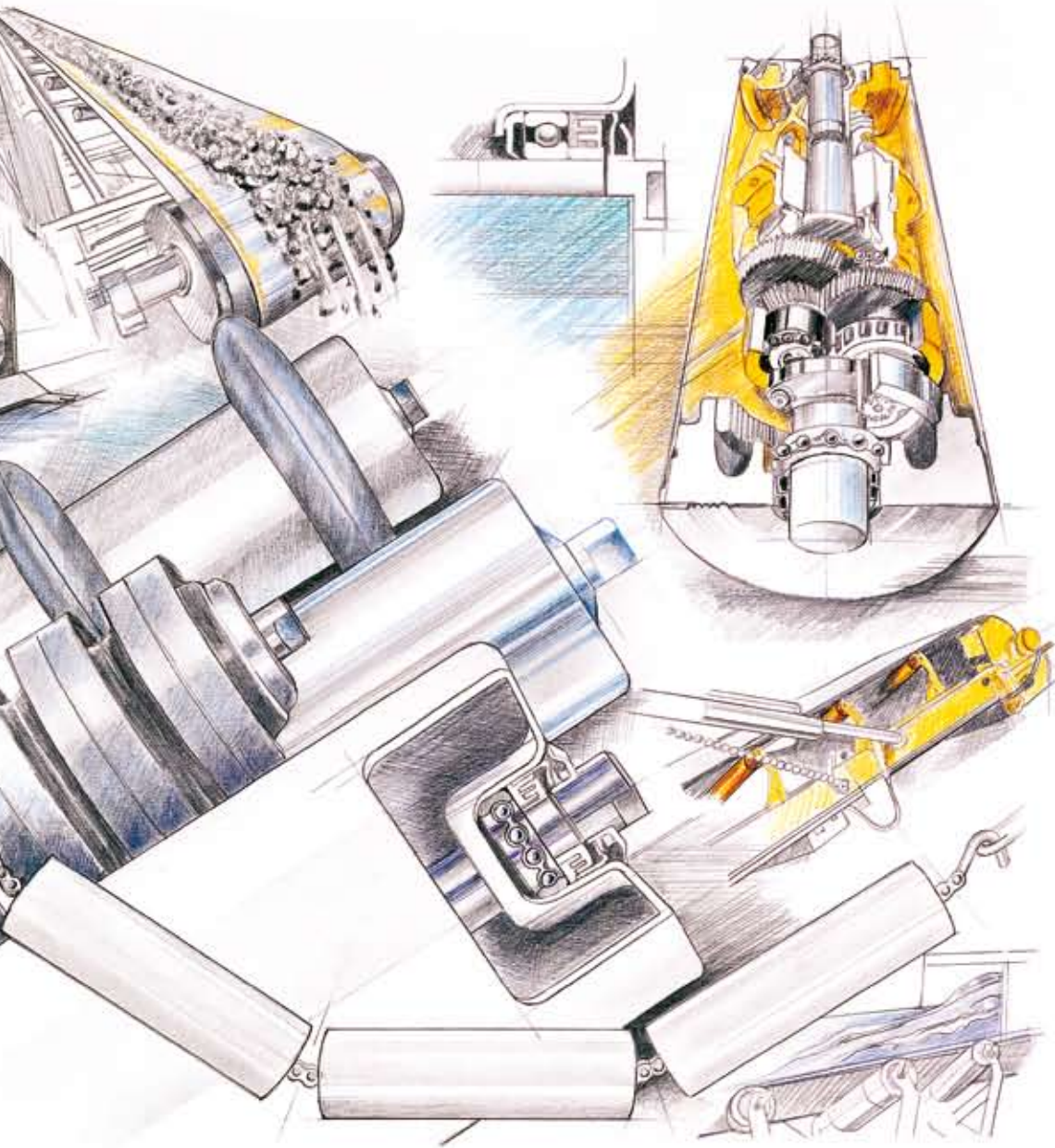


# RULMECA GROUP

**Motorized Pulleys  
250kW 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 squirrel cage induction motor, manufactured in steel laminate, is machined concentric to high tolerances and designed to give 200% starting torque for 3 phase versions.

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.

