DHHI

DHI·DCW GROUP CO., LTD.
DALIAN HUARUI HEAVY INDUSTRY GROUP CO., LTD.

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DHHI

PORT MACHINERY

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About DHHI

Dalian Huarui Heavy Industry Group Co., Ltd. (hereinafter called "DHHI") was founded in December 2001 through recombination of Dalian Heavy Industry Co., Ltd. and DCW Group Co., Ltd. — two basic heavy machinery companies in China. Through over ten years' rapid development, DHHI has become a leader of Chinese heavy machinery industry. As a one of the large and key enterprises in Chinese heavy machinery society, DHHI was the first to be ranked among the top 500 machine builders in the world and the top 500 companies in China. DHHI now has 8 branches and 12 subsidiaries, with about 7,200 employees and total assets over 20 billion yuan RMB.

DHHI is mainly dedicated to supplying completed equipments, high-tech products and services to iron and steel works, electric power plants, energy industry, mine, traffic and transport industries, etc. The product range covers 9 categories, i.e. metallurgical machinery, hoisting machinery, bulk material handling machinery, port machinery, energy machinery, drive and control system, marine components, construction machinery, offshore engineering machinery, etc.

DHHI established 1 headquarters and 5 research & manufacture bases, which in total cover more than 2 million square meters.

The business activities and capabilities include:

- independently performing research and development of large technical equipment;
- design, manufacture, erection and commissioning of the equipment with mechanical, electrical and hydraulic integration;
- overall undertaking EPC contract.

The company possesses following professional establishments, which form a complete research and development system:

- a national technical center (consisting of 1 design & research institute, 7 specialized design institutes, 4 research institutes and 3 laboratories, etc.)
- an overseas research & development center in Germany
- a national postdoctoral workstation,

The company possesses over 350 patents, 17 famous products of national, provincial and municipal levels, and sets about 200 record of "China' s first" . Many of the products have reached internationally advanced level.

The company' s operation is internationalized. Its products are sold to 84 countries and regions. The annual export exceeds 200 million US dollars.


Qunsheng Manufacturing Base


Zhongge Manufacturing Base


Lvshun Manufacturing Base


Weiangdian Manufacturing Base


DD Port Manufacturing Base

Headquarter of DHHI

Marine Transportation of Complete Machine

Modern Seaside Base

DHHI has modern seaside base for manufacturing of heavy & large equipments. It has three large workshops which are the first class in the world, a 208,000m^2 open field for final assembling, and two wharves with a capacity of 5000dwt each.

Contents

Overview

DHHI has been devoted to the development and manufacture of bulk material handling machinery for port since 1970s. It has independent intellectual property rights and was awarded the title of "the Largest Ship Unloader Manufacturer in China" by the Development & Researching Centre of the State Council. The company provides specialized machinery such as ship loaders, ship unloaders, etc. which are suitable for handling bulk material such as ore, cement, coal, grain, etc. for bulk material handling terminals of specialized ports both in China and worldwide.

The bulk material handling machinery for port designed and manufactured by DHHI is widely used in power plants, steel plants, cement plants and bulk material handling terminals of ports. DHHI started from joint manufacturing based upon drawing and technology imported from famous international companies. Now the company is doing research, design and development independently. During that course, DHHI accumulated rich experience. DHHI designed and manufactured various ship unloaders ranging from 500t/h to 3600t/h and ship loaders of slewing and non-slewing types ranging from 500t/h to 12700t/h for different customers. The ship loader and unloader designed and manufactured by DHHI can achieve full-automatic or semi-automatic program control for the full course of loading and unloading operations. The machines have advanced electrical control technology, such as self-diagnosis function, etc..

Overview

The grab ship unloaders with a capacity of 500 t/h ~ 3600 t/h designed and manufactured by DHHI are suitable for unloading bulk materials, e.g. ore, coal, etc. from the bulk ships and barges of 3,000 dwt ~ 400,000 dwt at the bulk cargo terminals. The ship unloaders feature advanced technology, complete function, reliable operation, good stability, efficient unloading, long service life, and convenient maintenance. They can meet the requirements for high freight volume, high-efficiency and frequent operation. The noise and dust emissions are low and conform to the national environment protection standards. The grab ship unloaders designed and manufactured by DHHI are mainly available in two types: (1) grab ship unloader with compensating rope trolley; (2) grab ship unloader with four-drum rope trolley.

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2	3	4

1 3500t/h Ship Unloader exported to Vale Malaysia
2 1800t/h Ship Unloader in Nanjing Port
3 1250t/h Ship Unloader in Huarun Power Plant
4 1250t/h Ship Unloader in Zhanjiang Power Plant

