

Economic concrete distribution with stationary booms



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The MX stationary boom system – a summary

The factor of time is playing an increasingly important role in concrete placement for major projects. When the reach and options of truck-mounted concrete pumps are insufficient, stationary booms are able to offer efficient concrete placement. Used together with stationary concrete pumps, they provide high-performance and practical solutions. They reduce the time required for placing the concrete and increase productivity.

The MX standardised modular design represents the most versatile application segment in Putzmeister's stationary boom range: booms with 16 to 50 m reach, with or without a counter-weight (up to 34 m) depending on the requirements of the construction site, for climbing formwork or for freestanding construction sites or even self-climbing, e.g. in the lift shaft.

In the initial phase, the freestanding boom, mounted on a tubular column or lattice tower, is used to concrete the base plate and the first floor.

Putzmeister stationary booms can be mounted on rectangular columns or lattice booms, as appropriate for the situation on the construction site.

Following this initial phase, the climbing boom uses the integrated lifting equipment to move up through the floors and shafts to the height of the higher floors still to be constructed.

On large construction sites, the displaceable boom can be moved from one tubular column to another using the quick release system.



The main advantages of the MX type series:

- easy to transport and set up
- short set-up times
- secure handling
- grows upwards with the structure
- small space requirement
- with or without counter-weight (depending on application)



BSA 14000: the ideal combination for delivery over extreme distances or heights



A suitable range for every construction site

| | Tubular column | Lattice tower | Number of arms | Reach (m) | Quick release | Gross weight without / with quick release | Heaviest indiv. weight without / with quick release |
|-------|----------------|---------------|----------------|-----------|---------------|---|---|
| MX 16 | ● | - | 3 | 16.4 | ○ | 4300 | 4300 |
| MX 20 | ● | - | 3 | 20.1 | ○ | 4900 | 4900 |
| MX 24 | ● | ● | 4 | 23.8 | ●○ | 5800 / 6500 | 5800 / 3500 |
| MX 28 | ● | ● | 4 | 27.7 | ● | - / 8400 | 4400 |
| MX 32 | ● | ● | 4 | 31.6 | ● | - / 9000 | 4900 |
| MX 34 | - | ● | 4 | 33.7 | ○ | 8100 | 5900 |
| MX 38 | - | ● | 4 | 38.0 | ○ | 11000 | 11000 |
| MX 42 | - | ● | 4 | 41.4 | ○ | 15350 | 4700 |
| MX 50 | - | ● | 4 | 49.9 | ○ | 19650 | 9450 |

● possible ○ without quick release ● with quick release

Putzmeister stationary booms on rectangular columns are extremely versatile

MX placing booms with counter-weight are the ideal solution for climbing formwork in particular. They are well balanced and so minimise the pump torque acting on the climbing formwork. The boom with counter-weight has even proved that it is capable of operating extremely well at great freestanding heights.

Benefits at a glance:

(applicable for ranges greater than 24 m)

- refined kinematics with large angular range of boom joints
- booms with a Z fold system open up a large angular range and can reach everywhere within the range
- sensitive hydraulic control minimises vibrations in the end hose
- low individual and hoisting weights
- boom drive and control integrated directly on the boom pedestal
- dimensions designed for problem-free transport in 40 ft container

