

## Motorized Pulleys





# Rulmeca – Moving ahead.

*Since its foundation in 1962, the Rulmeca Group, headquartered in Bergamo (Almé), Italy, has grown to become one of the world's leading manufacturers of premium components for material handling. We strongly believe in our positioning as a component supplier and have successfully remained faithful to our mission for more than 50 years. Our reliability as a partner has made Rulmeca one of the most trusted brands in the industry.*

*Along with our products, which help to handle and move bulk materials and unit loads all over the globe, the Rulmeca Group is also moving ahead. Building on our experience supplying to OEM and end users in Italy, one of Europe's key markets for unit handling applications, we have developed a comprehensive range of components for internal logistics: made by Rulmeca. Our aim? To remain the preferred supplier and trusted partner for our customers who produce and engineer machinery, equipment and systems for unit handling applications.*

*We believe we have something important to offer to our customers.*

*Rulmeca's international presence allows us to access the most efficient sources of procurement, thus boosting the competitiveness of our offering.*

*At the same time our extensive network of affiliated companies and business partners allows us to always be in close contact with our customers. As a vertically integrated manufacturer, we have the flexibility to respond to individual needs whenever they arise.*

*Today the Rulmeca Group's global business encompasses three product brands: Rulmeca, Precismeca and Melco. They are part of one Group, they share a common philosophy, but each has its own character and operates according to the specific needs of its markets and its customers. Following this strategy, Rulmeca Group has evolved in recent decades to become the world's largest producer of belt conveyor rollers/idlers and motorized pulleys in the bulk handling industry.*

*As a family-owned business, a long-term perspective and responsible action form the basis of Rulmeca Group's economic success. The unique combination of tradition and*



*innovation, of quality and service is our key success factor. This is also seen in our consistent environmental and social responsibility throughout the value chain. 1200 employees in more than twenty production and sales companies all around the globe serve Rulmeca clients in 85 countries.*

*We don't only sell products, we find solutions. Our research departments are equipped with dedicated test facilities, where our products are thoroughly examined under extreme conditions. We are committed to the development of new products and the continuous improvement of our current range, often considered among the best in the market. Components provided by the Rulmeca Group improve the performance, safety and reliability of the systems, equipment and machines produced and utilized by our customers.*

*With the benefit of these assets and this strategic focus, the Rulmeca Group offers a portfolio of state-of-the-art components for a vast array of industries and applications handling both bulk materials and unit loads.*

*Our new range of Rulmeca unit handling components comprises rollers, motorized pulleys, 24v driven rollers and modules for dynamic storage. It has been developed for demanding applications such as airport logistics, postal and parcel handling, and logistics applications in manufacturing, distribution centers, food and beverage processing and warehousing.*

*For us, this catalogue is an important milestone. And we will keep on moving ahead. Please stay tuned.*

**Kind regards from The Rulmeca Team**  
June 7, 2013

*PS: Feel free to contact your local Rulmeca Company - [www.rulmeca.com](http://www.rulmeca.com).*

*We look forward to receiving your feedback and comments.*

# Contents

Page Title

7	<b>Introduction to Motorized Pulleys</b>
8	<b>Applications for Rulmeca Motorized Pulleys</b>
9	<b>Standard Motorized Pulley Range - Overview</b>
10	<b>Motorized Pulley 80LP</b> 85.5Ø 0.06kW – 0.12kW, with gearbox in polymer or polymer / steel combination
14	<b>Motorized Pulley 80LS</b> 81.5Ø 0.02kW – 0.12kW, with steel gearbox
20	<b>Motorized Pulley 113LP</b> 113.5Ø 0.06kW – 0.37kW, with polymer or polymer / steel combination gearbox
25	<b>Motorized Pulley 113LS</b> 113.5Ø 0.035kW – 0.37kW, with steel gearbox
32	<b>Motorized Pulley 138LS</b> 138.5Ø 0.10kW – 1.00kW, with steel gearbox
39	<b>Motorized Pulley 165LS</b> 165Ø 0.11kW – 2.2kW, with steel gearbox
46	<b>Motorized Pulley 220M-H</b> 216Ø 0.37kW – 5.5kW with steel gearbox
54	<b>Motorized Pulley 320L-M-H</b> 323/321Ø 0.75kW – 7.5kW with steel gearbox
63	<b>Motorized Pulleys 400L – 1000HD</b> 11x series types 400Ø to 1000Ø 2.2kW – 250kW

Page Title

<b>65</b>	<b>Optional extras</b>
<b>66</b>	<b>Lagging for standard conveyor belts</b>
	Smooth or grooved lagging for increased friction between the drive pulley and conveyor belt
<b>68</b>	<b>Profiled lagging for plastic modular belts</b>
	Specially produced profiled lagging to suit modular plastic belting
<b>69</b>	<b>Sprockets for plastic modular belts</b>
	Specially produced laser cut stainless steel sprockets to suit modular plastic belting
<b>71</b>	<b>Backstop / Anti run-back bearings</b>
<b>72</b>	<b>Electromagnetic brakes</b>
<b>74</b>	<b>Rectifiers</b>
	Used to operate electromagnetic brakes
<b>75</b>	<b>Encoder SKF</b>
<b>76</b>	<b>Encoder RLS</b>
<b>77</b>	<b>Accessories</b>
<b>78</b>	<b>Plummer block bracket for Motorized Pulley and Idler</b>
<b>79</b>	<b>Tension rollers</b>
	Alternatives to standard Idler Pulleys
<b>83</b>	<b>Planning section</b>
<b>84</b>	<b>Environmental conditions</b>
<b>87</b>	<b>Different power supply</b>
<b>88</b>	<b>Industrial solutions</b>
<b>89</b>	<b>Power calculations and motorized pulley selection</b>
<b>90</b>	<b>Required data for power calculation</b>



# Introduction to Motorized Pulleys



## Reduced energy consumption

Compared to many corresponding motor and gearbox systems commonly used in industry, Rulmeca Motorized Pulleys are able to use less energy for the same performance, helping to reduce power consumption, benefiting the environment and reducing energy costs.

## Increased efficiency

Rulmeca Motorized Pulleys have a higher efficiency compared to traditional motor transmission systems, which are normally able to transfer approximately 75% of the power used to the belt. A Rulmeca Motorized Pulley is able to transfer up to 97%.

## Ease of installation

Rulmeca Motorized Pulleys are much faster and easier to install when compared to traditional multiple component motor transmission systems, typically requiring less than a quarter of the time for installation. With fewer parts to consider, conveyor design and assembly is easier and quicker, procurement is also simplified reducing overall costs.

## Space-saving design

With motor, bearings and gearbox enclosed inside the casing, motorized pulleys are very compact, requiring less space, increasing the aesthetic and functional value of the finished conveyor.

## Designed for the toughest conditions

The Rulmeca Motorized Pulley is designed to operate perfectly even in the most aggressive environmental conditions such as, in the presence of water, dust, grit, chemicals, grease, oil and even during high pressure wash-down procedures.

## Guaranteed for food

Thanks to its flat smooth surfaces, stainless steel finish and totally enclosed, hermetically sealed design, Rulmeca Motorized Pulleys are easy to clean reducing contamination risk in food processing environments.

## Safety

Component parts are totally enclosed within a Rulmeca Motorized Pulley. With the external shafts held captive in a conveyor frame, the only moving part is the body of the pulley running under the conveyor belt. Conveyors can be designed in such a way preventing any of the drive pulley to be visible, resulting in an extremely safe method to drive conveyor belts.

## Maintenance-free

The fully sealed design ensures that internal parts are not exposed to external environmental conditions or tampering. A completely self contained unit, requiring no maintenance throughout its service lifetime.



## Applications for Rulmeca Motorized Pulleys

### Standard conveyor belts

To drive standard belts using the friction between the Motorized Pulley shell and the underside of the conveyor belt. The belt, which passes over the Motorized Pulley works as a heat sink, taking the heat produced by the electric motor and allowing it to dissipate away.

### Plastic modular belts

For applications that involve the use of plastic modular belts, it is necessary to cover the motorized pulley with a profiled lagging or to fit laser cut profiled sprockets to the shell of the pulley, to provide positive drive to the belt. Please contact Rulmeca to select optimum drive solution.

### Thermoplastic positively driven belts

Thermoplastic belt applications require Motorized Pulleys to be fitted with profiled lagging to suit, in order to provide positive drive. Please contact Rulmeca to select optimum drive solution.

### Non-Belt applications

For applications that do not require the use of belts, such as for moving product in direct contact with the pulley, or for brush cleaning applications. To prevent overheating we would recommend the adoption of frequency converters. Please contact Rulmeca to select specification.



## Standard Motorized Pulley Range



		80LP	80LS	113LP	113LS	138LS	165LS	220M	220H	320L	320M	320H
<b>Diameter [mm]</b>		85,5	81,5	113,6	113,5	138,5	165	216	216	323	321	321
<b>Power [kW]</b>	from	0,06	0,02	0,06	0,035	0,1	0,11	0,37	0,37	0,75	0,75	0,75
	to	0,12	0,12	0,37	0,37	1	2,2	4	5,5	4	7,5	7,5
<b>Torque [Nm]</b>	from	6,6	2,8	5	8,8	29	30	30	115	67	134	876
	to	25,5	26,6	58	90,1	168	340	409	705	418	1045	2090
<b>Tangential Force [N]</b>	from	127	68	87	155	345	360	279	2093	417	835	5225
	to	630	648	1000	1516	2425	4100	4195	6558	2604	6531	13062
<b>Speed Belt [m/s]</b>	from	0,1	0,05	0,06	0,05	0,05	0,05	0,2	0,13	0,32	0,16	0,13
	to	0,77	1	1,05	1,5	1,6	3,15	2,5	2,5	2,5	2,5	2
<b>Roller Length RL [mm]</b>	from	253	200	256	250	300	350	400	450	400	500	550
	to	912	1000	1212	1200	1800	1800	2000	2000	2000	2000	2000



## Motorized Pulley 80LP

A strong capable drive for small light duty conveyors

### Product description

Due to its strength, reliability and no need for maintenance this motorized pulley is used in small conveyors, packaging machines and simple transfer units.

### Characteristics

- Asynchronous motor AC three-phase or single-phase
- Single supply voltage
- Integral motor protection
- Gearbox planetary-type polymer or polymer / steel combination
- Low noise operation
- Light and distributed weight
- Maintenance free
- Lifetime lubrication
- Reversible operation

### Applications

- Small conveyors for light loads, non-continuous use
- Transfer Conveyors
- Packaging machines for light loads
- Food processing equipment, metal detection, x-ray
- Cash desks in supermarkets
- Dry, damp and wash down applications

Technical data	
<b>Motor Data</b>	
Type of Motor	Asynchronous squirrel-cage, IEC 34 (VDE 0530)
Insulation class of motor windings	Class F, IEC 34 (VDE 0530)
Voltage	230/400 V $\pm$ 5% (IEC 34/38)
Frequency	50/60 Hz
Internal shaft sealing system	Double-lipped of nitrile rubber, NBR
External shaft sealing system	Deflection seal nitrile rubber, NBR
Protection rate	IP66
Thermal protection	bimetallic Contact
Ambient temperature, 3-phase motor	+5 to +40 °C
Ambient temperature, 1-phase motor	+10 to +40 °C
<b>General technical data</b>	
Max. Roller length (RL)	912 mm

Motorized Pulleys with RL length greater than 562 mm have reinforced shaft.  
All data and values declared in the catalogue refer to operation with a frequency of 50 Hz.



# Motorized Pulley 80LP

A strong capable drive for small light duty conveyors



## Materials

The following Motorized Pulley components are available in different versions, as shown in the below chart, with further options for the material type as indicated.

Component	Version	Material			
		Standard Aluminium	Steel	Option Stainless Steel	Brass /Nickel
Shell	Crowned	✓	✓	✓	
	Cylindrical	✓	✓	✓	
	Special crownes with grooves	✓	✓	✓	
End housing	Standard	✓		✓	
Shaft cap	Standard	✓			
	With cable protection	✓			
	Regreasable			✓	
Electrical connection	Straight connector			✓	✓
	Elbow connector			✓	

Please contact Rulmeca for further versions.

## Options

- Rubber lagging for standard belts
- Dynamic balancing
- Food grade Oil (EU, FDA and USDA)
- Low temperature Oil
- Non-horizontal mounting (more than  $\pm 5^\circ$ )
- For special versions, please contact RULMECA

## Accessories

- Mounting brackets
- Idler pulleys
- Rollers for conveyors

## Cable Specifications

Cable options available:

- Standard, shielded
- Standard, unshielded
- Halogen-free, shielded
- Halogen-free, unshielded

Available lengths: 1,5 / 3,0 m (other lengths available on request).



## Motorized Pulley 80LP

A strong capable drive  
for small light duty conveyors

### Mechanical data for 3-phase motor-50Hz

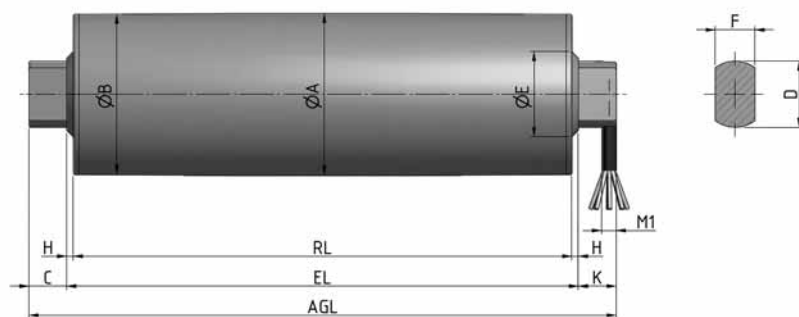
Rated Power	Poles	Gear stages	Rated speed of the shell	Rated revolutions of the shell	Rated torque of Motorized pulley	Rated tangential force	Max. belt tension T1+T2	Min. length RL
[kW]	n.	n.	[m/s]	[min-1]	[Nm]	[N]	[N]	[mm]
0,06	4	3	0,10	22,5	25,5	600	2000	269
			0,11	24,7	23,2	545		
			0,12	27,0	21,9	490		
			0,15	33,7	16,8	400		
			0,16	36,0	15,7	375		
			0,19	42,7	13,5	315		
			0,24	53,9	10,7	250		
		2	0,39	87,6	6,7	155		253
0,12	4	3	0,19	42,7	26,9	630	2000	292
			0,24	53,9	21,3	500		
		2	0,39	87,6	13,1	310		1500
			0,46	103,4	11,1	260		
			0,49	110,1	10,4	245		
			0,59	132,6	8,6	203		
			0,77	173,0	6,6	156		

### Mechanical data for 1-phase motor-50Hz

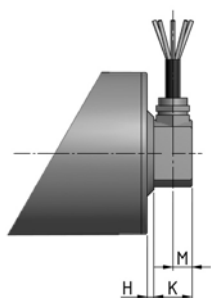
Rated Power [kW]	Poles n.	Gear stages n.	Rated speed of the shell [m/s]	Rated revolutions of the shell [min-1]	Rated torque of Motorized pulley [Nm]	Rated tangential force [N]	Max. belt tension T1+T2 [N]	Min. length RL [mm]
0,06	4	3	0,10	22,5	25,5	600	2000	280
			0,11	24,7	23,2	545		
			0,12	27,0	21,9	490		
			0,15	33,7	16,8	400		
			0,16	36,0	15,7	375		
			0,19	42,7	13,5	315		
			0,24	53,9	10,7	250		
		2	0,39	87,6	6,7	155		269
0,075	4	3	0,15	33,7	20,4	480	2000	292
			0,16	36,0	19,1	450		
			0,19	42,7	15,9	375		
			0,24	53,9	13,1	312		
		2	0,39	87,6	8,1	192	1500	276
			0,46	103,4	6,8	163		
			0,49	110,1	6,4	153		
0,09	4	3	0,59	132,6	5,4	127		
			0,15	33,7	25,5	600	2000	292
			0,16	36,0	23,9	563		
			0,19	42,7	19,9	474		

## Motorized Pulley 80LP

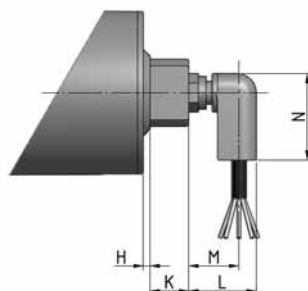
A strong capable drive  
for small light duty conveyors



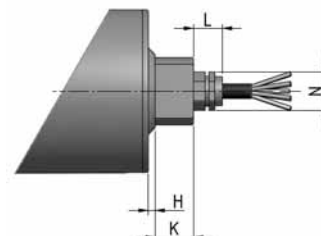
Standard motorized pulley.



Cable connection 90 degree.



Elbow cable connection.



Straight connector.

Type/Option	A mm	B mm	C mm	D mm	E mm	F mm	G mm	H mm	K mm	L mm	M mm	N mm	Q mm	T mm
<b>Straight connector</b>	85,5	84,5	20	35	45	21		3,5	20	15		20		
<b>Elbow cable connection in stainless steel</b>									20	35	26	45		
<b>Cable connection 90 degree</b>									20		10			



## Motorized Pulley 80LS

A very compact strong drive for small high use conveyors

### Product description

This Motorized Pulley is perfect for high torque applications with limited space or access.

### Characteristics

- Salt water resistant aluminum bearing housings
- Three phase AC induction motor
- Dual power supply
- Integral motor protection
- Hardened steel helical gear box
- Low noise operation
- Maintenance free
- Lifetime lubrication
- Reversible operation
- Reinforced internal shaft for RL exceeding 500 mm

### Applications

- Small conveyors for feeding materials with frequent cycle
- Packaging equipment
- Dynamic weighing equipment
- Metal detectors
- Ideal for pharmaceutical industry
- Meat processing
- Steel or plastic modular belts applications
- Dry, humid and wash down applications

Technical data	
<b>Motor Data</b>	
<b>Type of Motor</b>	Asynchronous squirrel-cage, IEC 34 (VDE 0530)
<b>Insulation class of motor windings</b>	Class F, IEC 34 (VDE 0530)
<b>Voltage</b>	230/400 V $\pm$ 5% (IEC 34/38) Special voltage on request
<b>Frequency</b>	50/60 Hz
<b>Internal shaft sealing system</b>	Double-lipped, FPM OR nitrile rubber NBR
<b>Protection rate</b>	IP66
<b>Thermal protection</b>	Bimetallic Contact
<b>Ambient temperature, 3-phase motor</b>	0°C to +40 °C
<b>General technical data</b>	
<b>Max. Roller length (RL)</b>	1000 mm

All data and values declared in the catalogue refer to operation with a frequency of 50 Hz.



