

A large industrial crane is shown in a factory setting. A blue Demag DC chain hoist is attached to the crane's arm. The hoist has the 'DEMAG' logo on its side. The crane is made of heavy metal and has a large pulley system. The background shows the industrial structure of the factory with steel beams and lights.

Uncompromisingly cost-effective

The original

Demag DC chain hoists

DEMAG



The right hoist for your application

VERSATILE SOLUTIONS FOR LOADS UP TO 5 TONS

High productivity, efficiency, safety and reliability – Demag DC chain hoists

Demag DC chain hoists meet all the requirements of state-of-the-art hoist units, such as high productivity, efficiency, safety and reliability, and give you the certainty of a secure long-term investment. We develop and produce materials handling solutions for all industries and companies of all sizes, from small workshops to major industrial corporations.

Besides their particularly long service life, Demag hoist units also offer comprehensive standard features at an attractive price.

ALL INCLUSIVE:

FULLY FEATURED WITH NO NEED FOR EXTRAS

All over the world, a hundred thousand customers have opted for a Demag DC chain hoist, since many features are already integrated as standard that have to be ordered and bought as extras elsewhere.

ALWAYS THE RIGHT PRODUCT

Choose the right hoist for your application from our two DC-Com or DC-Pro product lines.

DC-Com units are designed for normal application requirements – at an attractive price. DC-Pro units boast a longer service life and higher lifting speeds. Both chain hoists are Demag brand quality products.

CERTIFIED

DC chain hoists satisfy the relevant provisions of

- Machinery Directive 2006/42/EC
- Low Voltage Directive 2006/95/EC
- EMC Directive 2004/108/EC

Electromagnetic compatibility is ensured for interference immunity and interference emissions. Models that satisfy cCSAus regulations (Canada/USA) are available as an option.

SAFETY-RELATED FUNCTIONS

Improved safety thanks to rugged and proven electronic controls in comparison with conventional controls. Performance Level c and Category 2 to EN ISO 13849-1 are satisfied as minimum requirements for the safety-related functions specified in DIN EN 14492-2.

YOUR BENEFITS WHEN YOU BUY A DC CHAIN HOIST

- Individual customer solutions from our comprehensive product range
- Versatile and fully equipped as standard
- Proven technology
- Tough and reliable
- High level of safety & reliability and long service life
- Simple commissioning
- Ergonomic operation
- Minimum maintenance requirement and easy to service

Cover photo: DC chain hoists used to open furnace covers in a high-temperature application

A conveyor belt used to maintain a constant height of bulk material obtain is moved by two double chain hoists.

Compelling arguments that speak for themselves

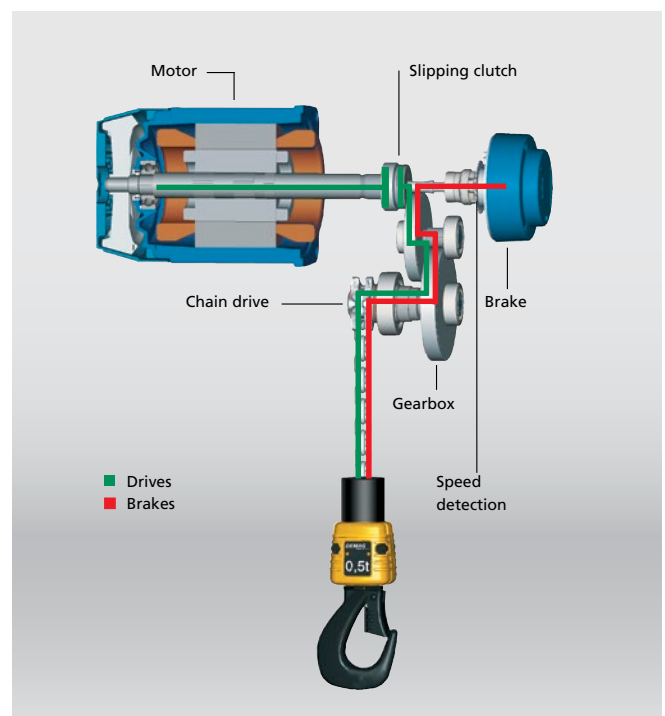
FULLY FEATURED – ALL INCLUSIVE

Standard – Made by Demag, an investment with added value.

- High FEM classification for long service life
- 24 V contactor control
- Operating limit switches (upper/lower)
- Transparency: elapsed operating time counter
- Height-adjustable control pendant
- Plug-and-socket cable connectors
- Gearbox and slipping clutch maintenance-free for up to 10 years
- Brake maintenance-free for up to 10 years (up to 5 years for DC 10–25)
- Two speeds as standard (F4)
- Easy to service: display of operating statuses

IMPROVED SAFETY, EVEN LONGER SERVICE LIFE AND REDUCED WEAR

- Load is securely held in any operating situation and cannot drop while the hoist is at standstill, since the brake is arranged in front of the slipping clutch in the load-bearing arrangement (see red line in the diagram)
- Lasting safety thanks to monitored speeds in the slipping clutch, hoist motor and brake
- Low-wearing brake
- Automatic braking if the control system fails
- Up to 1,000 kg only 1/1 reeving: improved safety and ergonomics, reduced chain wear



Improved safety: brake/slipping clutch system



Height adjustment of the control cable



Pivoting service cover



Chain drive that is easy to assemble



Display for elapsed operating time counter and operating statuses

HIGHER AVAILABILITY FOR GREATER EFFICIENCY

Many DC chain hoist models are supplied with a gearbox service life that is rated 20% higher according to the FEM classification. The generous dimensioning of all components also ensures constant availability.

RELIABLE DEMAG QUALITY

- High-strength, robust cylindrical-rotor motor with fan and separate magnet brake
- Reliable operation from -20°C to $+45^{\circ}\text{C}$ without any reduction in the duty factor
- Operation also possible up to 60°C and more
- Excellent surface protection
- IP 55 enclosure ensures high level of protection against moisture and dust penetration

SIMPLE COMMISSIONING AND OPTIMUM ERGONOMICS

- Plug & Lift and Plug & Drive – plug-in electric connections
- Length of control cable or position of control pendant can be adjusted without the need for any wiring
- Folding suspension bracket ensures easy attachment of the chain hoist to its trolley
- Ergonomic DSC and DSE control pendants with gentle actuation force
- Infinitely variable adjustment of trolleys to the flange width

SERVICE-FRIENDLY

- Simple and rapid maintenance and repair of individual components thanks to the modular chain hoist design – cuts any downtime to a minimum
- Elapsed operating time counter, status and error message display
- Diagnostics interface (IDAPSY): read out and manage specific data
- Service cover: everything in one place – rapid access for commissioning and service
- Reduced downtimes as the entire chain drive can be replaced without dismantling motor or gearbox parts



Up to 180 m hook path for the maintenance of wind turbines



Design suitable for foodstuffs industry

Universal application

Your application is decisive – whether for maintenance hoist units that are rarely used or three-shift production, we have the right chain hoist to meet your needs.

