EN

Ortlinghaus

WINCH technology

Next level
winch performance

Content

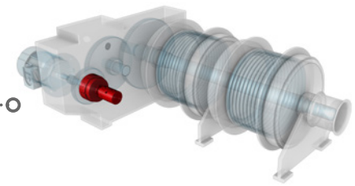
Winch technology

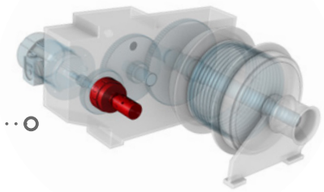
We have been operating in the field of winch technology for more than 90 years. Our experience means we provide a full range of products from plates, clutches, and brakes for deck machinery, offshore applications, and port technology.

We are the only company with extensive experience in manufacturing clutches and brakes, which has also proved highly successful in producing its own plate linings. Ortlinghaus has an outstanding reputation for quality all around the world – and we are dedicated to upholding this. Together with our clients, we develop individual solutions characterized by innovation and superior engineering.

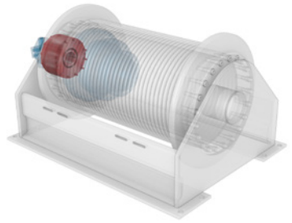
Our global network, consisting of around 25 branch offices, sales partners, and service points, ensures that we respond quickly and stay in touch with our clients' needs.

