



# High-level efficiency

Demag universal cranes

**DEMAG**.....



**Demag universal cranes:  
Quality, efficiency and reliability  
at the highest level.**

Every crane and every crane component reflects our decades of crane expertise and reliability as a partner for industry.

Our comprehensive product range can be used to create efficient solutions to meet your individual needs.

Demag universal cranes can help you lift with confidence: thanks to their perfect combination of components, our cranes can achieve consistently high performance and offer you maximum efficiency and reliability over their entire service life – and give you the certainty of a reliable investment.

Many safety features and assistance functions are integrated into our SafeControl crane control system. They ensure that your loads can be handled safely and conveniently according to the most demanding safety standards, allowing you to focus fully on your core business.

# The right crane for every application

With our comprehensive range of crane types and many designs, we can provide a unique choice of combinations, which enables us to offer you exactly the right crane to meet your individual needs.

## Single-girder overhead travelling cranes

## Double-girder overhead travelling cranes

## Single-girder suspension cranes



Crane type	EKKE	EVKE	EPKE	ZKKE	ZVKE	EKDE	EPDE
Profile-section girder	Box-section girder	V-type girder	Rolled-profile section	Box-section girder	V-type girder	Box-section girder	Rolled-profile section
Max. load capacity* [t]	1-16	1-12,5	16	1.6 - 50	1.6 - 50	1-16	1-16
Max. span* [m]	30	30	18	35	35	26	18
Travel speed [m/min]	4-40	4-40 (DFO, DFM), 10/40 (DFW)	4-40	4-40	4-40 (DFO, DFM), 10/40 (DFW)	4-40	4-40
Cross-travel speed [m/min]	30	30	30	25	25	30	30
Lifting speed [m/min]	Pole-changing up to 12.5 m/min			Pole-changing up to 12.5 m/min		12.5	
Hoist unit	DC chain hoist/DMR rope hoist	DMR rope hoist	DC chain hoist/DMR rope hoist	DMR rope hoist	DMR rope hoist	DMR rope hoist	DC chain hoist/DMR rope hoist
Types	1 Top connection, standard	●	●	●	●	●	●
	2 Top connection, girder bevelled on top	●	●	●	●	●	●
	3 Top connection, raised	●	●	●	●	●	●
	4 Top connection, raised, girder bevelled on top	●	●	●	●	●	●
	5 Top connection, girder bevelled below	●	●	●	●	●	●
	6 Top connection, girder bevelled on both sides	●	●	●	●	●	●
	7 Standard side connection	●	●	●	●	●	●
	8 Standard side connection	●	●	●	●	●	●
	9 Side connection, girder bevelled on top	●	●	●	●	●	●
	10 Side connection, low-headroom design	●	●	●	●	●	●
	11 Side connection, girder bevelled on both sides	●	●	●	●	●	●
	12 Side connection, girder bevelled below, low-headroom design	●	●	●	●	●	●
	13 Suspension crane, low-headroom design	●	●	●	●	●	●
	14 Suspension crane, low-headroom design, girder bevelled on top	●	●	●	●	●	●
	15 Suspension crane, standard	●	●	●	●	●	●
	16 Suspension crane, standard, girder bevelled on top	●	●	●	●	●	●

\* Other specifications on request

Variable-speed motions: 3 axes (lifting, long and cross travel)





## Optimised design

# Maximum stability. Optimum design.

## Demag EKKE and EPKE single-girder overhead travelling cranes

Single-girder overhead travelling cranes provide you with proven Demag technology at a particularly attractive price.

Their excellent crane geometry ensures outstanding travel characteristics and reduces the load on building structures. We offer Demag single-girder overhead travelling cranes with solid girders in two variants:

- EKKE overhead travelling cranes with welded box-section girders
- EPKE overhead travelling cranes with rolled-profile girders

You also have the choice of controls: Besides cable-connected control pendants, our D3 generation of radio controls offers safety, reliability and convenient operation. Our Demag DMR modular rope hoist, for example, is designed for crane applications. And our DC chain hoist already includes comprehensive features and good value for money, as standard. The entire crane installation can meet your demands for improved efficiency.

