POTAIN®
by Manitowoc

Lift Solutions
Catalog

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Potain part of Manitowoc Crane

As part of the Manitowoc Crane, a business unit of The Manitowoc Company, Potain also benefits from all advantages of a world leading manufacturer in lifting equipment and its full customer service network Manitowoc Crane Care.

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Manitowoc, the world's leading tower crane manufacturer

We offer a complete range of 70 models, consisting of top-slewing tower cranes, self-erecting tower cranes, and cranes for special applications.
With the backing of a large international network of subsidiaries and distributors, we are present on construction sites throughout the world with more than 100,000 cranes already sold.

Leader in Special Application Cranes

Based on a large experience of more than 80 years in the tower crane business, we design and manufacture large tower cranes for special applications such as:

- Dams,
- Bridges,
- Shipyards,
- Power plants,
- Industries,
- High rise buildings.

With the support of a strong worldwide sales organization, a highly qualified team takes care of these specific projects and provides full solutions to customers – mainly large construction companies and international building project contractors.
These full solutions embrace the following aspects:

- Complete technical engineering and studies for all applications,
- General layout of equipment,
- Budget cost evaluation including engineering, fabrication, erection, services,
- Training, maintenance, and service supervision.

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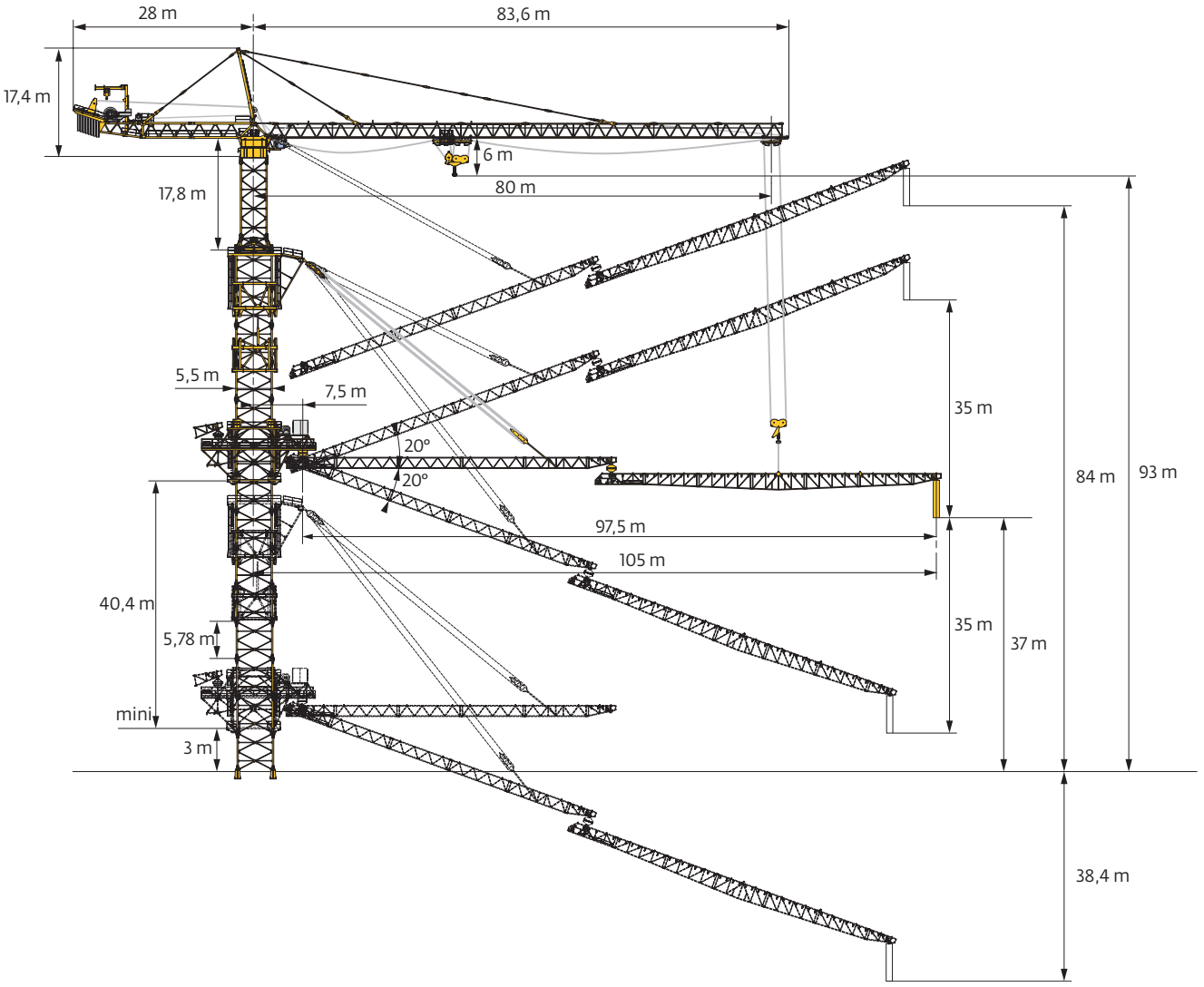
Dam applications

MD 2200 Topbelt 30 - Data

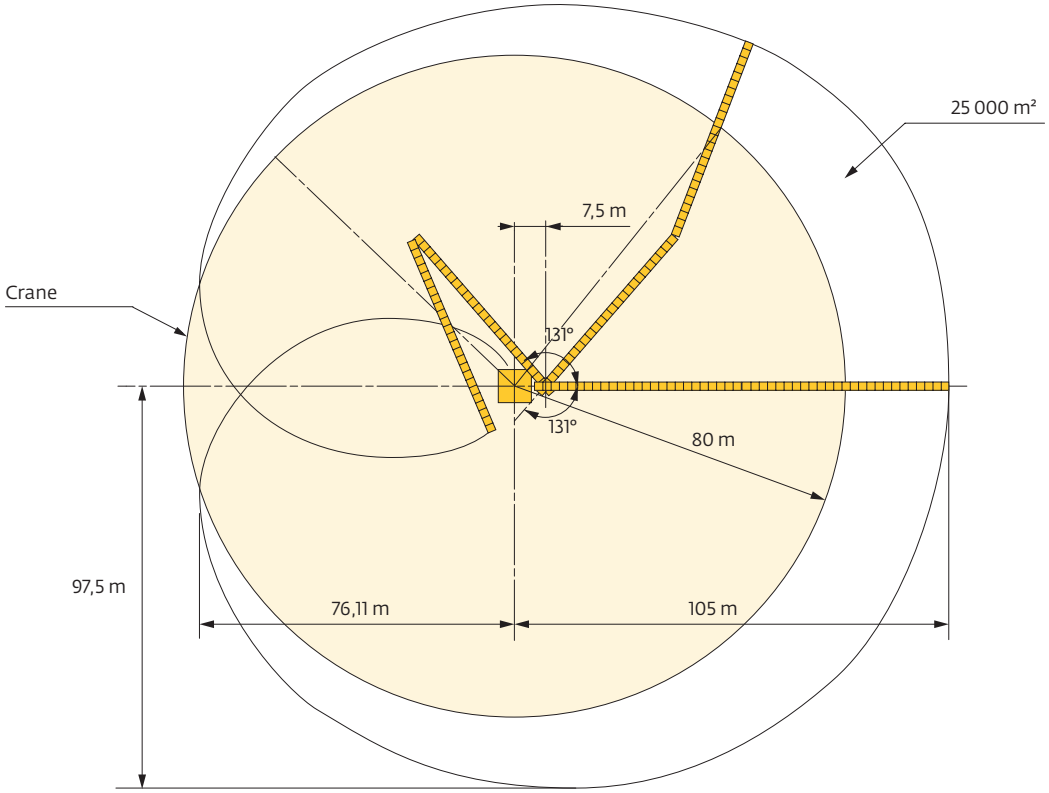


Specifications

- Maximum load 60 t
- Radius 80 m
- Tip load 22,8 t
- Concrete bucket at maximum radius 9 m^3
- Free standing height 93 m
- Belt conveyor capacity 400 m^3/h
- Belt conveyor maximum radius 105 m

Concrete placing area

Max pouring radius = 105 m from mast center
Topbelt covering area = 25000 m²



The Topbelt system can be set at various inclinations, and the platform can be telescoped along the mast as the work progresses.
It can also be folded in parking position to use the crane hook.

The crane is designed for heavy handling as well as conveyor support.

MD 2200 : Main advantages

Crane

- Hoisting 270 LVF / Power Control
- Trolleying 25 DVF / progressive speed
- Slewing RVF / speed and torque regulation
- Ultra View cab
- Air conditioned control shelter
- Easy maintenance
- Fast hydraulic erection (1 m per hour)
- A7 FEM standard
- Use of Topbelt or 6/9 m^3 bucket

Topbelt

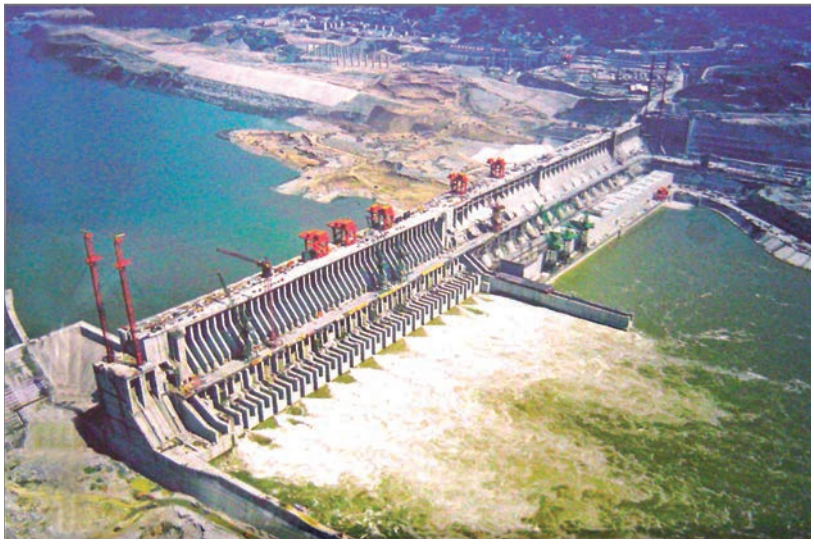
- High rate of concrete pouring 400 m^3/h
- 105 m max pouring radius
- Maximum inclined and declined angles: 20°
- No concrete segregation
- Unlimited dam height
- Quick hydraulic, telescopic Topbelt system (3 m per hour)
- Easy maintenance and service
- Belt long lasting, idlers, mechanical parts
- Control from the driver's cab of up to 10 overland conveyors

Conveyor and bucket pouring

Conveyor extremity

6 to 9 m^3

MD 2200 - Three Gorges Dam (China)

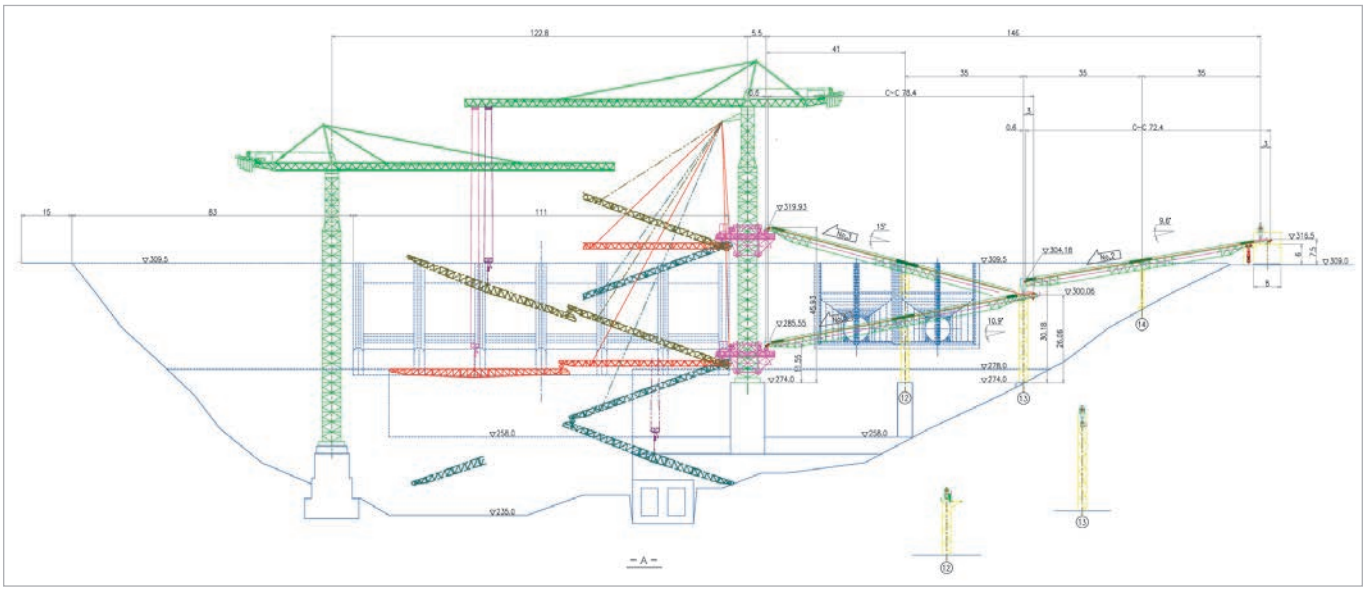


The contractor CTGPC decided to pour the concrete from tower cranes on which articulated conveyors called Topbelt were attached.
This conveyor's system allowed a production of 300 to 400 m³ per hour with a maximum radius of 105 m and unlimited height.

