The solution to meet special requirements

Demag DH hoist units

DEMAG

Demag DH hoist units – for solutions beyond classic crane applications

Synchronised DH hoist units lift and lower a roof segment in a shopping centre

DH hoist unit with two hook lead-offs for transporting mould jigs without any hook travel

Demag DH hoist units are not only designed for conventional lifting operations on cranes and monorails, but are also ideal for special applications. Installed as stationary or travelling units, they are more than just hoists – thanks to gentle handling with high load capacities and flexible integration into almost any superstructure, they can be used as key elements in lifting stations, winch arrangements and architectural applications, for example.

TOUGH SOLUTION

DH hoist units are specially designed for rugged applications to ensure reliable operation even in the toughest environments, such as in foundries or galvanising facilities which have high ambient temperatures, high dust levels and aggressive atmospheres.

VERSATILE APPLICATION

Their modular design concept and flexible mounting arrangements enable DH hoist units to be integrated into almost any superstructure with ease. Their many variants and options facilitate an almost unlimited range of applications.

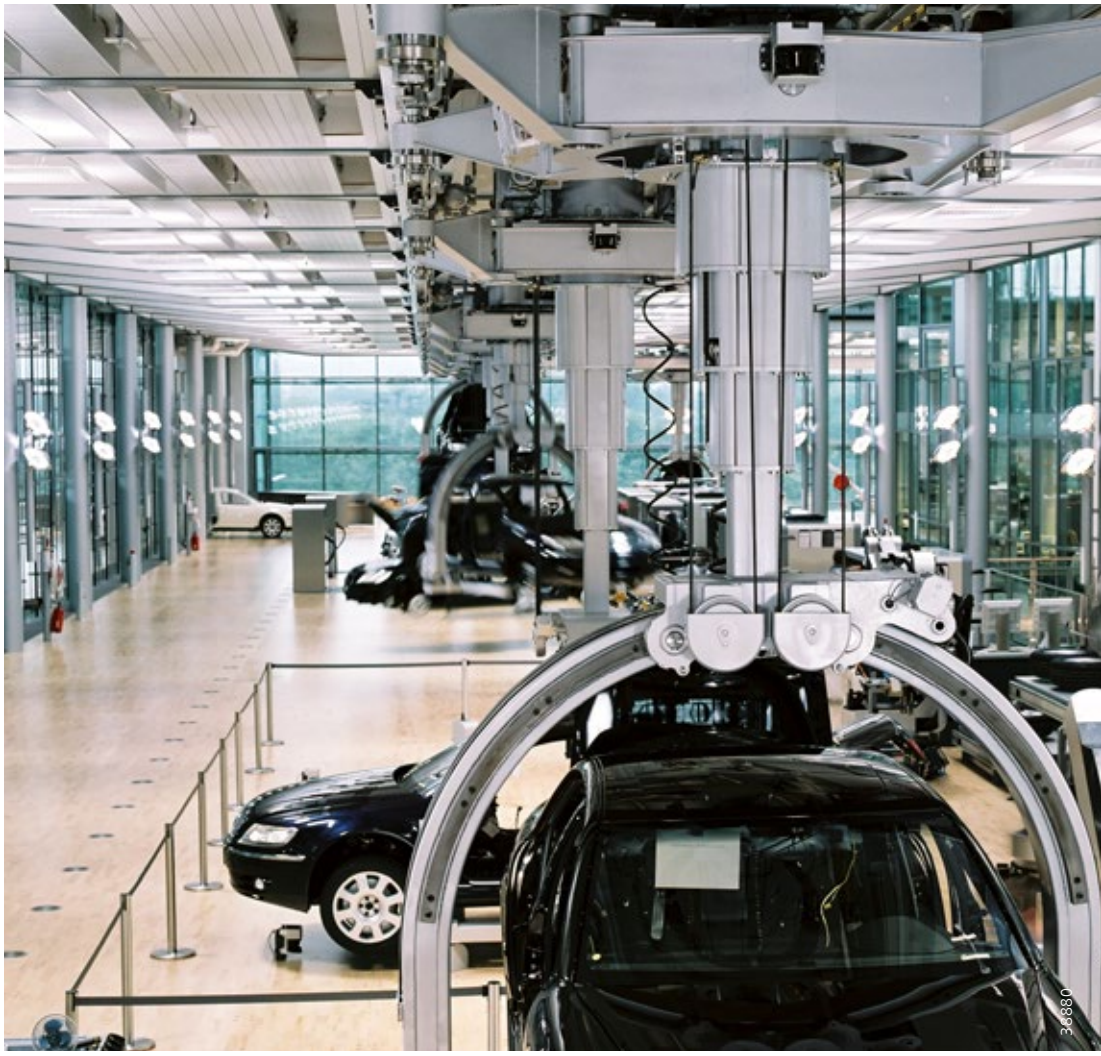
KEY FEATURES

- Rugged design – tried and tested in thousands of applications worldwide
- Simple integration into any design
- High switching frequencies and high duty factors
- Precise positioning with mechanical microspeed
- Load capacity up to 100 t
