



**Our drive is your performance**

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**HÄGGLUNDS**





# Intelligent power at your fingertips.

Häggglunds is not alone as supplier of drive systems but our know-how and our firm dedication to identifying the optimal solution for every application and every customer make us unique. It's mainly a matter of knowing the application and possessing the scope of experience required to design and build a drive system to satisfy the specific requirements of that application. And this is one of our greatest strengths.

Let's assume you need a drive system that will deliver power, even under the most demanding conditions. A powerful and reliable system that isn't sensitive or inert. Let's take for granted that you want it delivered and installed wherever in the world you are conducting operations, without waiting an eternity for delivery. Preferably without having to rebuild the plant. And, once in place, you demand that it works properly, year in and year out.

We've got it. A system that can drive just about any low speed shaft in existence without difficulty.

For more than forty years our drive systems have proven their capability in the toughest imaginable working environments in the world, above and below the surface. From marine applications in the brutal Arctic cold to the heat and dust of mining operations.

Too good to be true? It's certainly not! It's simply drive systems from Häggglunds.





# Placed in the hands of experts.

Only carefully matched components in a complete drive system can satisfy and even exceed the tough demands inherent in the applications of our customers. Our components and complete systems are designed with this in mind. The components are built to function together and support each other in an integral system matched to the specific application.

Avoid the expensive problems and delays that can arise during installation, commissioning and operation when you deal with more than one supplier or with a supplier that can't deliver as promised. As your total system supplier we can assure you that we will do everything in our power to have the system in production according to plan. And so far, we have succeeded.

What it all comes down to is quality, experience and responsibility. We develop, manufacture and deliver complete drive systems while others sell components. We want to be certain that everything performs as it should. That's the Hägglunds approach. Top performance in every respect, from start to finish.



# Ready, steady, go.

When it comes right down to it, our systems are essentially not complex. It's when we put them in the proper context that their true greatness comes to the fore. This is the reason that one of our most important tasks is understanding the business of our customers and the particular demands associated with their applications.

Having supplied over 100,000 systems to customers around the globe we know what works and what doesn't. Putting this know-how into production functions best when everyone involved fully understands and appreciates the overall objective and is prepared to strive together towards a common goal.

Our know-how and experience are so extensive that we often propose solutions that our customers haven't considered, solutions that create new development potential as well as improved productivity and profits. Are you ready?





## Mining and bulk material handling.

Applications within Mining and Bulk Material Handling need drive systems that always perform with optimal efficiency under the most severe conditions. With bucket wheels, apron feeders, crushers etc. the demands are fundamentally the same. Directly mounted on machine drive shafts our durable, compact and light-weight motors respond rapidly and smoothly to changes in demands for speed and torque and are ideally suited for modern installations and retrofitting.

Hägglunds' systems offer protection against equipment damage due to stalls or sudden overloads. Furthermore they provide high break-away torque, without time restrictions and the capacity to start, stop, reverse or crawl as needed. Not to mention instantaneous response to the current conditions which means less wear and tear on buckets, bearings and shafts. The low moment of inertia at the driven shaft also contributes to reduced wear and increased safety. These features translate to increased productivity and lower maintenance costs.

# Cement.

Reliability, high starting torque and controlability are key considerations in the selection of a cement kiln drive system. The enormous size and capacity of a kiln, in combination with the extreme operating conditions, demand reliability to avoid unexpected, sudden stops that disrupt production and lead to kiln deformation or rupture. Synchronisation is vital. With a Hägglunds' system the load is always shared equally, maintaining the same torque, thereby eliminating the risk of damage to the drive and to the kiln. Furthermore, the drive system can be soft started which reduces strain on the kiln and high torque can be generated immediately if the kiln needs to be restarted when containing material.

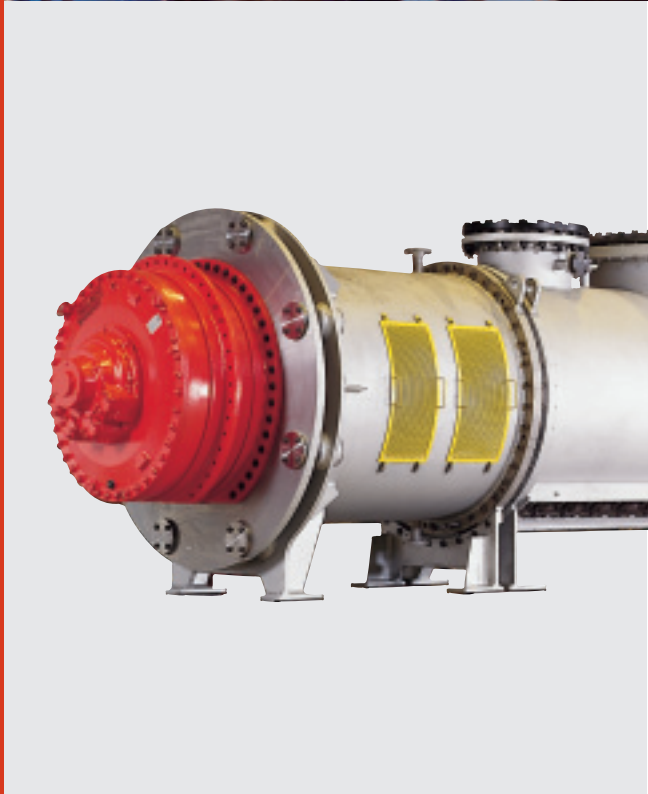
There are also advantages in the production process itself. Higher rotation speed means the material moves through the kiln more rapidly. Greater flexibility and accurate control also allow optimisation of the feed/speed ratio that also enhances both end-product quality and productivity.

