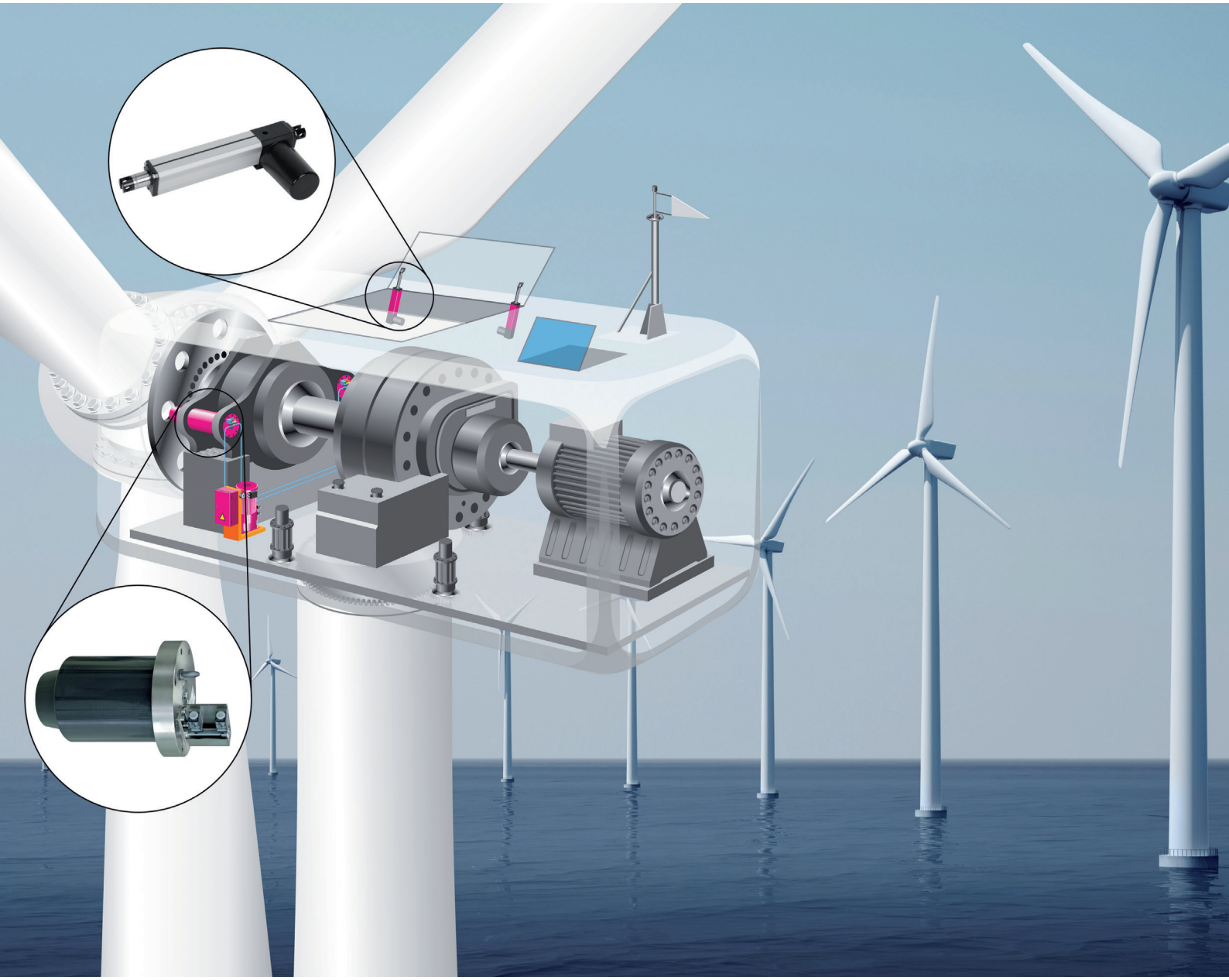
ROEMHELD
HILMA ▪ STARK

Rotor locks



- hydraulic
- electro-mechanical
- modular design

... all from one single supplier

ROEMHELD
HILMA ▪ STARK

Modular rotor locks for onshore and offshore wind turbines

Cylinders for locking the rotors of large off-shore wind turbines to enable maintenance work to be carried out.