- Hook path up to 104 m

24640

Special technical features to meet various operating requirements

- High number of starts/stops and high duty factor thanks to mechanical microspeed and conicalrotor brake motors; also for high ambient temperatures
- Highly precise positioning with mechanical microspeed
- Various rope drum designs available: one, two, four, six and eight grooves
- Limit positions reliably monitored by precision limit switches that are driven direct by the drum
- Rugged, low-maintenance contactor control for reliable operation also in arduous environments
- Simple integration into any design
- Torsionally rigid frame open on all sides – for bolted connection on all sides
- Rope lead-off possible in any direction
- Rope reeving arrangement configured to meet specific technical requirements
- Freely selectable lifting speeds over a wide range
- Basic hoist with electric enclosure, optionally with or without electric equipment
- Wide variety of options available, such as the mechanical coupling of several hoist units



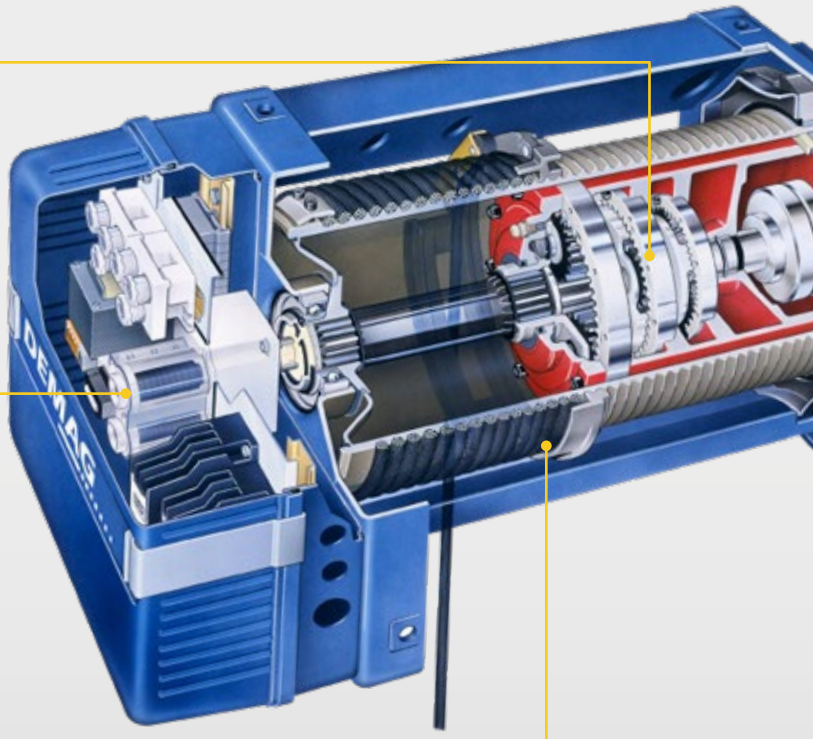
DH hoist units in the production line of a car manufacturing plant

Versatile, reliable and rugged – a hoist unit that has many strengths

Demag DH hoist units are of consistent modular construction and are based on perfectly matched components of rugged design. Consequently, they provide ideal solutions to meet individual requirements, even for unusual applications. Demag DH hoist units are in operation in more than 100 countries all over the world, offering outstanding safety and reliability.

