



**DEMAG**

**Innovative.  
Smart.  
Lifting to the next level.**

**Demag DHR rope hoist**

**DEMAG**

# Innovative. Smart. Lifting to the next level.

Innovative lifting solutions for safe and forward-looking operation: The DHR rope hoist offers a high level of versatility and productivity. The DHR combines the powerful features of its two predecessor generations: Reliability, productivity and – thanks to numerous options – tailored implementation to meet the requirements of many industries. From simple lifting applications to high-performance rope hoists with smart assistance and convenience features, the DHR meets all demands for highly efficient load handling.

## Compact

DHR rope hoists with compact design and low deadweight stand out due to their small external dimensions and a further reduced C dimension. This makes the best possible use of the working space for crane applications or stationary equipment.

## Innovative

DHR rope hoists offer tailored solutions based on a single platform. Additional hardware options and smart features make a DHR rope hoist a smart hoist that is well equipped to meet future requirements: Lifting to the next level.

## Smart

Demag DHR rope hoists offer smart features that make load handling even safer and more efficient. And transparent at all times thanks to the monitoring and remote monitoring tools.

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**EK-DHR 3**

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**EK-DHR 5**

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**EK-DHR 10**

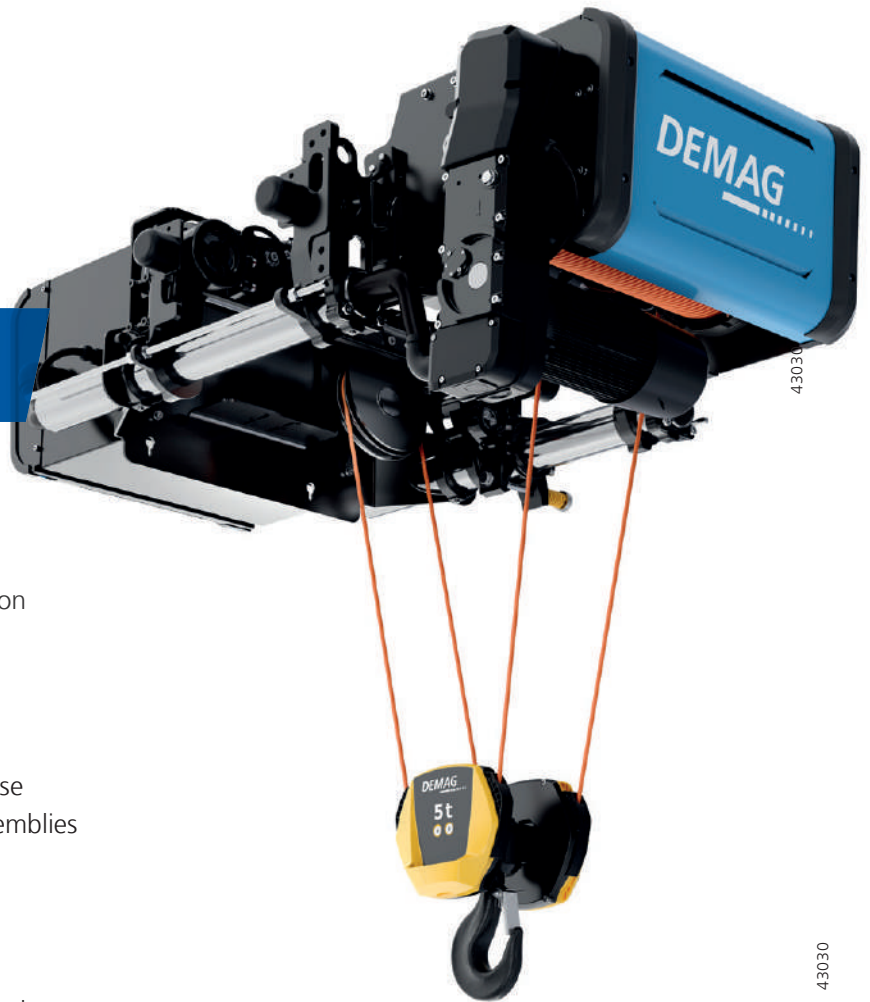


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## Compact and intelligent

Four EK-DHR hoist units in quadro operation for synchronised handling of bulky machine components.