You can also rely on our experience wherever operating conditions are tough and the working environment is harsh. These are just some of the areas in which our chain hoists can perform to meet your needs:

- Galvanising plants
- Pickling plants
- Foundries
- Galvanizing facilities
- High temperature applications
- Foodstuffs applications
- Cleanroom areas
- Handling molten masses
- Maintenance of wind turbine installations, both onshore and offshore (enclosed)





**The right DC chain hoist
to suit your application**

Details that matter

Overview of components

GEARBOX

- Maintenance-free for up to 10 years
- 20% longer service life compared with FEM 2m, with a service life of 1,900 full load hours thanks to FEM group of mechanisms classification Demag 2m+
- Reduced operating noise and smooth operation thanks to helical gearing in all gearbox stages

CONTROLS

- 24 V contactor control
- Elapsed operating time counter
- Operating limit switches (upper/lower for DC-Pro)
- DC 16/25 sizes fitted with geared limit switches as operating limit switches with four contacts for fast-to-slow and final cut-off

Alternatively

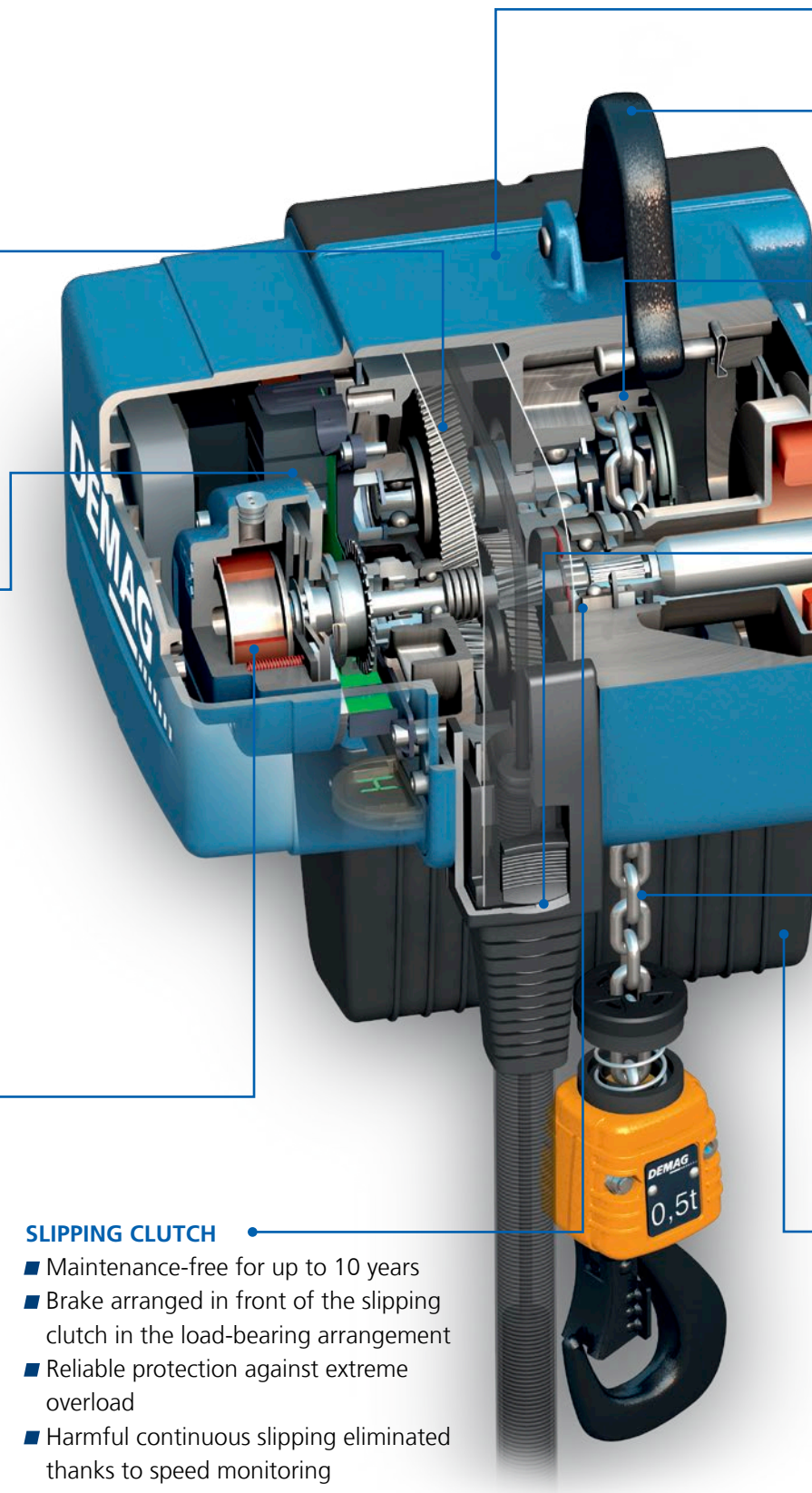
- Infinitely variable inverter control
- Conventional direct and contactor controls

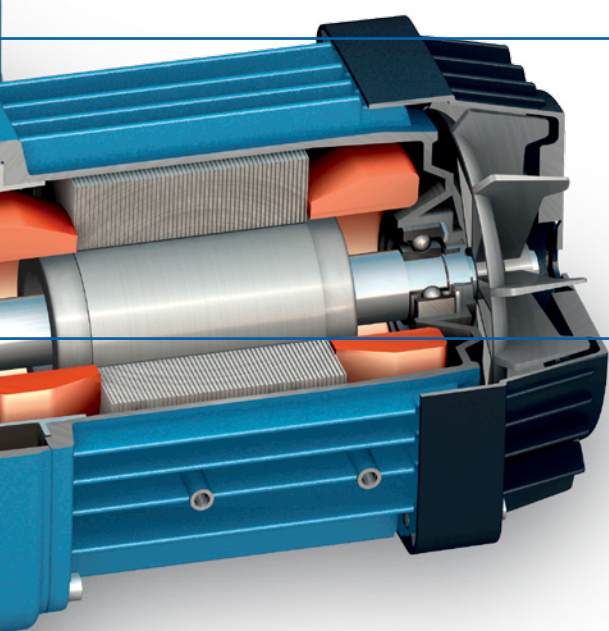
BRAKE

- Maintenance-free for up to 10 years (up to 5 years for DC-Pro size 10–25)
- No brake adjustment required
- Short and gentle run-on paths
- The brake is impervious to poor weather and operating conditions (enclosure features double encapsulation)

SLIPPING CLUTCH

- Maintenance-free for up to 10 years
- Brake arranged in front of the slipping clutch in the load-bearing arrangement
- Reliable protection against extreme overload
- Harmful continuous slipping eliminated thanks to speed monitoring





• **SUSPENSION BRACKET**

Articulated suspension, small hook dimension C for optimum headroom

• **HOUSING**

- Tough and weight-saving aluminium housing of compact and modern industrial design
- UV-resistant powder-coated finish, insusceptible to knocks and scratches