GEARBOX ASSEMBLY

- Space-saving planetary gearbox arrangement, integrated and protected inside the drum
- High safety and reliability and long service life thanks to load and output distribution
- High efficiency, low-noise operation, lubricated for life



ELECTRIC CONTROL EQUIPMENT

- Rugged, low-maintenance control
- Integrated electric equipment for lifting and cross-travel motions
- Geared limit switch for reliable cut-off of the hoist unit in the upper and lower hook positions; with switching elements for additional operating points
- Load detector for overload protection and overload cut-off; either as a limit switch or with electronic strain gauge carrier link
- Electric equipment enclosure optionally without any electric equipment

BOTTOM BLOCKS FITTED WITH DIN-RATED LOAD HOOKS

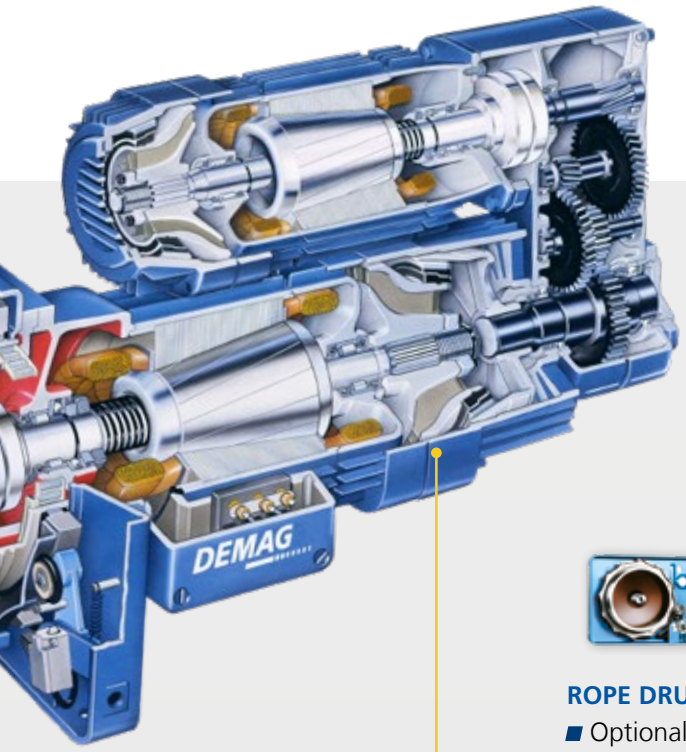
- Rope sheaves with uniform hardness for a longer service life
- Single or multi-sheave bottom blocks depending on the reeving arrangement
- Safe and reliable handling thanks to improved grip

ROPE GUIDE

- Made of tough, wear-resistant plastic
- Can be replaced without the need for special tools
- Inclined pull up to 4° without touching the rope guide
- Special designs available

DEMAG DST CONTROL PENDANT

- Pendant switch arrangements for controlling Demag DH hoist units
- Direct or contactor control
- High switching capacity
- Ergonomic handling thanks to the sloping housing design of the control pendant



DEMAG DRC RADIO CONTROL

- Hand-held transmitters for controlling Demag DH hoist units, also at a relatively large distance
- Highly reliable data transmission thanks to frequency hopping
- Simple and fast commissioning by means of wireless transmitter log-on
- Impact and temperature-resistant housing design
- 100 m range

ROPE DRUM BRAKE

- Optional emergency brake or holding brake, acting directly on the rope drum

DRIVE WITH MECHANICAL MICROSPEED UNIT

- Separate motors for main and creep lifting motions
- Particularly precise positioning
- High number of starts/stops and high duty factor also for high ambient temperatures
- Sliding-rotor motors with integrated conical brake
- High braking capacity and reliable braking without any control devices when the system is switched off or in the event of a power failure
- Alternative creep-lifting motion by means of pole-changing function
- Infinitely variable speed control thanks to optional frequency inverter

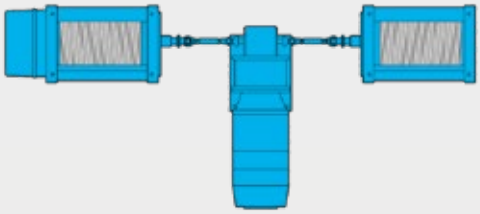
Stationary or travelling units – to meet your needs

Demag DH hoist units can be used in a wide variety of applications. They can be integrated into lift stations, towing winches and many other appliances or made up into travelling hoist units with a variety of trolleys.

