

Portal Harbour Cranes



Right on Track
Gottwald Portal Harbour Cranes

Gottwald's Portal Harbour Cranes benefit from the proven leading-edge technology used a thousand times over around the world in Gottwald Mobile Harbour Cranes and use the same assemblies from the slewing ring up

When planning new facilities for handling imported coal at Humber International Terminal, UK, ABP Immingham opted for a rail-mounted solution by Gottwald: in the foreground is a Model 7, G HSK 7416 B Portal Harbour Crane of the latest Generation 5, and beyond are two Generation 4, HSK 360 EG cranes.

Portal data for the G HSK 7416 B

- Track gauge: 14 m
- Clear height: 6 m
- Number of wheels: 4 per corner
- Max. wheel loading: 65 t

Maximum flexibility at ABP Immingham, UK: cranes and hoppers share common rails. The hoppers are controlled by the cranes and have two chutes – one for feeding the conveyor belt and one for loading road trucks.

Thanks to a high crane classification (A8 in grab operation) Gottwald Portal Harbour Cranes, in terms of their mechanical, structural and steel design and their construction, are designed for an extraordinarily long service life

Innovation on Rails

Gottwald Mobile Harbour Crane Technology on Portals

Terminal operators are faced with the challenges of increasing costs and growing competitive pressure. To be successful in these circumstances, they need handling machines that are reliable and powerful but also economical and future-orientated. These are the factors that allow Gottwald Portal Harbour Cranes to exhibit their true strengths.

Gottwald Portal Harbour Cranes

Gottwald Portal Harbour Cranes come into their own where individually tailored solutions and a high degree of specialisation are called for. Designed for use on narrow and special-purpose quays, this crane type is the ideal handling machine for:

- new investments
- equipment replacements
- terminal expansion projects.

Customer-Specific Portals

The portals of these cranes are designed to meet the specific requirements of each individual quay. Typical track gauges are 10 to 20 m and clear heights from 4 to 8 m.

Additional Investment Benefits

Using proven components from Gottwald's Mobile Harbour Crane technology, Portal Harbour Cranes are modular constructions above the slew ring and are very service-friendly. They are remarkably efficient, have short delivery times and require only low specific investment costs for the crane and quay infrastructure.



Gottwald manufactures the portals for its Portal Harbour Cranes to match customers' clear heights and track gauges, which enables road vehicles, rail trucks and conveyor belts to be used unhindered beneath or beside the portals

The number of wheels fitted will depend on the prescribed rail and quay loadings – usually four, six or eight wheels per corner of the portal



Professional Bulk Handling

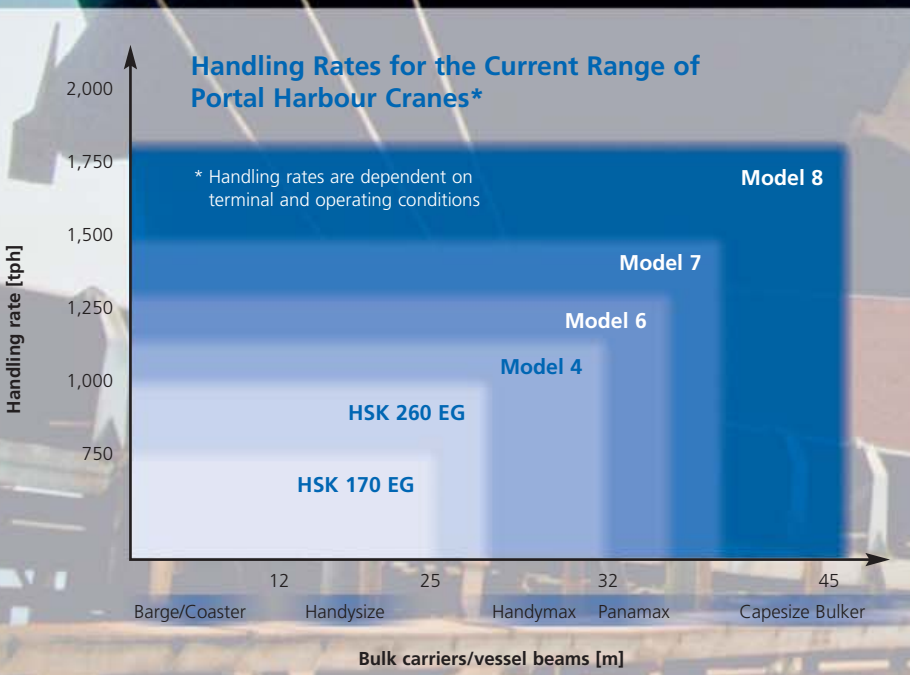
Gottwald Portal Harbour Cranes as 4-Rope Grab Machines

