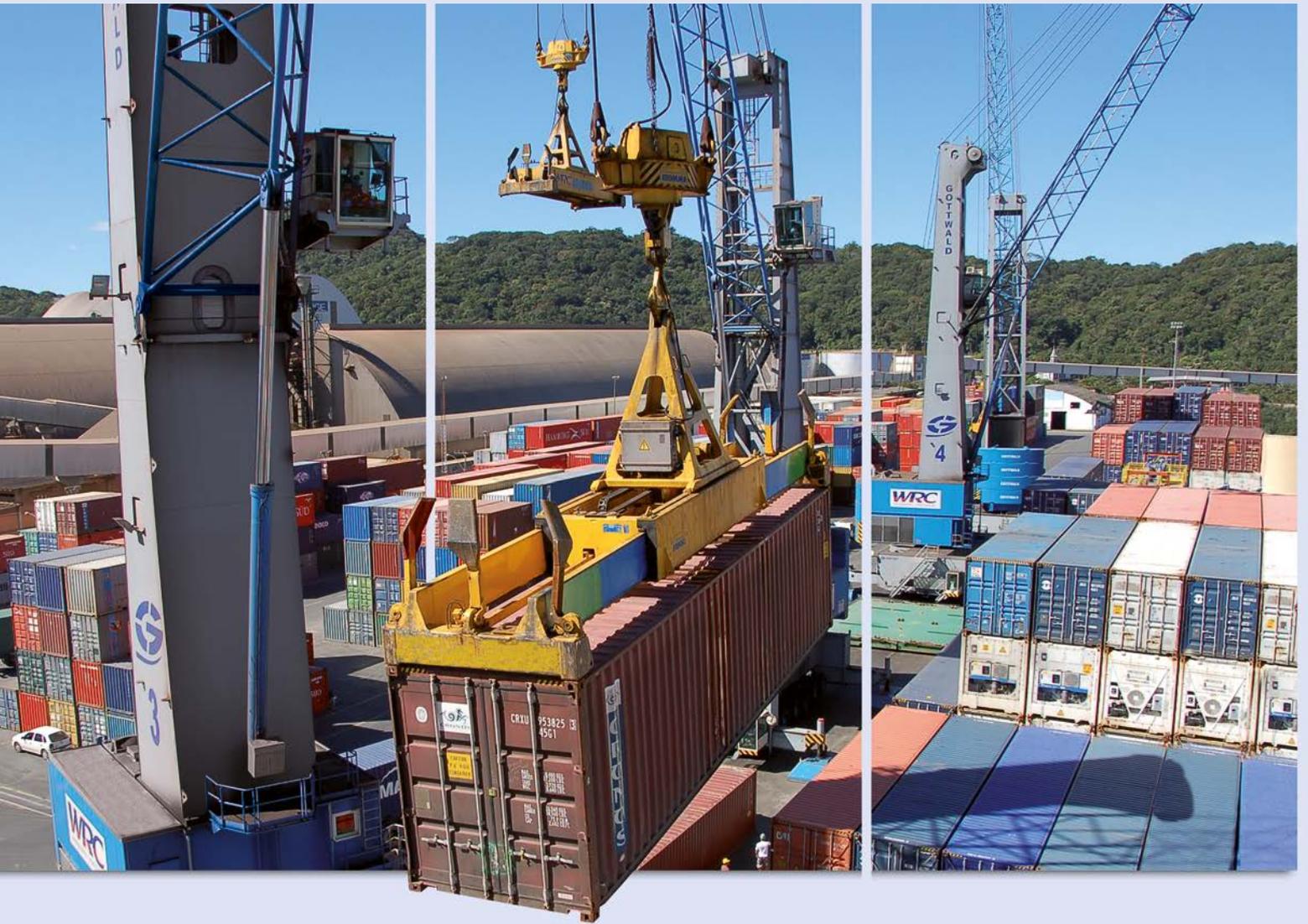


Mobile Harbour Cranes



Versatile, economical, ecologically compatible
Gottwald Mobile Harbour Cranes

**NOW PART OF
TEREX PORT SOLUTIONS**
TEREX | GOTTWALD

dzwigi24.pl

GOTTWALD
port technology



The market leader in Mobile Harbour Cranes

With over 1,400 machines in more than 100 countries around the globe

With the invention of the Mobile Harbour Crane more than 50 years ago, the company made industrial history in the field of cargo handling. Freely manoeuvrable around the port, Mobile Harbour Cranes are often superior to stationary cranes. They are mobile, universally-applicable handling machines powered by electric drives and able to handle all forms of cargo without problems, safely and economically – alongside all sizes of vessels and in terminals of all kinds.