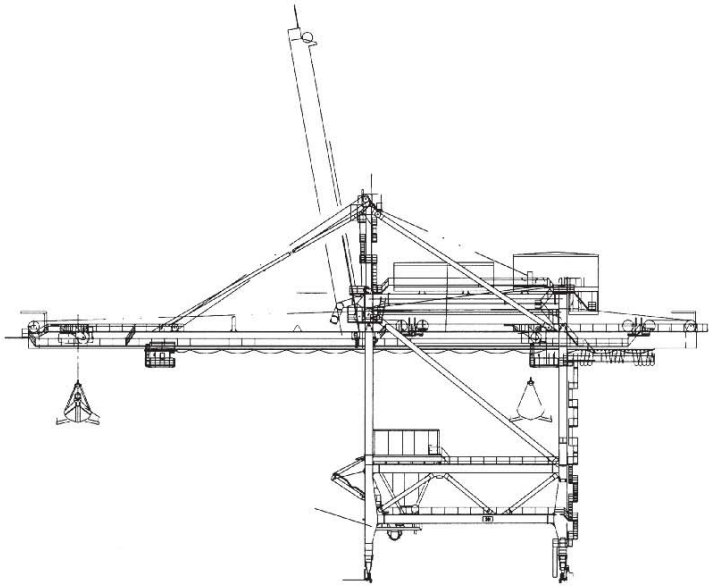
3000t/h Ship Unloader Exported to Japan

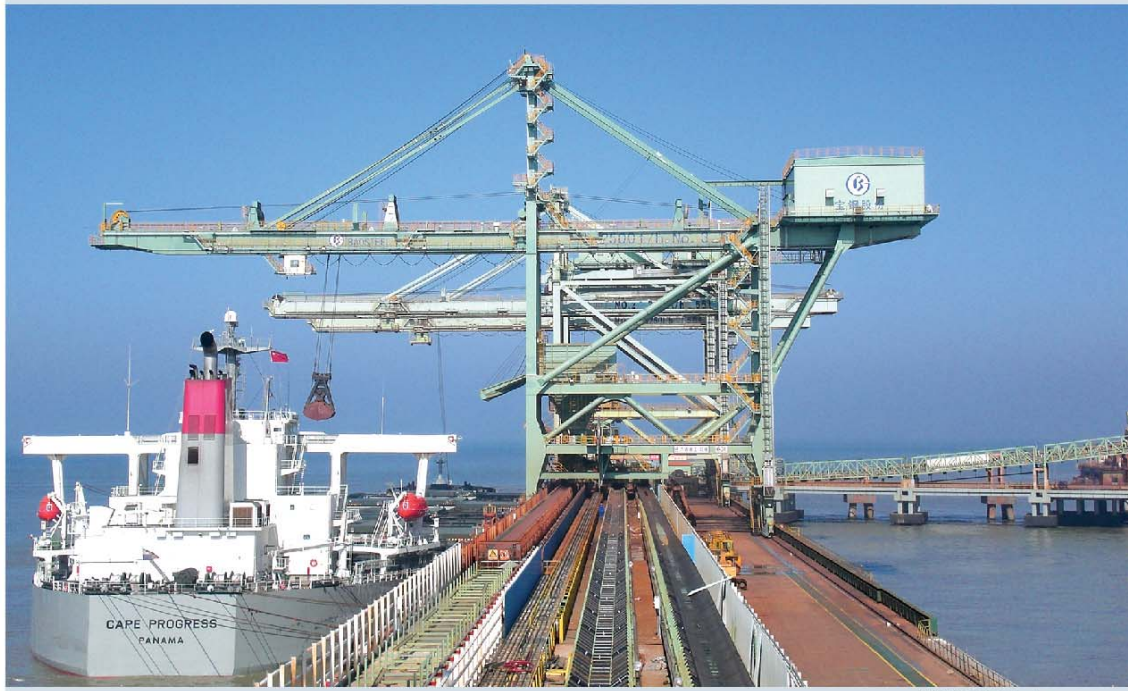
Grab Ship Unloader with Compensating Rope Trolley

The grab ship unloader with compensating rope trolley developed and manufactured by DHHI is mature in technology, high in reliability and serialization degree, advanced in control technology, etc. It is an ideal equipment for unloading bulk materials such as coal, ore, sand, etc. from the ship. It can be driven by DC or AC variable frequency speed control system. The sway of grab and optimum grabbing performance are controlled by highly-reliable digitalized drive system. The real-time tracking and fault diagnosis are realized through humanized man-machine interface.

2250t/h Ship Unloader in Zhanjiang Port

2250 t/h Ship Unloader in Shanghai





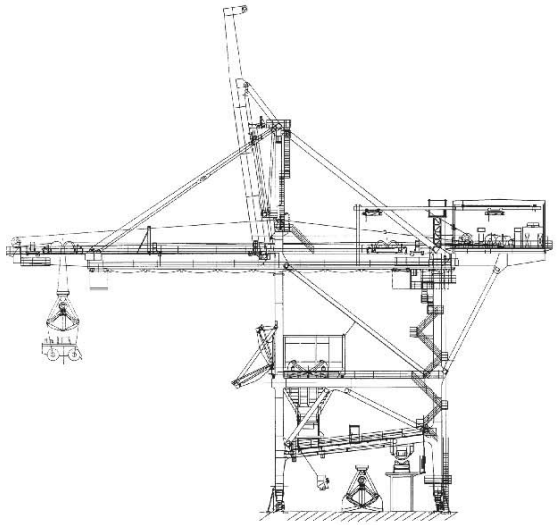
2500t/h Ship Unloader

Typical Performance Data:

Item	Value	Unit
Capacity	2250	t/h
Lifting Capacity	55	t
Lifting with Full Load	150	m/min
Lowering with No Load	180	m/min
Traversing	210	m/min
Travelling	20	m/min
Cab Traversing	25	m/min
Front Outreach	45	m
Rear Outreach	25	m
Rail Gauge	30	m
Lifting Height above Rail	24	m
Lifting Height below Rail	33	m
Cab Travel Distance	60	m
Boom Luffing Time	6	min
Max. Wheel Load	670	kN
Number of Wheels	40	Piece
Suitable for Ship Size	50000~300000	Ton

Grab Ship Unloader with Four-drum Rope Trolley

The grab ship unloader with four-drum rope trolley was initially developed by DHHI on the basis of international cooperation in China. This machine has the following features: the hoisting, opening and closing, traversing mechanisms being combined together; the trolley traversing being realized by the combined movement of the hoisting, opening and closing drums; the deadweight of complete machine being 30% lighter than that of grab ship unloader with self-propelled trolley and 15% lighter than that of grab ship unloader with compensating rope trolley; The ship unloader is simple in rope reeving, less in rope consumption, light in deadweight of trolley and smooth in operation. It can be driven by DC or AC variable frequency speed control system. The sway of grab and grabbing performance are controlled by highly-reliable digitalized drive system. The real-time tracking and fault diagnosis are realized through humanized man-machine interface.



