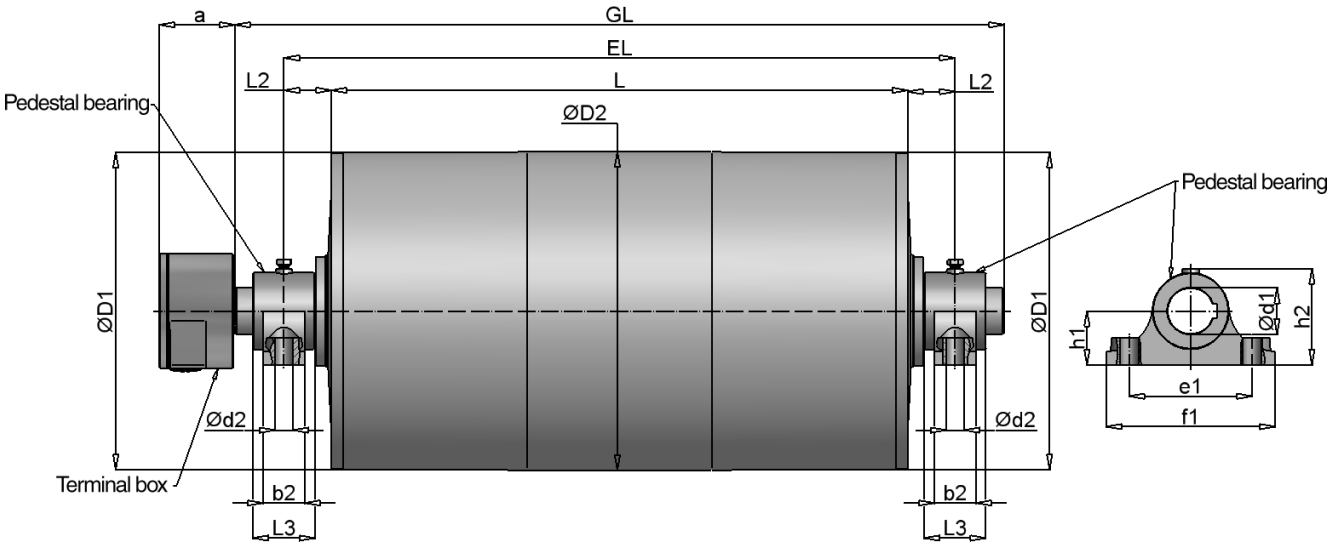
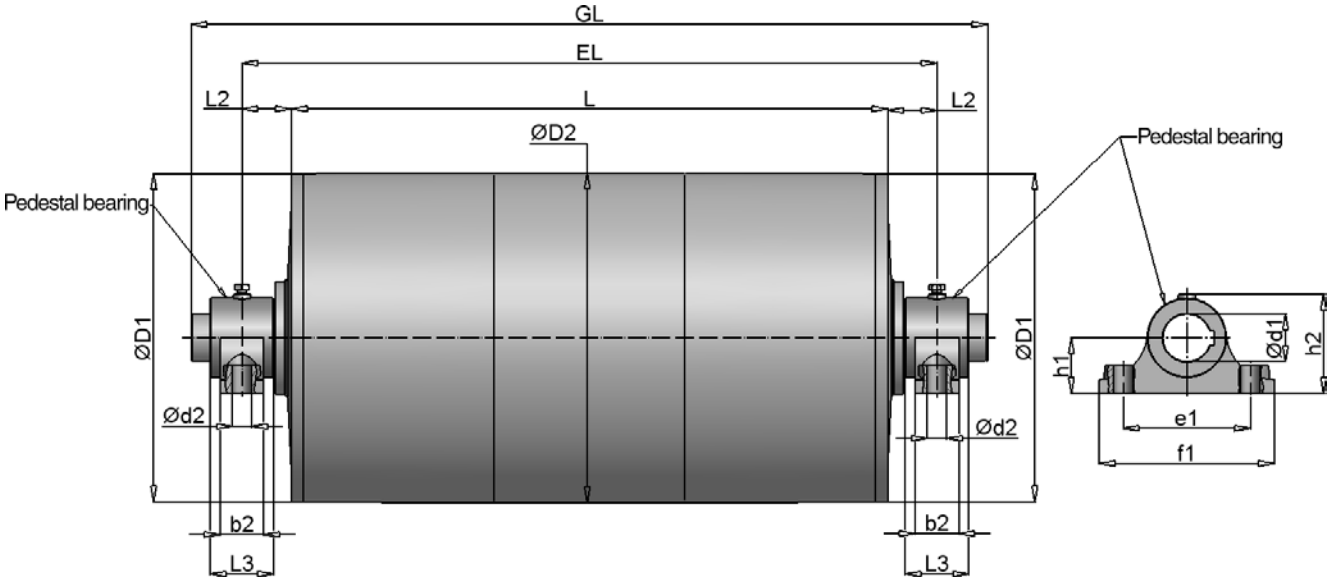
TM 160 - TM 620 – Drum Motor (Pedestal bearing)