# DHR highlights



## DHR rope hoists fulfil almost any requirement:

- EK-DHR: monorail hoist, optimised for use on single-girder cranes or monorails
- EU-DHR: low-headroom monorail hoist
- EUD-DHR: monorail hoist for curved travel
- G-DHR: basic hoist for plant engineering
- F-DHR: foot-mounted hoist for stationary use or for integration into your own trolley assemblies
- EZ-DHR: double-rail crab

## Safe handling:

- Bottom blocks with 4/1 reeving have a closed rope deflection with catch protection.
- An ergonomically shaped handle supports safety when attaching and moving the load.

## Drive technology to meet individual needs:

The DHR rope hoist is available with three different motor concepts. This allows lifting solutions to be implemented precisely according to individual requirements.

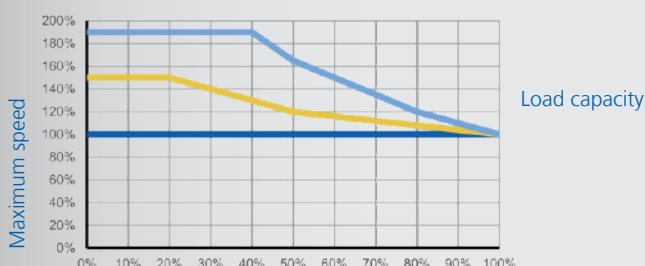
Extended Speed Range (ESR) enables higher hoisting speeds and significantly shorter load cycles in a partial load range.

The hoist motors:

- P-motor: pole-changing, 6:1 ratio
- W-motor: Inverter 20:1
- S-motor: Inverter 75:1
- Protection class for all motors: IP55 (IP65 option)

The advantages of the inverters are obvious:

- Variable speeds: 1:25 or 1:75
- Less wear: gentle lifting/travelling relieves the crane system
- Longer motor/brake service life
- Significant energy savings of up to 50%
- Smooth start-up, less load sway
- Load-dependent lifting speed for higher productivity:
  - high speed without load (up to 185%)
  - Medium speed with partial load
  - Precise speed at full load