# Motorized Pulley 80LS

A very compact strong drive for small high use conveyors



## Materials

The following Motorized Pulley components are available in different versions, as shown in the below chart, with further options for the material type as indicated.

Component	Version	Material				
		Aluminium	Steel	Stainless steel	Brass/Nickel	Polymer
Shell	Crowned		Std	TS8N		
	Cylindrical		Std	TS8N		
	Cylindrical + key (for sprockets)		Std	TS8N		
	Special crowns and grooves		Std	TS8N		
End housing	Standard	Std		TS8N		
	With V-grooves			TS8N		
	With O-grooves			TS8N		
Shaft	Standard			Std		
	Cross-drilled and threaded, M6			Std		
Electrical connection	Straight connector			TS8N	Std	
	Elbow connector			TS8N		Std
	Terminal box*	Std		TS8N		

\* Shaft cap version .

Please contact Rulmeca for further versions.

**TS8N Version** - End Caps in stainless steel with PTFE lip seals.

## Options

- Rubber Lagging for standard belts
- Profiled lagging for plastic modular belts
- Profiled lagging for thermoplastic belts
- Sprockets for plastic modular belts
- Backstop / Anti run-back bearing
- Dynamic balancing
- Electromagnetic brake
- Rectifiers
- Encoder
- Food-grade Oil (EU, FDA and USDA)
- Non-horizontal mounting (more than  $\pm 5^\circ$ )

**Note:** The combination of encoder and electromagnetic brake is not possible.

## Accessories

- Mounting brackets
- Idler Pulleys
- Rollers for conveyors
- Shaft cap
- Frequency Converters



## Motorized Pulley 80LS

A very compact strong drive for small high use conveyors

**Technical data for Motorized Pulley 80LS - 3-phase - 50Hz**

Rated Power	Poles	Gear Stages	Gear Ratio	Rated speed of the shell	Rated revolutions of the shell	Rated torque of Motorized pulley	Rated tangential force	Max. belt tension T1+T2	Min. Length RL
[kW]	n.	n.	i	[m/s]	[min <sup>-1</sup> ]	[Nm]	[N]	[N]	[mm]
0,02	8	3	53,89	0,05	11,3	16,0	391	3600	250
			37,78	0,07	16,1	11,2	274		
			30,88	0,08	19,8	9,2	224		
0,035	4	3	53,89	0,11	25,0	12,7	310	3600	200
			37,78	0,14	35,7	8,9	217		
			30,88	0,18	43,7	7,3	177		
		2	21,23	0,25	63,5	5,0	122	2650	
			14,88	0,38	90,6	3,5	86		
			12,16	0,45	110,8	2,9	70		
0,07	4	3	53,89	0,10	23,9	26,6	648	3600	250
			37,78	0,14	34,1	18,6	454		
			30,88	0,18	41,7	15,2	371		
		2	21,23	0,25	60,7	10,5	255	2650	
			14,88	0,38	86,5	7,3	179		
			12,16	0,45	105,9	6,0	146		
	2	3	53,89	0,22	51,5	12,3	301	2650	200
			37,78	0,32	73,5	8,6	211		
			30,88	0,38	90,0	7,1	172		
		2	21,23	0,55	130,8	4,9	118	2100	
			14,88	0,80	186,6	3,4	83		
			12,16	1,00	228,4	2,8	68		
0,12	2	3	53,89	0,22	51,5	21,1	515	2650	250
			37,78	0,32	73,5	14,8	361		
			30,88	0,38	90,0	12,1	295		
		2	21,23	0,55	130,8	8,3	203	2100	
			14,88	0,80	186,6	5,8	142		
			12,16	1,00	228,4	4,8	116		



# Motorized Pulley 80LS

A very compact strong drive for small high use conveyors



## Standard weights for Motorized Pulley 80LS

Rated Power [kW]	Poles n.	Standard weight [kg] for standard RL [mm]													
		200	250	300	350	400	450	500	550	600	650	700	800	900	1000
0,02	8	---	3,40	3,85	4,30	4,75	5,20	5,65	6,10	6,55	7,00	7,45	7,90	8,35	8,80
0,035	4	2,80	3,25	3,70	4,15	4,60	5,05	5,50	5,95	6,40	6,85	7,30	7,75	8,20	8,65
0,07	4	---	3,40	3,85	4,30	4,75	5,20	5,65	6,10	6,55	7,00	7,45	7,90	8,35	8,80
	2	2,80	3,25	3,70	4,15	4,60	5,05	5,50	5,95	6,40	6,85	7,30	7,75	8,20	8,65
0,12	2	---	3,40	3,85	4,30	4,75	5,20	5,65	6,10	6,55	7,00	7,45	7,90	8,35	8,80

### Cable specification

Available cable options:

- Standard, Screened
- Standard, Unscreened
- Halogen-free, Unscreened

Available lengths: 1/3/5 m.

### Min. length with option

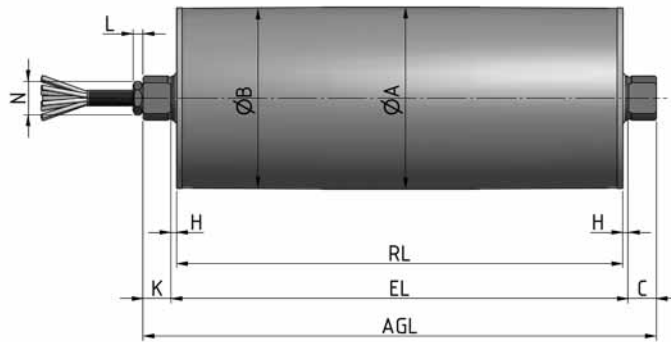
The following options increase the minimum length of the motorized pulley.

Option	RL min with option
Electromagnetic brake	RL min. + 50 mm
Encoder	RL min. + 0 mm

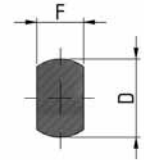


## Motorized Pulley 80LS

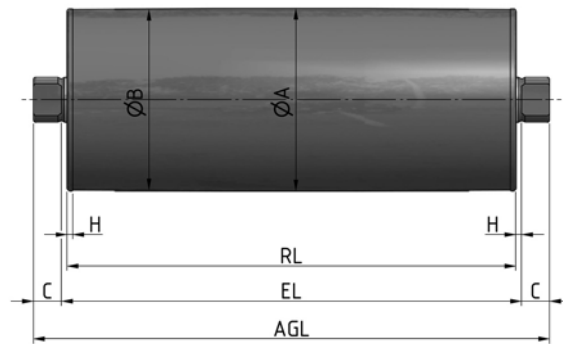
A very compact strong drive for small high use conveyors



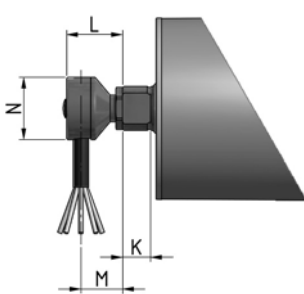
Standard Motorized Pulley with straight connector in stainless steel.



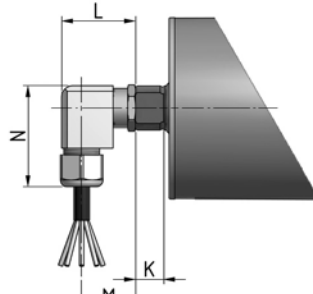
Shaft Cap.



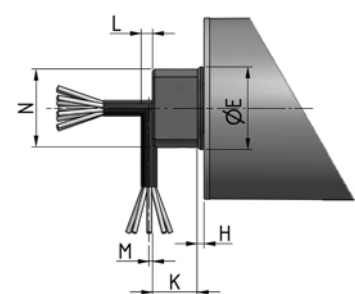
Idler Pulley, stainless steel version (TS).



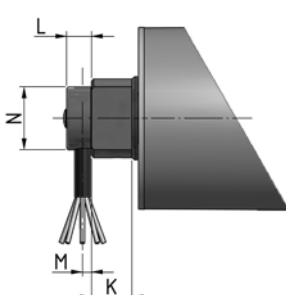
Elbow Connector in stainless steel.



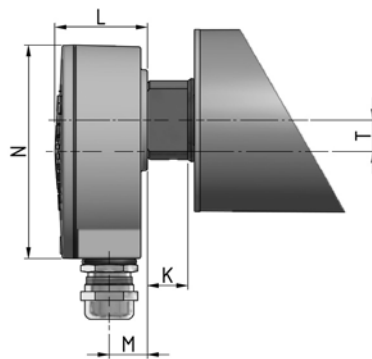
Elbow Connector in Polyamide.



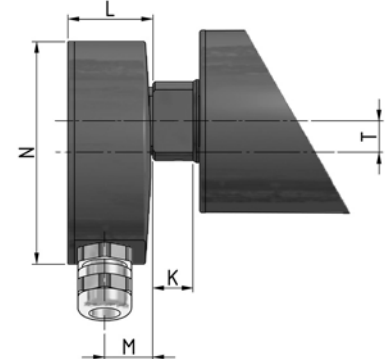
Straight/Elbow Connector with shaft cap in stainless steel.



Elbow connector with shaft cap in stainless steel.



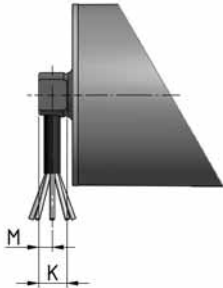
Terminal Box in Aluminium.



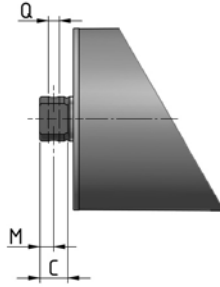
Terminal Box in Stainless Steel.

## Motorized Pulley 80LS

A very compact strong drive for small high use conveyors



Cable Connector 90° with threaded shaft.



Cross-drilled and threaded shaft.

Type/Option	A mm	B mm	C mm	D mm	E mm	F mm	G mm	H mm	K mm	L mm	M mm	N mm	Q mm	T mm
<b>Motorized pulley 80LS Standard version</b>														
<b>Straight connector in stainless steel</b>	81,5	80,5	12,5	20		14		2,5	12,5	4,5		15		
<b>Elbow connector in stainless steel</b>									12,5	25	18,5	28		
<b>Elbow connector in Polyamide</b>									12,5	33	24	45		
<b>Cable Connector 90° with threaded shaft</b>									12,5		6			
<b>Cross-drilled and threaded shaft</b>									12,5		6,25		M6	
<b>Straight/Elbow Connector with shaft cap in Stainless Steel</b>			20	35	37	21		3	20	5	1,5	35		
<b>Elbow Connector with shaft cap in Stainless Steel</b>									18	11	4	28		
<b>Terminal Box in Aluminium</b>									18	41	17	95		14
<b>Terminal Box in Stainless steel</b>									18	38	21,5	99		14



# Motorized Pulley 113LP

A powerful drive for light duty conveyors

## Product description

This Pulley is the ideal operator for light and medium conveyors, for non-continuous use.

## Characteristics

- 3-phase or 1-phase AC induction motor
- Single supply voltage
- Integral motor protection
- Gearbox planetary-type polymer or polymer / steel combination
- Low noise operation
- Light and distributed weight
- Maintenance free
- Reversible operation

## Applications

- Conveyors for light loads, non continuous use
- Recycling bottles
- Packaging equipment
- X-ray inspection systems at airports
- Pharmaceutical industry
- Food processing
- Cash desks in supermarkets
- Dry, Damp and frequent wash down applications

Technical data	
<b>Motor Data</b>	
Type of Motor	Asynchronous squirrel-cage, IEC 34 (VDE 0530)
Insulation class of motor windings	Class F, IEC 34 (VDE 0530)
Voltage	230/400 V $\pm$ 5% (IEC 34/38)
Frequency	50/60 Hz
internal shaft sealing system	Double-lipped of nitrile rubber, NBR
External shaft sealing system	Deflection seal nitrile rubber, NBR
Protection rate	IP66
Thermal protection	Bimetallic Contact
Ambient temperature, 3-phase motor	+5 to +40 °C
Ambient temperature, 1-phase motor	+10 to +40 °C
<b>General technical data</b>	
Max. Roller length (RL)	1212 mm

Motorized Pulleys with RL length greater than 712 mm have reinforced shaft.  
All data and values declared in the catalogue refer to operation with a frequency of 50 Hz.



# Motorized Pulley 113LP

A powerful drive for light duty conveyors



## Materials

The following Motorized Pulley components are available in different versions, as shown in the below chart, with further options for the material type as indicated.

Component	Version	Material			
		Standard Aluminium	Steel	Option Stainless Steel	Brass/Nickel
Shell	Crowned	✓	✓	✓	
	Cylindrical	✓	✓	✓	
	Special crownes with grooves	✓	✓	✓	
End housing	Standard	✓		✓	
Shaft cap	Standard	✓			
	With cable protection	✓			
Electrical connection	Straight connector			✓	✓
	Elbow connector			✓	

Please contact Rulmeca for further versions.

## Options

- Rubber lagging for standard belts
- Dynamic balancing
- Oil for Food (EU, FDA and USDA)
- Oil for low temperatures
- Non-horizontal mounting (more than  $\pm 5^\circ$ )
- For special versions, please contact RULMECA.

## Accessories

- Mounting brackets
- Idler Pulleys
- Rollers for conveyors

## Cable specifications

Cable options available:

- Standard, screened
- Standard, unscreened
- Halogen-free, screened
- Halogen-free, unscreened

Available lengths: 1,5 / 3,0 m (other lengths available on request).



## Motorized Pulley 113LP

A powerful drive for light duty conveyors

Technical data for Motorized Pulley 113LP - 3-phase - 50Hz

Rated Power	Poles	Gear Stages	Rated speed of the shell	Rated revolutions of the shell	Rated torque of Motorized pulley	Rated tangential force	Max. belt tension T1+T2	Min. length RL
[kW]	n.	n.	[m/s]	[min-1]	[Nm]	[N]	[N]	[mm]
0,06	4	4	0,06	10,1	56,0	1000	2000	256
			0,08	13,5	42,0	750		
		3	0,12	20,3	28,0	500		
			0,15	25,4	22,5	400		
			0,20	33,8	17,0	300		
			0,26	43,9	13,0	231		
			0,31	52,4	11,0	194		
			0,36	60,8	9,5	167		
		2	0,50	84,5	7,0	120	1500	
			0,69	116,6	5,0	87		
0,12	4	3	0,12	20,3	56,5	1000	2000	256
			0,15	25,4	45,0	800		
			0,20	33,8	34,0	600		
			0,26	43,9	26,0	462		
			0,31	52,4	22,0	387		
			0,36	60,8	19,0	333		
		2	0,50	84,5	13,5	240	1500	
			0,69	116,6	10,0	174		
			0,81	136,9	8,5	148		
			0,91	153,8	7,5	130		
0,18	4	3	0,20	33,8	51,0	900	2000	256
			0,26	43,9	39,0	692		
			0,31	52,4	33,0	581		
			0,36	60,8	28,5	500		
		2	0,50	84,5	20,5	360	1500	
			0,69	116,6	14,5	261		
			0,81	136,9	12,5	222		
			0,91	153,8	11,0	198		
			1,05	177,5	9,5	171		
			1,20	200,0	8,0	150		
0,25	4	3	0,26	43,9	54,5	962	2000	276
			0,31	52,4	45,5	806		
			0,36	60,8	39,0	694		
		2	0,50	84,5	28,5	500	1500	
			0,69	116,6	20,5	362		
			0,81	136,9	17,5	309		
			0,91	153,8	15,5	275		
			1,05	177,5	13,5	238		
			1,20	200,0	12,0	210		
			1,35	225,0	10,5	180		
0,37	4	3	0,36	60,8	58,0	1028	2000	294
		2	0,50	84,5	42,0	740	1500	
			0,69	116,6	30,5	536		
			0,81	136,9	26,0	457		
			0,91	153,8	23,0	407		
			1,05	177,5	20,0	352		

# Motorized Pulley 113LP

A powerful drive for light duty conveyors



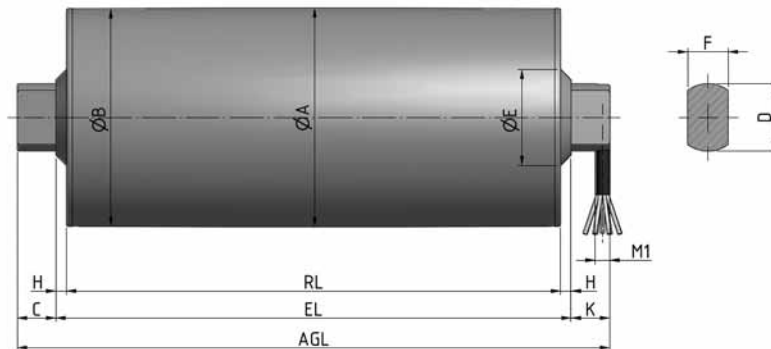
**Technical data for Motorized Pulley 113LP - 1-phase - 50Hz**

Rated Power	Poles	Gear Stages	Rated speed of the shell	Rated revolutions of the shell	Rated torque of Motorized pulley	Rated tangential force	Max. belt tension T1+T2	Min. length RL
[kW]	n.	n.	[m/s]	[min-1]	[Nm]	[N]	[N]	[mm]
0,06	4	4	0,06	10,1	56,0	1000	2000	256
			0,08	13,5	42,0	750		
		3	0,12	20,3	28,0	500		
			0,15	25,4	22,5	400		
			0,20	33,8	17,0	300		
			0,26	43,9	13,0	231		
			0,31	52,4	11,0	194		
			0,36	60,8	9,5	167		
		2	0,50	84,5	7,0	120	1500	
			0,69	116,6	5,0	87		
0,12	4	3	0,12	20,3	56,5	1000	2000	256
			0,15	25,4	45,0	800		
			0,20	33,8	34,0	600		
			0,26	43,9	26,0	462		
			0,31	52,4	22,0	387		
			0,36	60,8	19,0	333		
		2	0,50	84,5	13,5	240	1500	
			0,69	116,6	10,0	174		
			0,81	136,9	8,5	148		
			1,05	177,5	6,0	125		
0,18	4	3	0,20	33,8	51,0	900	2000	276
			0,26	43,9	39,0	692		
			0,31	52,4	33,0	581		
			0,36	60,8	28,5	500		
		2	0,50	84,5	20,5	360	1500	
			0,69	116,6	14,5	261		
			0,81	136,9	12,5	222		
			0,91	153,8	11,0	198		
			1,05	177,5	9,5	171		
			1,25	200,0	8,0	150		
0,25	4	3	0,26	43,9	54,5	962	2000	294
			0,31	52,4	45,5	806		
			0,36	60,8	39,0	694		
		2	0,50	84,5	28,5	500	1500	
			0,69	116,6	20,5	362		
			0,81	136,9	17,5	309		
			0,91	153,8	15,5	275		
			1,05	177,5	13,5	238		

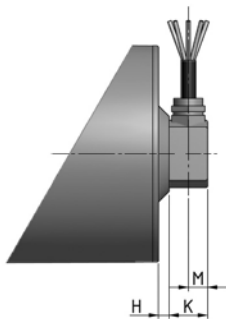


# Motorized Pulley 113LP

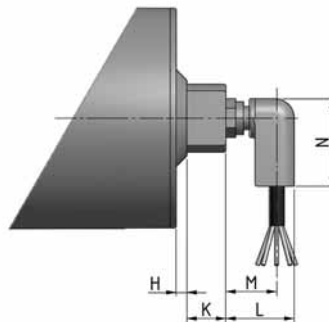
A powerful drive for light duty conveyors



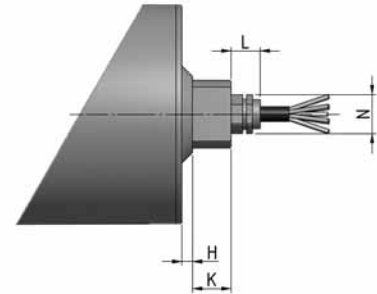
Motorized Pulley Standard Version.



