

## Demag portal cranes

Efficient solutions for numerous logistical tasks



## Demag Cranes – supplier of integrated systems under established brand names

Demag Cranes AG is one of the world's leading providers of industrial cranes, crane components, service activities, harbour cranes and terminal automation technology. One key element of our business is the broad range of services – from installation and maintenance through to refurbishment.

In Demag and Gottwald the Group has two strong brands that stand for technologically outstanding products and innovation leadership. Thanks to our wide choice of products, we provide solutions for every field of industry that involves overhead transfer of loads: from hoists for small workshops through to highly complex automated systems incorporating their own warehouse management computers, we supply tailor-made solutions to meet every customer's needs.

As regards the Port Technology Segment, we are the world market leader in the field of Mobile Harbour Cranes and Portal and Floating Cranes derived from that technology, having sold over 1,300 of these machines worldwide. In ports and intermodal terminals, Demag Cranes is the only provider of integrated systems that can offer not only the vehicles and crane systems but also programs and supplies the corresponding navigation and management software. An established network of highly dedicated service engineers secures high levels of availability for all our installations worldwide by providing a range of qualified services.

Demag Cranes maintains manufacturing facilities in 16 countries and is represented in over 60 countries through foreign subsidiaries and agencies and a joint venture, which ensures close proximity to customers in more than 100 countries.

# DEMAG CRANES AG

**DEMAG**  
Cranes & Components

**GOTTWALD**  
port technology



## Portal crane solutions under the Demag brand name – economical and efficient

Demag portal cranes are frequently used to increase the capacity utilisation of buildings and open spaces. With lifting capacities of up to 50 t, they are the preferred solution wherever a bridge crane would be too expensive or the site conditions would not support one.

Demag portal cranes are suitable for a wide range of applications and loads. They contribute towards reducing costs and achieving optimum utilisation of the available space. Whether planned from the outset of building or retrofitted, Demag portal cranes offer convincing benefits whether operating inside buildings or outside. They can be used inside lightweight buildings where no additional loads are permitted, for example. Even the operation of semi-portal cranes only transmits insignificant additional forces to the building structure.



In addition, portal cranes can also be installed as workplace or loading cranes under bridge cranes. This fully integrated solution offers additional flexibility and increases productivity per square metre.

A further benefit of Demag portal cranes lies in the high degree of standardisation. In line with the standard crane range, the worldwide manufacturing standards applied to Demag portal cranes ensure uniformly high standards of quality in both technology and design. Our global network of production facilities means cost savings in transport due to local availability and short journeys.

### Demag's range of portal cranes covers:

- Load capacities up to 12.5 t and track gauges of up to 30 m
  - EHPE single-girder semi-portal cranes
  - EVPE single-girder full-portal cranes
- Load capacities up to 50 t and track gauges of up to 35 m
  - ZHPE double-girder semi-portal cranes
  - ZVPE double-girder full-portal cranes