Jobsite specifications

- 2300 m crest length
- 175 m high
- 27 millions m³ of concrete
- 600 000 t of steel
- 18 200 MW of capacity
- 10 years of study
- 17 years of work
- 30 000 people working night & day

MD 2200 - Sesan 3 Dam (Vietnam)



MD 900 B - Sesan 3A Dam (Vietnam)

The Vietnamese Son Da Corporation company ordered 4 MD 900 B cranes for dam construction.
The 250 LCC hoisting mechanism enables a productivity of approx. 70-80 m³/h depending on the site conditions.
Trolleying and slewing mechanisms with frequency variations.

Crane specifications

- Radius 60 m, tip load 13,1 t
- Maximum load 50 t at 21,1 m
- Hook height 60,5 m
- 6 m³ bucket hydraulic-control

Applications

- 1 crane on Sesan 3 dam
- 1 crane on Sesan 3A dam in the south
- 2 cranes on Tuyen Quang dam in the north

MD 2200, MD 2200 Topbelt, MD 1800 Longtan Dam (China)

The Longtan Hydropower Development Co Ltd purchased 3 Potain giant tower cranes, with latest technology, for the construction of the Longtan Dam in Guangxi Province.
The project was to build concrete gravity dam, with roller compacted concrete for the spillway and conventional concrete for the power house and the ship lock.
3 620 000 m³ roller compacted concrete were poured, including 590 000 m³ for the coffer dam. The final dam height is 190 m and the crest length is 750 m. Completion 2010.

Cranes specifications

- 1 MD 2200: 185,6 m height equipped with a Topbelt system
- 1 MD 2200: 139 m height
- 1 MD 1800: 112,5 m height travelling on portal chassis 15 x 15 m

MD 2200 & MD 1100 - Boyabat dam (Turkey)

The Boyabat dam project was made with conventional vibrated concrete (CVC), built by blocks using conveyor system and tower cranes. It is located in North Central Turkey near the Black Sea. The main purpose of the tower cranes is to handle 20 t loads such as reinforcement, rebars, conveyor trusses, penstocks and 9 or 6 m³ of concrete buckets anywhere on the dam project.
The main tower cranes MD 2200 are equipped with a crane operator lift inside the tower.

Cranes specifications

- Crane 1: MD 2200, hook height 104,5 m, radius 85 m/ tip load 20 t, maximum load 64 t
- Crane 2: MD 2200, hook height 225,7 m, radius 85 m/ tip load 20 t, maximum load 64 t
- Crane 3: MD 1100, hook height 137,1 m, radius 60 m/ tip load 18 t, maximum load 40 t
- Crane 4: MD 1100, hook height 120 m, radius 65 m/ tip load 15,9 t, maximum load 40 t

Dam specifications

- Concrete total volume: 3 000 000 m³
- Height 195 m
- Crest length 263 m
- Width 213 m

MD 1600 Topbelt - Xayaburi Dam (Laos)

Ch. Karnchang chose Potain for the construction of the hydropower mega project across the Mekong river in northern Laos, the Xayaburi dam (1285 MW, 820 m long).
Among 19 Potain cranes, 2 MD 1600 fitted with Topbelt concrete placing system have been erected.
Their primary task is to place the Roller Compacted Concrete at a rate of 250 m^3 per hour through the conveyor line coming directly from batching plant.
These giant 64 t capacity cranes work 24/7 on the project which has been planned for an 8 years duration.

Cranes specifications

- Capacity 64 t at 24,6 m
- Maximum radius 80 m crane (tip load 17,4 t)
- Maximum radius for Topbelt conveyors 105 m
- RC Concrete placing rate 250 m^3 per hour
- Hook height 91,6 m
- Fixing angles

MD 1100 - Qingshuitang (China)

The Qingshuitang Dam is located in the Hunan Province - China, 72 km from Huaihua city. Gezhouba corporation acquired 2 units of MD 1100 (40 t capacity version) for the dam concreting. Both cranes operate with 6 m^3 bucket (20 t) up to 52 m radius (jib 70 m) and 3 m^3 bucket (10 t) from 52 m to 80 m radius.
Thanks to the LCC hoisting winch the power is optimized with any kind of load. An optimized speed of 46 m/min allows lifting 20 t (2 falls) while a 76 m/min optimized speed can lift 10 t.

Cranes specifications

- Travelling crane on chassis 8 m x 8 m
- Hook height 86,7 m
- Radius 80 m, tip load 10 t
- Maximum load 40 t at 22,9 m
- Counter-jib length 24 m
- Hoisting winch 250 LCC 100 (180 kW) DC
- Trolleying and slewing equipped with frequency inverter technology
- Rack ad pinion crane operator lift

MD 1100 - Pirris (Costa Rica)

Pirris is one of the largest dams ever built in Costa Rica. ICE company purchased a new MD 1100 to build the dam. The crane has been chosen for its outstanding performance and its compactness for transportation. Considering the seismic constraints of the jobsite location, the crane was reinforced to withstand maximum accelerations of 0,16 g.

Crane specifications

- Hook height 108 m with reinforced mast sections due to seismic constraints
- Radius 80 m / Tip load 10 t
- Maximum load 40 t
- Local power supply 460 V / 60 Hz

MD 650 - Yeywa (Myanmar)

The Yeywa hydropower dam is located on the Myitnge river which is 50 km from south-east Mandalay. This RCC dam has a crest length of 197 m and a max height of 137 m. The top width is 12 m. It is the largest hydropower project in Myanmar. The whole Yeywa hydropower plant will generate 3,55 billions kWh of electricity per year. Gezhuba corporation purchased the MD 650 crane on fixing angles for the construction of the power house.

Crane specifications

- Fixing angles
- Hook height 67 m
- Radius 80 m, tip load 5,9 t
- Maximum load 25 t at 24,3 m
- Counter-jib length 31,4 m
- Hoisting winch 150 LCC 63 (110 kW) DC
- Trolley winch 15 DVF 16 (11 kW) equipped with frequency inverter technology
- Slewing mechanism RVF 192 Optima equipped with frequency inverter technology

MD 650 - Tocoma (Venezuela)

The Tocoma Dam is located on the Caroni river in the Guyana province. Odebrecht, one of the largest construction companies, acquired an MD 650 and 3 MC 475 (25 t capacity) for the dam concreting.

Crane specifications

- Travelling crane on chassis 8 m x 8 m
- Hook height 68 m
- Radius 70 m, tip load 7 t
- Maximum load 40 t at 15,1 m
- Hoisting winch 250 LCC 100 (180 kW) DC
- Vision cab equipped with air-conditioning, indicators and anemometer

Bridge applications

MD 3600 - Nanjing Bridge (China)

Two giant cranes MD 3600 participated to the construction of the the 3rd Nanjing bridge, located above the Yang Tse River. They were specially designed to lift steel structure elements of 160 t, used for the construction of the bridge piles.

The cable stay bridge, made of 2 x 230 m high piles and an overall reach of 648 m, had to be constructed within a very short time and had to resist 200 km/h out of service wind speeds.

The piles were made of 160 t pre-assembled steel elements bolted to each other. Then the steel elements were filled with concrete. Each crane was located at 10 m from the bridge median axis and anchored at 4 levels.

The 2 independent LCC hoist winches were equipped with 2 redundant brakes for service and safety. The 2 synchronized 250 hp winches lifted the 160 t loads with speeds from 0,2 to 10 m/min.

Slewing and trolleying mechanisms with frequency variation allowing reduced positioning speeds.

MD 3600 - Sutong bridge (China)

The bridge is located above the Yang Tse river near Nantong. It was constructed with 2 steel and concrete piles reaching 300 m high. The bridge has an overall span of 1200 m. Each pile was built by a MD 3600 tower crane anchored at 6 levels. It was equipped with 2 hoist winches and trolleys : one 20 t trolley for constant loads and one 80 t trolley for heavy loads.
Cranes were equipped with an integrated operator lift.
Each 250 LCC hoist winch were equipped with redundant service and safety brakes.
Slewing and trolleying movements were based on frequency inverter technology with reduced positioning speeds.
A method has been determined for dismantling each crane by using mobile crane from the bridge deck after installation of the cable stays.

Cranes specifications

- MD 3600, 6 anchorings
- Front trolley: 80 t at 27,86 m, 38 t at 48,4 m
- Rear trolley: 20 t constant
- Hook height 306 m
- Max. out of service wind speed 220 km/h

MD 600 - Rion Antirion bridge (Greece)

The construction work started in 1999 and the bridge was completed before the opening of the Olympic Games in 2004. The bridge links the Corinth Gulf shores with a overall length of 180 m.

Four MD 600 cranes were working night and day for the construction of four piers at sea. Each MD 600 crane was shifted along the side of the bridge floor in order to ensure the construction of the pier 125 m above the bridge floor and the fitting of the steel ropes. The piers were connected between each other by a steel bridge floor and special steel ropes. One MD 600 crane was utilized for the construction of each pier.
The 250 LCC hoisting winch allows concrete heaping with a 3 m^3 grab (10 tons) at 60 m/min during hoisting and 120 m/min during lowering.
All the cranes have been designed to comply with the seismic standards of this particular region, and the four MD 600 cranes were able to work with a 3% list during construction on a floating dock.

Cranes specifications

- Maximum radius 70 m
- Maximum load 20 t

K5/50C - Millau bridge (France)

The Millau viaduct is the tallest in the world with a full height of 343 m for the highest pile summit.

The Millau Viaduct is a 2460 m long construction running over the Tarn river at an altitude of 245 m. It is made of 6 x 340 m sections (distance between 2 piles) and 2 x 200 m sections. The deck was based on a steel structure with a width of 32 m, constructed on each side of the valley and raised over it before resting on the piles. Potain provided 7 K5/50 C cranes - 1 per pile. Those cranes were used for pouring concrete with a 6 m^3 concrete bucket. The tallest crane was erected at 265 m. All cranes were designed to meet special wind conditions.

Specifications

- 7 tower cranes type K5/50 C with hook height from 95,5 m to 264,4 m

MD 560 - San Francisco bridge (USA)

14 Potain MD 560-40 tower cranes were used to build the San Fransisco to Oakland bay bridge. The Bay bridge, built in 1936, accommodated more traffic than any other bridge in the US, but an earthquake in 1989 damaged the structure and highlighted that it was designed for only minimal seismic levels. Therefore it was decided to replace the old bridge. Contractor KFM selected Potain MD 560-40 tower cranes because of its 40 t heavy lift precast, its workhorse capabilities to set structural steelwork and its lifting capacity for precast concrete panels. The Potain MDs were used to build the «Skyway» viaduct for a 2,5 km long segment of the bridge. The 14 units had all been set up with different configurations which depended on the specific requirements at each pier.

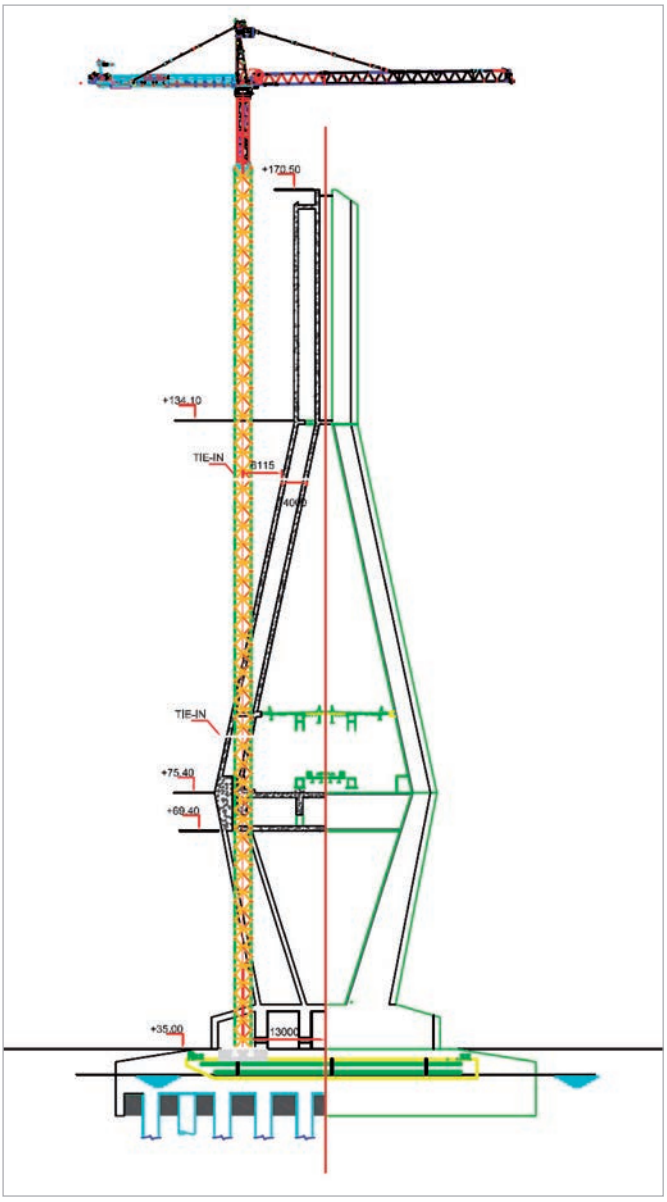
Cranes specifications

- 14 tower cranes MD 560 40 t
- Radius 80 m
- Tip load 3,4 t

Bridge specifications

- Bridge capacities: 270 000 vehicles/day and earthquake up to 8.2 on Richter scale
- Pier height: 50 m

MD 560 A - Rio Orinoco (Venezuela)



The Mercosur bridge is one of the most prestigious projects in South America. It is built on the Rio Orinoco river in Caicara, Bolivar province in Venezuela.
It is composed of 2 concrete main piles of 137 m height, at a distance of 300 m.
Two MD 560 A were purchased by Odebrecht for the construction of each pile.