As high-performance cargo handling cranes suitable for multifarious applications, Gottwald Mobile Harbour Cranes offer outstanding features:

- mobility
- versatility
- flexibility
- reliability
- economy.

These are tangible benefits reflected in the more than 1,400 machines sold worldwide to over 100 countries and which underline Gottwald's position as the market leader in the field of Mobile Harbour Cranes.

More investment benefits

Gottwald Mobile Harbour Cranes require comparatively low specific investment costs for the machine and quay infrastructure and boast short delivery lead-times. They are considered worldwide to be a highly efficient solution for handling

- containers
- bulk materials
- general cargo
- project cargoes.

In addition, the state-of-the-art crane management system makes a considerable contribution to increasing cargo handling performance and productivity in terminals while reducing the effort required from the crane operator. At the same time, Gottwald's customers benefit from such features as competitive

operating costs, high resale values and the impressive service friendliness of the machines. This is what makes Gottwald Mobile Harbour Cranes a high-return investment for terminal operators, shipping lines, stevedoring companies and port authorities.

A multitude of crane variants

Gottwald maintains a broad range of products which are available in a large number of variants, thanks to the current Generation 5 series of Harbour Cranes. These cover the full spectrum from small and medium-sized cranes for multipurpose terminals through to large-scale cranes whose handling rates are comparable with purpose built machines and which also ensure their long-term operation in special-purpose terminals.

System solutions

As a provider of integrated systems, Gottwald is able to take on the planning and consulting tasks for new and expanding terminals if requested. Turnkey solutions can be configured to include not only the Mobile Harbour Cranes but also such ancillary equipment as hoppers and conveyor belts in bulk terminals or machines for horizontal container transport and stacking in container terminals.

dzwigi24.pl



Running on external power provides the most efficient use of energy, cuts exhaust gases from the cranes in the terminal to zero and reduces noise emissions

Economical & environmentally aware drive technology

As with all other Gottwald products, our Mobile Harbour Cranes are electrically driven. The power supply is from the terminal mains, an on-board diesel-powered generator or a hybrid drive consisting of a diesel generator and short-term energy storage modules (ultracaps).

The energy recovered from the crane's lowering and braking motions is either

- returned to the terminal's electricity supply if the crane is hooked up to an external power supply
- or, if the crane is equipped with a hybrid drive, stored in the ultracaps and made available to the crane's electric circuits for the next work cycle. Fuel savings of up to 23.2%* have been achieved.

The level of energy required is reduced accordingly, exhaust gas emissions cut or avoided completely, and noise emissions minimised.



Gottwald's hybrid drive, consisting of a diesel generator and ultracaps, significantly improves the machine's overall energy-efficiency rating



The symbol denoting Gottwald's commitment to using electric drive concepts in its products

* Achieved under specific deployment conditions and based on experience gained from operating a Gottwald Generation 5 crane over a period of one year.

Comprehensive range of products

With Mobile Harbour Cranes for all vessel sizes, terminals and applications

The Mobile Harbour Crane range extends from models for standard requirements through to extremely high-performance Mobile Harbour Cranes for tough, continuous-duty work, chiefly in intensive, high-speed container and bulk handling.

With radii of up to 56 m and lifting capacities of up to 200 t, the machines are ideally equipped for handling cargoes of all kinds in all types of terminals alongside vessels up to super post-Panamax and Capesize.