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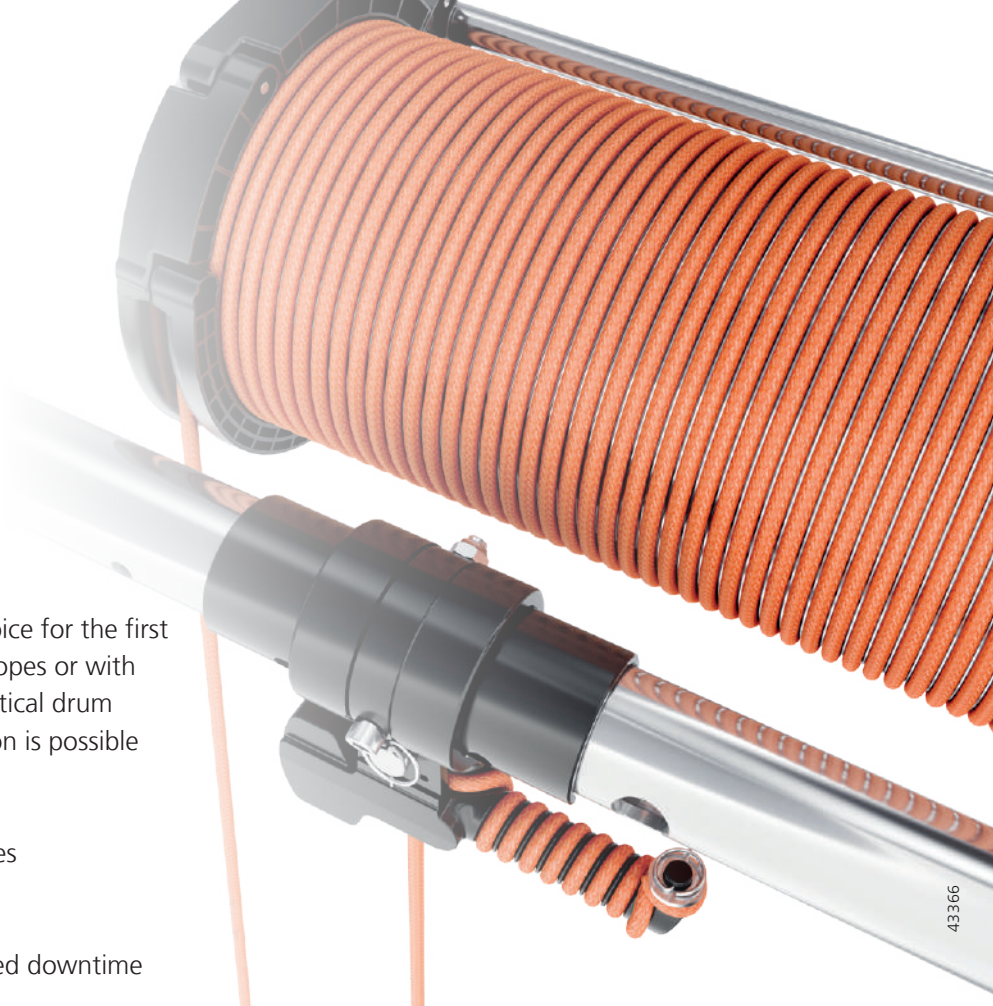
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## Innovative ropes

With the DHR rope hoist, you have the choice for the first time: Proven lifting technology with steel ropes or with innovative synthetic ropes. Due to the identical drum geometry, a later change to the steel version is possible without any problems.

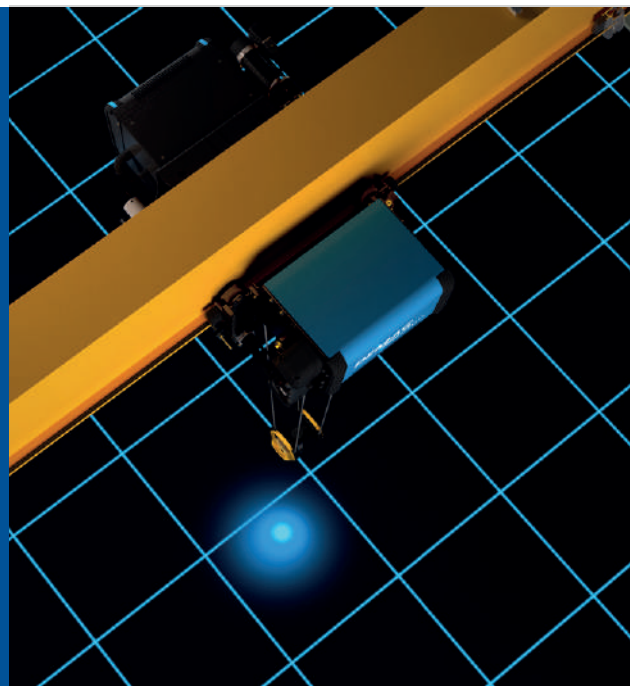
Features of the synthetic rope:

- Made of high-modulus polyethylene fibres
- 12-strand non-rotating structure
- Around 85% lighter than steel ropes
- Quick and easy rope change for minimised downtime
- Suitable for indoor and outdoor use
- Temperature range: -10°C to +45°C
- Minimal abrasion and no wear on rope drum and return sheaves
- No lubrication required
- One type of rope for all applications



## Blue safety light

- Added safety:
- A blue dot of light signals operation and movement of the crane to bystanders.
- The projection represents the hook position on the ground.