Typical Performance Data:

Item	Value	Unit
Capacity	2500	t/h
Lifting Capacity	63	t
Lifting with Full Load	160	m/min
Lowering with No Load	210	m/min
Traversing	250	m/min
Travelling	20	m/min
Cab Traversing	25	m/min
Front Outreach	48	m
Rear Outreach	25	m
Rail Gauge	30	m
Lifting Height above Rail	27.5	m
Lifting Height below Rail	34	m
Cab Travel Distance	59	m
Boom Luffing Time	6	min
Max. Wheel Load	750	kN
Number of Wheels	40	Piece
Suitable for Ship Size	35000~365000	Ton

1250t/h Ship Unloader

1600t/h Ship Unloader

1250t/h Ship Unloader

Main Achievements of Ship unloader

Products Description	Quantity	Capacity	End Users	Delivery
Grab Ship Unloader	2	1800 t/h	Baosteel, China	1990
Grab Ship Unloader	3	500 t/h	Shanghai Wujing Power Plant, China	1991
Grain Ship Unloader	2	650 t/h	Taizhong Port,Taiwan, China	1992
Grab Ship Unloader	1	1250 t/h	Shenzhen Mawan Power Plant, China	1993
Grab Ship Unloader	4	850 t/h	Huangpu Xingsha Port, China	1994
Grab Ship Unloader	2	1250 t/h	Zhanjiang Power Plant, China	1994
Grab Ship Unloader	2	2100 t/h	Ningbo Beilun Port, China	1995
Grab Ship Unloader	2	1400t/h	Yangzhou Power Plant No.2, China	1996
Grab Ship Unloader	2	1250 t/h	Fuzhou Huaneng Power Plant, China	1998
Grab Ship Unloader	2	1800t/h	Baosteel, China	1998
Grab Ship Unloader	2	1650t/h	Ningbo Beilun Power Plant, China	1999
Grab Ship Unloader	2	2250t/h	Baosteel, China	2001
Grab Ship Unloader	2	650t/h	Suizhong Power Plant, China	2002
Grab Ship Unloader	1	1250t/h	Comalco, Australia	2003
Grab Ship Unloader	2	1500t/h	Huarun Power Plant (Changshu)Co., Ltd. China	2004
Grab Ship Unloader	2	2250t/h	Zhanjiang Port, China	2004
Grab Ship Unloader	1	1250t/h	Shenzhen Mawan Power Plant, China	2004
Grab Ship Unloader	1	600t/h	Shantou Port Authority Group	2005
Grab Ship Unloader	2	1600t/h	Ningde Power Plant, China	2005
Grab Ship Unloader	2	1400t/h	Yangzhou Power Plant, China	2005
Grab Ship Unloader	2	1800t/h	Baosteel, China	2005
Grab Ship Unloader	1	2500t/h	Baosteel, China	2006
Grab Ship Unloader	2	2500t/h	Baosteel, China	2007
Grab Ship Unloader	2	1800t/h	Longtantianchen Terminal Co., Ltd. of Nanjing Port, China	2007
Grab Ship Unloader	2	1250t/h	Dalian Zhuanghe Power Plant, China	2007
Grab Ship Unloader	1	3000t/h	Ishikawajima Transport Machinery Co., Ltd., Japan	2008
Grab Ship Unloader	3	1250t/h	Dongguan Haichang Industries Co., Ltd., China	2009
Grab Ship Unloader	2	1250t/h	Fuzhou Huaneng Power Plant, China	2009
Grab Ship Unloader	3	2500t/h	Essar Bulk Terminal Limited, India	2009
Grab Ship Unloader	1	3000t/h	Ishikawajima Transport Machinery Co., Ltd., Japan	2009
Grab Ship Unloader	1	3000t/h	Ishikawajima Transport Machinery Co., Ltd., Japan	2010
Grab Ship Unloader	2	1500t/h	Zhanjiang Zhongyue Energy Sources Co., Ltd., China	2010
Grab Ship Unloader	1	1250t/h	Dongguan Haichang Industries Co., Ltd., China	2010
Grab Ship Unloader	2	1250t/h	Dongguan Haichang Industries Co., Ltd., China	2011
Grab Ship Unloader	1	1600t/h	Fujian Datang Ningde Power Plant, China	2011
Grab Ship Unloader	2	1000t/h	Hengli Petroleum Chemical Industry (Dalian) Co., Ltd., China	2011
Grab Ship Unloader	2	2500t/h	Fujian Bafang Port Development Co., Ltd., China	2011
Grab Ship Unloader	6	3000t/h	Tangshan Caofeidian Ore Terminal Co., Ltd., China	2011
Grab Ship Unloader	1	1250t/h	Dongguan Haichang Industries Co., Ltd., China	2012
Grab Ship Unloader	2	1800t/h	Baosteel, China	2012
Grab Ship Unloader	1	1250t/h	Guangzhou Port Group Co., Ltd., China	2012
Grab Ship Unloader	2	1200t/h	Baosteel, China	2012