# Steel.

A drive system that provides full torque throughout the speed range for unlimited periods of time is important in an industry that handles millions of tonnes of material under extremely demanding conditions year in and year out. The low maintenance drive systems from Hägglunds Drives are impervious to the external environment and designed for easy installation which also makes them ideal for retrofitting.

Durable drive systems from Hägglunds are at work in steel mills around the world. They have proven to be a superior investment for filters, billet grinders, conveyors, cooling beds, forging presses as well as a number of other applications that require heavy duty drives to improve production and profitability in an industry where the competition is as tough as steel.





## Recycling.

The relatively young and expansive recycling industry is typically faced with an extremely wide range of tough materials. Heavy shock loads, speed variations, frequent starts and stops as well as severe environments are common conditions for shredder drive systems. In addition, costs must be kept to a minimum and, for obvious reasons, the processes must be environmentally sound.

Motors from Hägglunds are mounted directly on the shaft of the machine and offer excellent overload protection due to the low moment of inertia. The enclosed design makes the motors insensitive to harsh environments and they can be started, stopped and reversed an unlimited number of times. Reduced machine wear and low overall maintenance costs contribute to cost efficiency.

## Chemicals.

Fully enclosed drive systems from Hägglunds are ideally suited for operation in severe and hazardous environments where the risk of explosions is ever present. Many applications in the chemical industry require high working torque and the capacity to accurately control the speed to meet the process conditions. With a Hägglunds system you can develop extremely high torque, without time restriction, and the speed is infinitely variable. These characteristics combined with precision process control result in the systems often being used in processes with high viscosity and the need for exact, optimised speed to ensure greater consistency and higher product quality. Having installed hundreds of drives in chemical plants around the world, Hägglunds Drives knows what is required to power mixers, pumps, reactors and agitators more efficiently and productively.



# Pulp and paper.

Pulp and Paper was one of the first industries to recognise the merits of our drive systems. It started almost 40 years ago in the wood yard, providing power to bark presses, log decks and chip feeders. Now, Hägglunds also delivers drive systems for digesters, high pressure feeders, different types of pulp washing and dewatering machines as well as for screw feeders, thick stock pumps, lime kilns and double wire presses. In other words, just about anywhere in the mill where low speed and high torque are required to improve product quality and profitability.

Hägglunds' systems have superior speed and torque controlling performance that are often utilised i.e. for dewatering. The systems are insensitive to frequent starts, stops and reversing under any load conditions and, at the same time, they have full overload protection. It's no wonder that leading suppliers of fibre processing equipment often rely on equipment from Hägglunds Drives.

# Building and construction.

The light weight, compact size and reliability of Hägglunds' systems make them perfect for demanding mobile applications. Reliability means lower costs and the systems can be employed regardless of the location or environment. No matter if you want to drive drill rigs, trenchers, cranes or pile drivers, a tough, reliable drives from Hägglunds will deliver the power and control to do the job – properly and profitably.

Drive systems from Hägglunds deliver full torque throughout the speed range and the speed control is infinitely variable from standstill to full speed and can stop instantaneously. These low maintenance, compact and dependable drive systems have the ability to free-wheel and prevent damage to other equipment due to their capacity to absorb shocks caused by unexpected loads.





## Rubber and plastics.

Häggglunds has proven to be a great success in the rubber and plastics industry. Its drive systems provide outstanding control of both speed and torque combined with an almost instantaneous stop in the event of an emergency. These features, among others, have led to the increased use of Häggglunds' systems for roll mills, calenders, extruders and in plastic injection molding machines. The systems' capacity to maintain high torque during long production sequences at high power also makes them outstanding for driving internal mixers. The systems are rigid and unaffected by shock loading or tough environment. They also have the capacity to mix even the toughest compound. Häggglunds' systems provide excellent benefits in terms of size, weight and power sharing for machines with several shafts to be driven synchronized or controlled individually, e.g. twin screw feeders, calender and multi-screw extruders.