Crane specifications

- Hook height 147,8 m
- Maximum radius 40 m
- Free standing height 66,9 m
- Maximum load 40 t at 17,3 m(4 falls)
- Tip load at 40 m : 16 t (2 falls)
- Second stage : 107,3 m with 1 anchorage
- Third stage : 147,8 m with 2 anchorages

MD 1100 and MDT 368 - Mostovik (Russia)

The Vladivostok bridge is one of the most prestigious bridge project realized with Potain special application cranes. The bridge is located in the bay of Vladivostok. The company Mostovik based in Omsk (Siberia) has a great experience in the bridge construction and has chosen Potain amongst the other suppliers.
The project is realized in 7 stages with 2 MD 1100 and MDT 368. The major advantage in using MDT 368 Topless is to optimize the hook heights of both cranes and assure collision free overflying.
The strong Potain mast elements assure world class free standing heights of 68,8 m above anchorage and strongly improved the job site productivity. The proximity of both cranes tremendously decreased the dismantling time of the MDT 368 by using the MD 1100.

Cranes specifications

- MD 1100: Max height 335 m, jib radius 60 m, max capacity 50 t
- MDT 368: Max height 324 m, jib radius 40 m, max capacity 16 t

Shipyard applications

MDN 2200 - Samsung (Korea)

The Samsung shipyard cranes MDN 2200 are used to lift:

- 45 t generators
- 40 t hatch covers
- 5 t waste boxes
- and turn 40 t ship blocks

In order to carry out such application, cranes are equipped with two hoisting winches and two trolleys that can be controlled separately or synchronised for tandem lifts.
Cranes are mounted on rail tracks with width of 7 or 14 m. They are equipped with a portal chassis and a single part-tubular mast connected by traction bolts.
Travelling, slewing, trolleying mechanisms are based on frequency inverter technology. Hoisting winches are equipped with DC motors. The operator cab is equipped with air conditioning ensures comfort, visibility and safety. An operator lift is mounted inside the tubular mast.

Cranes specifications

Crane 1	Hook height 44 m Maximum load 50 t at 39,5 m	Radius 75 m Tip load 23,3 t at 75 m
Crane 2	Hook height 49 m Maximum load 50 t at 38 m	Radius 75 m Tip load 25 t at 75 m
Crane 3	Hook height 48 m Maximum load 50 t at 40 m	Radius 75 m Tip load 25 t at 75 m
Crane 4	Hook height 46 m Maximum load 50 t at 38 m	Radius 75 m Tip load 25 t at 75 m

MD 1100 - Chennaï (India)

L&T Ship building Limited (LTSB), a major indian company chose POTAIN for its Shipyard facility set up at Kattapulli near Chennaï south east of India.
2 MD 1100 cranes were designed according to LTSB special needs, notably in terms of tracks and environment.
They will travel on a 254 m track for the first one and 450 m track for the second one.
Cranes assembly and erection have been carried out by our local Crane Care team.

Cranes specifications

- Capacity 32 t at 33 m
- Maximum radius 60 m (15 t)
- Hook height 46 m
- Travelling on 8 x 8 m chassis, 8 motorized bogies

- Capacity 40 t at 25 m
- Maximum radius 70 m (14 t)
- Hook height 46 m
- Travelling on 10 x 12 m chassis, 8 motorized bogies

MD 1100 - CCB Agotnes (Norway)

CCB (Coast Center Base), a Norwegian company specialized in providing services and supply to the offshore petroleum activities as well as maintenance for riggs and vessels, chose Potain for it's new yard crane at its Agotnes (Bergen) facilities.
An MD 1100 chassis travelling tower crane was designed according to CCB special needs , 90 m jib, customized cab etc.
Due to the area environment (humidity and salty atmosphere), special marine paint (420 µm) has been applied and for the same reason connections parts did undergo special anti-corrosion treatment.
Upper mechanisms have been gathered under shelter making maintenance easier when rough weather.
Hoisting is carried out by the new 270 HP frequency variation winch 40 t capacity.

Crane specifications

- Maximum load 40 t at 17,7 m
- Maximum radius 90 m / Tip load 6 t
- Hook height 63 m
- Travelling on 8 x 8 m chassis /8 motorized bogies

MD 1100 - Dunkerque (France)

The Port Autonome of Dunkerque ordered a MD 1100 for its dry dock repair. The crane is a pure shipyard crane utilizing all up-to-date technologies such as frequency inverter mechanisms, maintenance aid technology, marine protection, etc ... Its main use is to handle boat diesel engines weighing 50 t. The typical lifts are 10 to 15 t. The crane is mounted for life and has a special marine paint of Manitowoc Red with an overall thickness 240 µm thick. The 150 LCC hoist winch is equipped with DC motors and frequency inverters for trolleying and slewing. The operator cab is equipped with air conditioning has global noise protection as well as facilities bringing maximum comfort to the operator. The crane is equipped with a 2/6 falls 50 t trolley. It can lift 16,5 t with 2 falls for small loads.

Crane specifications

- Maximum radius 60 m / Tip load 13,8 t
- Maximum load 50 t at 20,20 m
- Hook height 56,3 m
- Travelling portal base with a foot print of 10,65 m x 10,65 m and a 8 m clearance through the portal. The portal is travelling on 12 bogies (16 frequency variation motors of 5 kW each)

Shipyard specifications

- Travelling range 500 m

MD 1100 - Dubaï Drydocks (U.A.E)

Dubai drydocks, located at the Dubaï port, own 2 units of MD 1100 and a MC 310 for its dry dock shipyard specialized in repair and refurbishment.
One MD 1100 is on fixed angles version and another one is travelling on a 300 m rail -track together with the MC 310.

Cranes specifications

Crane 1	Crane 2
Travelling on 8 x 8 m chassis	Fixing angles
Hook height 69,3 m	Hook height 67,8 m
Maximum radius 80 m / Tip load 10 t	Maximum radius 80 m / Tip load 10 t
Maximum load 40 t	Maximum load 40 t
	Operator cab equipped with air conditioning, indicators and anemometer

MD 1100 - Rongcheng (China)

Samsung Rongcheng China has bought 2 units of MD 1100 for its shipyard in China.
This is a typical shipyard crane using all modern technologies such as frequency variation mechanisms, special marine paint, etc ...
The travelling crane has a 7 x 8 m portal base with a 8 m clearance height on a 500 m special track.
Hoisting winch is 150 LCC DC technology while travelling, slewing, trolleying are equipped with frequency inverter technology.

Cranes specifications

- Travelling on 7 x 8 m portal base
- Hook height above ground level: 50 m
- Maximum radius 80 m / Tip load 10 t
- Maximum load 32 t at 27,8 m
- Special customized marine paint based on Samsung standards

MD 1100 - Hyundai Samho (Korea)

Hyundai - Samho Heavy Industries has ordered a MD 1100 for its dry dock shipyard.
Thanks to its base platform, the crane can be either transported completely erected on a trailer carrier, or be moved by another crane.
This crane is a typical shipyard crane using all modern technologies such as frequency inverter mechanisms, special marine paint, etc ...
The crane is equipped with a 250 LCC hoisting winch based on DC motor technology. The slewing and trolleying mechanisms are based on frequency inverter technology.

Crane specifications

- Travelling on 12 x 12 m portal base
- Hook height above ground level 60 m
- Maximum radius 80 m / Tip load 10 t
- Maximum load 40 t at 22,9 m

MD 1100 - Denul (Belgium)

The crane is equipped with a 8 x 8 m portal that has been adapted to the existing rail track. It is operated trough radio remote control. In this configuration the travelling base is equipped with 16 x 3 kW frequency inverter controlled travelling motors, allowing travelling speeds from 2 to 30 m/min. Due to the heavy duty cycles and life time request, the crane was designed according to the FEM A5 standard. Four bogies per corner (8 wheels) were necessary in order to reduce the maximum reaction on the rail track (22,8 t per wheel).
The crane is equipped with an automatic motorized slewing ring greasing system as well as the Dialog Easy condition monitoring system, to record all the necessary information for the maintenance personnel. Denul decided to replace the old Wolff crane by a new MD 1100 crane, that was especially modified for this project.

Crane specifications

- Hoisting winch 150 LCC: 16,5 t @ 32,4 m/min; 50 t @10,8 m/min equipped with an additional safety brake
- Trolley winch 25 DVF 25
- Slewing motion, frequency variation 2 x 18,5 kW
- Hook height 40,2 m
- Tip load 10,5 t at 70 m
- Special sea border paint with 240 µm

MD 900 B - Waruna (Indonesia)

Waruna shipyard located at Medan city (North of Sumatra - Indonesia) ordered a MD 900 B crane with a special 50 t capacity for ship repair and refurbishment.
Like most shipyard cranes, the MD 900 B is fitted with a travelling portal on a 250 m track. The portal chassis has 8 m track width and ensures a 8 m clearance below the portal.
The 150 LCC hoisting mechanism has a reliable direct-current technology. The trolley and slewing mechanisms are based on frequency inverter technology. The operator cab is fitted with air-conditioning.

Crane specifications

- Maximum radius 60 m / Tip load 13,1 t
- Maximum load 50 t at 21,1 m
- Hook height 44,6 m
- Standard 4 m mast sections

MDTN 462 - Chantiers de l'Atlantique (France)

The previously Alstom Marine division - Chantiers de l'Atlantique company ordered a MDT crane with a special 20 t capacity to work under a giant overhead travelling crane. The use of the topless technology enables maximum possible height under hook.
A permanent operator lift is installed inside the mast, with a maximum capacity of 300 kg, and provides easy access to the operator cab.
The crane upper works is fitted with access platforms designed for optimum safety during maintenance.
Travelling, slewing, trolleying mechanisms are based on frequency inverter technology. The hoisting winch is equipped with a DC motor. The operator cab is fitted with air-conditioner and sanitary WC.

Crane specifications

- Radius 50 m, tip load 8,7 t and option to extend to 10 t
- Maximum load 20 t at 24,7 m
- Hook height 47,6 m
- Travelling portal on a 55 m long track
- Tubular mast

Industrie applications

MD 1100 - Jaypee Himachal (India)

Jaiprakash construction company based in Delhi India acquired 5 units of MD 1100 for the construction of a large cement plant Jaypee Himachal.
2 of them were travelling until they reached the free standing height (86,7 m) and then they were anchored to the factory structure up to 144,5 m. They were equipped with an air conditioning operator cab as well as indicators and anemometer.

Cranes specifications

Cranes 1 and 2	Cranes 3, 4 and 5
Travelling on 8 x 8 m chassis	Travelling on 8 x 8 m chassis
Hook height 86,7 m	Hook height 75 m
Radius 60 m / Tip load 18 t	Radius 80 m / Tip load 10 t
Maximum load 40 t	Maximum load 40 t

MDN 650 - Steel stockyard (France)

Baudin Chateauneuf company is a metallurgical factory specialized in manufacturing welded assembled steel girders used for the construction of bridge floors.
This MDN 650 crane has been designed for a long lasting lifetime required for high performance industrial tools.
The tubular monoblock mast was made in only one piece without intermediate connection.
The 150 LCC hoisting winch combined with a trolley with 6 fall rope reeving ensures smoothness and precision.
Trolleying, travelling and slewing mechanisms with frequency inverter technology ensure perfect progressive acceleration and deceleration.
The modern, ergonomic, silent and air-conditioned operator cab is equipped with an on-board computer and Top tracing system (anti collision system).

Crane specifications

- Radius 60 m / Tip load 5,8 t
- 150 rail track
- 500 000 working cycles and 16 h/day
- Maximum load 32 t

MDT 218 & MD 485 B - Sakalhin (Russia)

This project consists in the construction of an off shore platform in a drydock near Vladivostok (Eastern Russia). The yard is equipped with 5 cranes : 1 MDT 218 on a travelling chassis, 3 MD 485 B on fixing angles and 1 MD 485 B on chassis.
Cranes are designed to match the particular seismic conditions of the job site with potential horizontal acceleration of 0,1g.

Cranes specifications

	Base	Hook height	Radius	Capacity
MD 485 B	Fixing angles	70,5 m	70 m	20 t
MD 485 B	Fixing angles	83,9 m	65 m	20 t
MD 485 B	Chassis	85,8 m	65 m	20 t
MD 485 B	Fixing angles	83,9 m	65 m	20 t
MDT 218	Travelling	26,9 m	50 m	10 t

- Hoisting winch 100 LVF 50 Optima (75 kW), frequency variation technology with service brake and safety brake
- 20 t at 18 m/min and 10 t at 36 m/min
- Trolley winch 10 DVF 10 (7,4 kW AC motor) frequency variation 20 t from 0 to 80 m/min
- Slewing mechanism RVF 183 Optima (3 x 9 kW AC motors) frequency variation technology
- Rpm 0 to 0,8
- Motorized greasing of turntable (inside bearing and toothing)

Power plant applications

MD 3200 - Chernobyl (Ukraine)

The MD 3200 was used to reinforce the collapsed nuclear power plant before complete recovery with the new shelter «sarcophage».
The crane was fully radio remote controlled. The crane driver operated from a ground level anti radiation air conditioning shelter equipped with all facilities such as camera screens, load moment and radius and height indicators, air conditioning shelter.
The Frequency variation control travelling equipment was made of 16 x 4 kW motors and automatic hydraulic rail brakes.
The 250 LCC 133 Hoisting winch, equipped with a service and security brake, can work with a 6/4 falls trolley-hook block device. All electric and electronic components were in compliance with the ISO radiation standard and located in an anti-radiation, air conditioning shelter.

Crane specifications

- Hook height 72,5 m
- 15 x 15 m chassis
- 15 m rail-track / 100 m long
- Radius 70 m / Tip load 38,7 t
- Maximum load 80 t at 37 m

MD 3200 - Flamanville (France)

Bouygues company purchased an MD 3200 to build the EPR nuclear power plant in Flamanville.
The liner was made of 40 t curved steel plates welded on-site. Other general equipment were lifted by the crane.
The MD 3200 overflew the fleet of various types of tower cranes, mainly Topless, all calculated in accordance with the strong wind specifications of the French northwest coast (more than 200 km/h) as well as the proximity of the cliff.
The crane was equipped with a rack and pinion lift located inside the mast structure.