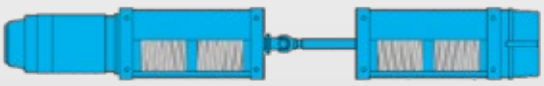
COUPLED HOIST UNITS

- Rugged solution for spreader operation, transporting long materials and non-crane applications
- Exact simultaneous operation also for large distances between ropes
- Designed as a modular system for two and four-point rope suspensions
- Can be combined with all options
- Universal joint shaft connection for compensation of any misalignment
- Easy assembly

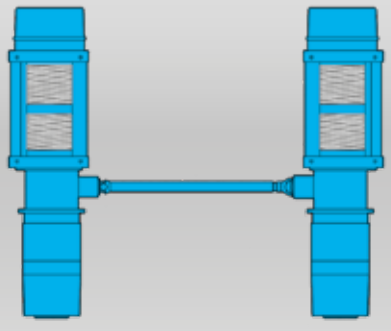
DH hoist units with a rope stabilising arrangement transporting sheet steel with the help of magnet spreaders at a steel supplier's depot



Coaxially coupled hoist unit with angular gearbox, type GW



Coaxially coupled hoist unit, type GK



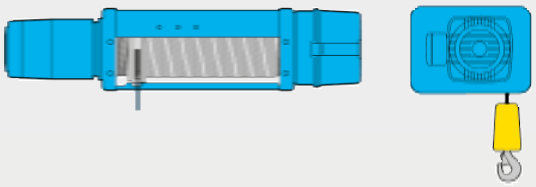
Parallel gekuppeltes H Parallel coupled hoist unit, type GP ubwerk, Typ GP

TRAVEL UNITS

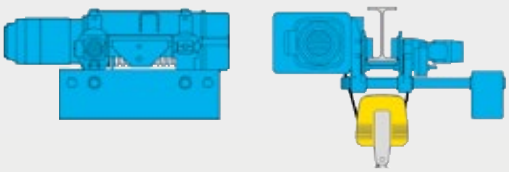
- Travel wheels of highly wear-resistant spheroidal-graphite cast iron
- Quiet running characteristics and high inherent vibration-damping effect that is kind to the rail
- Low friction and high resistance to wear thanks to the self-lubricating properties of graphite inclusions
- Optimum load distribution thanks to special travel wheel shape which transmits wheel contact forces close to the centre of the girder
- Generously dimensioned anti-friction bearings with long service life

TRAVEL MOTORS

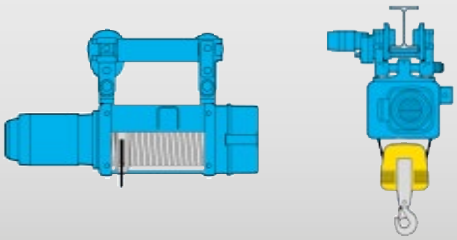
- Smooth starting and braking
- Low-sway load motion
- Fast and precise travel to the required target position



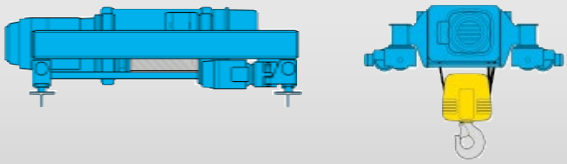
Direct connection for Demag DH hoist units
The two foot-mounting flanges of the square frame design enable DH hoists to be simply mounted on any of the four sides. Rope lead-off in virtually any direction suits all applications.



EKDH low-headroom monorail hoist
The ideal solution for optimum utilisation of the available headroom and particularly favourable hook dimensions. Also available as an **EKDDH articulated monorail hoist** for suspension monorail systems with many branch tracks.



EUDH standard-headroom monorail hoist
The cost-effective solution for monorails and single-girder cranes. The travel unit is infinitely adjustable to fit a wide range of flange widths. Also available as an **EUDDH articulated monorail hoist** for travel on curved tracks; up to 25 t also as double trolley units.

