DEMAG
A TEREX BRAND

Demag DR-Pro rope hoists

Versatile and fast

FOR LOADS WEIGHING UP TO 50 TONS

High performance also under harsh conditions

39952-61

Demag DR-Pro rope hoists

Demag DR-Pro rope hoists meet all the requirements of state-of-the-art hoist units. Besides their particularly long service life, they also offer comprehensive standard features. Their excellent value for money gives you the certainty of a reliable long-term investment.

DESIGNED TO MEET YOUR SPECIFIC NEEDS
From basic hoists without any electric equipment to double-rail crabs that are ready for operation, we supply DR-Pro rope hoists to match your specifications. We also provide solutions tailored to meet individual requirements – from variants without controls to processor-controlled systems.

HIGHER LIFTING SPEED FOR FASTER HANDLING
Most Demag DR-Pro rope hoist models have a lifting speed of at least 6 m/min with 4/1 reeving as standard. They offer load capacities up to 50 t and 100 t for twin hoist units

HIGHER AVAILABILITY FOR GREATER EFFICIENCY
DR-Pro rope hoists are supplied with an increased FEM classification. The rope drive mechanism precisely meets FEM specifications, however, the gearbox service life is 20 percent longer. This means that there is 20 percent more time until the general overhaul is due when the safe working period has elapsed. The generous dimensioning of all components also ensures constant availability.

The modular rope hoist design facilitates simple and rapid maintenance and repair of individual components, thus cutting any downtime to a minimum.

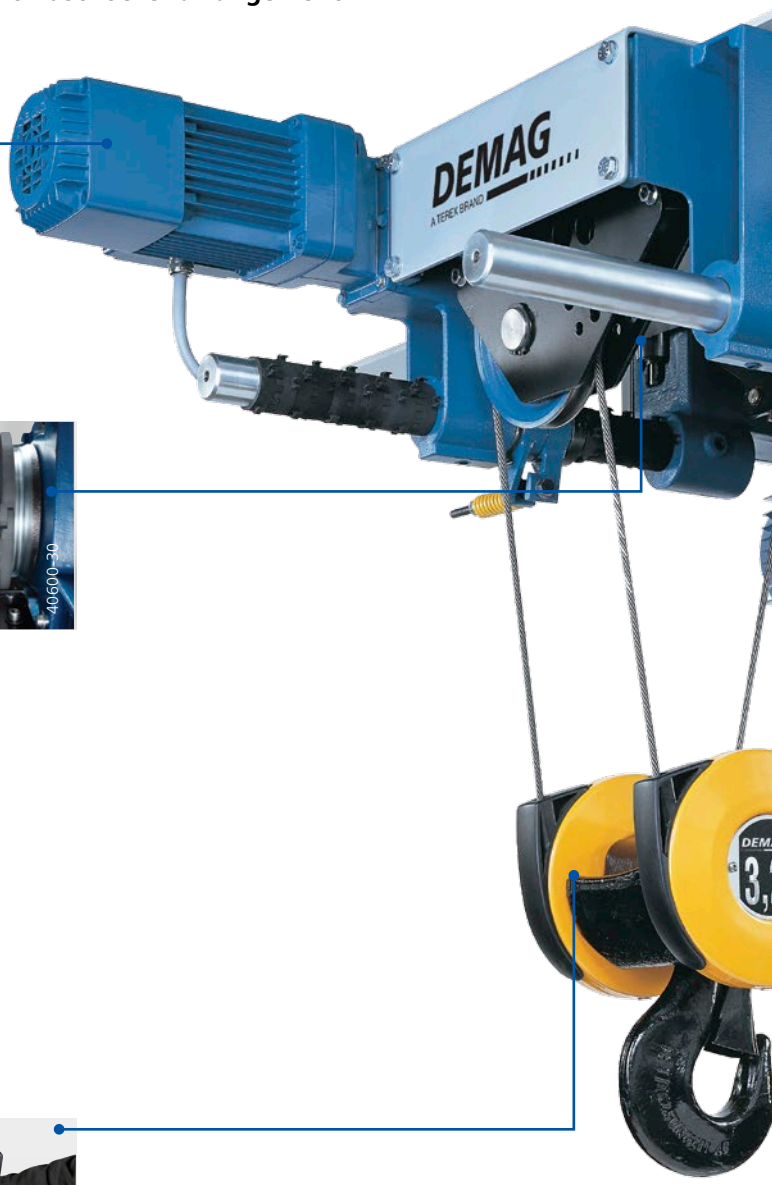
In addition to the economic benefits, Demag DR-Pro rope hoists also provide a high level of safety for the operator and the load.

