

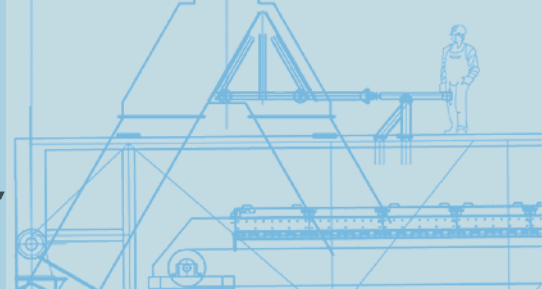


**RACO KEEPS YOUR PROCESS IN MOTION
POWDER AND BULK MATERIAL HANDLING,
TRANSPORTATION AND STORING**



RACO Schweiß

RACO ELECTRIC CYLINDERS SMART SOLUTIONS FOR RAW MATERIAL HANDLING, TRANSPORTATION AND STORING



RACO SUPPORTS YOUR PROCESS AUTOMATION

In materials-handling technology – particularly when handling bulk goods – the trend towards introducing control and regulation technology is increasing all the time. As a manufacturer of electric cylinders, RACO can offer different solutions for simple implementation in a wide range of different automatic systems which meet the requirements of modern process control:

- Increase in flow
- Improvement in process quality
- Guaranteed availability
- Energy saving
- Extended service life

The configuration

RACO electric cylinders series “Heavy Duty” are extremely sturdy and particularly suitable for the toughest of **out door** conditions.

- In addition to the material selection we offer a large variety of measures for high corrosion protection (EN ISO 12944-2).
- The basic design qualifies all RACO electric cylinders for an ambient temperature range of -20°C to + 70°C.
- The requirements of EN 60529 IP65 are fulfilled with respect to a high protection type for these enclosed systems, which are lubricated with “Long-Life” grease.

On top of this, the reduction of waste material quantities and the ecological recycling and disposal of unavoidable waste materials is gaining in significance. To improve the efficiency of a production or recycling process, the development focuses on the minimisation of energy requirements and the environmental compatibility.

Our electromechanical cylinders meet these criteria perfectly:

- High mechanical efficiency results in a high power density of the actuators.
- Eco-friendly operation and high degree of operational safety without leakage issues or freezing problems such as those which sometimes occur with medium-filled systems.
- Straightforward, low-cost installation and putting into operation, since all that's required is an electrical connection.
- Low electrical actuator power and low energy consumption thanks to switch-off operation significantly increases economy.
- Long service life with comparatively low maintenance costs (Life Cycle Cost).

[1] Type T1N8 for a two-way chute gate at ship loader

[2] Type T1M7 for a ship loader conveyor belt

[3] Type T1A6 for a clam shell gate



Chutes

RACO GETS THINGS MOVING

In raw material handling systems, environmental influences are especially relevant with regard to operational safety. RACO electric cylinders prove their performance potential with high availability even under rough working conditions in numerous applications in loading stations and transport equipment.

- Insensitive to major fluctuations in ambient temperatures.
=> wide tolerance range for operational temperature without additional costs for heating / cooling which are required for medium-operated systems (oil & air).
- Ready for operation even after long periods in "stand-by" mode.
- In terms of safety, system design is in line with current standards.
=> safety concepts to prevent danger in the case of power failure.

Electric cylinders are used in materials-handling technology to activate a wide range of applications such as

- Clamp Shell Gates
- Deflector Plates
- Chutes
- Conveyor Belt Ploughs
- Diverter Gates
- Conveyor Belt Tensioner
- Sliding Gates
- and many more

Every application makes its own demands on the technology, its reliability and the performance profile of conveying and transfer.

A control concept individually tailored to customer needs such as that for synchronous operation of multiple actuators provides the signal exchange for a higher-level PLC.

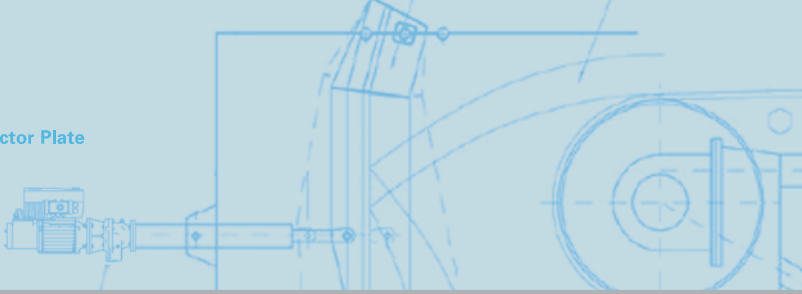
A centralised or decentralised installation of the control components, as well as the remote querying of the operating state is possible.

Chute in a conveyor belt feeder



[1] Type T1A5 for a two-way chute in cement plant
[2] Type T1K5 for a diverter gate in coal fired power plant





RACO ELECTRIC CYLINDERS ARE EASILY INTEGRATED INTO EXISTING SYSTEMS

With the new RACOMATIC®, the RACO electric cylinders can be upgraded to form an actuator with a decentralised control unit.

The control of the RACO electric cylinder offers numerous advantages over fluid power systems. For example, the speed and the operational profile can be continuously adjusted to move to any position along the entire stroke length.

The status signals of the integrated position sensors can be addressed into the control loop of a higher-level controller. Electric cylinders equipped with RACOMATIC® can be controlled locally and / or they can be integrated into the main control system through a field bus interface.