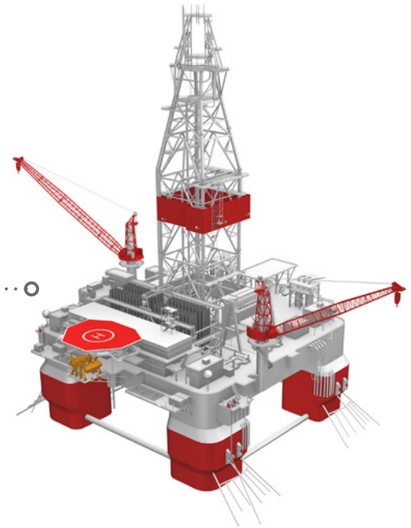
Deck machinery



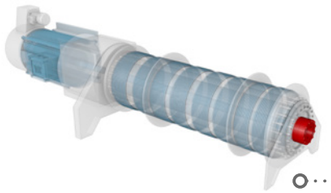


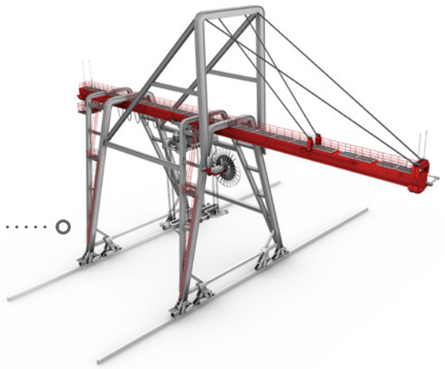
Offshore technology





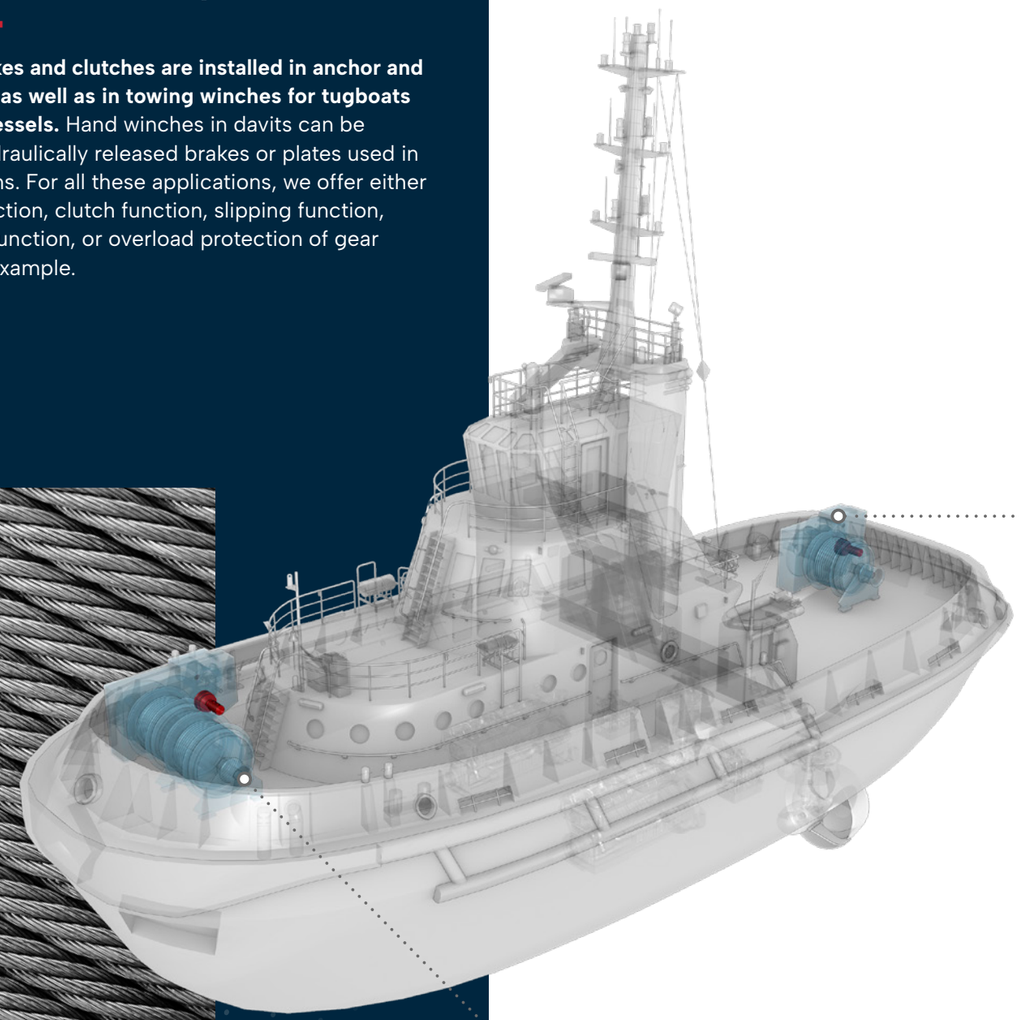
Port technology



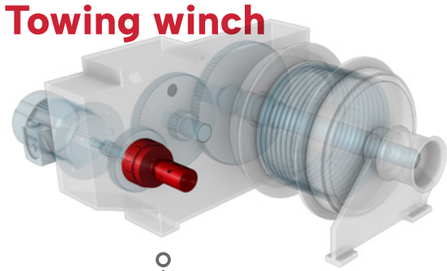


Fields of applications: Deck machinery

Our hydraulic brakes and clutches are installed in anchor and mooring winches, as well as in towing winches for tugboats and huge AHTS vessels. Hand winches in davits can be equipped with hydraulically released brakes or plates used in customized designs. For all these applications, we offer either a safe holding function, clutch function, slipping function, dynamic braking function, or overload protection of gear components, for example.