• **CHAIN DRIVE**

- The chain drive consists of highly wear-resistant materials for a long service life, suitable for foundry applications as standard
- Quick and easy replacement of the entire chain drive without the need to remove the motor or housing parts

• **HEIGHT-ADJUSTABLE CONTROL PENDANT**

- The length of the control cable can be infinitely varied for a hook path range of 2–5 m, 5–8 m and 8–11 m
- The length of control cable that is not needed can be stored under the service cover
- The control system and control cable are rated for electric travel applications in 3 axes

• **DEMAG ROUND-SECTION STEEL CHAIN**

- High-strength, ageing-resistant material with high surface hardness
- Galvanized and additionally surface-treated to protect against hostile environments
- Optionally available with additional corrosion protection, for foodstuffs and extremely dusty applications

• **CHAIN COLLECTOR**

- Articulated attachment, made of tough, flexible and particularly impact-resistant plastic
- Bags and sheet metal chain collector boxes for longer hook paths
- Hook paths possible up to 180 m

HOIST MOTOR

- Robust and enduring high-performance motor with large safety reserves even at high ambient temperatures and in prolonged operation
- Two lifting speeds (F4)
- 60% cyclic duty factor, 360 starts/hour
- Insulation class F
- With thermal protection, depending on design

REEVING

- Load capacity up to 1,000 kg with only 1/1 reeving



SAFETY

- Low-voltage control pendant thanks to 24 V contactor control system
- Safety-related functions satisfy at least Performance Level c and Category 2 to EN ISO 13849-1



LONG SERVICE LIFE

- Generously specified gearbox. 2m+ (1,900 hours) for main load capacities and up to 4m (6,300 hours) for demanding applications
- All sub-assemblies of the chain hoist are rated for a long service life, even under the most demanding conditions



ERGONOMICS

- Length of control cable or position of control pendant can be adjusted without the need for any wiring
- Length of control cable that is not needed can be stored under the service cover



PRO-HUB FUNCTION

- Up to 90% higher nominal speed in reduced load range



VARIABLE SPEEDS

- Valuable and sensitive parts can be moved and positioned more smoothly and reliably
- Variable button characteristic like a car accelerator pedal



SLIPPING CLUTCH MONITORING

- Harmful continuous slipping eliminated thanks to speed monitoring
- Reliable protection against extreme overload
- Load securely held in any operating situation and cannot drop while hoist is at standstill, since brake is arranged in front of the slipping clutch in load-bearing arrangement



MINIMUM LOAD SWAY

- Smooth cross-travel starting and braking motions for low-sway load handling
- Speeds and acceleration/braking rates can be modified by means of the control pendant, if required



TEMPERATURE RANGE

- Reliable operation from -20°C to +45°C without any reduction in the duty factor
- Operation also possible up to 60 °C and more



HIGH-PERFORMANCE MOTOR

- Hoist motor has large safety reserves to provide for reliable operation for many years
- Can be used for switching cycles way beyond usual market levels



EASY TO SERVICE

- Gearbox and slipping clutch maintenance-free for up to 10 years
- Brake maintenance-free for up to 10 years (up to 5 years for DC 10–25)
- Simple and rapid maintenance and repair of individual components thanks to the modular chain hoist design – cuts any downtime to a minimum



STATUS DISPLAY

- Display for elapsed operating time counter and operating statuses
- Always up-to-date for service purposes



LOW NOISE LEVEL

- Reduced operating noise thanks to helical gearing in all gearbox stages
- Smooth running characteristics thanks to high-quality gearing

Demag DCM-Pro Manulift

Ergonomic single-handed load handling

The DCM-Pro Manulift was developed for handling loads quickly and safely with only one hand. It can be used for universal operation at any workplace.

The DCM-Pro is based on the lifting unit of the DC-Pro chain hoist and the DSM-C control unit which is connected to it by a helical cable. Thanks to the control unit which is rigidly connected to the load handling attachment for right and left-handed operation, the operator only needs one hand to operate the chain hoist and guide the load.

VERSATILE ADAPTABILITY TO ANY TASK

A variety of proven load handling attachments facilitate optimum and flexible adaptation of the chain hoist to meet your needs. They range from normal load hooks and various pantograph-type tongs to parallel gripper systems, for example for KLT containers used in the automotive industry.

ERGONOMIC OPERATION

Depending on the height of the workplace, DCM-Pro Manulift provides convenient control with a horizontal handle to guide the load. The DCRS-Pro rocker switch enables loads to be handled with a vertical control unit.



DCRS-Pro rocker switch



Quick-release coupling as an interface



Various load handling attachments

Quick-release coupling as an interface

The quick-change coupling enables a wide variety of load handling attachments to be changed with ease. All Manulift load handling attachments are fitted with a connecting pin with a swivel lock, which snaps into the quick-release coupling. It can be disconnected by lifting the unlocking sleeve.

The universal coupling pin is used to connect customised load attachments to the Manulift unit. Special load handling attachments can be connected via the M12 internal thread. The versatility and flexibility of Demag chain hoists provide for improved load handling efficiency at the workplace.

PGS parallel gripper system

Firmly holding loads up to 125 kg

PGS BOX GRIPPERS

The narrow design and short opening path of these grippers make it possible to pick up and deposit goods safely and easily, even in restricted spaces. The variable gripping range makes it possible to transport both the actual goods as well as a packed unit using the same gripper.



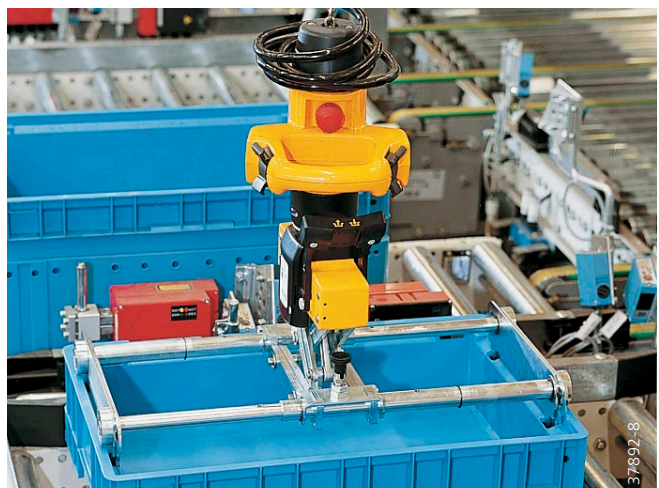
PGS SHAFT GRIPPERS

Various shaft grippers are available which can be adapted to different shaft types and applications by changing the gripper jaws. When fitted with a shaft support, they can be used to pick up shafts with various diameters or an unknown centre of gravity. This significantly improves the safety of handling tasks that, until now, have always involved a certain risk.



PGS CONTAINER GRIPPERS

The various container grippers can be supplied for fixed or adjustable container widths. They can be easily adjusted to the relevant container size.