OUTSTANDING VERSATILITY
Available in four basic designs, Demag DR-Pro rope hoists provide the right solution for virtually any application:
- GDR basic hoist
- FDR foot-mounted hoist
- EKDR monorail hoist
- ZKDR double-rail crab

Semi-automatic monorail circuit with FDR rope hoists

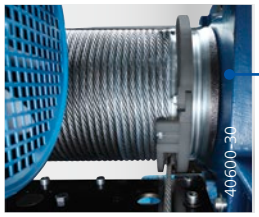
Safety and efficiency down to the last detail

- **Compact design saves space**
- **Maximum hook path thanks to very good C dimension**
- **Travelling rope hoist of C-shaped design with thrust rocker arrangement**



CROSS-TRAVEL MOTOR

- With inverter for precise positioning in the cross-travel direction
- Variable travel speeds up to 30 m/min



PROTECTIVE ROPE GUIDE

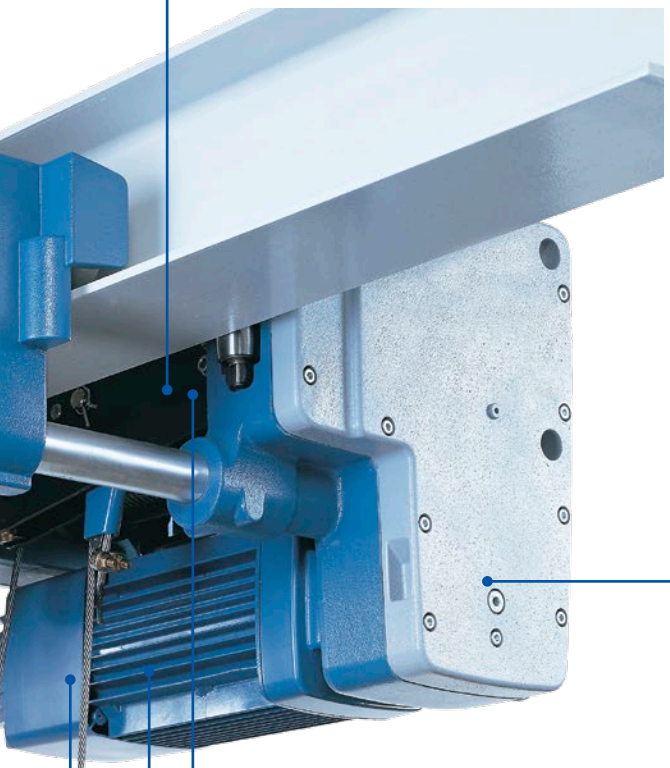
- Reliable operation even in critical situations thanks to rope guide made of tough plastic
- Smooth rope lead-in by means of hardened pressure rollers mounted on anti-friction bearings
- Inclined pull up to 4° without touching the rope guide

USER-FRIENDLY BOTTOM BLOCK

- Guard for improved safety – moving plastic elements protect the opening where the wire rope enters the bottom block
- Two handle recesses make it easier to handle and guide the bottom block

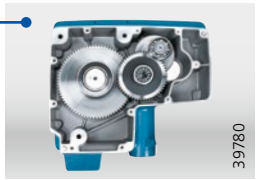
FAST-ACTING BRAKE

- Demag DC disc brake with brake release monitoring for highly reliable braking
- Fast-acting brake thanks to integrated electronic modules



OVERLOAD PROTECTION

- Electro-mechanical overload protection integrated in the rope-retaining crosshead
- Evaluation by means of the central electronic unit which also specifies the partial load switching point for a measuring run at slow lifting speed
- Optional: electronic overload protection for summation when several hoists are used, load display and slack rope cut-off