Towing winch

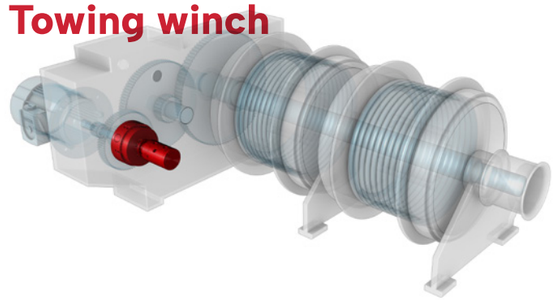


Series 021
Hydraulic multi-plate clutch

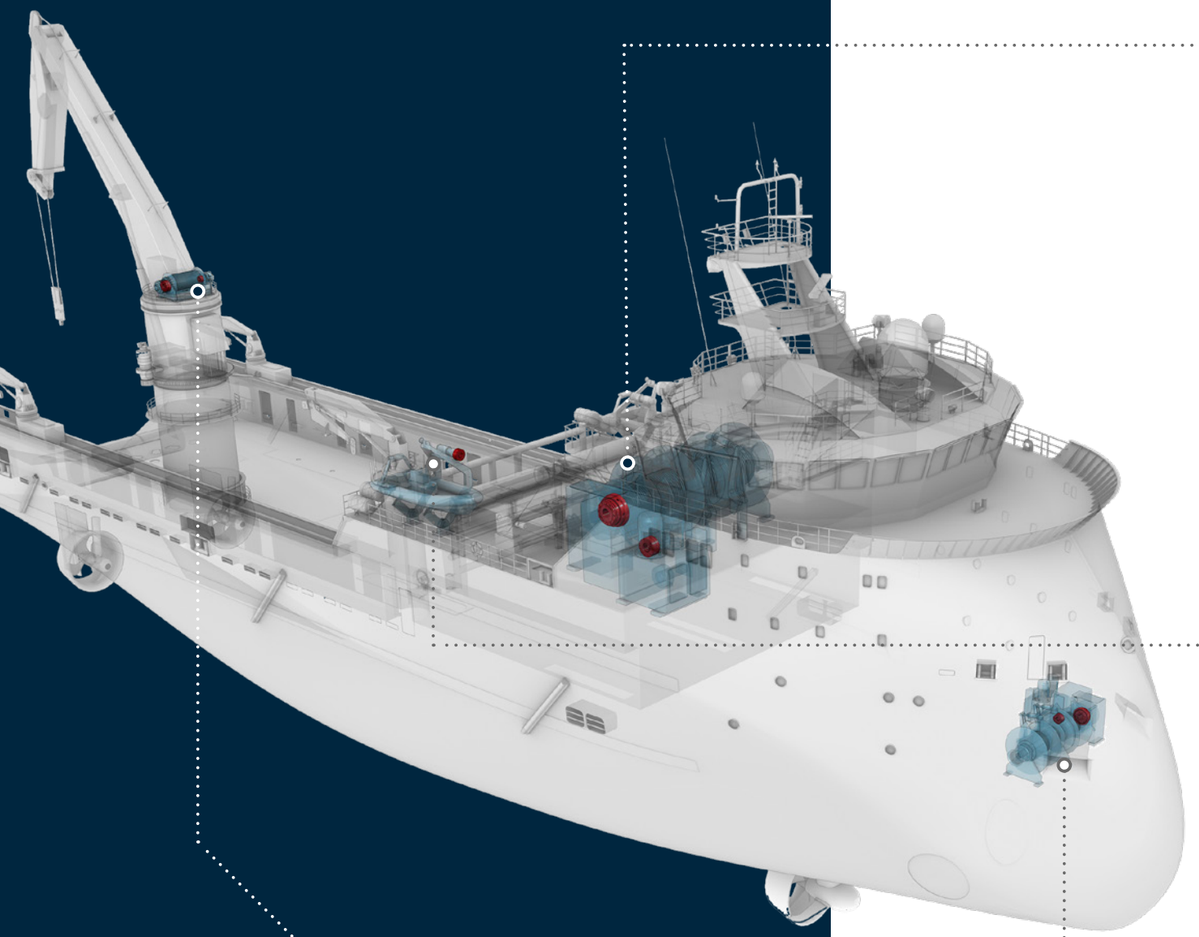
Series 088
Oil inlet

Series 022
Hydraulic brake

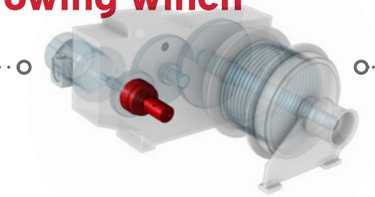
Towing winch



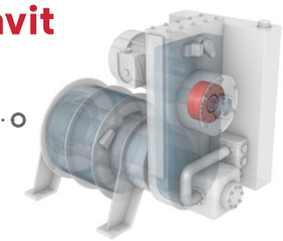
Deck machinery



Towing winch

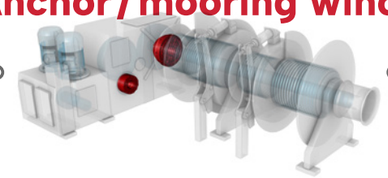


Davit



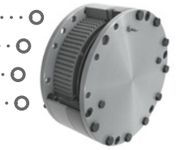
Crane winch

Anchor / mooring winch



Series 021
Hydraulic multi-plate clutch

Series 088
Oil inlet



Series 022
Hydraulic brake

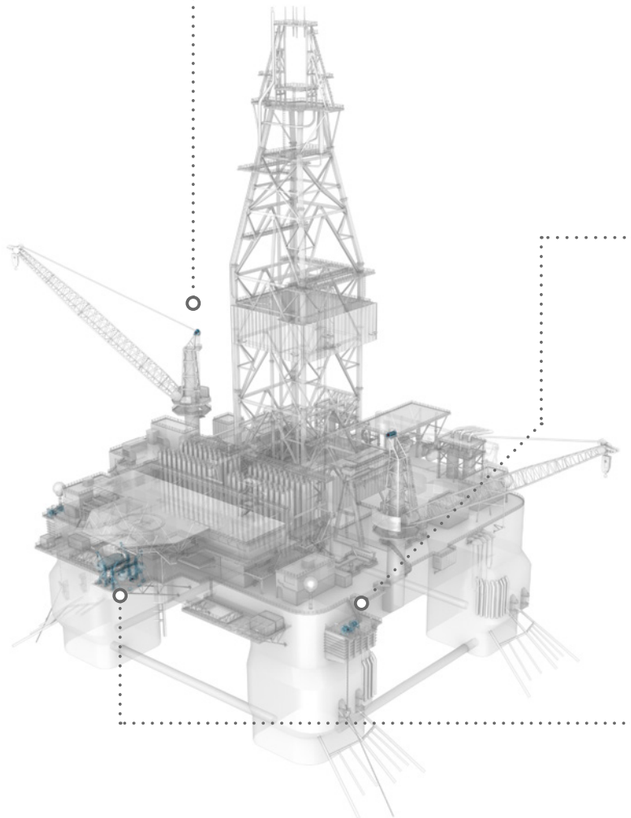
Series 600
Spring-applied slipping clutch

Offshore technology

Ortlinghaus multi-disk brakes provide an important function in winches for offshore applications. Our brakes are installed in gear ring rope winches, compact and heavy-duty rope winches, including additional crane functions. The winches may be used for the main hoist or as winches for all auxiliary functions too. The brakes of the winches can hold the loads securely at defined positions and work as dynamic brakes in case of an emergency stop. For anchor handling applications, our products are suitable for dynamic and slipping functions.

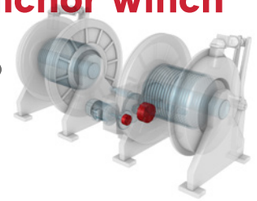
Series 022

Hydraulic brake



Crane winch

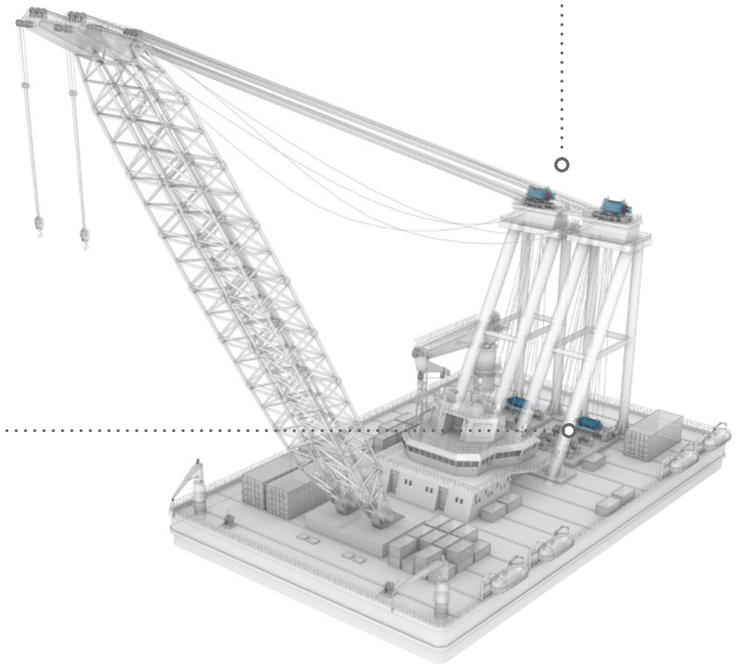
Anchor winch



Davit crane

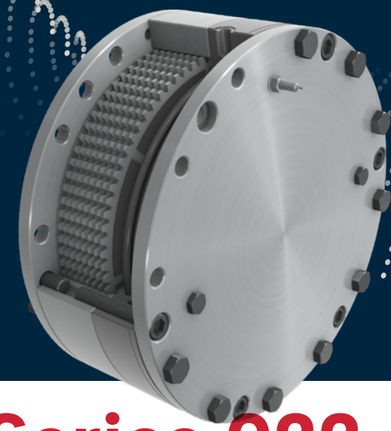
Gearing rope winch

Luffing winch



Port technology

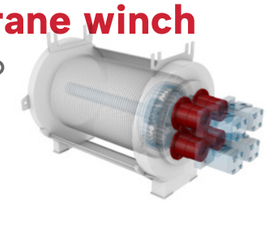
Operating brakes and safety brakes are used for hoist winches or cable reeling drum in port cranes. Additionally, our brakes can establish safe and stable lowering of loads via controlled or permanent slipping.

