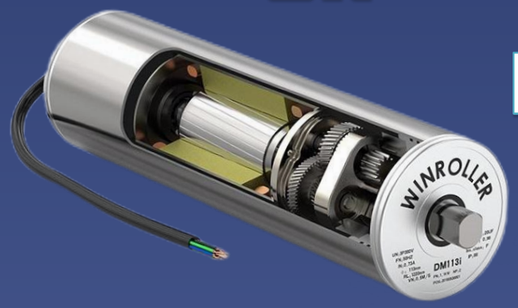
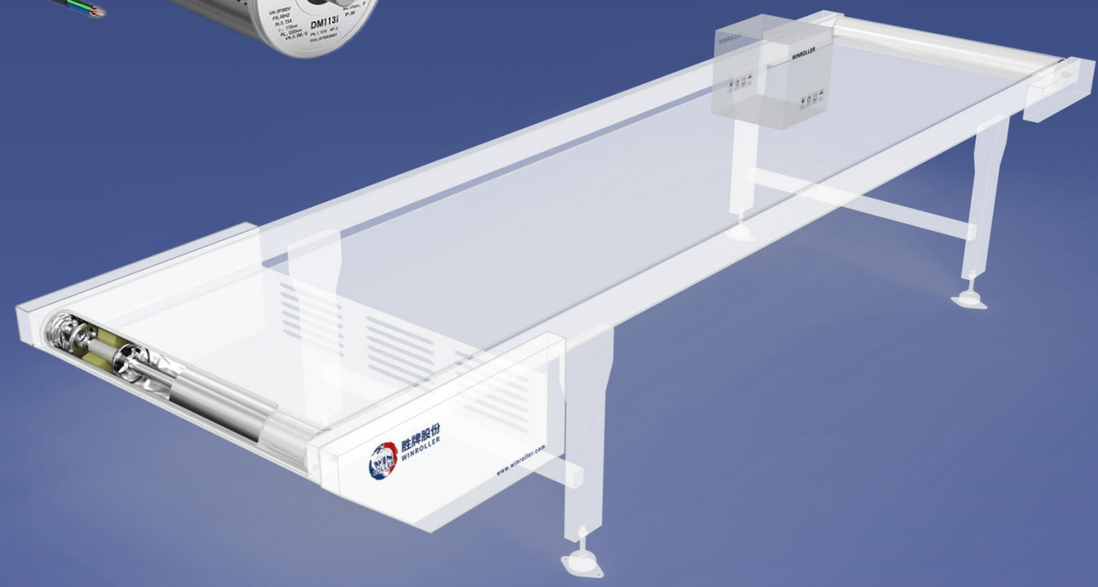
WINROLLER

oil-immersed

DRUM MOTOR





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Special For Belt Conveyor

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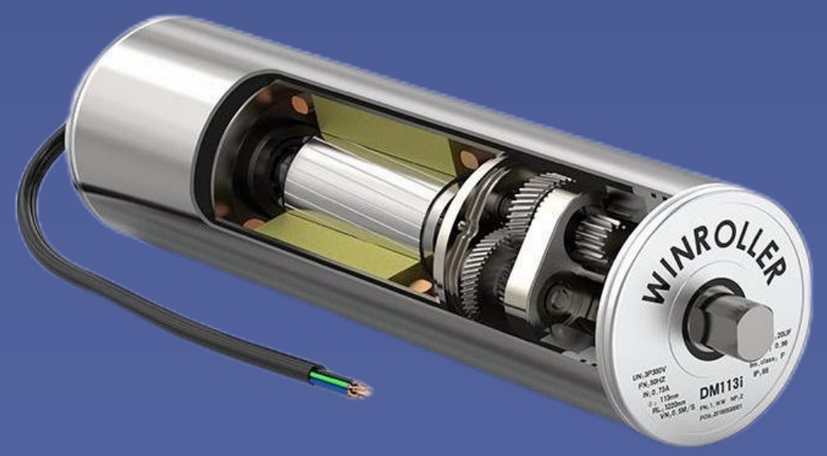
Jiangsu winroller technology co.,ltd

The Global Leader of Conveyor Roller Manufacturer

WINROLLER has more than 300 employees, including 35 R&D personnel, more than 20 patents, and more than 20 scientific and technological achievements in total. It has established long-term cooperation with many scientific research institutions such as University Of The South,Southeast China University, East China University Of Science, and has completely independent design, R&D and mass production capabilities. Its products have obtained ISO9001 quality system certification, EU CE certification, etc.

The DC motor roller, AC motor roller, direct-drive motor roller, oil-cooled motor roller and idler roller independently developed by WINROLLER have been widely used in domestic large-scale logistics, security inspection, industrial automation and other fields, and have established long-term and stable cooperative relations with large domestic application companies such as SF Express, Sto Express, Yunda Express, JD, BYD, Hikvision, CATL, and are exported to Australia, Germany, the United States, Peru, Mexico and other countries.

Diameter of the motor roller:DM113mm、138mm、165mm、 216mm



Basic technical information

WINROLLER Motor Roller Advantages：

1.Quick and Easy Installation
Compared with the traditional power drive unit such as the motor reducer, the winroller motor roller is faster and easier to install on the conveying equipment. It takes only four quarters of the installation time of the traditional motor reducer system.

2.Safe Operation
Different from the composite combination of the traditional motor reducer transmission system, the winroller motor roller assembles the motor, reducer and other components into a closed cylinder body, which only needs to fix the support shaft at both ends on the conveyor.So the operation of the conveying equipment is more safe.

3.Space-saving
Different from the traditional motor drive system (generally composed of motor, reducer, drive drum, chain and support), the motor roller combines all the external components in one same cylinder, forming a simple drive unit, thus reducing the space of the conveyor equipment.

4.Low Energy Consumption
Compared with the traditional external drive system, winroller motor roller directly conducts the power from the motor to the surface of the drum, greatly shortening the conduction process, improving the working efficiency of the motor by up to 97%, and can save energy consumption by up to 30%.

5.Low Working Noise
Winroller adopts the high quality alloy steel fine grinding gear, European standard motor and the whole machine assembly of strict tolerance requirements to ensure the high-end quality of the motor roller with low running noise. The noise value has been far lower than the European Union labeling requirements for the motor roller.

6.High Adaptability to Harsh Environment
The high precision grade design of IP66 / 67 ensures the use of motor roller adapted to the harsh environment (like water, dust, sand, chemicals, oil, etc.), and the food grade roller can be washed with high pressure hot water.

7.Convenient and Simple Maintenance
The special completed enclosed design of the roller ensures that all the core components would not be damaged by the external environment when operation. The metal gear motor roller changes oil every 50,000 hours, and the polymer gear electric roller is maintenance-free for life.

Features of standard drum motor

★Precision machined carbon steel crown cylinder

★High strength cast aluminum end covers and cast iron end covers

★Carbon steel end shaft

★High quality alloy steel precision grinding gears ensure ultra-low noise and long service life of transmission

★Motors with various international conventional voltages and frequencies are available

★The motor is designed and manufactured according to European IEC standards

★Insulation level is Class F.

★Motor built-in overheat protector

★Before leaving the factory, all drum motors are filled with oil according to standards and electrical testing is completed

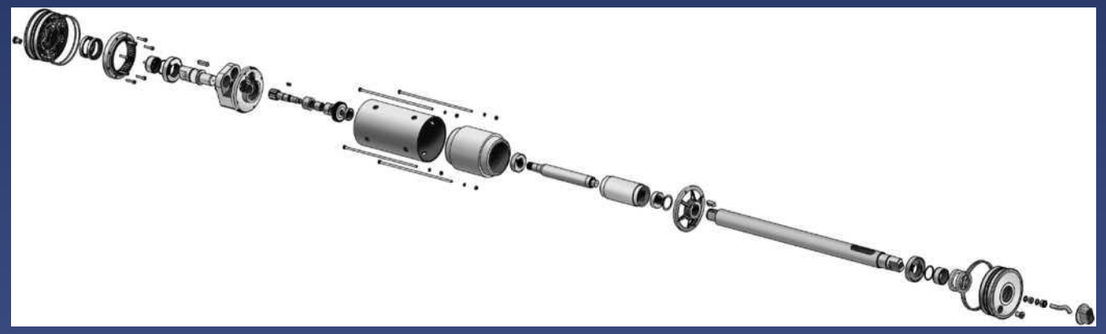
★Sealing level is IP66/67

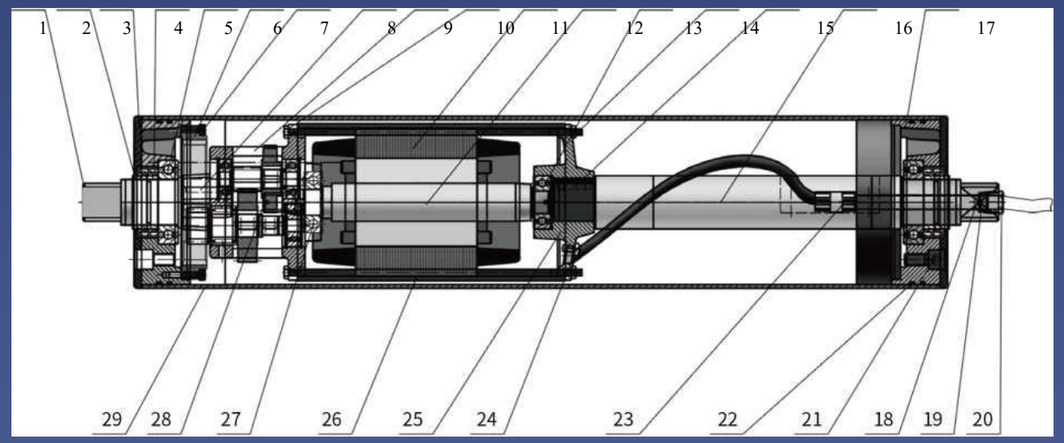
★The product has passed the CE safety certification

★Usually all series of conveyor rollers can be customized according to customer requirements

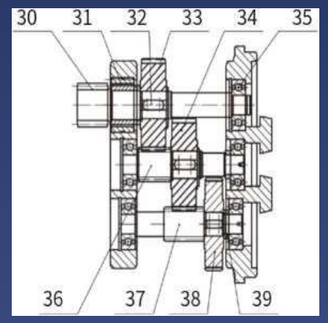
WINROLLER Indicative diagram of drum motor section parts