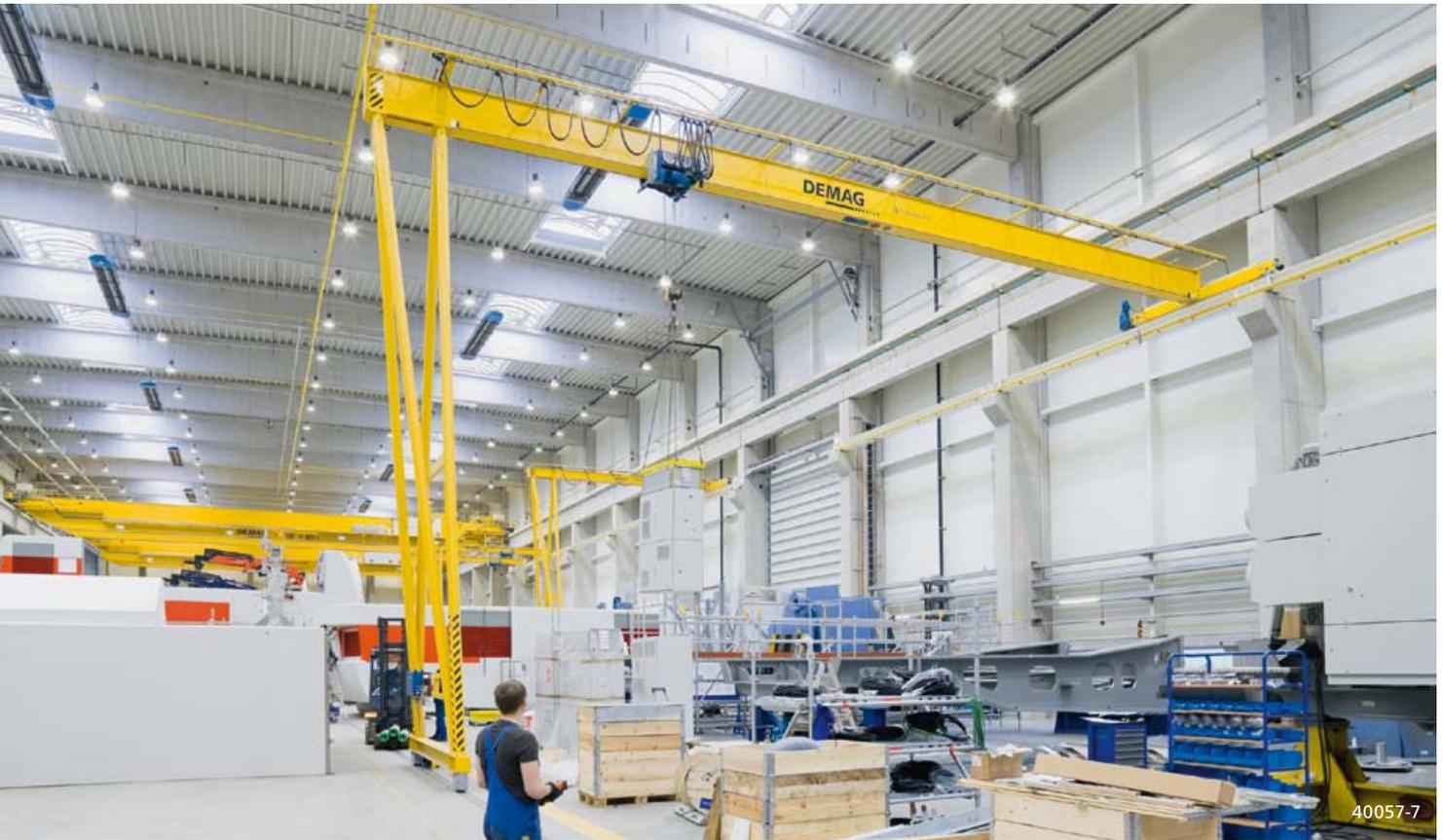
# Demag portal cranes extend the horizons



Double-girder semi-portal cranes for maintenance work on press tooling at an automotive production facility



## EHPE single-girder semi-portal cranes



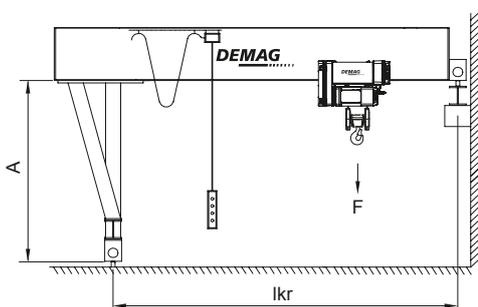
Demag single-girder semi-portal cranes are an efficient, economical solution. Used on the second level, they service the workplaces and are the ideal answer for supplementing and improving in-house logistics and increasing handling capacity.

Demag single-girder semi-portal cranes have a load capacity of up to 12.5 t and a span of up to 30 m.

Semi-portal cranes are in principle very similar to full-portal cranes except that, on one side, they are mounted on an overhead runway.

They are generally used in production sheds where existing runways can often be used.

The lower runway is usually mounted on the floor or flush-mounted in it. The upper rail is mounted on a wall, on supports or on a girder attached to the wall of the building.