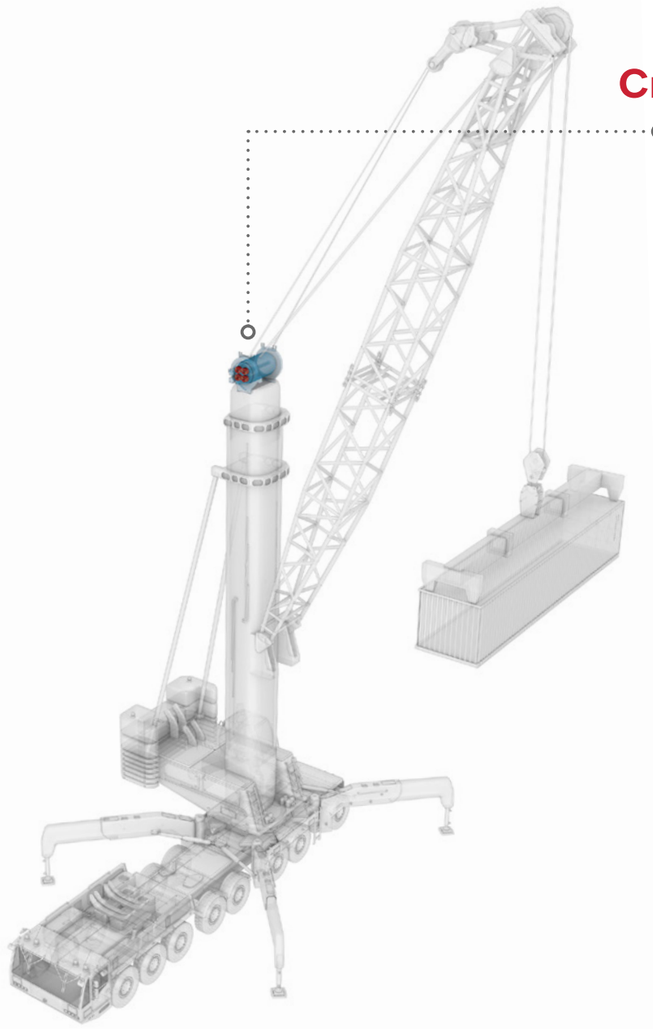


Series 022

Hydraulic brake

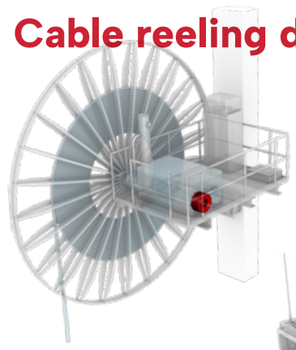
Crane winch

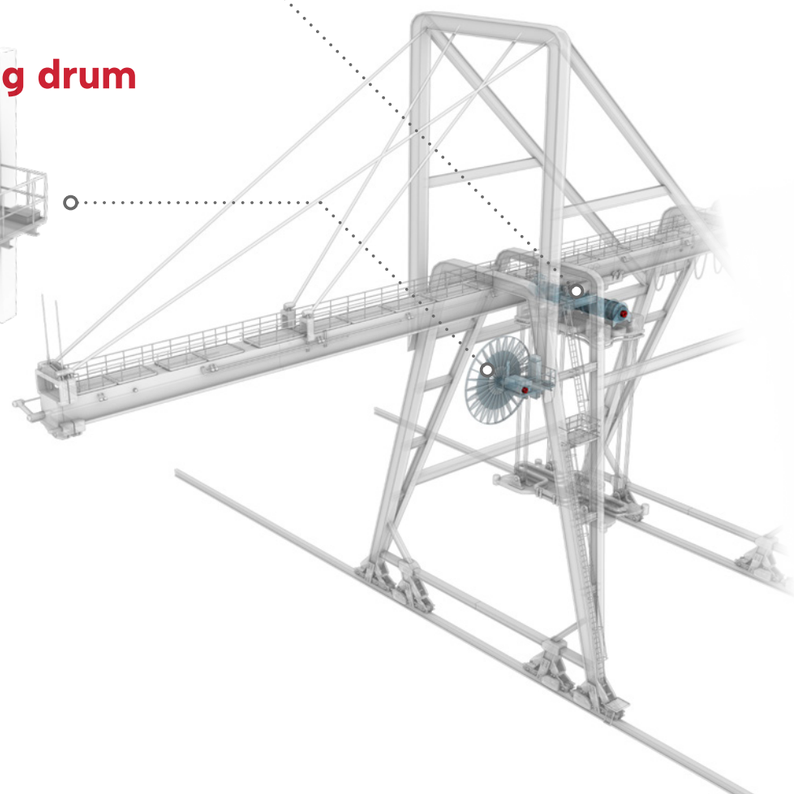




Gantry crane winch

Cable reeling drum





Brakes:
Brake series 022

The series 022 is one of the most successful Ortlinghaus products with over one million units sold.

Wherever brakes for braking, holding, or safety functions with a long service life are required, this series of Ortlinghaus brakes is in service around the world.

Advantage of these wet-running, hydraulically released, and spring-applied multi-plate brakes is their ability to deliver high torques in a compact design.

The spring-loaded brakes are frequently used as safety brakes, which automatically engage in case of pressure failure. The brakes can achieve full torque when there is no pressure.

Series 022[1)]

Hydraulic brake

	Feature	Size 47	Size 55	Size 69	Size 78	Size 84
Holding torque	$T_{stat.}$	2.630 Nm	4.300 Nm	11.590 Nm	27.300 Nm	48.800 Nm
Operating pressure	p_B	32 bar	34 bar	38 bar	32 bar	30 bar
Speed[2)]	$n_{max.}$	4.300 min^{-1}	3.500 min^{-1}	2.450 min^{-1}	1.800 min^{-1}	1.300 min^{-1}
Outer diameter	A	245 mm	290 mm	400 mm	555 mm	710 mm
Length	L	110 mm	135 mm	165 mm	220 mm	255 mm

1) extract of available executions / other executions on request
2) higher speeds on request

Sensored monitoring possible as option
The integration of sensors for diverse technical parameters is possible on request.