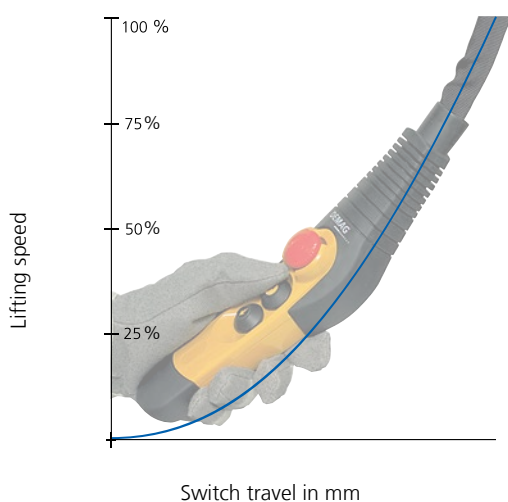


Demag DCS-Pro – variable lifting speeds

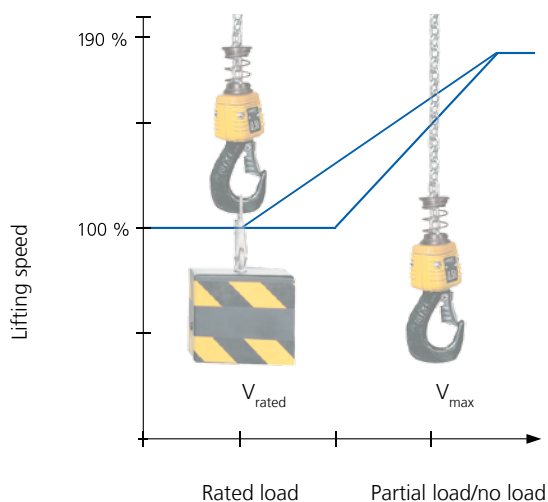
Demag DCS-Pro chain hoists offer truly variable lifting speeds. They are not controlled like other modes by means of a multi-step control unit, but feature variable speeds similar to a car accelerator pedal: the further the

button is pressed, the faster the chain hoist lifts and lowers. DCS-Pro for variable operating speeds – made by Demag.

CHARACTERISTIC CURVE FOR SWITCHING ELEMENTS ON THE DCS CONTROL PENDANT



PRO-HUB: INCREASED LIFTING SPEEDS IN THE PARTIAL LOAD RANGE



Infinitely variable speed control – for even more precise and faster handling

Demag chain hoists with variable speed control offer outstanding benefits: valuable and sensitive parts can be moved and positioned more gently and carefully. Installation and positioning processes can be controlled with greater precision. And almost double the rated speed can be achieved in the partial load range thanks to the Pro-Hub function (see diagram).

Variable-speed Demag DCS chain hoists guarantee high efficiency and safety in working processes. The entire control system and frequency inverter are integrated beneath the electric equipment cover as a compact modular sub-assembly.

In comparison with the DC-Pro with two lifting speeds, variable-speed Demag DCS-Pro chain hoists offer you the following benefits:

- Variable speed control over the entire load spectrum
- Creep lifting speed from 0.04 m/min
- Gentle starting and precise positioning thanks to particularly fine control
- Pro-Hub: up to 90% higher nominal speed for partial load operations
- Automatic switchover to slow lifting speed before the limit positions are reached
- Sensitive control and optimum control pendant ergonomics
- Acceleration and braking ramps for low load vibration
- If required, parameters for the lifting speed, acceleration and braking ramp can be easily modified via the control unit
- Increased safety thanks to motor temperature monitoring
- E 11 to E 34 travel drives for variable cross-travel speeds in connection with DCS

Operators have even more convenient workplace equipment for precise load handling, depending on the application, when used in combination with variable inverter control for DCMS-Pro Manulift and DCRS-Pro rocker switch.

SAFE AND RELIABLE VARIABLE-SPEED OPERATION WITH ONE HAND

- Demag DCMS-Pro Manulift
- Demag DCRS-Pro rocker switch

Precise positioning



Many options to meet your individual needs

Select additional options from the comprehensive chain hoist product range to match your application needs, such as:



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DC-DC direct control



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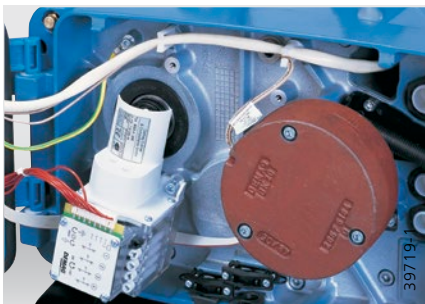
DC-CC contactor control



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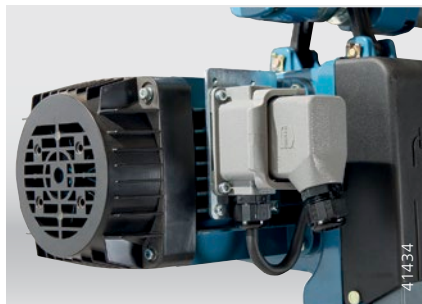
DC-FC for control by an external inverter

Conventional direct controls or contactor controls can be used as an alternative to electronic control. The DC-FC variant can be supplied for control by means of an external frequency inverter. (Some function characteristics of the electric controls do not apply here.)



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Geared limit switch with up to 8 contacts for cut-off at predefined positions



41434

External connector for the power supply



41435

External connector for the control cable



41432

Cross-type limit switches for travel motion cut-off



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Suspensions: suspension hook or chain hoist parallel to runway



41436

Safety hook, stainless steel hook

Special solutions

CHAIN HOISTS FOR MAINTENANCE AT LARGE LIFTING HEIGHTS

For maintenance work or repairs in wind turbines, the required spare parts and equipment have to be lifted into the nacelle as quickly as possible. Here, Demag DC-Wind chain hoists are proven lifting appliances in wind turbine systems:

- Hook paths up to 180 m
- High lifting speeds up to 24 m/min
- Motor for 100% duty factor
- Cold climate applications down to – 40°C



CLIMBING HOISTS, TURNED 180°

Chain hoists turned 180° can be used as climbing hoists for scaffolding, maintenance or erection work.



HANDLING LOADS ABOVE PEOPLE

Special safety requirements apply for chain hoists that are used in entertainment applications, e.g. in theatres and on stage, at trade fairs and in churches, etc.:

BGV-D8+: For DC chain hoists used for erection work and for holding, but not moving loads above people (German regulation).

BGV-C1: For DC chain hoists – prepared for use according to BGV-C1 – used for holding and moving loads above people (German regulation).

Optional:

- Double brake
- Manual brake release
- Pulse generator



Wireless control units – radio controls

Wherever radio control systems are used to control cranes and hoists, you can benefit from much greater flexibility than with wire-connected controls.

Improved ergonomics, greater safety thanks to the variable distance to the load and, ultimately, higher productivity are among the outstanding benefits offered by radio control systems.

DRC-DC radio control

The DRC-DC system has been specially developed for pole-changing DC chain hoists with electronic control. Up to two (DRC-DC 6) or three motion axes (DRC-DC 10) can be controlled with the two hand-held transmitters.

The small receiver can be used in various installation configurations – depending on the size of the chain hoist. Pre-assembled cables facilitate fast and easy connection.