## Your benefits

- Optimised design: crane girders made of computer-optimised box sections or rolled sections
- Robust travel units: precisely machined end carriages for torsionally rigid design
- Maintenance-free wheels: Travel wheels made of highly wear-resistant GJS 700-2 spheroidal-graphite cast iron with self-lubricating properties
- High precision: connections between the main girder and end carriages manufactured to mechanical engineering tolerances for maximum rigidity
- Best possible utilisation: crab of low-headroom design with chain hoist or rope hoist, offering particularly favourable hook approach dimensions to cover the largest possible area
- Reliable supply: power supply to the crab by means of highly flexible flat cable with protective earth conductor or with energy chain
- Convenient control: safe and efficient control with high-performance DRC D3 radio system or cable-connected control pendant
- High degree of installation transparency: Control pendant suspended for separate travel on the crane girder, with display for installation status (with SafeControl)



## SafeControl

Not only two hoist units, but also two cranes can be controlled on one runway with a common radio control system using our **SafeControl** system.

It meets Performance Level "c" and Category 2 requirements for safety-related control functions.

In addition, SafeControl can fully monitor all crane parameters and offers maximum safety for individual applications.



**30%**  
REDUCED OSCILLATION  
– HIGHER HANDLING RATES

**17%**  
LOWER DEADWEIGHT  
– IMPROVED EFFICIENCY

**500,000**  
changes of load  
REDUCED LOADS –  
LONGER SERVICE LIFE

# Less is more.

## Demag EVKE V-type cranes

The Demag V-type girder is the basis for a completely new generation of crane girders: the girder design concept for improved precision and flexibility.

### REDUCED OSCILLATION – IMPROVED HANDLING RATES

Tapered diaphragm joints are specially designed to accommodate pressure and tensile forces and reduce resonance frequency by up to 30%.

### LOWER DEADWEIGHT – IMPROVED EFFICIENCY

The light-weight design of the V-type crane cuts its deadweight by an average of 17% compared with conventional box-section girders. This reduces the forces transmitted to the existing support superstructure and gives architects greater freedom for planning new building layouts. If existing cranes are replaced by V-type cranes, the load capacity can even be increased. Thanks to the reduced deadweight of our V-type crane design, heavier payloads can be moved for the same load on the crane runway.

### REDUCED LOADS – LONGER SERVICE LIFE

The crane and its components are subjected to lower loads thanks to reduced oscillation characteristics. The resulting lower wear pays off in the long term: with 500,000 changes of load, a V-type crane will deliver double the service life of a comparable crane that has a box-section girder.

### FURTHER REASONS FOR V-TYPE CRANES

- **Stability** – Maximum stability thanks to girder design
- **Versatility** – Precise adaptation to match building geometry
- **Flexibility** – Lower forces transmitted to the existing support superstructure afford greater freedom for planning new building layouts
- **Wind resistance** – Optimised design makes V-type cranes ideally suited for outdoor operation: 55% less wind resistance
- **More light** – Girder design based on bionic principles allows up to 30% more light to pass through
- **Service friendly** – Securely held for transport thanks to many clamping and attachment points
- **Ease of maintenance** – Weld seams are not concealed and can be easily inspected for safe operation
- **BlueEngineering**
  - Careful use of resources by employing less material
  - Reduction of required drive output thanks to lower deadweight
  - Eco-friendly use of water-based paints

41475



# For high load capacities:

## Demag ZKKE double-girder overhead travelling cranes

Our double-girder overhead travelling cranes for heavy loads weighing up to 50 t feature excellent crane geometry. Wear is reduced to a minimum thanks to their very good travel characteristics.

The load hook can be raised between the two crane girders for a particularly large lifting height.