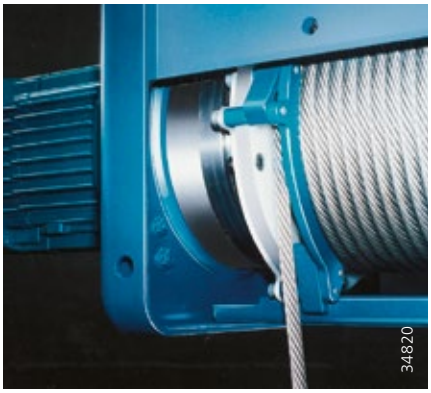


EZDH double-rail crab
For higher loads on double-girder cranes; optimum utilisation of the available space thanks to the low-headroom design and favourable approach dimensions. Also available as an **EZLDH double-rail crab** with symmetrical load distribution on the crane girders for optimum crane girder dimensions.

Rope guides – protection against extreme loads

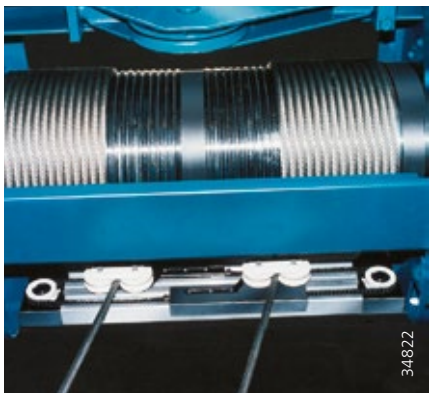
Rope guides protect Demag DH hoist units against extreme loads resulting from inclined pull, swinging loads and rope vibration.

Made of tough and wear-resistant plastic, our rope guides accommodate inclined rope pull of up to 4° without any contact and can be replaced without the need for special tools. Rope guides in a variety of special designs are available for special loads.



F TYPE ROPE GUIDE
For outdoor operation in all seasons

S TYPE ROPE GUIDE
For loads resulting from medium inclined pull on single-groove rope drums



DSZ DOUBLE ROPE GUIDE
Reliable protection for double-groove hoist units against extreme loads resulting from inclined pull, swinging loads and rope vibration

ONLINE PLANNING WITH DEMAG DESIGNER
Demag Designer makes it easy for you to integrate Demag DH hoist units into your CAD design process and to select and order parts. Supported by an interactive user interface, you can quickly and easily select all the information, calculation data, order numbers and prices you need.

Configure the hoist unit to meet your individual requirements.
Visit: www.demag-designer.com

After-sales service all over the world

We offer you a wide range of innovative services to cover the entire life cycle of your installations.

From a single source. And the same applies to our Demag brand cranes, hoists, load handling attachments and related components and to products supplied by other manufacturers. Our goal is to enable you to concentrate fully on your core business by giving you the certainty that your installations operate reliably, efficiently and without any faults or malfunctions.

Our service consultants support you with a wide range of industry-specific expertise to incorporate your individual requirements into an optimum service strategy. Demag service engineers are extensively trained and receive continuous further training to maintain their qualifications. The result is extremely high-quality service from a single source.

DH hoist unit selection criteria

THE SIZE OF THE HOIST IS DETERMINED BY THE

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

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?

