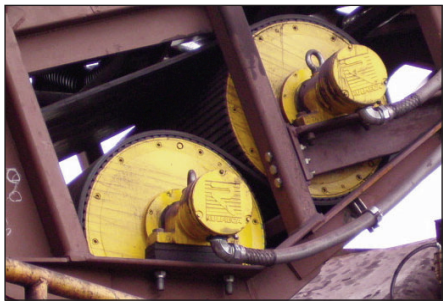
Applications in Special Environmental Conditions

Abrasive, Wet, High Humidity Environments



Hermetically sealed carbon steel tube and end housings with standard paint are suitable for most bulk applications. However, aggressive environments may require regreasable seals, special finish, or stainless steel. See pages 88-89.

Articulating Conveyors

Electromagnetic brakes or external brake shafts for brakes (by others) provide suitable material "holdback" capability for articulating conveyors. Mechanical backstops will not work in this application because these conveyors elevate and lower material. See pages 59, 83, & 84.

Chemical/Corrosive Environments

Aggressive environments may require regreasable seals, special lagging material, special finish, or stainless steel. See pages 84, 85, & 89.

Critical Speed Requirements

Actual belt speed is a function of motor pole number, gear ratio, and load. This catalog displays actual full load belt speed of a lagged Motorized Pulley at nominal voltage and 60 Hz to assist designers who need precise belt speeds. See page 79.

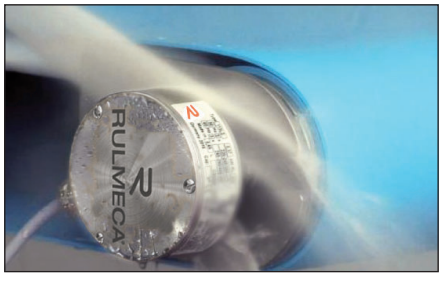
Dust & Gas Environments

Rulmeca Motorized Pulleys with IP67 sealing are available with optional certification for service in an ATEX 95 Class II ("dust explosion proof") Zone 22 atmosphere, according to European Union Directive 94/9EC article 8. Note that Rulmeca Motorized Pulleys are not "intrinsically safe" or "flame proof" and are not suitable for service in: Class I (gasses, vapors, & liquids), Class II Zone 20, or Class II Zone 21 environments. See page 83.

Elevating Conveyors

Mechanical backstops provide suitable material "holdback" capability for fixed position, non-reversing, inclined conveyors. See pages 59, 85, & 86.

Food Handling

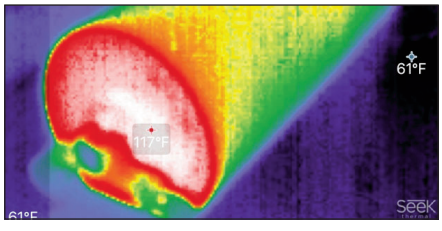


Regreasable seals, full stainless steel, and food grade oil, grease, and lagging material are suitable for this environment, which usually includes frequent high pressure/chemical wash down. See pages 84, 85, & 89.

High Altitude >3,300 ft Above Sea Level (ASL)

Standard Rulmeca Motorized Pulleys provide suitable performance in mountainous areas. When specifying motor power derate by 2.5% for elevations of 3,300-5,000' ASL and 5% for elevations of 5,000-6,600' ASL. Contact Rulmeca for assistance with higher elevations.

High Ambient Temperature



Standard Rulmeca Motorized Pulleys with Class F motor and standard oil are suitable for use in a maximum ambient temperature of 104 °F. Motorized Pulleys with Class H motor and synthetic oil are suitable for use in a maximum ambient temperature of 120 °F. For higher ambient temperature conditions contact Rulmeca. See pg 81, 82, & 93.