Main Achievements of ship unloader

Products Description	Quantity	Capacity	End Users	Delivery
Grab Ship Unloader	4	2750t/h	Yantai Port Group Co., Ltd., China	2013
Grab Ship Unloader	3	2500t/h	Baosteel and Guanggang Relocation Project in Zhanjiang, China	2013
Grab Ship Unloader	1	1000t/h	Batangas Coal Fired Thermal Power Plant, Philippines	2013
Grab Ship Unloader	2	2500t/h	Guangxi Iron and Steel Group Co., Ltd., China	2013
Grab Ship Unloader	3	3500t/h	Vale Malaysia Manufacturing SDN BHD, Malaysia	2013
Grab Ship Unloader	3	3000t/h	Zhanjiang Port, China	2013
Grab Ship Unloader	3	1800t/h	Tuticorin Coal Terminal Pvt., Ltd., India	2013
Grab Ship Unloader	6	2750t/h	Cangzhou Huang Hua Gang Ore Harbor Co., Ltd.	2013
Grab Ship Unloader	3	1250t/h	Dongguan Haichang Industries Co., Ltd., China	2014
Grab Ship Unloader	1	2500t/h	Formosa Ha Tinh, Vietnam	2014
Grab Ship Unloader	2	1600t/h	Formosa Ha Tinh, Vietnam	2014
Grab Ship Unloader	1	1800t/h	Zhanjiang Port, China	2014
Grab Ship Unloader	2	2000t/h	IL&FS Tamilnadu Power Company Limited, India	2014
Grab Ship Unloader	2	2000t/h	IL&FS Tamilnadu Power Company Limited, India	2015
Continuous Ship Unloader	1	3600t/h	Baosteel, China	2009
Total	118			

1400t/h Ship Unloader

1 1250 t/h Ship Unloader
2 1400 t/h Ship Unloader
3 1800 t/h Ship Unloader
4 2500 t/h Ship Unloader

1 2750 t/h Ship Unloader
2 2250 t/h Ship Unloader
3 1600 t/h Ship Unloader
4 1500 t/h Ship Unloader
5 3600 t/h Ship Unloader
6 1250 t/h Ship Unloader
7 850 t/h Ship Unloader
8 2100 t/h Ship Unloader

1	2	5
3	4	
6	7	8

1 8000t/h Ship Loader for Vale Malaysia
2 1000t/h Ship Loader in Jingtang Port

Overview

The ship loaders with a capacity of 500 t/h ~ 12700 t/h designed and manufactured by DHHI are suitable for loading bulk materials, e.g. ore, cement, coal, grain, etc. to the bulk ships and barges of Maximum 400000 dwt at bulk cargo terminals and specialized coal terminal of power plant. The ship loaders are advanced in technology, perfect in performance, reliable in operation, favorable in stability, efficient in loading, long in service life, convenient for maintenance and can meet the requirements for large freight volume, high-efficiency and frequent operation. The level of noise and dust produced by the ship loaders during operation is low and conforms to the national environment protection standards.

1 4500t/h Ship Loader in Dalian Port
2 3000t/h Ship Loader Exported to Auatralia
3 6000t/h Ship Loader in Qinhuangdao Port
4 2000t/h Ship Loader in Huaneng Power Plant, Nantong
5 1200t/h Ship Loader in Tianjin Port

1	2
3	4	5

6000t/h Ship Loader in Rizhao Port

Main Achievements of ship loader

Bulk Material	Quantity	Capacity	Customer	Delivery
Bauxite	1	12000t/h	SoE Project, Rio Tinto Alcan, Australia	2017
Corn/Raw Sugar	2	3000t/h	Santos Port, Brazil	2016
Iron Ore	1	12700t/h	Roy Hill Iron Ore Project, Australia	2015
Coal	2	5100t/h	Vale Project, Mozambique	2014
Iron Ore	1	8000t/h	Vale Project, Malaysia	2014
Iron Ore	1	4500t/h	Zhanjiang Port, China	2013
Iron Ore	1	4500t/h	Palua Port, Venezuela	2013
Coal	1	3500t/h	Huaneng Shantou Power Plant, China	2012
Coal	1	1800t/h	Dandong Port, China	2011
Grain	1	1000t/h	Dandong Port, China	2010
Coal	1	2000t/h	Ningbo Port, China	2009
Iron Ore	2	5000t/h	Majishan Port, Baosteel, China	2007
Iron Ore	1	4500t/h	Dalian Port , China	2006
Coal	1	5000t/h	Qinhuangdao Port,China	2004
Coal	1	3000t/h	Comalco, Australia	2003
Coal	1	6000t/h	Rizhao Port, China	2002
Iron Ore	1	4500t/h	Shanghai Majishan Port, China	2000
Coal	1	2000t/h	Huaneng Nangtong Power Plant, China	1999
Coal	1	1800t/h	Huaneng Nangtong Power Plant, China	1999
Coal	1	1800t/h	Jingtang Port China	1997
Cement	1	1000t/h	Rizhao Dawoo Cement Plant, China	1997
Coal	1	1000t/h	Jingtang Port, China	1995
Coal	4	500t/h	Huangpu Xinsha Port, China	1994
Cement	1	1000t/h	Dalian Onoda Cement Co., China	1991
Coal	1	2000t/h	Nantong Port, China	1990
Coal	1	500t/h	Nantong Port, China	1990
Coal	2	6000t/h	Qinhuangdao Port, China	1982
Coal	2	1200t/h	Tianjin Port, China	1982
Total	36			

5000t/h Ship Loader in Majishan Port

1 1800t/h Ship Loader in Tianjin Port
2 2000t/h Ship Loader in Ningbo Port
3 6000t/h Ship Loader in Shiju Port
4 1800t/h Ship Loader in Huanengnantong Port
5 6000t/h Ship Loader in Qinhuangdao Port