## Sugar.

Häggglunds offers modern and reliable drive systems with improved automation, less maintenance and lower production costs. A mill drive system from Häggglunds can substantially reduce energy consumption, increase production volumes and improve milling performance. This is because it is possible to control the speed ratio between the cane crusher rollers. Over the years Häggglunds has delivered compact and reliable drive systems for carriers, pressure feeders, pan stirrers, crystallisers, crushers as well as hundreds of complete mill drives. Increased production and efficiency at lower cost. Short and sweet.

# Fishing.

Extremely high efficiency and low moment of inertia are features that have enabled fishermen to take full advantage of computer control systems that hold the net or nets open during turning and in all seas. Improved control of line pull also virtually eliminates problems with snagging cables and stuck or lost trawls. Drive systems from Hägglunds contribute to quieter running and offer free wheeling capacity and a brake assembly. Directly mounted on the winch drum the motors themselves require little space, as does the entire installation, which allows for better utilisation of deck space.

With their robust design, reliability and safety our motors and drive systems have proven to be ideal for the tough conditions often encountered at sea. The end result is simple: more efficient fishing with bigger catches, even in heavy seas.

# Offshore.

Precision, strength and reliability are key considerations for the offshore industry where equipment is often operating around-the-clock, day after day, in tropical heat or arctic cold.

High torque, low speed motors from Hägglunds have been fitted to power thousands of marine cranes and winches on vessels working the seven seas. Winch drums, for example, are driven directly by the motor which allows superb control. The motors can drive and brake with precision in both directions and the extremely low moment of inertia will protect ropes and mechanisms from excessive stress.

Drive systems from Hägglunds are carefully engineered to perform under severe conditions and to provide reliable power to vital applications on board ships and platforms around the world, above and below the surface.





## Dredging.

The torque and power ranges of drive systems from Hägglunds make them ideally suited for dredging applications. Winches used for positioning require precise regulation. It must be possible to fix equipment position, move slowly, accelerate rapidly and brake both smoothly and quickly. Cutter drives require a low moment of inertia and very high efficiency. With our drive systems it is possible to achieve accurate and safe torque limitation from zero to maximum speed thereby increasing operating reliability, reducing wear and decreasing maintenance costs.

Our drive systems are renowned for their dependability and are designed for operation in harsh environments and the most demanding applications. So whether you want to power cutters or winches, Hägglunds has the solution.

## Merchant.

Function and performance make the difference at sea. Drive systems from Hägglunds offer a wide range of benefits and can be employed in most marine applications. They provide full torque for an unlimited time, regardless of speed and can be started, stopped or reversed under any load without detriment. Speed control is very accurate and shocks caused by stalls or overload are absorbed by the drive system and not by the equipment being driven.

Modern cruise liners are equipped with azimuthing propulsion drives that provide the excellent manoeuvrability required in narrow passages and during dynamic positioning. Drive systems from Hägglunds are also ideally suited for thrusters, winches, cranes, pipe tensioners and other deck equipment.

Strength, reliability and efficiency mean greater control, improved safety, less lost time and lower demurrage charges. With 40 years of service in Arctic conditions and heavy weather we know our high torque drive systems have what it takes at sea.



# Your best partner in the long run.

Even the finest systems require preventative maintenance to ensure top performance and a long service life. Systems from Hägglunds are renowned world-wide for their reliability and we are interested in assuring that our systems do the job, your job. Always. That's why our experienced technicians are located in 40 countries around the world and are never far away. We look after maintenance and service, long after commissioning, and we take pride in being quick to respond because we know unplanned operating stops are both troublesome and very costly.

It goes without saying that we provide you with installation and maintenance manuals, service manuals, spare part lists and other documentation to help resolve technical difficulties if they arise. We're also able to train your own operators and service staff and offer the type of service contract that best suits your particular requirements. Long term relationships are good business and at Hägglunds good business means the best for everyone involved.





# On and on and on...

Reliability is the central focus of our customer relations. In practise reliability means, for example, on-time delivery to the customer of the agreed products, systems and services. Furthermore, we always strive to fulfil expectations on a dependable supplier that are not set forth in contracts or agreements.

To ensure the systems comply with our standards and fulfil the special requirements of our customer applications, we first test them under extreme conditions in our own test facilities and also run the systems in extensive field-tests.

An important aspect of quality work is the continual improvement of product and system attributes. Today you can select from a wide range of noise levels to meet the requirements of your operations. We are currently developing systems with even lower energy consumption without sacrificing performance. Just to mention a couple of examples.

Our extensive quality assurance system is certified by DNV in accordance with ISO 9001 and we are presently in the process of obtaining certification according to ISO 14001.



# Get ahead with Hägglunds Drives.



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*Our policy of continuous development  
requires that we reserve the right to  
make changes without specific notice.*

**Our drive is your performance.**