The modular rotor locking system includes:

- locking cylinders with electro-mechanical or hydraulic locking systems
- optional lateral locking or adjustable position monitoring
- an innovative and cost-efficient modular system

In the course of continuous development, we have adapted and extended our range of locking and wedge clamping elements to meet the requirements of the manufacturers of off-shore wind turbines.

These new products mean that we now offer customers involved with wind mills a very broad product range. It comprises – amongst other items – elements of mechanical, electro-mechanical and hydraulic design which are available with optional additional mechanical safety locks to meet increased safety requirements.

Rotor locks made by Hilma distinguish themselves by their compact, low-maintenance design.
All standard modules can be configured to a consistent concept. **This enables us to avoid expensive special makes with long lead times and instead offer swift, cost-effective solutions to meet your needs.**

Hilma-Roemheld GmbH is one of the leading companies for die clamping and changing systems, for workholding, for positioning and locking.
The company develops and sells worldwide individual clamping systems and standard devices for the cutting and non-cutting industries. As a member of the ROEMHELD Group it is represented in 51 countries worldwide with sales and service agencies.

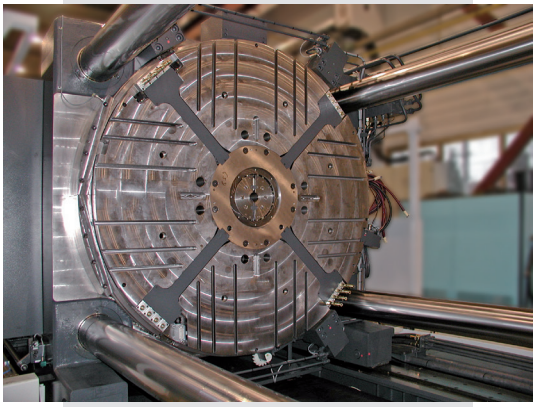
Based on some 60 years' experience, Hilma develops clamping and locking elements for almost all areas of industry and for almost all purposes:

- Locking and clamping systems with a clamping force of up to 1,250 kN

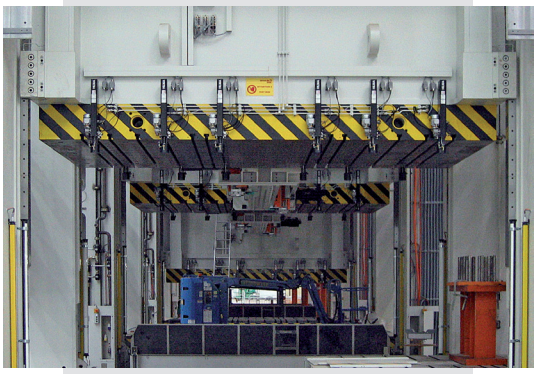
Clamping elements for:

- Forging applications of up to 300 °C
- Freeze drying systems for temperatures as low as –70 ° C
- Slide locking systems up to 800 kN
- Clamping technology for large presses up to 23,000 kN
- Transfer lines, clay tile industry, smelting plant and rolling mill construction
- On- and offshore, …

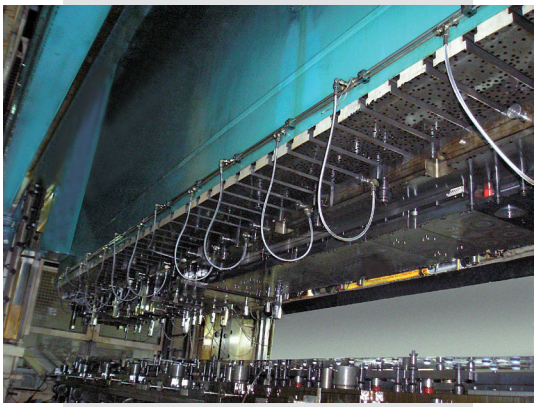
We accept your challenge and provide locking systems to suit your specific requirements.