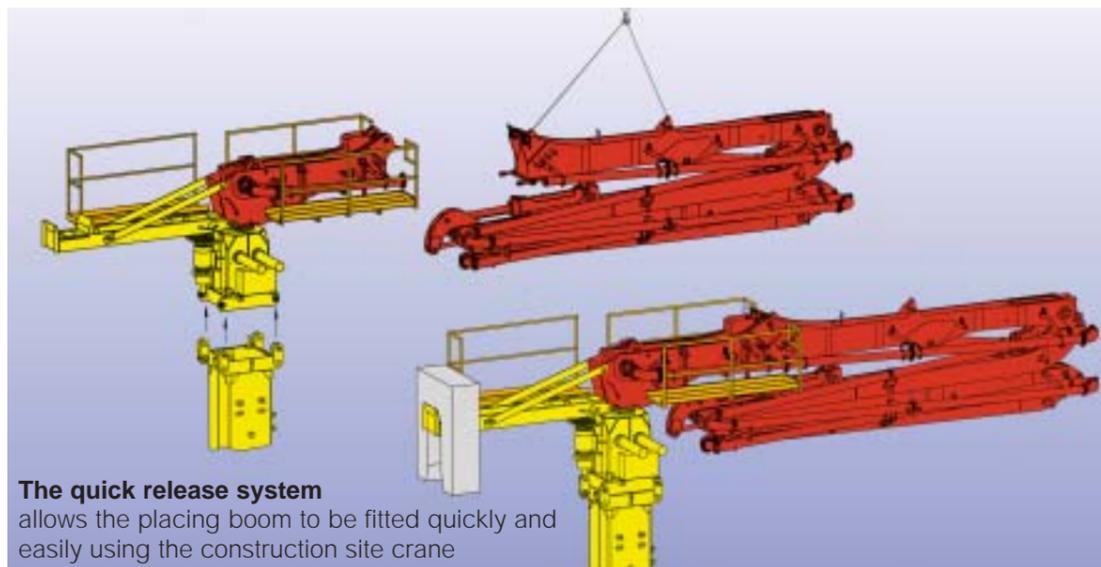
Suitable accessories

- cruciform bases for secure anchoring
- pipe flange column, length 4 m, 6 m or 10 m
- ladder elements with safety cage allow safe access to the working platform



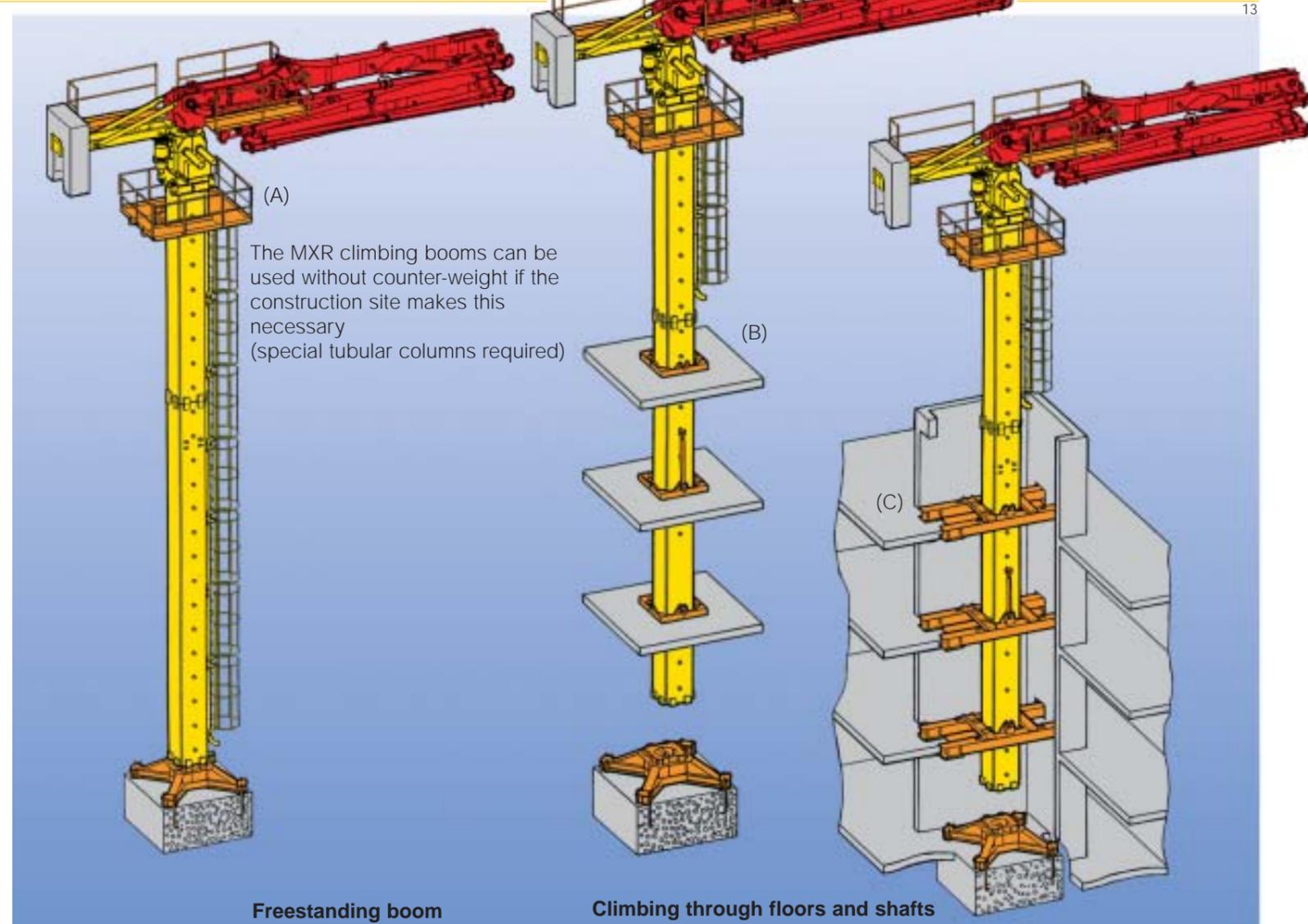
The working platform (A) fits together and surrounds the head piece of the tubular column base structure. It acts as a platform when connecting the boom, allows access during installation and ensures that the areas being concreted can be viewed.