DRC-DC 6
hand-held transmitter



DRC-DC 10
hand-held transmitter



DRC radio control

DRC-MP RADIO CONTROL

The Demag DRC-MP multi-purpose radio control system can be used as an alternative to the DRC-DC system for the following applications:

- For variable control of DCS-Pro with up to three motion axes
- For installations with two crabs, switchover via F1 or F2 function keys
- For use of up to three digital feedback channels to display status information (select crab 1/2) or warning information

The DRC-MP radio control system gives you the choice between the DRC-10 variable-speed pushbutton transmitter and the DRC-J variable-speed joystick transmitter, which can be conveniently carried on a strap over your shoulders.



DRC-J joystick transmitter

BENEFITS OF DRC-DC AND DRC-MP RADIO CONTROLS

STRONG AND ROBUST

- Impact and temperature-resistant housing
- Integrated bumper

Safe and reliable

- Reliable radio transmission thanks to frequency hopping
- Automatic frequency management
- Display section for operating statuses and battery capacity
- Stop function to DIN EN 13849-1 with category 3 Performance Level PL c (DRC-DC), PL d (DRC-MP)

Simple and convenient

- Ergonomic design
- Simple transmitter operation
- High level of availability thanks to fast charging of the transmitter battery or operation with conventional Mignon AA batteries
- Worldwide postal authority approval for operation without any need for registration or operating fees
- Simple wireless hand-held transmitter log-on

DIR infrared control

Our DIR infrared control system is an alternative to radio control and offers the following properties:

- High level of safety thanks to limited range (max. 40 m)
- No alignment of the transmitter with the sensor is needed at close range (up to 15 m)
- No overlap of transmission frequencies when radio controls operate on the same frequencies

Control units – control pendants

CONTROL PENDANT: ERGONOMIC DESIGN

Control pendants precisely interpret control commands in any situation. They enable fatigue-free operation for right and left-handed operators both with and without gloves. Demag control pendants are characterised by their optimised ergonomic sloping design for convenient operation. They are extremely robust and well equipped for demanding operation.

CONTROL CABLE: ALWAYS AT THE RIGHT OPERATING HEIGHT

An innovative solution for optimum ergonomic adjustment of the length of the control cable or position of the control pendant – made by Demag.

PROPERTIES

- High-quality plastic which is highly resistant to impacts
- Protection against bending and impacts
- IP 65 enclosure: effective protection against dust and moisture
- 2-stage or stepless switching elements
- DSK and DST control pendants also for conventional controls

PROPERTIES

- Simple adjustment of DSC and DSE control pendants to achieve optimum working height for specific needs
- Control cable length can be adjusted by a mechanism without the need for any wiring
- Adjusting mechanism also contains the rugged strain relief arrangement for the control cable
- The control cable is made of a proven and particularly tough material
- Alternatively, the support sleeve or 2TY control cables can be used for special operating conditions



Push-travel trolleys

U/RU PUSH-TRAVEL TROLLEYS

U/RU trolleys are available in four sizes for load capacities up to 1,100 kg (U11), up to 2,200 kg (U22), up to 3,400 kg (U34) or up to 5,600 kg (RU56).

- Flange width ranges up to max. 500 mm
- Infinitely variable flange width adjustment with adjusting rings
- Fast and simple installation
- Smooth travel and low travel resistance
- Travel rollers made of high-strength and wear-resistant Polyamide or spheroidal-graphite cast iron
- Can be used on parallel and sloping flanges
- Long service life and reliable travel thanks to flangeless travel wheels and steel guide rollers
- Minimised girder wear
- Side sections made of die-cast aluminium with high-quality powder-coating
- Integrated drop-stop and lift-off protection



CF 5 CLICK-FIT PUSH-TRAVEL TROLLEY

Simply clicked onto the girder, curve-negotiating Click-fit trolleys are ready for operation with a load capacity of up to 550 kg.

- Flange widths from 58 to 91 mm
- For curve radii from 800 mm
- Integrated drop-stop and lift-off protection



CLAMP-FITTED BUFFERS

KPA/KPT clamp-fitted buffers are the ideal solution to limit travel and match DC trolleys. They can be fitted bolted to sloping and parallel I-beam girders quickly and easily.

POWER SUPPLY

KBK 25 trailing cable can be used as a power supply line to the travelling hoist as well as for optional mobile control pendants, together with a separate rail. The DCL-Pro compact conductor line can be used as an alternative power supply arrangement.

Electric-travel trolleys

ELECTRIC TRAVEL DRIVES AND TROLLEYS

E11, E22-C and E34 electric travel drives have been specially developed for operation with DC chain hoists.

- Fast and easy installation of the travel drives to U11 on U34 trolleys
- The control system integrated in the travel unit provides for excellent travel characteristics
- Smooth starting and braking for low-sway load handling
- Speeds and acceleration/braking rates can be modified by means of the control pendant, if required
- All electric connections are of plug-in design
- Optional travel limit switches
- State-of-the-art, compact industrial design

TRAVEL DRIVE SPEEDS

- E11/E22-C up to 24/6 m/min (27 m/min for E22-C with RF125)
- E34 up to 14/3.4 m/min

ZBF MOTOR TRAVEL SPEEDS

- 12/4, 20/5, 24/6, 40/10 m/min depending on load

U11 to U34 and EU56 trolleys can be driven by ZB AC motors for applications with travelling hoists that have direct or conventional contactor controls.



Operation on KBK with RF 125 friction wheel travel drive and E22-C travel drive

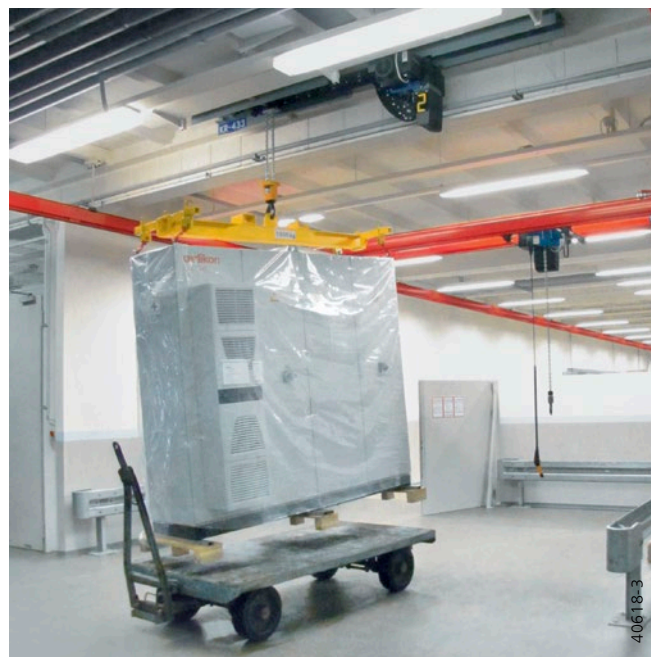
Travelling hoist variants

LOW-HEADROOM DESIGN

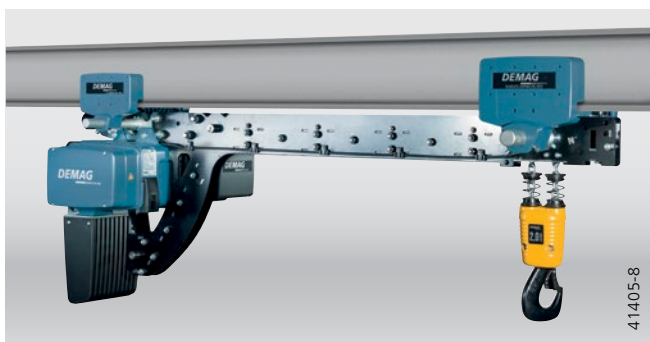
The particularly compact KDC monorail travelling hoist offers extremely low headroom for optimum utilisation of the hook path. The KLDC travelling hoist for big bags with an extended distance between hooks can be used for large load spreaders.



