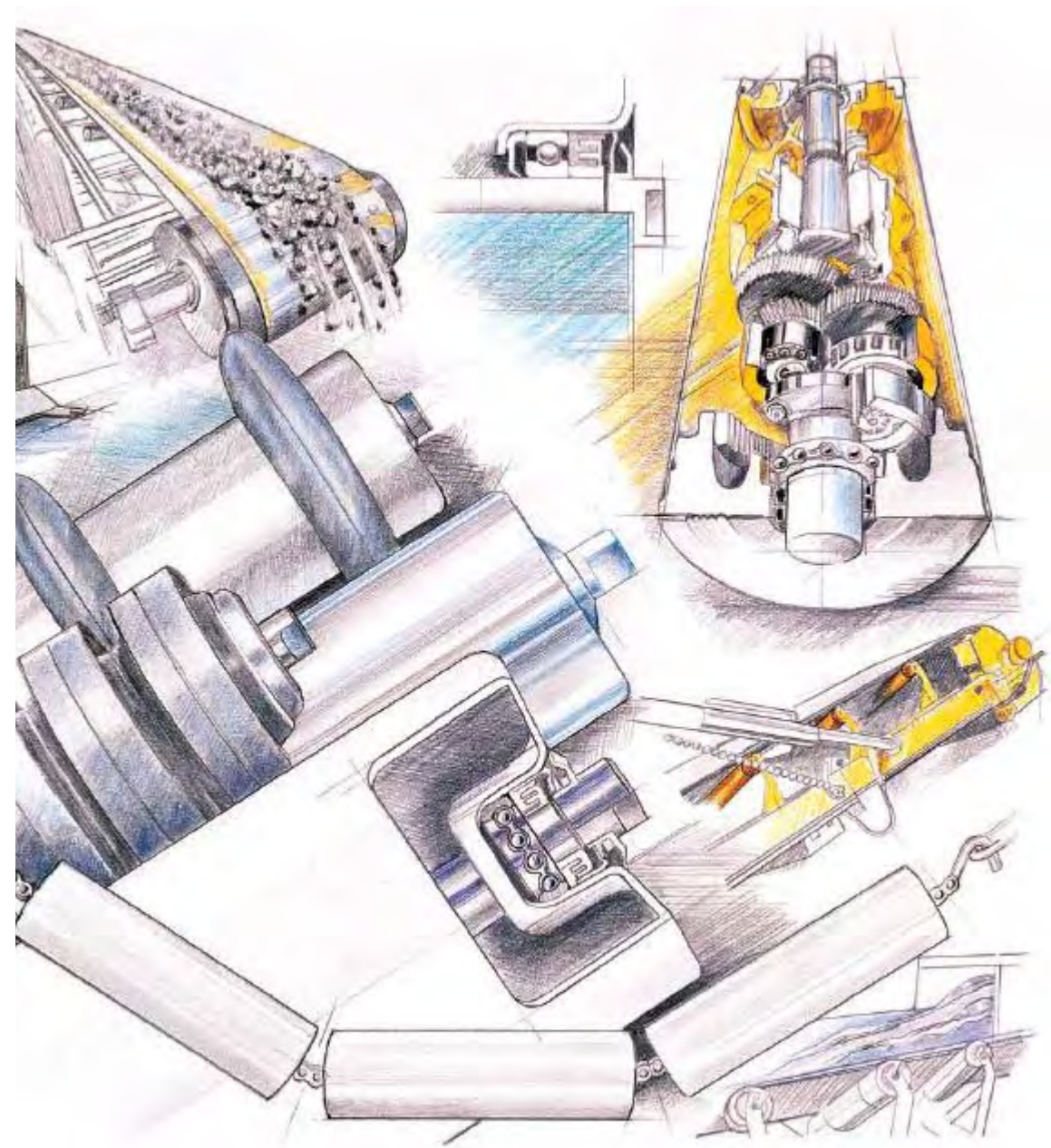


# RULMECA GROUP

Motorized Pulleys 220 to 330 HP  
for bulk handling



INTRODUCTION





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## Motorized Pulleys for Belt Conveyors

The Rulmeca Motorized Pulley was first produced in 1953 specifically for belt conveyor systems.

The aim was to produce an extremely compact, totally enclosed and highly efficient belt conveyor drive, resistant to dust, water, oil, grease or harmful substances. A Motorized Pulley which would be quick and simple to install and would require virtually no maintenance.

These aims were achieved and today the Rulmeca Motorized Pulley is considered to be one of the most reliable and effective belt conveyor drives available throughout the world. The Motorized Pulley is a highly efficient geared motor drive, which is hermetically sealed within a steel cylindrical shell.

The shell, which is usually crowned to ensure central belt tracking, is fitted with

bearing housings incorporating precision bearings, double lipped seals and rotates about a static pair of shafts.