	1	2
3	4	5

Main Achievements of Plate Ship Loader / Unloader

Products Description	Quantity	Capacity	End Users	Delivery
Plate Ship Loader / Unloader	1	40t	Shanghai Meishan Iron and Steel Co., Ltd.	2004
Plate Ship Loader / Unloader	3	25t (Under Spreader)	Anshan Iron and Steel Co., Ltd. in Yingkou Bayuquan	2007
Plate Ship Loader / Unloader	1	55t (Under Spreader)	Anshan Iron and Steel Co., Ltd. in Yingkou Bayuquan	2007
Plate Ship Loader / Unloader	1	25t	Bohai Shipbuilding Heavy Industry Co., Ltd.	2007
Plate Ship Loader / Unloader	1	25t	Qingdao Beihai Shipbuilding Heavy Industry Co., Ltd.	2008
Plate Ship Loader / Unloader	1	30t	Samsung Heavy Industries(Ningbo) Co., Ltd.	2008
Plate Ship Loader / Unloader	1	30t	Samsung Heavy Industries(Rongcheng) Co., Ltd.	2008
Plate Ship Loader / Unloader	2	75t	Zhangjiagang Hongchang Steel Plate Co., Ltd.	2008
Plate Ship Loader / Unloader	1	25t	Qingdao Yangfan Shipbuilding Heavy Industry Co., Ltd.	2011
Plate Ship Loader / Unloader	1	35t	China Shipping Industry (Jiangsu) Co., Ltd.	2012
Plate Ship Loader / Unloader	3	55t	Baosteel, China	2014
Plate Ship Loader / Unloader	1	42t	Baosteel, China	2014
Plate Ship Loader / Unloader	2	55t	Formosa Ha Tinh (Vietnam)	2016
Plate Ship Loader / Unloader	2	40t	Formosa Ha Tinh (Vietnam)	2016
Total	21			

1 55t Plate Ship Loader / Unloader
2 40t Plate Ship Loader / Unloader
3 75t Plate Ship Loader / Unloader
4 75t Plate Ship Loader / Unloader
5 50t Plate Ship Loader / Unloader

65t Quayside Container Crane exported for Jurong Port, Singapore

Overview

DHHI set out to introduce advanced foreign techniques and devoted itself to the development of container cranes since 1980s. Its products serve the container terminals of large ports both in China and worldwide. Since the first quayside container crane and yard container crane were manufactured by DHHI in 1986, DHHI has always been tracing the latest development of container cranes in the world and successively designed and developed Quayside container cranes, rubber-tyred gantry container cranes and rail-mounted gantry container cranes with different productivities, functions, lifting capacities, data and in many constructions and different trolley drive modes that fit in with the features of different ports and terminals and meet the needs of different customers. The main features of the product are as follows:

-High degree of automatization and intellectualization;

-High reliability, long service life and low energy consumption;

-Light deadweight, small wheel load and high cost performance;

-New concepts, new methods, new techniques and advanced standards being adopted;

-AC variable frequency speed control systems being used for all the mechanisms;

-Except the emergency stop protection function, all sequences and interlocking functions of velocity drive are realized by a programmable logic controller (PLC) which has the capability to execute multi-task and remote control communications as well as self diagnosis during operation. The faults detected can be clearly displayed through audible alarm and video display screen;

-The cranes are fitted with the Crane Management System (CMS) which is controlled by a computer completed with necessary sensors and converters. The CMS works together with the PLC and can provide continuous monitoring, diagnosis and data collection for operating systems of the crane.

41t Yard Container Crane for Shantou Port

30.5t Quayside Container Crane in Dalian Port

Overview

The quayside container cranes are designed and manufactured according to the Crane Design Code and the general international design, manufacturing standards and codes such as FEM, DIN, IEC, AWS, etc. The quayside container cranes is mainly composed of electric control system, steel structure, machine house, main hoisting mechanism, traversing mechanism, traveling mechanism, boom hoisting mechanism, trolley assembly, maintenance crane, rotating mechanism, anti-snap protection and other necessary safety and auxiliary devices. The advanced AC variable frequency speed control techniques are applied for the main hoisting mechanism, traversing mechanism, traveling mechanism and boom hoisting mechanism. The crane is also fitted with advanced single-lift or twin-lift spreader with different specification and has mechanical or electronic anti-sway function. Up to now, the main products are available in many specifications such as 30t, 35t, 40t, 45t, 50t, 61t, 65t, 80t etc..

65t Quayside Container Crane in Tianjin Oriented Container Terminal

35t Quayside Container Crane in SCT Terminal, Shanghai

Table of Main Parameters for 65t Quayside Container Crane

Basic Parameters	Rated Lifting Capacity	Under Spreader	65	t
		Under Hook	75	t
	Lifting Height	Above Rail Top	62.5 / 43	m
		Below Rail Top	19.5	m
	Front Outreach		66	m
	Rear Outreach		19	m
	Track Centres		35	m
	Total Trolley Travel Distance		120	m
	Inside Clearance Between Legs		16.3	m
	Clear Height of Middle Cross Beam		16	m
	Distance Between Gantry Bumpers		27	m
Speed Parameters	Lifting Speed	With Full Load	75	m/min
		With No Load	180	m/min
	Trolley Traversing Speed		240	m/min
	Gantry Traveling Speed		45	m/min
	Boom Hoisting Time (One-way)		6	min

Table of Main Parameters for 51t Quayside Container Crane

Basic Parameters	Rated Lifting Capacity	Under Spreader	51	t
		Under Hook	58	t
	Lifting Height	Above Rail Top	50 / 35	m
		Below Rail Top	15	m
	Front Outreach		51	m
	Rear Outreach		16	m
	Track Centres		24.383	m
	Total Trolley Travel Distance		90.585	m
	Inside Clearance Between Legs		16.3	m
	Clear Height of Middle Cross Beam		12.5	m
	Distance Between Gantry Bumpers		30	m
Speed Parameters	Lifting Speed	With Full Load	70	m/min
		With No Load	150	m/min
	Trolley Traversing Speed		210	m/min
	Gantry Traveling Speed		45	m/min
	Boom Hoisting Time (One-way)		0	min