Crane specifications

- 26,6 t at 80 m
- 40 t at 60 m
- 64 t at 40,5 m
- Hook height 89,44 m
- 15 x 15 m chassis / 16 motorized bogies

MD 1100 - Sosnovyi (Russia)

Tytan 2 company, located in St Petersburg ordered 2 sets of MD 1100 for the construction of the Sosnovyi nuclear power plant. It started in August 2009.
Cranes are equipped with 40 t double trolley and 250 DC hoisting winch. They can lift 20 t up to 46 m/min. The others mechanisms are frequency variation technology.

Cranes specifications

- Fixing angles version
- Hook height 73 m
- Radius 70 m / Tip load 10 t
- Maximum load 40 t
- Vision cab equipped with air conditioning, indicators, anemometer

MD 1100 and MD 485 - Medupi (South Africa)

The Medupi power plant located in Lephallale (Province of Limpopo) near Bostwana border was built with two Potain tower cranes mainly for the power house.
MD 1100 was working with a 6 m³ bucket at 55 m radius and MD 485 with a 3 m³ bucket at 40 m.
Both cranes were used for general handling purposes such as concreting with bucket, handling formworks, lifting steel reinforcement and re bars.

Cranes specifications

MD 1100	MD 485
Travelling chassis 8 x 8 m	Travelling chassis 13,5 x 13,5 m
Hook height 69 m	Hook height 33,72 m
Jib length 80 m / Tip Load 10 t	Jib length 40 m
Maximum load 32 t	Maximum load 25 t

MD 1100 - Chunjo (Korea)

The Korean company Chunjo ordered 2 units of MD 1100 for the construction of the nuclear power plant based near Busan in Korea.
As the cranes interfered with each other, they were equipped with Top tracing non-collision system.
Operator cab were equipped with air conditioning, indicators and anemometer. Cranes were equipped with several other options such as jib lights, night time air traffic lighting.

Cranes specifications

- Fixing angles
- Hook height 90,8 m
- Radius 80 m / Tip load 10 t
- Maximum load 40 t

High rise building applications

MD 2200 - Convention Center (Australia)

Verticon purchased an MD 2200 tower crane to build the new Convention center in Melbourne City. The crane was rented out to the builder Multiplex.
The crane was fixed into a large concrete massif and flew over 4 units of flat tower cranes.
The MD 2200 crane was the highest crane, it was also used to erect the surrounding topless cranes.
The 250 LCC 160 hoisting winch equipped with a safety brake worked with a 2/4 falls trolley-hook block device (2 falls 32 t / 4 falls 64 t).

Crane specifications

- Capacity 64 t at 31,2 m
- Radius 80 m / Tip load 23,5 m
- Hook height 81,4 m
- On fixing angles

MD 1400 - Madrid (Spain)

The Spanish company REPSOL ordered one MD 1400 and two MDT 302 for the construction of the «REPSOL TOWER» in Madrid. MD 1400 was erected up to 277,3 m with 7 anchorings and was used to lift 36 t at 38 m radius at 250 m height. Additional 20 t steel structures were installed on the top.
Two MDT 302 moved up at the same time as the building grew up thanks to an internal climbing system (only 54 m of HUH necessary). They were used for concrete pouring, construction reinforcement and to lift additional 16 t loads.
The two MDT were dismantled with the MD 1400 and the construction lasted 18 months.

Crane specifications

- Maximum load 40 t
- 36 t at 38 m up to 250 m height
- Hoisting winch 250 LCC 100
- Drum capacity 1100 m

MD 1100 - Convention Center (U.A.E)

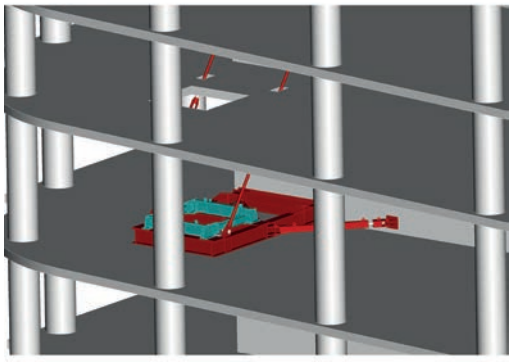
Potain dealer NFT ordered 2 MD 1100 for its rental fleet. The 1st jobsite was a steel structural building of 200 m diameter. It used 2 MD 1100 equipped with curved rail-track and 2 MD 900 B. The 2 curved rail-tracks MD 1100 built the outside part of the project while the 2 straight rail-tracks MD 900 B built the center.
The maximum steel structure weight was 20 t lifted at 45 m radius with 80 m jib. The building was only 30 m high. One crane had a 40 m hook height while the other was 58 m height to avoid overfly problems.
The MD 1100s were equipped with a 250 LCC hoist winch and had full sea border protection against humidity and salty atmosphere.

Cranes specifications

- Capacity 40 t at 22,9 m
- Maximum radius 80 m with load 10 t
- Hook height 57,8 m
- Travelling 8 x 8 m chassis

MD 550 and MDT 222 - Tour Incity Lyon (France)

French contractor Bouygues used two POTAIN tower cranes one MD 550 and one MDT 222 for the construction of Incity Tower which have been one of the most notable skyscraper project in Lyon.
MD 550 crane reached an height under hook of 184,2 m and was erected outside the building using anchorage frames.
MDT 222 crane reached an height under hook of 173 m and was located in the middle of the building using a special internal climbing system: cantilever frames attached to the building concrete core.



Space restriction on the ground motivated this technical solution.
Close collaboration between Lift Solution engineer's team and Bouygues methods has been a key stage of this project.
Manitowoc has provided a complete package including design, manufacturing as well as a full Crane Care support.

Cranes specifications

MD 550 crane
- Maximum radius 60 m
- Tip load 8 t
- Maximum load 16 t
- Final hook height 184,2 m

MDT 222 crane
- Radius 30 m
- Tip load 8,5 t
- Maximum load 12 t
- Final hook height 173 m

MR 220 and MR 605 - Nina Towers (Hong-Kong)

Nina Towers, one of the most notable skyline project in Hong Kong, made of a pair of skyscrapers connected by a bridge.
Tower 1 reached the height of 175 m and was built with the assistance of two MC 265 units. Tower 2 reached the height of 325 m was built with one MR 605 and two MR 220.
Tower 2 required 75 000 m³ of concrete, 210 000 m³ of formwork, 15 000 t of reinforcement steel and 1000 t of post tension steel.
Once completed there were four basic elements on the Nina Towers :
- Tower 1: 43 stories and 175 m tall
- Tower 2: 80 stories and 325 m tall
- Podium: 9 stories and 80 m tall
- Basement: 2 levels and 12 m deep

Cranes specifications

	MR 605	MR 220 n°1	MR 220 n°2
Maximum load	32 t	12 t	10 t
Jib length	40 m	45 m	50 m
Tip load	17,5 t	4,15 t	3,25 t

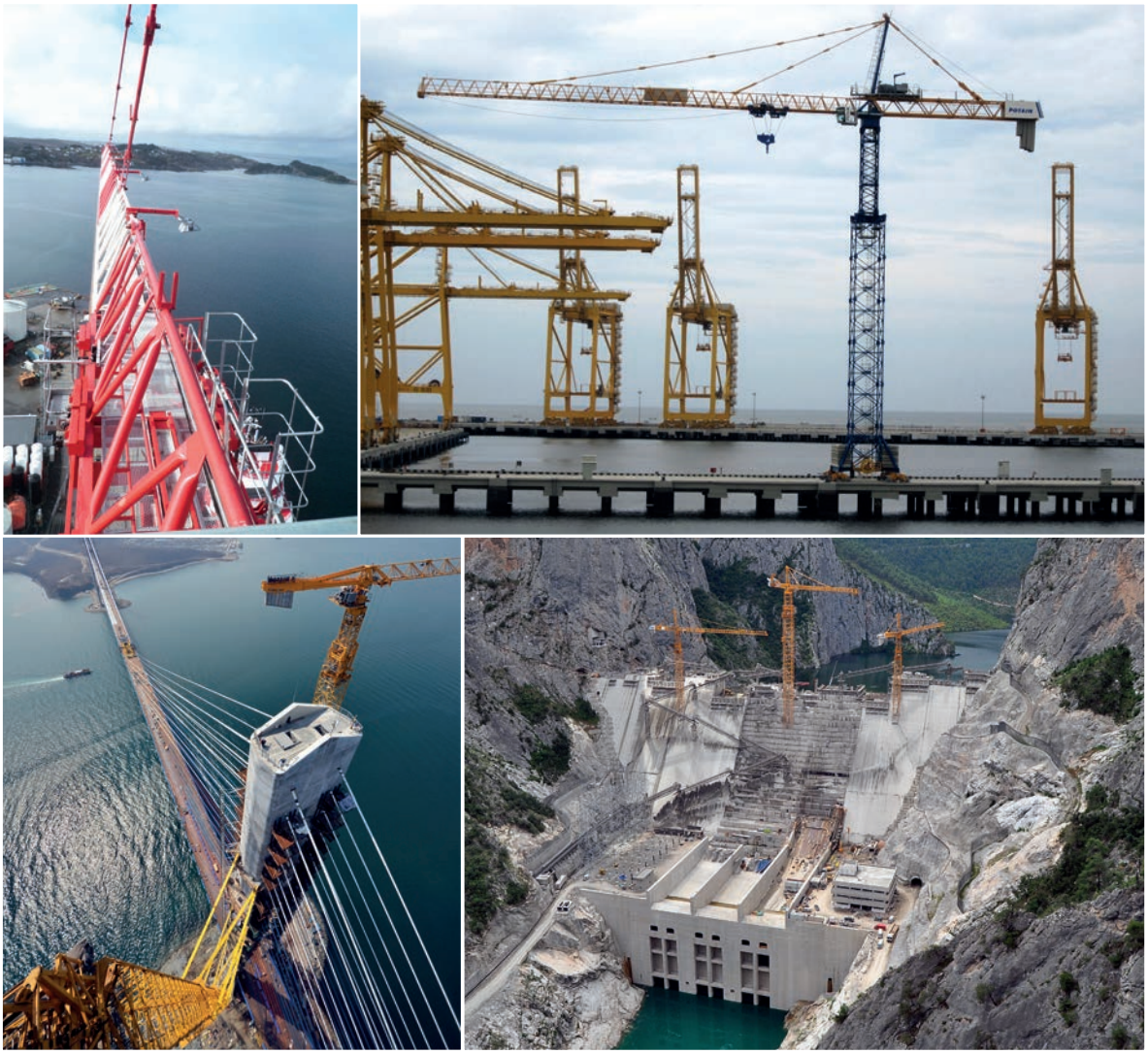
MR 225 - Aspire Sports City Tower (Doha)

Sports City Tower in Doha was constructed for the 15 th annual Asian games held in Qatar on December 2006 as Doha's newest high rise tower.
The tower hosted the Olympic flame and set the record for the tallest ever positioning of the flame. The tower also included hotel, business center, restaurants and museum.
The tower «scrapes the sky» at 300 m was made around a concrete core with the remainder of the building composed of steel structures. Midmac Besix, the main contractors of the project used Potain MR 225 luffing Jib cranes of Potain dealer NFT rental fleet.
Cranes were initially erected at free standing height of 61,7 m with mixed mast configuration (2,5 m / 2 m) before reaching final mast height 310 m.

Crane specifications

- Radius 50 m
- Tip load 3,25 t reduced to 2 t on the top of the building
- Maximum load 14 t
- Final hook height 310 m
- 11 anchorages

References list



Model	Buyer (country)	Application	Features	Year of shipment
MD 3600	SUTONG BRIDGE COMPANY (China)	Sutong bridge (China)	H = 306 m – R = 48,4 m Maxi load 80 t Fixing angles	2005
MD 3600	SUTONG BRIDGE COMPANY (China)	Sutong bridge (China)	H = 306 m – R = 48,4 m Maxi load 80 t Fixing angles	2005
MD 3600	NANJING 3rd BRIDGE COMPANY (China)	Nanjing bridge (China)	H = 230 m – R = 30 m Maxi load 160 t Fixing angles	2003
MD 3600	NANJING 3rd BRIDGE COMPANY (China)	Nanjing bridge (China)	H = 230 m – R = 30 m Maxi load 160 t Fixing angles	2003
MD 3200	SAMSUNG (Korea)	Shipyard (Nigeria)	H=75,1 m-R=80 m Maxi load 70 t and 25 t -Travelling portal	2015
MD 3200	BOUYGUES COMPANY (France)	Bouygues Nuclear plant (France)	H = 89,44 m – R = 80 m Maxi load 64 t Chassis 15 m	2007
MD 3200	UTEM (Ukraine)	Chernobyl Nuclear plant (Ukraine)	H = 72,5 m – R = 70 m Maxi load 80 t Chassis 15 m	2005
MD 2400	VENEZIA SHIPYARD (Italy)	Venezia Shipyard (Italy)	H = 40 m – R = 50 m Maxi load 80 t Chassis 15 m	2001
MD 2200 Topbelt	SONG DA CORPORATION (Vietnam)	Sesan 3 Dam Vietnam	H = 75,6 m – R = 80 m Maxi load 60 t – Fixing angles With Topbelt conveyor	2003
MD 2200 Topbelt	LONGTAN COMPANY (China)	China Longtan dam (Guangxi)	H = 185,6 m – R = 80 m Maxi load 60 t – Fixing angles With Topbelt conveyor	2003
MD 2200 Topbelt	CHINA RES-SOURCES NATIO-NAL CORP. (China)	Three Gorges dam (China)	H = 190 m – R = 80 m Maxi load 60 t – Fixing angles With conveyor topbelt system	1998
MD 2200 Topbelt	CHINA RES-SOURCES NATIO-NAL CORP. (China)	Three Gorges dam (China)	H = 190 m – R = 80 m Maxi load 60 t – Fixing angles With conveyor topbelt system	1998
MD 2200	BOYABAT (Turkey)	Dam	H = 104,5 m – R = 85 m Maxi load 64 t	2009
MD 2200	BOYABAT (Turkey)	Dam	H = 225,7 m – R = 85 m Maxi load 64 t	2009
MD 2200	SAMSUNG SHIPYARD (Korea)	Shipyard	H = 48 m – R = 75 m Maxi load 50 t and 25 t Portal chassis	2008