The three floor frames (B) required are moved in turn when climbing through small holes in the floor. These support the tubular column and absorb the vertical loads. The three shaft frames (C) for climbing using shafts are handled in the same way as the floor frames. The dimensions for the frames are adjusted to those of the shaft.



The quick release system allows the placing boom to be fitted quickly and easily using the construction site crane

MXR climbing booms grow with the structure through shafts and floors



The MXR climbing booms can be used without counter-weight if the construction site makes this necessary (special tubular columns required)

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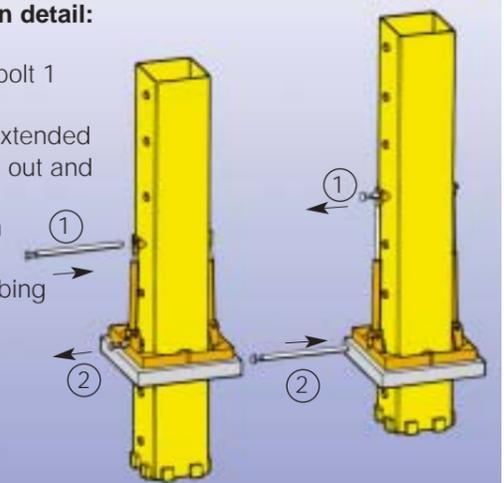
Hydraulic climbing systems are required for climbing if a construction site crane cannot be used or is not available to lift the boom. Climbing is easy and quick, thanks to two lift cylinders in the sequential process using the boom assembly hydraulics. The concrete line is fitted to the tubular column and climbs with it. The additional pipes with length compensation can be easily added.

Control of all boom functions and the lifting equipment via cable remote control (option: radio remote control)

Climbing through floors and shafts

The climbing procedure in detail:

- Climbing cylinders and bolt 1 are fitted
- Climbing cylinders are extended (30 mm), bolt 2 is pulled out and fully extended
- Bolt 2 is pushed through the floor frame, bolt 1 is removed and the climbing cylinders are retracted
- The process is repeated



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Putzmeister stationary booms on lattice towers are ideal for long reaches

Using a lattice tower as a base structure instead of the rectangular tubular column makes it possible to use placing booms of up to 34 m without a counter-weight. This is always the ideal solution when there is a restricted amount of space on the construction site, for example, because the crane is very close to the placing boom but a long boom range is required nevertheless.

Freestanding heights of up to 24 m are possible. It is not necessary to remove a counter-weight when the boom is being set-up, dismantled or moved to another tower, for instance.

Benefits at a glance:

- up to 34 m boom range without a counter-weight
- can be used on construction sites with limited space
- lattice tower can be easily adjusted to different heights and floors
- various mounting options: to the base plate, structure or climbing formwork
- hydraulic self-climbing equipment
- power lines and the pipeline are accommodated in the lattice tower to save space
- openings in the floors are quickly concreted
- easy access to the working platform via an internal ladder
- the quick release device between the boom pedestal and the lattice tower adapter allows the placing boom to be quickly set-up and dismantled



The working platform at the top of the lattice tower facilitates maintenance work as well as assembling and dismantling the placing booms