Table of Main Parameters for 45t Quayside Container Crane

Basic Parameters	Rated Lifting Capacity	Under Spreader	45	t
		Under Hook	50	t
	Lifting Height	Above Rail Top	47 / 31	m
		Below Rail Top	16	m
	Front Outreach		46	m
	Rear Outreach		14.5	m
	Track Centres		23	m
	Total Trolley Travel Distance		83.5	m
	Inside Clearance Between Legs		16.3	m
	Clear Height of Middle Cross Beam		12.5	m
	Distance Between Gantry Bumpers		27	m
Speed Parameters	Lifting Speed	With Full Load	63	m/min
		With No Load	150	m/min
	Trolley Traversing Speed		180	m/min
	Gantry Traveling Speed		45	m/min
	Boom Hoisting Time (One-way)		6	min

Table of Main Parameters for 40.5t Quayside Container Crane

Basic Parameters	Rated Lifting Capacity	Under Spreader	40.5	t
		Under Hook	45	t
	Lifting Height	Above Rail Top	50 / 34	m
		Below Rail Top	16	m
	Front Outreach		46	m
	Rear Outreach		16	m
	Track Centres		16	m
	Total Trolley Travel Distance		90	m
	Inside Clearance Between Legs		17	m
	Clear Height of Middle Cross Beam		12	m
	Distance Between Gantry Bumpers		28	m
Speed Parameters	Lifting Speed	With Full Load	86	m/min
		With No Load	150	m/min
	Trolley Traversing Speed		180	m/min
	Gantry Traveling Speed		45	m/min
	Boom Hoisting Time (One-way)		5	min

Table of Main Parameters for 61t Quayside Container Crane

Basic Parameters	Rated Lifting Capacity	Under Spreader	61	t
		Under Hook	71	t
	Lifting Height	Above Rail Top	50 / 32	m
		Below Rail Top	18	m
	Front Outreach		65	m
	Rear Outreach		20	m
	Track Centres		30.5	m
	Total Trolley Travel Distance		113.5	m
	Inside Clearance Between Legs		16.3	m
	Clear Height of Middle Cross Beam		16.5	m
	Distance Between Gantry Bumpers		27	m
Speed Parameters	Lifting Speed	With Full Load	90	m/min
		With No Load	180	m/min
	Trolley Traversing Speed		240	m/min
	Gantry Traveling Speed		45	m/min
	Boom Hoisting Time (One-way)		5	min

Table of Main Parameters for 50t Quayside Container Crane

Basic Parameters	Rated Lifting Capacity	Under Spreader	50	t
		Under Hook	60	t
	Lifting Height	Above Rail Top	52 / 33	m
		Below Rail Top	14	m
	Front Outreach		55	m
	Rear Outreach		18	m
	Track Centres		22	m
	Total Trolley Travel Distance		95	m
	Inside Clearance Between Legs		17	m
	Clear Height of Middle Cross Beam		15.5	m
	Distance Between Gantry Bumpers		26.5	m
Speed Parameters	Lifting Speed	With Full Load	70	m/min
		With No Load	150	m/min
	Trolley Traversing Speed		220	m/min
	Gantry Traveling Speed		45	m/min
	Boom Hoisting Time (One-way)		5	min

Table of Main Parameters for 40t Quayside Container Crane

Basic Parameters	Rated Lifting Capacity	Under Spreader	40	t
		Under Hook	45	t
	Lifting Height	Above Rail Top	33 / 23	m
		Below Rail Top	10	m
	Front Outreach		38	m
	Rear Outreach		10	m
	Track Centres		15	m
	Total Trolley Travel Distance		96	m
	Inside Clearance Between Legs		17	m
	Clear Height of Middle Cross Beam		8	m
	Distance Between Gantry Bumpers		30	m
Speed Parameters	Lifting Speed	With Full Load	45	m/min
		With No Load	90	m/min
	Trolley Traversing Speed		120	m/min
	Gantry Traveling Speed		40	m/min
	Boom Hoisting Time (One-way)		5	min

Table of Main Parameters for 35t Quayside Container Crane

Basic Parameters	Rated Lifting Capacity	Under Spreader	35	t
		Under Hook	40	t
	Lifting Height	Above Rail Top	43 / 28	m
		Below Rail Top	12	m
	Front Outreach		35	m
	Rear Outreach		8.5	m
	Track Centres		16	m
	Total Trolley Travel Distance		59.5	m
	Inside Clearance Between Legs		16	m
	Clear Height of Middle Cross Beam		13	m
	Distance Between Gantry Bumpers		30	m
Speed Parameters	Lifting Speed	With Full Load	60	m/min
		With No Load	120	m/min
	Trolley Traversing Speed		180	m/min
	Gantry Traveling Speed		45	m/min
	Boom Hoisting Time (One-way)		9	min