Low-headroom travelling hoist for restricted space



KLDC low-headroom travelling hoist with extended hook lead-off (for big bags)



Low-headroom travelling hoist with extended hook lead-off

ARTICULATED TROLLEY FOR CURVED TRACKS

R/EUDDC (standard-headroom) and R/EKDDC (low-headroom) monorail travelling hoists with articulated trolleys are ideally suited for travel on curved tracks made of I-beam girders.

- For curve radii from 800 mm
- Lateral guide rollers for quiet operation and gentle on the runway
- Travel motor mounted on angular gearbox for travel through narrow openings



EKDDC articulated monorail hoist (low-headroom design)

TWO CHAIN LEAD-OFFS – MECHANICALLY SYNCHRONISED

Double chain hoists that have two mechanically synchronised chain lead-offs are particularly suited for handling long materials and for spreader operation. LDC-D or KLDC-D variants can be supplied.

LDC-D BENEFITS:

- Suitable for higher speeds
- Longer chain service life thanks to reduced
- polygon effect since there are no additional chain return sprockets

KLDC-D BENEFITS:

- C-dimension advantage as for low-headroom units



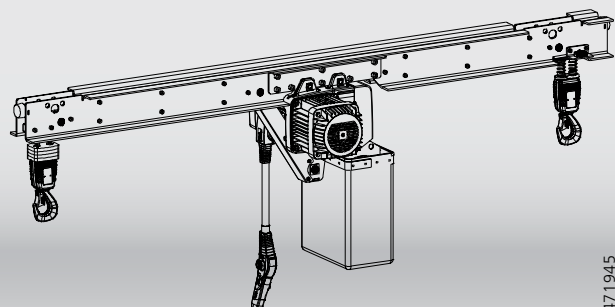
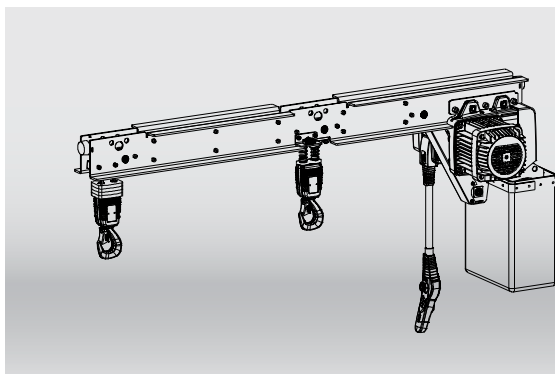
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LDC-D double chain hoist with connecting shaft



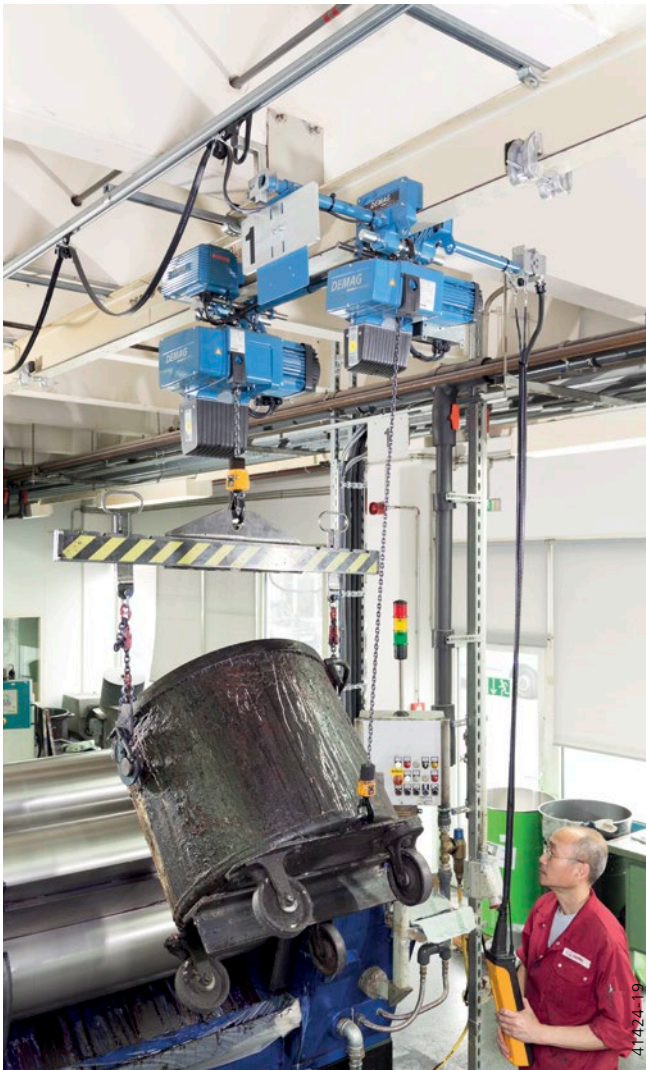
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KLDC-D double chain hoist: low-headroom design, 2/4 lead-off position



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KLDC-D double chain hoist: low-headroom design, 3/4 and 4/5 lead-off position



TWO CHAIN LEAD-OFFS – TANDEM OPERATION

Two chain hoists can be used in tandem as an alternative to mechanically synchronised double chain hoists for transporting long materials and car bodies, etc.

- Parallel control from one control point
- Tandem control (not synchronised control) for safe operation as a group according to DIN EN 15011
- Individual chain hoists can be controlled by means of a selector switch



FOUR CHAIN LEAD-OFFS

Four attachment points may be necessary for transporting dedicated load handling attachments or parts that have a large surface area. Demag offers its mechanically synchronised LDC-Q Quadro chain hoist that has four chain lead-offs to meet these needs. One chain hoist drives all four chain drives via corresponding connection elements.

Alternatively, four separate DC chain hoists can also be operated under parallel electric control.

Handling suspended loads above workers in a zinc coating shop according to BGV D8+ with two double chain hoists operating in tandem

Technical data – selection criteria

The size of the hoist is determined by the

- Load spectrum
- Average operating time
- Load capacity
- Reeving method

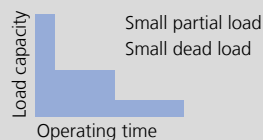
1. What are the operating conditions?
2. What is the specified safe working load?
3. To what height must the load be lifted?
4. What is the required lifting speed?
5. Do the loads need to be lifted and lowered with great accuracy?
6. Is horizontal load travel necessary?
7. How is the hoist to be controlled?