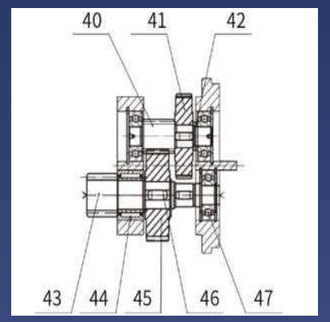
WINROLLER DRIVE ROLLER dm113i-1 *230V/50Hz

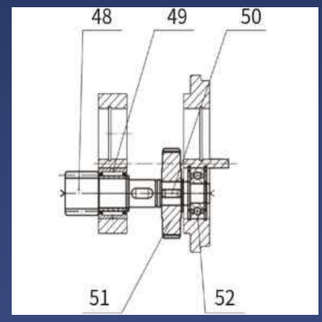




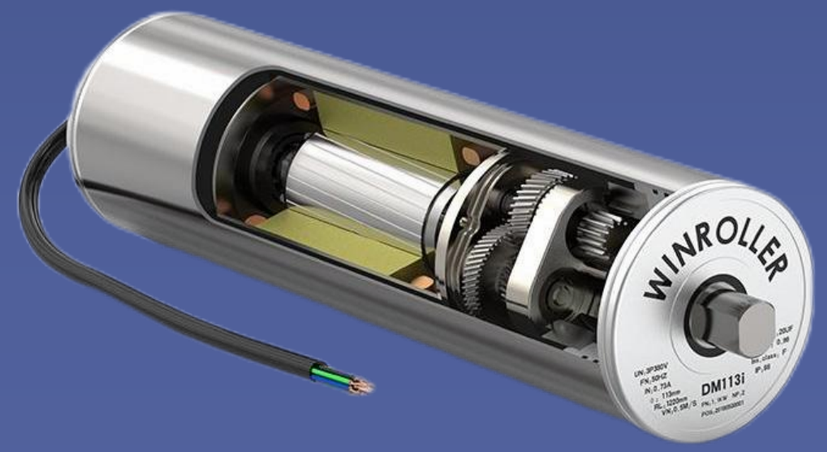
1.stationary shaft	11.stator	21. Oil plug
2.sealed cover	12.rotor	22.O-ring
3.front cover	13.bearing	23.Threading sleeve
4.skeleton oil seal	14.hex nut	24.Cross recessed pan head screws
5. bearing	15.flat key	25.Rear flange
6.inner gear ring	16.Wire outlet shaft	26.Stator shell
7.hexagon socket head cap screw	17.Rear cover	27. Bearing
8. flat key	18.Wire lining ring	28.Motor Gear shaft
9.gear box	19.Outlet gasket	29. Roller cylinder
10.hexagon bolt	20.Outlet nut	





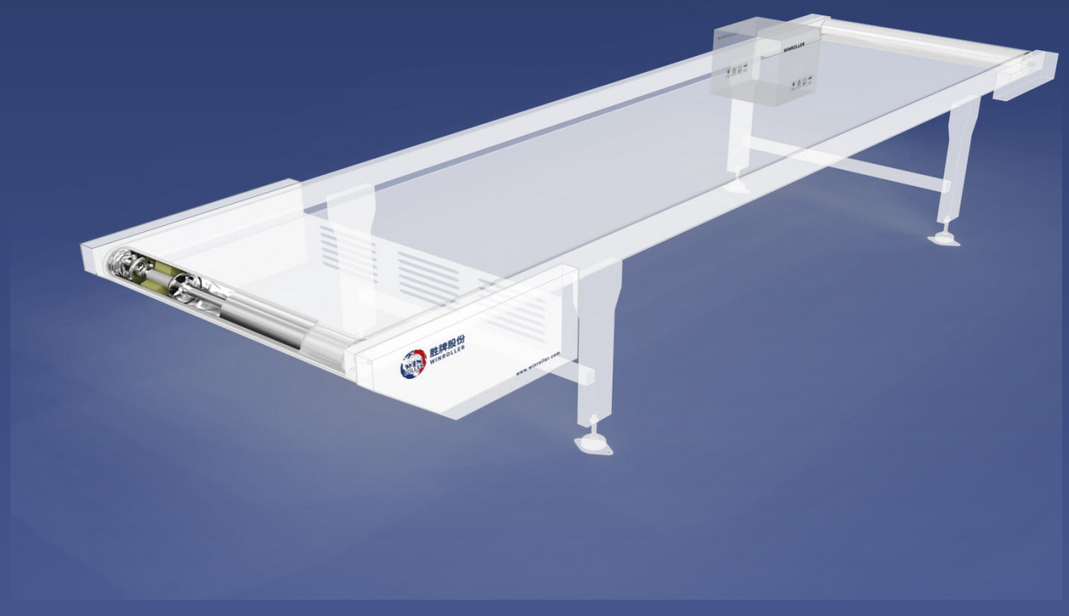


30.Output gear shaft	38.Input Gear	46.flat key
31.Non-inner Race Needle Bearing	39. cushion ring	47.bearing
32.flat key	40.Intermediate gear shaft	48.Output gear shaft
33. Third stage intermediate gear	41. Input gear	49.needle roller bearing without inner ring
34.Intermediate gear	42.Gear spacer bush	50.flat key
35. Bearing	43.Output gear shaft	51.Input Gear
36.Third stage intermediate gear shaft	44.needle roller bearing without inner ring	52.Bearing
37.Intermediate gear shaft	45.Intermediate gear	



DRUM MOTOR——**DM113i**

Excellent strong driving for high-strength, light and medium-size conveyor



Light-load drive and steel gearbox

The drum motor is developed for application in strong driving required.

DM113i model is recommended for special requirements of space, low noise and high power. Using high-tech processing methods and precision grinding of high alloy steel gear and special high-precision assembly method, it has reached the world-class level of operating noise and power requirements. The product has been widely used in the following industries:

Application area

※Small conveyor, high-load cycle
※Airport check-in conveyor
※Packing machine
※Belt weigher
※Medicine processing
※Food processing
※Steel or plastic modular belt applicati

DM113i drum motor features:

Roller cylinder

The standard cylinder is made of low-carbon steel, and the surface of the finished product is coated with anti rust oil.

The food grade cylinder is made of SS304.

The surface of the standard cylinder is processed with anti slip threads.

Gear

High alloy steel precision grinding gears ensure ultra-low noise during transmission.

Die cast aluminum gearbox

Motor

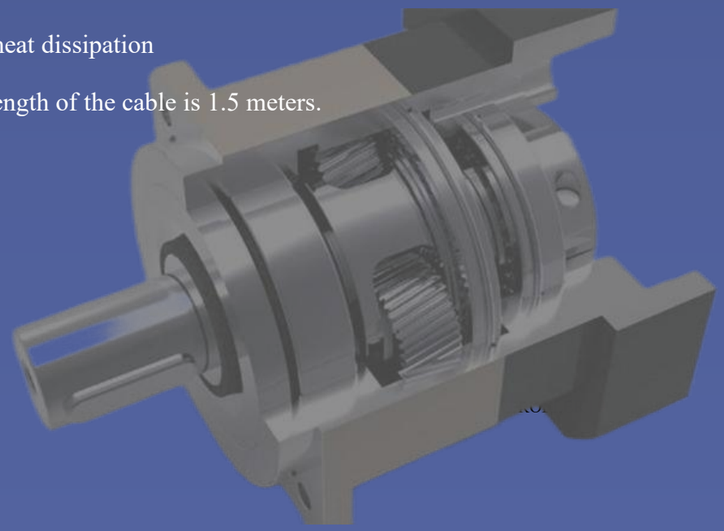
At 50Hz or 60Hz frequency, the motor is suitable for various universal voltages worldwide.

Motor insulation level F

All motors are equipped with additional overheating protectors.

Motor oil immersed heat dissipation

The standard outlet length of the cable is 1.5 meters.



WINROLLER DRUM MOTOR DM 113i-l *230V/50Hz

DM113i–1*230v/50Hz

power (KW/hp)	Motor stage	Number of gear poles	Gear ratio	Nominal belt speed(m/s)	torque (Nm)	Tractive force(N)	Rated current(A)	Minimum barrel length（mm）	Weight at minim barrel length(Kg
0.12/0.16	4	4	99.38	0.09	78.54	1390.24	0.84	320	12
			80.89	0.11	63.93	1131.58			
			67.23	0.13	53.13	940.49			
		3	60.60	0.14	47.89	847.74		300	10
			49.32	0.17	38.98	689.94			
			41.00	0.21	32.40	573.55			
			37.66	0.23	29.76	526.83			
			31.65	0.27	25.01	442.76			
			25.76	0.33	20.36	360.36			
			21.41	0.40	16.92	299.51			
		2	19.30	0.44	15.25	269.99			
			15.71	0.55	12.42	219.77			
			13.06	0.66	10.32	182.70			
			12.00	0.71	9.48	167.87			
0.18/0.24	4	3	60.60	0.14	71.84	1271.61	1.4	300	10
			49.32	0.17	58.47	1034.91			
			41.00	0.21	48.61	860.33			
			37.66	0.23	44.65	790.24			
			31.65	0.27	37.52	664.13			
			25.76	0.33	30.54	540.54			
			21.41	0.40	25.38	449.26			
		2	19.30	0.44	22.88	404.98			
			15.71	0.55	18.62	329.65			
			13.06	0.66	15.48	274.05			
			12.00	0.71	14.23	251.80			
0.23/0.31	4	3	49.32	0.17	74.71	1322.39	1.67	335	13.5
			41.00	0.21	62.11	1099.31			
			37.66	0.23	57.05	1009.76			
			31.65	0.27	47.94	848.61			
			25.76	0.33	39.02	690.69			
			21.41	0.40	32.43	574.05			
		2	19.30	0.44	29.24	517.48			
			15.71	0.55	23.80	421.22			
			13.06	0.66	19.78	350.17			
			12.00	0.71	18.18	321.75			