Main Achievements Of Quayside Container Crane

Products Description	Quantity	Capacity (Under Spreader)	End Users	Delivery
Quayside Container Crane	2	30.5 t	Dalian Port.China	1988
Quayside Container Crane	4	40.5 t	Charlestone Port.USA	1989
Quayside Container Crane	1	40.5 t	Charlestone Port.USA	1990
Quayside Container Crane	3	40.5 t	Dalian Port. China	1990
Quayside Container Crane	1	30.5 t	Shanghai SCT. China	1991
Quayside Container Crane	2	30.5 t	Shekou SCT. China	1991
Quayside Container Crane	6	40.5 t	LeamChabang Port. Thailand	1991
Quayside Container Crane	1	35 t	Fuzhou Port. China	1992
Quayside Container Crane	6	40.5 t	HIT. Hong Kong	1993
Quayside Container Crane	2	40.5 t	Shekou SCT. China	1993
Quayside Container Crane	1	40.5 t	HIT. Hong Kong	1994
Quayside Container Crane	2	40.5 t	Kaifeng Terminals. China	1994
Quayside Container Crane	2	35 t	Shanghai SCT. China	1995
Quayside Container Crane	1	40.5 t	Fuzhou Port. China	1996
Quayside Container Crane	1	40.5t	Bombay Port. India	1996
Quayside Container Crane	1	50 t	KaifengTerminals China	1999
Quayside Container Crane	1	50 t	KaifengTerminals China	2000
Quayside Container Crane	2	40 t	Fangcheng port. Guangxi. China	2000
Quayside Container Crane	1	40 t	Beihai port. Guangxi. China	2000
Quayside Container Crane	1	50 t	DCT port. China	2001
Quayside Container Crane	1	40 .5t	DCT port. China	2001
Quayside Container Crane	2	45t	Xiangyu Port. China	2002
Quayside Container Crane	1	40t	Weihai Port. China	2002
Quayside Container Crane	1	30.5t	Wuhu Port. China	2002
Quayside Container Crane	1	40t	Zhapu Port. China	2003
Quayside Container Crane	7	61t	Kwangyang Port, Korea	2006
Quayside Container Crane	2	51t	Shantou Port. China	2006
Quayside Container Crane	1	42t	Shantou Port. China	2006
Quayside Container Crane	5	65t	Doosan Port, Korea	2006
Quayside Container Crane	2	40.5t	Tianjin Orient Container Terminals	2006
Quayside Container Crane	3	65t	Tianjin Port	2008
Quayside Container Crane	4	50t	Lattakia Port in Syria	2008
Quayside Container Crane	4	40t	Bangkok Port, Thailand	2009
Quayside Container Crane	4	40t	Bangkok Port, Thailand	2010
Quayside Container Crane	2	51t	Shantou port. China	2010
Quayside Container Crane	2	40t	Bangkok Port, Thailand	2011
Quayside Container Crane	1	41t	CEBU International Port,,Philippines	2012
Quayside Container Crane	2	40t	IKPP, Indonesia	2014
Quayside Container Crane	2	41t	Shantou Port. China	2014
Total	88			

61t Quayside Container Crane

40 t Quayside Container Crane

40.5t Quayside Container Crane

1 50t Quayside Container Crane
2 65t Quayside Container Crane
3 50t Quayside Container Crane
4 50t Quayside Container Crane
5 40t Quayside Container Crane
6 40.5t Quayside Container Crane

1	2
3	4 5 6

1 41t Rubber-tyred Gantry Container Crane in Shantou Port, China
2 30.5 t Rubber-tyred Gantry Crane in Dalian, China

Overview

The rubber-tyred gantry (RTG) container crane is applicable to handle the international standard container. This machine is of advanced performance, high production efficiency, good maneuverability and less sensitivity to uneven ground surface. It is powered by diesel generating set and its oil pipeline and hydraulic system are provided with heating devices which can be operated at low temperature. It is provided with perfect safety indicators and overload protection devices to ensure the safety of operators and equipment to the maximum extent. The electric system is provided with PLC variable frequency speed control which is favorable for control of the mechanisms. Associated components are purchased from well-known manufacturers both at home and abroad to ensure the quality of entire crane. RTG is designed, manufactured and inspected according to the advanced foreign standards such as DIN, FEM, IEC, VBG, AWS, etc. and the latest version of GB standards.

Main Achievments of Yard Container Crane

Products Description	Quantity	Capacity (Under Spreader)	End Users	Delivery
RTG Crane	2	30.5 t	Dalian Port. China	1988
RTG Crane	2	35.6 t	Ningbo Port	1989
RTG Crane	8	30.5 t	Dalian Port	1990
RTG Crane	1	35.6 t	Ningbo Port	1994
RTG Crane	2	30.5 t	Bombay Port. India	1996
RTG Crane	10	30.5 t	Dalian Port	1996
RTG Crane	4	30.5 t	Xiangyu Port	2002
RTG Crane	6	40.5t	Shantou Port. China	2007
RTG Crane	2	40.5 t	CEBU International Port, Philippines	2012
RMG Crane	1	41 t	Guanganmen Station, Beijing	1987
RMG Crane	1	30.5 t	Shijiazhuang Train Station, Hebei	1987
RMG Crane	1	45 t	Zhongchuang International Logistic	2007
Total	40			

1 2
3

1 40.5t Rubber-tyred Gantry Crane in Xiangyu Port, China
2 30.5t Rubber-tyred Gantry Crane in Dalian, China
3 35.5 t Rubber-tyred Gantry Crane in Ningbo, China

Overview

The rail-mounted gantry (RMG) container crane is applicable to handle the international standard container at container yard and railway container transfer station. This machine is of stable performance, high production efficiency and easy maintenance. The lower trolley can be rotated and pass through between legs, thus making the range of operation wider and the mode of operation more flexible. It is provided with perfect safety indicators and overload protection devices to ensure the safety of operators and equipment to the maximum extent. The electric system is provided with PLC variable frequency speed control which is favorable for control of the mechanisms. Associated components are purchased from well-known manufacturers both at home and abroad to ensure the quality of entire crane. RMG is designed, manufactured and inspected according to the advanced foreign standards such as DIN, FEM, IEC, VBG, AWS, etc. and the latest version of GB standards.