GEARBOX LUBRICATED FOR LIFE

- Three-stage helical gearbox with high-endurance gearing and oil lubrication for the entire service life

HOIST MOTOR

- Optimised motor design for low-vibration, quiet operation
- Optional inverter-fed hoist motor for even more precise lifting and lowering motions
- 12/2-pole or 4-pole squirrel-cage motor with cylindrical rotor
- Thermal contacts to protect against overheating
- IP 55 enclosure
- Integrated pulse encoder to monitor the speed and direction of rotation as standard
- Duty factor higher than FEM classification

PRECISION GEARED LIMIT SWITCH

- Automatic cut-off of the lifting and lowering motions in the limit positions
- Four contacts set for emergency cut-off in the upper and lower positions as standard
- Additional safety thanks to fast-to-slow cut-off
- Other functions, e.g. an operating limit switch, can also be set

Wide choice of control variants

DR-Pro rope hoists are precisely configured to match your requirements. Available in four basic designs, they provide the right solution for virtually any application: as GDR basic hoists for plant engineering, as FDR foot-mounted hoists that are ready for installation as a crane solution and EKDR travelling hoists and ZKDR double-rail crabs.

We also offer a wide selection of control systems to meet your application requirements. You can choose whether your DR-Pro rope hoist will be supplied with processor or contactor controls or with a parallel control arrangement.

PROCESSOR CONTROL FOR HIGH SAFETY AND RELIABILITY

High availability, maximum operating reliability and a high level of installation transparency are features offered by DR-Pro rope hoists that are equipped with processor controls. Internal signal transmission using standardised protocols provides a high level of operating reliability. Additional safety functions are already included as standard and the system can be upgraded to control category 3 with ease. Additional features with processor control:

- Monitoring of operating speed and brake wear
- User guided for any necessary test procedures
- Load evaluation
- Communication with higher-level control systems via open interface
- Visualisation of operating data

PARAMETERS TO MEET SPECIFIC REQUIREMENTS

Many DR-Pro rope hoist functions can be activated by programming the relevant parameters, such as:

- Area-dependent speed and load reduction
- Synchronised dual crab operation
- Load summation for two crabs
- By-pass control
- Safety and holding brake (as a special feature)
- Limit-switch configuration also with speed reduction

High level of transparency for the remaining service life: the integrated load spectrum recorder indicates the current status of the hoist unit. The service-friendly design is reflected by the completely modular system used for the crane electric equipment.

CONVENIENT OPERATION

You also have a choice of cable-connected control pendants or remote control for operation of your DR rope hoist. Both control systems are equipped with an interface for direct data transfer and have a display to show the load range and specific installation status information.

The cable-connected DSE-10 R control pendant is the ergonomic solution for two-stage or stepless operation.
With the new D3 generation of our Demag radio control system, we offer an alternative for operation at a convenient distance to the load. The tough hand-held transmitter features a smart charging system and offers long periods of operation with only one charge. The integrated frequency hopping function provides for reliable transmission of the radio signals and peaceful coexistence with neighbouring radio systems.

GDR basic hoist – for plant engineering

39827

- For individual installation in any design
- Variable mounting positions and rope lead-off arrangements for versatile solutions
- Can be attached on up to two sides
- Rope guide can be used for every rope lead-off position
- Additional electric enclosure can be fitted to the hoist frame
- Load capacities up to 50 t

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GDR basic hoist: stationary unit as an installation component

FDR foot hoist – the solution ready for installation not only on cranes

39751-7

39950-5

- Reeving parts for all common reeving arrangements are fitted to the hoist unit – enabling foot hoists to be integrated direct into prepared steel structures or special crabs
- Can be used in two mounting positions, each with one rope lead-off direction
- Can be attached on two sides
- Load capacities up to 50 t

Load elevator precisely positioned by a Demag FDR foot-mounted hoist.