Thanks to their high crane classification, which takes into account the mechanical, structural and steel design and their construction, Gottwald Mobile Harbour Cranes are designed for a significantly longer service life.



dzwigi24.pl

With its broad range of Mobile Harbour Cranes offering various lifting capacities and radii, Gottwald provides suitable handling machines for all applications and requirements in ports and terminals:

Container vessel size	Barge/Coaster	Feeder	Standard	Panamax	Post-Panamax	Super post-Panamax
	Capacity [TEU]	80 – 500	300 – 1,200	1,000 – 2,500	3,000 – 4,500	6,000 – 9,600
No. of rows	≤ 6	≤ 8	≤ 10	≤ 13	≤ 17	≤ 19
						

	Model 8			max. 56 m	max. 200 t
	Model 7			max. 51 m	max. 150 t
	Model 6			max. 51 m	max. 125 t
	Model 4			max. 46 m	max. 100 t
	Model 3			max. 46 m	max. 100 t
	HMK 170			max. 38 m	max. 63 t

Bulk vessel size	Barge/Coaster	Handysize	Handymax	Panamax	Capesize bulker
	Capacity [DWT]	≤ 5,000	≤ 30,000	≤ 50,000	≤ 80,000
					

Container handling

High handling rates alongside vessels of all classes

As a result of their high handling rates, Gottwald Mobile Harbour Cranes are the ideal choice in container terminals. They service ships up to and including super post-Panamax class and easily handle all the standard container sizes from 20' to 45' – and handle 20' containers in twinlift operation.



The range of applications includes not only smaller and medium-sized container terminals, where these cranes are often the only handling machines on the quay. Gottwald Mobile Harbour Cranes come into their own in the really large container hubs operated

by leading shipping lines and terminal operators all over the world. In those environments, Gottwald cranes are used to complement the container gantries already in use there. They can easily be integrated in the logistics chain alongside such special-purpose machines on the quay to ensure high-speed container handling.

In addition to this, they are often the only solution where container handling is the main field of application but general and project cargoes are also handled and if parts of the vessels are difficult to access. In circumstances such as these, the quick and easy change of lifting gear is just one aspect underlining the versatility of these cranes.

dzwigi24.pl

Mobile Harbour Cranes near Istanbul, Turkey, including G HMK 7408 and G HMK 7608 cranes, variants of Model 7, for handling containers alongside vessels up to post-Panamax



HMK 170 E, Ofunato, Japan



G HMK 4406, a variant of Model 4, Antwerp, Belgium



G HMK 6407, a variant of Model 6, São Francisco do Sul, Brazil



G HMK 8710, a variant of Model 8, Carrara, Italy

Gottwald Mobile Harbour Cranes of various sizes and performance ratings handling containers. Model 8's range of applications is extensive enough to include super post-Panamax vessels, for example.

Bulk handling

With 4-rope grab Mobile Harbour Cranes

Where intensive continuous-duty handling in bulk terminals makes particularly high demands on the equipment to be used, Gottwald's 4-rope Mobile Harbour Cranes provide the answer. This design offers a grab curve of up to 63 t and high handling rates of up to 1,850 tph*.

Since its market launch, the 4-rope grab variant for the professional handling of e.g. coal, ore, gravel, sand, clinker, cement and agribulk has been sold hundreds of times and has proved its worth worldwide as a highly successful technological concept.

Based on Mobile Harbour Crane technology, Gottwald's Portal Harbour Cranes and Floating Cranes tend to be ordered as 4-rope grab machines for use in professional bulk handling. In special purpose bulk import terminals, this process involves coordinated interaction with such ancillary equip-

ment as hoppers and conveyor belts, while in coal export, handling also takes place on the open sea.

Also with motor grabs

Thanks to their remarkable versatility, Gottwald Mobile Harbour Cranes can also be fitted with motor grabs for use in bulk handling. In this configuration, they also achieve high handling rates.

Long service life

If a Mobile Harbour Crane is intended for use with grab operation in highly intensive professional bulk handling, it is designed to a high crane classification to guarantee a long service lifetime.