WINROLLER DRUM MOTOR DM 113i-3 *400V/50Hz

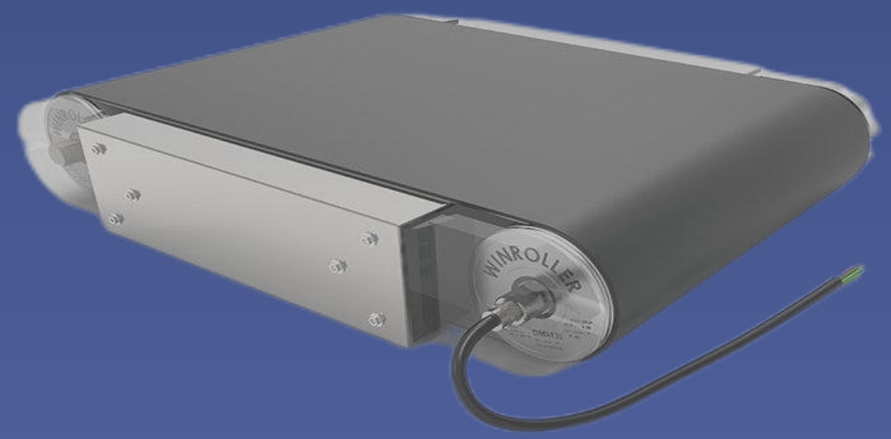
DM113i–3i*400V/50Hz

power (KW/hp)	Motor stage	Number of gear poles	Gear ratio	Nominal belt speed(m/s)	torque (Nm)	Tractive force(N)	Rated current(A)	Minimum barrel length（mm）	Weight at minim barrel length(Kg
0.15/0.2	4	4	80.89	0.11	79.91	1414.47	0.47	320	12
			67.23	0.13	66.42	1175.61			
			60.60	0.14	59.87	1059.67			
		3	49.32	0.17	48.72	862.43		300	10
			41.00	0.21	40.51	716.94			
			37.66	0.23	37.21	658.54			
			31.65	0.27	31.27	553.44			
			25.76	0.33	25.45	450.45			
			21.41	0.40	21.15	374.38			
			19.30	0.44	19.07	337.49			
		2	15.71	0.55	15.52	274.71			
			13.06	0.66	12.90	228.37			
			12.00	0.71	11.86	209.84			
0.18/0.24	4	4	67.23	0.13	79.70	1410.73	0.57	342	14
		3	60.60	0.14	71.84	1271.61		324	11.5
			49.32	0.17	58.47	1034.91			
			41.00	0.21	48.61	860.33			
			37.66	0.23	44.65	790.24			
			31.65	0.27	37.52	664.13			
			25.76	0.33	30.54	540.54			
			21.41	0.40	25.38	449.26			
		2	19.30	0.44	22.88	404.98			
			15.71	0.55	18.62	329.65			
			13.06	0.66	15.48	274.05			
			12.00	0.71	14.23	251.80			
0.25/0.34	4	3	49.32	0.17	81.21	1437.38	0.84	324	11.5
			41.00	0.21	67.51	1194.90			
			37.66	0.23	62.01	1097.56			
			31.65	0.27	52.11	922.41			
			25.76	0.33	42.42	750.75			
			21.41	0.40	35.25	623.97			
		2	19.30	0.44	31.78	562.48			
			15.71	0.55	25.87	457.85			
			13.06	0.66	21.50	380.62			
			12.00	0.71	19.76	349.73			

0.25/0.34	2	4	99.38	0.17	81.82	1448.16	0.68	300	10
			80.89	0.21	66.59	1178.73			
			67.23	0.26	55.35	979.67			
		3	60.60	0.28	49.89	883.06		280	9
			49.32	0.35	40.60	718.69			
			41.00	0.42	33.75	597.45			
			37.66	0.46	31.00	548.78			
			31.65	0.54	26.06	461.20			
			25.76	0.67	21.21	375.37			
			21.41	0.80	17.63	311.99			
			19.67	0.87	16.19	286.63			
		2	19.30	0.89	15.89	281.24			
			15.71	1.09	12.93	228.93			
			13.06	1.31	10.75	190.31			
			12.00	1.43	9.88	174.86			
0.37/0.5	4	3	31.65	0.27	77.13	1365.16	1.13	324	11.5
			25.76	0.33	62.77	1111.11			
			21.41	0.40	52.17	923.48			
		2	19.30	0.44	47.03	832.47			
			15.71	0.55	38.28	677.62			
			13.06	0.66	31.83	563.32			
			12.00	0.71	29.24	517.60			
0.37/0.5	2	4	67.23	0.26	81.92	1449.92	0.92	325	11.5
		3	60.60	0.28	73.84	1306.93		305	11
			49.32	0.35	60.09	1063.66			
			41.00	0.42	49.96	884.23			
			37.66	0.46	45.89	812.20			
			31.65	0.54	38.56	682.58			
			25.76	0.67	31.39	555.55			
			21.41	0.80	26.09	461.74			
			19.67	0.87	23.97	424.21			
		2	19.30	0.89	23.52	416.23			
			15.71	1.09	19.14	338.81			
			13.06	1.31	15.91	281.66			
			12.00	1.43	14.62	258.80			

WINROLLER DRUM MOTOR DM113i-3 * 400V/50H

0.55/0.75	2	3	41.00	0.42	74.26	1314.39	1.24	335	13.5
			37.66	0.46	68.21	1207.32			
			31.65	0.54	57.32	1014.65			
			25.76	0.67	46.66	825.82			
			21.41	0.80	38.78	686.37			
			19.67	0.87	35.63	630.59			
		2	19.30	0.89	34.96	618.73			
			15.71	1.09	28.45	503.64			
			13.06	1.31	23.65	418.68			
			12.00	1.43	21.73	384.70			



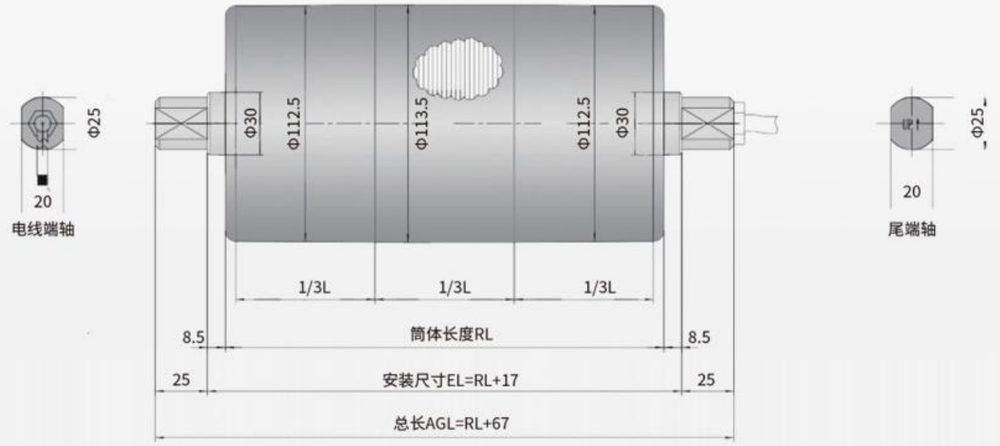
DM113i SELECTION TABLE-DRUM MOTOR/IDLER ROLLER

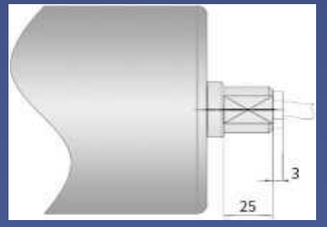
Component instructions	Drum Motor	Idler Roller
Roller cylinder		
Carbon steel crown cylinder	1	1
Carbon steel straight cylinder	2	2
Stainless steel (Standard SS304) crown cylinder	2	2
Stainless steel (Standard SS304) straight cylinder	2	2
Front and rear end cover		
Cast aluminum end cover	1	1
Stainless steel (standard SS304) end cover	2	2
Front and rear shaft		
Carbon steel shaft	1	1
Galvanized carbon steel shaft	2	2
Stainless steel(Standard SS304) shaft	2	2
Encapsulation		
Black flat vulcanized coating	2	2
White flat vulcanized coating	2	2
Polyurethane flat vulcanized coating	2	2
additive mesh belt sprocket	2	2
V shape groove coating	3	3
Motor		
Single phase or three phase asynchronous motor	1	
Voltage **1*230v/50Hz or 3*400v/50Hz or 3*230v/50Hz**	1	
Dual voltage motor	2	
Global universal voltage at 50Hz or 60Hz	1	
Motor overheat protector	1	
Low temperature environment oil	2	
Food grade oil and grease **（FDA and USDA）**	2	
Electrical connections		
Straight cable out	1	
Curved cable out	2	
Stainless steel Elbow connector cable	3	
Cast aluminum terminal box	2	
Stainless steel terminal box	3	
PVC cable	1	
Shielded cable (inverter)	3	
Low smoke halogen-free cable	2	
Other options		
backstop	2	
can be installed vertically or obliquely	3	
connected to inverter	2	

Remarks:
1-Standard assembly options 2-non-standard common options 3-Restrictive options, selection should be confirmed with the manufacturer.

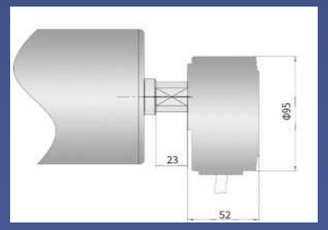
Overall dimensions-DM113i

Dimensions of DM113i electric roller

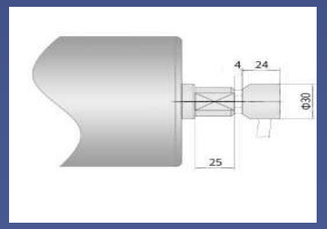




Straight cable out

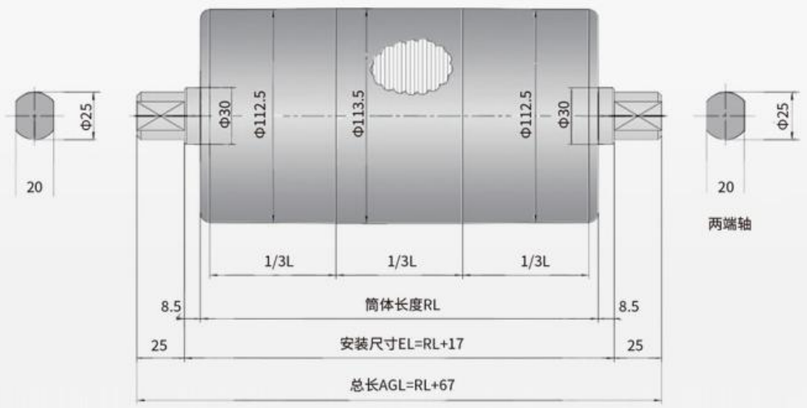


Terminal box cable out



Elbow connector cable out

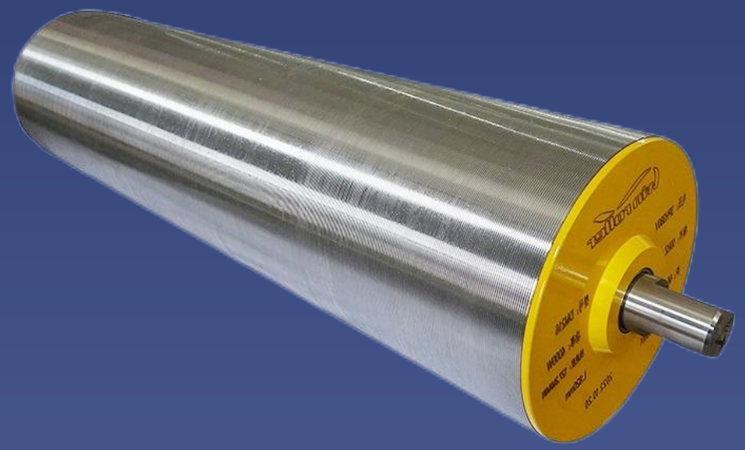
Dimensions of DM113i driven roller



Based on the shortest length and weight of the cylinder, the weight of the drum motor increases by approximately 2kg for every 100mm of cylinder length.