MD 2200	SAMSUNG SHIPYARD (Korea)	Shipyard	H = 46 m – R = 75 m Maxi load 50 t and 25 t Portal chassis	2008
MD 2200	VERTICON (Australia)	High rise building	H = 81,4 m –R = 80 m Maxi load 64 t Fixing angles	2006
MD 2200	SAMSUNG SHIPYARD (Korea)	Shipyard	H = 49 m –R = 75 m Maxi load 50 and 25 t Portal chassis	2005
MD 2200	LONGTAN Company (China)	China Longtan dam (Guangxi)	H = 139 m – R = 80 m Maxi load 60 t	2003
MD 2200	SONG DA Corporation (Vietnam)	Vietnam Sesan 3 dam	H = 75,6 m – R = 80 m Maxi load 60 t - Fixing angles	2003
MD 2200	SAMSUNG SHIPYARD (Korea)	Shipyard	H = 44 m – R = 75 m Maxi load 50 t Portal chassis	2002
MD 2200	PT INDAH KIAT PULP(Indonesia)	Paper Mill	H = 93 m – R = 50 m Maxi load 64 t	1997
MD 2200	(Ukraine)	Steelworks Dolinskaya	H = 78 m – R = 80 m Maxi load 64 t - Chassis 15 m	1992
MD 2200	MACHINOIMPORT (Russia)	Power plant Lubmin	H = 124 m – R = 80 m Maxi load 50 t - Chassis 15 m	1988
MD 2200	TAKRAF (GDR)	Power plant	H = 91 m – R = 80 m Maxi load 64 t - Chassis 15 m	1986
MD 2200	TAKRAF (GDR)	Power plant	H = 91 m – R = 80 m Maxi load 64 t - Chassis 15 m	1986
MD 1800	LONGTAN Company (China)	China Longtan dam (Guangxi)	H = 112,5 m – R = 80 m Maxi load 60 t – Portal base	2003
MD 1600 Topbelt	CH. KARNCHANG (Thaïland)	Xayaburi dam (Laos)	H = 91,6 m – R = 80 m Maxi load 64 t - Fixing angles With Topbelt conveyor	2012
MD 1600 Topbelt	CH. KARNCHANG (Thaïland)	Xayaburi dam (Laos)	H = 91,6 m – R = 80 m Maxi load 64 t - Fixing angles With Topbelt conveyor	2012
MD 1400	REPSOL TOWER (SPAIN)	Building	H = 277,3 m – R = 60 m Maxi load 40 t - Fixing angles	2005
MD 1400	BECHTEL (USA)	Power plant	H = 73 m – R = 80 m Maxi load 50 t - Fixing angles	2001
MD 1400	BECHTEL (USA)	Power plant	H = 73 m – R = 80 m Maxi load 50 t - Fixing angles	2001
MD 1400	BECHTEL (USA)	Power plant	H = 73 m – R = 80 m Maxi load 50 t - Fixing angles	2001
MD 1400	STROJEXPORT (CS)	Power Plant Temelin	H = 89 m – R = 50 m Maxi load 40 t - Fixing angles	1988

MD 1100	ECO ENERGY (Italy)	Industry (Verona)	H=11,38 m-R=35 m Maxi load 60 t Fixing angles	2016
MD 1100	KIL-CHUNJO (Korea)	Construction (Korea)	H=90,8 m-R=80 m Maxi load 40 t-Fixing angles	2016
MD 1100	KIL-CHUNJO (Korea)	Construction (Korea)	H=90,8 m-R=80 m Maxi load 40 t-Fixing angles	2016
MD 1100	NFT	Power plant (Morroco)	H=90,8 m-R=80 m Maxi load 40 t-Fixing angles	2015
MD 1100	NFT	Power plant (Morroco)	H=90,8 m-R=80 m Maxi load 40 t-Fixing angles	2015
MD 1100	CHUNJO (Korea)	Power plant (Malaysia)	H=113,9 m-R=80 m Maxi load 40 t-Fixing angles	2014
MD 1100	CCB AGOTNES (Norway)	Shipyard	H = 63 m – R = 90 m Maxi load 40 t - chassis 8 m	2014
MD 1100	NFT (Dubai)	Building (Saudi arabia)	H = 86,6 m – R = 80 m Maxi load 40 t - Fixing angles	2012
MD 1100	NFT (Dubai)	Building (Saudi arabia)	H = 90,8 m – R = 80 m Maxi load 40 t - Fixing angles	2012
MD 1100	TITAN (Russia)	Power plant	H = 90,8 m – R = 80 m Maxi load 40 t - Fixing angles	2012
MD 1100	NFT (Dubai)	Building (Saudi arabia)	H = 86,6 m – R = 85 m Maxi load 40 t - Chassis 8 m	2012
MD 1100	NFT (Dubai)	Building (Saudi arabia)	H = 86,6 m – R = 80 m Maxi load 40 t - Chassis 8 m	2011
MD 1100	L & T (India)	Shipyard	H = 46 m – R = 70 m Maxi load 40 t Chassis 10 m x 12 m	2011
MD 1100	L & T (India)	Shipyard	H = 46 m – R = 60 m Maxi load 32 t - Chassis 8 m	2011
MD 1100	TITAN (Russia)	Power plant	H = 73,5 m – R = 80 m Maxi load 40 t - Fixing angles	2011
MD 1100	PIRRIS (Costa Rica)	Dam	H = 108 m – R = 80 m Maxi load 40 t	2011
MD 1100	NFT (Dubai)	Building (Saudi arabia)	H = 90,8 m – R = 90 m Maxi load 40 t - Fixing angles	2010
MD 1100	NFT (Dubai)	Building (Saudi arabia)	H = 90,8 m – R = 80 m Maxi load 40 t - Fixing angles	2010
MD 1100	NIBM (Netherland)	Erasmus building	H = 56 m – R = 60 m Maxi load 40 t - Fixing angles	2010
MD 1100	NIBM (Netherland)	Erasmus building	H = 79,2 m – R = 50 m Maxi load 40 t - Fixing angles	2010
MD 1100	JAYPEE HIMACHAL (India)	Industrie	H = 75 m – R = 80 m Maxi load 40 t - Chassis 8 m	2010

MD 1100	JAYPEE HIMACHAL (India)	Industrie	H = 75 m – R = 80 m Maxi load 40 t - Chassis 8 m	2010
MD 1100	JAYPEE HIMACHAL (India)	Industrie	H = 75 m – R = 80 m Maxi load 40 t - Chassis 8 m	2009
MD 1100	MOSTOVIK (Russia)	Bridge	H = 335 m – R = 60 m Maxi load 50 t - Fixing angles	2009
MD 1100	JAN DENUL (Belgium)	Shipyard	H = 40,2 m – R = 70 m Maxi load 50 t - Portal chassis	2009
MD 1100	MEDUPI (South Africa)	Power plant	H = 69 m – R = 80 m Maxi load 32 t Chassis 8 m	2009
MD 1100	BOYABAT (Turkey)	Dam	H = 137,1 m – R = 60 m Maxi load 40 t	2009
MD 1100	BOYABAT (Turkey)	Dam	H = 120 m – R = 65 m Maxi load 40 t	2009
MD 1100	Rongcheng (China)	Shipyard	H = 50 m – R = 80 m Maxi load 32 t Chassis 7 m x 8 m	2009
MD 1100	Rongcheng (China)	Shipyard	H = 50 m – R = 80 m Maxi load 32 t Chassis 7 m x 8 m	2009
MD 1100	HYUNDAI SAMHO (Korea)	Shipyard	H = 60 m – R = 80 m Maxi load 40 t	2009
MD 1100	SOSNOVYI (Russia)	Power plant	H = 73 m – R = 70 m Maxi load 40 t - Fixing angles	2009
MD 1100	DIGA DI CUMBI DANOVU DEL L'ALTO CEDRINO (Italy)	Dam	H = 80,9 m – R = 80 m Maxi load 40 t Chassis 8 m	2008
MD 1100	JAYPEE HIMACHAL (India)	Industrie	H = 86,7 m – R = 60 m Maxi load 40 t Chassis 8 m	2008
MD 1100	JAYPEE HIMACHAL (India)	Industrie	H = 86,7 m – R = 60 m Maxi load 40 t Chassis 8 m	2008
MD 1100	Venezian Casino Macau (China)	High rise building	H = 73,5 m – R = 50 m Maxi load 40 t Fixing angles	2008
MD 1100	CHUNJO (Korea)	Power plant	H = 90,8 m – R = 80 m Maxi load 40 t Fixing angles	2008
MD 1100	NFT (Dubai)	Dubai dry docks	H = 69,3 m – R = 80 m Maxi load 40 t Chassis 8 m	2008
MD 1100	NFT (Dubai)	Convention center	H = 57,8 m – R = 80 m Maxi load 40 t Chassis 8 m	2008
MD 1100	NFT (Dubai)	Convention center	H = 57,8 m – R = 80 m Maxi load 40 t Chassis 8 m	2008

MD 1100	NFT (Dubai)	Convention center	H = 57,8 m – R = 80 m Maxi load 40 t Chassis 8 m	2007
MD 1100	NFT (Dubai)	Convention center (Dubai)	H = 57,8 m – R = 80 m Maxi load 40 t Chassis 8 m	2007
MD 1100	NFT (Dubai)	Convention center (Dubai)	H = 57,8 m – R = 80 m Maxi load 40 t Chassis 8 m	2007
MD 1100	DUNKERQUE (FRANCE)	Shipyard (Dunkerque)	H = 56,3 m – R =60 m Maxi load 50 t Chassis 10,65 m x 10,65 m	2007
MD 1100	GEZHOUBA (China)	China dam (Hu nan)	H = 86,7 m – R = 80 m Maxi load 40 t Chassis 8 m	2007
MD 1100	GEZHOUBA (CHINA)	Qingshuitang dam (Hu nan)	H = 86,7 m – R = 80 m Maxi load 40 t Chassis 8 m	2006
MD 1000	SHIRKE (India)	Power plant Gandhimagar	H = 94 m – R = 50 m Maxi load 50 t Chassis 10 m	1986
MD 1000	KUTLUTAS (Turkey)	Power plant Sivas Kangar	H = 137 m – R = 80 m Maxi load 64 t Chassis 15 m MD 2200 mast section	1984
MD 1000	SHIRKE (India)	Power plant Vindhayhastal	H = 94 m – R = 50 m Maxi load 50 t Chassis 10 m	1984
MD 1000	NORMAN OLSEN (Norway)	Shipyard Ogrey	H = 31 m – R = 50 m Maxi load 64 t Portal	1981
MD 1000	MIN Nis (Yougoslavia)	Power plant Obremovac	H = 149 m – R = 50 m Maxi load 50 t MD 2200 mast section	1980
MD 1000	3 MAJ (Yougoslavia)	Shipyard Rijeka	H = 40 m – R = 60 m Maxi load 50 t	1980
MD 1000	P.S.B. (CS)	Power plant Dukovany	H = 73 m – R = 50 m Maxi load 30 t Chassis 10 m	1979
MD 1000	P.S.B. (CS)	Power plant Dukovany	H = 73 m – R = 50 m Maxi load 30 t Chassis 10 m	1979
MD 1000	P.S.B. (CS)	Power plant Dukovany	H = 73 m – R = 50 m Maxi load 30 t Chassis 10 m	1979
MD 1000	P.S.B. (CS)	Power Plant Dukovany	H = 73 m – R = 50 m Maxi load 30 t Chassis 10 m	1979
MD 1000	HYDROSTAV (CS)	Power Plant Bohunice	H = 73 m – R = 50 m Maxi load 30 t Chassis 10 m	1978
MD 1000	HYDROSTAV (CS)	Power Plant Bohunice	H = 73 m – R = 50 m Maxi load 30 t Chassis 10 m	1978

MD 900	VODNI STAVBY (CS)	Power plant Temelin	H = 80 m – R = 50 m Maxi load 50 t Chassis 10 m	1989
MD 900 B	WARUNA (Indonesia)	Shipyard	H = 44,6 m – R = 60 m Maxi load 50 t Portal Chassis 8 m	2006
MD 900 B	VIETNAM	Dam	H = 60,5 m – R = 60 m Maxi load 50 t	2004
MD 900 B	VIETNAM	Dam	H = 60,5 m – R = 60 m Maxi load 50 t	2004
MD 900 B	VIETNAM	Dam	H = 60,5 m – R = 60 m Maxi load 50 t	2004
MD 900 B	VIETNAM	Dam	H = 60,5 m – R = 60 m Maxi load 50 t	2004
MD 900	BARCELONE TOWN (Spain)	Subway	H = 30 m – R = 60 m Maxi load 25 t Chassis 10 m	2003
MD 900	IRAK	Irrigation	H= 203 m – R= 70 m Maxi load 20 t	2002
MD 900	IRAK	Irrigation	H= 203 m – R= 70 m Maxi load 20 t	2002
MD 900	SAMSUNG (H.I.) (South Korea)	Shipyard Koje	H = 43 m – R = 70 m Maxi load 20 t Portal 7 m	1994
MD 900	SAMSUNG (H.I.) (South Korea)	Shipyard Koje	H = 43 m – R = 70 m Maxi load 20 t Portal 7 m	1994
MD 900	VODNI STAVBY (CS)	Power plant Temelin	H = 63 m – R = 50 m Maxi load 50 t Chassis 10 m	1989
MD 900	ASTALDI (Italy)	Dam Gram Pietra	H = 40 m – R = 70 m Maxi load 25 t	1988
MD 900	STATE MACHINERY (Irak)	Dam Badush	H = 105 m – R = 70 m Maxi load 32 t Chassis 10 m	1987
MD 900	STATE MACHINERY (Irak)	Dam Badush	H = 105 m – R = 70 m Maxi load 32 t Chassis 10 m	1987