* Handling rates are dependent on terminal and operating conditions

dzwigi24.pl

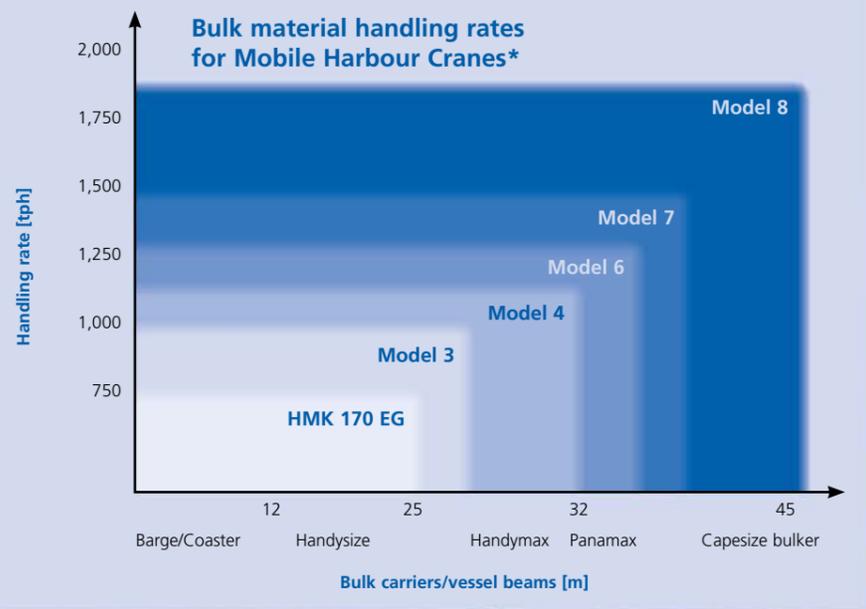
Four-rope grab HMK 170 EG (right) handling agribulk alongside a coaster and a G HMK 7408 B (below) at an inland transfer point, facilitating the transfer of scrap from the port level to the elevated position of a neighbouring steelworks



Cranes with motor grabs also achieve high handling rates, e.g. this G HMK 4406, a variant of Model 4, in Krishnapatnam, India



For highly-intensive professional bulk handling with extremely high operating hours for unloading Panamax and cape size bulk carriers: G HMK 6407 B Mobile Harbour Crane, a variant of Model 6, handling coal in Gangavaram, India (large photo) and a G HMK 8310 B, a variant of Model 8, in Cartagena, Spain (bottom right)



General cargo

With easy-to-change lifting gear

Mobile Harbour Cranes made by Gottwald once again demonstrate their versatility when it comes to handling general cargoes efficiently. The size and shape of the cargoes can vary considerably. For this reason, the cranes can be equipped with several kinds of mechanical, electrical and hydraulic lifting gear, ranging from spreaders of various designs to coil hooks, slings, chains, magnets, lifting beams and telescopic grabs. Changing the lifting gear is quick, simple and safe.

In large-scale general cargo and multipurpose terminals, these machines handle such goods as:

- steel coils, metal sheets, pipes, shaped sections, billets, wire, all forms of metal right through to scrap
- pallets of all kinds, such as for handling fruit.

Unbeatable versatility and high working speeds are just two of the key advantages of Gottwald Mobile Harbour Cranes when handling a wide range of general cargoes such as fruit, pallets, construction materials and steel products



HMK 170 E handling steel coils in Antwerp, Belgium



G HMK 4406, a variant of Model 4, handling fruit in Antwerp, Belgium



G HMK 4406, a variant of Model 4, handling general cargo in Livorno, Italy



G HMK 7608, a variant of Model 7, handling steel coils in Antwerp, Belgium



G HMK 6407, a variant of Model 6, handling general cargo between an inland waterway barge and an ocean-going vessel, making use of its long reach

dzwigi24.pl

Project cargo

Impressive lifting capacities and extensive radii

Yet another application that allows Gottwald Mobile Harbour Cranes to show the full extent of their capabilities is in the high-performance handling of even the heaviest project cargoes in heavy-load and universal terminals, ensured by their lifting capacities of up to 200 t, working radii of up to 56 m and a maximum load moment of 4,000 mt with the largest Gottwald Mobile Harbour Crane.

Cargoes moved include, among others, heavy plant components and large-scale machines such as turbines and generators. Extremely heavy goods, whose weight can often exceed 200 t, are handled by two cranes working together in tandem lift mode.

A special Tandem Lift Assistant for Gottwald Mobile Harbour Cranes ensures tandem lifts up to 400 t are absolutely safe.