Cable connection 90°.



Elbow Connector.



Straight Connector.

Type/Option	A mm	B mm	C mm	D mm	E mm	F mm	G mm	H mm	K mm	L mm	M mm	N mm	Q mm	T mm
Straight Connector	113,6	112,6	20	35	50	21		5,5	20	15		20		
Elbow Connector in stainless steel									20	35	26	45		
Cable connection 90°									20		10			



# Motorized Pulley 113LS

Superior tough and powerful drive for high use light and medium duty conveyors

## Product description

This Motorized Pulley has been designed specifically for applications that require a strong drive.

### Characteristics

- Salt water resistant aluminum bearing housing
- Three phase alternating current induction motor
- Dual power supply
- Integral motor protection
- hardened steel helical gear type
- Low noise operation
- Maintenance free
- Lifetime lubrication
- Reversible operation
- Reinforced internal shaft for RL exceeding 800 mm

### Applications

- Heavy and frequent use Conveyors
- Conveyors for check-in at airports
- Packaging equipment
- Weighing Machines
- Metal detector
- Pharmaceutical industries
- Food processing
- Plastic or modular belt applications
- Dry, damp and wash down applications

Technical data	
<b>Motor data</b>	
Type of Motor	Asynchronous squirrel-cage, IEC 34 (VDE 0530)
Insulation class of motor windings	Class F, IEC 34 (VDE 0530)
Voltage	230/400 V $\pm$ 5% (IEC 34/38) Special voltage on request
Frequency	50/60 Hz
Internal shaft sealing system	Double-lipped of nitrile rubber, NBR
Protection rate	IP66
Thermal protection	Bimetallic Contact
Ambient temperature, 3-phase motor	+5 to +40 °C
<b>General technical data</b>	
Max. Roller length (RL)	1200 mm

All data and values declared in the catalogue refer to operation with a frequency of 50 Hz.





## Motorized Pulley 113LS

Superior tough and powerful drive for high use light and medium duty conveyors

### Materials

The following Motorized Pulley components are available in different versions, as shown in the below chart, with further options for the material type as indicated.

Components	Version	Material				
		Aluminium	Steel	Stainless Steel	Brass/Nickel	Polymer
Shell	Crowned		Std	TS8N		
	Cylindrical		Std	TS8N		
	Cylindrical + key (for sprockets)		Std	TS8N		
	Special crowns and grooves		Std	TS8N		
End housing	Standard	Std		TS8N		
	With V-grooves			TS8N		
	With O-grooves			TS8N		
Shaft	Standard			Std		
	Cross-drilled and threaded, M8			Std		
Electrical connection	Straight connector			TS8N	Std	
	Elbow connector			TS8N		Std
	Terminal box	Std		TS8N		

Please contact Rulmeca for further versions.

**TS8N Version** - End Caps in stainless steel with PTFE lip seals.

### Options

- Rubber Lagging for standard belts
- Profiled lagging for plastic modular belts
- Profiled lagging for thermoplastic belts
- Sprockets for plastic modular belts
- Backstop / Anti run-back bearing
- Dynamic balancing
- Electromagnetic brake
- Rectifiers
- Encoder
- Food-grade Oil (EU, FDA and USDA)
- Non-horizontal mounting (more than  $\pm 5^\circ$ )

**Note:** The combination of encoder and electromagnetic brake is not possible.

### Accessories

- Mounting brackets
- Idler Pulleys
- Rollers for conveyors
- Shaft caps
- Frequency Converters

# Motorized Pulley 113LS

Superior tough and powerful drive for high use light and medium duty conveyors



**Technical data for Motorized Pulley 113LS - 3-phase - 50Hz**

Rated Power	Poles	Gear Stages	Gear Ratio	Rated speed of the shell	Rated revolutions of the shell	Rated torque of Motorized pulley	Rated tangential force	Max. belt tension T1+T2	Min. length RL	
[kW]	n.	n.	i	[m/s]	[min <sup>-1</sup> ]	[Nm]	[N]	[N]	[mm]	
0,035	12	3	42,66	0,05	8,3	38,4	679	6550	250	
			36,35	0,06	9,7	32,7	579			
			31,36	0,07	11,3	28,2	499			
0,07	12	3	42,66	0,05	8,3	76,8	1358	6550	300	
			36,35	0,06	9,7	65,4	1157			
			31,36	0,07	11,3	56,4	999			
0,08	8	3	42,66	0,09	15,9	45,5	806	6550	250	
0,10	6	3	42,66	0,11	20,3	44,7	792	6550		
			36,35	0,13	23,8	38,1	675			
			31,36	0,16	27,6	32,9	582			
			27,32	0,18	31,7	28,7	507			
			23,99	0,22	36,1	25,2	445			
			21,18	0,25	40,8	22,2	393			
		2	15,17	0,32	57,0	15,9	282	4550		
			12,92	0,40	66,9	13,6	240			
			11,15	0,45	77,6	11,7	207			
0,15	8	3	42,66	0,09	15,9	85,6	1516	6550	300	
			36,35	0,11	18,7	73,0	1291			
			31,36	0,13	21,6	62,9	1114			
		4	3	42,66	0,18	32,1	42,4	750		6550
				36,35	0,22	37,7	36,1	639		
				31,36	0,25	43,7	31,1	551		
	27,32			0,30	50,1	27,1	480			
	23,99			0,32	57,1	23,8	422			
	21,18			0,38	64,7	21,0	372			
	2		15,17	0,50	90,3	15,1	267	4550		
		12,92	0,63	106,0	12,8	227				
		11,15	0,70	122,9	11,1	196	3400			
0,20	6	3	42,66	0,13	21,4	84,6	1497	6550	300	
			36,35	0,14	25,2	72,1	1276			
			31,36	0,16	29,2	62,2	1101			
			27,32	0,20	33,5	54,2	959			
			23,99	0,22	38,1	47,6	842			
			21,18	0,25	43,2	42,0	744			
		2	15,17	0,35	60,3	30,1	532	4550		
			12,92	0,40	70,8	25,6	454			
			11,15	0,50	82,1	22,1	391			
0,24	2	3	42,66	0,38	64,5	33,8	598	4550	250	
			36,35	0,45	75,7	28,8	509			
			31,36	0,50	87,7	24,2	439			
			27,32	0,60	100,7	21,6	383			
			23,99	0,70	114,6	19,0	333	3400		
			21,18	0,80	129,8	16,8	297			



## Motorized Pulley 113LS

Superior tough and powerful drive for high use light and medium duty conveyors

### Technical data for motorized pulley 113LS - 3-phase - 50Hz

Rated power	Poles	Gear stages	Gear ratio	Rated speed of the shell	Rated revolutions of the shell	Rated torque of Motorized pulley	Rated tangential force	Max. belt tension T1+T2	Min. length RL			
[kW]	n.	n.	i	[m/s]	[min <sup>-1</sup> ]	[Nm]	[N]	[N]	[mm]			
0,24	2	2	15,17	1,10	181,3	12,0	213	3400	250			
			12,92	1,25	212,8	10,2	181					
			11,15	1,50	246,6	8,8	156					
0,30	4	3	42,66	0,20	32,6	83,5	1479	6550	300			
			36,35	0,22	38,2	71,2	1260					
			31,36	0,25	44,3	61,4	1087			4550		
			27,32	0,30	50,9	53,5	947					
			23,99	0,35	57,9	47,0	824					
			21,18	0,38	65,6	41,5	734					
		2	15,17	0,50	91,6	29,7	526					
			12,92	0,63	107,6	25,3	448					
			11,15	0,70	124,7	21,8	386					
			0,37	4	3	31,36	0,25	43,3		77,5	1371	4550
						27,32	0,30	49,7		67,5	1194	
						23,99	0,32	56,7		59,2	1094	
21,18	0,38	64,2				52,3	926					
2	15,17	0,50			89,6	37,5	663					
	12,92	0,60			105,2	31,9	565					
	11,15	0,70			121,9	27,5	487					
	2	3			21,18	0,80	134,8	24,9		441	3400	
2			15,17	1,10	188,3	17,8	316					
			12,92	1,25	221,0	15,2	269					
			11,15	1,50	256.1	13,1	232					

### Standard weights for motorized pulley 113LS

Rated Power [kW]	Poles n.	Standard weight [kg] for standard RL [mm]														
		250	300	350	400	450	500	550	600	650	700	750	800	850	900	1000
0,04	12	7,70	8,35	9,65	10,30	10,95	11,60	12,25	12,90	13,55	14,20	14,85	15,50	16,15	16,80	17,45
0,07	12	---	9,60	10,90	11,55	12,20	12,85	13,50	14,15	14,80	15,45	16,10	16,75	17,40	18,05	18,70
0,08	8	7,70	8,35	9,65	10,30	10,95	11,60	12,25	12,90	13,55	14,20	14,85	15,50	16,15	16,80	17,45
0,10	6	7,70	8,35	9,65	10,30	10,95	11,60	12,25	12,90	13,55	14,20	14,85	15,50	16,15	16,80	17,45
0,15	8	---	9,60	10,90	11,55	12,20	12,85	13,50	14,15	14,80	15,45	16,10	16,75	17,40	18,05	18,70
	4	7,70	8,35	9,65	10,30	10,95	11,60	12,25	12,90	13,55	14,20	14,85	15,50	16,15	16,80	17,45
0,20	6	7,70	8,35	9,65	10,30	10,95	11,60	12,25	12,90	13,55	14,20	14,85	15,50	16,15	16,80	17,45
0,24	2	7,70	8,35	9,65	10,30	10,95	11,60	12,25	12,90	13,55	14,20	14,85	15,50	16,15	16,80	17,45
0,30	4	---	9,60	10,90	11,55	12,20	12,85	13,50	14,15	14,80	15,45	16,10	16,75	17,40	18,05	18,70
0,37	4	---	9,60	10,90	11,55	12,20	12,85	13,50	14,15	14,80	15,45	16,10	16,75	17,40	18,05	18,70
	2	---	9,60	10,90	11,55	12,20	12,85	13,50	14,15	14,80	15,45	16,10	16,75	17,40	18,05	18,70

## Motorized Pulley 113LS

Superior tough and powerful drive for high use light and medium duty conveyors

### Cable specification

Available cable options:

- Standard, Screened
- Standard, Unscreened
- Halogen-free, screened
- Halogen-free, Unscreened

Available lengths: 1 / 3 / 5 m.

### Min.Length with option

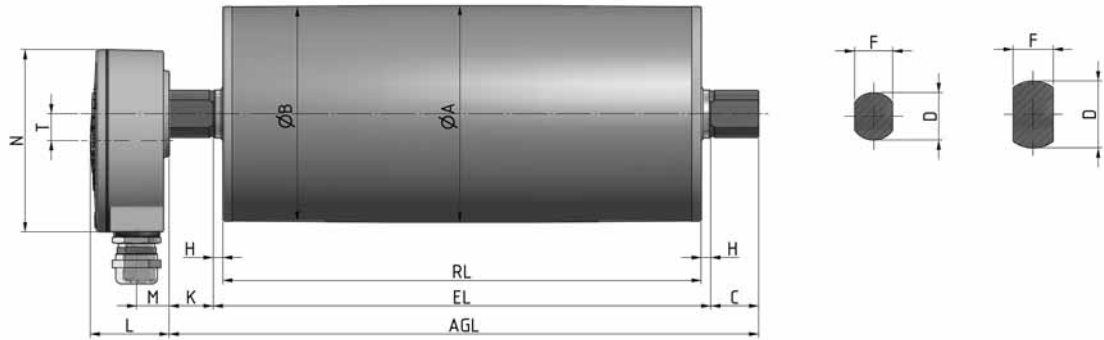
The following options increase the minimum length of the motorized pulley.

Option	RL min with option mm
Brake	RL min + 50 mm
Encoder SKF	RL min + 0 mm
Encoder RLS	RL min +50 mm



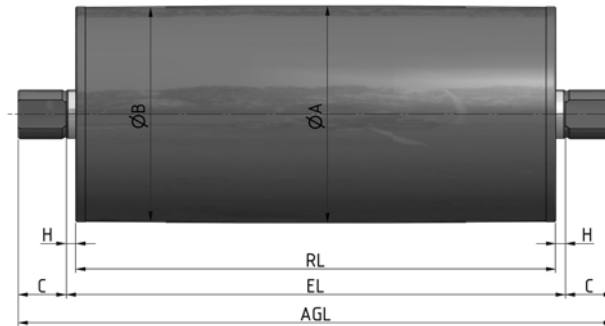
## Motorized Pulley 113LS

Superior tough and powerful drive for high use light and medium duty conveyors

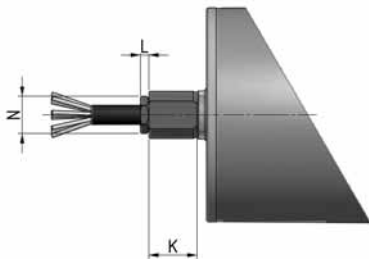


Motorized pulley standard version with aluminium Terminal box.

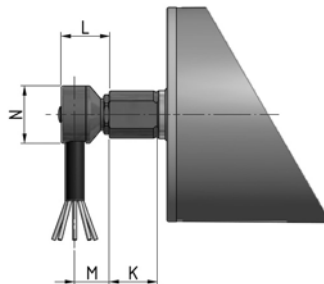
Shaft Cap.



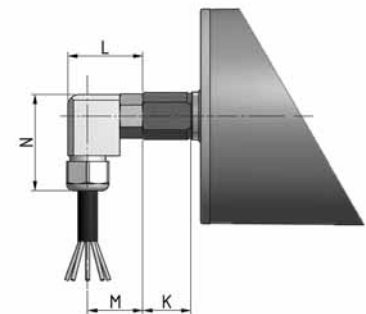
Idler Pulley in Stainless Steel (TS).



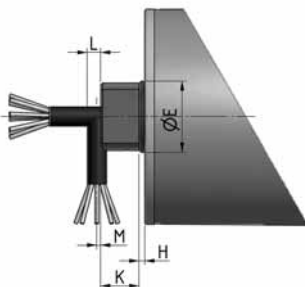
Straight connector in stainless steel.



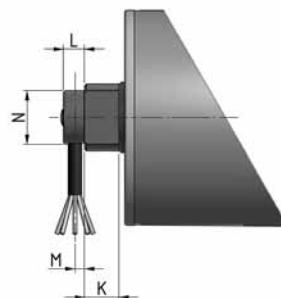
Elbow connector in stainless steel.



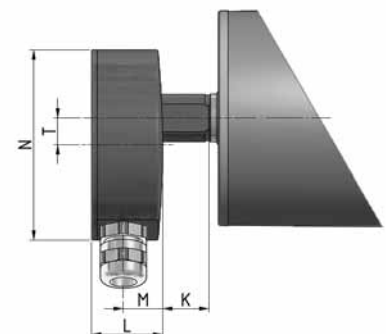
Elbow connector in polyamide.



Straight/Elbow connector with shaft cap in stainless steel.



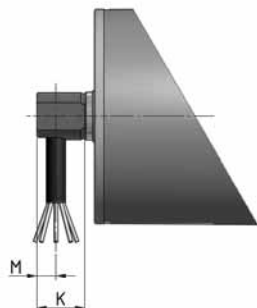
Elbow connector with shaft cap in stainless steel.



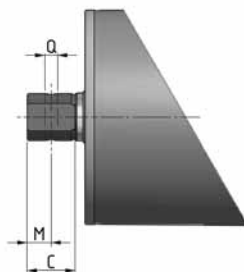
Terminal box in stainless steel.