MD 900	P.S.B. (ex USSR)	Iron ore Krivoy Rog	H = 63 m – R = 70 m Maxi load 32 t Chassis 8 m	1987
MD 900	P.S.B. (ex USSR)	Iron ore Krivoy Rog	H = 63 m – R = 70 m Maxi load 32 t Chassis 8 m	1987
MD 900	P.S.B. (ex USSR)	Iron ore Krivoy Rog	H = 63 m – R = 70 m Maxi load 32 t Chassis 8 m	1987
MD 900	P.S.B. (ex USSR)	Iron ore Krivoy Rog	H = 63 m – R = 70 m Maxi load 32 t Chassis 8 m	1987
MD 900	P.S.B. (ex USSR)	Iron ore Krivoy Rog	H = 63 m – R = 70 m Maxi load 32 t Chassis 8 m	1987
MD 900	P.S.B. (ex USSR)	Iron ore Krivoy Rog	H = 63 m – R = 70 m Maxi load 32 t Chassis 8 m	1987
MD 900	P.S.B. (ex USSR)	Iron ore Krivoy Rog	H = 63 m – R = 70 m Maxi load 32 t Chassis 8 m	1987
MD 900	VODNI STAVBY (CS)	Power plant Temelin	H = 51 m – R = 50 m Maxi load 50 t Chassis 10 m	1987
MD 900	P.S.B (CS)	Power plant Temelin	H = 64 m – R = 70 m Maxi load 32 t Chassis 10 m	1987
MD 900	HYDROSTAV (CS)	Power plant Mochovce	H = 70 m – R = 60 m Maxi load 32 t Chassis 10 m	1986
MD 900	HYDROSTAV (CS)	Power plant Mochovce	H = 70 m – R = 60 m Maxi load 32 t Chassis 10 m	1986
MD 900	HYDROSTAV (CS)	Power plant Mochovce	H = 70 m – R = 60 m Maxi load 32 t Chassis 10 m	1985
MD 830	BNFL (GB)	Nuclear Fuel Thorp	H = 60 m – R = 55 m Maxi load 25 t	1986
MD 830	BNFL (GB)	Nuclear Fuel Thorp	H = 60 m – R = 55 m Maxi load 25 t	1986
MD 650	TOCOMA (Venezuela)	Tocoma dam	H = 68 R = 70 m Maxi load 40 t - Travelling	2008
MD 650	YEYWA (Myanmar)	Dam	H = 67 m – R = 80 m Maxi load 25 t Fixing angles	2007
MDN 650	ALL ERECTION	Building USA	Maxi R 80 m Maxi load 40 t	2001
MDN 650	BAUDIN CHATEAUNEUF France	Chateauneuf (Steel stock yard)	H = 21 m - R = 60 m Maxi load :32 t Travelling on 150 m track	2000

MR 605 B	NOVARKA (Ukraine)	Chernobyl Nuclear plant	H = 57,5 m - R = 60 m Maxi load : 16 t	2011
MR 605 B	NOVARKA (Ukraine)	Chernobyl Nuclear plant	H = 57,5 m - R = 60 m Maxi load : 16 t	2011
MR 605 B	NOVARKA (Ukraine)	Chernobyl Nuclear plant	H = 57,5 m - R = 60 m Maxi load : 16 t	2011
MR 605 B	NOVARKA (Ukraine)	Chernobyl Nuclear plant	H = 57,5 m - R = 60 m Maxi load : 16 t	2011
MD 600	SEP GEFYRA (Greece)	Rion Antirion bridge	R = 70 m Maxi load 20 t	2000
MD 600	SEP GEFYRA (Greece)	Rion Antirion bridge	R = 70 m Maxi load 20 t	2000
MD 600	SEP GEFYRA (Greece)	Rion Antirion bridge	R = 70 m Maxi load 20 t	1999
MD 600	SEP GEFYRA (Greece)	Rion Antirion bridge	R = 70 m Maxi load 20 t	1999
MD 600	MACHINE SAZI ARAK (Iran)	Dam	R = 70 m Maxi load 20 t	1998
MD 600	MACHINE SAZI ARAK (Iran)	Dam	R = 70 m Maxi load 20 t	1998
MD 600	MACHINE SAZI ARAK (Iran)	Dam	R = 70 m Maxi load 20 t	1998
MD 600	MACHINE SAZI ARAK (Iran)	Dam	R = 70 m Maxi load 20 t	1998
MD 600	MACHINE SAZI ARAK (Iran)	Dam	R = 70 m Maxi load 20 t	1998
MD 600	NEREMAT (Singapour)	Building	R = 70 m Maxi load 20 t	1998
MD 600	HOUSING FOUNDATION (Iran)	Building	R = 70 m Maxi load 20 t	1998
MD 600	BOUYGUES SA	Building	R = 70 m Maxi load 20 t	1998
MD 560 A	RIO ORINOCO (Venezuela)	Bridge	H = 147,8 m – R = 40 m Maxi load 40 t	2009

MD 550	BOUYGUES SA (France)	Tour Incity Lyon	H = 184,2 m – R = 60 m Maxi load 16 t	2014
MD 485	MEDUPI (South Africa)	Power plant	H = 33,72 m – R = 40 m Maxi load 25 t Travelling chassis special size	2009
MD 485 B	AKER SOLUTIONS (Russia)	Sakalhin Oil industry	H = 83,9 m – R = 65 m Maxi load 20 t	2010
MD 485 B	AKER SOLUTIONS (Russia)	Sakalhin Oil industry	H = 85,8 m – R = 65 m Maxi load 20 t	2010
MD 485 B	AKER SOLUTIONS (Russia)	Sakalhin Oil industry	H = 70,5 m – R = 70 m Maxi load 20 t	2010
MD 485 B	AKER SOLUTIONS (Russia)	Sakalhin Oil industry	H = 83,9 m – R = 65 m Maxi load 20 t	2010
MD 365 B	AKERYARDS St NAZAIRE	Shipyard	H= 65,6 m – R = 60 m Maxi load 16 t	2008
MD 365B	SAMSUNG SHIPYARD (Korea)	Shipyard	H = 104,9 m – R = 70 m Maxi load 16 t Static chassis 10 x 10 m	2011
MDTN 462	CHANTIERS DE L'ATLANTIQUE (France)	Shipyard	H = 47,6 m – R = 50 m Maxi load 20 t Travelling portal	2006
MDT 368	MOSTOVIK (Russia)	Bridge	H = 324 m – R = 40 m Maxi load 16 t - Fixing angles	2009
MDT 222	BOUYGUES SA (France)	Tour Incity Lyon	H = 173 m – R = 30 m Maxi load 12 t	2014

More than 100 MD cranes of large capacity (from 600 t.m to 3600 t.m) are in use on sites.


POTAIN

Press releases

Potain tower cranes building $3.8 billion dam in Laos

Once again Potain tower cranes are at the heart of a new hydropower mega project. A team of 19 Potain tower cranes are building the 1,285 MW Xayaburi dam in northern Laos. The cranes are working 24/7 on the eight-year project, which will create an 820 m long dam across the Mekong River.

Potain is widely regarded as the leading supplier of lift equipment for dam building projects with several of its cranes central to the construction of China's Three Gorges dam, the world's largest dam in terms of installed capacity and one of the highest profile projects of recent years.

The success of the highly ambitious Xayaburi project will depend largely on the performance of the Potain cranes. Their primary task is to place Roller Compacted Concrete at a rate of 250 m3 per hour. Handling much of this work are two Potain MD 1600s. These giant 64 t capacity tower cranes are fitted with Potain's top-belt concrete placing system, which combines the benefits of a powerful crane with a concrete conveyor belt, which extends 25 m beyond the jib end, enabling each crane to pour up to 600 t of concrete per hour at a radius of up to 105 m.

The concrete placing system was one of the main reasons why Potain cranes were chosen for the demanding project. Manitowoc and partner Nippon Conveyor created the solution, combining Nippon's belt conveyor system and the high capacity Potain MD cranes. The concept was first used on the Three Gorges dam and was later employed on the Longtan gravity dam, also in China, and the Sesan dam in Vietnam.

Mr Thamnoon Surarat, project manager at main contractor CH. Karnchang PCL, said Potain's experience in dam building made the company a trusted partner for the project.

"Potain provided the best solution for us and the company's Lifting Solution department has a wealth of experience in successful dam construction that gave us confidence that our own project will be a success," he says. "Manitowoc's Lifting Solution department and Potain's dealer, S.B. Siam, worked closely with us to design, implement and maintain a unique set-up that will work consistently in harsh and humid conditions with tight deadlines and a demanding work schedule. Everything is moving ahead as planned and we are delighted with the cranes."

All of the Potain tower cranes were supplied by S.B. Siam, Potain's dealer for Thailand. Working in unison, tower crane experts from Manitowoc in France and Singapore, together with SBS, provided the unique solution to the project, including erection and maintenance to ensure the cranes operate at maximum efficiency day in, day out.

Alongside the two Potain MD 1600s at the Xayaburi dam are 17 other Potain tower cranes, some of which were manufactured at the company's Zhangjiagang factory in China and others at its facilities in Moulins and Charlieu in France.

The Potain cranes were erected between March and August 2012. The cranes are strategically positioned to give every square meter of the construction site at least 3 t of lifting capability.

The Potain tower cranes at the project represent much of the company's top-slewing tower crane range. As well as the MD 1600s, which are rigged with full 80 m jibs and offer a height under hook of 92 m, there are two MC 205s, four MCT 385s and 11 MC 310s. These MC and MCT models offer capacities from 10 t to 14 t and are pouring Conventional Vibrated Concrete, as well as lifting general construction materials, such as formwork and rebar.

The 14 t capacity version of the MCT 385 topless tower crane offers a maximum jib length of 75 m, at which it can lift 3.2 t. Potain's MC 205 B is a 10 t capacity tower crane that can work with a 60 m jib and lift 2.4 t at jib end. The Potain MC 310 is a 12 t capacity that has a maximum jib length 70 m jib and can lift 3.2 t at jib end.

Established in 2004, S.B. Siam is a leading construction equipment supplier based in Bangkok, Thailand. The company provides the complete range of POTAIN tower cranes to projects in Thailand.

Located 100 km downstream of Luang Prabang in Laos, the Xayaburi dam will be 820 m long, 150 m wide and 35 m high. The dam is owned by Xayaburi Power Company Ltd., and is expected to produce 7,400 GWh annually, when it enters operation in 2019. The project will strengthen the power grid system in Laos and Thailand.

Potain tower cranes building third tallest building in France

Two Potain tower cranes are building an ambitious commercial development in the heart of Lyon, France. The 200 m tall Tour Incity will be the tallest building in the city and the third tallest in France. The Potain cranes are working 14 hours a day for 30 months to build one floor per week at the congested job site.

The demanding schedule is the result of the building's inner-city location. Flanked by a busy road, a school and a shopping mall, work must adhere to a strict schedule to limit disruption to the local area.

The 16 t capacity Potain MD 550 and 12 t capacity MDT 222 tower cranes, which are owned by the project's main contractor Bouygues, were chosen for the project because of their proven reliability and performance that will ensure the project runs smoothly, as Julian Bargues, job site manager at Bouygues explains.

"We are absolutely convinced that the Potain cranes will deliver to the high standards and strict schedule we demand," he says. "Working in such a tight space means we need very precise load control and smooth movement, two things we know Potain cranes are ideal."

The Potain cranes at Tour Incity were erected in 2013. They are lifting general construction materials in loads of up to 16 t. Both cranes are climbing at a rate of 15 m per month and set to reach final working heights of 280 m.

The cranes' exact position and jib lengths were carefully planned to ensure maximum coverage of the job site, yet minimal disruption to the busy streets below. As a result, one of the Potain cranes, the MDT 222, is climbing internally, adding to the technical challenge of the project, as Alexandre Chanteclair, EMEA product manager at Potain, explains.

"Big projects need smart and efficient solutions. Our Lift Solutions team worked closely with Bouygues to design the perfect lifting solution," he says. "Erecting the MDT 222 internally minimizes the two cranes' footprints on the job site, while giving the crane the optimum capacity over the maximum area of the job site. It also ensure the cranes can work at a good pace without causing problems for the local area."

The Potain MDT 222 is erected with a specially-adapted floor climbing system where a unique frame is attached to the building's concrete core. This allows the crane to reach its final working height while maintaining its strength and stability. The MD 550 is installed with Potain's external anchorage system where several frames fix the mast to the outside of the building.

Manitowoc Crane Care service teams regularly work alongside Bouygues at the job site, ensuring the cranes perform perfectly and climb with ease.

Potain's MD 550 is a 16 t capacity top-slewing tower crane, which offers a maximum 80 m jib but is configured with 60 m of jib at the job site. The Potain MDT 222 is a 12 t capacity topless city crane that offers up to 65 m of jib, but is fitted with a 30 m jib at the project.