The motor stator is fixed to the shafts and the motor winding cables pass through one of the shafts, eliminating the need for slip rings and brushes.

The three phase squirrel cage induction motor, manufactured in steel laminate, is machined concentric to high tolerances and designed to give 200% starting torque.

The rotor pinion is coupled directly to the gearbox.

The gearbox transmits torque to the shell through a geared rim and provides a highly efficiency motor with very little frictional losses.

The Motorized Pulley is oil filled, which acts as both a lubricant and coolant. Heat is dissipated through the shell and the conveyor belt.

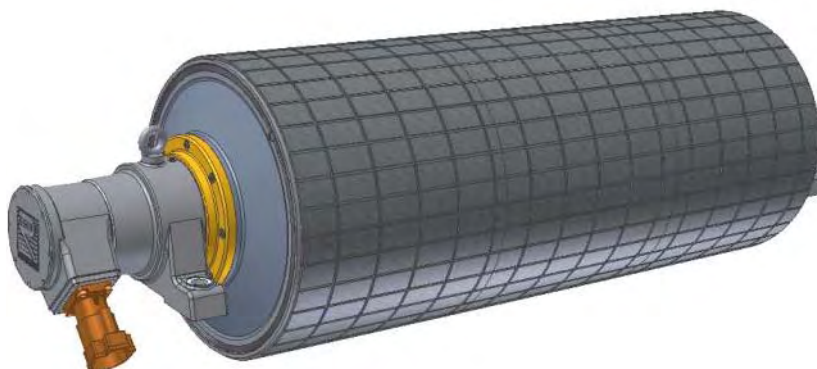
All vital parts are CNC machined.

The Rulmeca Motorized Pulley is supplied as standard with:

- Machined mild steel crowned shell
- Electric motor manufactured in accordance with IEC 34-1 (EN60034-1), (VDE 0530).
- Class H insulation according to IEC 34-1 (EN60034-1), (VDE 0530).
- Most international voltages.
- Standard voltages supplied with  $\pm 10\%$  tolerance in accordance with IEC 38.
- Factory oil filled and tested.
- Degree of protection IP66/67 (EN60034-1).

Rulmeca Motorized Pulleys are manufactured according to the Council Directives of the European Communities.

The CE-marking is according to Directive 2006/95/EC relating to electrical equipment and according to Directive 2004/108/EC relating to electrical magnetic compatibility and amendments.





## Motorized Pulley 1000HD, Ø 40.16 in. (1020 mm)

The RULMECA Motorized Pulley type 1000HD is a highly developed reliable and strong drive with an outstanding power range of 220–330HP. It is able to take a high radial load and robust in design. Therefore it is especially developed for use in:

- Mining conveyors,
- Excavators,
- Stackers,
- Reclaimers,
- Heavy loaded conveyors in gravel and sand

The motorized pulley 1000HD is designed for tough, irregular, extreme and brutal working conditions.

The compact design allows the design engineers to save material and cost when developing the conveyor.

With its high protection rating and its standard labyrinth sealing system, this Motorized Pulley can be used in all ambient conditions.

### STANDARD SPECIFICATION of Motorized Pulley

- Crowned mild steel shell, outside diameter 40.16 in.
- Mild steel shafts.
- Totally enclosed cast iron brackets,
- Shell lagged with 0.39 in thick bonded ceramic lagging,
- Bearing houses from cast steel.
- Three stage cast steel gearboxes.
- Sealing system with degree of protection IP66/67 (EN60034-5).
- Terminal box from cast iron.
- 3-phase induction motors with 3 phase single voltage,
- Std. voltage 460v/3ph/60Hz,
- Please specify voltage.
- Motor winding insulation class H,
- 3 bimetallic thermal protectors connected in series, 2 temperature resistors PT100 and 3 PTC-resistors connected in series installed in the winding,
- Rotor dynamically balanced.
- 2 oil plugs (with magnet).
- Minimum roller length (RL = 55.12 in at 220 HP & 59.06 in at 330 HP,
- Synthetic oil EP220.

- First oil change recommended after 30,000 operational hours.
- Regreasable labyrinth seals.