High Duty Cycle (Frequent Start/ Stops)

Model	Max. No. of Start/stops
138LS	240 per hour
165LS	180 per hour
220M & 220H	120 per hour
320L, 320M, 320H, 400L, 400M & 400H	25 per hour
500L, 500M, 500H, 630M, 630H, 800H, & 800HD	10 per hour
1000HD	5 per hour

Standard Rulmeca Motorized Pulleys are suitable for frequent starting and stopping, without the use of soft start devices, as shown above. More frequent starts/stops are possible through the use of optional special pulley construction and/or soft starters. Contact Rulmeca for details. See page 84.

Impact Loading

Conveyors subject to frequent impact loading (i.e. non-continuous material flow) may require higher motor power and stronger gearbox than indicated by "continuous flow" belt pull calculations. Contact Rulmeca. See page 82, 86, & 88.

Indexing (Induction) Conveyors

Electromagnetic brake provides excellent product "hold" capability in induction systems requiring "indexing." See pg 83-84.

Low Ambient Temperature

Rulmeca Motorized Pulleys with standard motor and oil are suitable for use in a minimum ambient temperature of -13°F. Optional food grade oil lowers the pulley

Applications in Special Environmental Conditions

operating temperature range to a minimum of -22°F. Contact Rulmeca for lower operating temperatures. Special oil, special seals, and internal anti-condensation heater may be required. See pages 81, 82, and 93.

Marine Environment

Corrosive ocean environment often requires regreasable sealing system, stainless steel or special surface finish. See page 89.

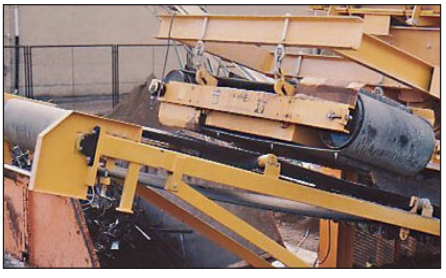
Noise-Sensitive Environments

In noise-sensitive areas (e.g. locations where public access to conveyors is permitted) certain Motorized Pulley design restrictions apply. Contact Rulmeca for special oil viscosities and quantities, specially balanced pulleys, and when to avoid the use of 2 pole motors.

Non-belt Applications

Special Motorized Pulley designs are available for "non-belt, V-belt, partial belt, and modular belt" applications. It is essential that each special application be designed to adequately dissipate heat from the pulley surface. Contact Rulmeca for assistance with these applications. See pages 81, 82, and 88.

Non-horizontal Mounting (i.e. between 5° - 90° and Vertical)



Certain applications (e.g. self-cleaning electromagnet for tramp iron, pictured above, "tilted" package sortation conveyors, and "travelling wall") require pulley shaft to be mounted out of the horizontal plane. This Motorized Pulley option requires extra oil, grease packed top bearing, and special electrical termination. Contact Rulmeca for assistance. see pages 86, 87, 88, and 93.

Oily, Greasy, & Fatty Materials

Environments with high amounts oil, grease, and/or fat require special oil-resistant lagging. If they require frequent high pressure and/or chemical cleaning they may also require regreasable seals and stainless steel or special surface coating. See pages 84, 85, and 89.

Reversible Conveyors

All standard three-phase Rulmeca Motorized Pulleys are suitable for use in reversing conveyors. However, motor control circuit must be designed to bring pulley to a complete stop before reversing direction. See page 89.

Starting Under Load

All Rulmeca Motorized Pulley motors are "Design C" and developed for direct starting. They provide 200% start-up torque when started directly. To reduce inrush (start-up) current it is possible to use starting device such as soft starter or variable frequency drive. Note that these devices may reduce start-up torque. See pages 86 and 90.

Underground Mining & Tunneling Applications

Rulmeca Motorized Pulleys have been incorporated into underground mining and tunnel boring machines. However, they are not "intrinsically safe" or "flame proof" and are not suitable for service where explosive gasses, vapors, liquids, or dust are continuously present. Contact Rulmeca for additional details.

Underwater applications

The Rulmeca Motorized Pulley IP67 sealing system has been successfully tested for 30 minutes under 1 m of water. However, the motor is not intended for continuous underwater service.

Variable Speed Conveyor

Two speed motor. AC frequency converter. See page 90.