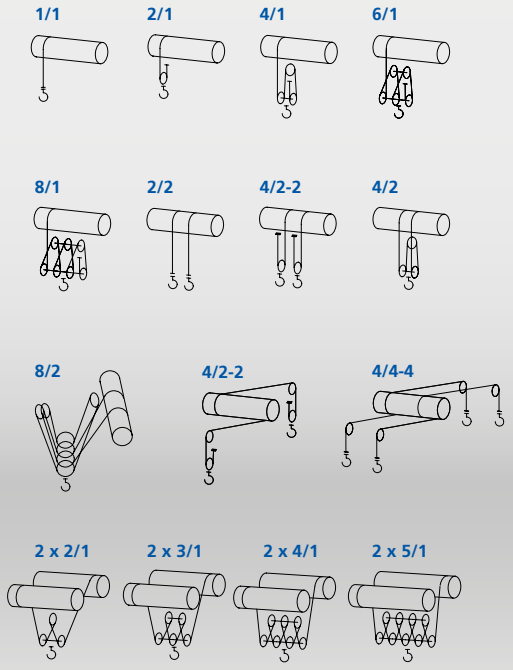
EXPLANATION OF SIZE DESIGNATION

E	U	DH	1050	H16	K	V1 -	4 /1	F6	1400	12.5

- 12.5: Cross travel in m/min
- 1400: Track gauge in mm
- F6: F 6 – creep lifting 1:6 DH (pole-changing); F 10 – creep lifting 1:10 DH (microspeed unit)
- 4 /1: Single-groove drum, Four-fall reeving
- V1 -: Lifting speed
- K: Motor type: K = Squirrel-cage rotor / S = Slip-ring rotor
- H16: Hook path 16 m (for 2/1 reeving)
- 1050: Range 1000, Size 1050, Rope pull on the drum: 50 kN
- DH: Demag hoist unit type DH
- U: U = Standard-headroom monorail hoist; K = Low-headroom monorail hoist; Z = Double-rail crab
- E: E = Electric travel trolley

ROPE REEVING ARRANGEMENTS

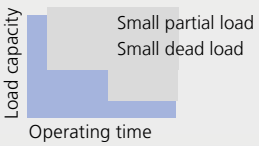
The right variant for every application



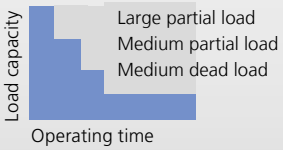
THE LOAD SPECTRUM

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

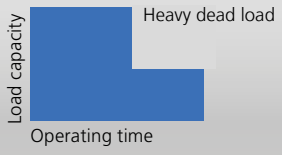
1 LIGHT
Hoist units which are usually subject to very small loads and in exceptional cases only to maximum loads.



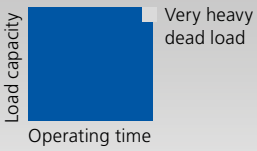
2 MEDIUM
Hoist units which are usually subject to small loads but often to maximum loads.



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	10,000 kg
Load spectrum	"Light" from table
Lifting speed	8 m/min
Creep lifting speed	1.3 m/min
Reeving	2/1
Average hook path	4 m
Number of cycles/hour	20
Working time/day	8 hours

Example of a calculation to FEM/ISO

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

$$\text{Operating time/day} = \frac{2 \times \text{avg. hook path} \times \text{no. of cycles/hour} \times \text{working time/day}}{60 \times \text{lifting speed}}$$

$$= \frac{2 \times 4 \times 20 \times 8}{60 \times 6} = 2.66 \text{ hours}$$

For the "light" load spectrum and an average daily operating time of 2.66 hours, the table shows group 1Am. For a load capacity of 10,000 kg and 2/1 rope reeving, the diagram indicates hoist size DH 1050.

THE GROUP IS DETERMINED FROM THE OPERATING TIME AND LOAD SPECTRUM.

Load spectrum		Average operating time per working day (hours)				
1	Light	up to 2	2–4	4–8	8–16	more than 16
2	Medium	up to 1	1–2	2–4	4–8	8–16
3	Heavy	up to 0.5	0.5–1	1–2	2–4	4–8
4	Very heavy	up to 0.25	0.25–0.5	0.5–1	1–2	2–4
Group of mechanisms to FEM		**1 Bm**	**1 Am**	**2 m**	**3 m**	**4 m**
Group of mechanisms to ISO		**M3**	**M4**	**M5**	**M6**	**M7**