UT 160 - UT 620 - Idler (Pedestal bearing)

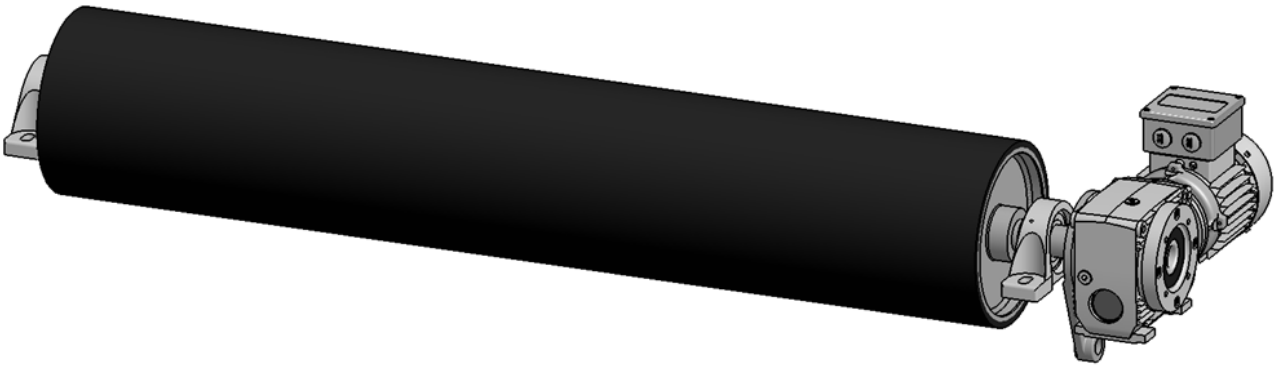


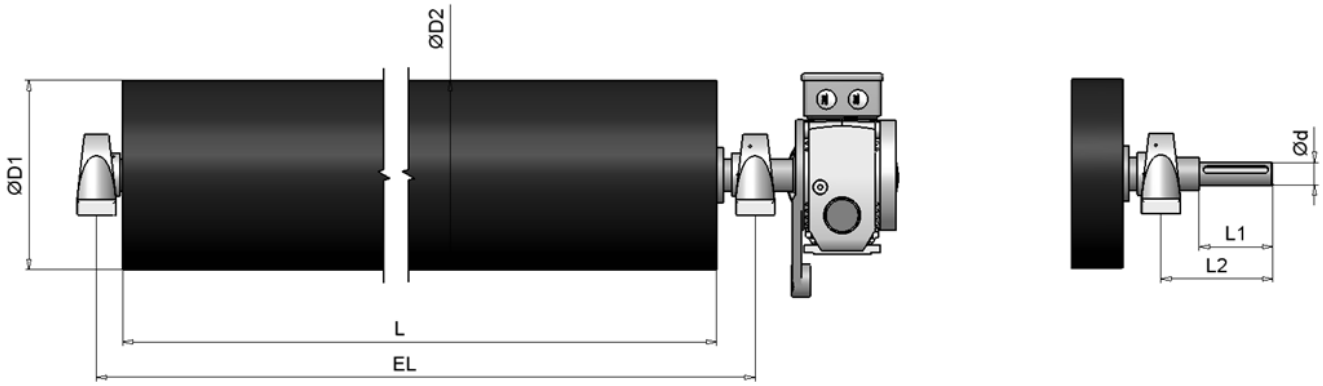
Selection charts TM with pedestal bearing TM 160L - TM 620L
All measurements are in Inches.