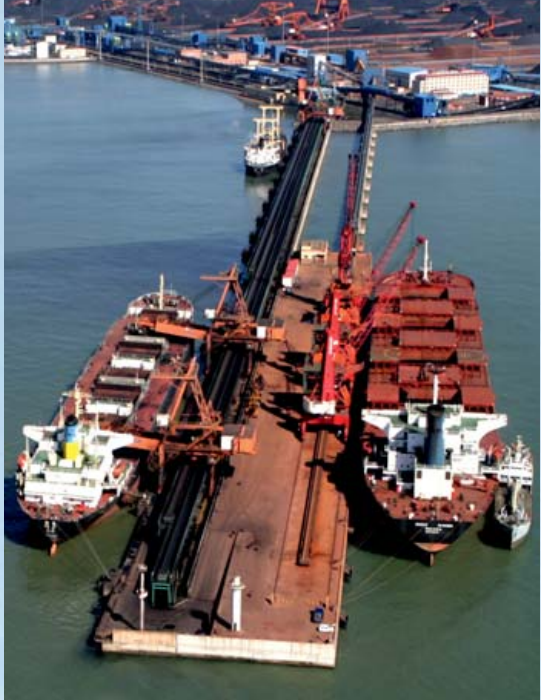
Gottwald Portal Harbour Cranes are well suited to bulk material applications of all kinds – particularly the 4-rope grab machines for tough, continuous-duty bulk handling. With this variant, derived from its proven Mobile Harbour Crane technology, Gottwald has gained experience over several decades and has sold hundreds of these cranes worldwide.

The Preferred Alternative to Custom-Built Machinery

In Qinhuangdao, People's Republic of China, three Gottwald HSK 360 EG Portal Harbour Cranes are in use at a specialised bulk terminal handling ore. As 4-rope grab machines, they achieve handling rates of up to 1,500 tph each.

The Portal Harbour Cranes were part of an expansion programme which involved hoppers, a conveyor belt and the widening of the finger pier. The cranes were purchased in preference to application-bound purpose-built machinery and integrated one after the other in the expanding infrastructure. Convincing features of these Gottwald machines were the short delivery times and the high handling rates which are comparable with special-purpose machinery.





Three HSK 360 EG Portal Harbour Cranes are in operation together with their respective hoppers on the finger pier in Qinhuangdao, PR China, on a single set of rails. The conveyor belt runs beneath the portals.

- Portal data:
- Track gauge: 13.4 m
 - Clear height: 4 m
 - Number of wheels: 4 per corner
 - Max. wheel loading: 60 t

System Solutions

As a provider of integrated systems, Gottwald is able to take on the planning and consulting tasks for new and expanding bulk terminals. As integral parts of turnkey solutions, Gottwald can supply not only Portal Harbour Cranes but also ancillary machinery such as hoppers and conveyor belts.

Convincing Features

Decades of Experience and Environmentally Compatible, Economical Drive Concepts

When the need arose for the Port of Tyne Authority to expand its terminal facilities for continuous-duty coal handling, the preferred solution was Portal Harbour Cranes derived from Mobile Harbour Crane technology. A number of factors in favour of Gottwald's Portal Harbour Cranes proved decisive: Gottwald's leading Mobile Harbour Crane technology and its successful transfer to Portal Harbour Cranes – of which over 30 have now been sold – and many years of experience with Portal Harbour Cranes used in many different terminal infrastructures.

Port of Tyne in fact operates two Gottwald G HSK 6424 B Portal Harbour Cranes with 4-rope grabs, mainly for servicing Handymax and Panamax vessels and to boost handling capacities on the riverside quay.

External Power Supply

All Gottwald Portal Harbour Cranes use electrical drives, which means they use the energy source most commonly found in ports. Electricity is provided either from the on-board generator or the terminal's own supply. To this end, Portal Harbour Cranes are fitted with diesel-powered generators and/or equipment for the use of external power sources.

Portal Harbour Cranes still running exclusively on diesel-electric power can be quickly and economically retrofitted to use external power, which increases the efficiency of the drive system and reduces operating costs.

The two Portal Harbour Cranes used by Port of Tyne are powered exclusively by electricity from the terminal's own supply. Apart from reliable, economic operation, the operating company benefits from all the environmental advantages of Gottwald technology, such as the prevention of exhaust gases and the reduction of noise emissions.