Slipping mode as option
The friction system is configurable for slipping applications.

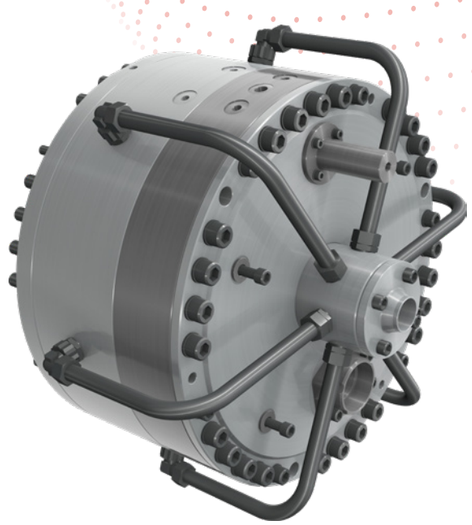
High torque density
The Ortlinghaus friction lining combination inside these brakes ensures highest torques in small dimensions.

Low maintenance effort
Ortlinghaus wet-running brakes provide a long service life and safety due to an optimal design, durability, and functional reliability.

High engineering competence
For numerous decades Ortlinghaus has been designing clutches and brakes for thousands of different applications – safe, experienced, and reliable.

Verified quality
Proven process steps, from individual dimensioning to final inspection of every single brake on our end-of-line test bench, ensure first-class quality.

Slipping brake



Benefits

Closed friction system:

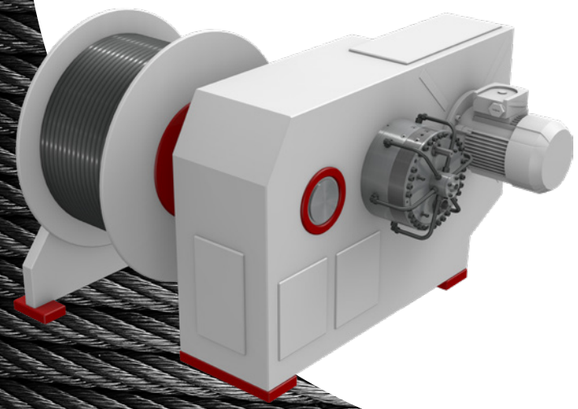
- Maintenance-free (wet-running)
- No corrosion inside the friction chamber
- Sealed brake – no dirt or wear particles
- Strong and constant slipping torque which leads to consistent performance
- Less dependent on environmental conditions

Integrated control and monitoring system DC650:

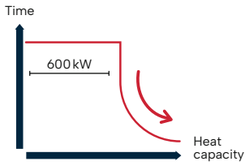
- Special control algorithm based on knowledge and experience of Ortlinghaus to overcome system nonlinearities
- Continuous monitoring of system parameters and warning if prohibited status is detected
- Event-driven recording stores and categorizes relevant system data during actuation

Statically sealed against the atmosphere:

- Brake performance not affected by environmental conditions, e.g. sea water
- Long service life



Technical features	
Static torque	up to 130.000 Nm
Dynamic torque	up to 130.000 Nm
Heat capacity (Thermal rating)	up to 600 kW*



***Higher time limited heat dissipation on request.**

Only one cooling oil input and output

Control and monitoring

Only one cooling and engaging medium

Long service life

Compact design

High engineering competence

Sustainability

Low dry docking costs

Safety brake

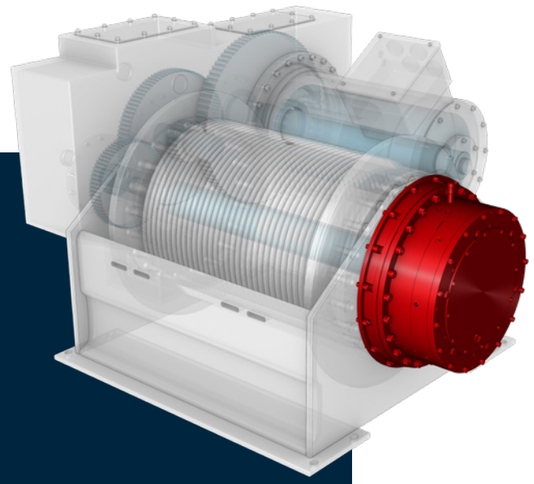
Ortlinghaus delivers safety brakes for drawworks applications in the oil and gas drilling industry. Drawworks drive systems and braking technology have shifted over recent years as the drilling industry is experiencing significant changes. Conventional DC drive motors or diesel engines, typically controlled in conjunction with water-cooled brakes, are being replaced by AC motor technology. This motor regulates the movement of the drilling system, eliminating the need for an active brake. As part of this electrification process, Ortlinghaus provides the necessary safety brakes. With their closed, wet-running friction system, they are the ideal solution for extreme environmental conditions, offering nearly maintenance-free operation with consistent performance.

High torque density
The multi-plate design with oil-lubricated, wet-running friction system ensures high and consistent torque availability.

Long service life
Due to its compact design and the optional adaptation flange according to the customer interface, the brake series 128 can be easily integrated into the drawworks design for fast and easy installation and low-maintenance operation.

Optimal maintenance conditions
Long maintenance intervals and a high durability lead to less service expenses.

High press availability
The break is constructed as a closed system and thus protected from external pollution like oily or dusty air, which leads to less downtime and maintenance costs.



Sustainability
The brake, through its function, supports the AC motor drive system of the application, enabling sustainable operation of the system.