## Motorized Pulley 113LS

Superior tough and powerful drive for high use light and medium duty conveyors



Cable connector 90° with threaded shaft.



Shaft, cross-drilled and threaded.

Type/Option	A mm	B mm	C mm	D mm	E mm	F mm	G mm	H mm	K mm	L mm	M mm	N mm	Q mm	T mm
Motorized pulley 113LS standard version with aluminium terminal box	113	111,5	25	25		20		5	23	41	17	95		14
Terminal Box in Stainless steel									23	37	20,5	99		14
Straight Connector in stainless steel									25	4,5		19,5		
Elbow Connector in Stainless steel									25	25	18	30		
Elbow connector in Polyamide									25	39	28,5	50		
Cable connector 90° with threaded shaft									25		10			
Shaft, cross-drilled and threaded									25		12,5		M8	
Straight/Elbow connector with shaft cap in stainless steel			20	35	37	21		3	20	7	2	35		
Elbow connector with shaft cap in stainless steel									18	11	4	28		

# Motorized Pulley 138LS

Power packed drive for high duty conveyors

## Product Description

The motorized pulley 138LS is a very flexible component thanks to the wide range of powers and speeds.

### Characteristics

- Salt water resistant aluminum bearing housing
- Induction motor three phases alternating current
- Dual power supply
- Integral motor protection
- Steel- hardened helical spur gear
- Low noise operation
- Maintenance free
- Lifetime lubrication
- Reversible operation
- Reinforced shaft for RL greater than 800 mm

### Applications

- Conveyors for heavy and frequent use
- Conveyors for transportation of packages
- Logistics applications
- Check-in desks at airports
- Conveyors for furniture manufacture
- Manufacturing of food processes
- Modular belts, steel or plastic applications
- Dry, damp and frequent wash down applications

Technical data	
<b>Motor data</b>	
Type of Motor	Asynchronous squirrel-cage, IEC 34 (VDE 0530)
Insulation class of motor windings	Class F, IEC 34 (VDE 0530)
Voltage	230/400 V $\pm$ 5% (IEC 34/38) Special voltage on request
Frequency	50/60 Hz
Internal shaft sealing system	Double-lipped FPM or nitrile rubber, NBR
Protection rate	IP66
Thermal protection	Bimetallic Contact
Ambient temperature, 3-phase motor	-25 to +40 °C
<b>General technical data</b>	
Max. Roller length (RL)	1800 mm

All data and values declared in the catalogue refer to operation with a frequency of 50 Hz.





# Motorized Pulley 138LS

Power packed drive for high duty conveyors



## Materials

The following Motorized Pulley components are available in different versions, as shown in the below chart, with further options for the material type as indicated.

Components	Version	Material				
		Aluminium	Steel	Stainless steel	Brass/Nickel	Polymer
Shell	Crowned		Std	TS8N		
	Cylindrical		Std	TS8N		
	Cylindrical + key (for sprockets)		Std	TS8N		
	Special crowns and grooves		Std	TS8N		
End housing	Standard	Std		TS8N		
	With V-grooves		Std	TS8N		
	With O-grooves		Std	TS8N		
	With chain sprockets		Std	TS8N		
Shaft	Standard		Std	TS8N		
	Cross-drilled and threaded, M8		Std	TS8N		
Electrical connection	Straight connector			TS8N	Std	
	Elbow connector			TS8N		Std
	Terminal box	Std		TS8N		

Please contact Rulmeca for further versions.

**TS8N Version** - End Caps in stainless steel with PTFE lip seals.

## Options

- Rubber Lagging for standard belts
- Profiled lagging for plastic modular belts
- Profiled lagging for thermoplastic belts
- Sprockets for plastic modular belts
- Backstop / Anti run-back bearing
- Dynamic balancing
- Electromagnetic brake
- Rectifiers
- Encoder
- Food-grade Oil (EU, FDA and USDA)
- Non-horizontal mounting (more than  $\pm 5^\circ$ )
- Version TS7N - as TS8N but with re-greasable labyrinth seals

**Note:** The combination of encoder and electromagnetic brake is not possible.

## Accessories

- Mounting brackets
- Idler Pulleys
- Rollers for conveyors
- Frequency Converters



## Motorized Pulley 138LS

Power packed drive for high duty conveyors

Technical data for Motorized pulley 138LS - 3 phase - 50Hz

Rated power	Poles	Gear stages	Gear ratio	Rated speed of the shell	Rated revolutions of the shell	Rated torque of Motorized pulley	Rated tangential force	Max. belt tension T1+T2	Min. length RL
[kW]	n.	n.	i	[m/s]	[min <sup>-1</sup> ]	[Nm]	[N]	[N]	[mm]
0,10	12	3	78,40	0,04	5,6	159	2295	8300	300
			66,00	0,05	6,7	138	1990		
			52,96	0,06	8,3	111	1600		
		2	29,56	0,10	14,9	62	895		
0,18	8	3	66,00	0,08	10,2	163	2350	8300	300
			52,96	0,10	12,7	131	1890		
			43,65	0,13	15,5	108	1555		
		2	29,56	0,16	22,8	73	1050	4850	
			25,20	0,20	26,8	62	890		
0,24	6	3	66,00	0,10	13,9	163	2350	8300	300
			52,96	0,13	17,4	131	1890		
			43,65	0,16	21,1	108	1555		
		2	29,56	0,20	31,1	73	1050	4850	
			25,20	0,25	36,5	62	890		
			20,22	0,32	45,5	50	720		
0,37	6	3	51,85	0,13	18,0	168	2425	8300	320
	4	3	66,00	0,16	21,2	153	2205	4850	300
			52,96	0,20	26,4	126	1815		
			43,65	0,25	32,1	104	1500		
		2	29,56	0,32	47,4	70	1010		
			25,20	0,40	55,6	60	865		
			20,22	0,50	69,2	48	690		
			16,67	0,63	84,0	40	575		
			12,44	0,80	112,5	30	430		
0,55	2	3	77,41	0,25	35,3	152	2190	4850	300
			66,00	0,32	41,4	129	1860		
			52,96	0,40	51,5	104	1500		
			43,65	0,50	62,5	86	1240		
		2	29,56	0,63	92,4	58	835	3650	
			25,20	0,80	108,3	49	705		
			20,22	1,00	135,0	40	575		
			16,67	1,25	163,8	33	475		
			12,44	1,60	219,5	24	345		
0,75	4	3	32,59	0,32	41,9	159	2295	4850	320
		2	25,20	0,40	54,2	127	1830		
			20,22	0,50	67,5	102	1470		
			16,67	0,63	81,9	84	1210		
	2	2	25,20	0,80	112,9	67	965	3650	
			20,22	1,00	140,7	54	775		
			16,67	1,25	170,7	44	635		
			12,44	1,60	228,7	33	475		

# Motorized Pulley 138LS

Power packed drive for high duty conveyors



**Technical data for Motorized Pulley 138LS - 3 phase - 50Hz**

Rated power	Poles	Gear stages	Gear ratio	Rated speed of the shell	Rated revolutions of the shell	Rated torque of Motorized pulley	Rated tangential force	Max. belt tension T1+T2	Min. length RL
[kW]	n.	n.	i	[m/s]	[min <sup>-1</sup> ]	[Nm]	[N]	[N]	[mm]
1,0	2	3	43,65	0,50	64,4	145	2090	4850	350
			32,59	0,63	86,2	109	1570		
		2	25,20	0,80	111,5	84	1210	3650	
			20,22	1,00	139,0	67	965		
			16,67	1,25	168,6	56	805		
			12,44	1,60	225,9	41	590		

**Standard weight for Motorized pulley 138LS**

Rated power [kW]	Poles n.	Standard weight [kg] for standard RL [mm]													
		300	320	350	400	450	500	550	600	650	700	750	800	900	1000
0,10	12	14,0	14,5	15,0	16,0	17,0	18,0	19,0	20,0	21,5	23,0	24,0	25,0	27,0	29,0
0,18	8	14,0	14,5	15,0	16,0	17,0	18,0	19,0	20,0	21,5	23,0	24,0	25,0	27,0	29,0
0,24	6	14,0	14,5	15,0	16,0	17,0	18,0	19,0	20,0	21,5	23,0	24,0	25,0	27,0	29,0
0,37	6	---	15,0	15,6	16,5	17,5	18,5	19,5	20,5	22,0	23,5	24,5	25,5	27,5	29,5
	4	14,0	14,5	15,0	16,0	17,0	18,0	19,0	20,0	21,5	23,0	24,0	25,0	27,0	29,0
0,55	2	14,0	14,5	15,0	16,0	17,0	18,0	19,0	20,0	21,5	23,0	24,0	25,0	27,0	29,0
0,75	4	---	15,0	15,6	16,5	17,5	18,5	19,5	20,5	22,0	23,5	24,5	25,5	27,5	29,5
	2	---	15,0	15,6	16,5	17,5	18,5	19,5	20,5	22,0	23,5	24,5	25,5	27,5	29,5



## Motorized Pulley 138LS

Power packed drive for high duty conveyors

### Cable Specification

Available cable options:

- Standard, Screened
- Standard, Unscreened
- Halogen-free, screened
- Halogen-free, Unscreened

Available lengths: 1 / 3 / 5 m.

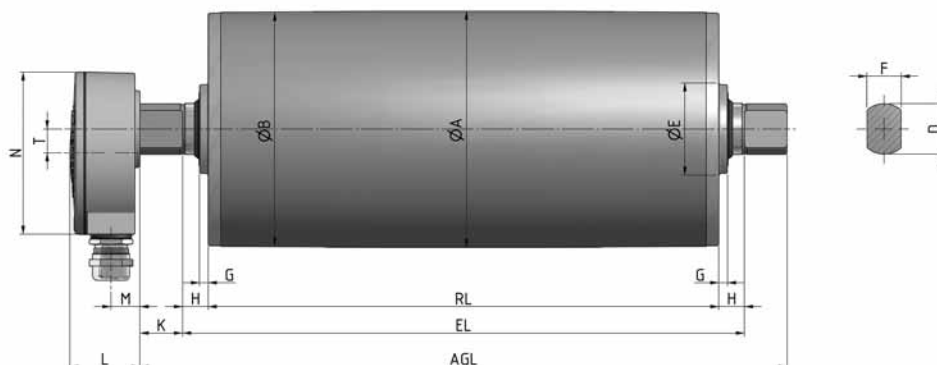
### Min.Length with option

The following options increase the minimum length of the motorized pulley.

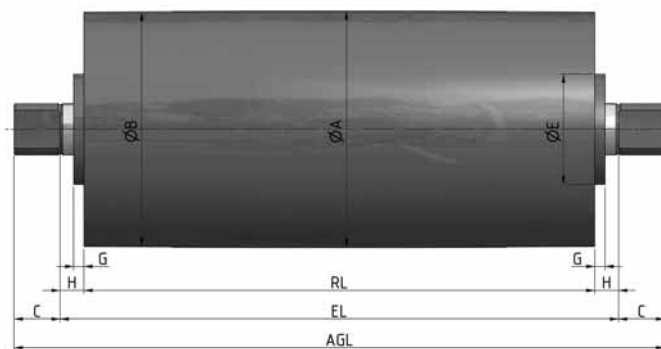
Option	RL min. with option mm
Brake	RL min. + 50 mm
Encoder SKF	RL min. + 0 mm
Encoder RLS	RL min. + 50 mm

# Motorized Pulley 138LS

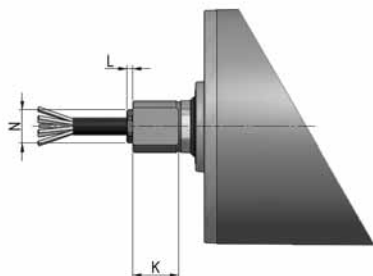
Power packed drive for high duty conveyors



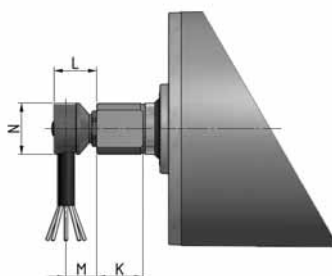
Motorized pulley standard version with Terminal Box in aluminium.



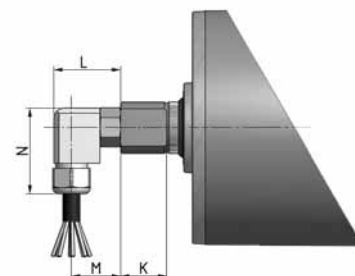
Idler Pulley in stainless steel (TS).



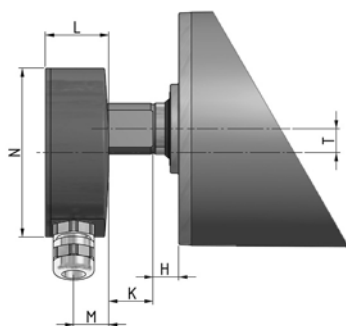
Straight connector in brass or stainless steel.



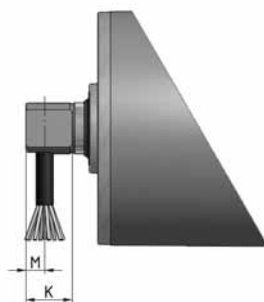
Elbow connector in stainless steel.



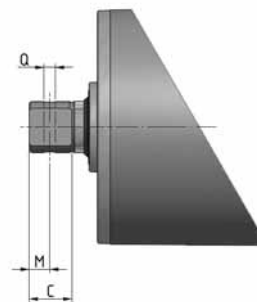
Elbow connector in polyamide.



Terminal box in stainless steel.



Cable connector 90° with threaded shaft.



Shaft, cross-drilled and threaded.



## Motorized Pulley 138LS

Power packed drive for high duty conveyors

Type/Option	A mm	B mm	C mm	D mm	E mm	F mm	G mm	H mm	K mm	L mm	M mm	N mm	Q mm	T mm
Motorized pulley 138LS Standard version with Terminal Box in Aluminium	138,5	137	25	30	54	20	5	15	25	41	17	95		14
Terminal Box in Stainless steel									25	37	20,5	99		14
Idler Pulley in stainless steel (TS)					64,5		6		27					
Straight connector in brass or stainless steel									27	3,5		19,5		
Elbow connector in stainless steel									27	25	18	30		
Elbow connector in Polyamide									27	39	29	50		
Cable Connector 90° with threaded shaft									27		8-11			
Cross-drilled and threaded shaft									27		12		M8	

# Motorized Pulley 165LS

Solid powerful drive for high use conveyors



## Product description

Motorized pulley very robust and able to provide high torques and withstand high radial loads.

### Characteristics

- Salt water resistant aluminum bearing housing
- Induction motor three phases alternating current
- Dual power supply
- Integral motor protection
- Steel- hardened helical spur gear
- Low noise operation
- Maintenance free
- Lifetime lubrication
- Reversible operation

### Applications

- Conveyors for heavy and frequent use
- Logistics applications
- Airport and postal conveyors
- Warehouse loading conveyors
- Telescopic conveyors
- Agricultural plants
- Manufacturing of food processes
- Modular belts, steel or plastic applications
- Dry, damp and frequent wash applications

Technical data	
<b>Motor data</b>	
<b>Type of Motor</b>	Asynchronous squirrel-cage, IEC 34 (VDE 0530)
<b>Insulation class of motor windings</b>	Class F, IEC 34 (VDE 0530)
<b>Voltage</b>	230/400 V $\pm$ 5% (IEC 34/38) Special voltage on request
<b>Frequency</b>	50/60 Hz
<b>Internal shaft sealing system</b>	Double-lipped FPM or nitrile rubber, NBR
<b>Protection rate</b>	IP66
<b>Thermal protection</b>	Bimetallic Contact
<b>Ambient temperature, 3-phase motor</b>	-25 to +40 °C
<b>General technical data</b>	
<b>Max. Roller length (RL)</b>	1800 mm

All data and values declared in the catalogue refer to operation with a frequency of 50 Hz.





# Motorized Pulley 165LS

Solid powerful drive for high use conveyors

## Materials

The following Motorized Pulley components are available in different versions, as shown in the below chart, with further options for the material type as indicated.

Components	Version	Materiale				
		Aluminium	Steel	Stainless steel	Brass/Nickel	Polymer
Shell	Crowned		Std	TS8N		
	Cylindrical		Std	TS8N		
	Cylindrical + key (for sprockets)		Std	TS8N		
	Special crowns and grooves		Std	TS8N		
End housing	Standard	Std		TS8N		
	With V-grooves		Std	TS8N		
	With O-grooves		Std	TS8N		
	With chain sprockets		Std	TS8N		
Shaft	Standard		Std	TS8N		
	Cross-drilled and threaded, M10		Std	TS8N		
Electrical connection	Straight connector			TS8N	Std	
	Elbow connector			TS8N		Std
	Terminal box	Std		TS8N		

Please contact Rulmeca for further versions.