THE LOAD SPECTRUM

(in most cases estimated) can be evaluated according to the definitions below:

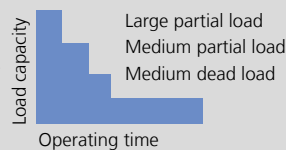
1 Light

Hoist units which are usually subject to very small loads and only in exceptional cases to maximum loads.



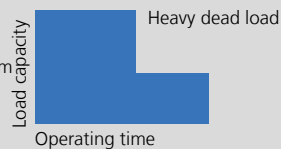
2 Medium

Hoist units which are usually subject to small loads but often to maximum loads.



3 Heavy

Hoist units which are usually subject to medium loads but frequently to maximum loads.



4 Very heavy

Hoist units which are usually subject to maximum or almost maximum loads.



EXAMPLE: →

Load capacity	250 kg
Load spectrum from table	Medium
Lifting speed	8 m/min
Reeving method	1/1
Average hook path	4 m
Number of cycles/hour	20
Working time/day	8 hours

The average operating time per working day is estimated or calculated as follows:

$$\text{Operating time per day} = \frac{2 \cdot \text{average hook path} \cdot \text{no. of cycles/h} \cdot \text{working time/day}}{60 \cdot \text{lifting speed}}$$

$$\text{Operating time/day} = \frac{2 \cdot 4 \cdot 20 \cdot 8}{60 \cdot 8} = 2.66 \text{ hours}$$

For the medium load spectrum and an average daily operating time of 2.66 hours, the table shows group 2m+. For a load capacity of 250 kg, the diagram shows size DC-Pro 2 – 250.

DC-Com chain hoist with 2 lifting speeds and electronic control

Load capacity	Chain hoist	Hook path	Lifting speed		Group of mechanisms	Reeving	Weight
[kg]	Type/size	from [m]	at 50 Hz [m/min]	at 60 Hz [m/min]	FEM/ISO		[kg]
80	DC-Com 1	4	8/2	9.6/2.4	4m/M7	1/1	21
100/125					3m/M6		
160	DC-Com 2		6/1.5	7.2/1.8	3m/M6		27
200/250					2m/M5		
315	DC-Com 5		4.5/1.1	5.4/1.3	3m/M6	2/1	47
400/500					2m/M5		
630	DC-Com 10		4/1	4.8/1.2	3m/M6		63
800/1,000					2m/M5		
1,250	DC-Com 10		4/1	4.8/1.2	3m/M6	2/1	63
1,600/2,000					2m/M5		

The chain hoist group of mechanisms is determined by the load spectrum and operating time.

Load spectrum		Average operating time per working day in hours			
L1	Light	2-4	4-8	8-16	more than 16
L2	Medium	1-2	2-4	4-8	8-16
L3	Heavy	0.5-1	1-2	2-4	4-8
L4	Very heavy	0.25-0.5	0.5-1	1-2	2-4
Group of mechanisms to DIN EN 14492		1Am	2m+	3m	4m

Load capacity for reeving		Product type and size	Lifting speed		
1/1 [kg]	2/1 [kg]		at 50 Hz [m/min]		
80/100/125		DC-Pro 1	8/2		80
		DC-Pro 2	16/4		80
		DC-Pro 5	24/6		80
160		DC-Pro 2	8/2		160
		DC-Pro 5	16/4		160
		DC-Pro 5	24/6		160
200		DC-Pro 2	8/2	200	
		DC-Pro 5	16/4		200
		DC-Pro 10	24/6		200
250		DC-Pro 2	8/2	250	
250		DC-Pro 5	16/4		250
		DC-Pro 10	24/6		250
315		DC-Pro 5	8/2		315
		DC-Pro 10	12/3		315
		DC-Pro 10	24/6		315
400		DC-Pro 5	8/2	400	
		DC-Pro 10	12/3	400	
		DC-Pro 10	24/6	400	
500		DC-Pro 5	8/2	500	
		DC-Pro 10	12/3	500	
		DC-Pro 10	24/6	500	
630		DC-Pro 10	6/1.5		630
		DC-Pro 10	12/3		630
800		DC-Pro 10	6/1.5	800	
		DC-Pro 10	12/3	800	
1,000		DC-Pro 10	6/1.5	1,000	
		DC-Pro 15	8/2	1,000	1,000
1,250		DC-Pro 10	12/3		
		DC-Pro 10	8/2	1,250	
		DC-Pro 15	8/2	1,250	1,250
	1,250	DC-Pro 16	12/3	1,250	
1,600		DC-Pro 10	6/1.5		1,250
		DC-Pro 15	8/2	1,600	
		DC-Pro 16	12/3	1,600	
	1,600	DC-Pro 10	6/1.5	1,600	
2,000		DC-Pro 25	8/2	2,000	
		DC-Pro 10	6/1.5	2,000	
2,500	2,000	DC-Pro 15	4/1		2,000
		DC-Pro 25	8/2	2,500	
		DC-Pro 10	4/1	2,500	
2,500		DC-Pro 15	4/1		2,500
	2,500	DC-Pro 16	6/1.5	2,500	
				2,500	
3,200		DC-Pro 15	4/1	3,200	
		DC-Pro 16	6/1.5	3,200	
4,000		DC-Pro 25	4/1	4,000	
5,000		DC-Pro 25	4/1	5,000	