### Please Note!

- Special speeds available on request,
- Environmental conditions in main catalog on pages 72-73,
- Technical precautions in main catalog page 76-91,
- Optional extras on page 4,
- Connection diagrams on page 92 in the main catalog,



## OPTIONAL EXTRAS

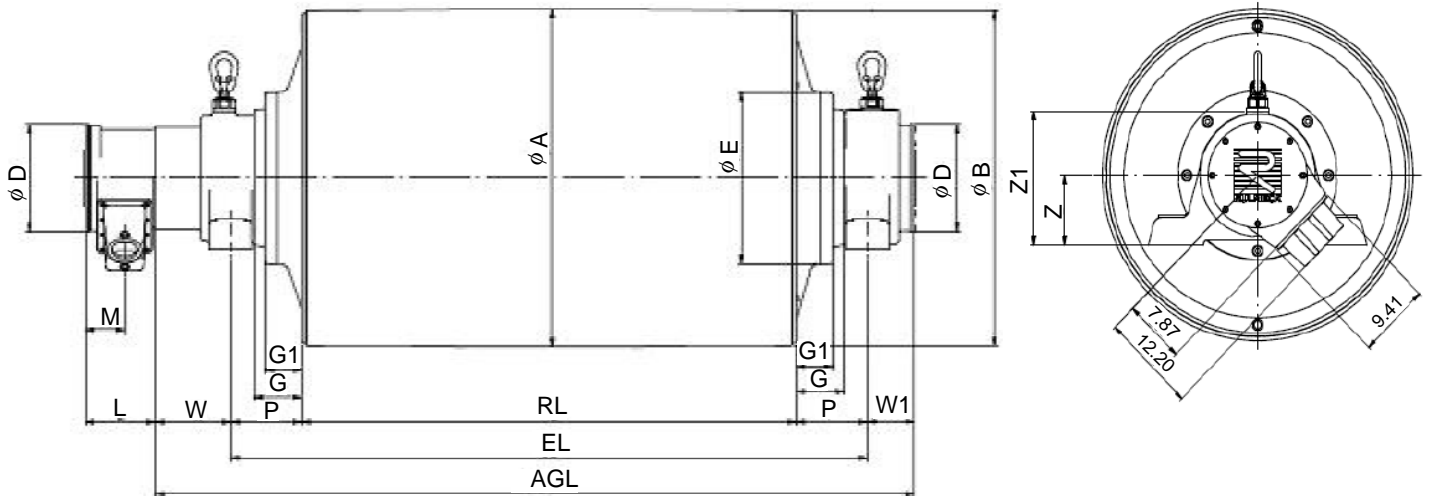
### Motorized Pulley 1000HD

Specification	Availability
Different types and shapes of ceramic lagging	x
Mechanical backstop	x
Dust explosion proof Motorized Pulleys - ATEX 95 - Zone 22 - for applications handling of dusty grain etc. According to European Directive 94/9/EC.	x
Degree of protection IP66/67	Std.
Allowable ambient temperatures -13 degrees F to +120 degrees F	Std.
External brake shaft (for mechanical brake by others)	x
Motor protection and control by 3 bimetallic thermal protectors connected in series, 2 temperature sensors PT100 and 3 PTC-resistors connected in series	Std.
Insulation class H with synthetic oil	Std.
Thermal winding protection	Std.
Voltage North America (3 x 460V, 3 x 575V, 3 x 995V at 60 Hz) with tolerances +/- 10% (DIN IEC 38)	Std.
IP66/67 cast iron terminal box	Std.
Other voltages from 400V up to 1000V	x
CSA approved motors	x

x = Optional extras  
 Std. = Fitted as standard



# Motorized Pulley 1000HD, Ø 40.16 in. (1020 mm)



## Motorized Pulley Dimensions

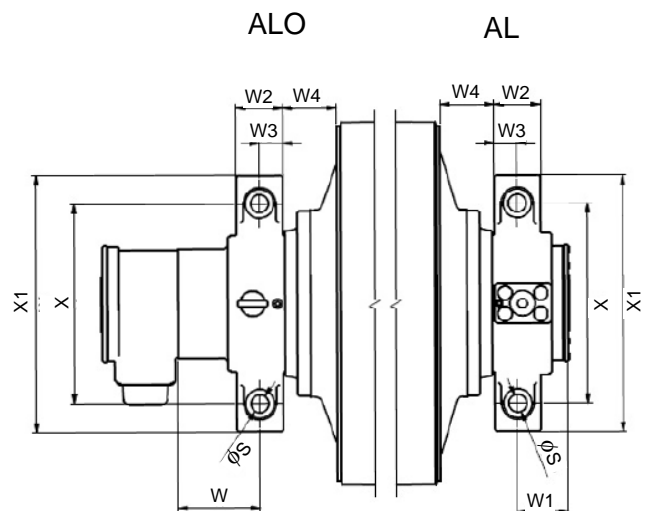
Type	A <sup>1</sup> in	B <sup>2</sup> in	D <sup>3</sup> in	E in	G in	L in	P in	W in	W1 in	W4 in
1000HD	40.16	39.92	7.99	20.47	5.71	8.35	8.46	8.98	5.59	5.91

- 1 A dimension is outer diameter of lagged pulley shell at pulley centerline.
- 2 B dimension is outer diameter of lagged pulley shell at each end of shell.
- 3 D dimension is shaft diameter.