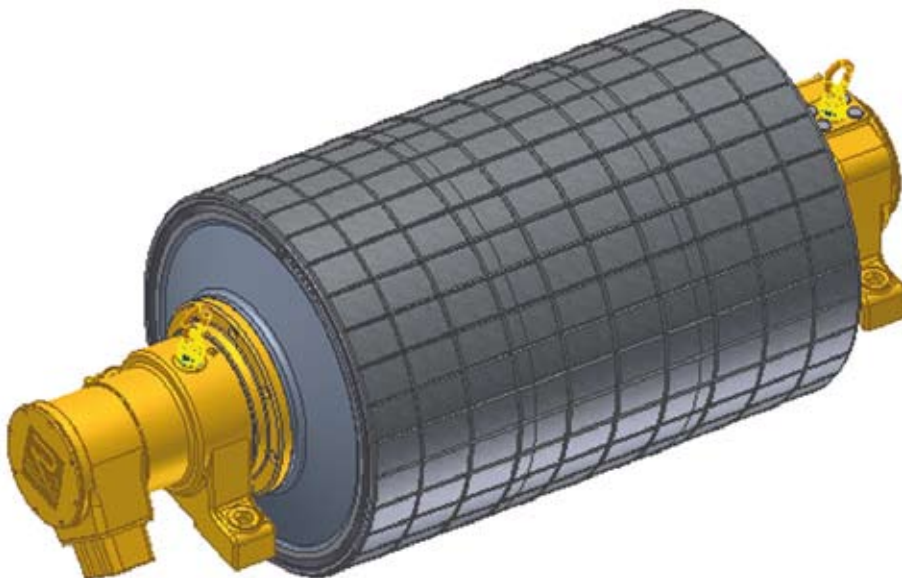
All vital parts are CNC machined!

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 F 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 1000 HD, Ø 1000 mm

The RULMECA motorized pulley type 1000HD is a highly developed reliable and strong drive with an outstanding power range of 160 – 250 kW.

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 condition.

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

A high protection rate connected with the standard labyrinth sealing system it can be used in all ambient conditions.

### STANDARD SPECIFICATION

of the Motorized Pulley

- Crowned mild steel shell, outside diameter 1020mm.
- Mild steel shafts.
- Totally enclosed cast iron brackets,
- Shell lagged with a 10mm bonded ceramic lagging,
- Bearing houses from cast steel.
- Gear 3-stage boxes from cast steel.
- 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 690V 50Hz,  
**Please specify!**
- Motor winding insulations class H,
- 3 bimetallic thermal protectors in connected 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 = 1400mm at 160kW & 1500 at 250kW,
- Synthetic oil EP220.
- First oil change recommended after 30.000 operational hours.
- Regreasable labyrinth seals with automatic greasing system,

### Please Note!

- Special speeds available on request,
- Environmental conditions: main catalogue on page 72,
- Technical precautions on main catalogue page 76/86,
- Optional extras on page 4,
- Connection diagrams on page 86 on the main catalogue.



## OPTIONAL EXTRAS

### Motorized Pulley 1000HD

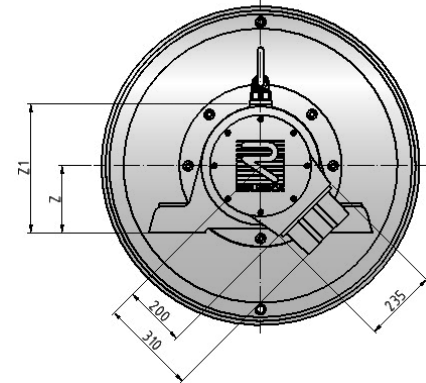
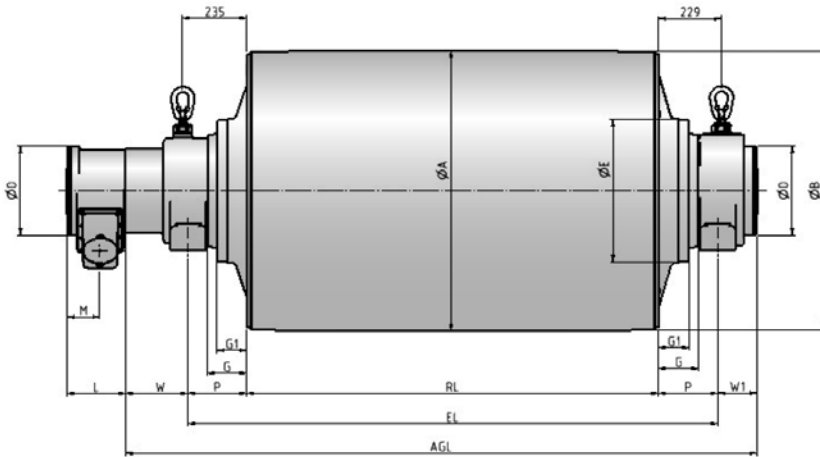
| Option   | 1000HD            |
|--|-------------------|
| Different types and shapes of ceramic lagging  | x                 |
| Mechanical backstop  | x                 |
| External brake shaft   | x                 |
| Allowable ambient temperatures   | -25°C until +40°C |
| Insulation class H with synthetic oil  | Std.              |
| Motor protection and Control by 3 bimetallic thermal protectors connected in series, 2 temperature resistors PT100 and 3 PTC-resistors connected in series | Std.              |
| Dust Explosion proof Motorized Pulleys – ATEX95 – Zone 22 – for applications handling of dusty grain etc. according to European Directive 94/9/EC          | x                 |
| Thermal winding protection   | Std.              |
| IP66/67 cast iron terminal box   | Std.              |
| Degree of protection IP66/67   | Std.              |
| European voltage (3x690V at 50Hz) with tolerances +/-10% (DIN IEC 38)  | Std.              |
| Other voltages from 400V up to 1000V   | x                 |
| CSA approved motors  | x                 |
| Flat pulley surface (cylindrical)  | x                 |