**DC-Pro chain hoist with 2 lifting speeds
and electronic control or conventional direct/contacter control (DC/CC)**

Load capacity	Chain hoist		Hook path	Lifting speed		Group of mechanisms	Reeving	Weight
[kg]	Type/size		from [m]	at 50 Hz [m/min]	at 60 Hz [m/min]	FEM/ISO		[kg]
80	DC-Pro 1	DCM-Pro 1 ¹⁾	3	DCM: 2.8 & 4.3	8/2	4m/M7	1/1	22
	DC-Pro 2	DCM-Pro 2 ¹⁾			16/4			
	DC-Pro 5			24/6 ⁶⁾	28.8/7.2			28
100	DC-Pro 1		3		8/2	4m/M7	1/1	22
	DC-Pro 2				16/4			
	DC-Pro 5			24/6 ⁶⁾	28.8/7.2			28
125	DC-Pro 1	DCM-Pro 1 ¹⁾	3	DCM: 2.8 & 4.3	8/2	4m/M7	1/1	22
	DC-Pro 2	DCM-Pro 2 ¹⁾			16/4			
	DC-Pro 5			24/6 ⁶⁾	28.8/7.2			28
160	DC-Pro 2		3		8/2	4m/M7	1/1	22
	DC-Pro 5				16/4			
				24/6 ⁶⁾	28.8/7.2			28
200	DC-Pro 2	DCM-Pro 2 ¹⁾	3	DCM: 2.8 & 4.3	8/2	3m/M6	1/1	22
	DC-Pro 5	DCM-Pro 5 ¹⁾			16/4	4m/M7		28
	DC-Pro 10			24/6 ⁶⁾	28.8/7.2			48
250	DC-Pro 2	DCM-Pro 2 ¹⁾	3	DCM: 2.8 & 4.3	8/2	2m+ ²⁾ /M5+	1/1	22
	DC-Pro 5	DCM-Pro 5 ¹⁾			16/4			28
	DC-Pro 10			24/6 ⁶⁾	28.8/7.2			48
315	DC-Pro 5		3		8/2	4m/M7	1/1	28
	DC-Pro 10				12/3			48
				24/6 ⁶⁾	28.8/7.2			56
400	DC-Pro 5		3		8/2	3m/M6	1/1	28
	DC-Pro 10				12/3	4m/M7		48
				24/6 ⁶⁾	28.8/7.2	3m/M6		56
500	DC-Pro 5		3		8/2	2m+ ²⁾ /M5+	1/1	28
	DC-Pro 10				12/3	4m/M7		48
				24/6 ⁶⁾	28.8/7.2	2m+ ²⁾ /M5+		56
630	DC-Pro 10		3		6/1.5	4m/M7	1/1	48
					12/3			56
					6/1.5			48
800	DC-Pro 10		3		12/3	3m/M6	1/1	56
					6/1.5			48
					12/3			56
1,000	DC-Pro 10		3		6/1.5	2m+ ²⁾ /M5+	1/1	48
					12/3	2m+ ²⁾ 3)/M5+		56
	DC-Pro 15				8/2	4m ⁴⁾ /M7		71
1,250	DC-Pro 10		3		6/1.5	4m/M7	2/1	65
					8/2	1Am ⁵⁾ /M4	1/1	56
	DC-Pro 15				8/2	3m ⁴⁾ /M6		71
1,600	DC-Pro 16		3		12/3	3m ³⁾ /M6	1/1	111
	DC-Pro 10				6/1.5	3m/M6		65
	DC-Pro 15				8/2	2m+ ²⁾ 6)/M5+		71
2,000	DC-Pro 16		3		12/3	2m+ ²⁾ 5)/M5+	1/1	111
	DC-Pro 10				6/1.5	2m+ ²⁾ 3)/M5+		65
	DC-Pro 15				4/1	4m ⁷⁾ /M7		83
2,500	DC-Pro 25		3		8/2	2m+ ²⁾	1/1	113
	DC-Pro 10				4/1	1Am ⁵⁾ /M4		65
	DC-Pro 15				6/1.5	3m/M6		83
3,200	DC-Pro 16		3		8/2	1Am/M4	1/1	113
	DC-Pro 10				4/1	2m+ ²⁾ 3)/M5+		83
	DC-Pro 15				6/1.5	2m+ ²⁾ 6)/M5+		110
4,000	DC-Pro 25		3		4/1	2m+ ²⁾ /M5+	2/1	125
5,000						1Am/M4		

¹⁾ DCM-Pro only with electronic control, ²⁾ 2m+ corresponds to 1,900 hours at full load, ³⁾ Chain drive FEM 1Am according to DIN EN 818-7, ⁴⁾ Chain drive FEM 2m according to DIN EN 818-7, ⁵⁾ Chain drive FEM 1Cm according to DIN EN 818-7, ⁶⁾ Chain drive FEM 18m according to DIN EN 818-7, ⁷⁾ Chain drive FEM 3m according to DIN EN 818-7, ⁸⁾ Only with operating limit switch for lifting motion

**DCS chain hoist with variable lifting speed
and integrated inverter control (DCS) or prepared for customer's own control system (FC)**

Load capacity	Chain hoist		Hook path		Lifting speed for 50/60 Hz		Group of mechanisms	Reeving	Weight
[kg]	Type/size		from [m]		Min. – rated ~ [m/min]	Max. ~ ⁸⁾ [m/min]	FEM/ISO		[kg]
80	DCS-Pro 1	DCMS-Pro 1 ¹⁾ DCRS-Pro 1 ¹⁾	3	DCMS: DCRS: 2.8 & 4.3	0.15–30	30	4m/M7		25
100	DCS-Pro 1		3						
125	DCS-Pro 1	DCMS-Pro 1 ¹⁾ DCRS-Pro 1 ¹⁾	3	DCMS: DCRS: 2.8 & 4.3	0.15–16	30	2m+ ²⁾ /M5+	1/1	25
160	DCS-Pro 2		3						
200	DCS-Pro 2	DCMS-Pro 2 ¹⁾ DCRS-Pro 2 ¹⁾	3	DCMS: DCRS: 2.8 & 4.3					
250									
315	DCS-Pro 5		3		0.08–8	15	2m+ ²⁾ /M5+		29
	DCS-Pro 10				0.11–12	22	4m/M7		54
400	DCS-Pro 5				0.08–8	15	2m+ ²⁾ /M5+		29
	DCS-Pro 10				0.11–12	22	4m/M7		54
500	DCS-Pro 5				0.08–8	15	2m+ ²⁾ /M5+		29
	DCS-Pro 10				0.11–12	22	4m/M7		54
630					0.06–6	11	4m/M7		54
					0.11–12	22			59
800					0.06–6	11	3m/M6		54
					0.11–12	22			59
1,000					0.06–6	11	2m+ ²⁾ /M5+		54
	0.11–12	22			2m+ ^{2) 3)} /M5+		59		
	DCS-Pro 15		3	0.08–8	15	4m ⁴⁾ /M7		74	
1,250	DCS-Pro 10		3	0.04–4	7	1Am ⁵⁾ /M4		54	
				0.06–6	11	4m/M7	2/1	68	
	DCS-Pro 15		3	0.08–8	15	3m ³⁾ /M6	1/1	74	
1,600	DCS-Pro 10		3	0.06–6	11	3m/M6	2/1	68	
	DCS-Pro 15		3	0.08–8	15	2m+ ^{2) 6)} /M5+	1/1	74	
2,000	DCS-Pro 10		3	0.06–6	11	2m+ ^{2) 3)} /M5+	2/1	68	
	DCS-Pro 15		3			4m ⁷⁾ /M7		86	
2,500	DCS-Pro 10		3	0.04–4	7	1Am ⁵⁾ /M4			68
								3m ⁴⁾ /M6	
3,200	DCS-Pro 15		3			2m+ ^{2) 3)} /M5+		86	

¹⁾ DCMS/DCRS-Pro only with electronic control, ²⁾ 2m+ corresponds to 1,900 hours at full load, ³⁾ Chain drive FEM 1Am to DIN EN 818-7,

⁴⁾ Chain drive FEM 2m to DIN EN 818-7, ⁵⁾ Chain drive FEM 1Cm to DIN EN 818-7, ⁶⁾ Chain drive FEM 1Bm to DIN EN 818-7, ⁷⁾ Chain drive FEM 3m to DIN EN 818-7

⁸⁾ Max. lifting speed in the partial load range/without load



DC-Com



DC-Pro



DCS-Pro



DCM-Pro
DCMS-Pro



DCRS-Pro