Series 128

	Feature	Size 86	Size 90	Size 94	Size 96	Size 98	Size 99
Min. brake torque	$T_{dyn.}$	9.500 Nm	19.200 Nm	39.700 Nm	77.400 Nm	147.600 Nm	279.000 Nm
Max. brake torque	$T_{dyn.}$	19.100 Nm	38.400 Nm	79.400 Nm	154.700 Nm	295.200 Nm	1.056.000 Nm
Operating pressure	p_B	80 bar	80 bar	90 bar	90 bar	90 bar	90 bar
Speed	n	850 min^{-1}	700 min^{-1}	500 min^{-1}	415 min^{-1}	350 min^{-1}	250 min^{-1}
Outer diameter	A	550 mm	680 mm	850 mm	1.060 mm	1.230 mm	1.415 mm
Max. bore diameter	$B_{max.}$	200 mm	250 mm	320 mm	350 mm	375 mm	500 mm
Length	L	200 mm	236 mm	320 mm	384 mm	437 mm	547 mm

Clutches:
Clutch series 600

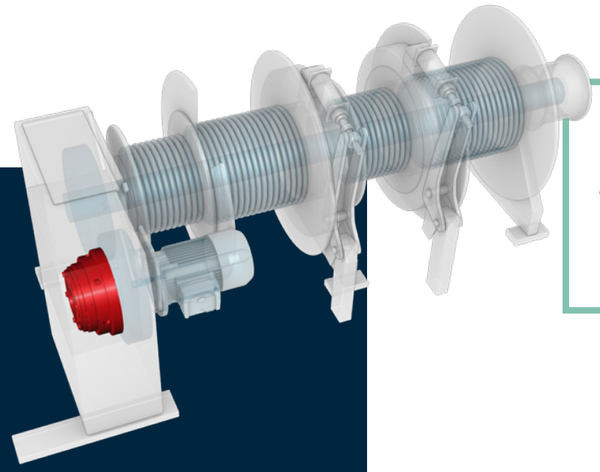
Ortlinghaus slipping clutches are used whenever external peak loads need to be absorbed and smoothed safely. They provide secure protection against drive or rope breakage, especially for anchor and mooring winches in the winch sector. As the release torque can be adjusted, torque is also transferred during slipping preventing uncontrolled torque transmission. Additionally, no reset is required. Our safety clutches have proven their reliability in decades of demanding winch applications and undergo constant further development.

High torque density
The Ortlinghaus friction lining combination inside these clutches ensures highest torques at compact dimensions.

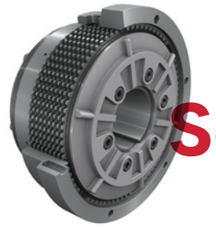
Long service life
The clutch has a minimized wear due to friction systems specifically fitted to the application.

Adjustable torque
The required torque will be adjusted prior to delivery.

Long slipping time
Due to the comparatively high energy absorption, permanent slipping is possible.



Sustainability
Our series 600 supports the electrification of the application, enabling sustainable operation of the anchor and mooring winch.



Series 600
Spring-applied slipping clutch

	Feature	Size 47	Size 55	Size 63	Size 75	Size 84
Static torque	$T_{stat.}$	1.800 Nm	3.000 Nm	6.000 Nm	23.000 Nm	30.000 Nm
Maximum slipping speed	$n_{max.}$	3.500 min^{-1}	3.000 min^{-1}	2.500 min^{-1}	1.500 min^{-1}	1.000 min^{-1}
Outer diameter	A	225 mm	285 mm	335 mm	395 mm	700 mm
Length	L	120 mm	140 mm	150 mm	200 mm	220 mm

Clutch series 021

Our friction systems have been tested and trusted for many years. Clutches of our series reconcile high torque and thermal absorption rates as well as a favorable outer diameter. So big customers shaft diameters can also be realized. Thanks to their wide power spectrum, smaller sizes can be achieved with corresponding weight and cost benefits, especially in higher torque ranges. Optimized outer diameters enable shorter distances between shafts, and in this way offer clear savings potential for the gearbox.

The hydraulic multi-plate clutch impresses with its comprehensive service friendliness. The plate stack, which is almost wear-free under defined conditions, can be accessed easily and enables an easy, safe and swift replacement of the plate stack pack. The special design also ensures that other components cannot fall out during replacement. Ortlinghaus multi-plate clutches safely operate even largest masses. Continuously developed our proven technology sets today's industry standards.

High torque density
The Ortlinghaus friction lining combination inside these clutches ensures highest torques at compact dimensions.

Efficient operation
The nearly loss-free torque transmission ensures efficient operation.

Simple integration
Customizable interfaces of these clutches allow a simple integration in various drive train solutions.

Optimized maintenance conditions
These clutches deliver durability and long service intervals.

Sustainability
Environmentally compatible oils (e.g. EAL oils) can be used for our clutches according to our approved oil list.

Series 021[1)]

Hydraulic clutch

	Feature	Size 81	Size 78	Size 85	Size 91	Size 96
Dynamic torque	$T_{stat.}$	33.750 Nm	94.500 Nm	270.000 Nm	472.500 Nm	945.000 Nm
Operating pressure	pB	25 bar	25 bar	25 bar	25 bar	25 bar
Speed[2)]	n	1.800 min^{-1}	1.250 min^{-1}	900 min^{-1}	750 min^{-1}	600 min^{-1}
Outer diameter	A	365 mm	505 mm	700 mm	860 mm	1.050 mm
Max. bore diameter	$B_{max.}$	125 mm	190 mm	265 mm	315 mm	400 mm
Length	L	195 mm	275 mm	360 mm	410 mm	510 mm

1) extract of available executions / other executions on request
2) higher speeds on request

Oil inlet

Ortlinghaus has been manufacturing single and multi-channel rotary inlets for several decades. These components are commonly supplied as accessories for oil-actuated and oil-cooled clutches. They are proven machine components designed to feed pressurized oil and cooling oil into rotating shafts, serving as standard products not limited to clutch applications alone. The oil inlets are available in axial and radial variants. Additionally, Ortlinghaus develops and manufactures rotary inlets according to customers' specific requirements, which are not included in our standard product catalog. This capability allows for the production of rotary inlets with more than three channels, capable of carrying different types of media.