**Std.** = standard

**x** = available as option

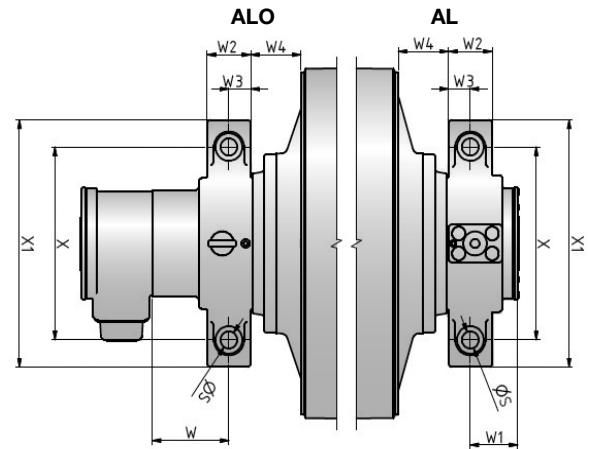


# Motorized Pulley 1000 HD, Ø 1000 mm

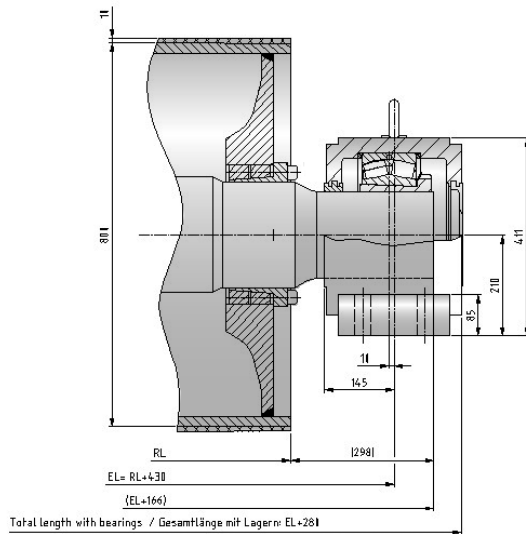


| Motorized Pulley Dimension |      |      |     |     |     |     |     |     |     |     |     |     |
|----------------------------|------|------|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| Type                       | A    | B    | D   | E   | G   | G1  | L   | M   | P   | W   | W1  | W4  |
|                            | mm   | mm   | mm  | mm  | mm  | mm  | mm  | mm  | mm  | mm  | mm  | mm  |
| 1000HD                     | 1020 | 1014 | 203 | 520 | 145 | 110 | 212 | 119 | 215 | 228 | 142 | 150 |

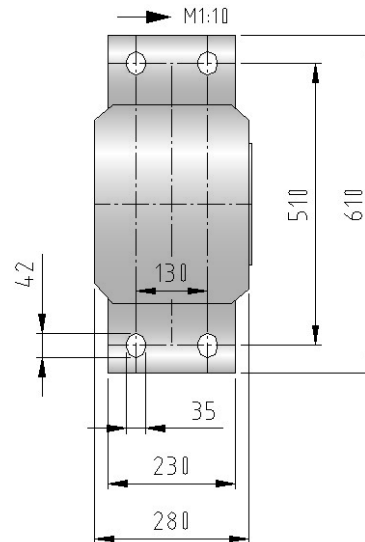
| Bracket Dimension |    |     |    |     |     |     |     |
|-------------------|----|-----|----|-----|-----|-----|-----|
| Type              | S  | W2  | W3 | X   | X1  | Z   | Z1  |
|                   | mm | mm  | mm | mm  | mm  | mm  | mm  |
| AL                | 50 | 130 | 65 | 560 | 717 | 215 | 412 |
| ALO               | 50 | 130 | 65 | 560 | 717 | 215 | 412 |