DRUM MOTOR——**DM138**

Power Packaging Drive for High Power Conveyors



Light load and steel transmission drive.
The drum motor has a wide range of power and speed and is therefore a flexible component.
Known for high efficiency, high power and smooth operation, the DM138 drum motor is mainly used for medium-load belt conveyor equipment, the effective power of the motor can reach up to 1.1KW, and it is the most widely used in the airport baggage handling and food processing industries.
It is mainly used in the following equipment:

Application field

※ Security screening machines (airports and stations)
※ Airport baggage handling system
※ Packaging machinery
※ Power belt scale
※ Pharmaceutical Industry
※ Food processing industry
※ Meat processing industry
※ Postal sorting
※ Belt conveyor
※ Sorting and conveying equipment for agricultural products

DM138 drum motor features:

Roller cylinder

The standard cylinder is made of low-carbon steel, and the surface of the finished product is coated with anti rust oil.

The food grade cylinder is made of SS304.

The surface of the standard cylinder is processed with anti slip threads.

Gear drive

High alloy steel precision grinding gears ensure ultra-low noise during transmission.

Die cast aluminum gearbox

Motor

At 50Hz or 60Hz frequency, the motor is suitable for various universal voltages worldwide.

Motor insulation level F

All motors are equipped with additional overheating protectors.

Motor oil immersed heat dissipation

The standard outlet length of the cable is 1.5 meters.

Sealing grade

The shaft end adopts double seal design.

The sealing protection level of the electric drum is IP66/67

Oiling

The drum motor has been oiled according to the standard before leaving the factory

Change oil every 50000 hours of operation.

Other

Backstop can be installed without affecting the shortest length of the cylinder.

Horizontal installation

Speed and roller length can be made according to customer requirements

According to customer requirements, various non-standard drum motors can be produced.

CE safety certification by international authoritative institutions

WINROLLER DRUM MOTOR DM 138-3*400V/50Hz

DM138–3*400V/50Hz									
power (KW/hp)	Motor stage	Number of gear poles	Gear ratio	Nominal belt speed(m/s)	torque (Nm)	Tractive force(N)	Rated current(A)	Minimum barrel length（mm）	Weight at minin barrel length(K
0.37/0.5	4	4	97.58	0.1	237.8	3447.99	1.05	350	–
		3	73.75	0.14	179.7	2605.96		329	19
			58.7	0.17	143.0	2074.16			
			48.79	0.21	118.9	1723.99			
			42.14	0.25	102.7	1489.02			
			33.54	0.31	81.7	1185.14			
			27.88	0.38	67.9	985.14			
		2	21.07	0.5	51.3	744.51			
			16.77	0.62	40.9	592.57			
			13.94	0.75	34.0	492.57			
0.55/0.75	4	3	58.7	0.17	212.6	3083.22	1.57	350	21
			48.79	0.21	176.7	2562.69			
			42.14	0.25	152.6	2213.40			
			33.54	0.31	121.5	1761.69			
			27.88	0.38	101.0	1464.40			
		2	21.07	0.5	76.3	1106.70			
			16.77	0.62	60.7	880.84			
			13.94	0.75	50.5	732.20			
0.55/0.75	2	4	117.4	0.18	212.6	3083.22	1.28	350	21
			97.58	0.21	176.7	2562.69			
		3	73.75	0.28	133.6	1936.86		329	19
			58.7	0.36	106.3	1541.61			
			48.79	0.43	88.4	1281.35			
			42.14	0.5	76.3	1106.70			
			33.54	0.62	60.7	880.84			
			27.88	0.75	50.5	732.20			
		2	21.07	0.99	38.2	553.35			
			16.77	1.25	30.4	440.42			
			13.94	1.5	25.2	366.10			

WINROLLER DRUM MOTOR DM 138-3*400V/50Hz

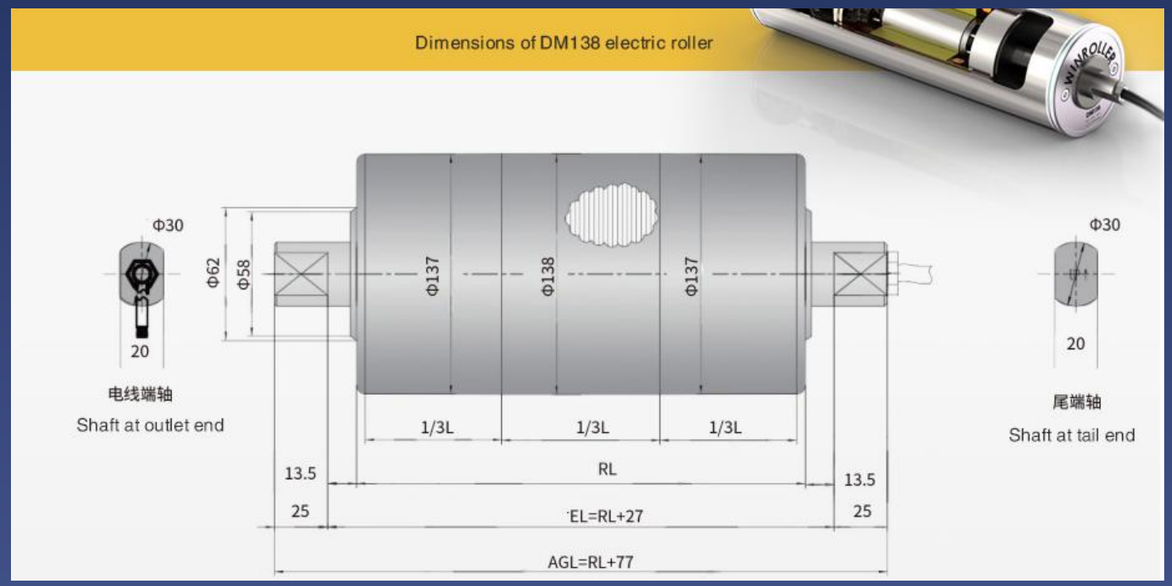
DM138–3*400V/50Hz									
power (KW/hp)	Motor stage	Number of gear poles	Gear ratio	Nominal belt speed(m/s)	torque (Nm)	Tractive force(N)	Rated current(A)	Minimum barrel length（mm）	Weight at minin barrel length(K
0.75/1.02	4	3	48.79	0.21	241.0	3494.58	2	379	25
			42.14	0.25	208.2	3018.28			
			33.54	0.31	165.7	2402.30			
			27.88	0.38	137.7	1996.91			
		2	21.07	0.5	104.1	1509.14			
			16.77	0.62	82.8	1201.15			
			13.94	0.75	68.9	998.45			
0.75/1.02	2	4	97.58	0.21	241.0	3494.58	1.63	371	24.5
		3	73.75	0.28	182.1	2641.17		350	22
			58.7	0.36	145.0	2102.19			
			48.79	0.43	120.5	1747.29			
			42.14	0.5	104.1	1509.14			
			33.54	0.62	82.8	1201.15			
			27.88	0.75	68.9	998.45			
		2	21.07	0.99	52.0	754.57			
			16.77	1.25	41.4	600.58			
			13.94	1.5	34.4	499.23			
1.1/1.5	2	3	58.7	0.36	212.6	1541.61	2.62	379	26
			48.79	0.43	176.8	1281.35			
			42.14	0.5	152.6	1106.70			
			33.54	0.62	121.4	880.84			
			27.88	0.75	101	732.20			
		2	21.07	0.99	76.4	553.35			
			16.77	1.25	60.8	440.42			
			13.94	1.5	50.4	366.10			

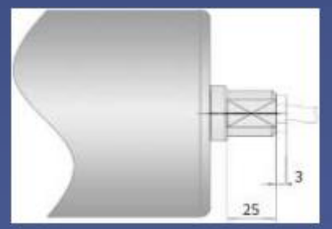
DM138 SELECTION TABLE-DRUM MOTOR/IDLER ROLLER

Component instructions	Drum Motor	Idler roller
Roller cylinder		
Carbon steel crown cylinder	1	1
Carbon steel straight cylinder	2	2
Stainless steel (Standard SS304) crown cylinder	2	2
Stainless steel (Standard SS304) straight cylinder	2	2
Special coronal and groove type	3	3
Front and rear end cover		
Cast aluminum end cover	1	1
Stainless steel (standard SS304) end cover	2	2
Front and rear shaft		
Carbon steel shaft	1	1
Galvanized carbon steel shaft	2	2
Stainless steel(Standard SS304) shaft	2	2
Encapsulation		
black cold coating	2	2
Black flat vulcanized coating	2	2
White flat vulcanized coating	2	2
Polyurethane flat vulcanized coating	2	2
additive mesh belt sprocket	2	2
V shape groove coating	3	3
Motor		
three phase asynchronous motor	1	
Voltage **3*230v/50Hz or 3*400v/50Hz**	1	
Dual voltage motor	2	
Global universal voltage at 50Hz or 60Hz	1	
Motor overheat protector	1	
Low temperature environment oil	2	
Food grade oil and grease **（FDA and USDA)**	2	
Electrical connections		
Straight cable out	1	
Curved cable out	2	
Stainless steel Elbow connector cable	3	
Cast aluminum terminal box	2	
Stainless steel terminal box	3	
PVC cable	1	
Shielded cable (inverter)	3	
Low smoke halogen-free cable	2	
Other options		
backstop	2	
can be installed vertically or obliquely	3	
connected to inverter	2	

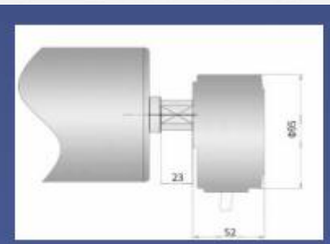
Remarks:
1-Standard assembly options 2-non-standard common options 3-Restrictive options, selection should be confirmed with the manufacturer.