Technical data for the EHPE	single-girder semi-portal crane
Load capacity [F]	up to 12.5 t
Track gauge [lkr]	up to 30 m
Headroom [A]	4, 6, 8, 10 m
Travel speeds	
Long travel	up to 40 m/min
Cross travel	up to 30 m/min
Lifting/lowering	up to 12.5 m/min
Stepless motions	possible in 3 axes

# EVPE single-girder full-portal cranes

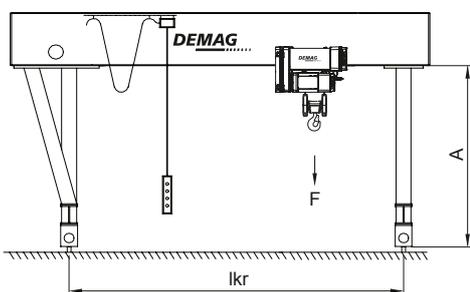


Demag's single-girder full-portal cranes are similar in construction to semi-portal cranes. The main difference is in the integrated pivot portal legs which compensate for crane motions. Full-portal cranes can often be integrated in existing production environments and in-plant logistics with little construction work.

If the crane is equipped with our Outdoor Package and the optional radio control unit, handling loads outdoors becomes easier and safer and requires less effort.

The load-bearing crane girder is part of the frame construction which, in turn, is fitted with supports at both ends to make it into a self-travelling gantry. As a result, it is possible to dispense with the wall-mounted runways.

The load capacity of Demag single-girder full-portal cranes extends up to 12.5 t. Combined with a track gauge of up to 30 m, these cranes are generally found outdoors in handling and stackyards.



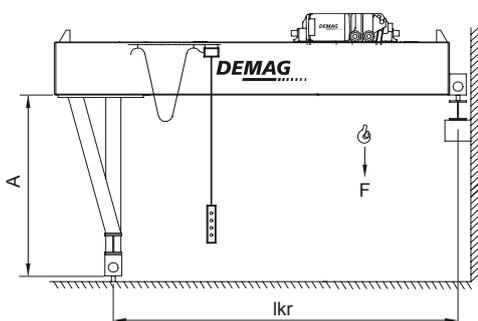
Technical data for the EVPE	single-girder full-portal crane
Load capacity [F]	up to 12.5 t
Track gauge [lkr]	up to 30 m
Headroom [A]	4, 6, 8, 10 m
Travel speeds	
Long travel	up to 40 m/min
Cross travel	up to 30 m/min
Lifting / lowering	up to 12.5 m/min
Stepless motions	possible in 3 axes

## ZHPE double-girder semi-portal cranes

Where the application requires a more powerful system, e.g. where loads are up to 50 t and track gauges of up to 35 m are needed, the Demag double-girder semi-portal crane with its travelling rope hoist is recommended. This type of crane is used both indoors and outdoors and one side of it is often mounted on the wall of the building.

The Demag double-girder semi-portal crane is also available with a pair of travelling hoists to make tool-changes in pressing facilities more efficient, for example. These semi-portal cranes are also frequently used in the context of an integrated system solution on the second level.

If a radio control unit is used as a mobile controller, the cranes can be used to handle large, bulky, and heavy loads safely and quickly.



Technical data for the ZHPE	double-girder semi-portal crane
Load capacity [F]	up to 50 t
Track gauge [lkr]	up to 35 m
Headroom [A]	6, 8, 10, 12, 14, 16 m
Travel speeds	
Long travel	up to 40 m/min
Cross travel	up to 30 m/min
Lifting/lowering	up to 12.5 m/min
Stepless motions	possible in 3 axes

## ZVPE double-girder full-portal cranes

Demag's double-girder full-portal crane is often used for managing outdoor stackyards. With a load capacity of up to 50 t and a track gauge of up to 35 m, this crane is the largest in its class among the Demag standard portal cranes.

Equipped with a walk-on hoist unit, maintenance platform and access ladder for the crane, the Demag double-girder full-portal crane is an independent module in an intralogistics environment. The power supply is via a cable drum mounted on the leg.

A wind drift safety system incorporated in the outdoor package monitors outdoor operation. By means of a rail clamp, the crane can be quickly and safely locked in place to prevent damage.

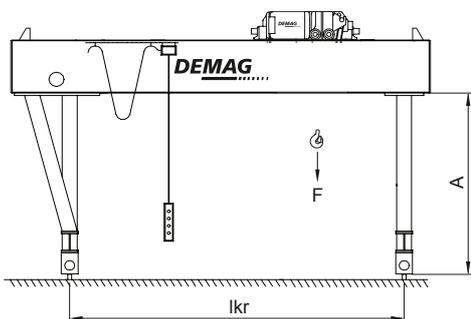
To enable the crane operator to move safely in the close proximity of the crane, we recommend the use of the optional radio control system.