It is particularly with bulky cargoes, such as components for wind turbines, that Mobile Harbour Cranes demonstrate their versatility and strength, since they are available in a number of sizes for various requirements, have sophisticated technical features and are robust and powerful.

Gottwald Mobile Harbour Cranes, all with high lifting capacities even at maximum radius are the ideal machines for a broad range of very heavy cargoes:

G HMK 4406, a variant of Model 4, 100 t lifting capacity up to a radius of 22 m, handling wind turbine parts in Ferrol, Spain

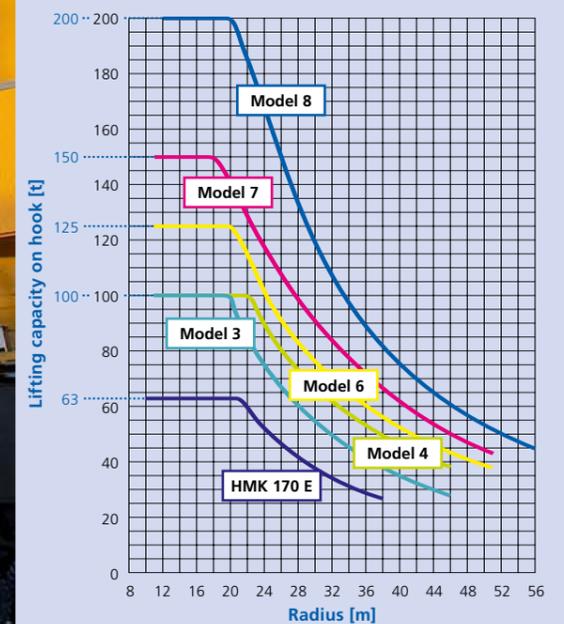
G HMK 6407, a variant of Model 6, 100 t lifting capacity up to a radius of 24 m, handling heavy cargoes in Reykjavik, Iceland. The G HMK 6507 even provides a lifting capacity of 125 t up to a radius of 20 m.



G HMK 7608, a variant of Model 7, 150 t lifting capacity up to a radius of 18 m, handling large-scale machinery in Hamburg, Germany

Two G HMK 8710 cranes, variants of Model 8, each with a lifting capacity of 200 t up to a radius of 20 m, here handling generators in tandem lift, in Carrara, Italy

Mobile Harbour Crane lifting capacity curves



Leading Mobile Harbour Crane technology

With an impressive list of features and individual adaptations

Maintaining a steady focus on the customer is one of the guiding principles at Gottwald, which is why the company offers not only a comprehensive range of standard and optional features for its Mobile Harbour Cranes, but also has the capability to provide customer-specific adaptations. And this explains why Gottwald products are favoured in situations requiring specifically tailored solutions.



The Visumatic® crane management system is standard equipment on Gottwald Mobile Harbour Cranes. Key advantages are intuitive operator guidance and clear, easily understood graphic symbols.



All Gottwald Mobile Harbour Cranes provide the crane operator with a good view of the site thanks to an elevated tower cab position. Even better control is offered by the optional forward-mounted cab, 2.5 m further out.



Portals instead of tyre-mounted chassis permit unhindered movement of rail and road vehicles and conveyor belts beneath or beside the portal, which is tailored to customer specifications.



Barges instead of tyre-mounted chassis provide maximum mobility on the water and navigate around the problem of expensive investments in quay infrastructures.



Where the quay facilities have limited load-bearing capacity, Gottwald can modify the propping system fitted to the Mobile Harbour Crane to meet the specific conditions on the customer's site.



Equipment for hooking up an external power supply produce significant improvements in the efficient use of energy, cut operating costs and completely do away with exhaust gases from cranes in the terminal.



The hybrid drive, made up of an on-board diesel generator and short-term energy storage modules (ultracaps), improves efficiency and reduces fuel consumption and exhaust gas emissions.



By making environmentally aware technologies available to the market, Gottwald is responding to the demand for products that reduce exhaust gas, noise, dust and light pollution while optimising the use of limited space.