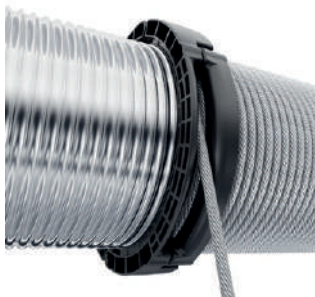


# DHR rope hoist: Overview

## Lifting capacity according to customer requirements

Three different types of hoist motor:

- P-motor: pole-changing, 6:1 ratio
- Infinitely variable lifting:
  - W motor - 20:1
  - S-Motor - 10:1
- Load-dependent speeds (up to 185%)
  - W / S - ProHub<sup>ESR</sup>
- All variants:
  - IP 55 protection (IP 66 option)
  - Temperature monitoring (standard)



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## Rope drum/rope drive

- Low wear on ropes and return sheaves
- Common drum for steel and synthetic ropes, for synthetic rope with specific coating
- Easy access to upper return sheaves and rope anchorages
- Return sheaves with spokes (reduced weight)
- GJS 700 return sheaves (self-lubricating effect)

## Protective rope guide

- Made of tough, acid-resistant plastic in full-circumference design
- Inclined pull of up to 4° without touching the rope guide
- Rope guide identical for both rope types (stock benefit)

## Completely protected

- Two-piece rope drum cover for protection against external factors

## Rope design

- Flexible galvanised steel side with 1960 N/mm<sup>2</sup> tensile strength
- Optionally also with synthetic rope (significantly reduced dead weight and less wear)

## Hoist gearbox

- Two different gearbox sizes
- Compact and lightweight design
- Quiet and low-vibration operation thanks to ground spur gears
- Lubricated for life in die-cast aluminium housing (IP 66)



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## Control concept with numerous variants

- DSB: up to 10 buttons (IP 65)
- DST: powerful and robust controllers
- radio controllers with various feature levels:
  - From simple control buttons to hand-held transmitters with infinitely variable speed control and joystick control
  - DRC: new generation of radio remote control



## Hoist brake

- Magnetic disc brake with high brake torque
- Fully enclosed design, IP 55 protection
- Designed for 1 million switching cycles

## High traction with low wear

- DualDrive with two driven wheels
- Minimum drive noise
- Long-lasting drive principle with high traction and reduced wear
- Highly durable travel and guide rollers with long service life

- Optional: DualDrive Plus (with 2 E-drives) for DHR 10 in particularly challenging environments

## Tailored drive concept

- Weight-optimised hoist trolley design with pressure rollers
- Alternative: version with counterweight

## Electric equipment

- Universal electric equipment box for hard-wired control or CAN bus control (as option for EK-DHR for efficiency-enhancing assistance functions and increased safety)
- DMU with modem for Demag Equipment App (DEA) and StatusControl 2.0:
  - Monitoring, remote diagnosis and parameter programming
- For 50 or 60 Hz operation
- Service-friendly wiring
- IP 55 enclosure

## Overload protection

- Safe switch-off at 10% overload
- Sensor in hoisting gear (1/1 and 2/2 reeving)
- Load-measuring pin between rope anchorage and frame