Axial and radial executions available
Oil inlets can be supplied in axial or radial design. If there is no free access to push the radial oil inlet from one side onto the shaft, a split version is available for easy assembly.

Simple integration
For different setups Ortlinghaus can supply different mounting options of oil inlets which allows a simple integration.

One or two channel executions available
Ortlinghaus delivers one and two channel oil inlets. More channels on request.

Oil inlets

Our oil inlets are also available as radial oil inlets.

	Feature	Size 22	Size 27	Size 35
Operating pressure[1)]	p_B	30 bar	30 bar	30 bar
Speed[2)]	n	2.200 min^{-1}	1.800 min^{-1}	1.400 min^{-1}
Outer diameter[3)]	A	120 mm	160 mm	180 mm
Length	L	165 mm	247 mm	288 mm
Number of channels / connections	i × M	2 × G1/2	2 × G3/4	2 × G1
Oil volume[4) 5)]	V_{oil}	35 L/min	100 L/min	150 L/min

1) higher pressures on request
2) higher speeds on request
3) without oil catching ring, oil catching ring on request
4) multi-channel executions for higher oil volumes on request
5) at operating viscosity 68 cSt and pressure loss ≤ 2 bar at 50°C

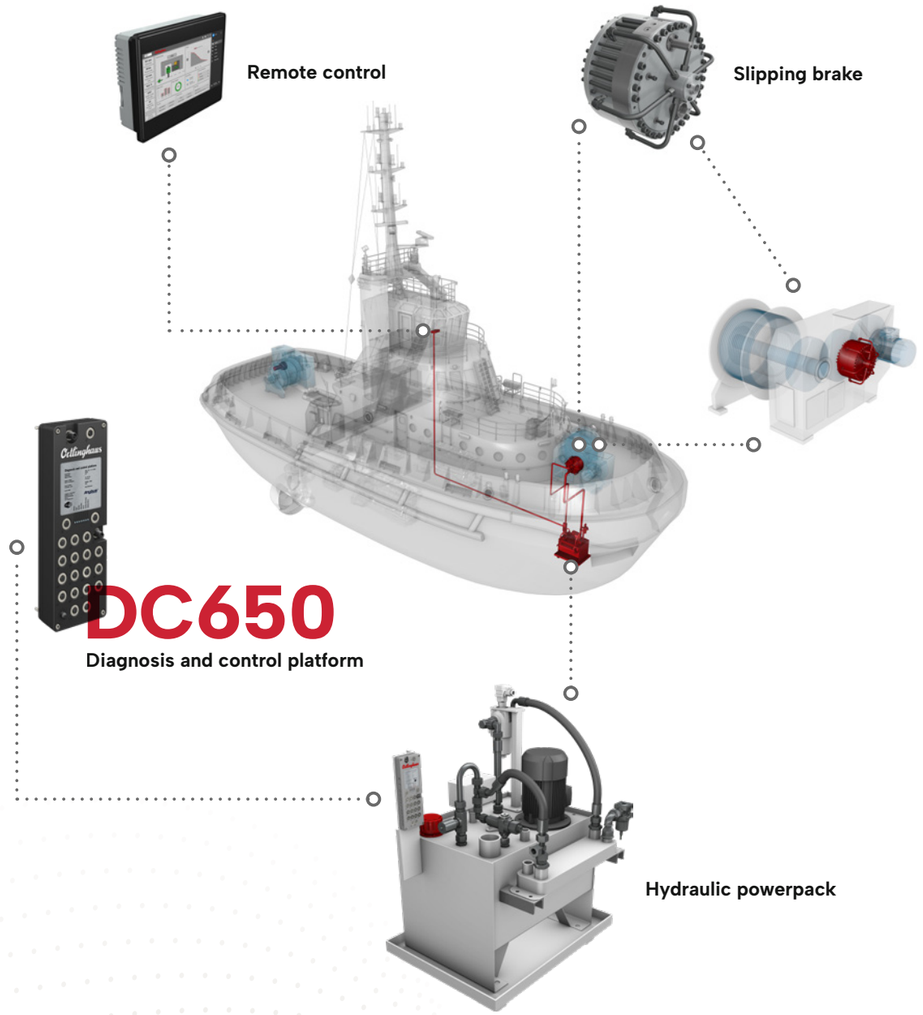
Diagnosis and control platform in winch applications

The DC650 is a scalable, flexible, and highly compatible solution for both simple and complex diagnostic and control purposes. Designed for clutches and brakes in winch technology. Robust hardware and modern software enable application-specific monitoring of our technology. With the integration of the DC650, condition values are measured seamlessly, critical conditions are detected, and a failure of the winch may be prevented. Our technical support and/or necessary spare parts can then be ordered in time before a breakdown occurs, thus improving the long-term availabilty of the winch. You can benefit from the advantages of the DC650 in next to no time through simple integration into the drivetrain.

DC650

Slipping brake with DC650

The maintenance-free, sealed brake with a wet-running plate stack can be used for a controlled continuous slipping mode up to 600 kW.



Integrated system solution

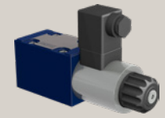
The DC650 combines Ortlinghaus hardware with a modern, self-developed and secure software.

Hardware

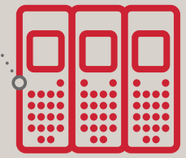
Customizable fieldbus connectivity
- Profinet, Modbus / TCP
- CAN bus based protocols

Anybus® BY HMS NETWORKS

Integrated valve control
- Power outputs for direct valve control



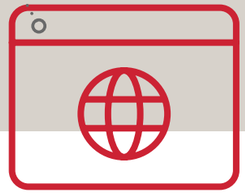
Scalability
- Multiple units can be combined to increase I/O capacity



Integration of different sensor types
- Pressure
- Speed
- Temperature
- Level switches
- etc.