Reliable service

Around the world, around the clock, all around the product

As a subsidiary of Demag Cranes AG, Gottwald can draw on worldwide service to secure the highest possible availability of your cargo handling cranes and the value of your investment. Integrated in reliable service networks, Gottwald can provide professional troubleshooting and has implemented an efficient, two-stage support structure:

First level support

Gottwald has direct access to a global network of service centres and representatives within the Demag Cranes Group, which enables us to orientate ourselves towards you, the customer, and your needs. When you purchase a Gottwald product, we name a contact responsible in your region.

Second level support

Our representatives are supported globally by the Gottwald Service Competence Centre (SCC) in Düsseldorf, Germany. The SCC provides help, especially with complex questions. Modern eBusiness solutions allow fault diagnoses in real-time communication. In specific emergencies, the SCC can be reached on the global 24/7 hotline:

+49 (0) 211 – 7102 3333



Crane transport



Service packages



Installation and commissioning



General overhauls



Upgrades and retrofits



Repairs

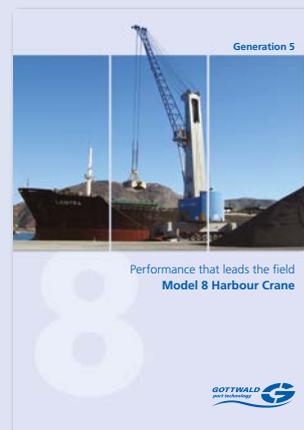
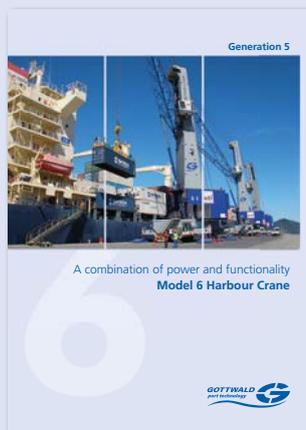
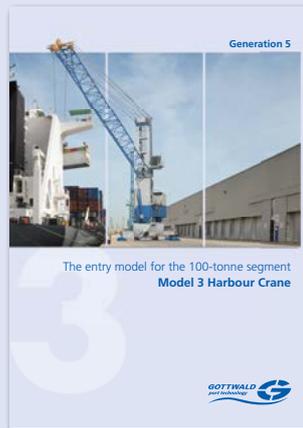
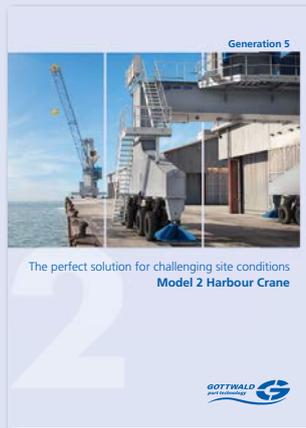


Professional Crane Inspections (PCI)

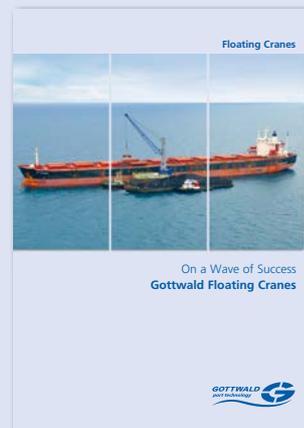
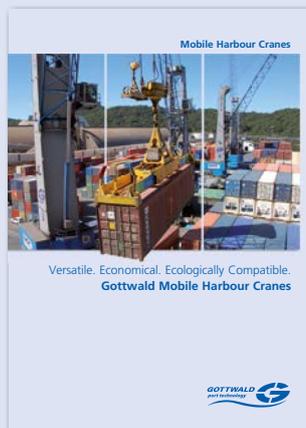


Spare parts supply

Gottwald provides customer-orientated service for all its products for their entire service lifetimes.



Gottwald Mobile Harbour Cranes – detailed product brochure for each model



Generic brochures for Mobile Harbour Cranes, Portal Harbour Cranes and Floating Cranes

Gottwald Port Technology GmbH • PO Box 18 03 43 • 40570 Düsseldorf, Germany
 Phone: +49 (0) 211 7102-0 • Fax: +49 (0) 211 7102-3651 • info@gottwald.com • www.gottwald.com

Gottwald Port Technology GmbH – a subsidiary of Demag Cranes AG