## Ergonomics and safety

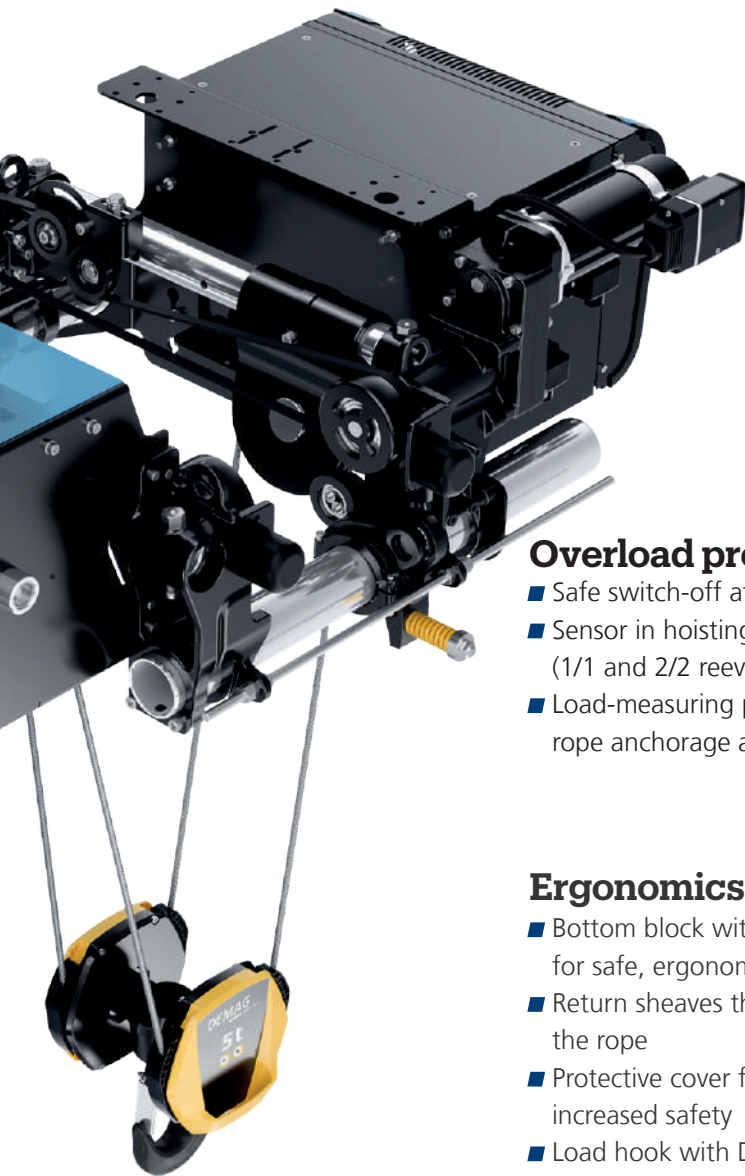
- Bottom block with guide handle for safe, ergonomic handling
- Return sheaves that protect the rope
- Protective cover for increased safety
- Load hook with DIN dimensions can be rotated 360°

## Travel unit structure

- Weight-optimised design (patented) based on tube design for all sizes

## Travel motors

- Infinitely variable cross-travel speeds with inverter (10-32 m/min)
- Further speeds possible
- Thermal overload protection
- Frequency inverters can be programmed via Bluetooth



DRC-Com/  
DRC-Pro

DRC-HJ



# EK-DHR

## Monorail hoist with optimised design for single-girder cranes or tracks

- Compact design with low headroom and low C-dimension
- Reduced approach dimensions for crane applications
- Three sizes (2, 5 and 10) for load capacities up to 10 t
- Infinitely variable cross-travel
- 2/1 or 4/1 reeving

### Dual Drive

For high traction, the DHR monorail hoist is equipped with a DualDrive two-wheel drive as standard. Two of the four wheels have a synchronised belt drive. The benefits are:

- Even distribution of drive force to two wheels
- Reliable cross-travel motion and positioning
- Precise track and low-wear cross travel thanks to lateral guide rollers
- Optionally available: Installation of a second cross-travel motor (DualDrive Plus), for particularly challenging ambient conditions (e.g. outdoor use, dirt accumulation on crane rail)

### Thrust rocker

The DHR rope hoist has compact dimensions. It also impresses with a weight-optimised design of the hoist trolley: No counterweights are required because of the thrust rocker. These are available as an option.