Tour Incity is a mixed-use commercial development in the heart of Lyon's business district. The tower will comprise of 44,000 sqm of offices and four restaurants. Tour Incity is the first inner-city building to be accredited as HQE® (High Quality Environmental Standard) in France thanks to a variety of environmental innovations.

Two Potain special application cranes on $730 million dam

Two Potain MC 475 special application cranes are at the center of a major hydroelectric power project in India. Access to the job was a huge challenge, as steep valley walls and mountains surrounded the site and required careful planning when transporting the tower cranes. Upon completion, the new dam will span a remote section of the Alknanda River in Uttarakhand, northern India.

Apurba Kumar Mandal, territory service manager for Manitowoc Crane Care in India, was part of the team that moved and assembled the cranes. He said checking the roads and planning the route was the most difficult part.

"The roads leading to the jobsite are not designed for transporting heavy equipment, so our engineers checked that they were in good condition before shipping the cranes," he said. "Monitoring ground conditions and planning the transport schedule was a large part of this job. But once on site, the cranes were easy to assemble. The connections are smooth and the modular design makes the assembly process logical and straightforward, even for such large cranes."

The remote location in northern India also brings weather challenges with severe cold in winter followed by soaring heat in summer. In addition, heavy rains fall year-round, causing landslides and blocked roads.

A.K. Goel is equipment manager at Larsen & Toubro, the main contractor on the project and the company that owns the cranes. He said that because of the weather conditions and tough environment, the company wanted reliable, durable and proven equipment.

"Getting to the jobsite was a challenge, so we wanted to be certain the cranes were capable and reliable. Getting heavy vehicles back to site with replacement sections or mechanisms is not easy so we want to be sure there is minimal chance of that happening," he said. "We know Potain cranes well, having used them for 25 years, so we understand their capabilities. Of course the cranes have needed servicing during their time on site, and we get great support from Manitowoc Crane Care."

The 25 t cranes are lifting general construction materials to build the $730 million dam. The 4-year project will create a 330 MW hydroelectric power station. Managing all construction work is GVK Group, one of India's largest project management companies, which in turn hired Larsen & Toubro as the main contractor.

The two Potain cranes were erected in October 2009 by technicians from L&T and Manitowoc Crane Care. Each has been ideally positioned for maximum reach, with one running on a 30 m track for additional coverage.

The cranes are lifting a variety of materials and equipment for the dam, which will measure 285 m across and 92 m tall. They are helping place 335,000 m^3 of concrete and lifting concrete formwork, welding machines and generators. The demanding work program keeps the cranes lifting right up to their maximum capacity, with loads up to 25 t.

Both Potain cranes are configured with 60 m jibs and one has a working height of 25 m while the other stands 60 m tall. The taller crane is situated near the foot of the dam while the shorter one is higher up the valley, mounted on the 30 m track. The cranes will stay on site until the end of 2012, when the project will complete.

Potain's MC 475 offers a maximum possible jib length of 80 m and a maximum tip load of 3 t.

Potain cranes help on major Russian oil and gas project

Five Potain tower cranes are helping to build a large structure that is part of an oil platform for Russia's busy Arkutun-Dagi field, which is off the coast of Sakhalin Island.

Construction giant Aker Solutions is building the largest concrete gravity-based substructure made in Russia, for customer Exxon Neftegas Ltd. The structure is constructed of concrete and will use gravity and water chambers to support a platform for extracting oil and gas.

The cranes are lifting formwork, rebar, concrete buckets, mechanical equipment and pipe work. The heaviest loads are the pipe work, weighing up to 8 t. The substructure is being built at a dry dock in Nakhodka, 180 km from Vladivostok, and will be towed to its offshore resting place once construction is complete.

Bjorn Rognlien, engineering manager for Aker Solutions, said it is vital that the project is completed on time and to the highest standard.

"The key challenges on this project are keeping work on schedule and meeting the quality requirements," he said. "Although these apply to most projects, on this job, they are magnified. If construction is delayed, bad weather will prevent us from transporting the structure to it final destination. This weather is some of the world's most extreme conditions, and the quality of the structure has to be of the highest quality to withstand the environment."

There are four Potain MD 485 B cranes and an MDT 218 A from Potain's topless city crane range working at the Nakhodka yard. The owner of the dry dock, ZAO "Rosdorsnabzhenie," owns the cranes and is renting them to Aker Solutions. The cranes arrived in February and March of 2010. The four MD 485 B cranes were assembled in April, and the MDT 218 A began working in August.

All of the MD 485 B cranes are mounted on 2.45 m x 2.45 m mast sections, and each have a maximum capacity of 20 t. One crane is working with a 70 m jib, while the others are configured with 65 m jibs. Working heights for the MD 485 B cranes range up to 83.9 m. The MDT 218 A is rail-mounted to allow it to move around the dry dock. This crane is mounted on 2 m x 2 m mast sections and is working with a jib of 50 m and at a working height of 27 m.

Michail Vdovin, head of crane and lifting operations for Aker Solutions, said the cranes have been performing well.

"We made the right choice in selecting Potain cranes for this project," he said. "So far, they have worked great, even though the lifting schedule is demanding. Potain cranes are helping us stick to the tight construction schedule."

Potain cranes were selected for this project for their ability to perform under pressure and for their reputation for reliability, specifically in harsh environments. The cranes were sold through Manitowoc's Moscow office and will be supported throughout their time in Nakhodka by Manitowoc Crane Care.

Jean-Claude Doucene, Manitowoc's sales director for tower cranes in Russia and CIS, said the customer wanted to be sure that cranes on this project had the best possible support.

"Timing is crucial on this job, so the customer wanted cranes that were reliable and had the necessary support to handle any problems." he said. "Starting in November, the waters around Sakhalin Island begin to freeze and will stay frozen until around May. So to navigate the structure properly, the cranes will have to finish their work by the end of 2011."

When complete, the substructure will weigh 53,000 t and will be sunk at a depth of 33.6 m below sea level. It will include 52,300 m^3 of concrete and 19,300 t of rebar. The Arkutun-Dagi field is one of three in the Sakhalin-1 project. The Sakhalin-1 project will cost an estimated $10-12 billion, making it the largest ever direct investment in Russia by an external source, in this case, Exxon-Neftgas.

Manitowoc cranes work on largest dam in southern Africa

Ten Manitowoc cranes are working on the construction of a remote dam in South Africa. The De Hoop ("The Hope") Dam will be 81 m tall and stretch more than 1 km over the Steelpoort River in Limpopo, South Africa. It is being built for the South African Department of Water Affairs.
The Manitowoc cranes on the project are a mix of Potain tower cranes, a Manitowoc crawler crane and Grove mobile cranes. The cranes perform a variety of lifting tasks, which will change as the project progresses. But all work is related to constructing the outlet works of the dam, which will require 930,000 m^3 of concrete to complete. Jobs include assembling conveyors and concrete batching plants, placing shuttering and reinforced steel, installing mechanical items in the outlet works, damage recovery and pouring concrete.

The location and terrain are two major challenges on site. The dam sits in the middle of an untouched rural landscape, in a river valley with steep slopes of loose soil running either side. To complicate matters, a river diversion also runs through the site.

Henry Wells, managing director at Crane Load Tech, said the company had to construct roads to ease transport of the mobile and crawler cranes.
"We are used to working on job sites with restricted access, but De Hoop is among the most extreme," he said. "On the project we've built temporary access roads across the slopes and contours so the cranes can travel the undulating terrain. We were able to maneuver the cranes to where they can offer maximum coverage and the most efficient delivery of materials."

John Baker, chief engineer of the South African Department of Water Affairs, said the wide range of cranes on the job helps the project proceed on schedule.
"We chose a variety of cranes so we could handle any of the challenges of such a difficult terrain," he said. "Large areas of the site are difficult to negotiate, so the mobile cranes are essential for accessing certain areas. The tower cranes provide the height and reach to cover large areas of the dam and the crawler crane handles the heavier lifts. The cranes work well as a team, and their reliability means this five-year project remains on schedule."

A 25 t Potain MD 485 B is pouring the majority of the concrete. For smaller lifts, there is also a 4 t Potain Igo 50 self-erecting crane.

Quentin van Breda, executive chairman of SA French, said the Potain MD 485 B is playing a critical role in the construction.
"The special application crane on this project is really at the center of construction," he said. "It is responsible for such a large part of the dam that it must maintain its performance throughout the contract. Our 30 years of experience working with Potain special application cranes means we can confidently place these cranes on critical projects. Our customers rely on our expertise."

There are several other Manitowoc cranes on the site as well. From the company's crawler crane line there is a 90 t Model 10000, popular for its simple erection, reliability and easy operation. The Grove mobile cranes on site include the truck-mounted TMS700E, which has a 60 t capacity and the 60 t RT760E and 30 t RT530E from the rough-terrain crane line. There is also a Yardboss industrial crane, the YB4409XL, which has an 8 t capacity.

The cranes on the De Hoop project have been there since April 2009 and will remain on site for another two years. The South African Department of Water Affairs is building the dam as a bulk storage facility to supplement Limpopo's current water supply. Its reservoir covers 1,690 hectares. The dam will be complete by August 2012.

Potain provides cranes for $1 billion dam project in Turkey

Four Potain special application tower cranes are working on a major hydropower dam project in Turkey. The $1 billion Boyabat Dam, located in the northern province of Sinop, will significantly expand Turkey's capability to generate power and help meet the growing demand for electricity.

Working on the project are two MD 1100 and two MD 2200 cranes — the largest and most powerful Potain special application tower cranes.

Thibaut Le Besnerais, vice president of special applications cranes at Manitowoc, said the cranes were custom manufactured to meet the needs of the project.

"Each project is different, and we often modify our designs to achieve the best performance for the given application," he said. "We also send a highly experienced team of engineers for each installation to supervise the erection and ensure customers get the most benefit from their Potain cranes."

Main contractor, Doğuş İnşaat, purchased the cranes specifically for the Boyabat project. It is building the dam for Turkish utility giant Boyabat Elektrik Üretim. The construction work is taking place in sections, and the cranes are helping maneuver a conveyor system to place the large amount of concrete the dam requires in the most efficient manner.

In addition to moving the conveyor trusses for pouring concrete, the four on-site special application cranes are lifting reinforcement bar, penstocks and other components. They are also pouring concrete and working with 6 m^3 and 9 m^3 buckets. The cranes can lift 20 t loads to all areas of the job site.

The Potain MD 2200 special application cranes have a maximum capacity of 64 t and are working with the full 85 m of jib at Boyabat. They can lift 20 t at their jib end. Both will climb as construction progresses, and by the end of the project, they will reach heights of 104 m and 225 m. The MD 2200 cranes are equipped with elevators set inside the mast system for operators.

The Potain MD 1100 cranes have a maximum capacity of 40 t and are working with 55 m jibs, although they can accommodate up to 80 m. When working with 55 m jibs, the cranes can lift 20 t at the tip. One MD 1100 will eventually reach a working height of 120 m and the other will reach 137 m.

Upon completion, the Boyabat dam (which will include 2.7 million m^3 of poured concrete) will stand 195 m tall and span more than 262 m across the Kizilimark River. Construction is expected to take 54 months.

The dam will eventually generate more than 1.5 billion kWh of electricity per year and will help meet energy demand in Turkey, which is rising between 6 percent and 8 percent per year. Once complete, estimates suggest the dam may supply up to 10 percent of Turkey's electricity.

Potain tower cranes help build record breaking bridge

Two Potain tower cranes are working on the construction of what will be the world's longest cable-stayed bridge. The Russky Island Bridge will link Patrokl Bay in the city of Vladivostok with Russky Island. A Potain MD 1100 special application tower crane and a Potain MDT 368 tower crane are working on one of the bridge's pylons.

Main contractor on the project is OAO USK-Most, and the bridge's designer and sub-contractor on the Nazimov side of the bridge is OOO NPO Mostovik. Mostovik is using the Potain tower cranes that they purchased directly from Manitowoc.

Vladimir Romanov, lead engineer in the Bosfor industrial engineering team at Mostovik, said the company chose the two Potain cranes because they work well together.

"We chose to pair these two tower cranes because the topless MDT 368 can sit close underneath the MD 1100," he said. "This allows more lifting work to take place in a smaller space. Also, both cranes have excellent lifting speeds, which is important because the construction time for this bridge is only 43 months. We also really like the cabs on the cranes — they are comfortable and give the operators great visibility."

The Potain tower cranes are working on pylon M6 on the bridge, which will reach a height of 320 m. Both the 50 t capacity MD 1100 and the 16 t capacity MDT 368 are working on 4 m x 4 m masts, with fixing anchors attached to the pylon.

The MD 1100 started on the project at a freestanding height of 81 m and the MDT 368 at a height of 74 m. The final working height for the MD 1100 will be 335 m, and the final working height for the MDT 368 will be 323 m. Jib for the MD 1100 is 60 m while jib for the MDT 368 is 40 m.

The cranes are lifting a variety of components and construction materials, including steel reinforcement, formwork (weighing up to 7 t), steel elements to connect the pylon legs (weighing up to 30 t) and temporary bracing beams (weighing up to 15 t). The MD 1100 will handle the most challenging lifts on the project, placing metallic blocks, weighing up to 22 t, for the connection of cable stays at the top of the pylon. The MD 1100 will lift these blocks when it is at its final working height. The lift radius will be 36 m.

Work on the project is demanding. If the project remains on schedule, it could hold the world record for the shortest construction time of a cable-stayed bridge (43 months).

Part of the reason for the strict construction timetable is that the bridge must open in time for the 2012 Asia-Pacific Economic Cooperation Summit. The APEC Summit in Vladivostok will welcome national leaders from the 21 member countries. Having started construction in September 2008, the project is scheduled to finish in March 2012.