1
2

1 30.5t-36m Rail-mounted Gantry Crane in Guang'anmen Station, Beijing, China
2 45t Rail-mounted Gantry in Zhongchuang International Logistic

Rated Lifting Capacity		Up to 61 t
Outreach		Up to 15m
Span		20m~60m
Lifting Height		1 over 3, 4 or 5
Specification of Box		20', 40', 45'
Speed (m/min)	Hoisting (Full Load/Empty Spreader)	30/60
	Traveling	Up to 240
	Traversing	Up to 150
	Rotating (Full Load)	1~2 rpm
In-service Wind Velocity		20 m/s
Out-of-service Wind Velocity		Up to 60 m/s
Power Supply		3-phase AC

420 t Stationary Slewing Crane

Overview

DHHI has been devoting itself to development and manufacturing of port handling machinery Since 1970s. The port handling machineries designed and manufactured by DHHI are widely used in electric power plant, steel plant, shipbuilding works, cement plants, wharves and ports, which are the leading products of DHHI. DHHI cooperated with well-known foreign manufacturers, imported technology from abroad, performed independent development and design and accumulated rich experiences in design and manufacture and has designed and manufactured various types of portal cranes ranging 10~300t with independent intellectual property rights as well as stationary slewing crane with high lifting capacity and deck crane, etc. for different customers. The portal crane can achieve automatic or semi-automatic program control for the full course of loading and unloading operations and is equipped with advanced fault self diagnosis and control system.

The portal crane manufactured by DHHI is of advanced technology, perfect performance, reliable operation, good stability, high efficiency, long service life, easy maintenance and can meet the needs for high freight volume, high efficiency and frequent operation.

251 t Portal Crane

800 ㎡/h Portal Crane

1 260t Portal Crane
2 16/25t Portal Crane
3 32 t Portal Crane
4 40 t Portal Crane
5 25 t Portal Crane

1 | 2 | 3
4 | 5

Main Achievement Of Portal Crane

Products Description	Quantity	Capacity	End Users	Delivery
Portal Crane with Hopper	2	16t×32m	Fuzhou Power Plant.	1989
Portal Crane with Hopper	2	16t×32m	Haikou Power Plant.	1989
Portal Crane with Hopper	5	16t×35m	Hainan Jinhai Pulp&Paper CO., LTD	2005
Portal Crane with Hopper	2	16t×33m	Dongying Port	2008
Portal Crane with Hopper	6	25t×35m	CHD Laizhou Port Co.,Ltd	2012
Portal Crane	2	10t×25m	Dalian Mail Terminal.China	1984
Portal Crane	2	16t×32m	Lianyungang Port.China	1990
Portal Crane	2	10t×30m	Haikou Xinxing Port hina	1995
Portal Crane	2	32t×65m	Dalian MianhuadaoTerm.	1997
Portal Crane	1	16t×25m	Anyang Steel Works	1999
Portal Crane	2	16/25t×33/24m	Jinzhou Port	1999
Portal Crane	1	16/35t×33/24m	Wenzhou Port	1999
Portal Crane	3	16/25t×33/24m	Fangcheng Port	1999
Portal Crane	2	16/20t×33/24m	Dalian Port	1999
Portal Crane	2	16t×35m	QinHuangdao Port	2001
Portal Crane	1	16t×25m	Anyang Steel Works	2001
Portal Crane	1	260t×65m	DHIDCW Port	2003
Portal Crane	2	16t×35m	Mawan Power Plant.China	2004
Portal Crane	1	16/3.2t×25m	Anyang Steel Works	2004
Portal Crane	6	16t×22m	Hainan Jinhai Pulp&Paper CO., LTD	2005
Portal Crane	1	40t×35m	Hainan Jinhai Pulp&Paper CO., LTD	2005
Portal Crane	6	32t×70m	Bohai Shipbuilding Heavy Industry	2007
Portal Crane	1	45t×70m	Bohai Shipbuilding Heavy Industry	2007
Portal Crane	1	40t×40m	Dongying Port	2008
Portal Crane	3	40t×43m	QinHuangdao Port	2008
Portal Crane	3	45t×35m	Indonesia APP	2008
Portal Crane	3	60t×38m	Zhangjiagang Hongchang Steel	2008
Portal Crane	2	100t×38m	Dalian Shipbuilding Industry	2008
Portal Crane	1	32t×70m	Bohai Shipbuilding Heavy Industry	2009
Portal Crane	1	50t×70m	Bohai Shipbuilding Heavy Industry	2009
Portal Crane	1	50t×80m	Dalian Cosco Shipbuilding Industry	2009
Portal Crane	1	251t×65m	SAMSUNG HEAVY INDUSTRIES(NINGBO)	2009
Portal Crane	3	40t×35m	Dandong Port	2010
Portal Crane	5	40t×43m	Dandong Port	2010
Portal Crane	2	45t×84m	Dalian Shipbuilding Industry	2013
Portal Crane	2	60t×38m	West Quay Multiport Pvt. Ltd	2013
Stationary slewing crane	1	1900t	Yantai Raffles Shipyard	2002
Stationary slewing crane	1	420t×35m	Liaoning Hongyanhe Nuclear Power.	2009
Stationary slewing crane	2	1100t×73m	Yantai Raffles Shipyard	2010
Stationary slewing crane	1	600t×38m	Guangdong Yangjiang Nuclear Power.	2010
Stationary slewing crane	1	600t×38m	Guangdong Taishan Nuclear Power.	2010
Stationary slewing crane	1	800t×38m	Fujian Fuqing Nuclear Power.	2010
Shipboard Gantry Crane	2	70t	KCI special cranes corporation	2007
Shipboard Gantry Crane	2	70t	KCI special cranes corporation	2008
Total	94			

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2 3

1 45 t Portal Crane
2 16t Portal Crane with Hopper
3 16t Portal Crane

1	2
3	4 5

1 800t Stationary Slewing Crane
2 Portal Crane Transportation
3 1900t Stationary Slewing Crane
4 600t Stationary Slewing Crane
5 10 t Portal Crane