A suitable protection

Vibrations and shocks are inevitable in most bulk commodity applications due to the conveyed goods. Therefore, RACO electric actuators are designed in such a way that they are equipped with appropriate shock-protection packages, which both protect the electric actuator and the operated components in the construction provided by the customer.

POSITIVE INFLUENCES ON THE LIFE-CYCLE COST BALANCE

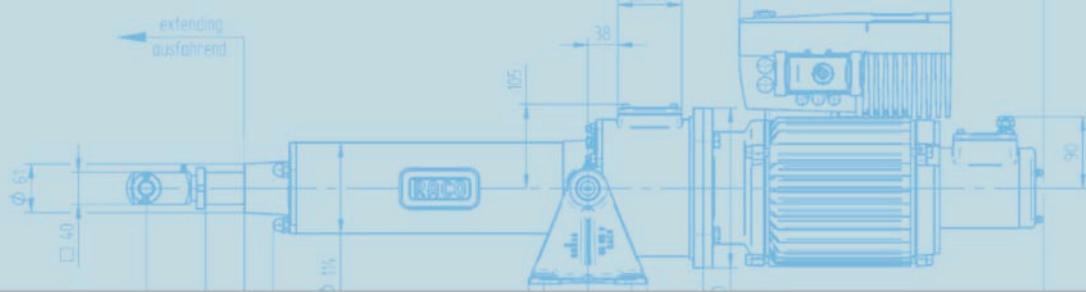
Previously, mainly hydraulically operated systems were used. Hydraulic units were regarded as particularly powerful and robust, but also required elaborate care and maintenance of the components such as cylinders, pressure oil supply and pipe system.

The easy handling of the electric cylinders during start-up and minimal maintenance requirements in operation are now the cost-determining factors for more efficiency and environmental compatibility.

Result: Economic & future-proof!



[1] Type T1M7 for a conveyor belt wiper (plough)
 [3] Type T1N7 for a gravity chute in brown coal open pit mining plant
 [2] Type T1M8 for a conveyor belt wiper (plough)



RACO Schwelm

RACO – TECHNOLOGY & QUALITY

New product requirements lead to the new features of our products. As a manufacturer of high-quality actuators for linear positioning tasks, RACO has constantly enhanced and extended its product range in a focussed manner.

Since 1 July 2003, the new ATEX directives have been in force in Europe. We produce electric cylinders in strict compliance with these EU directives and the European standards for explosion-protected operating equipment (EN 60079-0 to EN 60079-11). We regularly have our products tested by experts from independent institutions.

The electric cylinders of the "Heavy Duty" series have always been distinguished by their robustness and durability even under the harshest operating conditions. For the actuation of flaps and chutes for bulk material transport, the requirement profile has also expanded to include the aspect of explosion protection.

The electric cylinders of the "Heavy Duty" series, which comply with the requirements of the ATEX directive, has been further developed and certified for use in explosive dust or gas atmospheres.



RACO BUILDS ON PARTNERSHIPS

The consistent focus on customer requirements in every new task requires great innovative thinking and is a core competency at RACO.

RACO always sees its customers and clients as partners. With its comprehensive range of innovative products and services, RACO offers a solid foundation for mutual success.

In addition, RACO is in close dialogue with experienced industry professionals.

Based on a detailed understanding of its customers' applications and requirements, RACO develops individually tailored technologies and solutions for your market.

The continuous further development of our products enables the purely electromechanical drive concept to be transferred to a variety of applications.

Contact us.
Your requirement is our challenge.

COMPETENT CONSULTATIONS:

Please request a competent consultation from us and profit from our extensive experience. Make an appointment for an individual meeting.

Here are some basic points for the right decision:

- ✓ With its modular component system, RACO offers many approaches for a customer specific design.
- ✓ The closed design of an electrical cylinder protects all function elements against ambient impacts.
- ✓ Not sensitive to strongly changing ambient temperatures, i.e. without additional costs for heating as required for systems with auxiliary media.
- ✓ Only the installation space and the cable feed for the electric cylinders must be considered during the planning phase. Devices for the safe connection of hydraulic lines and oil collection devices are not required.
- ✓ Due to its high degree of efficiency, RACO electric cylinders are characterized by low energy consumption during operation. The motor is also switched off during standstill.
- ✓ Environmentally friendly and high operating safety because there are no leakage losses or freezing problems as for systems with auxiliary media.
- ✓ The easy realization of the control system with only a few components and the low cabling expenditures represent a lower failure risk for the user and fewer spare parts that must be stocked by the end user.
- ✓ Our consultation and the provision of CAD data lead quickly to results.

OUR KNOW-HOW IS YOUR CUSTOMER BENEFIT!

As a competent supplier of components to complex systems, RACO provides attractive solutions which also open up saving potentials. No matter what kind of cost saving we're talking about – longer tool lives, shorter process times, convenient assembly, maintenance freedom, weight reduction – our range has numerous alternative solutions to offer. Based on the experience gained from different applications and more than 250,000 products actually in use, customer-related special solutions for special areas of application are another RACO domain.

Would you like to receive a quotation without obligation and free of charge?

Please call us directly or use our contact form! Please send this contact form by fax to the number +49 (0) 2336 40 09 10 or by email to raco@raco.de. We will contact you immediately.



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