Depending on requirements, our double-girder overhead travelling cranes can also be fitted with radio or operator cab controls. Optional maintenance platforms and accessible crabs not only make it easier for you to maintain the crane, but also ensure that your building features such as lamps, heating elements or supply lines can be quickly and safely reached.

**YOUR BENEFITS**

- Consistently high Demag quality and all the benefits offered by single-girder overhead travelling cranes
- The double-girder design enables particularly high load capacities and sensitive load handling thanks to variable speed control in three motion axes, also for tandem operation.
- Particularly high performance thanks to double-girder design for high long and cross-travel speeds
- Wide choice of fittings
  - Optional maintenance platform for building repairs
  - Operator cab control as a further crane control variant



**High load capacity.  
Large span dimensions.**

# Heavy loads – high performance.

## Demag ZVKE double-girder V-type cranes

### LOWER WEIGHT

A significant feature of the V-type crane is the reduced weight of the crane girder compared with cranes that have box-section girders. This results in potential load capacity gains for overhead travelling cranes which can be equipped with rope hoists that have higher load capacities. This means that a ZVKE double-girder crane can transport heavier unit loads than a crane which has a box-section girder – without exerting a higher load on the crane runway and building superstructure, which enables existing buildings to be utilised even better. And cost benefits can be achieved for new buildings thanks to the use of optimised supports and foundations.

### EXACT ADAPTATION TO MATCH BUILDING GEOMETRY

V-type double-girder cranes are offered in four different designs. The side connection of the end carriages to the girder is a feature that they all share. The crane can be adapted in the best possible way to match the volume of existing buildings. For new buildings, the space between the crane and building roof can be reduced. This factor saves costs for the building structure and for its upkeep and maintenance.