EKDR monorail hoist – the series travelling hoist for single-girder cranes

- Compact design with optimum approach dimensions
- Infinitely variable cross-travel speeds for low sway and gentle positioning
- Cross-travel inverter and braking resistor integrated in the electric enclosure to save space
- Load capacities up to 12.5 t

EZDR double-rail crab – the series crab for double-girder cranes

- Features as for EKDR monorail hoists
- 1400/2240/2800 mm standard track dimensions, other track gauge dimensions possible
- Anti-derailment protection for improved safety as standard
- Load capacities up to 50 t

Technical data – selection criteria to FEM/ISO

The size of the hoist is determined by

- the load spectrum
- the average operating time
- the load capacity and
- the reeving arrangement

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 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 group is determined from the operating time and load spectrum.

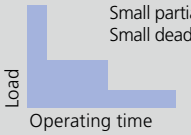
Load spectrum		Average operating time per working day [h]			
1	Light	2–4	4–8	8–16	> 16
2	Medium	1–2	2–4	4–8	8–16
3	Heavy	0.5–1	1–2	2–4	4–8
4	Very heavy	0.25–0.5	0.5–1	1–2	2–4
Group of mechanisms		**1 Am**	**2 m**	**3 m**	**4 m**

Reeving arrangement					Load capacity [t]					Size				
1/1 2/2	2/1 4/2	4/1 8/2	6/1	8/1										
0.5	1	2	–	–	–	–	–	–	–	–	–	–	–	–
0.63	1.25	2.5	–	–	–	–	–	–	–	–	–	–	–	–
0.8	1.6	3.2	–	–	DR-Pro 3	–	–	–	–	–	–	–	–	–
1	2	4	–	–	–	–	–	–	–	–	–	–	–	–
1.25	2.5	5	–	–	–	–	–	–	–	–	–	–	–	–
1.6	3.2	6.3	–	–	DR-Pro 5	–	–	–	–	–	–	–	–	–
2	4	8	12.5	–	–	–	–	–	–	–	–	–	–	–
2.5	5	10	16	–	–	–	–	–	–	–	–	–	–	–
3.2	6.3	12.5	20	25	DR-Pro 10	–	–	–	–	–	–	–	–	–
4	8	16	25	32	–	–	–	–	–	–	–	–	–	–
5	10	20	32	40	–	–	–	–	–	–	–	–	–	–
6.3	12.5	25	40	50	DR-Pro 20	–	–	–	–	–	–	–	–	–

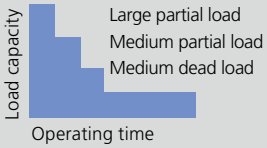
THE LOAD SPECTRUM

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

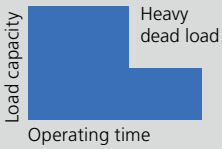
1 Light
Hoist units which are usually subject to very small loads and only in exceptional cases to maximum loads.



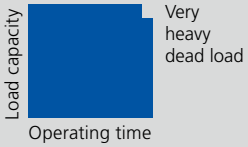
2 Medium
Hoist units which are usually subject to small loads but often to maximum loads.



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	5 t
Load spectrum	"Medium" from table
Lifting speed	6 m/min
Creep lifting speed	1 m/min
Reeving	4/1
Average hook path	3 m
Cycles per hour	20
Working hours per day	8 hours

Example for calculation to FEM/ISO)

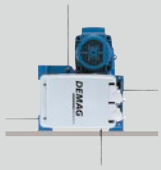
The average operating time per working day is estimated or calculated as follows:

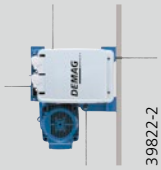
$$\text{Operating time per day} = \frac{2 * \text{average hook path} * \text{cycles/h} * \text{working time/day}}{60 \times \text{lifting speed}}$$

$$\text{Operating time/day} = \frac{2 * 3 * 20 * 8}{60 * 6} = 2.66 \text{ hours}$$

For the medium load spectrum and an average daily operating time of 2.66 hours, the table shows group 2 m. For a load capacity of 5 t and 4/1 rope reeving, the following table indicates hoist size DR-Pro 5 - 5.