Drum Motor														IP65	IP66/67
Size	Typ	ØD2	ØD1	a	b2	Ød1	Ød2	e1	f1	h1	h2	L2	L3	EL	EL
160	TM 160.0	6.36	6.30	3.74	1.77	1.57	0.59	4.72	6.30	1.97	3.74	1.52	2.36	L + 3.03	L + 4.09
Idler															
160	TM 160.0	6.36	6.30	3.74	1.77	1.57	0.59	4.72	6.30	1.97	3.74	1.52	2.36	L + 3.03	L + 4.09
Drum Motor															
165	TM 165.1	6.50	6.47	3.74	1.77	1.57	0.59	4.72	6.30	1.97	3.74	1.52	2.36	L + 3.03	L + 4.09
Idler															
165	TM 160.1	6.50	6.47	-	1.77	1.57	0.59	4.72	6.30	1.97	3.74	1.52	2.36	L + 3.03	L + 4.09
Drum Motor															
216	TM 216.0	8.50	8.41	3.74	1.77	1.38	0.59	4.72	6.30	1.97	3.74	1.52	2.36	L + 3.54	L + 4.80
216	TM 216.1	8.50	8.41	3.74	1.77	1.57	0.59	4.72	6.30	1.97	3.74	1.97	2.36	L + 3.94	L + 5.28
Idler															
216	TM 216.0	216	213,5	-	1.77	1.57	0.59	4.72	6.30	1.97	3.74	1.52	2.36	L + 3.54	L + 4.80
216	TM 216.1	216	213,5	-	1.77	1.57	0.59	4.72	6.30	1.97	3.74	1.97	2.36	L + 3.94	L + 5.28
Drum Motor															
321	TM 321.0	12.64	12.5	3.74	1.77	1.57	0.59	4.72	6.30	1.97	3.74	1.97	2.36	L + 3.94	L + 5.90
321	TM 321.1	12.64	12.5	3.74	1.97	1.77	0.75	5.51	7.48	2.36	4.33	2.24	2.75	L + 4.49	L + 6.14
Idler															
321	TM 321.0	12.64	12.5	-	1.77	1.57	0.59	4.72	6.30	1.97	3.74	1.97	2.36	L + 3.94	L + 5.90
321	TM 321.1	12.64	12.5	-	1.97	1.77	0.75	5.51	7.48	2.36	4.33	2.24	2.75	L + 4.49	L + 6.14
Drum Motor															
415	TM 415.0	16.34	16.26	3.94	1.97	1.77	0.75	5.51	7.48	2.36	4.33	2.24	2.75	L + 4.49	L + 6.14
415	TM 415.1	16.34	16.26	3.94	2.16	2.36	0.94	16.30	8.66	2.75	4.92	2.44	3.15	L + 4.88	L + 7.64
Idler															
415	TM 415.0	16.34	16.26	-	1.97	1.77	0.75	5.51	7.48	2.36	4.33	2.24	2.75	L + 4.49	L + 6.14
415	TM 415.1	16.34	16.26	-	2.16	2.36	0.94	16.30	8.66	2.75	4.92	2.44	3.15	L + 4.88	L + 7.64
Drum Motor															
518	TM 518.0	20.39	20.20	3.94	2.16	2.36	0.94	16.30	8.66	2.75	4.92	2.44	3.15	L + 4.88	L + 7.64
518	TM 518.1	20.39	20.20	3.94	2.75	2.95	1.10	8.27	10.63	3.54	6.50	3.15	3.94	L + 6.30	L + 8.66
Idler															
518	TM 518.0	20.39	20.20	-	2.16	2.36	0.94	16.30	8.66	2.75	4.92	2.44	3.15	L + 4.88	L + 7.64
518	TM 518.1	20.39	20.20	-	2.75	2.95	1.10	8.27	10.63	3.54	6.50	3.15	3.94	L + 6.30	L + 8.66
Drum Motor															
620	TM 620.0	24.41	24.33	3.94	2.75	2.95	1.10	8.27	10.63	3.54	6.50	3.15	3.94	L + 6.30	L + 8.66
Idler															
620	TM 620.0	24.41	24.33	-	2.75	2.95	1.10	8.27	10.63	3.54	6.50	3.15	3.94	L + 6.30	L + 8.66

Driving a drum for combination with parallel shaft, helical bevel, and worm gear

Enquiry for Tail Pulley





Driving Drum											
Size	**Type**	**D2 [In]**	**D1 [In]**	**L [In]**	**EL [In]**	**Ød [In]**	**L1 [In]**	**L2 [In]**	**n [FPM]**	**T [Lbs-Ft]**	**remarks**
111	AT-111	4.47	4.43								
135	AT-135	5.41	5.35								
165	AT-165	6.50	6.46								
216	AT-216	8.50	8.41								
321	AT-321	12.64	12.52								
415	AT-415	16.34	16.26								
518	AT-518	20.39	20.20								
620	AT-620	24.41	24.33								

Remaining dimensions available on customer request

Features of driving drum:
- Drum end caps welded together with output shaft and drum shell.
- Dimension of input shaft suitable to all gear motors
- Shaft extension in rust proof design
- Crowned shell with rust proof covering
- High quality pedestal bearing
- Drum end caps and pedestal bearing painted

The gear motors are available from our gearbox manufacturer, Himmel.
Upon request we can supply a complete frame to mount the tail pulley.