Once the summit is over, the bridge will also serve as access for a major new university, the Far East Federal University, being constructed on Russky Island. Mostovik is building an oceanarium for part of the island's new developments which, once completed, will be one of the world's largest.

When Russky Island Bridge is complete, it will replace Sutong Bridge in China as the world's longest cable stay bridge. Sutong Bridge opened in 2008 and was built with two Potain MD 3600 cranes, the largest tower cranes ever built by Manitowoc.

Manitowoc's special application cranes perfect for any application

Manitowoc is the market leader with special application cranes in the supply of customized tower cranes for large-scale infrastructure construction projects. Manitowoc's Potain special application have played a major role on projects from Asia to South America and Russia to the Middle East.

The success of the special application cranes can be attributed to its experienced customization service that creates cranes matched to specific project requirements. The range consists of six models from 600 tm to 4,000 tm. One of the most popular is the MD 1100, and Manitowoc has supplied over 30 of these for projects such as power plants, dams, shipyards and bridges.

Thibaut Le Besnerais, Manitowoc's vice president of the special application cranes for Manitowoc, said understanding the requirements of individual job sites is critical.
"Our ability to understand customers' needs helped us create a range of cranes suited to heavy infrastructure and construction," he said. "We differentiate ourselves by understanding the requirements of a project and creating a unique lifting solution, not just offering standard cranes."

Potain special application cranes can provide innovative solutions to even the most challenging construction jobs. They have assisted with landmark projects such as the Three Gorges dam in China, the Melbourne Convention Center in Australia and rebuilding work at the Chernobyl nuclear power plant in the Ukraine.

Le Besnerais said Manitowoc offers quality assurance at every stage of its process.
"Our process begins with a consultation and moves through design, manufacture, installation and maintenance," he said. "At every stage we review progress to ensure the end product will be of the highest quality. Our experience and knowledge, together with a proven track record, means we have a solid reputation. Very often, customers will travel hundreds of kilometers to see our cranes working on remote sites. It gives them an understanding of how our technology can be put to use in their own projects."

The MD 1100 has a maximum capacity of up to 50 t and a top jib length of 80 m. At its 80 m radius the crane can lift 10 t. The maximum height under hook can extend over 103 m and, as with all special application cranes, the MD 1100 has a choice of powerful hoisting winches, ranging from 110 kW to 180 kW. Pin-connected mast sections ensure fast assembly, and a choice of lengths means more flexibility for project planning. For slewing, hoisting and trolleying, Potain MD 1100 cranes have the latest frequency-controlled technology which gives very close control.

Current projects

At any one time there are special application cranes working on a variety of projects around the world. Some notable projects taking place in early 2010 are:

China: Shipyard

Samsung Heavy Industries Co., the third largest shipbuilder in the world, is using two Potain MD 1100s at its shipyard in Rongcheng, China. The traveling cranes handle 32 t ship blocks out to distances of up to 27.8 m where they are held in position as part of the shipbuilding process. Both cranes are mounted on 7 m x 7 m portal bases with an 8 m clearance height to allow vehicles to pass underneath. The cranes move along a 500 m track and both work at a height under hook of 50 m with jibs of 80 m. To protect them against coastal element, the cranes also have special marine paint.

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South Korea: Nuclear power station
Chunjo Construction Co. Ltd. in South Korea is using a Potain MD 1100 on the construction of a new nuclear power plant close to Busan. The crane is mounted at a height under hook of 90.8 m and has a maximum capacity of 40 t. It is fitted with the full jib of 80 m and at the jib end can lift 10 t. As with other MD 1100s, the cranes have Potain's Vision cab with air conditioning, indicators and anemometer for optimum comfort and efficiency. They also have jib lights and night-time air traffic lighting.

India: Cement plant
Jaiprakash Construction Company, based in Delhi, is using two Potain MD 1100s in its construction of Jaypee Himachal, a large cement plant located in Milothi, northern India. The cranes were initially configured at a height of 86.7 m and have since climbed to 144.5 m, having been anchored to the factory wall. The cranes travel on an 8 m x 8 m chassis and have a maximum capacity of 40 t. They have 60 m jibs and can lift 18 t at their tip.

South Africa: Coal-fired power station
A Potain MD 1100 is in the Limpopo province of South Africa where it is working with a Potain MD 485 on the new Medupi coal-fired power station. Both cranes are being used for mechanical and structural assembly duties such as transporting formworks and lifting steel rebar. They are working on the construction of the air cooled condenser.

At Medupi, the MD 1100 will be on site for six years mounted on a traveling 8 m x 8 m chassis. It has a maximum capacity of 40 t and is working at a free standing height of 86.7 m. Jib length is 80 m and at jib end the maximum capacity is 10 t. The MD 485 has been erected on top of the condenser platform, 50 m above ground level. It is rail-mounted on a 13.5 m x 13.5 m base and has a hook height of 22 m above the 50 m platform (giving it a hook height of 72 m above ground level). Jib length is 40 m.

Russia: Nuclear power station
Russian construction company, Tytan 2 based in Sosnovyi Bor, is using a Potain MD 1100 to help build a nuclear power plant in the town, which is close to St. Petersburg. The crane started work in August 2009 and is equipped with a 20 t double trolley and direct current hoisting winch, which enables it to lift 20 t at up to 46 m per minute. It has been equipped with cold country options, such as a special Vision cab and additional heating. Crane height is 73 m, and its maximum capacity is 40 t. With its 70 m jib, capacity at the jib end is 14.15 t. The crane is working with two Potain MD 208A tower cranes and a Manitowoc 18000 crawler crane. A second Potain MD1100 will arrive on the project in May.

Manitowoc supplies giant Potain tower crane to Medan, Indonesia

The largest Potain tower crane ever erected in Indonesia, an MD 1100 special application crane, is currently working at a shipyard in Medan, North Sumatra. Shipyard owner PT Waruna bought the crane for its newly constructed dock to help with the company's shipbuilding and ship repair activities. Commissioning of the crane at the company's shipyard in Belawan began last year.

Darwo Lim, president of PT Waruna Nusa Sentana, said the crane was performing well.

"We specified the MD 1100 because we needed a crane with a 50 t capacity to mount on a portal and run along a track that services our new dock," he said. "In this dock we can build and repair ships with dead weight tonnage of up to 50,000. So far we have been pleased with the MD 1100's performance."

The design of the Potain MD 1100 special application crane was adjusted specifically to meet the requirements of PT Waruna. The crane was manufactured at the Manitowoc facility in Zhangjiagang, China, where engineers made the necessary adjustments to enable it to sit on a portal and travel along the 130 m of track so it can cover the full area of the 200 m by 37 m dock. The crane is working with a 60 m jib and at a height under hook of 43.2 m.

The 8 m x 8 m portal is tall enough so trucks can run under the crane and transport materials, which the crane can then lift directly into the dock. Lifting work for the MD 1100 includes picking steel plates, hatch covers, propeller shafts and propellers, the heaviest of which is the ship's hatch cover, weighing 25 t.

Lim said he had a lot of faith in the Potain name.

"We chose Manitowoc because the Potain brand is one we trust, and we have faith in the quality of the cranes, especially in the field of special application cranes," he said. "Manitowoc's dealer for Potain tower cranes in Indonesia, PT Potaindo, also provided us with excellent service prior to delivery and throughout installation."

Potaindo has been selling Potain tower cranes in Indonesia since 1990, and is also one of the leading tower crane rental companies in Indonesia with business spread across the country.

Lie Johar, Potaindo's managing director, said the company's success was built on a history of good quality cranes.

"Our relationship with Potain goes back a long way, and we believe strongly in the brand," he said. "One of our strengths is our promise to customers that we will never compromise on the quality of the cranes we supply. And the only way to deliver that promise is to buy original good quality Potain cranes and spare parts."

PT Waruna owns over 50 ships, from tankers to tugs and from boats to barges, ranging from 1,000 DWT to 35,000 DWT. All are for the domestic market, except one ship the company is renting to a company in Vietnam.

The yard in Belawan, known officially as the PT Waruna Nusa Sentana Shipyard, is currently the second largest shipyard in Indonesia. It was set up in 1990 to repair and build ships. In addition to the new dock, the 7 hectare shipyard has four other dry docks with ship handling capacities from 1,000 DWT to 20,000 DWT. The types of vessels repaired here include tankers, bulk carriers, container vessels, cargo ships, navy vessels, passenger ships, supply vessels, tug boats and barges.

Potain cranes on site of major dam construction in Vietnam

Seven Potain tower cranes, including five special application cranes, are playing an integral role in the construction of the Son La Hydropower project in Vietnam. This $3.2 billion project is the largest of over a dozen major dam-building projects in Vietnam and the largest and most complex energy resource venture ever undertaken in South East Asia.

Commissioned by Vietnam Electricity Corp., construction of the Son La dam is under the control of main contractor Song Da Corp., a state-owned construction company and the largest contractor in Vietnam. Minh Chi, Manitowoc dealer for Potain tower cranes, supplied Song Da with the cranes for the project which include two MD 2200s, three MD 900 Bs and two MC 310 K12.

Do Quang Loi, deputy general director of main contractor Song Da 5, said reliability was a key factor in selecting cranes for this job.

"Because of its national importance, we had to have the right crane for the job," he said. "Having used Potain cranes on other successful dam builds, we know their efficiency and reliability are second to none. Having a permanent on-site technician was an added bonus."

Five of the cranes, the MD 2200s and MD 900 Bs, have been on site since August 2008. Since their deployment, they have been working constantly, running three shifts, seven days a week. The cranes are mostly pouring concrete and building the dam's penstock system and water intake. Each of the cranes is operating at a different height, ranging from 56 m to 86 m. The MD 2200s are working with 80 m jibs, and they have a maximum capacity of 60 t, while the MD 900Bs are working with 60 m jibs and have a maximum capacity of 50 t.

With a strict construction timetable, productivity and uptime are essential to the project's success. Therefore, in addition to Song Da's own team of technicians, Minh Chi provides a permanent on-site technician while Manitowoc Crane Care personnel also visit the job site regularly to ensure the cranes keep running smoothly.

Do Quang Loi said he is confident the project would be completed on schedule.

"The growing concern over energy is reaching every corner of the globe and here in Vietnam we are tackling the issue head-on," he said. "Being the largest dam in Vietnam, Son La requires the best equipment for the job. Because we have used Potain cranes on other dam projects with great success, we are certain they will keep us on track here."

Located in north-western Vietnam on the Da River, the Son La dam will be one of the world's largest measuring 138 m high, 90 m wide and close to 1 km long. It will have six turbines and require over 3.1 million m^3 of roller compacted concrete and 1.2 million m^3 of conventional vibratable [vibrated] concrete. Due for completion in 2012, the dam will provide 9,500 GWh in hydroelectric power each year – equivalent to 10 percent of Vietnam's current energy usage.

The demanding workload that this size of dam involves is something Potain and its Vietnamese dealer, Minh Chi, are accustomed to. Manitowoc has a specialized division devoted to the design and manufacture of Potain special application cranes used for projects such as dam and bridge constructions or in shipyards for heavy load handling. The cranes are also well suited to high performance concrete pouring through the addition of conveyor equipment, a design feature especially popular in dam constructions.

Manitowoc delivers Potain MD 1100 for ship repair work in France

Manitowoc has installed a new Potain MD 1100 special application crane at the Port Autonome De Dunkerque facility in Dunkirk, northern France. The crane is on site to lift heavy components as part of the facility's ongoing ship repair work.

Manitowoc engineers designed the crane around the exact specifications of the shipyard that repairs approximately 250 ships a year, each taking around 100 hours to complete. The MD 1100 belongs to the Port Autonome De Dunkerque, a government-owned entity. It is used by private company ARNO, a subcontractor employed specifically to carry out all ship repair work at the yard.

Design specifications for the shipyard have more in common with U.S. shipyards than those in Europe. The Dunkirk facility was built after World War II with assistance from the U.S.-lead Marshall Plan. As a result, Manitowoc needed to adjust the design with the most significant change being the construction of a 10.7 m x 10.7 m traveling portal. This portal allows the crane to travel on the 500 m dockside track.

Gerard Vezant, sales director for special application cranes at Manitowoc, said the design changes on this MD 1100 were more than are typically required.

"Each special application crane we build is adjusted to specific requirements, but on this crane we made more changes than ever before," he said. "Our ability to deliver to the client's needs within a relatively short timeframe helped us win this contract. Didier Delorme, our business manager, was in constant communication with the people in Dunkirk making sure every commitment was met. And at our design office, Jean Claude Gateau oversaw all technical changes."

Other changes to the crane included the fitting of additional counterweight plus further traveling bogies to help distribute the load. Both changes allow the crane to withstand out-of-service wind speeds of up to 237 km/h, versus the 150 km/h out-of-service wind speeds usually designed for. Protection from the sea air comes from a 240-Microns coating of special marine paint, while all mechanisms and control panels are housed in a container located on the counterjib.

Pierre Defrance from the work and studies department at Port Autonome De Dunkerque, says Manitowoc's ability to offer a total package gave his company the confidence to invest.

"We handle maintenance for ships from all over the world, and for us, reliability was the number one issue," he said. "We were also pleased with the total package Manitowoc offered. The company took care of the erection and commissioning and worked with us to develop a maintenance program that suits our needs."

The shipyard has a reputation for high-quality repair work and a client list that includes the Belgian Navy. It uses the latest technology for both selecting and monitoring its equipment. For the MD 1100, Port Autonome De Dunkerque is using a software platform that offers real time lifecycle information for the crane, based on feedback from the load cells and frequency drives.

The shipyard in Dunkirk employs 40 operators, all of whom are trained to operate the MD 1100. Port Autonome De Dunkerque also trained a number of mechanics, many of whom traveled to the Manitowoc Crane Care facility in La Clayette, France.

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