## Idler Pulley Dimension



## Pillow block bearing / idler pulley





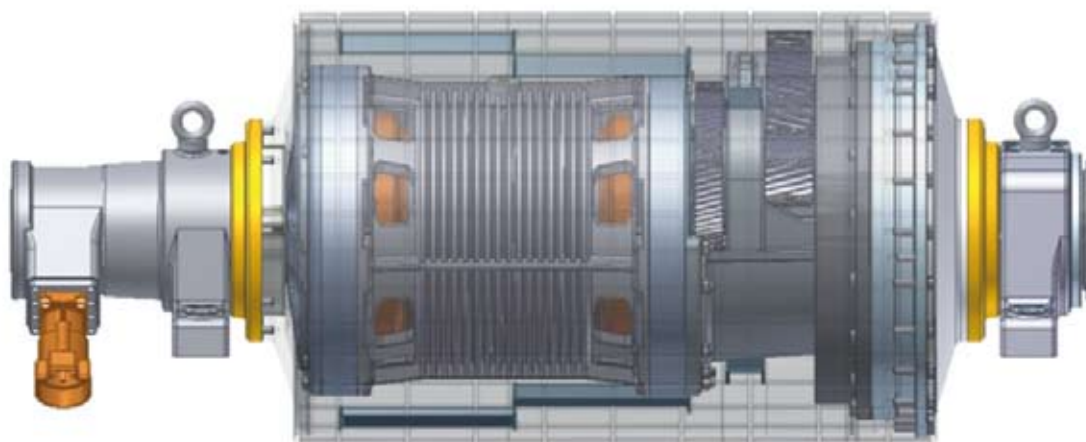
# Motorized Pulley 1000HD Ø 1020 mm

50 Hz

| Motor           |              | Nominal belt speed at Full Load 50Hz m/sec | Torque Nm | Belt Pull N | Max. Load T1+T2 N | min. RL | Type   | Weight in kg for STANDARD width |      |      |      |      |      |      |       |                  |                      | Type of Bracket  |
|-----------------|--------------|--|-----------|-------------|-------------------|---------|--------|---------------------------------|------|------|------|------|------|------|-------|------------------|----------------------|------------------|
| Power kW/HP     | No. of Poles |  |           |             |                   |         |        | RL in mm                        |      |      |      |      |      |      |       |                  |                      |                  |
|                 |              |  |           |             |                   |         |        | 1400                            | 1450 | 1500 | 1550 | 1600 | 1650 | 1700 | 1750  | 1800             | per 50 mm up to 2500 |                  |
| 160.0/<br>218.0 | 4            | 2.50                                       | 30300     | 59400       | 300000            | 1400    | 1000HD | 4200                            | 4270 | 4315 | 4380 | 4445 | 4510 | 4575 | 4640  | 4705             | 65 kg                | AL200/<br>ALO200 |
|                 |              | 3.15                                       | 24400     | 47800       |                   |         |        |                                 |      |      |      |      |      |      |       |                  |                      |                  |
|                 |              | 4.00                                       | 19200     | 37600       |                   |         |        |                                 |      |      |      |      |      |      |       |                  |                      |                  |
|                 |              | 4.50                                       | 16700     | 32700       |                   |         |        |                                 |      |      |      |      |      |      |       |                  |                      |                  |
|                 |              | 5.50                                       | 14000     | 27400       |                   |         |        |                                 |      |      |      |      |      |      |       |                  |                      |                  |
| 200.0/<br>272.0 | 4            | 2.50*                                      | 37900     | 74300       | 300000            | 1450    | 1000HD | 4450                            | 4520 | 4565 | 4630 | 4695 | 4760 | 4825 | 4890  | 65 kg            | AL200/<br>ALO200     |                  |
|                 |              | 3.15*                                      | 30600     | 60000       |                   |         |        |                                 |      |      |      |      |      |      |       |                  |                      |                  |
|                 |              | 4.00                                       | 24000     | 47000       |                   |         |        |                                 |      |      |      |      |      |      |       |                  |                      |                  |
|                 |              | 4.50                                       | 20900     | 40950       |                   |         |        |                                 |      |      |      |      |      |      |       |                  |                      |                  |
|                 |              | 5.50                                       | 17600     | 34500       |                   |         |        |                                 |      |      |      |      |      |      |       |                  |                      |                  |
| 250.0/<br>340.0 | 4            | 2.50*                                      | 47400     | 92900       | 300000            | 1500    | 1000HD | 4700                            | 4770 | 4815 | 4880 | 4945 | 5010 | 5075 | 65 kg | AL200/<br>ALO200 |                      |                  |
|                 |              | 3.15*                                      | 38200     | 74900       |                   |         |        |                                 |      |      |      |      |      |      |       |                  |                      |                  |
|                 |              | 4.00                                       | 30000     | 58800       |                   |         |        |                                 |      |      |      |      |      |      |       |                  |                      |                  |
|                 |              | 4.50                                       | 26150     | 51250       |                   |         |        |                                 |      |      |      |      |      |      |       |                  |                      |                  |
|                 |              | 5.50                                       | 22000     | 43100       |                   |         |        |                                 |      |      |      |      |      |      |       |                  |                      |                  |

\* Power and speeds marked with a star can be used with 100% load at clockwise direction of rotation only! For anti-clockwise direction the motorized pulley has to be assembled in an opposite way.