## Bracket Dimensions

Type*	S in	W2 in	W3 in	X in	X1 in	Z in	Z1 in
AL	1.97	5.12	2.56	22.05	28.23	8.46	16.22
ALO	1.97	5.12	2.56	22.05	28.23	8.46	16.22

- \* AL is drive side bracket and is locked against rotation.  
 ALO is non-drive side bracket and is free to rotate.





## Motorized Pulley 1000HD\*, Ø 40.16 in. (1020 mm) 60 Hz

Motor		No. Gear Stages	Model	Nominal belt speed <sup>1</sup> at Full Load 60 Hz fpm	Actual belt speed <sup>1</sup> at Full Load 60 Hz fpm	Belt Pull <sup>2</sup> lbs	Max. Radial Load <sup>3</sup> T1 + T2 lbs	Min. RL in	RL Dimension inches (RL>70.87" available on request) Weight in lbs <sup>5</sup>									
Power HP	No. of Poles								55.12	57.09	59.06	61.02	62.99	64.96	66.93	68.90	70.87	longer than 70.87
220	4	3	1000HD	600	-	13,354	67,443	55.12	9,259	9,414	9,513	9,656	9,800	9,943	10,086	10,229	10,373	See Note <sup>4</sup>
				756	-	10,746												
				960	-	8,453												
				1080	-	7,351												
270	4	3	1000HD	1320	-	6,160	67,443	57.09	-	9,811	9,965	10,064	10,207	10,351	10,494	10,637	10,781	
				600	-	16,703												
				756	-	13,489												
				960	-	10,566												
330	4	3	1000HD	1080	-	9,206	67,443	59.06	-	-	10,362	10,516	10,615	10,759	10,902	11,045	11,188	
				756	-	16,838												
				960	-	13,219												
				1320	-	9,689												

1 Use "nominal belt speed" to specify lagged pulley. "Actual full load belt speed of lagged pulley," when available, will assist with process design calculations.

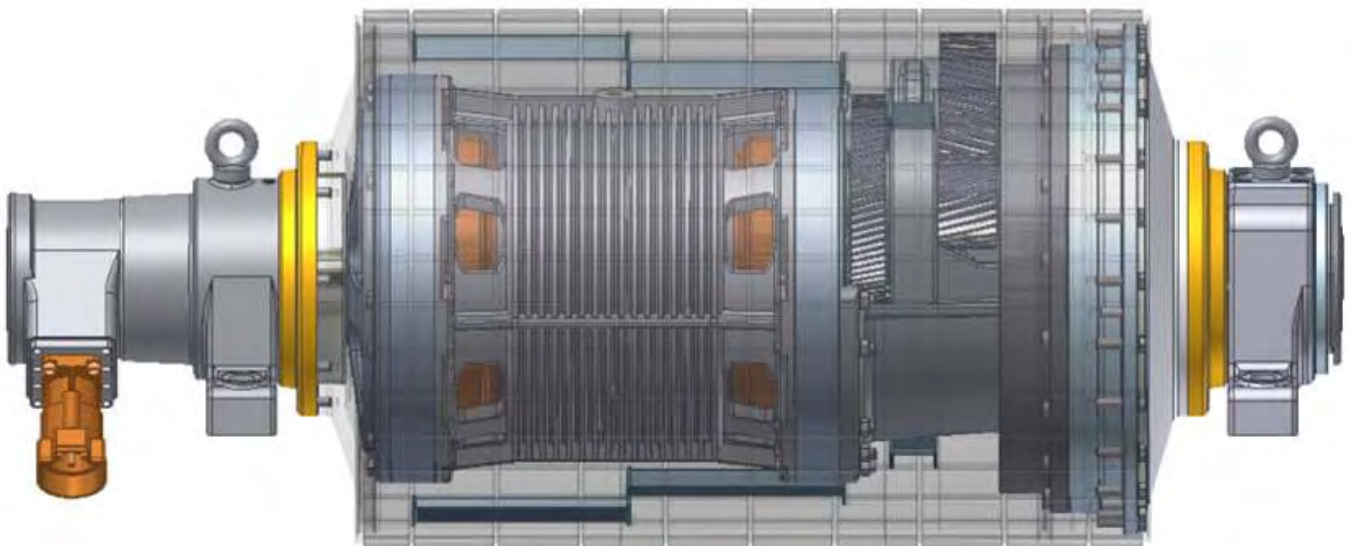
2 Belt pull value allows for gearbox loss.

3 Pulley must not be subjected to radial load exceeding "Maximum Radial Load" defined above.

4 Additional Motorized Pulley weight: Model 1000HD: 70.87" ≤ RL ≤ 98.43" Wt = 72.7 lbs/in.

5 All weights shown above are for pulleys "fully lagged" with 0.39" thick ceramic.

\* Available October 2010.





## Examples of applications





## AFRICA

### SOUTH AFRICA

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