Overall dimensions-DM138

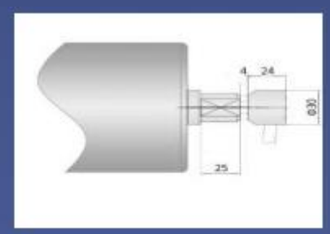




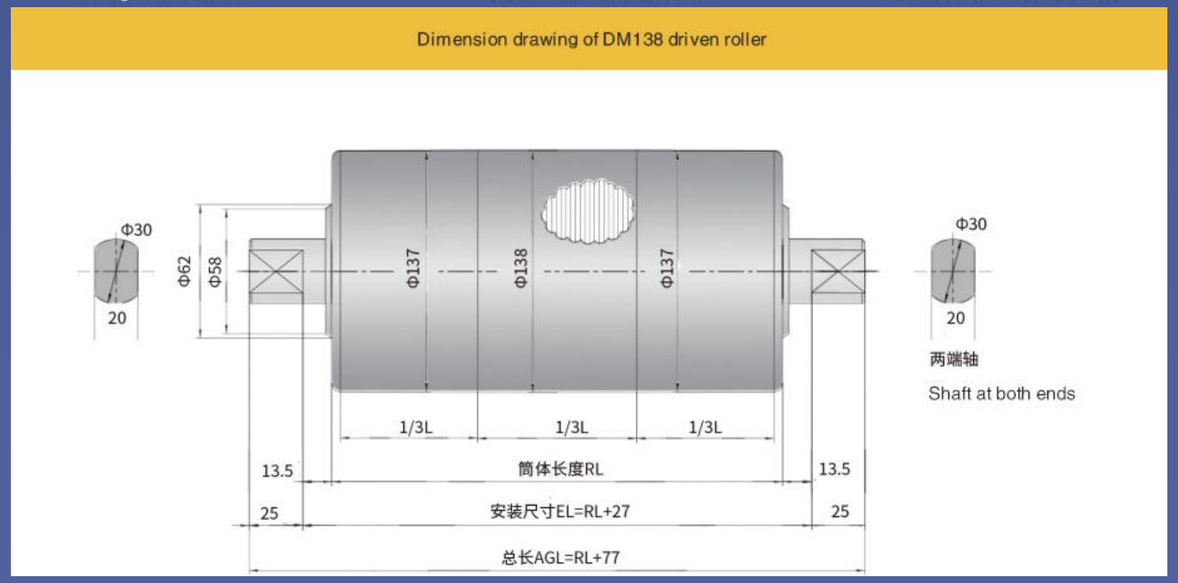
Straight cable out



Terminal box cable out



Elbow connector cable out



Based on the shortest length and weight of the cylinder, the weight of the drum motor increases by approximately 3.8kg for every 100mm of cylinder length.

DRUM MOTOR——DM165

Robust and powerful driving of high-strength conveyors

Light load and steel gearbox drive

The drum motor is extremely sturdy, with high torque and can withstand high radial loads.

DM165 model drum motor is mainly used for belt conveyor equipment with heavy loads. It has significant characteristics such as sturdy appearance, impact resistance, and strong torque, making it the best choice for conveying equipment with large loads such as:

Application:

※High load circulating conveyor

※Logistics application

※Airport and postal conveyors

※Warehouse loading conveyor

※Extensible belt conveyor

※Agricultural plants

※Food processing

※Steel or plastic modular belt applications

DM165 electric drum features:

Roller cylinder

The standard cylinder is made of low-carbon steel, and the surface of the finished product is coated with anti rust oil.

The food grade cylinder is made of SS304.

The surface of the standard cylinder is processed with anti slip threads.

Gear drive

High alloy steel precision grinding gears ensure ultra-low noise during transmission.

Die cast aluminum gearbox

Motor

At 50Hz or 60Hz frequency, the motor is suitable for various universal voltages worldwide.

Motor insulation level F

All motors are equipped with additional overheating protectors.

Motor oil immersed heat dissipation

The standard outlet length of the cable is 1.5 meters.

Sealing grade

The shaft end adopts double seal design.

The sealing protection level of the electric drum is IP66/67

Oiling

The drum motor has been oiled according to the standard before leaving the factory

Change oil every 50000 hours of operation.

Other

Backstop can be installed without affecting the shortest length of the cylinder.

Horizontal installation.

Speed and roller length can be made according to customer requirements.

According to customer requirements, various non-standard drum motors can be produced.

CE safety certification by international authoritative institutions.

WINROLLER DRUM MOTOR DM 165-3*400V/50Hz

DM165–3*400V/50Hz

power (KW/hp)	Motor stage	Number of gear poles	Gear ratio	Nominal belt speed(m/s)	torque (Nm)	Tractive force(N)	Rated current(A)	Minimum barrel length（mm）	Weight at minimu barrel length(Kg)
0.55/0.75	4	3	58.7	0.21	212.6	3083.22	1.57	371	25
			48.79	0.26	176.7	2562.69			
			42.14	0.30	152.6	2213.40			
			33.54	0.37	121.5	1761.69			
			27.88	0.45	101.0	1464.40			
		2	21.07	0.59	76.3	1106.70			
			16.77	0.75	60.7	880.84			
			13.94	0.90	50.5	732.20			
	2	4	117.4	0.21	212.6	3083.22	1.28	350	24
			97.58	0.26	176.7	2562.69			
		3	73.75	0.34	133.6	1936.86			
			58.7	0.43	106.3	1541.61			
			48.79	0.51	88.4	1281.35			
			42.14	0.59	76.3	1106.70			
			33.54	0.75	60.7	880.84			
			27.88	0.90	50.5	732.20			
		2	21.07	1.19	38.2	553.35			
			16.77	1.49	30.4	440.42			
			13.94	1.80	25.2	366.10			
0.75/1.02	4	3	48.79	0.26	241.0	3494.58	2	400	28
			42.14	0.3	208.2	3018.28			
			33.54	0.37	165.7	2402.30			
			27.88	0.45	137.7	1996.91			
		2	21.07	0.6	104.1	1509.14			
			16.77	0.74	82.8	1201.15			
			13.94	0.9	68.9	998.45			
	2	4	97.58	0.26	241.0	3494.58	1.63	371	26
		3	73.75	0.34	182.1	2641.17			
			58.7	0.43	145.0	2102.19			
			48.79	0.51	120.5	1747.29			
			42.14	0.6	104.1	1509.14			
			33.54	0.75	82.8	1201.15			
			27.88	0.9	68.9	998.45			
		2	21.07	1.19	52.0	754.57			
			16.77	1.49	41.4	600.58			
			13.94	1.8	34.4	499.23			

Remarks:
1-Standard assembly options 2-non-standard common options 3-Restrictive options, selection should be confirmed with the manufacturer.

WINROLLER DRUM MOTOR DM 165-3*400V/50Hz

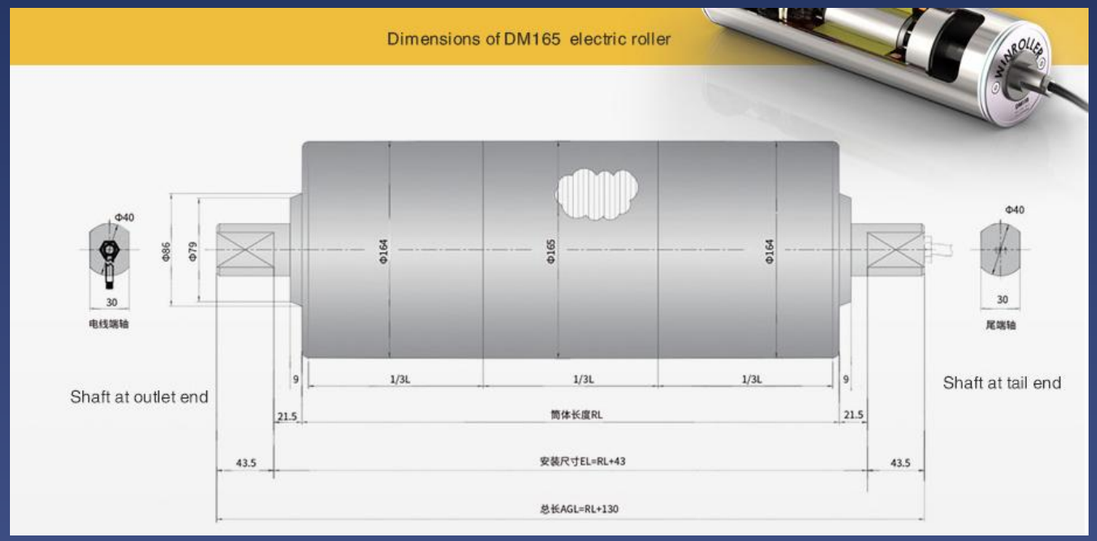
1.1/1.5	2	3	58.7	0.43	212.6	3083.22	2.62	400	28
			48.79	0.51	176.7	2562.69			
			42.14	0.6	152.6	2213.40			
			33.54	0.75	121.5	1761.69			
			27.88	0.9	101.0	1464.40			
		2	21.07	1.19	76.3	1106.70			
			16.77	1.49	60.7	880.84			
			13.94	1.8	50.5	732.20			
	4	3	39.3	0.32	284.7	3450.83	2.83	417	29
			38.44	0;33	278.5	3375.31			
			28.69	0.44	207.9	2519.19			
			24.23	0.52	175.5	2127.57			
		2	19.63	0.64	142.2	1723.66			
			14.65	0.85	106.1	1286.38			
			12.38	1.01	89.7	1087.05			
1.5/2.04	4	3	28.69	0.44	283.4	3435.26	3.55	451	43
			24.23	0.52	239.4	2901.23			
		2	19.63	0.64	193.9	2350.44			
			14.65	0.85	144.7	1754.15			
			12.38	1.01	122.3	1482.35			
	2	3	62.36	0.4	308.0	3733.41	2.89	417	30
			46.53	0.54	229.8	2785.69			
			39.3	0.64	194.1	2352.84			
			38.44	0.65	189.9	2301.35			
			28.69	0.87	141.7	1717.63			
			24.23	1.03	119.7	1450.62			
		2	19.63	1.28	97.0	1175.22			
			14.65	1.71	72.4	877.08			
			12.38	2.02	61.2	741.17			
2.2/3.00	2	3	46.53	0.54	337.1	4085.67	4.28	451	43
			39.3	0.64	284.7	3450.83			
			38.44	0.65	278.5	3375.31			
			28.69	0.87	207.9	2519.19			
			24.23	1.03	175.5	2127.57			
		2	19.63	1.28	142.2	1723.66			
			14.65	1.71	106.1	1286.38			
			12.38	2.02	89.7	1087.05			