Note: Please specify the outer diameter of your connection cable.









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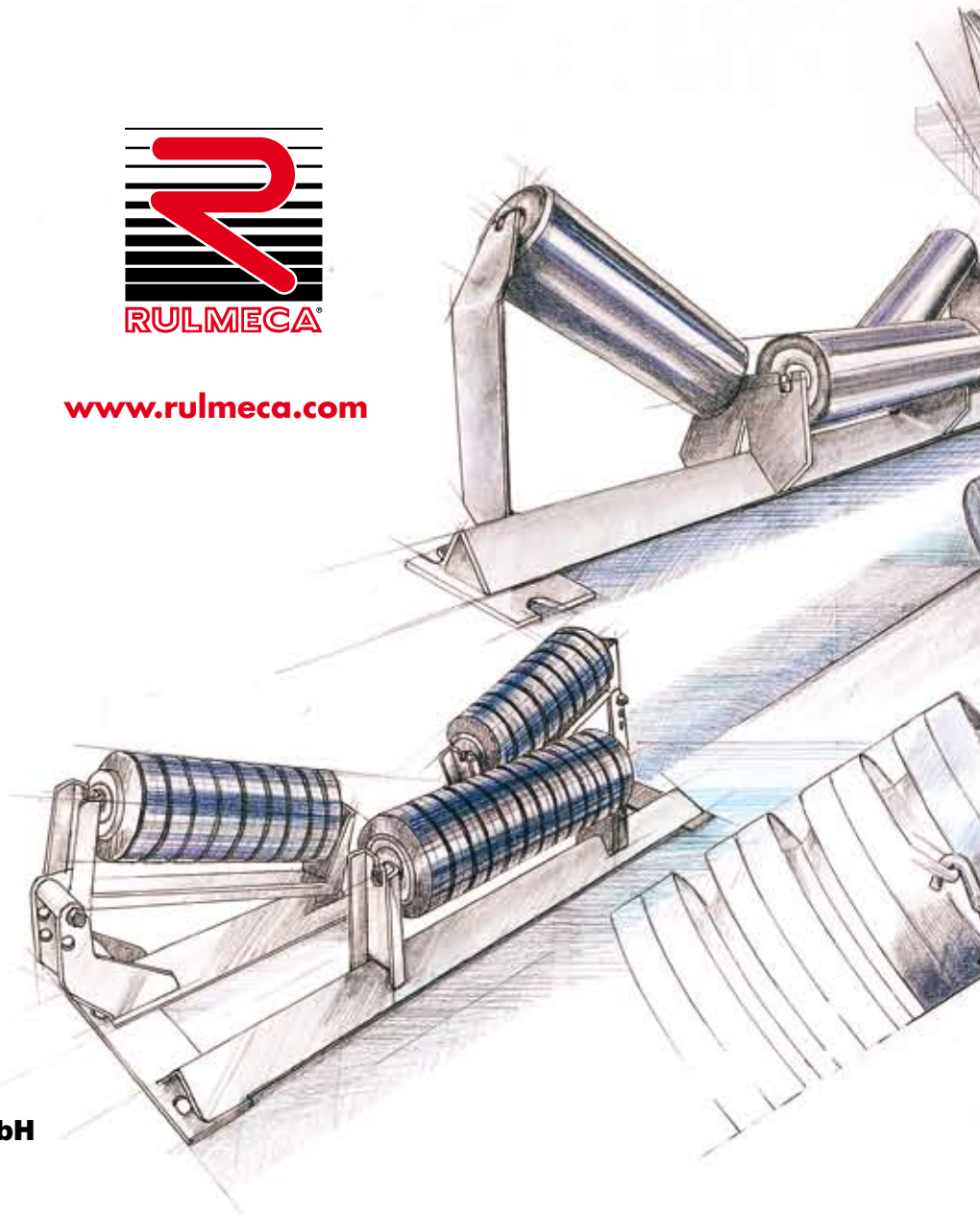
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