- Reduced deadweight
- Compact dimensions

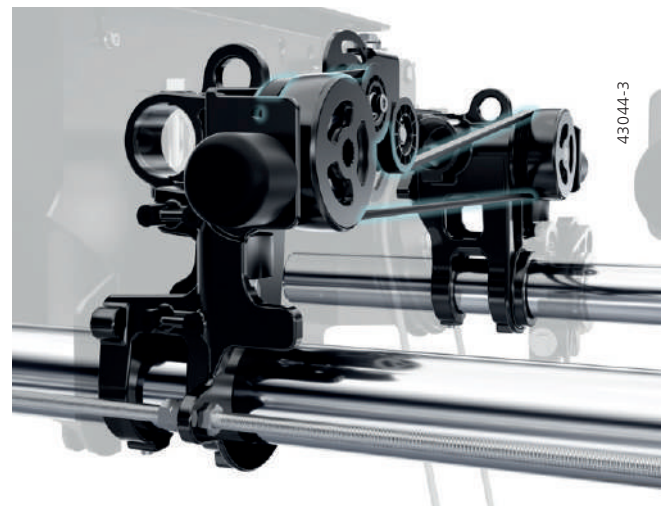
### Frame

The solid frame construction of the trolleys with cast iron connectors ensures compact dimensions with high stability.



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- Three different hoist motors with scalable power range (partial load/full load)
- Easy access to motor and gearbox
- Lubrication of drum bearings not required
- Fall and axle failure protection



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# EU-DHR

## Monorail hoist

- Standard equipment with 2 drive motors
- Option: Equipment with 4 drives
- Infinitely variable flange width: 100 - 450 mm
- version with counterweights



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# EUD-DHR

## Articulated trolley

- Articulated trolley for travelling on curves
- Curve radius:
  - 1,200 mm for DHR 3, 5 and 10 (2/1)
  - 1,500 mm for DHR 10 (4/1)
- Infinitely variable flange widths:
  - 100 - 450 mm (DHR 3 and 5)
  - 120 - 450 mm (DHR 10)



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Size	Reeving	Load capacity [t]											Lifting height [m]	Lifting speeds [m/min, 50 Hz]			
		1.25	1.4	1.6	2.0	2.5	2.8	3.2	4.0	5.0	6.3	8.0		10	P	W	S
EK- & EU-DHR 3	2/1	M6	M6	M5										13; 18	1.6/10	0.8-20	
	4/1				M6	M6	M6	M5						6.5; 9	0.8/5	0.4-10	
EK- & EU-DHR 5	2/1				M6	M5								13; 18; 24	1.6/10	0.8-20	0.1-15
	4/1								M6	M5				6.5; 9; 12	0.8/5	0.4-10	0.1-7.5
EK- & EU-DHR 10	2/1								M6	M5				18; 24; 30	1.6/10	0.8-20	0.2-15 0.3-24
	4/1									M6	M6	M6	M5	9; 12; 15	0.8/5	0.4-10	0.1-7.5 0.2-12

# EZ-DHR

## Double-rail trolley for crane construction

- Wire rope or synthetic rope
- 2/1 or 4/1 reeving
- Optionally two different mounting heights of the rope hoist on the frame (structure height  $\cdot$  C-dimension)
- True vertical lift with X/2 reeving for DHR 10 (steel rope)
- Two sizes: DHR 5 & 10 to 20 t
- Three motor variants to choose from: P, W, S
- Solo electrics with P and W motors
- Infinitely variable cross-travel



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Size	Reeving	Load capacity [t]												Lifting height [m]	Lifting speeds [m/min, 50 Hz]			Track widths (mm)
		2	2.5	3.2	4	5	6.3	8	10	12.5	15	16	20		P	W	S	
F-DHR 5	2/1	M6	M5											13; 18; 24	1.6/10	0.8–20		900; 1200; 1400
EZ-DHR 5	4/1				M6	M5								6.5; 9; 12	0.8/5	0.4–10		
F-DHR 10 EZ-DHR 10	2/1				M6	M5								18; 24; 30; 36	1.6/10	0.8–20	0.2–15 0.3–25	1200; 1400; 1700; 2000
	4/1						M6	M5						9; 12; 15; 18	0.8/5	0.4–10	0.1–7.5 0.2–12	
	6/1								M6	M5				6; 8; 10; 12	0.5/3.3	0.3–6.7	0.1–5 0.1–8	
	8/1										M5	M4		4.5; 6; 7.5; 9	0.4/2.5	0.2–5	0.1–3.8 0.1–6	
	4/2				M6	M5								13; 18; 22; 29; 36; 43; 53	1.6/10	0.8–20	0.2–15 0.3–24	1700; 2000; 2400; 2700; 3100
	8/2						M6	M5						6.5; 9; 11; 14.5; 18; 21.5; 26.5	0.8/5	0.4–10	0.3–24 0.2–12	
	12/2								M6	M5				4.3; 6; 7.3; 9.6; 12; 14.3; 17.6	0.5/3.3	0.3–6.7	0.1–5 0.1–8	
	16/2										M5	M4		2.8; 4; 4.8; 6.4; 8; 9.5; 11.7	0.4/2.5	0.2–5	0–3.8 0.1–6	