Locking block cylinder for rotary disk,
max. temperature 70 °C



Clamping elements for a large transfer press, manufacturer Schuler



Locking swing clamps for a freeze-drying plant,
temperatures as low as –70 °C

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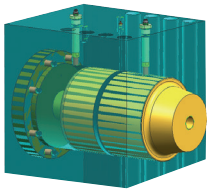
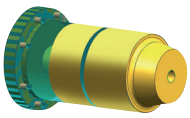
Rotor lock
hydraulic or electro-mechanical

Application:

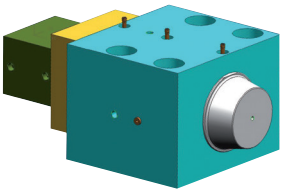
- for onshore and offshore wind turbines 1 – 6 MW
- for safe checking and for plant maintenance work



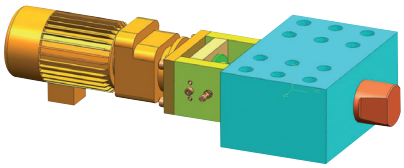
Hydraulic design with housing
The double-acting hydraulic cylinder generates the extending and retracting movement of the bolt and retains it in the locking position. The guided hydraulic cylinder is installed in a stable housing and provided with surface protection for use in on- and offshore areas.
Position monitoring for the locking and unlocking position is integrated into the housing.



Hydraulic design without housing
The double-acting hydraulic cylinder generates the extending and retracting movement of the bolt and retains it in the locking position. Suitable for installation into the existing mounting hole.



Hydraulic design with position monitoring
The double-acting hydraulic cylinder generates the extending and retracting movement of the bolt and retains it in the locking position. Position monitoring is installed in the flange-mounted housing. The guided hydraulic cylinder is installed in a stable housing and provided with surface protection for use in on- and offshore areas.
In order to achieve maximum safety, an additional mechanical lock can be laterally fixed to the housing.

