

# Making more of your rubber mixing room



# What drives your performance?

Your rubber equipment deals with the here and now, from mixing your recipes to processing and finishing your materials. But your mind is on a whole range of challenges, from tomorrow's recipes to efficiency and a quickly changing market. When it comes to drive and control, you need a solution that can deal with the future as well as the present.

## **Keeping the pace**

As the rubber industry moves forward, your equipment needs to move with it. Staying competitive means optimizing existing products while decreasing your costs, reliability and maximizing the safety of your employees.

Likewise, it means being ready to develop. You want the flexibility to work with new materials and meet new demands, whether they come from customers, regulations or simply a shift in the market.

To make this a reality, you need system solutions that:

- ▶ Give you the power and control to fully optimize your processes
- ▶ Perform reliably – and maximize employee safety
- ▶ Fit easily into your installation and facility
- ▶ Have the flexibility to change with your business
- ▶ Give you access to top-notch support

All this is what Bosch Rexroth delivers.





# A partner who puts you in control

Much of what defines your rubber products is also what you look for in an equipment supplier. Quality, flexibility, consistency – Bosch Rexroth offers all this and more.





Built on years of drive and control experience, our solutions can enhance all aspects of your production. In demanding rubber processes worldwide, they provide power, versatility and control, along with the market's fastest Quick-Stop function.

Our solutions give you an edge as your industry changes, from productivity and safety to efficiency and performance. And because their construction is modular, you can adjust and upgrade them easily, which keeps you competitive over time.

Put simply, a system solution from Bosch Rexroth offers:

- ▶ Superior control, with full command over speed and torque
- ▶ Peace of mind, through high reliability and the market's fastest Quick-Stop function
- ▶ Installation savings, through compact and lightweight design
- ▶ Ongoing flexibility, through modular construction and versatile operation
- ▶ Solid global backing, with swift service provided by skilled and experienced engineers

# A greater mix of advantages

The flexibility of your mixer might be its most vital characteristic. Your mixer and its drive may operate for ten years, fifteen years or more – during which your compounds and demands are likely to change.

Whether your mixer is tangential or intermeshing, we have a solution that lets it adapt. The power and control to optimize today's compounds are right at your fingertips. But so is the versatility to meet new requirements, changing regulations and the material demands of tomorrow.

You get a system that responds to the slightest change, and one that can change with your business through easy adjustments and upgrades.

## **Benefits for internal mixers**

- ▶ Fast, highly dynamic control enables compound optimization and the highest productivity.
- ▶ Infinite variation makes it easy to adapt the mixing process for new additives and compounds.
- ▶ Small drive dimensions minimize the necessary floor space.
- ▶ Flexible motor placement on the same or different sides of each shaft saves additional space.
- ▶ Independent positioning of the drive unit allows placement off the mezzanine floor for a smaller and simpler mezzanine.



## Optimizing mixing with Maximum Rotor Control for tangential rotors

Your primary mixing depends on control and versatility. The Maximum Rotor Control (MRC) system for our Hägglands direct drive systems has been specially developed to enhance them. What you experience is maximized performance and productivity.

MRC is a collection of functions (see below), all of which are available and fully adjustable during mixing cycle operations. The MRC system can be delivered with an easy-to-use control panel, but you can also steer its functions remotely from your process control system.

### **Fully variable speed**

An infinite range of speeds from zero to full is available from each rotor during mixer operation.

### **Fully variable friction ratio**

The speed difference between the two rotors can easily and precisely be regulated for optimal friction during mixing.

### **Synchro Drive**

Synchro Drive ensures that the rotors move at synchronized speed, no matter if their direction of rotation is the same or different.

### **Rotor offset control**

A set differential angle between the rotors can be set in the Synchro Drive mode, which optimizes the mixing according to the specific shape of the tangential rotors.

### **Rotor direction control**

Each rotor's direction of rotation can be steered independently.