### PRECISE CRAB RUNWAYS AND TORSION-FREE CRANE GIRDERS

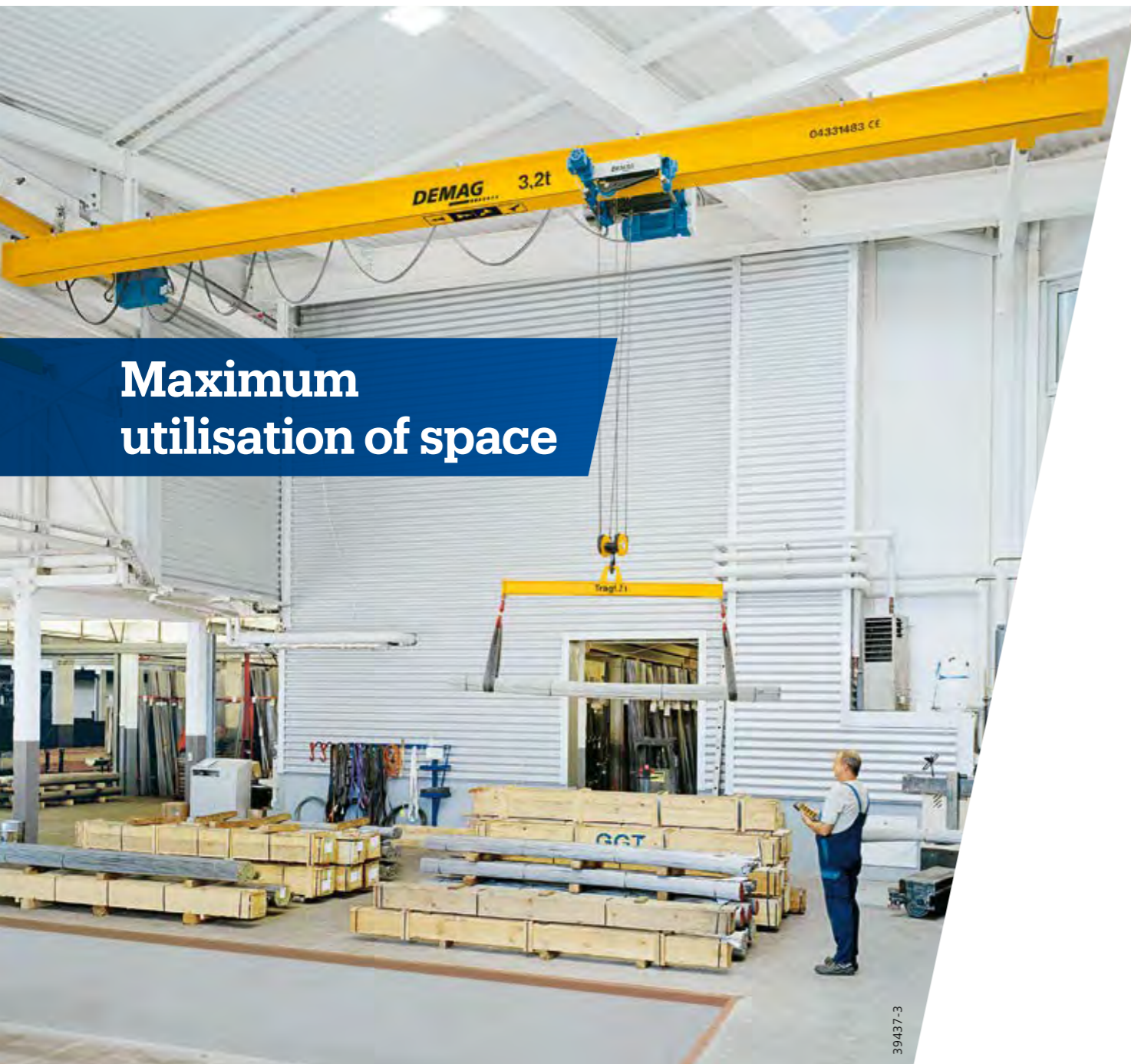
The ZVKE offers even more precision with reference to its crab runway. Placing the crab rail in the middle of the V-type crane girders also results in a balanced distribution of forces and the crane girder remains free of any torsion. Thanks to its V-type design with vertical struts, the load-dependent forces exerted by the rope hoist crab are transferred vertically to the girders. This minimises wear on the crab travel rails and trolleys – and the V-type double-girder crane ensures that the track gauge of the crab runway is precisely maintained.

### MORE LIGHT – IMPROVED SAFETY

Thanks to its girder design, which is based on bionic principles, the V-type crane, particularly in the double-girder variant, affords a better view for improved safety. It also allows much more light to pass compared with solid crane girders.



**Higher performance.  
More light.**



**Maximum utilisation of space**

**MAXIMUM UTILISATION OF SPACE WITHOUT ANY COLUMNS FOR LOADS UP TO 16 TONS**

Our EPDE and EKDE suspension cranes leave your entire workshop area available for production. The cranes are simply attached to the existing roof structure – columns to support the crane runway are not needed. This solution saves time and cuts costs. Alternatively, the installation of stand-alone steel superstructures also enables the solution to be adapted to changed production requirements.

# The alternative without any columns

## Demag EPDE and EKDE suspension cranes

Demag suspension cranes run on tracks that are attached to the existing roof structure. You do not need to install additional columns to support the crane runway. In this way, the entire workshop area is available for production.

The lateral overhangs can be used to extend the travel path of the hoist unit beyond the edge of the runway. Optional latching devices make it possible to transfer the travelling hoist from the crane girder to a branch track and back without having to deposit the load.

**YOUR BENEFITS**

- Crane bridge made of either computer-optimised box-section girder (EKDE) or rigid I-beam girder (EPDE) for optimum load distribution
- Specific sections of the workshop can be served
- Loads can be handled close to the building wall thanks to girder ends tailored to your application requirements, which extends the hoist unit travel path beyond the runway
- Equipped with DMR rope hoist or DC chain hoist





# Demag DMR modular rope hoist



**One rope hoist.  
Two designs.  
Many possibilities.**

## INDIVIDUAL REQUIREMENTS

require individual solutions. That is why we developed our Demag DMR modular rope hoist.