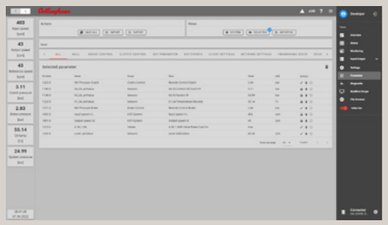
Communication with cloud services
- Connection via LAN
- Communication via MQTT

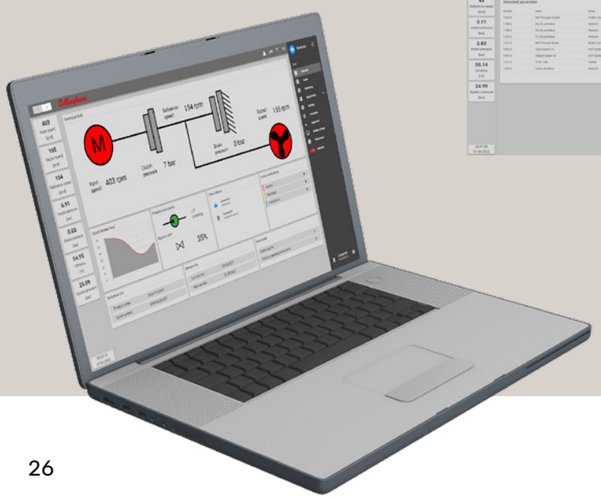
Integrated web server
- Access per web browser
- No extra software required



Software

Parameter editor
- Clearly structured management of all parameters

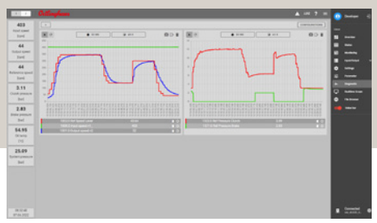




IT security
- Ortlinghaus software based on IEC 62443
- Wi-Fi can be deactivated
- No need for local network integration

Notifications and error list
- List of current and previous information
- Timecode for each entry

Scope function
- Useful scope function and convenient export function for data analysis



Application view
- Everything at a glance in the process overview
- Practical value bar for permanent control

General functions
- Intuitive software update via browser
- Easy log file download

Benefits

Arrange a product presentation with us and experience the advantages and possibilities of the DC650 for yourself.

Long-term data acquisition of operating states through:
- Integrated memory function
- Extended memory function (by use of optional cloud connection)

Lower maintenance costs through:
- Early detection of wear to minimize the need for spare parts
- Plannable maintenance intervals with optional remote maintenance

Increased winch availability through:
- Continuous condition monitoring of physical values such as speeds, pressures and flow rates
- Determination of the thermal load of Ortlinghaus clutches, brakes and clutch units
- Detection of critical conditions
- Warning in case of wear, defects and unacceptable pressure loss

Lower preventive maintenance costs through:
- Remote access to status data (optional with cloud connection)
- Condition diagnosis with the aid of memory data
- Condition diagnosis during winch operation, which does not require drive downtime

Increased safety through:
- Warning of system-critical conditions

Streamlined commissioning process:
- Quick and easy commissioning of the Ortlinghaus technology through complete integration of the DC650 into the winch

Sofisticated performance:
- Maximum winch performance through combining the DC650 with our slipping clutch and braking solutions

Technical data

- Brake pressure
- Rope speed
- Rope force
- Cooling oil flow rate

DC650

Technical data	DC650
Diagnosos-LEDs	1 × Status, 1 × Warning, 1 × Error, 2 × Application, 1 × Safety warning, 1 × Safety error
Power supply	19 – 36 V DC, galvanically isolated, redundant
Interfaces	
Network	1 × Ethernet 10 / 100 Mbit / s, M12 D-coded
Bus protocols	Profinet / Modbus / TCP, CAN
Bus interfaces	2 × Ethernet, M12 D-coded
Other	
Protection class	IP65
Web visualization	Yes
Dimensions	340 mm × 120 mm × 35 mm

In good hands from the beginning

Get in touch to one of our experts.

Enquiry

- via contact form on our website **www.ortlinghaus.com**
- directly via email to **winch@ortlinghaus.com**
- contact through one of our worldwide sales representatives **www.ortlinghaus.com** | Contacts & Media | Contacts

Technical consultance

- many thousands of products for different winch applications in the field
- selection of technically and economically best fitting products

Order

- quick response times
- friendly support
- flexible order handling

Production

- more than 100 years of production know-how
- high quality

Delivery

- safe and reliable shipping methods according to customer requirements
- worldwide delivery
- known consigner

After Sales

- worldwide after-sales-services
- high availability
- commissioning
- **service@ortlinghaus.com**

Original spare parts — **Product overhaul at Ortlinghaus** — **Service & repair worldwide** — **Condition check** — **High availability of After-Sales-Service (24/7)**

Sales & Service hub with spare parts

Sales & Service hub

Ortlinghaus worldwide

Founded in:	1898
Subsidiaries:	Ortlinghaus (U.K.) Ltd./England Ortlinghaus France Transmissions sarl/France Ortlinghaus AG/Switzerland Ortlinghaus Drive Technology (Shanghai) Co., Ltd/China Ortlinghaus Drive Technology India Pvt.Ltd./India Ortlinghaus America Latina/Brasil
Manufacturing:	Wermelskirchen/Germany Gams/Switzerland Jinan/China
Sales:	Worldwide via agencies

Ortlinghaus-Werke GmbH
Kenkhauser Str. 125
42929 Wermelskirchen
Germany

Phone: +49 (0) 21 96 85-0
info@ortlinghaus.com
www.ortlinghaus.com

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