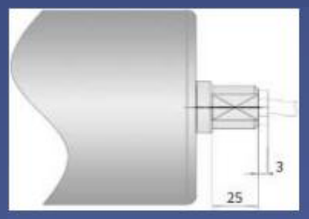
DM165 SELECTION TABLE-DRUM MOTOR/IDLER ROLLER

Roller cylinder	Drum Motor	Idler Roller
Carbon steel crown cylinder	1	1
Carbon steel straight cylinder	2	2
Stainless steel (Standard SS304) crown cylinder	2	2
Stainless steel (Standard SS304) straight cylinder	2	2
Special coronal and groove type	3	3
Front and rear end cover		
Cast aluminum end cover	1	1
Stainless steel (standard SS304) end cover	2	2
Cast iron cover	2	2
Front and rear shaft		
Carbon steel shaft	1	1
Galvanized carbon steel shaft	2	2
Stainless steel(Standard SS304) shaft	2	2
Encapsulation		
black cold coating	2	2
Black flat vulcanized coating	2	2
White flat vulcanized coating	2	2
Polyurethane flat vulcanized coating	2	2
additive mesh belt sprocket	2	2
V shape groove coating	3	3
Motor		
three phase asynchronous motor	1	
Voltage **3*230v/50Hz or 3*400v/50Hz**	1	
Dual voltage motor	2	
Global universal voltage at 50Hz or 60Hz	1	
Motor overheat protector	1	
Low temperature environment oil	2	
Food grade oil and grease **（FDA and USDA)**	2	
Electrical connections		
Straight cable out	1	
Curved cable out	2	
Stainless steel Elbow connector cable	3	
Cast aluminum terminal box	2	
Stainless steel terminal box	3	
PVC cable	1	
Shielded cable (inverter)	3	
Low smoke halogen-free cable	2	
Other options		
backstop	2	
can be installed vertically or obliquely	3	
connected to inverter	2	

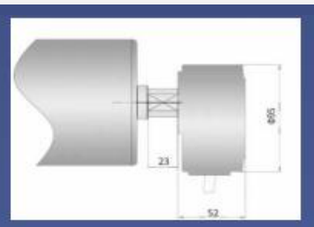
Remarks:
1-Standard assembly options 2-non-standard common options 3-Restrictive options, selection should be confirmed with the manufacturer.

Overall dimensions-DM165

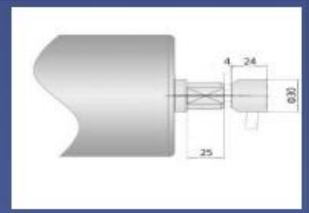




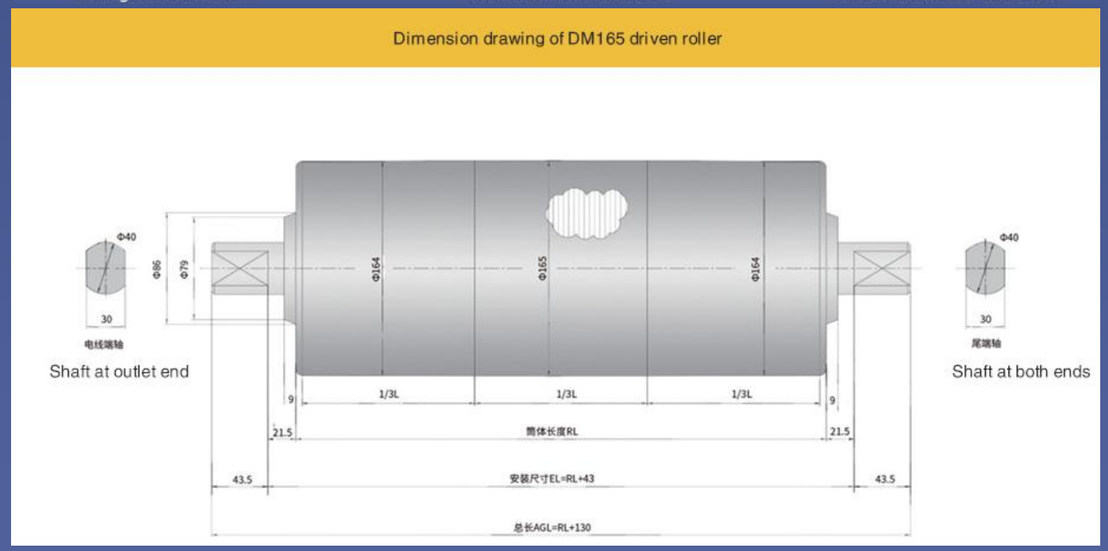
Straight cable out



Terminal box cable out



Elbow connector cable out



Based on the shortest length and weight of the cylinder, the weight of the drum motor increases by approximately 5kg for every 100mm of cylinder length.

DRUM MOTOR——DM216

High torque and strong drive, suitable for heavy-duty conveyors

Drivers for medium load and steel transmissions

The drum motor is extremely sturdy, with high torque and can withstand high radial loads. The DM216 electric drum is specially designed for transporting single heavy items or large amounts of loose materials. The effective power of its motor can reach up to 4KW.

It is mainly widely used in the following equipment:

Application

※High-load cycle conveyor

※Postal logistics sorting conveyor

※Airport and postal conveyors

※Warehouse loading conveyor

※Extensible belt conveyor/climbing conveyor

※Agricultural product conveyor

※Food processing conveyor

※Steel or plastic modular belt applications

※Belt weigher

DM216 electric drum features:

Roller cylinder

The standard cylinder is made of low-carbon steel, and the surface of the finished product is coated with anti rust oil.

The food grade cylinder is made of SS304.

The surface of the standard cylinder is processed with anti slip threads.

Gear drive

High alloy steel precision grinding gears ensure ultra-low noise during transmission.

Die cast aluminum gearbox

Motor

At 50Hz or 60Hz frequency, the motor is suitable for various universal voltages worldwide.

Motor insulation level F

All motors are equipped with additional overheating protectors.

Motor oil immersed heat dissipation

The standard outlet length of the cable is 1.5 meters.

Sealing grade

The shaft end adopts double seal design.

The sealing protection level of the electric drum is IP66/67

Oiling

The drum motor has been oiled according to the standard before leaving the factory

Change oil every 50000 hours of operation.

Other

Backstop can be installed without affecting the shortest length of the cylinder.

Horizontal installation.

Speed and roller length can be made according to customer requirements.

According to customer requirements, various non-standard drum motors can be produced.

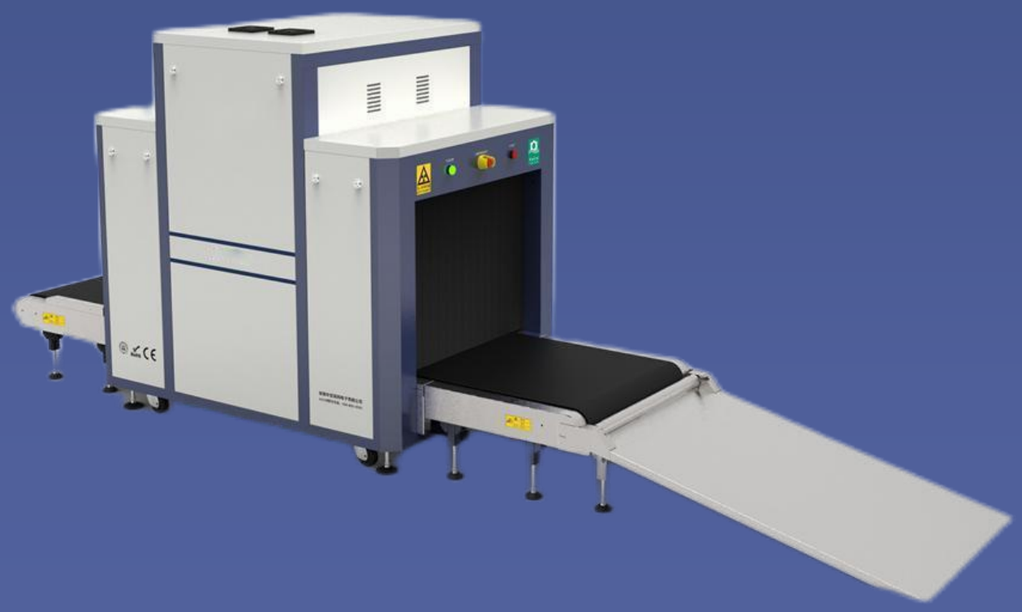
CE safety certification by international authoritative institutions.

WINROLLER DRUM MOTOR DM 216-3*400V/50Hz

DM216-3*400V/50Hz									
power (KW/hp)	Motor stage	Number of gear poles	Gear ratio	Nominal belt speed(m/s)	torque (Nm)	Tractive force(N)	Rated current(A)	Minimum barrel length（mm）	Weight at minir barrel length(K
1.50/2.04	4	3	28.69	0.57	283.4	3435.26	3.55	451	44
			24.23	0.68	239.4	2901.23			
		2	19.63	0.83	193.9	2350.44			
			14.65	1.12	144.7	1754.15			
			12.38	1.32	122.3	1482.35			
1.50/2.04	2	3	62.36	0.53	308.0	3733.41	2.89	417	43
			46.53	0.7	229.8	2785.69			
			39.3	0.83	194.1	2352.84			
			38.44	0.85	189.9	2301.35			
			28.69	1.14	141.7	1717.63			
			24.23	1.35	119.7	1450.62			
		2	19.63	1.67	97.0	1175.22			
			14.65	2.24	72.4	877.08			
			12.38	2.65	61.2	741.17			
2.20/3.00	2	3	46.53	0.7	337.1	4085.67	4.28	451	45
			39.3	0.83	284.7	3450.83			
			38.44	0.85	278.5	3375.31			
			28.69	1.14	207.9	2519.19			
			24.23	1.35	175.5	2127.57			
		2	19.63	1.67	142.2	1723.66			
			14.65	2.24	106.1	1286.38			
			12.38	2.65	89.7	1087.05			