### Your benefits:

- Maximum reliability with drum and gearbox lubricated for life
- Low-wear rope guide arrangement due to generously dimensioned return sheaves
- Safe and reliable operation thanks to new motor technology with maintenance-free brakes
- Precise cross-travel positioning thanks to inverter-controlled drives, as an option for lifting motions
- Limit switches with optimum repeat accuracy
- High level of safety thanks to smart overload protection

DMR units offer you unique versatility in all applications. You can also choose the control system to suit your needs: contactor control or Demag SafeControl.

## SMART SAFE CONTROL SYSTEM

The Demag SafeControl smart control system meets all requirements for optimum support of state-of-the-art manufacturing and logistics processes. Many additional safety functions and various function extensions can be activated individually.



**Active load sway damping system**



**Area-specific load reduction**



**Demag StatusControl**



**Tandem/quadro operation**

## Selection table

Range	Load capacity [t]	Hook path [m]	Lifting speed [m/min]			Group of mechanisms [FEM/ISO]	
			2-stage	Variable	ProHub*		
DMR 3	2/1						
	1	12	1.4/8	0.32-6.4	9.6	4m/M7	
	1.25		2/12	0.64-12.5		3m/M6	
	1.6	20	2.6/16	1-25	38	2m/M5	
	2		1.4/8	0.32-6.4		1Am/M4	
	4/1						
2	6	0.7/4	0.16-3.2	4.8	4m/M7		
2.5		1/6	0.32-6.4		3m/M6		
3.2	10	1.3/8	0.5-12.5	19	2m/M5		
4		0.7/4	0.16-3.2		1Am/M4		
DMR 5	2/1						
	1.6	12	1.4/8	0.32-6.4	9.6	4m/M7	
	2		2/12	0.64-12.5		3m/M6	
	2.5	20	2.6/16	1-25	38	2m/M5	
	3.2		1.4/8	0.32-6.4		1Am/M4	
	4/1						
	3.2	6	0.7/4	0.16-3.2	4.8	4m/M7	
	4		1/6	0.32-6.4		3m/M6	
	5	10	1.3/8	0.5-12.5	19	2m/M5	
	6.3		0.7/4	0.16-3.2		1Am/M4	
	4/2						
	1.6	9.9	1.4/8	0.32-6.4	9.6	4m/M7	
2	2/12		0.64-12.5	3m/M6			
2.5	16.3	2.6/16	1-25	38	2m/M5		
3.2		1.4/8	0.32-6.4		1Am/M4		
2/1							
3.2	12	1.4/8	0.32-6.4	9.6	4m/M7		
4		2/12	0.64-12.5		3m/M6		
5	30	2.6/16	1-25	38	2m/M5		
6.3		1.4/8	0.32-6.4		1Am/M4		
4/1							
6.3	6	0.7/4	0.16-3.2	4.8	4m/M7		
8		1/6	0.32-6.4		3m/M6		
10	15	1.3/8	0.5-12.5	19	2m/M5		
12.5		0.7/4	0.16-3.2		1Am/M4		
4/2							
3.2	5.8	1.4/8	0.32-6.4	9.6	4m/M7		
4		2/12	0.64-12.5		3m/M6		
5	18.4	2.6/16	1-25	38	2m/M5		
6.3		1.4/8	0.32-6.4		1Am/M4		
DMR 10	4/1						
	6						
	16	10	0.7/4	0.16-3.2	4.8	1Bm/M3	
	15						
	20						
	6/1						
	12.5	6.7	0.7/4	0.22-4.3	6.4	3m/M6	
	16		0.9/5.3	0.42-8.3		2m/M5	
	DMR 20	8/1					
		20	7.5	0.5/3	0.16-3.2	4.8	4m/M7
		25		10	0.7/4		0.2-4
		40	13.5	0.5/3	0.2-4	6	2m/M5
50		21.3		0.5/3	1Am/M4		
8/2							
10		7.8	0.7/4	0.16-3.2	4.8	4m/M7	
12.5			11.3	1/6		0.32-6.4	9.6
20		11.3	1.3/8	0.32-6.4	9.6	2m/M5	
25			16.1	0.5/3		0.4-8	12
27.1		27.1	0.7/4	0.4-8	12	1Am/M4	
1/6							
12/2							
16		8	0.7/4	0.22-4.3	6.4	4m/M7	
20			11.2	0.9/5.3		0.26-5.3	8
32		18	0.7/4	0.26-5.3	8	2m/M5	
40			0.7/4	1Am/M4			