Gottwald Harbour Cranes handle all manner of bulk materials, whether coal, iron ore, gravel, sand, cement, clinker, biomass, animal feed or fertilisers



Two G HSK 6424 B Portal Harbour Cranes, the 4-rope grab variant of Gottwald's Model 6, working hand-in-hand with hoppers and conveyor belts handling coal for Port of Tyne in the UK

Portal data:

- Track gauge: 16 m
- Clear height: 9 m
- Number of wheels: 6 per corner
- Max. wheel loading: 30 t

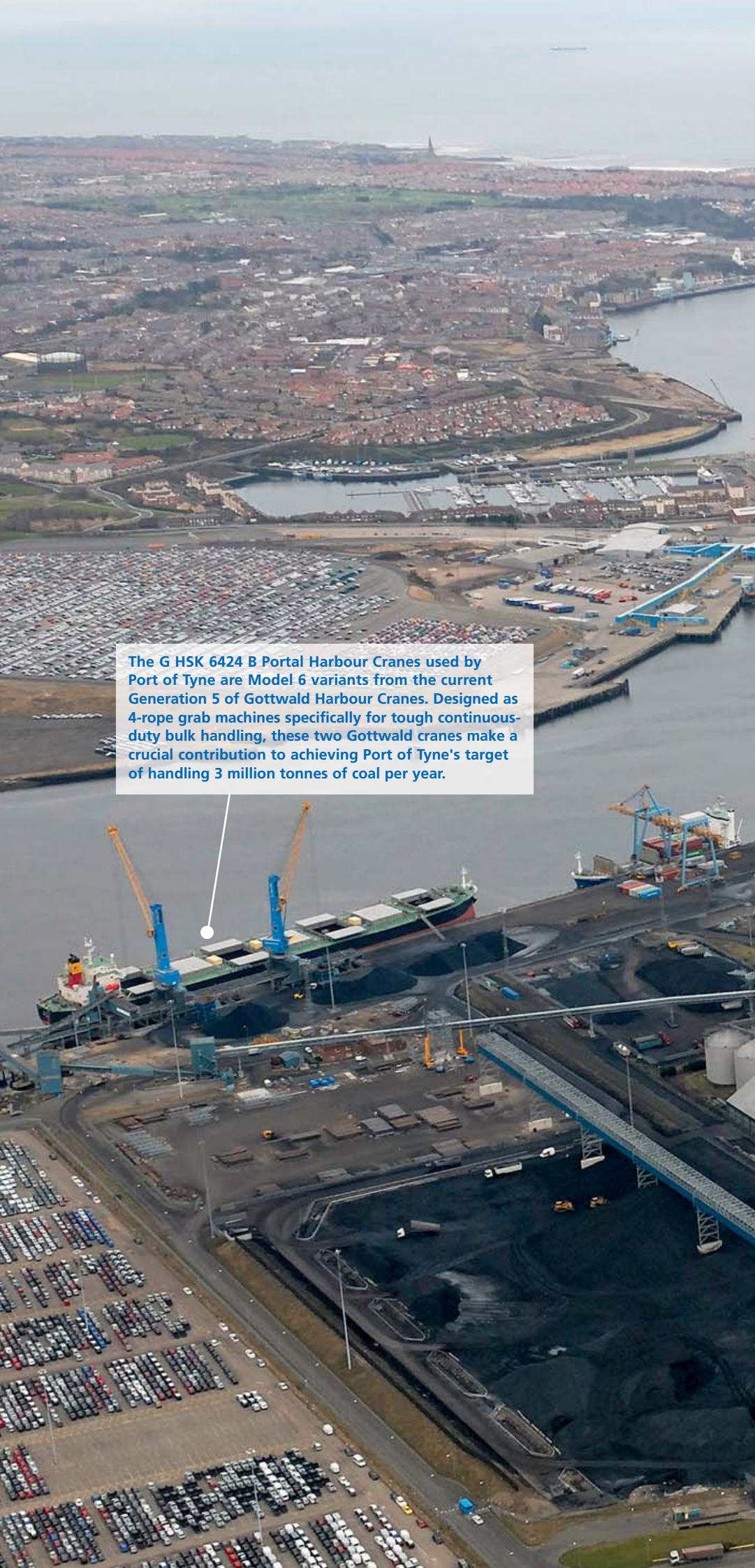


SPECIAL

External Power Supply – the Best Connection for Environmentally-Aware Ports

By using external power from the shore supply, the operators of Gottwald Harbour Cranes profit from a further reduction in their operating and maintenance costs.