Supplementary Options

TM Typ TM type	60	80	82	111	135	160	165	216	321	415	518	620	630	800
Mechanical Back Stop	X	X	X	X	X	X	X	X	X	X	X	X	X	X
Electromagnetic Brake			X	X	X	X	X	X	X	X	X	X	X	X
Thermal Overload		X	X	X	X	X	X	X	X	X	X	X	X	X
Stainless Steel version	X	X	X	X	X	X	X	X	On request					
Black rubber lagging		X	X	X	X	X	X	X	X	X	X	X	X	X
White rubber lagging - Food applications		X	X	X	X	X	X	X						
Zinc coated (galvanic) drum	X	X	X	X	X	X	X	X	X	X	X	X		
Two speed motor								X	X	X	X	X		
Labyrinth sealing system IP 66	X	X	Standard	Standard	X	X	Standard	X	Standard	Standard	Standard	X		
Cable	Standard	Standard	Standard	Standard	Standard	Standard	Standard	X	X					
Terminal box				X	X	X	X	Standard	Standard	Standard	Standard	Standard	Standard	Standard
Pedestal bearing	Dimensions on page 60					X	X	X	X	X	X	X	X	X
Standard mounting Brackets	X	X	X	X	X	X	X	X	X	X	X	X		

Operation voltages

For the design of the motor winding we require information on operating voltage and starting method. The standard winding design for drum motors is as following:
230V, 460V or 575V – 3ph – 60Hz.
If dual voltage is required please indicate this.
Special voltages and frequencies can also be supplied upon request.

Connection

Check whether the voltage and connections of the supplied equipment comply with the available voltage on the place of installation. If the above does not match, the connections on the terminal block should be changed. By opening the terminal box cover, the terminal block is accessible.
All LAT® conveyor drum motors must be fitted with a ground terminal (VDE 0530).

Special notice

Screened cable should be used when the drum motor is supplied with Encoder, Brake or connected to a Frequency Drive.

Motor protection

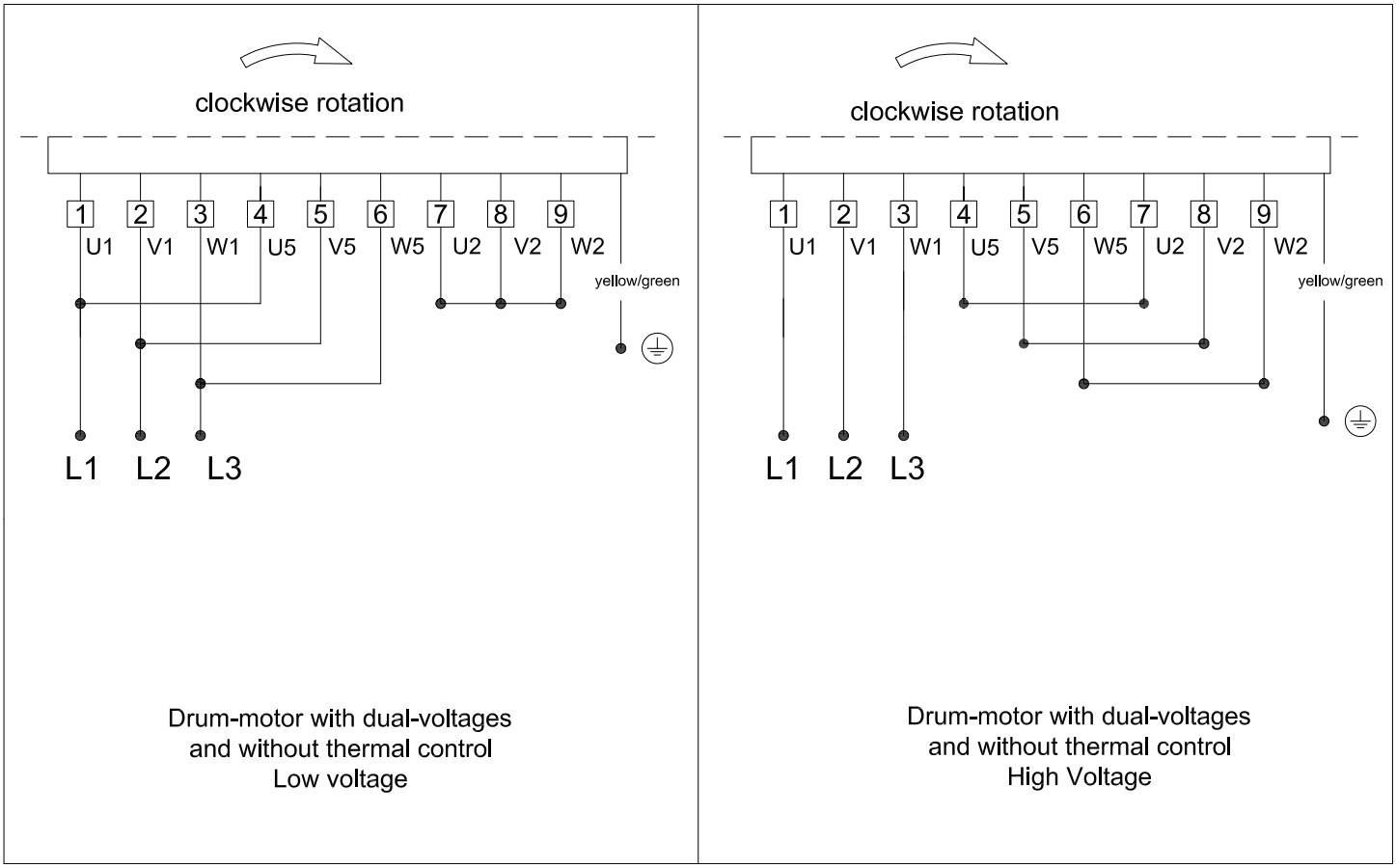
Fuses are not made for motor protection, they are especially for line protection against short circuit. For the protection of the windings of a 3 phase motor, given thermal overload through locked rotor and 2 phase running, there is a choice on request of the following protection types mentioned below:

Thermistor (internal) (PTC) in combination with a trip device.

Winding thermostats (internal) (WT) that opens or closes in the stator windings, which disconnects the motor on overload via a relay. This relay does not protect against locked rotor, for this case, in addition, motor protection switches are to be provided.

Motor protection switch (external) with bi-metal contacts, which opens within admissible current input.

Wire diagram for dual voltage motors 230/460V - 3ph - 60Hz

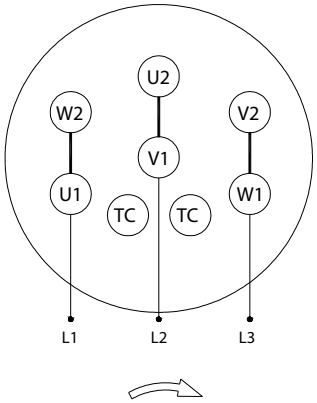
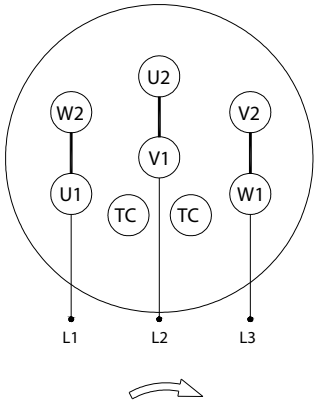
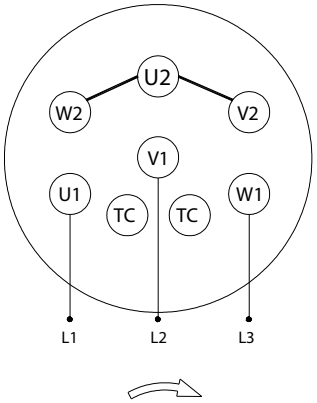


Drum-motor with dual-voltages
and without thermal control
Low voltage

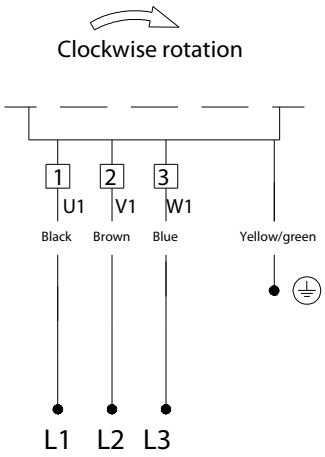
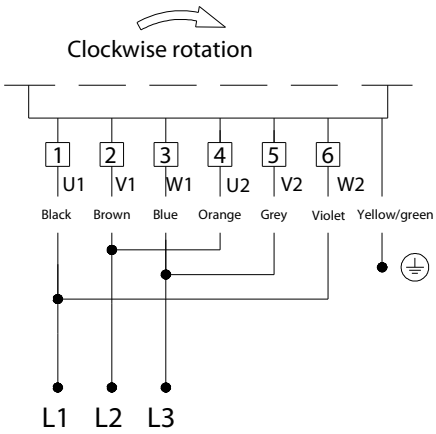
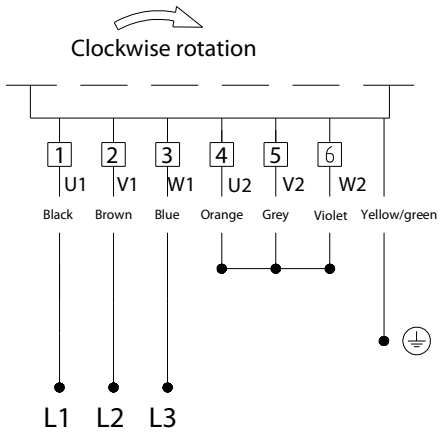
Drum-motor with dual-voltages
and without thermal control
High Voltage