\* ProHub: 50% higher lifting speed for up to 30% of rated load capacity.

# Demag DC chain hoist

Chain hoist	Load capacity	Reeving	Lifting speed	Cross-travel speed	Lifting height	Group of mechanisms
Type/size	[kg]		[m/min]	[m/min]	[m]	FEM
EU DC-Com 10	1,000	1/1	4/1	24/6	4, 5, 8, 11	2m
	1,250	2/1	4/1	24/6	4, 5, 8, 11	3m
	1,600	2/1	4/1	24/6	4, 5, 8, 11	2m
	2,000	2/1	4/1	24/6	4, 5, 8, 10	2m
EU DC-Pro 10	1,000	1/1	6/1.5	24/6	5, 8, 11	2m+
	1,250	1/1	8/2	24/6	5, 8, 11	1Am
	1,250	2/1	6/1.5	24/6	5, 8, 11	4m
	1,600	2/1	6/1.5	24/6	5, 8, 11	3m
	2,000	2/1	6/1.5	24/6	5, 8, 10	2m+
	2,500	2/1	4/1	14/3.5	5, 8, 10	1Am
EU DC-Pro 15	1,000	1/1	8/2	24/6	5, 8, 11	4m
	1,250	1/1	8/2	24/6	5, 8, 11	3m
	1,600	1/1	8/2	24/6	5, 8, 11	2m+
	2,000	2/1	4/1	24/6	5, 8, 11	4m
	2,500	2/1	4/1	14/3.5	5, 8, 11	3m
	3,200	2/1	4/1	14/3.5	5, 8, 11	2m+
EU DC-Pro 16	1,250	1/1	12/3	24/6	5, 8, 11	3m
	1,600	1/1	12/3	24/6	5, 8, 11	2m+
	2,500	2/1	6/1.5	14/3.5	5, 8, 11	3m
	3,200	2/1	6/1.5	14/3.5	5, 8, 11	1Am
EU DC-Pro 25	2,000	1/1	8/2	14/3.5	5, 8, 11	2m+
	2,500	2/1	4/1	14/3.5	5, 8, 11	1Am
	4,000	2/1	4/1	24/6	5, 8, 11	2m+
	5,000	2/1	4/1	24/6	5, 8, 10	1Am



## 5 days without interruption

### DEMAG D3 RADIO CONTROLS

D3, the latest generation of our radio controls, is an efficient man/machine interface for manually controlled crane installations. With many new functions and practical features, our D3 is the ideal control system for your cranes and hoists. Our DRC-MJ control system has two joysticks for even more intuitive, safe and reliable crane control.

The radio transmission method used for D3 meets the most demanding requirements in terms of transmitter density and co-existence with other equipment that operates in the 2.4 GHz ISM band and combines various transmission mechanisms (frequency hopping, listen before talk).