MOUNTING VARIANTS AND ROPE LEAD-OFFS





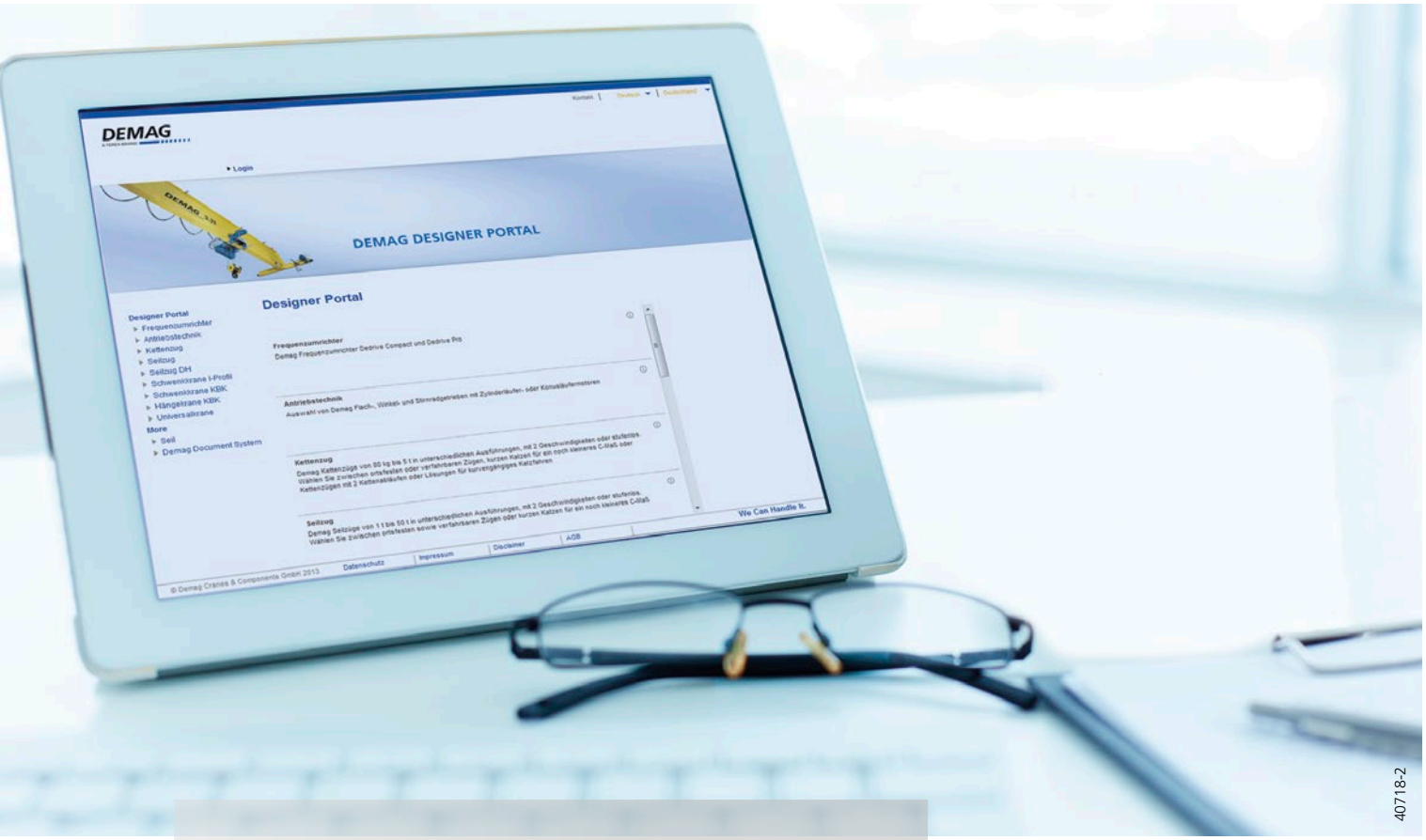
LOAD BAR OPERATION

Selection table

Range	Load capacity [t]	Hook path [m]	Lifting speed [m/min]			Group of mechanisms [FEM/ISO]	Load capacity [t]	Hook path [m]	Lifting speed [m/min]		
DR-Pro 3	2/1						4/1				
	1.6	12 20	12/2	18/3	1–25 *	2m/M5 **	3.2	6 10	6/1	9/1.5	0.5–12.5 *
	1.25					3m/M6 **	2.5				
	1					4m/M7 **	2				
DR-Pro 5	2/1						4/1				
	3.2	12 20 30	9/1.5	12/2	0.8–16 *	1Am/M4 **	6.3	6 10 15	4.5/0.8	6/1	0.4–8 *
	2.5		12/2	18/3	1–25 *	2m/M5 **	5		6/1	9/1.5	0.5–12.5 *
	2					3m/M6 **	4				
	1.6					4m/M7 **	3.2				
	4/2										
	3.2	9.9 16.3	9/1.5	12/2	0.8–16 *	1Am/M4 **					
	2.5		12/2	18/3	1–25 *	2m/M5 **					
	2					3m/M6 **					
	1.6					4m/M7 **					
DR-Pro 10	2/1						4/1				
	6.3	12 20 30 40	8/1.4	0.4–9 *	1–18 *	1Am/M4 **	12.5	6 10 15 20	4/0.7	0.2–4.5 *	0.5–9 *
	5		10/1.7	1–18 *	1–25 *	2m/M5 **	10		5/0.8	0.5–9 *	0.5–12.5 *
	4					3m/M6 **	8				
	3.2					4m/M7 **	6.3				
	4/2						6/1				
	6.3	5.8 11.35 18.4 25.2	8/1.4	0.4–9 *	1–18 *	1Am/M4 **					
	5		10/1.7	1–18 *	1–25 *	2m/M5 **	16	6.7 13.3	2.7/0.4	0.3–6 *	–
	4					3m/M6 **	12.5				
	3.2					4m/M7 **					
DR-Pro 20	2/1						4/1				
	12.5	24 36 54	6/1	12/2	1–16 *	1Am/M4	25	12 18 27	3/0.5 6/1	0.5–5 *	0.5–8 *
	10					2m/M5	20				
	8					3m/M6	16				
	6.3					4m/M7	12.5				
	4/2						6/1				
	12.5	12.3 21.2 33.2	6/1	12/2	1–16 *	1Am/M4	40	12 18 24.7	4/0.7	0.3–3.3 *	0.3–5.3 *
	10					2m/M5	32				
	8					3m/M6	25				
	6.3					4m/M7	20				
	8/2						8/1				
	25	10.3 16.3 23.4	3/0.5 6/1	0.5–5 *	0.5–8 *	1Am/M4	50	9 13.5 18.5	3/0.5	0.3–2.5 *	0.2–4 *
	20					2m/M5	40				
	16					3m/M6	32				
	12.5					4m/M7	25				

* Loads weighing up to one third of the rated load are moved at 1.5 times the rated speed (Prohub)

** Gearbox service life 20% longer than the ISO/FEM full load service life



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Simple project engineering

WWW.DEMAG-DESIGNER.COM

Demag Designer tool portal – Configure products to meet your needs

Using our Demag Designer tools, you can configure solutions to meet your specific needs from chain hoists to complete crane installations. When you have selected the product, you can choose from a wide variety of available options to find the best possible solution for your requirements – a simple, reliable and plausible method.

Your direct access to our product configuration tools: **www.demag-designer.com**

YOUR BENEFITS:

- Simple handling
- Specify products to meet your needs
- Save your configuration
- Immediate results:
  - Product description
  - Technical data
  - CAD geometry data
  - Circuit diagrams
  - Documentation
- Online ordering via Demag Shop
- Information 24/7

Service

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 cranes, hoists, load handling attachments and related components of our Demag brand 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.

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TEREX MATERIAL HANDLING

Terex MHPS GmbH is one of the world's leading suppliers of crane technology with Demag industrial cranes and crane components. The core competence of the Terex Material Handling business group lies in the development, design and production of technically sophisticated cranes, hoists and components and the provision of sales support and services for these products. Terex Material Handling manufactures at 19 locations on five continents and reaches its customers thanks to its presence in more than 60 countries.

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