**TS8N Version** - End Caps in stainless steel with PTFE lip seals.

## Options

- Rubber Lagging for standard belts
- Profiled lagging for plastic modular belts
- Profiled lagging for thermoplastic belts
- Sprockets for plastic modular belts
- Backstop / Anti run-back bearings
- Dynamic balancing
- Electromagnetic brake
- Rectifiers
- Encoder
- Food-grade Oil (EU, FDA and USDA)
- Non-horizontal mounting (more than  $\pm 5^\circ$ )
- Dual speed motor
- Version TS7N - as TS8N but with re-greasable labyrinth seals

**Note:** The combination of encoder and electromagnetic brake is not possible.

## Accessories

- Mounting brackets
- Idler Pulleys
- Rollers for conveyors
- Frequency Converters



# Motorized Pulley 165LS

Solid powerful drive for high use conveyors



Technical data for motorized pulley 165LS - 3 phase - 50Hz

Rated power [kW]	Poles n.	Gear stages n.	Gear ratio i	Rated speed of the shell [m/s]	Rated revolutions of the shell [min <sup>-1</sup> ]	Rated torque of Motorized pulley [Nm]	Rated tangential force [N]	Max. belt tension T1+T2 [N]	Min. length RL [mm]
0,37	6	3	61,56	0,13	14,9	236	2865	19000	400
			49,75	0,16	18,5	194	2350		
	4	3	61,56	0,20	22,3	158	1910	11000	350
			49,75	0,25	27,6	128	1545		
			37,93	0,32	36,3	97	1175		
			30,05	0,40	45,8	77	930		
			23,76	0,50	57,9	61	735		
			19,20	0,63	71,6	49	595		
			14,64	0,80	93,9	38	455		
			11,60	1,00	118,5	30	360	7600	
0,75	6	3	46,23	0,16	20,4	340	4100	19000	400
			61,56	0,20	22,8	304	3685		
	4	3	49,75	0,25	28,2	246	2980	11000	400
			37,93	0,32	37,0	187	2270		
			30,05	0,40	46,8	148	1800		
			23,76	0,50	59,1	117	1425		
		2	19,20	0,63	73,2	95	1150		
			14,64	0,80	96,0	72	880		
			11,60	1,00	121,1	57	695	7600	
			46,23	0,25	30,7	325	3940	11000	400
1,10	4	3	37,93	0,32	37,4	267	3230		
			61,56	0,40	46,0	222	2695		
	2	2	49,75	0,50	56,9	180	2180		400
			37,93	0,63	74,6	137	1660		
			30,05	0,80	94,2	108	1315		
			23,76	1,00	119,1	86	1040		
		2	19,20	1,25	147,4	69	840	7600	400
			14,64	1,60	193,3	53	640		
			11,60	2,00	244,0	42	510		
			9,43	2,50	300,1	34	415		
1,50	2	3	46,23	0,50	61,6	237	2880	11000	400
			37,93	0,63	75,1	195	2360		
			30,05	0,80	94,8	154	1870		
		2	23,76	1,00	119,9	121	1465	7600	400
			19,20	1,25	148,4	98	1185		
			14,64	1,60	194,7	74	900		
			11,60	2,00	245,7	59	715		
			9,43	2,50	302,2	48	580		
			7,80	3,15	365,4	40	480	7100	400



## Motorized Pulley 165LS

Solid powerful drive for high use conveyors

### Technical data for Motorized pulley 165LS - 3phase - 50Hz

Rated power [kW]	Poles n.	Gear stages n.	Gear ratio i	Rated speed of the shell [m/s]	Rated revolutions of the shell [min <sup>-1</sup> ]	Rated torque of Motorized pulley [Nm]	rated tangential force [N]	Max. belt tension T1+T2 [N]	Min. length RL [mm]
2,20	2	3	46,23	0,50	61,9	330	3990	11000	430
			37,93	0,63	75,4	270	3280		
			30,05	0,80	95,2	215	2600		
			12,43	1,00	230,1	175	2110		
			20,21	1,25	141,5	145	1750		
		2	14,64	1,60	195,4	105	1270	7600	430
			11,60	2,00	246,6	84	1010		
			9,43	2,50	303,3	68	820		
			7,80	3,15	366,7	55	675		
								7100	

### Standard weights for Motorized pulley 165LS

Rated power [kW]	Poles n.	Standard weight [kg] for standard RL [mm]													
		350	400	450	500	550	600	650	700	750	800	850	900	950	1000
0,37	6	---	30,0	31,5	33,0	34,0	35,0	36,0	37,5	39,0	40,0	41,0	42,5	44,0	45,0
	4	26,0	28,0	29,5	31,0	32,0	33,0	34,0	35,5	37,0	38,0	39,0	40,5	42,0	43,0
0,75	6	---	33,0	34,5	36,0	37,0	38,0	39,0	40,5	42,0	43,0	44,0	45,5	47,0	48,0
	4	---	31,0	32,5	34,0	35,0	36,0	37,0	38,5	40,0	41,0	42,0	43,5	45,0	46,0
1,10	4	---	34,0	35,5	37,0	38,0	39,0	40,0	41,5	43,0	44,0	45,0	46,5	48,0	49,0
	2	---	33,0	34,5	36,0	37,0	38,0	39,0	40,5	42,0	43,0	44,0	45,5	47,0	48,0
1,50	2	---	34,0	35,5	37,0	38,0	39,0	40,0	41,5	43,0	44,0	45,0	46,5	48,0	49,0
2,20	2	---	37,0	37,5	38,0	39,0	40,0	41,0	42,5	44,0	45,0	46,0	47,5	49,0	50,0

# Motorized Pulley 165LS

Solid powerful drive for high use conveyors



## Cable Specification

Available cable options:

- Standard, Screened
- Standard, Unscreened
- Halogen-free, screened
- Halogen-free, Unscreened

Available lengths: 1 / 3 / 5 m.

## Min.Length with Option

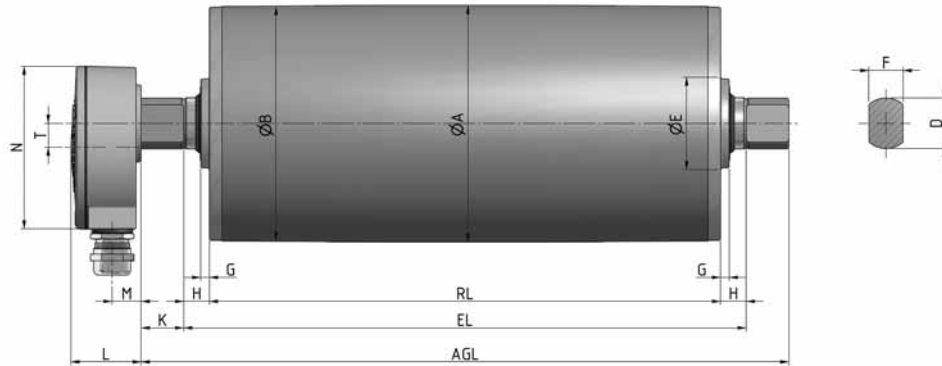
The following options increase the minimum length of the motorized pulley.

Option	RL min. with option mm
Brake	RL min. + 50 mm
Encoder SKF	RL min. + 0 mm
Encoder RSL	RL min. + 50 mm

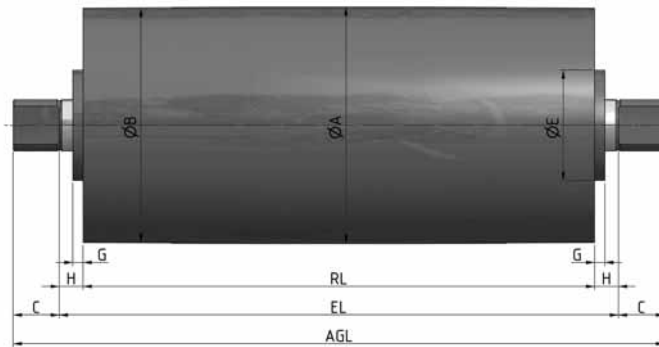


## Motorized Pulley 165LS

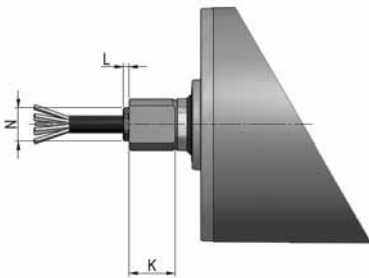
Solid powerful drive for high use conveyors



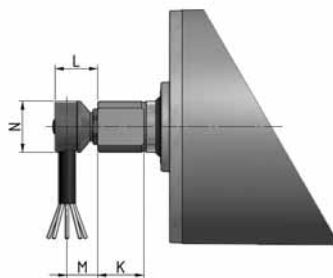
Motorized pulley standard version with Terminal box in aluminium.



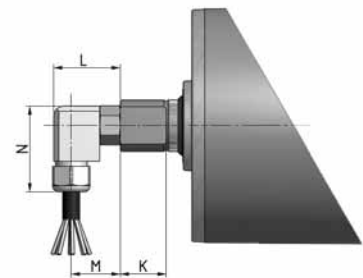
Idler pulley in stainless steel (TS).



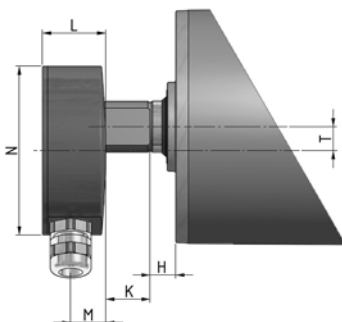
Straight connector in brass or in stainless steel.



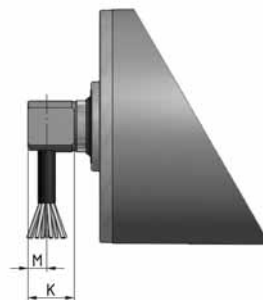
Elbow connector in stainless steel.



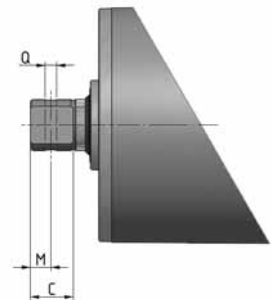
Elbow connector in polyamide.



Terminal box in stainless steel.



Cable connector 90° with threaded shaft.



Shaft, cross-drilled and threaded.

## Motorized Pulley 165LS

Solid powerful drive for high use conveyors



Type/Option	A mm	B mm	C mm	D mm	E mm	F mm	G mm	H mm	K mm	L mm	M mm	N mm	Q mm	T mm
Motorized Pulley 165LS Standard version with Terminal Box in Aluminium	165	163,5	45	40	80	30	10	20	45	41	17	95		14
Terminal Box in Stainless steel									45	37	20,5	99		14
Idler Pulley in stainless steel (TS)					64,5		8		47					
Straight connector in brass or stainless steel									47	4		27		
Elbow connector in stainless steel									47	25	18	30		
Elbow connector in Polyamide									47	39	29	50		
Cable Connector 90° with threaded shaft									47		8-11			
Cross-drilled and threaded shaft									47		23,5		M10	

## Motorized Pulley 220M-H

High torque powerful drive for high duty conveyors

### Product description

Motorized Pulley very robust able to provide high torques and withstand high radial loads.

### Characteristics

- Salt water resistant aluminum bearing housing
- Induction motor three phases alternating current
- Dual power supply
- Integral motor protection
- Steel- hardened helical spur gear
- Low noise operation
- Maintenance free
- Lifetime lubrication
- Reversible operation

### Applications

- Conveyors for heavy and frequent use
- Logistics applications
- Airport and postal conveyors
- Warehouse loading conveyors
- Telescopic conveyors
- Agricultural plants
- Manufacturing of food processes
- Modular belts, steel or plastic applications
- Dry, damp and frequent wash down applications

Technical data	
<b>Motor Data</b>	
Type of Motor	Asynchronous squirrel-cage, IEC 34 (VDE 0530)
Insulation class of motor windings	Class F, IEC 34 (VDE 0530)
Voltage	230/400 V $\pm$ 5% (IEC 34/38) Special voltage on request
Frequency	50/60 Hz
Internal shaft sealing system	Double-lipped FPM or nitrile rubber, NBR
Protection rate	IP66
Thermal protection	bimetallic Contact
Ambient temperature, 3-phase motor	-25 to +40 °C
<b>General technical data</b>	
Max. Roller length (RL)	1800 mm

All data and values declared in the catalogue refer to operation with a frequency of 50 Hz.



# Motorized Pulley 220M-H

High torque powerful drive for high duty conveyors



## Materials

The following Motorized Pulley components are available in different versions, as shown in the below chart, with further options for the material type as indicated.

Components	Version	Material				
		Aluminium	Steel	Stainless steel	Brass/Nickel	Polymer
Shell	Crowned		Std	TS10N		
	Cylindrical		Std	TS10N		
	Cylindrical + key (for sprockets)		Std	TS10N		
	Special crowns and grooves		Std	TS10N		
End housing	Standard	Std		TS10N		
	With V-grooves		Std	TS10N		
	With O-grooves		Std	TS10N		
	With chain sprockets		Std	TS10N		
Shaft	Standard		Std	TS10N		
	Cross-drilled and threaded, M10		Std	TS10N		
Electrical connection	Straight connector			TS10N	Std	
	Elbow connector			TS10N		Std
	Terminal box	Std		TS10N		

Please contact Rulmeca for further versions.

**TS10N Version** - End Housing in stainless steel with NBR lip seals.

## Options

- Rubber Lagging for standard belts
- Profiled Lagging for plastic modular belts
- Profiled Lagging for thermoplastic belts
- Sprockets for plastic modular belts
- Backstop /Anti run-back bearing
- Dynamic balancing
- Electromagnetic brake
- Rectifiers
- Encoder
- Food-grade Oil (EU, FDA and USDA)
- Non-horizontal mounting (more than  $\pm 5^\circ$ )
- Dual speed motor
- Version TS9N - as TS10N but with re-greasable labyrinth seals

**Note:** The combination of encoder and electromagnetic brake is not possible.

## Accessories

- Mounting brackets
- Idler Pulleys
- Rollers for conveyors
- Frequency Converters



## Motorized Pulley 220M-H

High torque powerful drive for high duty conveyors

Technical data for motorized pulley 220M/H - 3phase - 50Hz

Rated power	Poles	Gear stages	Gear ratio	Rated speed of the shell	Rated revolutions of the shell	Rated torque of Motorized pulley	Rated tangential force	Max. belt tension T1+T2	Min. length
[kW]	n.	n.	i	[m/s]	[min <sup>-1</sup> ]	[Nm]	[N]	[N]	[mm]
0,37	8	3 (220H)	59,72	0,13	11,8	291	2707	25000	450
			49,84	0,16	14,1	236	2195		
		2 (220M)	37,49	0,20	18,8	190	1767	11500	400
			29,62	0,25	23,8	152	1414		
			24,17	0,32	29,2	118	10989		
			20,17	0,40	35,0	95	884		
			15,84	0,50	44,5	76	707		
			12,74	0,63	55,3	60	558		
			9,77	0,80	72,2	47	437		
			8,10	1,00	87,0	38	353		
			6,36	1,25	110,8	30	279		
0,55	8	3 (220H)	59,72	0,13	11,9	432	4019	25000	500
			49,84	0,16	14,2	351	3265		
		2 (220M)	37,49	0,20	18,9	282	2623	11500	450
			29,62	0,25	24,0	226	2102		
			24,17	0,32	29,4	176	1637		
			20,17	0,40	35,2	141	1312		
			15,84	0,50	44,8	113	1051		
			12,74	0,63	55,7	89	828		
			9,77	0,80	72,7	70	651		
			8,10	1,00	87,7	56	521		
			6,36	1,25	111,6	45	419		
0,75	8	3 (220H)	59,72	0,13	11,6	592	5510	25000	500
			49,84	0,16	13,8	481	4476		
		2 (220M)	37,49	0,20	18,4	385	3581	11500	450
			29,62	0,25	23,3	307	2856		
			24,17	0,32	28,5	239	2223		
			20,17	0,40	34,2	191	1777		
			15,84	0,50	43,6	153	1423		
			12,74	0,63	54,2	122	1135		
			9,77	0,80	70,6	96	893		
			8,10	1,00	85,2	77	716		
			6,36	1,25	108,5	62	577		
1,10	6	3 (220H)	59,72	0,16	15,9	705	6558	22500	500
	49,84		0,20	19,1	564	5246	450		
	4		59,72	0,25	23,8	452			4205
			49,84	0,32	28,5	353			3284



# Motorized Pulley 220M-H

High torque powerful drive for high duty conveyors



Technical data for motorized pulley 220M/H - 3phase - 50Hz

Rated power [kW]	Poles n.	Gear stages n.	Gear ratio i	Rated speed of the shell [m/s]	Rated revolutions of the shell [min <sup>-1</sup> ]	Rated torque of Motorized pulley [Nm]	Forza tangenziale nominale [N]	Max. belt tension T1+T2 [N]	Min. length [mm]
1,10	4	2 (220M)	37,49	0,40	37,9	282	2623	11500	400
			29,62	0,50	47,9	226	2102		
			24,17	0,63	58,8	178	1656		
			20,17	0,80	70,4	141	1312		
			15,84	1,00	89,6	112	1042		
			12,74	1,25	111,5	90	837		
			9,77	1,60	145,3	70	651		
			8,10	2,00	175,3	56	521		
			6,36	2,50	223,3	45	419		
1,50	4	3 (220H)	59,72	0,25	23,9	646	5730	25000	450
			49,84	0,32	28,7	481	4476		
		2 (220M)	37,49	0,40	38,1	385	3581	11500	450
			29,62	0,50	48,3	307	2856		
			24,17	0,63	59,2	243	2260		
			20,17	0,80	70,9	191	1777		
			15,84	1,00	90,3	153	1423		
			12,74	1,25	112,2	123	1144		
			9,77	1,60	146,4	96	893		
			8,10	2,00	176,5	77	716		
			6,36	2,50	224,8	62	572		
2,20	4	3 (220H)	49,84	0,32	28,7	705	6558	2500	500
			39,14	0,40	36,5	564	5246		
		2 (220M)	29,62	0,50	48,3	451	4195	11500	450
			24,17	0,63	59,2	358	3330		
			20,17	0,80	70,9	282	2623		
			15,84	1,00	90,3	226	2102		
			12,74	1,25	112,2	180	1674		
			9,77	1,60	146,4	140	1302		
			8,10	2,00	176,5	115	1070		
			6,36	2,50	224,8	90	837		
3,00	4	3 (220H)	31,49	0,50	44,3	616	5730	25000	550
			24,15	0,63	57,8	481	4476		
		2 (220M)	20,17	0,80	69,2	385	3581	11500	500
			15,84	1,00	88,1	307	2856		
			12,74	1,25	109,5	245	2279		
			9,77	1,60	142,8	192	1786		
			8,10	2,00	172,2	154	1433		
			6,36	2,50	219,3	123	1144		