### EFFECTIVE

Up to three transmitters can be simultaneously paired, control can be transferred from one point to another at the push of a button

### ERGONOMIC

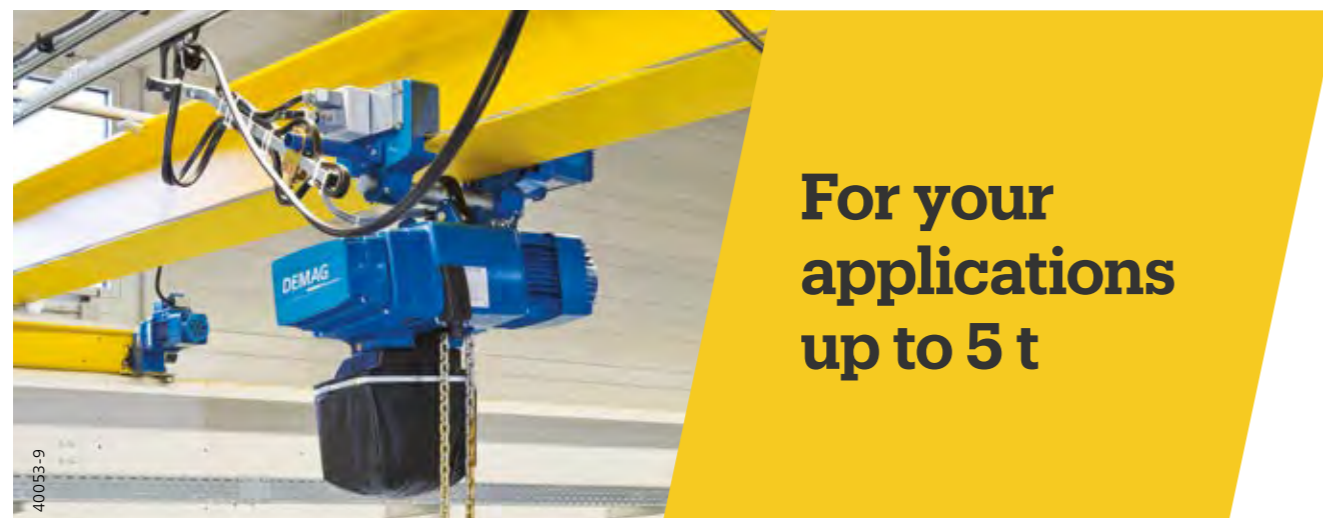
Reliable operation with large buttons for good grip, choice of 2-stage or variable button types

### STRONG

5 days of uninterrupted hand-held transmitter operation thanks to state-of-the-art power management

### FOR INDIVIDUAL NEEDS

Speed limit function for variable-speed transmitters. Fine control thanks to zoom function.



## Ergonomic design for full control

### DEMAG CONTROL PENDANTS

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 applications.



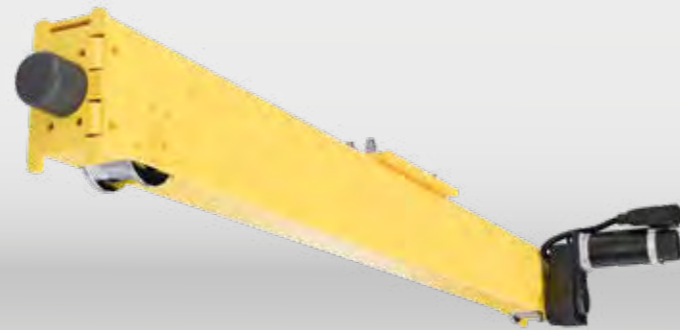
DST-7

DST-9

DSE-10

# Demag components: for safety and reliability

## Benefit from our comprehensive range



**MINIMUM FORCE TRANSMITTED** to the crane runway and building structure by travel units that are specially designed for crane applications:

- Travel units with precisely manufactured wheels made of wear-resistant material provide for smooth running characteristics
- Variable-speed inverter-fed drives for precise positioning and gentle loads on the entire design
- Low maintenance costs: the travel units are rated for the entire crane service life