At the same time, using the external power supply makes a key contribution to environmental protection in the port and responds directly to the demands, which are becoming more insistent, for sustainable reductions in exhaust gas and noise emissions.



The G HSK 6424 B Portal Harbour Cranes used by Port of Tyne are Model 6 variants from the current Generation 5 of Gottwald Harbour Cranes. Designed as 4-rope grab machines specifically for tough continuous-duty bulk handling, these two Gottwald cranes make a crucial contribution to achieving Port of Tyne's target of handling 3 million tonnes of coal per year.

Integration in Complex Logistics Chains

Gottwald Portal Harbour Cranes Strengthen Bulk Materials Terminals

Kinder Morgan, the largest independent dry bulk material handler in the United States, operates a bulk materials terminal on the East Coast of the USA. In connection with the expansion of the terminal, two Gottwald G HSK 8216 B Portal Harbour Cranes are in operation, mainly handling coal imported from South America. To this end, a new finger pier which incorporated a conveyor belt system was built.

Profitable New Investment

The new investment in these two Gottwald Portal Harbour Cranes and quay infrastructure shows clearly the comparatively low total investment costs as opposed to purpose-built machinery.

Short Delivery Times

With these two Portal Harbour Cranes, Gottwald was able to supply a customer-orientated solution which was seamlessly integrated in the complex logistics chain at this site within a very short time.

The cranes are the largest 4-rope grab Portal Harbour Cranes ever built by Gottwald and achieve handling rates of up to 1,800 tph* each.

* Handling rates are dependent on terminal and operating conditions

Kinder Morgan employs two Model 8, G HSK 8216 B Gottwald Portal Harbour Cranes for transshipping coal from ship to hopper or from ship to barge

Portal data:

- Track gauge: 14.0 m
- Clear height: 6.0 m
- Number of wheels: 4 per corner
- Max. wheel loading: 70 t





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Portal Harbour Cranes on Barges

Portal Harbour Cranes mounted on barges are a typical example of solutions tailored to meet customer needs. This type of crane extended the range of available Gottwald Floating Cranes which are the most economical and preferred solution where quay space is either limited or not available at all.

These Portal Harbour Cranes can be travelled along the barge to enable them to service a number of holds without having to warp the barge. Floating Cranes of this type can be used on a pier in combination with hoppers and conveyor belts or on the water for ship-to-ship handling.



In a direct comparison with dedicated, single-purpose handling machines, Gottwald Portal Harbour Cranes provide these benefits:

- low specific investment costs thanks to the modular design principle
- lower investments in quay facilities due to reduced weight and space requirement
- high handling rates of up to 1,800 tph*
- very service-friendly and a high degree of spare part availability
- very short delivery times thanks to the Advance Order Programme and modular construction.



Broad Range of Applications

Portal Harbour Cranes for Handling All Manner of Cargoes

Gottwald Portal Harbour Cranes are used not only for professional bulk handling but also for loading and unloading containers, general and project cargoes.

Replacements for Older Machines

As a result of their impressive versatility, these machines are the ideal replacements for older and less efficient handling equipment. Gottwald Portal Harbour Cranes have high lifting capacities and feature a lighter boom construction than other cranes. They are also made up of fewer components, with a corresponding reduction in maintenance costs.

The Gottwald Experience

Terminals in Eastern Europe, which often have narrow quays and railway lines, are showing increased interest in Gottwald Portal Harbour Cranes for their multifarious applications. In Russia, for example, or the Ukraine, where Gottwald Portal Harbour Cranes of different sizes and capacities are in use.

These cranes were mainly investments in new machines to replace older equipment after the customers had gained positive experience with Gottwald Mobile Harbour Cranes.





HSK 300 E Portal Harbour Crane with a max. lifting capacity of 63 t at a radius of 30 m handling steel in the Port of Ghent, Belgium

Portal data:

- Track gauge: 16.1 m
- Clear height: 5.1 m
- Number of wheels: 4 per corner
- Max. wheel loading: 52 t

HSK 260 EG Portal Harbour Crane handling containers ...



... and coal in the Port of Bordeaux, France



HSK 170 EG Portal Harbour Crane handling steel coils in the Port of Vladivostok, Russia



Two HSK 170 EG Portal Harbour Cranes handling coal and steel in the Port of Tuapse, Russia



SPECIAL

Portal Harbour Cranes with Special Travel Equipment

Maximum possible mobility for the HSK 170 EG Portal Harbour Cranes, for example, is provided by the Special Travel Equipment on rubber tyres which enables the crane to be travelled from one quay to another. In addition, stabiliser pads also allow the crane to be used on quays without rail tracks.



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