## Motorized Pulley 220M-H

High torque powerful drive for high duty conveyors

### Technical data for Motorized Pulley 220M/H - 3phase - 50Hz

Rated power [kW]	Poles n.	Gear stages n.	Gear ratio i	Rated speed of the shell [m/s]	Rated revolutions of the shell [min <sup>-1</sup> ]	Rated torque of Motorized pulley [Nm]	Rated tangential force [N]	Max. belt tension T1+T2 [N]	Min. length [mm]
4,00	2	3 (220H)	49,84	0,63	56,6	649	6037	25000	550
			39,14	0,80	72,0	511	4754		
			29,62	1,00	95,2	409	3805	11500	500
			24,17	1,25	116,7	327	3042		
			20,17	1,60	139,8	255	2372		
			15,84	2,00	178,0	204	1898		
			12,74	2,50	221,4	163	1516		
5,50	2	3 (220H)	40,21	0,80	71,1	702	6530	25000	550
			31,87	1,00	89,7	562	5228		
			25,80	1,25	110,9	450	4186		
			19,89	1,60	143,8	351	3265		
			15,56	2,00	183,8	281	2614		
			13,00	2,50	220,0	225	2093		

### Standard weight for Motorized Pulley 220M/H

Rated power [kW]	Poles n.	Gear stages	Standard weight [kg] for standard RL [mm]												
			400	450	500	550	600	650	700	750	800	850	900	950	1000
0,37	8	3	---	64,0	67,0	70,0	73,0	76,0	79,0	82,0	85,0	88,0	91,0	94,0	97,0
		2	48,0	51,0	54,0	57,0	60,0	63,0	66,0	69,0	72,0	75,0	78,0	81,0	84,0
0,55	8	3	---	---	71,0	74,0	77,0	80,0	83,0	86,0	89,0	92,0	95,0	98,0	101,0
		2	---	55,0	58,0	61,0	64,0	67,0	70,0	73,0	76,0	79,0	82,0	85,0	88,0
0,75	8	3	---	---	71,0	74,0	77,0	80,0	83,0	86,0	89,0	92,0	95,0	98,0	101,0
		2	---	55,0	58,0	61,0	64,0	67,0	70,0	73,0	76,0	79,0	82,0	85,0	88,0
1,10	6	3	---	---	68,0	71,0	74,0	77,0	80,0	83,0	86,0	89,0	92,0	95,0	98,0
	4	3	---	61,0	64,0	67,0	70,0	73,0	76,0	79,0	82,0	85,0	88,0	91,0	94,0
		2	46,0	49,0	52,0	55,0	58,0	61,0	64,0	67,0	70,0	73,0	76,0	79,0	82,0
1,50	4	3	---	61,0	64,0	68,0	71,0	74,0	77,0	80,0	83,0	86,0	89,0	92,0	95,0
		2	48,0	51,0	54,0	57,0	60,0	63,0	66,0	69,0	72,0	75,0	78,0	81,0	84,0
2,20	4	3	---	---	68,0	72,0	75,0	78,0	81,0	84,0	87,0	90,0	93,0	96,0	99,0
		2	---	55,0	58,0	61,0	64,0	67,0	70,0	73,0	76,0	79,0	82,0	85,0	88,0
3,00	4	3	---	---	---	74,0	77,0	80,0	83,0	86,0	89,0	92,0	95,0	98,0	101,0
		2	---	---	60,0	63,0	66,0	69,0	72,0	75,0	78,0	81,0	84,0	87,0	90,0
4,00	2	3	---	---	---	74,0	77,0	80,0	83,0	86,0	89,0	92,0	95,0	98,0	101,0
		2	---	---	60,0	63,0	66,0	69,0	72,0	75,0	78,0	81,0	84,0	87,0	90,0
5,50	2	3	---	---	---	74,0	77,0	80,0	83,0	86,0	89,0	92,0	95,0	98,0	101,0

## Motorized Pulley 220M-H

High torque powerful drive for high duty conveyors



### Cable specification

Available cable options:

- Standard, Screened
- Standard, Unscreened
- Halogen-free, screened
- Halogen-free, Unscreened

Available lengths: 1 / 3 / 5 m.

### Min.Length with option

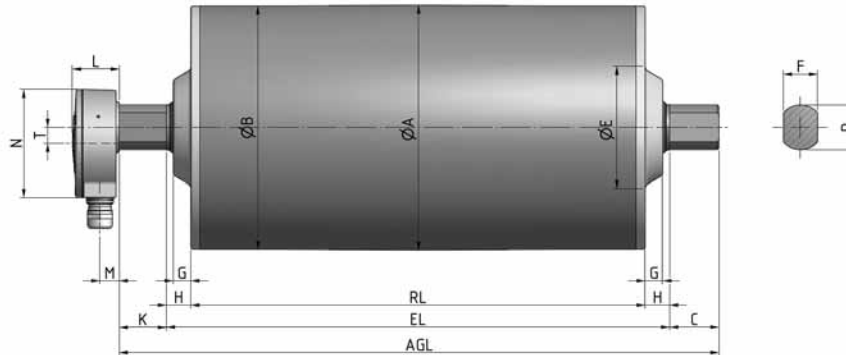
The following options increase the minimum length of the motorized pulley.

Option	RL min. with option mm
Brake	RL min. + 50 mm
Encoder SKF	RL min. + 0 mm
Encoder RSL	RL min. + 50 mm

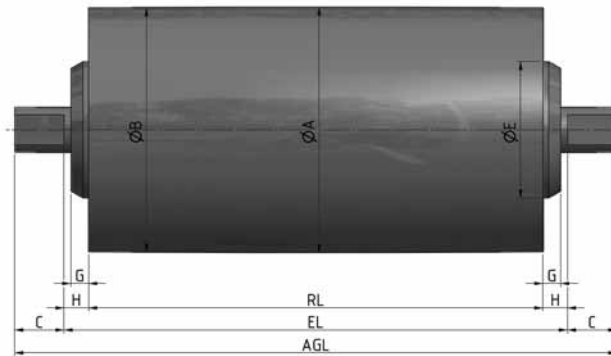


## Motorized Pulley 220M-H

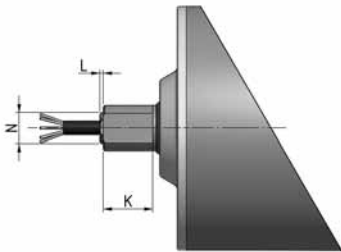
High torque powerful drive for high duty conveyors



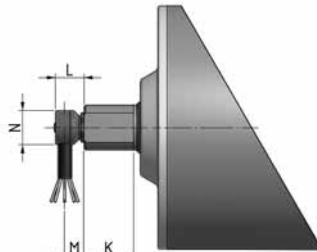
Motorized pulley standard version with Terminal box in aluminium  $\leq 4,0$  kW.



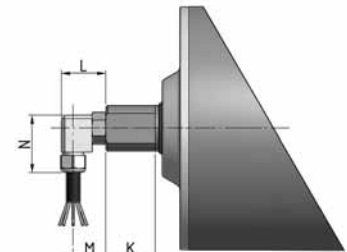
Idler Pulley in stainless steel (TS10N/TS12N).



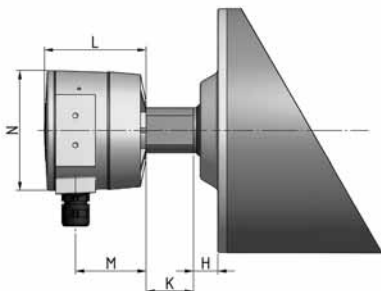
Straight connector in brass or stainless steel  $\leq 4,0$  kW.



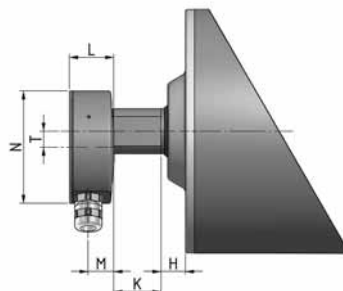
Elbow connector in stainless steel  $\leq 4,0$  kW.



Elbow connector in Polyamide  $\leq 4,0$  kW.



Large Terminal Box  $\geq 5,5$  kW.



Terminal box in stainless steel  $\leq 4,0$  kW.

# Motorized Pulley 220M-H

High torque powerful drive for high duty conveyors



Type/Version	A mm	B mm	C mm	D mm	E mm	F mm	G mm	H mm	K mm	L mm	M mm	N mm	Q mm	T mm
Motorized Pulley 220M-H Standard version with Terminal Box in Aluminium	216	214,5	43,5	40	100	30	15,5	21,5	41,5	41	17	95		14
Large Terminal box									41,5	87	62	105		
Terminal Box in Stainless steel									41,5	37	20,5	99		14
Idler Pulley in stainless steel (TS10N/TS12N)					120				43,5					
Straight connector in brass or stainless steel									43,5	4		27		
Elbow connector in stainless steel									43,5	25	18	30		
Elbow connector in Polyamide									43,5	39	29	50		

## Motorized Pulley 320L-M-H

Power packed high torque drives for heavy duty conveyors

### Product description

Motorized Pulley very robust able to provide high torques and withstand high radial loads.

### Characteristics

- Salt water resistant aluminum bearing housing
- Induction motor three phases alternating current
- Dual power supply
- Integral motor protection
- Steel- hardened helical spur gear
- Low noise operation
- Maintenance free
- Lifetime lubrication
- Reversible operation

### Applications

- Conveyors for heavy and frequent use
- Logistics applications
- Airport and postal conveyors
- Warehouse loading conveyors
- Telescopic conveyors
- Agricultural plants
- Manufacturing of food processes
- Modular belts, steel or plastic applications
- Dry, damp and frequent wash down applications

Technical data	
<b>Motor data</b>	
Type of Motor	Asynchronous squirrel-cage, IEC 34 (VDE 0530)
Insulation class of motor windings	Class F, IEC 34 (VDE 0530)
Voltage	230/400 V $\pm$ 5% (IEC 34/38) Special voltage on request
Frequency	50/60 Hz
Internal shaft sealing system	Double-lipped FPM or nitrile rubber, NBR
Protection rate	IP66
Thermal protection	Bimetallic Contact
Ambient temperature, 3-phase motor	-25 to +40 °C
<b>General technical data</b>	
Max. Roller length (RL)	1800 mm

All data and values declared in the catalogue refer to operation with a frequency of 50 Hz.



# Motorized Pulley 320L-M-H

Power packed high torque drives for heavy duty conveyors



## Materials

The following Motorized Pulley components are available in different versions, as shown in the below chart, with further options for the material type as indicated.

Components	Version	Material				
		Aluminium	Steel	Stainless steel	Brass/Nickel	Polymer
Shell	Crowned		Std	TS10N		
	Cylindrical		Std	TS10N		
	Cylindrical + key (for sprockets)		Std	TS10N		
	Special crowns and grooves		Std	TS10N		
End housing	Standard	Std		TS10N		
	With V-grooves		Std	TS10N		
	With O-grooves		Std	TS10N		
	With chain sprockets		Std	TS10N		
Shaft	Standard		Std	TS10N		
	Cross-drilled and threaded, M10		Std	TS10N		
Electrical connection	Straight connector			TS10N	Std	
	Elbow connector			TS10N		Std
	Terminal box	Std		TS10N		

Please contact Rulmeca for further versions.

**TS10N Version** - End housing in stainless steel with NBR lip seals.

## Options

- Rubber Lagging for standard belts
- Profiled lagging for plastic modular belts
- Profiled lagging for thermoplastic belts
- Sprockets for plastic modular belts
- Backstop / Anti run-back bearings
- Dynamic balancing
- Electromagnetic brake
- Rectifiers
- Encoder
- Food-grade Oil (EU, FDA and USDA)
- Non-horizontal mounting (more than  $\pm 5^\circ$ )
- Dual speed motor
- Version TS9N - as TS10N but with re-greasable labyrinth seals

**Note:** The combination of encoder and electromagnetic brake is not possible.

## Accessories

- Mounting brackets
- Idler Pulleys
- Rollers for conveyors
- Frequency Converters



## Motorized Pulley 320L-M-H

Power packed high torque drives for heavy duty conveyors

Technical data for Motorized pulley 320L - 3phase - 50Hz

Rated power [kW]	Poles n.	Gear stages n.	Gear ratio i	Rated speed of the shell [m/s]	Rated revolutions of the shell [min <sup>-1</sup> ]	Rated torque of Motorized pulley [Nm]	Rated tangential force [N]	Max. belt tension T1+T2 [N]	Min. length [mm]
0,75	8	2	37,49	0,32	18,4	356	2218	11500	450
			29,62	0,40	23,3	285	1776		
			24,17	0,50	28,5	228	1421		
			20,17	0,63	34,2	181	1128		
			15,84	0,80	43,6	142	885		
			12,74	1,00	54,2	114	710		
			9,77	1,25	70,6	92	573		
1,10	4	2	37,49	0,63	37,9	265	1651	11500	400
			29,62	0,80	47,9	209	1302		
			24,17	1,00	58,8	167	1040		
			20,17	1,25	70,4	134	835		
			15,84	1,60	89,6	105	654		
			12,74	2,00	111,5	84	524		
			9,77	2,50	145,3	67	417		
1,50	4	2	37,49	0,63	37,9	362	2255	11500	400
			29,62	0,80	47,9	285	1776		
			24,17	1,00	58,8	228	1421		
			20,17	1,25	70,4	182	1134		
			15,84	1,60	89,6	143	891		
			12,74	2,00	111,5	114	710		
			9,77	2,50	145,3	92	573		
2,20	4	2	29,62	0,80	48,3	418	2604	11500	450
			24,17	1,00	59,2	334	2081		
			20,17	1,25	70,9	165	1651		
			15,84	1,60	90,3	109	1302		
			12,74	2,00	112,2	167	1040		
			9,77	2,50	146,4	134	835		
3,00	4	2	20,17	1,25	69,2	362	2255	11500	500
			15,84	1,60	88,1	285	1776		
			12,74	2,00	109,5	228	1421		
			9,77	2,50	142,8	182	1134		
4,00	2	2	29,62	1,60	95,2	380	2368	11500	500
			24,17	2,00	116,7	304	1894		
			20,17	2,50	139,8	234	1514		



# Motorized Pulley 320L-M-H

Power packed high torque drives for heavy duty conveyors



Technical data for Motorized pulley 320L - 3phase - 50Hz

Rated power [kW]	Poles n.	Gear stages n.	Gear ratio i	Rated speed of the shell [m/s]	Rated revolutions of the shell [min <sup>-1</sup> ]	Rated torque of Motorized pulley [Nm]	Rated tangential force [N]	Max. belt tension T1+T2 [N]	Min. length [mm]
0,75	12	3 (320H)	61,21	0,13	7,5	876	5475	35000	550
		2 (320M)	43,50	0,16	10,6	712	4453	20000	500
			36,11	0,20	12,7	570	3562		
			28,64	0,25	16,1	456	2841		
			23,46	0,32	19,6	356	2218		
			18,13	0,40	25,4	285	1776		
			14,47	0,50	31,8	228	1421		
			11,82	0,63	38,9	181	1128		
			9,23	0,80	49,8	142	885		
1,10	12	3 (320H)	61,21	0,13	7,7	1286	8039	35000	550
		2 (320M)	50,15	0,16	9,4	1045	6531	20000	500
			35,42	0,20	13,3	836	5225		
	8	2 (320M)	43,50	0,25	16,6	669	4181	20000	500
			36,11	0,32	19,9	522	3252		
			28,64	0,40	25,1	418	2604		
			23,46	0,50	30,7	334	2081		
			18,13	0,63	39,7	265	1651		
			14,47	0,80	49,8	209	1302		
			11,82	1,00	60,9	167	1040		
			9,23	1,25	78,0	134	835		
			75,20	0,16	9,4	1425	8906	35000	550
			61,21	0,20	11,6	1140	7125		
1,50	8	2 (320M)	43,50	0,25	16,3	912	5700	20000	500
			35,42	0,32	20,0	712	4436		
			28,64	0,40	24,8	570	3551		
			23,46	0,50	30,3	456	2841		
			18,13	0,63	39,2	362	2255		
			14,47	0,80	49,1	285	1776		
			11,82	1,00	60,1	228	1421		
			9,23	1,25	76,9	182	1134		
			61,21	0,20	11,4	1672	10450	35000	550
			50,15	0,25	14,0	1338	8362		
2,20	8	2 (320M)	36,11	0,32	19,4	1045	6531	20000	500
			28,64	0,40	24,4	836	5225		
			23,46	0,50	29,8	669	4181		



## Motorized Pulley 320L-M-H

Power packed high torque drives for heavy duty conveyors

**Technical data for Motorized Pulley 320M/H - 3 phase - 50Hz**

Rated power [kW]	Poles n.	Gear stages n.	Gear ratio i	Rated speed of the shell [m/s]	Rated revolutions of the shell [min <sup>-1</sup> ]	Rated torque of Motorized pulley [Nm]	Rated tangential force [N]	Max. belt tension T1+T2 [N]	Min. length [mm]
2,20	4	2 (320M)	36,11	0,63	40,0	522	3252	20000	500
			28,64	0,80	50,5	418	2604		
			23,46	1,00	61,6	334	2081		
			18,13	1,25	79,7	265	1651		
			14,47	1,60	99,9	209	1302		
			11,82	2,00	122,3	167	1040		
			9,23	2,50	156,6	134	835		
3,00	6	3 (320H)	61,21	0,25	15,4	1824	11400	35000	550
			50,15	0,32	18,8	1425	5906		
			38,74	0,40	24,4	1140	7125		
	4	2 (320M)	43,50	0,50	33,1	912	5700	20000	500
			35,42	0,63	40,7	727	4525		
			28,64	0,80	50,3	570	3562		
			23,46	1,00	61,4	456	2841		
			18,13	1,25	79,4	362	2255		
			14,47	1,60	99,5	285	1776		
			11,82	2,00	121,8	228	1421		
			9,23	2,50	156,0	182	1134		
4,00	6	3 (320H)	50,15	0,32	18,8	1900	11875	35000	550
			38,74	0,40	24,4	1520	9499		
			30,94	0,50	30,5	1216	7600		
	4	2 (320M)	35,42	0,63	40,7	965	6031	20000	500
			28,64	0,80	50,3	760	4735		
			23,46	1,00	61,4	608	3788		
			18,13	1,25	79,4	486	3028		
			14,47	1,60	99,5	380	2368		
			11,82	2,00	121,8	304	1894		
			9,23	2,50	156,0	243	1514		
5,50	4	3 (320H)	61,21	0,40	23,2	2090	13062	35000	550
			50,15	0,50	28,3	1672	10450		
			38,74	0,63	36,7	1327	8294		
			30,94	0,80	45,9	1045	6531		
		2 (320M)	23,46	1,00	60,5	836	5225	20000	500
			18,13	1,25	78,3	671	4180		
			14,47	1,60	98,1	524	3259		
			11,82	2,00	120,1	418	2604		
			9,23	2,50	153,8	334	2081		