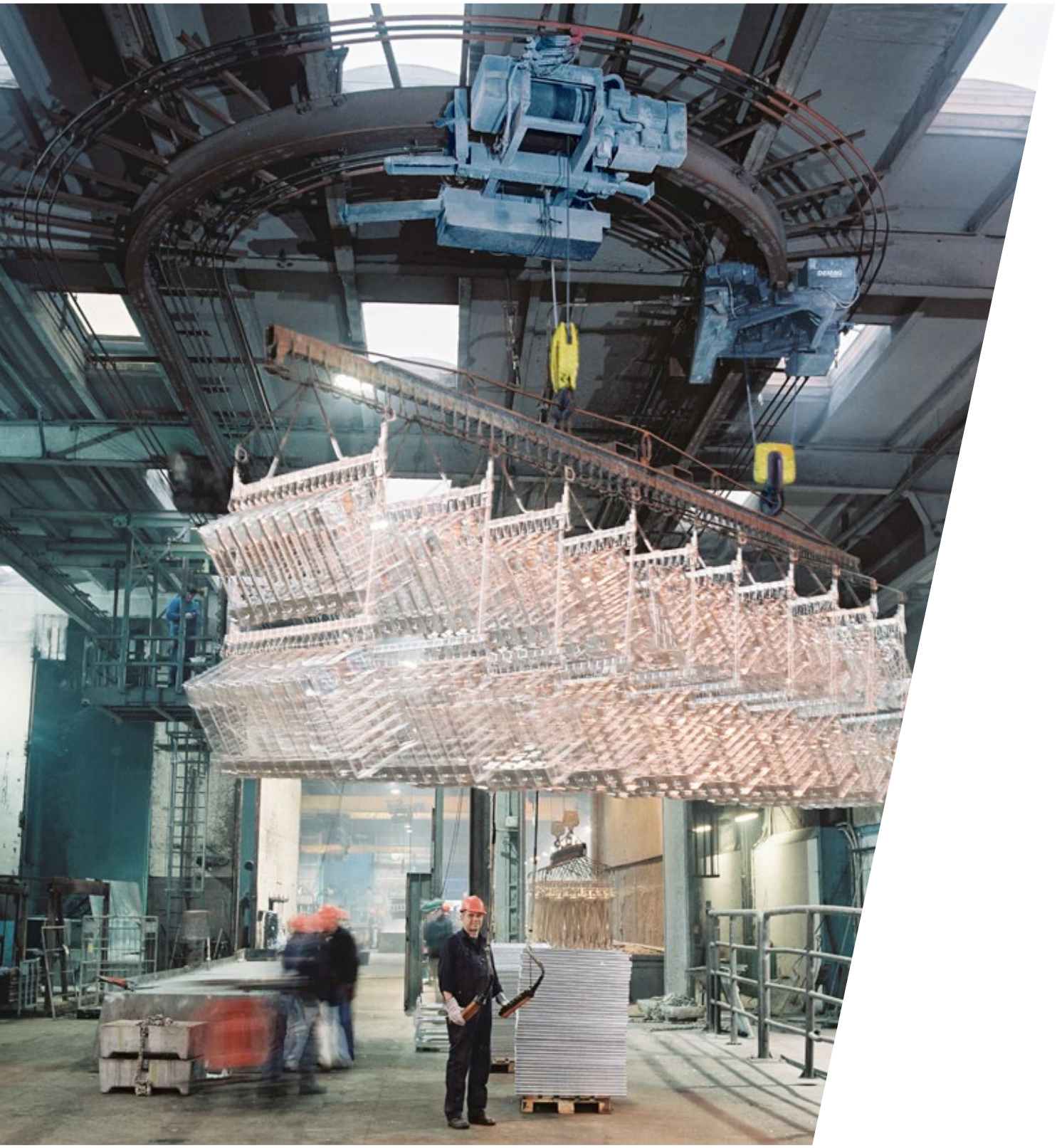
Reeving arrangement				
2/2	4/2	8/2		
1/1	2/1	4/1	6/1	8/1

Load capacity [kg]					Range	Size				
1,600	3,200	6,300	–	–	DH	–	–	–	–	616
2,000	4,000	8,000	12,500	16,000	DH	–	–	–	620	–
2,500	5,000	10,000	16,000	20,000	DH	–	–	625	–	1025
3,200	6,300	12,500	20,000	25,000	DH	–	632	–	1032	–
4,000	8,000	16,000	25,000	32,000	DH	640	–	1040	–	–
5,000	10,000	20,000	32,000	40,000	DH	–	1050	–	–	2050
6,300	12,500	25,000	40,000	50,000	DH	1063	–	–	2063	–
8,000	16,000	32,000	50,000	63,000	DH	–		2080	–	–
10,000	20,000	40,000	63,000	63,000	DH	–	2100	–	–	–
12,500	25,000	50,000	80,000	100,000	DH	2125	–	–	–	–