WINROLLER DRUM MOTOR DM 216-3*400V/50Hz

3.00/4.08	2	3	63.2	0.52	624.4	5781.69	5.51	520	75
			57.45	0.65	567.6	5255.66			
			48.54	0.68	479.5	4440.56			
			41.26	0.79	407.6	3774.56			
			31.69	1.03	313.1	2899.08			
		2	24.62	1.33	243.2	2252.30			
			20.13	1.63	198.9	1841.54			
			15.46	2.12	152.7	1414.32			
3.50/4.76	4	2	24.62	0.67	567.5	5255.36	6.77	520	78
			20.13	0.81	464.0	4296.93			
			15.46	1.06	356.4	3300.08			
4.00/5.44	2	3	48.54	0.68	639.4	5920.74	10.21	556	80
			41.26	0.79	543.5	5032.75			
			31.69	1.03	417.4	3865.44			
		2	24.62	1.33	324.3	3003.06			
			20.13	1.63	265.2	2455.39			
			15.46	2.12	203.6	1885.76			

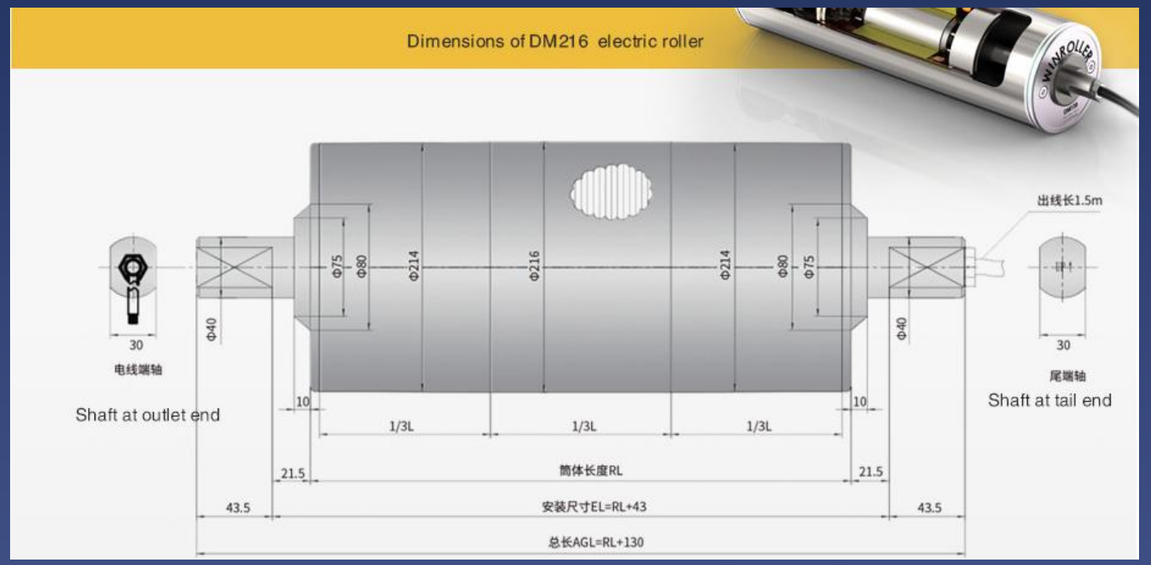


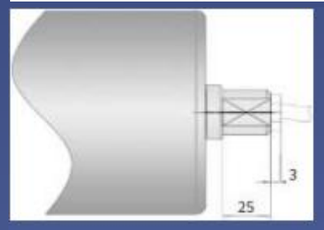
DM216 SELECTION TABLE-DRUM MOTOR/IDLER ROLLER

Component instructions	Drum Motor	Idler roller
Roller cylinder		
Carbon steel crown cylinder	1	1
Carbon steel straight cylinder	2	2
Stainless steel (Standard SS304) crown cylinder	2	2
Stainless steel (Standard SS304) straight cylinder	2	2
Special coronal and groove type	3	3
Front and rear end cover		
Cast aluminum end cover	1	1
Stainless steel (standard SS304) end cover	2	2
Cast iron cover	2	2
Front and rear shaft		
Carbon steel shaft	1	1
Galvanized carbon steel shaft	2	2
Stainless steel(Standard SS304) shaft	2	2
Encapsulation		
Black cold coating	2	2
Black flat vulcanized coating	2	2
White flat vulcanized coating	2	2
Polyurethane flat vulcanized coating	2	2
Additive mesh belt sprocket	2	2
V shape groove coating	3	3
Motor		
Three phase asynchronous motor	1	
Voltage **3*230v/50Hz or 3*400v/50Hz**	1	
Dual voltage motor	2	
Global universal voltage at 50Hz or 60Hz	1	
Motor overheat protector	1	
Low temperature environment oil	2	
Food grade oil and grease **（FDA and USDA）**	2	
Electrical connections		
Straight cable out	1	
Curved cable out	2	
Stainless steel Elbow connector cable	3	
Cast aluminum terminal box	2	
Stainless steel terminal box	3	
PVC cable	1	
Shielded cable (inverter)	3	
Low smoke halogen-free cable	2	
Other options		
Backstop	2	
Can be installed vertically or obliquely	3	
Connected to inverter	2	

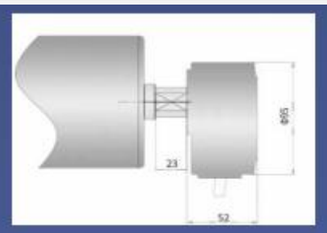
Remarks:
1-Standard assembly options 2-non-standard common options 3-Restrictive options, selection should be confirmed with the manufacturer.

Overall dimensions-DM216

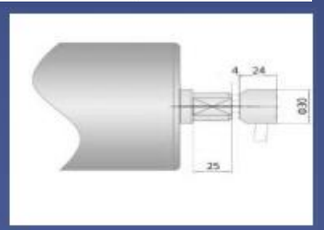




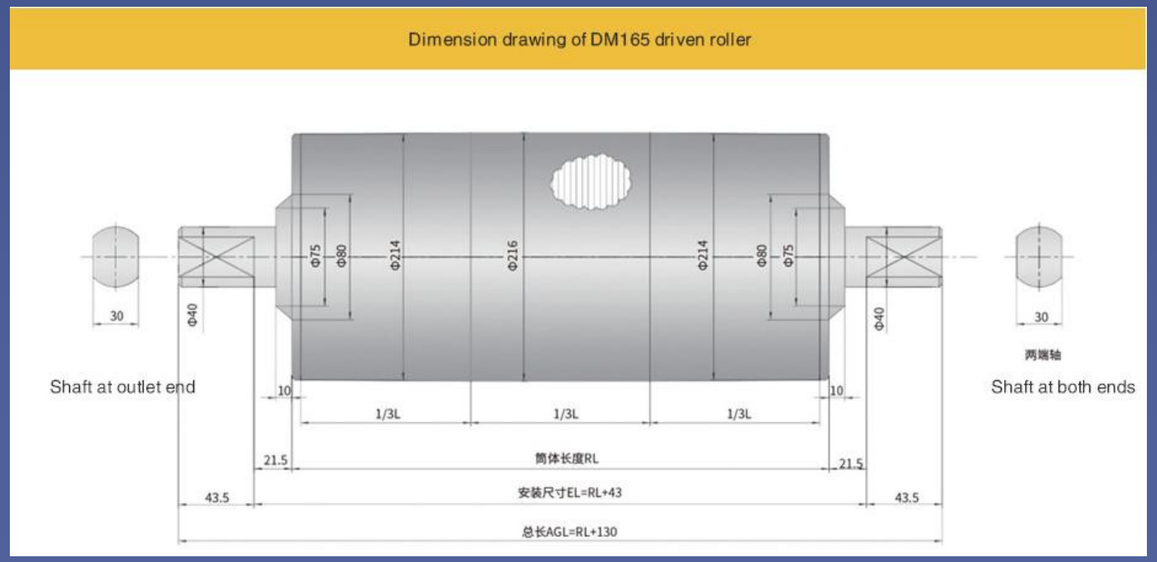
Straight cable out



Terminal box cable out



Elbow connector cable out



Based on the shortest length and weight of the cylinder, the weight of the drum motor increases by approximately 5kg for every 100mm of cylinder length.

Attention for installation of drum motor

I、Unpacking inspection

1. After the drum motor is received and unpacked, first check whether the appearance of the roller is intact. If there are any scratches, rust, cable damage, etc., please contact our company in a timely manner.
2. After arrival and unpacking, please check whether the data at the marking point on the roller end face is consistent with the ordering parameters. If there are any problems, please contact our company in a timely manner.

II、Roller Moving

1. When transporting the drum motor, it is strictly prohibited to pull the shaft end cables or lift the shaft end junction box, otherwise it may cause irreparable oil leakage or circuit damage to the drum motor.
2. Due to the large weight of the large diameter drum motor, it is necessary to confirm the load-bearing capacity of the slings or ropes during the transportation process and firmly fix them on the shafts at both ends of the electric drum. At the same time, be careful not to damage the cables or junction boxes.

III、Install

1. In general, drum motor can only be installed horizontally, parallel to the idler roller, and perpendicular to the conveyor frame. All drum motors must be fully supported and fastened to the conveyor frame, and the shaft end must not be deformed. Both ends of the shaft must be fully supported on the support.
2. When installing the support, it should be in close contact with the plane of the drum motor shaft end to ensure that there is no axial clearance between the drum motor.
3. If the support is not used for installation, it must be ensured that more than 80% of the plane part of the shaft end is supported, and the gap between the plane part of the shaft end and the support should be less than 0.4mm. When the drum motor frequently rotates forward, backward, or starts/stops multiple times, there should be no gap.
4. DM113, DM138, DM165 and DM216 drum motor shaft end is marked with "UP". During installation, please ensure "UP" up or toward the direction of driven idler roller. Otherwise it will cause excessive noise, cylinder overheating and damage to drum motor.

   Drum motor inclined installation: When the DM113, DM138, DM165 and DM216 installation inclination angle exceeds 2 °, the use is strictly prohibited. Otherwise, the gear cannot be fully lubricated due to the concentrated end of the internal cooling lubricating oil, and the motor heat cannot be cooled, and the long operation will lead to damage to the drum motor. When the drum motor inclined installation angle is too large or used vertically, please communicate with our company in the selection step and special drum motor would be recommended.

IV、Belt Width and Tension

1. The drum motor completely relies on the transmission belt for heat dissipation, and it is strictly prohibited to idle when the transmission belt is not installed. Otherwise, the temperature rise of the drum will be too high, and the heat cannot be dissipated, resulting in the motor burning out. For drum motors that do not use conveyor belts, the required power should be multiplied by 1.2. This must be explained when ordering or communicated promptly with our company's technical personnel.
2. The width of the conveyor belt should cover at least 70% of the cylinder surface for the normal operation of the drum motor.
3. The tightening degree of the conveyor belt should meet the transmitted torque, and the conveyor belt should not slip during load operation. It is strictly prohibited to excessively tighten the conveyor belt, otherwise it may cause excessive noise, overheating of the drum, and motor damage.