# F-DHR

## Foot-mounted hoist for stationary use or for integration into your own trolley assemblies

- Wire rope or synthetic rope
- 2/1 or 4/1 reeving
- True vertical lift with two-groove drum version for DHR 10 (steel rope)
- Two sizes: DHR 5 (up to 5 t) & DHR 10 (up to 20 t)
- Three motor variants to choose from: P, W, S
- Solo electrics with P and W motors

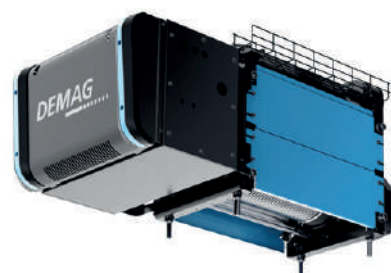


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# G-DHR

## Basic hoist for plant engineering

- Can be mounted horizontally (upright) or vertically (wall mounting)
- Supplied with fixing screws
- Version exclusively with steel cable and P-motor
- Optional reeving components



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Size	Reeving	Load capacity [t]											Lifting height [m]	Lifting speeds [m/min, 50 Hz]				
		1.0	1.25	1.6	2.0	2.5	2.8	3.2	4.0	5.0	6.3	8.0		10	P	W	S	
G-DHR 5	1/1	M6	M6											24; 36; 48	3.2/20			
	2/2	M6	M6											18; 24; 30				
G-DHR 10	1/1			M6	M6	M6								36; 48; 72				
	2/2			M6	M6	M6								24; 36; 48				

# Advanced Control: Smart features

**Shorter cycle times.**

**More cost-effective.**

**Improved workplace safety.**



## **Load-sway reduction**

Prevents increased load sway by active counter-movements of the crane. Active system based on rope angle measurement.



## **Slack rope protection**

Continuous monitoring of rope tension: Automatic cut-off of the hoist motor when slack rope is detected.



## **Area-dependent load reduction**

Defined areas that the trolley may only enter when the load does not exceed a reference value.



## **By-pass control**

Defined restricted areas (e.g. structures, machines) that must not be approached by the trolley.



## **Tandem control**

Loads can be transported safely with two DHR rope hoists – all from a single control unit.

## **With Demag Modular Control:**



## **Follow-me**

Crane and trolley movement by guiding the hook by hand, easier positioning of crane and hoist.



## **Hook centring**

Automatically positions the crane hook directly above the load. The advantages: faster load cycles and improved ease of operation.



## **Diagonal pull prevention**

Rope angle monitoring, automatic cut-off in the event of diagonal pull ( $> 4^\circ$  to the vertical axis) to avoid dangerous situations.

# Demag Digital

The latest generation of Demag hoist units offers intelligent control functions and high system transparency - thanks to digital diagnostics and maintenance tools.

## Full control – from anywhere: StatusControl 2.0

With Demag StatusControl 2.0, smart system management, you have full control of your rope hoist at all times and from anywhere. Our remote monitoring system provides you with up-to-date operating data and evaluations for the DHR – as a solo component as well as in crane applications. Full transparency on utilisation, usage, risk of downtimes and service life – simple, reliable and at a glance.