Wiring

Standard wiring diagrams for three-phase drummotors

Wire diagram for 230, 460 or 575V 3ph - 60Hz	Wire diagrams for 230/400V 3ph - 50Hz	
	(Low Voltage)	(High Voltage)
		
Clockwise rotation Drum-motor	Clockwise rotation Drum-motor	Clockwise rotation Drum-motor

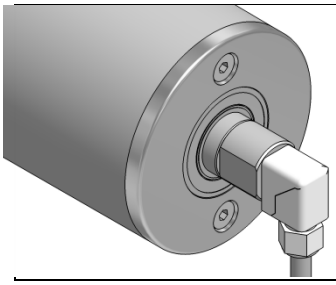
Electric connector drum motor with cable connection 3 ~ motor

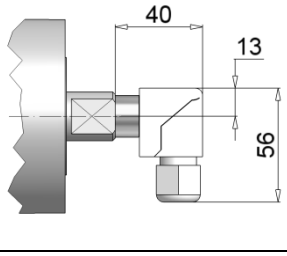
		
Drum-motor with single voltage and without thermal control	Drum-motor with dual-voltages Low voltage	Drum-motor with dual-voltages High voltage

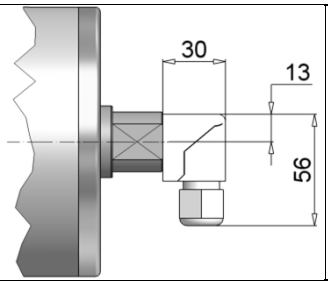
Electrical connections options (measurements are in mm)

