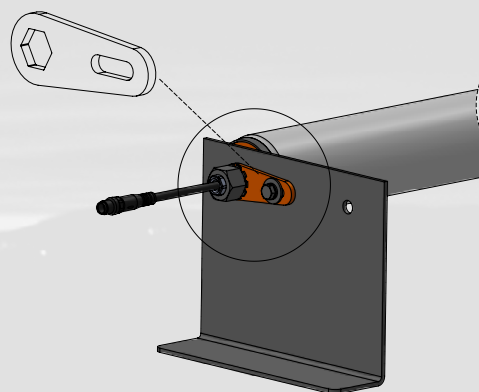
Mounting of the motorized E-roller

The motorized pallet E-roller can be mounted in any pallet conveyor frame consisting of hexagonal holes (min. 11.2 mm) or round holes (min 12.2 mm).

To prevent the roller from twisting in the conveyor frame, one could use the ER-locking plate. This stainless-steel plate has a narrow tolerance and can be slid over the ER50 shaft. The locking plate can be mounted in multiple directions to ease installation.

Required materials:

- ER-Locking plate
- M12 toothed washer + M12 nut
- M5 toothed washer + M5 washer + M5x10 bolt
- M10 toothed washer + M10x20 bolt



Available accessories

• E-roller extension cable

1500mm, two-sided connector, male/female, order code: 901-CABMOT-1500

3000mm, two-sided connector, male/female, order code: 901-CABMOT-3000

• E-roller mounting lock

ER-Lock, stainless steel, order code: 901-ERLOCK-1A