## Real-time operating data: Demag Equipment App (DEA)

Do you only find out the usage and wear data for your DHR rope hoist once a year during inspection and maintenance? This is a thing of the past with the Demag Equipment App. Within the radio range of the hoist, you receive the current data in real time and visually displayed on your end device. Trained users can also adjust the DHR's parameters.



## Benefits of the Demag Equipment App:

- Optimum flow of information: Targeted retrieval of information to prepare for maintenance
- Avoiding downtime: High system transparency supports preventive service measures
- Wireless parameterization for quick adaptation to changing conditions
- Easy commissioning thanks to intuitive operation
- Data export in various selectable formats
- Available in 5 languages (German, English, Spanish, French, Chinese)

# Configured for custom applications

From the simple lifting application with conventional control to the high-performance wire rope hoist with intelligent assistance and comfort features:

DHR rope hoists perfectly meet all requirements for highly efficient load handling. Tailored precisely to your needs.



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## OWL

Compact unit for overload cut-off and status display for increased safety and predictive maintenance (Electric Load Management/ELM).

- Overload protection for individual hoists
- Simple condition monitoring
- Number of switching operations
- Operating time
- Number of braking operations
- Number of control operations
- Temperature index
- Number of events with overload
- Can be used for SWP calculation



42680

## DMU

Monitoring unit with CAN bus functions for improved safety, longer brake service life and optimised maintenance intervals (ELM II).

- Overload protection
- Monitoring for sudden load increase
- Temperature monitoring for motors
- SWP elapsed operating time counter
- Monitoring of motor function
- Higher measurement accuracy with load-measuring pins
- Monitoring of the supply voltage
- Motor start/stop due to slow speed
- Tandem with multiple hoists (up to five units)
- Design limits (warnings)
- Optional remote monitoring modem
- Smart features
- CAN bus functionalities

DHR rope hoists offer four core configurations that can be scaled with numerous options.

Package		Com A	Com	Com Connect	Pro
Control system		Conventional			Advanced
Load monitoring	OWL	■	■	-	-
	DMU	-	□	■	■
Demag Equipment App (DEA)		-	-	■	■
StatusControl 2.0		-	-	-	■
Power supply	Trailing cable	■	□	□	□
	Energy chain	□	■	■	■
Wired control system	DSB	■	■	■	-
	DST	-	■	■	-
Radio control	Autec	■	-	-	-
	DRC 10 D3	■	■	■	-
	MP DRC-HJ	-	■	■	-
	DRC 10 Com	-	-	-	■
	DRC 10 Pro	-	-	-	■
Tandem 2 trolleys		-	□	□	□
Tandem crane		-	□	□	□
Infinitely variable lifting		-	□	□	■
Hoist motor	P	■	■	■	-
	S	-	□	□	-
	W	-	□	□	■
Large load display		-	□	□	□
Synthetic rope		-	□	□	□
Dual Drive		■	■	■	■
counterweight		□	□	□	□
Passive sway damping		-	□	□	□
Active sway damping		-	-	-	□
Smart features (inclinometer)		-	-	-	□
Blue safety light		□	□	□	□

- Standard (default)
- Option
- not available

### Further options for customised configuration:

- Second hoist brake for DHR 3, 5, 10
- Cable drum
- Lockable load hook
- Double load hook
- Control cabinets in IP 66
- Stand-by heating
- 2-stage or 3-stage load limiter
- 2-stage travel limit switch
- Operating limit switch with bypass
- Light and horn for overload indication
- Rain protection covers
- Limit switches
- Anti-collision protection
- Rail sweepers
- Use as an independent monorail hoist
- Special paint finishes
- and much more



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**Demag Cranes & Components GmbH**

Wetter site

Ruhrstrasse 28

58300 Wetter, Germany

**E** info@demagcranes.com

**T** + 49 2335 92-0

**F** + 49 2335 92-7676

[www.demagcranes.com](http://www.demagcranes.com)

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