DH HOIST UNIT SELECTION CRITERIA

Range	Group of mecha-nisms	Load capacity	Hook path for reeving		Max. lifting speed [1]	Load capacity	Hook path for reeving		Max. lifting speed [1]	Tragfähig-keit	Load capacity		Max. lifting speed [1]
	ISO	[kg]	[m]	[m]	[m/min]	[kg]	[m]	[m]	[m/min]	[kg]	[m]	[m]	[m/min]
			1/1	2/2-2			2/1	4/2			4/1	-	
DH 616 [2]	4m	1,600	24; 40; 80; 104	10.4; 20.4; 45.2; 60.4	20; 32	3,200	12; 20; 40; 52	5.2; 10.2; 22.6; 30.2	10; 16	6,300	6; 10; 20; 26	-	5; 8
DH 620 [2]	3m	2,000			16; 25	4,000			8; 12.5	8,000			4; 6.3
DH 625 [2]	2m	2,500			16; 25	5,000			8; 12.5	10,000			4; 6.3
DH 632 [2]	1Am	3,200			12.5; 20	6,300			6.3; 10	12,500			3.1; 5
DH 640 [2]	1Bm					8,000			5; 8	16,000			2.5; 4
			1/1	2/2-2			2/1	4/2			4/1	8/2	
DH 1025	4m	2,500	32; 48; 80; 102	16; 27; 49.6; 66	20; 32; 50	5,000	16; 24; 40; 51	8; 13.5; 24.8; 33	10; 16; 25	10,000	8; 12; 20; 25.5	4; 6.7; 12.4; 16.5	5; 8; 12.5
DH 1032	3m	3,200			16; 25; 36	6,300			8; 12.5; 18	12,500			4; 6.3; 9
DH 1040	2m	4,000			16; 25; 36	8,000			8; 12.5; 18	16,000			4; 6.3; 9
DH 1050	1Am	5,000			12.5; 20; 32	10,000			6.3; 10; 16	20,000			3.1; 5; 8
DH 1063	1Bm	6,300			10; 16; 24.2	12,500			5; 8; 12.5	25,000			2.5; 4; 6.3
			6/1	-			8/1	-					
DH 1040	2m	25,000	5.3; 8; 13.3; 17	-	2.6; 4.1; 6	32,000	4; 6; 10; 12.7	-	2; 3.1; 4.5				
DH 1050	1Am	32,000			2; 3.3; 5.3	40,000			1.5; 2.5; 4				
DH 1063	1Bm	40,000			1.6; 2.6; 4	50,000			1.2; 2; 3				
			1/1	2/2-2			2/1	4/2			4/1	8/2	
DH 2050	4m	5,000	-	13.8; 24.8; 48.8	16; 25; 32	10,000	18; 27; 47	6.9; 12.4; 24.4	8; 12.5; 16	20,000	9; 13.5; 23.5	3.4; 6.1; 12.1	4; 6.3; 8
DH 2063	3m	6,300	36; 54; 94		12.5; 20; 25	12,500			6.3; 10; 12.5	25,000			3.1; 5; 6.3
DH 2080	2m	8,000			12.5; 20; 25	16,000			6.3; 10; 12.5	32,000			3.1; 5; 6.3
DH 2100	1Am	10,000			10; 16; 20	20,000			5; 8; 10	40,000			2.5; 4; 5
DH 2125	1Bm	12,500			8; 12.5; 16	25,000			4; 6.3; 8	50,000			2; 3.1; 4
			6/1	-			8/1	-					
DH 2080	2m	50,000	6; 9; 15.7	-	2; 3.3; 4.1	63,000	4.5; 6.8; 11.8	-	1.5; 2.5; 3.1				
DH 2100	1Am	63,000			1.6; 2.6; 3.3	80,000			1.2; 2; 2.5				
DH 2125	1Bm	80,000			1.3; 2; 2.6	100,000			1; 1.6; 2				

1) Available creep-lifting mode: F6 (1:6) with a 2/12-pole motor / F10 (1:10) with mechanical microspeed / other creep lifting speeds on request.
2) DH 600 hoist units with H40 and H52 hook paths are only supplied as foot-mounted hoists.



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