# Motorized Pulley 320L-M-H

Power packed high torque drives for heavy duty conveyors



Technical data for Motorized Pulley 320M/H - 3 phase - 50Hz									
Rated power	Poles	Gear stages	Gear ratio	Rated speed of the shell	Rated revolutions of the shell	Rated torque of Motorized pulley	Rated tangential force	Max. belt tension T1+T2	Min. length
[kW]	n.	n.	i	[m/s]	[min <sup>-1</sup> ]	[Nm]	[N]	[N]	[mm]
7,50	2	3 (320H)	61,21	0,80	47,0	1424	8909	35000	550
			50,15	1,00	57,3	1140	7125		
			38,74	1,25	74,2	911	5700		
		2 (320M)	28,64	1,60	100,4	712	4453	20000	500
			23,46	2,00	122,5	570	3562		
			18,13	2,50	158,6	456	2850		

Standard weight for Motorized Pulley 320L															
Rated power	Poles	Gear stages	Standard weight [kg] for standard RL [mm]												
			400	450	500	550	600	650	700	750	800	850	900	950	1000
0,75	8	2	---	78,0	82,0	86,0	90,0	94,0	98,0	102,0	106,0	110,0	114,0	118,0	122,0
1,10	4	2	73,0	76,0	80,0	84,0	88,0	92,0	96,0	100,0	104,0	108,0	112,0	116,0	120,0
1,50	4	2	75,0	78,0	82,0	86,0	90,0	94,0	98,0	102,0	106,0	110,0	114,0	118,0	122,0
2,20	4	2	---	82,0	86,0	90,0	94,0	98,0	102,0	106,0	110,0	114,0	118,0	122,0	126,0
3,00	4	2	---	---	90,0	94,0	98,0	102,0	106,0	110,0	114,0	118,0	122,0	126,0	130,0
4,00	2	2	---	---	90,0	94,0	98,0	102,0	106,0	110,0	114,0	118,0	122,0	126,0	130,0

Standard weight for Motorized Pulley 320M/H															
Rated power	Poles	Gear stages	Standard weight [kg] for standard RL [mm]												
			400	450	500	550	600	650	700	750	800	850	900	950	1000
0,75	12	3	---	---	---	135,0	139,0	144,0	149,0	154,0	159,0	164,0	169,0	174,0	179,0
		2	---	---	110,0	114,0	118,0	122,0	126,0	130,0	134,0	138,0	142,0	146,0	150,0
1,10	12	3	---	---	---	135,0	139,0	144,0	149,0	154,0	159,0	164,0	169,0	174,0	179,0
		2	---	---	110,0	114,0	118,0	122,0	126,0	130,0	134,0	138,0	142,0	146,0	150,0
1,50	8	2	---	---	110,0	114,0	118,0	122,0	126,0	130,0	134,0	138,0	142,0	146,0	150,0
		3	---	---	---	135,0	139,0	144,0	149,0	154,0	159,0	164,0	169,0	174,0	179,0
2,20	8	2	---	---	110,0	114,0	118,0	122,0	126,0	130,0	134,0	138,0	142,0	146,0	150,0
		3	---	---	---	135,0	139,0	144,0	148,3	152,8	157,3	161,8	166,3	170,8	175,3
3,00	6	2	---	---	100,0	104,0	108,0	112,0	116,0	120,0	124,0	128,0	132,0	136,0	140,0
		3	---	---	---	135,0	139,0	144,0	148,3	152,8	157,3	161,8	166,3	170,8	175,3
4,00	4	2	---	---	100,0	104,0	108,0	112,0	116,0	120,0	124,0	128,0	132,0	136,0	140,0
		3	---	---	---	135,0	139,0	144,0	148,3	152,8	157,3	161,8	166,3	170,8	175,3
5,50	4	2	---	---	110,0	114,0	118,0	122,0	126,0	130,0	134,0	138,0	142,0	146,0	150,0
		3	---	---	---	135,0	139,0	144,0	148,3	152,8	157,3	161,8	166,3	170,8	175,3
7,50	2	2	---	---	110,0	114,0	118,0	122,0	126,0	130,0	134,0	138,0	142,0	146,0	150,0
		3	---	---	---	135,0	139,0	144,0	148,3	152,8	157,3	161,8	166,3	170,8	175,3



## Motorized Pulley 320L-M-H

Power packed high torque drives for heavy duty conveyors

### Cable specification

Available cable options:

- Standard, Screened
- Standard, Unscreened
- Halogen-free, screened
- Halogen-free, Unscreened

Available lengths: 1 / 3 / 5 m.

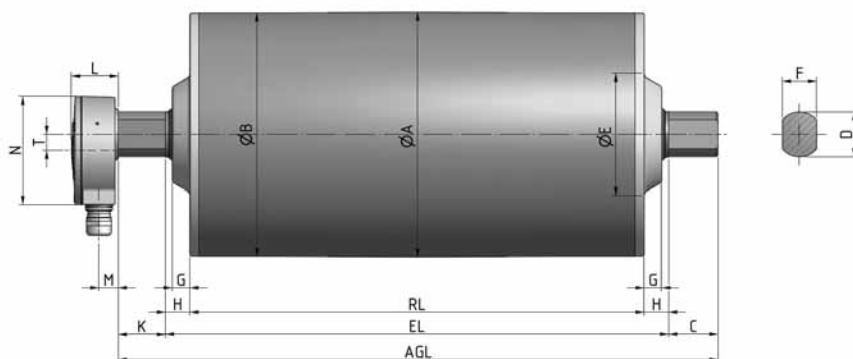
### Min.Length with option

The following options increase the minimum length of the motorized pulley.

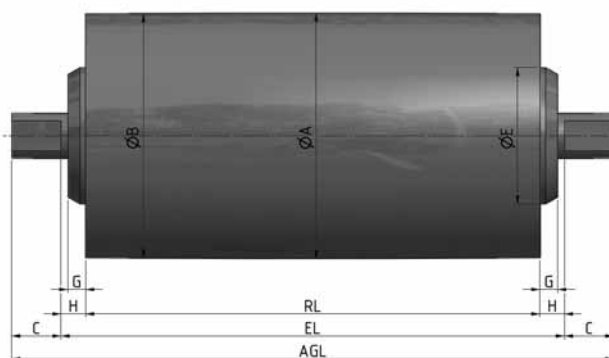
Option	RL min. with option mm
Brake	RL min. + 50 mm
Encoder SKF	RL min. + 0 mm
Encoder RSL	RL min. + 50 mm

# Motorized Pulley 320L-M-H

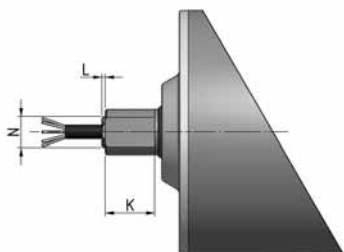
Power packed high torque drives for heavy duty conveyors



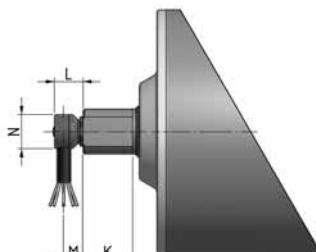
Motorized pulley standard version with Terminal box in aluminium  $\leq 4,0$  kW.



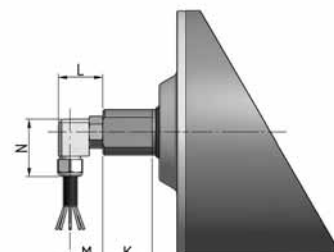
Idler Pulley in stainless steel (TS10N/TS12N).



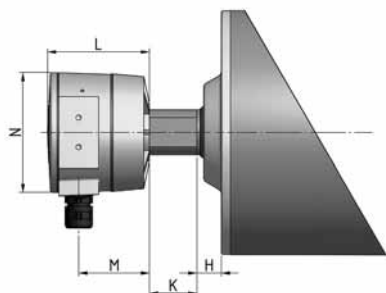
Straight connector in brass or stainless steel  $\leq 4,0$  kW.



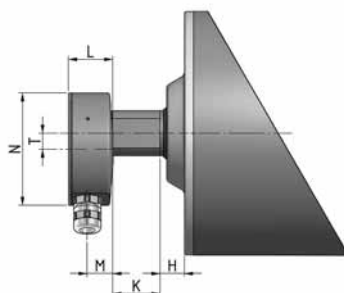
Elbow connector in stainless steel  $\leq 4,0$  kW.



Elbow connector in Polyamide  $\leq 4,0$  kW.



Large Terminal box  $\geq 5,5$  kW.



Terminal box in stainless steel  $\leq 4,0$  kW.



## Motorized Pulley 320L-M-H

Power packed high torque drives for heavy duty conveyors

Type/Option		A mm	B mm	C mm	D mm	E mm	F mm	G mm	H mm	K mm	L mm	M mm	N mm	Q mm	T mm
Motorized pulley 320L-M-H Standard version with Terminal Box in Aluminium	320L	323			40	96	30	15							
	320M	321	319	50	40	125	30	17,5	25	54	41	17	95		14
	320H	321			50	148	40	11							
Large Terminal box	320L									54	87	62	105		
	320M														
	320H														
Terminal Box in Stainless steel	320L									54	37	20,5	99		14
	320M														
	320H														
Idler Pulley in stainless steel (TS10N/TS12N)	320L					120		19		54					
	320M							22,5							
	320H							20,5							
Straight connector in brass or stainless steel	320L									54	4		27		
	320M														
	320H														
Elbow connector in stainless steel	320L									54	25	18	30		
	320M														
	320H														
Elbow connector in Polyamide	320L									54	39	29	50		
	320M														
	320H														

# Motorized Pulleys 400-1000



## Summary table

For further information on the below listed Motorized Pulleys please consult our technical catalogue 'Motorized Pulleys for belt conveyors'.

Clas. mm	Power Kw	Type	Speed	Torque	tangential force	Max belt tension mm	RL min	A	B	C	D	E	F	G	H	K																																																			
400	2,20	L	0,80÷2,50	522÷167	2584÷835	20000	500	404	400	50	40	125	30	20	25	54																																																			
		M	0,32÷1,60	1306÷265	6465÷1325	40500	600				60	194	45	23		50																																																			
		H	0,16÷0,25	2638÷1688	13062÷8360	50000	650																																																												
	3,00	L	0,80÷2,50	712÷228	3562÷1140	20000	500				40	125	30	20		54																																																			
		L	0,80÷2,50	950÷304	4750÷1520	20000	500				40	125	30	20		54																																																			
		M	0,50÷1,60	1520÷475	7525÷2375	40500	600				60	194	45	23		50																																																			
	4,00	H	0,25÷0,40	3070÷1919	15200÷9500	50000	650																																																												
		L	1,25÷2,50	836÷418	4180÷2090	20000	500				40	125	30	20		54																																																			
		M	0,80÷3,15	1306÷332	6465÷1659	40500	600				60	194	45	23		50																																																			
	5,50	H	2638÷1675	2638÷1675	13063÷8294	50000	650				60	194	45	23		50																																																			
		L	2,00÷3,15	712÷3,15	3525÷2238	20000	500				40	125	30	20		54																																																			
		M	1,00÷3,15	1425÷452	7054÷2238	40500	600				60	194	45	23		50																																																			
	7,50	H	0,50÷0,80	2878÷1799	14250÷8906	50000	710																																																												
		M	1,60÷3,15	1306÷660	6465÷3265	40500	660																																																												
		H	0,80÷1,25	2638÷1688	13063÷8360	50000	710																																																												
	15,00	M	2,00÷3,15	1439÷907	7125÷4523	40500	660				501	497	50	60		194	42	23	25	50																																															
		H	1,00÷1,60	2878÷1799	14250÷8906	50000	710																																																												
2,20	L	0,40÷1,00	1306÷522	5224÷2088	35000	600	501	497	50	60					194						42	23	25	50																																											
	M	0,20÷0,32	2613÷1633	10542÷6532	42200	650																																																													
4,00	L	0,63÷2,00	1508÷475	6032÷1900	35000	600																			501	497	50	60	194	42	23	25	50																																		
	M	0,32÷0,50	2969÷1900	11876÷7600	42200	650																																																													
5,50	L	1,00÷3,15	1306÷424	5214÷1696	35000	600																												501	497	50	60	194	42	23	25	50																									
	M	0,50÷0,80	6212÷1632	10448÷6528	42200	650																																																													
7,50	H	0,50÷2,50	2612÷522	10427÷2084	46000	750																																					-	65	192	-	95	-	-																		
	L	1,25÷3,15	1425÷570	5700÷22870	35000	600																																					50	60	194	42	23	25	50																		
	M	0,63÷1,00	2827÷1781	11308÷7124	42200	710																																					-	65	192	-	95	-	-																		
11,00	H	0,63÷2,50	2827÷712	11285÷2843	46000	750																																					501	497	50	60	194	42	23	25	50																
	L	2,00÷3,15	1306÷829	5224÷3316	35000	660																																														-	65	192	-	95	-	-									
	M	1,00÷1,60	2612÷1633	10448÷6532	42200	710																																														-	65	192	-	95	-	-									
15,00	H	1,00÷2,50	2611÷1045	10423÷4172	46000	750																																														501	497	50	60	194	42	23	25	50							
	L	2,50÷3,15	1425÷1131	5700÷4524	35000	660																																																							-	65	192	-	95	-	-
	M	1,25÷2,00	2850÷1782	11400÷7128	42200	710																																																							-	65	192	-	95	-	-
18,50	H	1,00÷3,15	3644÷1131	14450÷4515	46000	750					-	65	192	-		95	-	-																																																	
	H	1,25÷3,15	3596÷1395	14356÷5569		850/750					-	65	192	-		95	-	-																																																	
	H	1,60÷3,15	3444÷1600	13750÷6385		850	-	65	192	-	95	-	-																																																						
30,00	H	1,60÷4,00	4236÷1901	16977÷7618		850	521	417	-	65	235	-	95	-	-																																																				



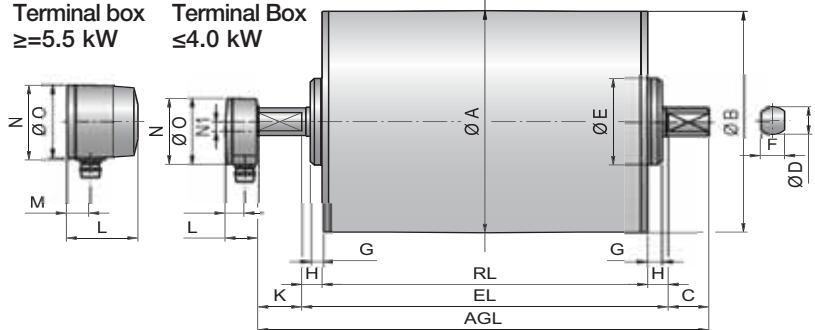
## Motorized Pulleys 400-1000

Clas. mm	Power Kw	Type	Speed	Torque	Tangential force	Max belt tension mm	RL min	A	B	C	D	E	F	G	H	K			
630	5,50	M	0,63÷3,15	2612÷522	8292÷1657	46000	750	630	626	-	65	192	-	95	-	-			
	7,50	M	0,80÷3,15	2805÷712	8905÷2261					-			-		-				
	11,00	M	1,25÷3,15	2631÷1045	8356÷3318					-			-		-				
	15,00	M	1,60÷3,15	2804÷1424	8902÷4521					-			-		-				
	18,50	M	2,00÷3,15	2767÷1757	8784÷5578					-			-		-				
	22,00	M	2,00÷3,15	3222÷2090	10450÷6635	73600	950			-	-	-	-	-	-	-			
		H	1,00÷3,15	6583÷2089	20899÷6632					-	-	-	-	-					
	30,00	H	1,25÷3,15	7179÷2894	22791÷9045	98100				-	-	-	-	-	-	-			
	37,00	H	1,60÷3,15	6920÷3513	21969÷11153					-	90	268	-	84	-	-			
	45,00	H	2,50÷4,00	5384÷3365	17092÷10683	88300				-	-	-	-	-	-				
	55,00	H	2,50÷4,00	6584÷4113	20902÷13057					-	-	-	-	-	-				
800	22,0	M	1,25÷3,15	6688÷2653	16720÷6630	73600		950	800	796	-	90	268	-	88	-	-		
	30,0	M	1,60÷3,15	7122÷3617	17805÷9043	98100					-			-		-	-		
	37,0	M	2,00÷4,00	7030÷3513	17575÷8783	88300					-			-		-	-	-	-
	45,0	M	3,15÷4,00	5426÷4273	13565÷10683						-			-		-	-	-	-
		M	3,15÷4,00	6584÷5223	14581÷13058	200000		1150			-	-	-	-	-	-	-		
	55,0	H	1,60÷4,50	13052÷4644	32630÷11610		1300	-			-	-	-	-	-	-			
	75,0	HD	1,00÷1,25	20884÷16707	54974÷41300		1150	-			-	-	-	-	-	-			
		HD	1,25÷1,60	22527÷18496	56318÷46240		1300	-			-	-	-	-	-	-			
	90,0	H	2,50÷4,50	13674÷7597	34185÷18993		1400	-			120	330	-	80	-	-	-	-	
		HD	1,60÷2,00	21181÷18496	52,953÷46,240	1550	-	-					-		-	-	-		
	110,0	H	3,15÷4,50	13264÷9265	33160÷26163	1400	-	-					-		-	-	-	-	
		HD	2,00÷2,50	21915÷17994	54789÷44984	180000	1550	-					-		-	-	-	-	
	132,0	H	4,00÷4,50	12535÷11142	31338÷27855		1400	-			-	-	-	-	-	-			
		HD	2,50÷3,15	21592÷15153	53981÷37882	1550	-	-			-	-	-	-	-				
1000	160	HD	2,50÷5,50	30300÷14000	59400÷27400	300000	1400	-	203	520	-	145	-	-					
	200	HD	2,50÷5,50	37900÷17600	74300÷34500		1450	-			-		-						
	250	HD	2,50÷5,50	47400÷22000	92900÷43100		1500	-			-		-						

Larger  
Terminal box  
≥5.5 kW

Compact  
Terminal Box  
≤4.0 kW

Motorized pulley with Terminal box





## Options

<b>66</b>	<b>Lagging for Standard Belts</b>	Smooth or grooved lagging to increase friction between the shell and conveyor belt
<b>68</b>	<b>Lagging for Plastic Modular Belts</b>	Specially produced lagging profiled to suit plastic modular belts
<b>69</b>	<b>Sprockets for Plastic Modular Belts</b>	Laser cut sprockets profiled to suit plastic modular belt
<b>71</b>	<b>Backstop / Anti run-back bearings</b>	
<b>72</b>	<b>Electromagnetic Brakes</b>	
<b>74</b>	<b>Rectifiers</b>	The rectifier is used to operate the electromagnetic brake
<b>75</b>	<b>Encoder SKF</b>	
<b>76</b>	<b>Encoder RLS</b>	



## Lagging for Standard Belts

Smooth or specially grooved lagging to increase friction between the shell and conveyor belt

### Product description

#### Characteristics

- High resistance to oil, fuel and other chemicals
- Increases friction between the shell of the Motorized Pulley and conveyor belt
- Prevents slip between the shell of the Motorized Pulley and conveyor belt
- Longitudinal grooved lagging reduces liquid build up between belt and shell
- Centered V-groove for belt tracking
- Multiple V-grooves for V-belt or round belt conveyors

#### Applications

- Wet applications
- For standard motorized pulleys
- Food and hygienic applications
- Flat belt, round belt or multi V-belt applications
- Hot vulcanisation for high-torque motorized pulleys

**Note:** The Lagging influences the outer diameter of the motorized pulley and increases its speed to that stated in the catalogue. The tangential force and the speed of the motorized pulley must be recalculated according to the increased diameter.