# Keeping production rolling – safely

Whether you use your roll mill to mix, homogenize or warm up your materials, your utilization of its rollers determines your efficiency. At the same time, safety depends on how quickly you can stop them.

We can help you get more from your roll mill, no matter what process or compounds it handles. Our solutions give you truly flexible power, letting you fully optimize the speed of the rollers and the friction between them.

In the process, they bring you unparalleled safety. Able to stop in just a few degrees of rotation, they safeguard life and limb as well as your productivity.

## Benefits for roll mills

- ▶ Fully variable speed on both rollers allows precise control – while the Quick-Stop function (see following pages) provides the market's fastest stopping time
- ▶ Independent drive of the rollers creates countless alternatives for optimizing speed and friction to your compound

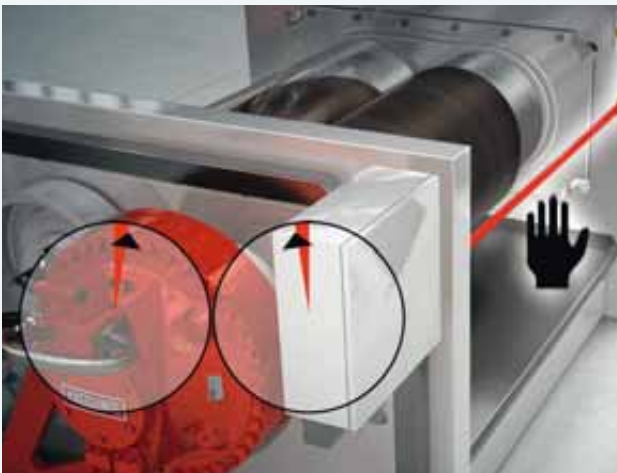


## The fastest Quick-Stop function on the market

Speed is the key to efficiency, but also to safety. Nothing in the rubber industry makes this clearer than a roll mill, where hands and arms are at constant risk.

When a roll mill emergency occurs, every degree counts. The Quick-Stop function of our Hägglunds direct drive systems stops the rollers in down to 3° of rotation, depending on machine. This is faster than any other solution on the market – and much faster than the 57° required by current standards.

The difference is significant on an 84” roll mill. By today’s European standard, the rollers have 340 mm in which to stop. But with our Quick-Stop function, they travel only 18 mm.



## Control to the finish

Your finishing processes are no less important than your materials or the methods used to mix them. Here as well, you need precise and reliable control for the perfect product. Your calenders and extruders can benefit greatly from our solutions, which give you superior control and many opportunities to optimize quality and production capacity. Whatever your compound or finished product, our solutions offer a broad working range, a smooth working process and the most exact result.

### Benefits for extruders

- ▶ Highly dynamic speed control allows exact optimization of extrusion processes
- ▶ Direct-mounted design and high torque-to-weight ratio reduce extruder size and weight

### Benefits for calenders

- ▶ High controllability enables fine-tuning of production efficiency and product quality
- ▶ A wide speed range and flexible design allow optimization of the broadest range of compounds
- ▶ Compact design eliminates the need for flexible couplings when mounting on calender rollers



# Reliability is just the start

Service is far more than troubleshooting and parts, and more too than tune-ups and upgrades. True service is ensuring the solution you have continues to be the right one – even as your business and the rubber industry change.

That kind of service takes resources, but also a special mindset. Bosch Rexroth has a strong supply network and service personnel around the world, plus knowledge and offerings only a global supplier can provide. But our focus is firmly on your specific challenges.

Our experienced engineers are specialists in your applications as well as our own solutions. So they can be active partners in meeting your goals.

Reliability is only where we begin. With Bosch Rexroth, you have a solution and a supplier that help you move forward.



Tough application,  
ingenious solution } Exactly



## Advantages

- ✓ Excellent controllability
- ✓ high reliability and excellent security and safety
- ✓ Space-saving design
- ✓ Flexibility and versatility to meet not only today's demands but tomorrow's as well

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