V、 Drum Motor Surface Coating

1. The surface coating of the drum can cause overheating of the drum motor, and for some drum motors, there may be limitations on the thickness of the coating. To avoid overheating and overload, the required power should be multiplied by 1.2 or communicated promptly with our company's technical personnel.

VI、Electrical connection

1. The drum motor wiring shall comply with the wiring diagram provided by our company. The wiring diagram is attached to the product operating instructions.
2. Ensure that the drum motor is connected to the correct power supply in line with the drum motor brand, and ensure that the drum motor is correctly connected through the yellow and green ground wire.
3. DM113 and DM138 models are equipped with overheat protector. In order to provide better protection for the drum. They should be linked to the control switch of the equipment and checked frequently.
4. The drum motor of a single phase motor shall be equipped with the start / run capacitors to ensure

the 100% starting torque of the drum. When operated without the connecting capacitors, the starting torque can be reduced to less than 70% of the rated torque.

5. The drum motor can be connected to the inverter. When linking the inverter, the parameters must be set for the motor parameters of each type of drum motor. If the cable length is more than 10 meters or one inverter to control multiple motors, it is necessary to assemble a sine filter or a motor throttle valve. To avoid the electromagnetic interference of the drum motor, ensure that the cable shielding is connected to the grounding parts.

VII、First Trial Test and Run

1. Ensure that the parameters on the drum motor identification are consistent with the parameters of the ordered product.
2. Ensure that there are no contact points between surrounding objects, conveyor belt frames, rotating parts, or movable parts.
3. Ensure that the drum motor and conveyor belt can move smoothly.
4. Ensure that the drive belt is tensioned and all bolts are secured according to the instructions .
5. Ensure that the drum motor is properly wired and connected to the correct voltage source.
6. Check all safety devices to ensure that no personnel are present in the hazardous area of the conveyor
7. Ensure that the external motor protection device is correctly set according to the rated current of the motor, and that the corresponding switchgear can disconnect the motor power at all poles when the thermal protection switch is touched.

VIII、Using Environment and Precautions

1. The normal operating temperature of drum motors in low-temperature and high-temperature environments is -5 ° C to +40 ° C.
   When using drum motors in temperatures below -5 ° C or above+40 ° C, special lubricating oil needs to be added.
2. Environments with sea level exceeding 1000 meters
   When the sea level is high, the atmospheric pressure decreases, which will relatively increase the internal pressure of the electric roller. Please communicate with our company in a timely manner when using.
3. Frequent starts and stops
   The DM113 and DM138 model drum motors allow 10 starts per minute, while the DM165 and DM216 model allow 5 starts per minute.

4. Conveyors that frequently operate in both forward and reverse directions
   The drum motor must be completely stopped before it can be powered on for reverse rotation.
5. For drum motors that do not use conveyor belts, the required power should be multiplied by 1.2. This must be explained when ordering or communicated promptly with our company's technical personnel.
6. In dusty and high humidity environment, food production environment requiring high-pressure water cleaning, fishery conveyor and other marine environment, recycling and corrosive environment, environment for handling oil or fat materials, chemical use or production environment, the sealing grade of drum motor must be IP66/67, and all 304/316 stainless steel materials shall be used.
7. We recommend using a frequency converter when accurate speed is required. The deviation between the nominal speed given by the drum motor and the actual speed is about ± 10%.
8. Oil cooled drum motors are not suitable for use in environments with explosion-proof requirements. If there are any usage requirements, please explain them in a timely manner and communicate with them.

IX、Using Environment and Precautions

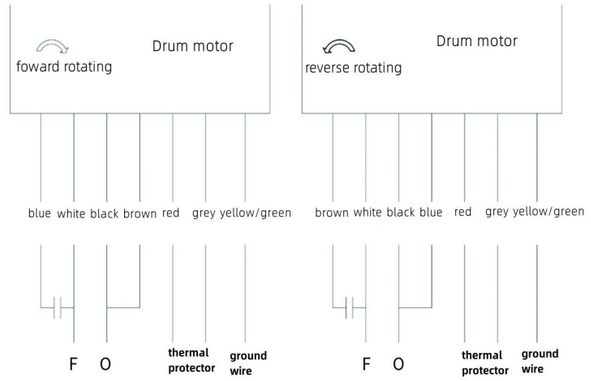
Generally speaking, drum motors do not require maintenance and do not require special maintenance during their service life. Of course, regular inspections are still necessary:

1. Check daily to ensure smooth rotation of the drum motor.
2. Check the drum motor daily for visible damage.
3. Ensure that the conveyor belt is correctly aligned every day, running with the drum motor as the center and parallel to the conveyor frame.
   Correct the alignment if necessary.
4. Check weekly whether the motor shaft and bracket of the conveyor frame are properly fixed.
5. Weekly inspection of cables, wires, and connectors for abnormalities and good fixation.

Wiring Diagram

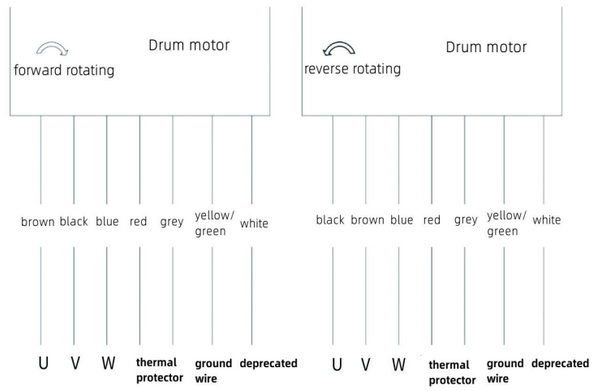
Schematic diagram of 7-core wire with thermal protection for single-phase motor

单相电机带热保护7芯线示意图



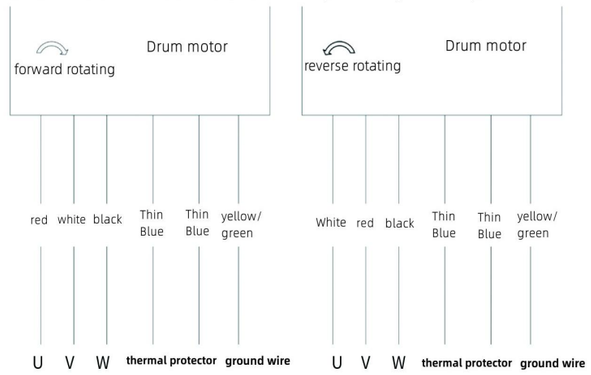
Schematic diagram of 7-core wire with thermal protection for three-phase motor (DM113)

三相电机带热保护7芯线示意图（DM113）



Schematic diagram of 6-core wire with thermal protection for three-phase motor (DM138, DM165, DM216)

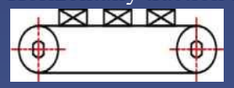
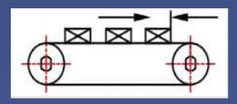
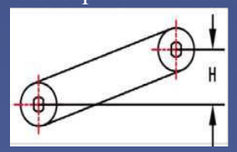
三相电机带热保护6芯线示意图（DM138,DM165,DM216,）



Note: DM165 and DM216 model do not have thermal protection. If thermal protection is required, it should be specified in advance before ordering.

Calculation of belt tension of drum motor

Formula for calculating traction force in different situations

	Belt on the roll	Belt on the pallet	Belt on both side
Non-loaded traction force		F0 ≒ 0.4*L*(2Gn+Gr)	F0 ≒ 11*L*Gn*f2	F0 ≒ 10*L*Gn*(f2+f4)
Horizontally traction force		F1 ≒ 0.4*L*Gm1	F1 = 11*L*Gm12	F1 ≒ 10*L*(Gm1*f2+Gm2*f4)
Collecting and transporting traction force		F2=10*L*Gm1* f1	F2=10*L*Gm* f1	F2=10*L*(Gm1*f1+Gm2*f 3)
On slope traction force		F3=10*H*Gm 1	F3=10*H*Gm 1	F3=10*H*(Gm1-Gm2)

F:Drum Motor Traction force

L:Horizontal projection of the center distance between the driving roller and the directional roller(m)

H:conveying height(m)

f1:The friction coefficient between the conveying object and the belt bearing surface (refer to Table 2)

f2:The friction coefficient between the conveyor support plate and the belt bearing surface (refer to Table 1)

f3:The friction coefficient between the conveying object and the bearing surface of the return belt (refer to Table 2)

f4:The friction coefficient between conveyor support plate and return belt bearing surface (refer to Table 1)

Gm1:The weight of the load on the belt conveyor per meter, expressed as the coming journey (kg/m)

Gm2:The weight of the load on the belt conveyor per meter, expressed as the return journey (kg/m)

Gn:Belt weight per meter

Gr:The total weight of rotating parts on each meter of belt conveyor, including the round-trip part (kg/m)

Friction coefficient: Table 1

f2/f4	PE Belt	PP Belt	POM Belt	PVC Belt	Polyester
PE sliding plate	0.34	0.12	0.11	-	-
Carbon steel or stainless steel support plate	0.15	0.27	0.22	0.48	0.28

Friction coefficient: Table 2

f1/f3	PE Belt	PP Belt	POM Belt	PVC Belt	polyester
Steel products	0.14	0.34	0.23	-	-
glass products	0.10	0.20	0.16	-	-
Plastic products	0.09	0.18	0.16	-	-

Note: All data given in the parameter table are based on a voltage frequency of 50Hz; If the motor is powered by a 60Hz power supply, the motor speed will increase by 20%.

Belt Tension

When calculating the tension of the conveyor belt, the following points should be taken into account

• Length and width of conveyor belts

• Belt type

• Check the conveyor belt tension required to transmit the load

• Check the required belt extension for installation. According to the load situation, the belt elongation during installation should be 0.2% to 0.5% of the belt length.

• Belt tension and belt elongation can be obtained from the belt supplier.

• Ensure that the required belt tension does not exceed the maximum belt tension of the electric drum.

• The required belt tension T1 (front) and T2 (bottom) can be calculated according to DIN22101 or CEMA standards. The actual belt tension can be roughly determined by referring to the manufacturer's specifications and measuring the elongation during belt tensioning. Excessive belt tension may damage bearings or other internal components of the electric drum, shortening the service life of the product.

Please contact us if you want know more informations:

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