### Cold Vulcanization lagging

Lagging profile	Colour	Characteristics	Shore Hardness	Thickness mm
Smooth (S)	Black (B)	Oil and Fat resistant	70 ± 5 Shore A	3, 5, 6, 8, 10, 12
	White (W)	FDA food approved	70 ± 5 Shore A	
Longitudinal grooves (Ri)	White (W)	FDA food approved	70 ± 5 Shore A	8
Diamond Patterned (DP)	Black (B)	Oil and Fat resistant	60 ± 5 Shore A	8

### Hot Vulcanization lagging

Lagging profile	Colour	Characteristics	Shore Hardness	Thickness mm
Smooth (S)	Black (B)	Oil and Fat resistant	65 ± 5 Shore A	3, 5, 6, 8, 10, 12, 14
	White (W)	FDA food approved (FDA)	70 ± 5 Shore A	
	Blue (BL)	Food approved (non FDA)	70 ± 5 Shore A	
Longitudinal grooves (Ri)	Black (B)	Oil and Fat resistant	65 ± 5 Shore A	6, 8, 10, 12, 14
	White (W)	FDA food approved (FDA)	70 ± 5 Shore A	
	Blue (BL)	FDA food approved (FDA)	70 ± 5 Shore A	
Diamond Patterned (DP)	Black (B)	Oil and Fat resistant	65 ± 5 Shore A	6, 8

For a short description of the type of lagging.

#### Example:

R3 / S - W

| White  
 | Smooth  
 | 3mm thickness  
 | Cold Vulcanisation

## Lagging for Standard Belts

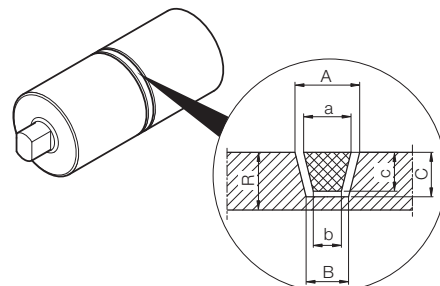
Smooth or specially grooved lagging to increase friction between the shell and conveyor belt

### V-groove

#### Hot Vulcanization

A machined centre groove in the hot vulcanized rubber coating, allows the use of conveyor belts manufactured with a tracking profile on the underside of the belt. Designed to help maintain tracking and to prevent belt wander. Conveyors using this type of belt should be designed in such a way that the slider bed or roller bed primarily tracks the belt and not the Motorized Pulley.

Fig.: V-grooved lagging



Groove	R Standard mm	R Stainless steel	Groove			Belt		
			A	B	C	a	b	c
K6	8	5	10	8	5	6	4	4
K8	8	6	12	8	6	8	5	5
K10	10	8	14	10	7/8*	10	6	6
K13	12	10	17	11	9/10*	13	7.5	8
K15	12	10	19	13	9/10*	15	9.5	8
K17	14	12	21	13	12	17	9.5	11

\* for shell in stainless steel.

All dimensions are expressed in mm.

#### Rule:

- 1)  $R-C = 3 \text{ mm}$  for shell in steel
- 2)  $R=C$  for shell in stainless steel

#### Example for the groove description:

Central Groove K6

or for non standard measures:

Groove 11/8 x 5 Central

A/B x C

## Profiled Lagging for Plastic Modular Belts

Specially produced lagging, profiled to suit the belt manufacturers series of plastic modular belt.

### Product description

#### Characteristics

- Resistance to abrasion
- Low noise during operation
- Reduced wear of the belt
- Easy to clean
- High resistance to oil, grease and chemicals applications

#### Applications

- Applications for food environments
- Profiles to suit most manufacturer's standard plastic modular belts
- Motorized Pulleys with de-rated motors
- For standard Motorized Pulleys with frequency converters. The frequency converter must be prepared to reduce the power by 18%

**Note:** The Lagging influences the outer diameter of the motorized pulley and increases its speed to that stated in the catalogue. The tangential force and the speed of the motorized pulley must be recalculated according to the increased diameter.

### Technical data

<b>Material</b>	Hot Vulcanized nitrile rubber NBR
<b>Lagging temperature</b>	40 /+120 °C (consider the temperature allowed for the motorized pulley)
<b>Shore Hardness</b>	From 65 to 70 ± 5 Shore A

Plastic modular belts manufacturer	Series	Lagging			
		80LS Z	113LS Z	138LS Z	165LS Z
Intralox	800		9	10	12
	1600	13	16	20	23
	1100 FT PE/AC		27		
	1100 FT PP	20	27	32	38
Siegling	LM50 Series 3		9	10	
Uni Chains / Ammeraal	CNB		16	20	
	MPB		9	10	
	S-MPB	12	16	20	

Z Number of teeth



# Sprockets for Plastic Modular Belts

Special laser cut sprockets based on the specification of modular belt manufacturers



## Product description

### Characteristics

- Laser cut for excellent fitting accuracy
- Stainless steel sprockets to avoid rust
- Low friction

### Applications

- For the control of plastic modular belts
- For standard Motorized Pulleys with frequency converters . The frequency converter should be prepared to reduce the power by 18%
- For Motorized Pulleys with de-rated motor
- For Motorized Pulleys with cylindrical shell and locking key
- For food processing applications

**Note:** The Sprockets influence the outer diameter of the motorized pulley and increases its speed to that stated in the catalogue. The tangential force and the speed of the motorized pulley must be recalculated according to the increased diameter. Please refer to the velocity factor (VF) in the table below.

## Order Information

Different belt variants and materials may affect the operational characteristics. Rulmeca try to show the most popular basic profile options in this catalogue. If you are unable to find the required profiled lagging or sprocket you need, or if you have some doubts, please answer the following questions and send them to Rulmeca with your enquiry:

- Lagging or sprockets preferred?
- Thermoplastic non-modular belt or plastic modular belt?
- Motorized Pulley diameter?
- Required belt speed?
- Belt manufacturer?
- Belt series?
- Belt type and variant?
- Belt material?
- Number of teeth?
- Tooth Pitch?
- Reversible, yes or no?
- Outside diameter (D) in mm?
- Pitch circle diameter (PCD) in mm?
- Sprocket thickness (B) in mm?

Modular belt manufacturer	Series	Sprocket 80LS				113LS				Sprocket 138LS				165LS			
		Z	PCD mm	Vf	B mm	Z	PCD mm	Vf	B mm	Z	PCD mm	Vf	B mm	Z	PCD mm	Vf	B mm
Intralox	800	8	133.00	1.63	6.00	10	164.00	1.45	6.00								
	1100	24	116.00	1.42	18.00												
		24	116.00	1.42	6.00												
	1600	14	114.00	1.40	8.00												
	2400	15	122.00	1.49	6.00	19	154.00	1.36	6.00	24	195.00	1.42	6.00	26	211.00	1.30	6.00
HabasitLINK	M1220	25	101.00	1.24	3.00												
	M2520	15	122.00	1.49	12.00												
	& M2530	15	122.00	1.49	4.00	20	164.00	1.45	4.00								
Uni Chains / Ammeraal	Flex SNB	14	114.00	1.40	3.00	18	146.00	1.29	3.00	21	170.00	1.24	3.00	24	195.00	1.20	3.00
	M-SNB & M-QNB	24	97.00	1.19	5.00												

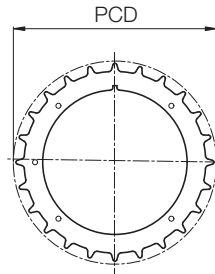


## Sprockets for Plastic Modular Belts

Special laser cut sprockets based on the specification of modular belt manufacturers

### Product Range

Motorized pulleys that require sprockets, must be ordered with a cylindrical shell.



<b>Z</b>	Number of teeth
<b>PCD</b>	Pitch circle diameter in mm
<b>Vf</b>	Velocity factor
<b>B</b>	Width of sprocket in mm
<b>Rev.</b>	Reversible sprocket
<b>Ref. no.</b>	Reference number

## Backstop / Anti run-back bearing

### Product Description

Backstops prevent the roll-back of the belt and carried load in case of shutdown or lack of power supply.

### Characteristics

- The backstop runs only in one direction
- Mounted on the rotor shaft, except for the 80LS
- Mounted in the end housing on the 80LS
- No need for an electrical connection
- Higher holding torque than an electromagnetic brake

### Application

- Single direction inclined belt conveyors
- For preventing run-back of the belt and load when the power supply is off

The rotational direction of the motorized pulley with backstop is indicated by an arrow on the end housing at the electrical connection side.

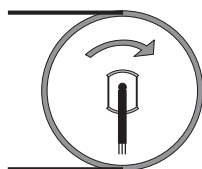


Fig.: Rotation arrow.

### Product range

Rotation direction from the electrical connector side	Clockwise Anti-Clockwise
---	-----------------------------

## Product description

The Electromagnetic brake stops and holds the load in position according to the stated holding torque.

## Characteristics

- Low noise
- Wear contained
- Powered by a separate external rectifier
- Applied directly on the rotor of the motorized pulley
- When the power to the motor is lost or stopped the brake will close (mechanically engage)

## Applications

- For reversible inclined and declined conveyors
- For reduced stopping times\*
- For stopping and holding loads
- For approximate positioning

(\*) For faster stopping times and accurate positioning, please use a frequency converter with braking function and if necessary an encoder with feedback control.

## Response time

The response time for opening of the brake (motorized pulley start) and closing (stop motorized pulley), may vary substantially according to:

- Type and viscosity of the oil
- Level of oil in the drum motor
- Ambient temperature
- Internal motor working temperature
- Switching at input (AC-switching) or at output (DC-switching)
- Control contact of the coil brake into the alternating current supply of the rectifier (long response times), or on the output DC of the rectifier (fast response)
- Type and output voltage of the rectifier control of the brake coil

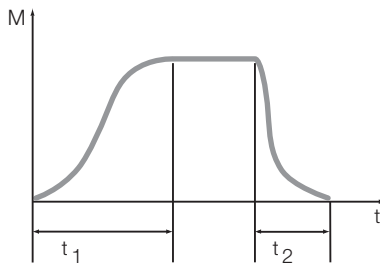


Fig.: Time t/Torque M brake closure

- $t_1$  Closing response time (de-excitation coil): Stop
- $t_2$  Opening response time (excitation coil): start

The difference between the control in alternating current and direct current is shown in the following table:

	AC Comand	DC Comand
Intervention time	Slow	Fast
Braking voltage	Nearly 1Volt	Nearly 500volt

**Note:** For the brake coil command in DC, the contacts must be protected against surges.

## Reduction of braking torque

The declared braking torque M, is strongly influenced by the operating conditions of the motorized pulley (with oil at high temperatures) and the ambient temperature. For the calculation of the load that can be braked in safety, the braking torque provided in the tables should be reduced by 50%.



## Electromagnetic brakes



Product range							
Motorized pulley	Rated torque M (Nm)	Rated power (W)	Rated voltage (V CC)	Rated current (A)	DC switching t1 (ms)	AC switching t1 (ms)	Opening delay time t2 (start) (ms)
80LS	1.1	12	24	0.5	13	80	20
			104	0.12	13	80	20
113LS 138LS	6	24	24	1.00	26	200	30
			104	0.23	26	200	30
			207	0.12	26	200	30
165LS	12	33	24	1.38	46	260	40
			104	0.32	46	260	40
			207	0.16	46	260	40



## Rectifiers

The rectifier operates the electromagnetic brake

### Product description

#### Characteristics

- The Rectifier for the electromagnetic brake (external component), must be installed in a protective box as close as possible to the Motorized Pulley

#### Applications

- Motorized pulleys with electromagnetic brake
- Frequent start and stop applications
- Positioning applications
- Half-wave and bridge rectifier for standard applications
- Fast acting and multiswitch rectifier for applications in which short opening delay times are necessary

Product range					
Input Voltage V Ca	Brake voltage V Cc	Starting voltage V Cc	Holding voltage V Cc	Rectifier type	Application
115	104	104	52	Fast acting rectifier	D S
230	207	207	104	Fast acting rectifier	D S
230	104	104	104	Half wave rectifier	D
400	104	180	104	Multiswitch rectifier	D S
460	104	180	104	Multiswitch rectifier	D
460	207	207	207	Half wave rectifier	D

**D** Continuous running application

**S** Frequent start/stop application

Using a fast acting rectifier or a phase rectifier will save energy and the brake coil heats up less. These types of rectifiers generate a holding voltage lower than the starting voltage of the brake coil itself.

## Product description

### Characteristics

- Supplies low resolution signals to an external control unit
- Embedded in the rotor bearing
- Cannot be combined with the electromagnetic brake option

### Application

- For applications which require the continuous control of the speed, direction, and position of the Motorized Pulley belt or load

## Technical data

<b>Rated voltage</b>	From 5 to 24 V Cc
<b>Max.operated current</b>	From 8 to 10 mA
<b>Max.output current</b>	20 mA
<b>High level Voltage</b>	> 3.5 V
<b>Low level voltage</b>	<0.1 V

## INC resolution

The INC resolution (n° of pulses per pulley revolution) depends on encoder type and can be calculated as follows:

$$INC = Z \times i$$

**i** Gear ratio of the motorized pulley

**Z** Number of encoder pulses per rotor revolution

## Product range

Motorized pulley	Bearing type	Pulses for rotor revolution
from 80LS to 138LS	6202	32
165LS	6205	48

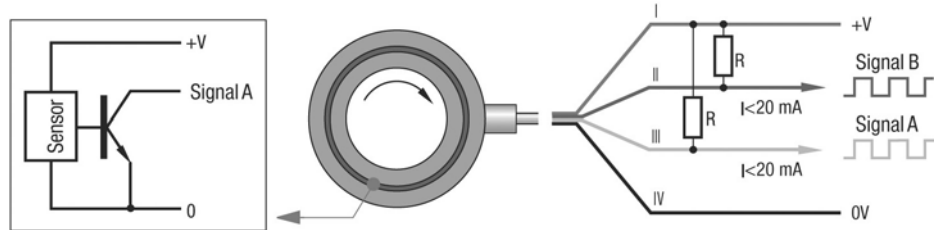
**Nota:** The Motorized Pulley 80LS with encoder has 2 cables-one exiting through each shaft at either end.

## Control interface

The encoder has open collector NPN transistor outputs. When connected to the input of a control interface the required load resistances (R) have to be used. The load resistances are stated in the table overleaf. When using different interfaces or, should you have any doubts, please refer to Rulmeca or to a local electronic specialist.

Rulmeca recommends the use of an Opto-coupler for the following reasons:

- To protect the encoder
- To enable connection to other levels such as PNP
- To get the maximum potential between high and low signal



Voltage +V DC	Load Resistances R $\Omega$
5	270
9	470
12	680
24	1500

## Product description

### Characteristics

- Supplies high resolution signals to an external decoder and control unit
- Embedded in the rotor bearing
- Cannot be combined with an electromagnetic brake

### Applications

- For applications which require control of speed, direction, and position of the Motorized Pulley belt or load

### The INC resolution

The INC resolution (n° of pulses per pulley revolution) depends on encoder type and can be calculated as follows:

$$INC = Z \times i$$

i Gear ratio of the motorized pulley

Z Number of encoder pulses per rotor revolution

Product range						
Motorized pulley	Encoder type	Rated voltage V DC	Max. operating current mA	Pulses per rotor revolution p	Max.cable length m	Precision °
80LS - 320H	RS422A 5V	5	50	1024	50	0.5

**Note:** Other resolutions are available on request.