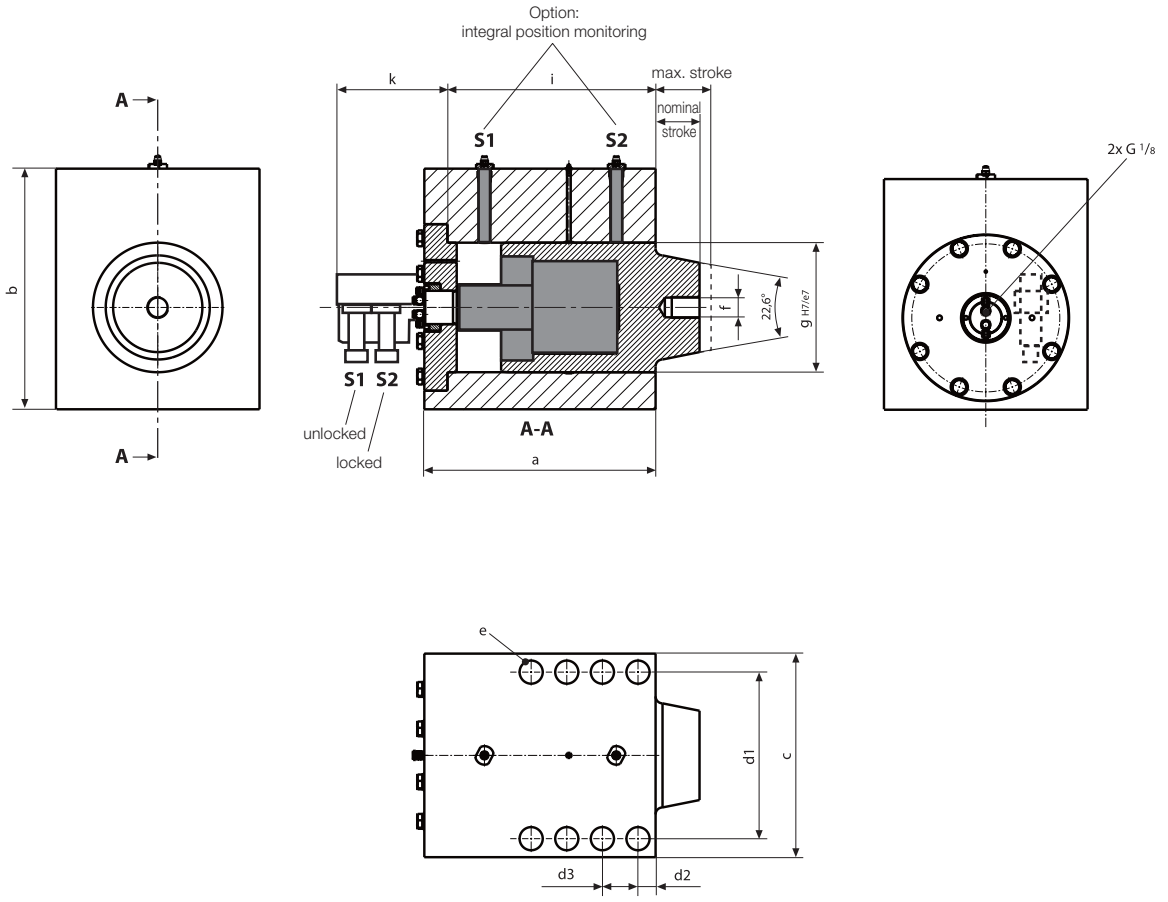


Electro-mechanical design
The feed motion of the bolt is driven by an electromotor. The clamping and unclamping positions are inductively monitored. Due to the design and the drive, the locking position is self-inhibiting. The locking element is ideally suited for on- and offshore applications.

Special features:

- in standard or offshore design
- hydraulic operation of the bolt “rotor locked/rotor unlocked“
- position monitoring
- compact and maintenance-free design
- non-return valves as an option
- additional mechanical lock as an option
- for offshore plants with surface protection as per DIN ISO 12944, C4

Rotor lock
hydraulic or electro-mechanical



Permissible transverse force	**[kN]**	**500**	**1200**	**2350**	**4000**	**4900**
Stroke h	[mm]	50	60	70	80	115
Piston retracting force	[kN]	50	76	125	186	589
a	[mm]	Housing dimensions as per customer's request, determined during the project phase				
b	[mm]					
c	[mm]					
d1, d2, d3	[mm]					
e	[mm]					
f	[mm]	M24	M27	M30	M30	M48
g	[mm]	120	160	200	240	280
i	[mm]	240	275	320	355	450
k	[mm]	150	150	160	160	200
Piston retracting force	[bar]	250	250	250	250	250
Part no.		**8241 10500**	**8241 11200**	**8241 12350**	**8241 14000**	**8241 14900**

Temperature range –20° to +70 °C
Position monitoring S1 and S2

Individual clamping systems and standard devices for cutting and non-cutting production:

- clamping and changing systems for dies and machines
- magnetic clamping technology for the plastics and rubber industries, for die casting machines and metal forming
- workholding systems, machine vices and standard fixtures
- broad in-house services and global technical support by local partners
- advice, project work, fitting, turn-key installation and commissioning of complete hydraulic systems and individual special solutions, training, repair and maintenance by own technicians, on site repair service, 24-hour spare part service
- solutions with clamping and positioning systems for production engineering proposed by the ROEMHELD Group – everything from one single supplier

With our sales and service network as part of the ROEMHELD Group, we are represented in 51 countries worldwide. Our high rate of in-house production guarantees our customers maximum quality and reliability made in Germany.

True to our commitment “Always close to the customer“ we have sales offices and distribution partners in: Argentina, Australia, Belgium, Brazil, China, Denmark, France, Finland, UK, India, Italy, Iran, Japan, the Netherlands, Norway, Austria, Poland, Portugal, Sweden, Switzerland, Singapore, Slovenia, Spain, South Africa, South Korea, Taiwan, Hungary, USA, Canada, Mexico.

Production plant with an extensive vertical range of manufacture and expertise.

Partners with expertise

We are a group of companies under the name of ROEMHELD, specializing in different areas of technology. The way in which we co-operate, each with our different competencies, means we benefit from numerous synergies. In our relationships, we are globally orientated and we act as partners for industrial customers in many countries worldwide.

Clamping technology
Assembly and handling technique
Linear actuator technology
Power units

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Rotor locks · 02-23 EN · Subject to technical modification