	TM 60 – TM 82	TM 111 – TM 165	TM 216 – …

Type B: 3' Cable with *90 degree plastic elbow connector*

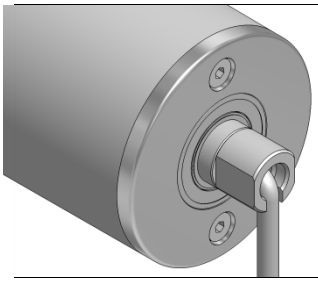




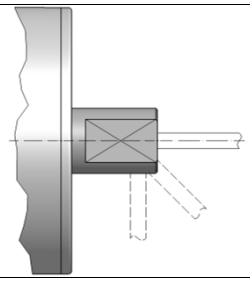


on request

Type C: V*ariable cable design, pull release inside with 3' cable*

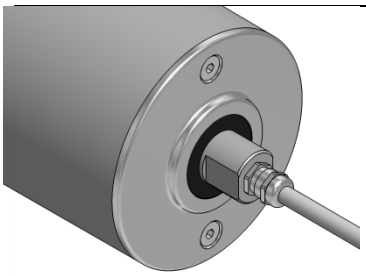


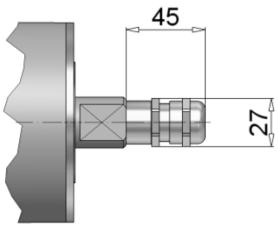
on request

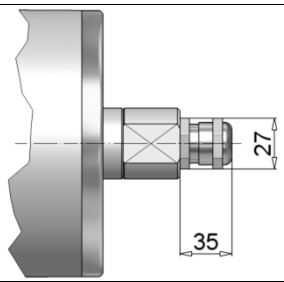


on request

Type D: 3' Cable with s*traight cable connector*

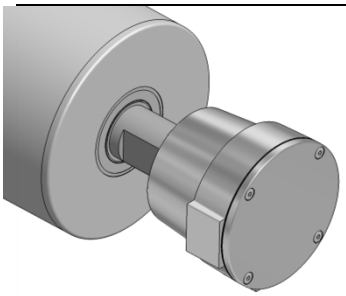




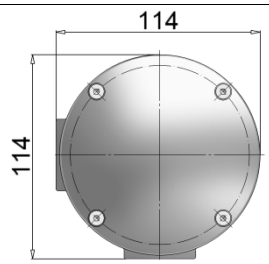


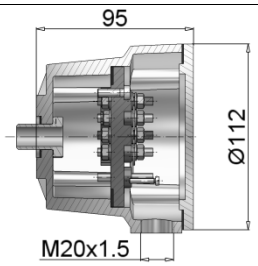
on request

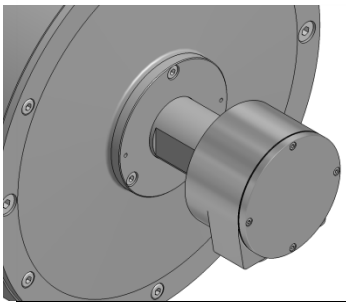
Type A: T*erminal box*



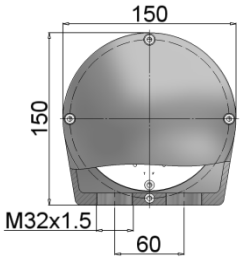
TM 111 – TM 415

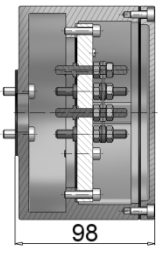






TM 415 – TM 620

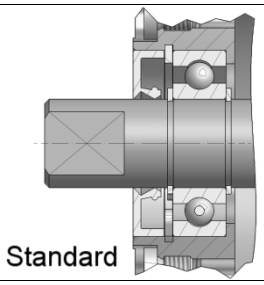
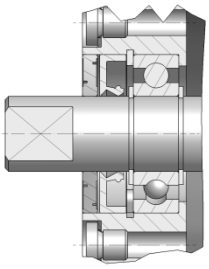
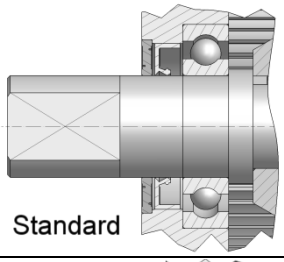
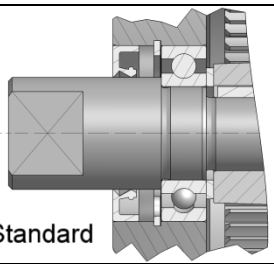
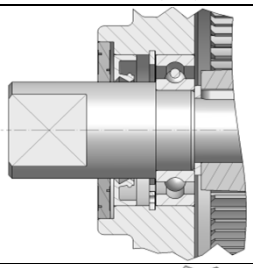
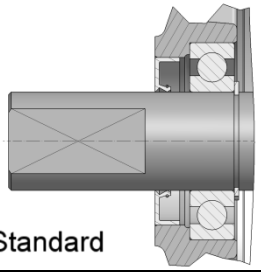
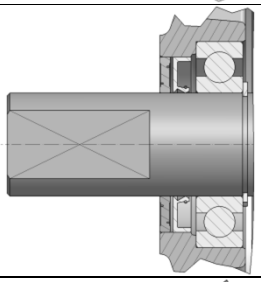
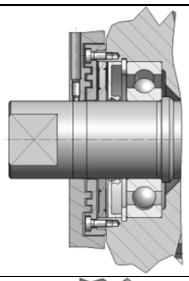
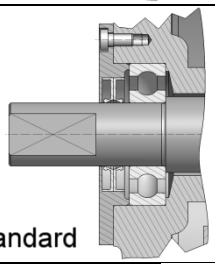
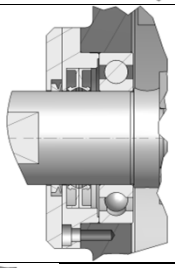
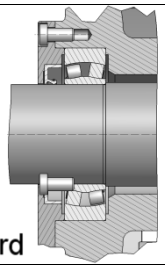
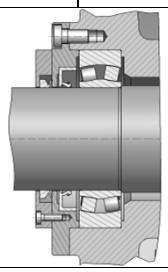




Important note: Screened cable should be used when the drum motor is supplied with encoder, brake, or connected to a Frequency Drive.

Sealings

Sealings options:

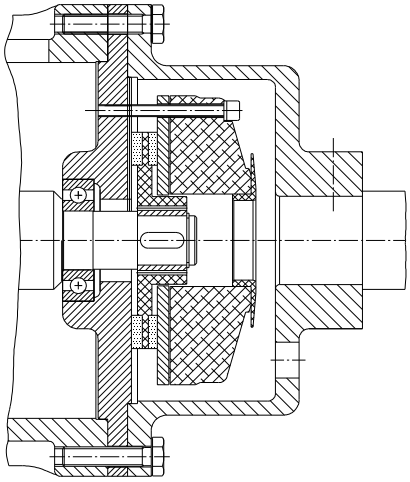
	IP 65	IP 66	IP 67
TM60 - TM80	 Standard		*on request*
TM82 / TM111 / TM165 /TM216.0	-	 Standard	*on request*
TM135 / TM160	 Standard		*on request*
TM216.1	 Standard		
TM321 / TM415 / TM518.0	-	 Standard	
TM518.1 / TM620	 Standard		

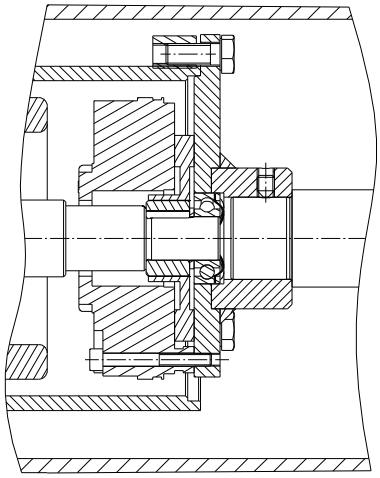
Conveyor drum motors with electromagnetic brake

Conveyor drum motor TM 82 up to 620 with enclosed brake

The integrated spring pressure brake is especially for application in oil environment.