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Technical data for the ZVPE	double-girder full portal crane
Load capacity [F]	up to 50 t
Track gauge [lkr]	up to 35 m
Headroom [A]	6, 8, 10, 12, 14, 16 m
Travel speeds	
Long travel	up to 40 m/min
Cross travel	up to 30 m/min
Lifting/lowering	up to 12.5 m/min
Stepless motions	possible in 3 axes

## Demag crane accessories and additional equipment

- Demag quality ropes ensure maximum lifetimes
- Radio controls (hand-held transmitters or joysticks) and cable-controls allow flexible operation of crane installations
- Integrated weighing devices for safe control
- Broad range of attachments to simplify load handling
- Anti-collision devices prevent accidents and damage
- Bypass control systems for blocked areas
- Maintenance platforms and walk-on travelling hoists simplify maintenance work on the crane and installations in the building
- Crane travel units with horizontal guide rollers reduce side forces
- Limit switches and slack-rope relays protect the hoist and load from damage
- Crane fitted with a pair of travelling hoists for long, bulky loads

### Just ask us – we'll be pleased to help!

Apart from direct contact and discussion with us, planners can request technical planning documents for many Demag standard crane types either as printed media or on CD ROMs (Ident. no. 227 049 44). In this way, you can integrate a Demag standard crane in your construction plans from the beginning, which saves time and money and facilitates accurate planning.



### Planning measures

The following factors have to be considered when planning the dimensions of portal crane solutions:

- Anchorage arrangement, limit stops and position of the crane runway rail top edge at floor level and on the runway supports
- Power supply and cable protection for full-portal cranes
- Distances to
  - buildings and rail structures
  - travelling cranes operating overhead
  - obstacles beneath or at the side of portal cranes

## Choice of travelling hoists for single-girder portal cranes up to 12.5 t load capacity – Demag DR rope hoist



38926-2-1

### EKDR monorail travelling hoist

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

Size	Group of mechanisms FEM / ISO	SWL [t]		
		Reeving		
		2/1	4/1	4/2
DR 3	2 m/M5	1.6	3.2	-
	3 m/M6	1.25	2.5	-
	4 m/M7	1	2	-
DR 5	1 Am/M4	3.2	6.3	3.2
	2 m/M5	2.5	5	2.5
	3 m/M6	2	4	2
DR 10	4 m/M7	1.6	3.2	1.6
	1 Am/M4	6.3	12.5	6.3
	2 m/M5	5	10	5
	3 m/M6	4	8	4
	4 m/M7	3.2	6.3	3.2

1 travelling hoist	2 travelling hoists
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## Choice of travelling hoists for double-girder portal cranes up to 50 t load capacity – Demag DR rope hoist



39472

### EZDR double-rail travelling hoist

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

Size	Group of mechanisms FEM / ISO	SWL [t]					
		Reeving					
		2/1	4/1	4/2	6/1	8/2	8/1
DR 5	1 Am/M4	-	-	-	-	-	-
	2 m/M5	2.5	5	2.5	-	-	-
	3 m/M6	2	4	2	-	-	-
	4 m/M7	1.6	3.2	1.6	-	-	-
DR 10	1 Am/M4	-	-	-	-	-	-
	2 m/M5	5	10	5	16	-	-
	3 m/M6	4	8	4	12.5	-	-
DR 20	4 m/M7	3.2	6.3	3.2	-	-	-
	1 Am/M4	12.5	25	12.5	40	25	50
	2 m/M5	-	20	-	32	-	-
	3 m/M6	-	16	-	-	-	-
	4 m/M7	-	12.5	-	-	-	-

1 travelling hoist	2 travelling hoists
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## Versatile and capable – Demag at your service

Demag's service ensures maximum availability and dependability of your machines. Our broad range of services forms the basis for keeping cranes and components operating efficiently and economically throughout their service life.

Thanks to our global network of Demag Service Teams and fully-qualified Demag partners, our service engineers are able to provide holistic support – both for Demag cranes and hoists and for those manufactured by other companies.

### Demag's range of services covers these areas:

- Installation and commissioning
- Safety checks
- Inspection and maintenance
- Fault elimination and repairs
- Modernisation and refurbishment
- Crane and crane runway surveys
- Rapid provision of spares
- Comprehensive documentation
- On-call standby and 24-hour availability
- Product and operator training