**MINIMUM APPROACH DIMENSIONS: CRANE END CARRIAGES**

- DFO crane end carriage with top-mounted arrangement of the crane girder and conventional bolted connection
- Flanged travel wheels made of GJS 700-2 to EN 1563
- DFM crane end carriage for side connection
- Travel units equipped with perfectly matching components: geared motor and wheel
- Travel wheel diameters in 8 sizes from 90 – 400 mm
- Choice of travel wheel treads
- Torsionally rigid travel units optimised for crane applications:
  - profile-section design up to size 250
  - welded box-section design with diaphragm plates from size 320
- Crane end carriage wheel base for very compact crane approach dimensions: 1,300, 1,600, 2,000 up to 5,500 mm
- Additional safety thanks to derailment guard fitted as standard
- Tandem travel units for double-girder overhead travelling cranes with higher load capacities and larger spans
- High-performance long-travel motors with protection against overheating as standard and with 3 gearbox sizes
- Integrated plug-and-socket connections
- Space-saving drive design with offset gearbox
- Tried-and-tested, comprehensive range of wheel accessories: e.g. buffers, horizontal guide rollers, track sweeps, lift-off protection

**AT A GLANCE: DEMAG STATUSBOARD**

Demag StatusBoard always shows crane operators the most important data at a glance. The multi-colour, high-contrast display provides information, such as

- the weight of the suspended load
- the current long-travel direction
- status messages

Further information as well as freely programmable scrolling text messages can be generated, as required by the customer.

**FOR PEACE OF MIND: DEMAG ELM**

Demag universal cranes are fitted with electric overload management (ELM) as standard

- Cranes equipped with contactor control have a load-measuring pin and a programmable evaluation unit for overload monitoring, including a load spectrum recorder.
- Cranes with SafeControl: the load-measuring pin is connected direct to the SafeControl control system. Benefits: load-sway reduction, slack-rope cut-off, StatusBoard for load and status displays, remote data acquisition via StatusControl (as options)

**DEMAG ENERGY CHAIN SYSTEM – IMPROVED CABLE PROTECTION, REDUCED WEAR**

- For radio-controlled cranes
- No obstacles resulting from cable sag
- Higher safety near obstacles
- Improved area covered by the crane
- Minimised wear
- Smooth running characteristics
- Use of conventional round cables
- Easy assembly
- Reduced life-cycle costs

# Excellent advice – perfect planning

Right from the start of the planning stage, we will apply our expertise to provide you with an innovative crane solution.

## THIS MEANS:

- We focus on your needs
  - Logistical interfaces are defined at an early stage
- This approach ensures a reliable solution for the complete project and for every detail.

## USE OF CAD SYSTEMS

When designing Demag Universal cranes, we make full use of state-of-the-art CAD systems. The parameters specific to each project are used to generate the necessary documents using CAD systems:

- Layout drawing
- Project drawing
- Assembly and component part drawings

## WE PLAN – YOU BENEFIT

Project engineering and design work for the crane installation are both simplified and accelerated by the use of our planning tool, which also verifies the plausibility of the data. Rather than find out during installation whether the design and layout are correct, we check in advance using simulation to ensure engineering accuracy and adherence to budgets.



The site situation can be simulated to allow the plans to be verified in advance

# Professional installation management

Challenges also grow in line with the size and complexity of your machinery and equipment: you need to meet your maintenance schedules and have direct access to a wealth of data. We can provide you with innovative solutions for all current and relevant operating data and their analysis at a glance. You can then plan your annual safety inspection in advance and operate your equipment even more efficiently.

## DEMAG STATUSCONTROL: REMOTE ACCESS IN REAL TIME

Keep an overview of the current status of your installations at all times. Demag StatusControl is a wireless remote access system for cranes and hoists that delivers, analyses and evaluates data for an overview in real time. Regardless of the brand of your installations.

Whether you are in the factory, in your office or on the road: Demag StatusControl supplies you with all relevant operating data at a glance. The intuitive user interface always keeps you up to date on the risk of any possible downtime and enables you to schedule any necessary maintenance work in advance.





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# DEMAG