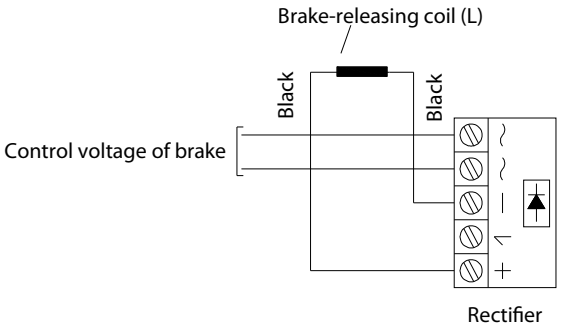
The duty cycle and the braking mass determine the brake size. Due to safety regulations spring pressure brakes are installed, so in case of current failure or disconnection the motor will immediately brake, by spring force. With engagement of the motor the brake will also release. For every motor and brake there is a characteristic connection box available. The brake will be supplied with alternating current. Generally with 230V, 50Hz; The external mounted rectifier supplies the winding of the brake with direct current.



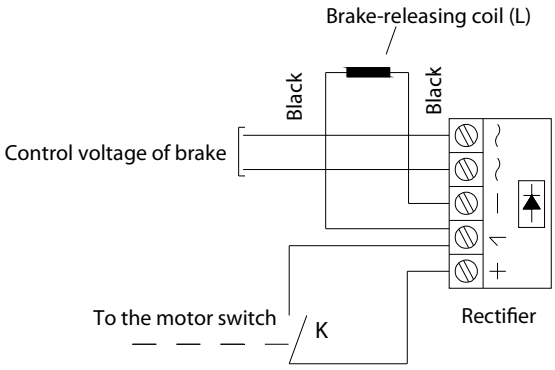


Standard Wiring diagram for brake rectifier

Brake to be switched by AC only!



With contact K: brake is switched both AC and DC!



Internal Backstop

Conveyor drum motors with internal backstop

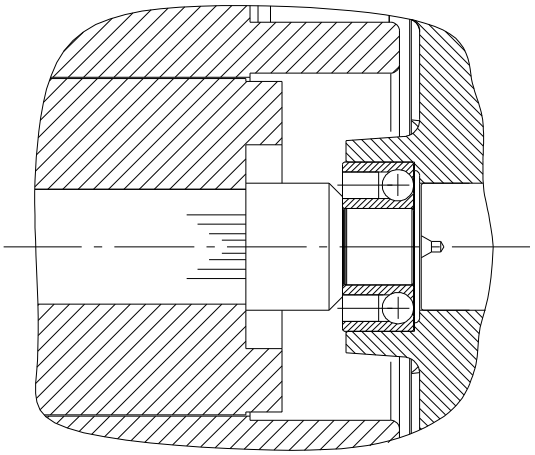
Universal

All LAT® conveyor drum motors can be supplied with internal backstop. The small types with one-way roller bearings or free running backstop and the larger once with centrifugal backstop. This will for incline conveyors prevent the load to roll backward when motor is not operating. The backstop is fully maintenance free.

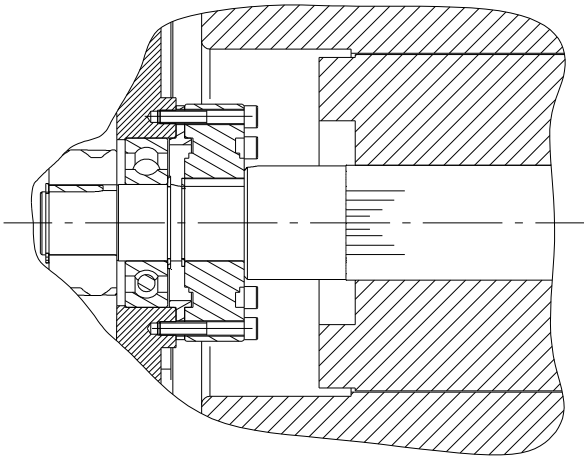
Direction of rotation

An arrow on the endshield indicates the direction of rotation. Do not try to run the motor against backstop!
If motor is not running the proper way disconnect the power ASAP from the motor, so the back stop does not get damaged.
Change two phases to get the proper rotation for the motor and turn on the power to the motor.

Samples of applications



Application for power more than 5.0HP



Application for power more than 7.5HP