MX 32 on a lattice tower with rotary distributor to increase range



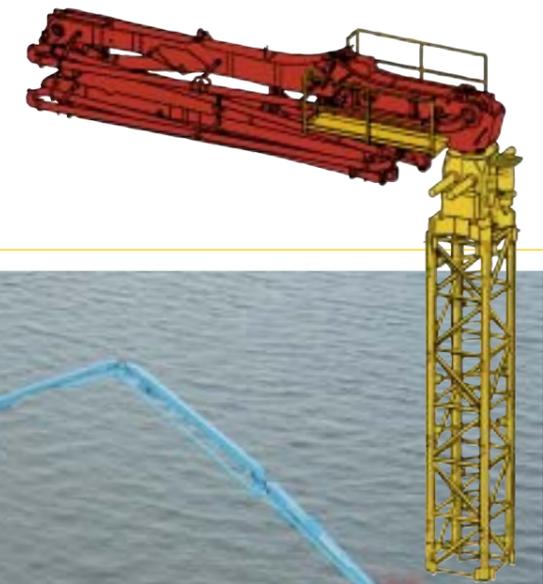
MX 34 fitted to the formwork

Features of the large booms

- refined kinematics with large angular range of boom joints
- quick-lock connection using bolts to reduce weight when assembling and dismantling on the crane tower
- low individual weights and crane weights
- lattice tower size varies depending on the placing boom used
- adapter between the lattice tower and the boom so that it can be adapted to any lattice tower type
- slewing gear turns in the wind when not in operating (from MX 42)
- integrated hydraulic power pack with hydraulic fluid reservoir
- platforms with guard rails allow secure access to the coupling joints
- radio remote control
- dimensions designed for transport in a 40 ft container

Suitable accessories

Putzmeister also offers a complete range of accessories for placing booms on lattice towers, such as cruciform bases, floor frames, adapters, etc.



MX 38 constructing a bridge pillar



PM satellite system – a placing boom switches between several base structures

Economic concreting with rotary distributors

Rotary distributors are suitable for concrete placement everywhere where direct distribution with truck-mounted concrete pumps and stationary booms is difficult, technically and economically, in other words, on large areas and floors that cannot be reached or fully covered by a truck-mounted concrete pump, on floors and pillars where using a boom would be too costly and also for pre-cast element production.

This is where 16 or 22 m rotary distributors are used, mounted on PM-standard tubular columns and controlled remotely to swing hydraulically.

Whereas the RV 10 and RV 12 rotary distributors are ideal for large areas and floors. They can concrete areas of up to 320 m² or 380 m² from a fixed set-up site. The hard work involved in laying the delivery lines across the floor is therefore no longer necessary.

If the rotary distributor is moved around with a construction crane, concrete areas of practically any size can be made ready for building, since the delivery line or the delivery hose can simply be extended or shortened. The delivery lines are connected with SK couplings in accordance with construction site procedure.

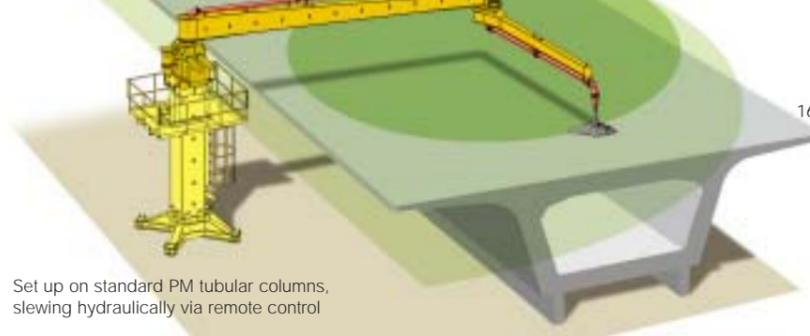
In its transport position, the dimensions of the rotary distributor enable it to be transported easily to the various construction sites by lorry or trailer, using minimum space.



RV 16 / RV 22

| | Reach (m) | Weight <small>incl. boom pedestal without tubular column</small> | Pipeline |
|-------|-----------|---|----------|
| RV 16 | 16 | 5050 kg | SK 125 |
| RV 22 | 22 | 5770 kg | SK 125 |

Rotary distributor for concreting pre-cast elements

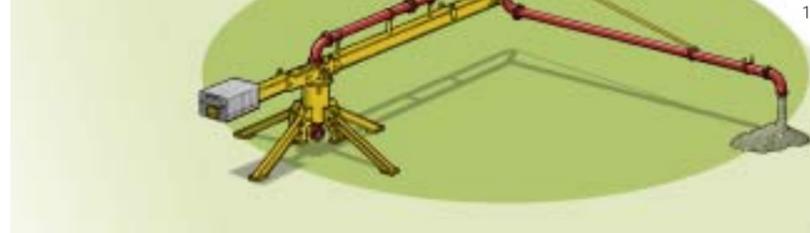


Set up on standard PM tubular columns, slewing hydraulically via remote control

RV 10 / RV 12

| | Reach (m) | Weight | Transport dim. (mm) | Pipeline |
|-------|-----------|---------|---------------------|----------|
| RV 10 | 10 | 1070 kg | 7300 x 1570 x 2200 | SK 125 |
| RV 12 | 12 | 1800 kg | 9200 x 2350 x 2370 | SK 125 |

The RV 12 rotary distributor during concreting of large areas or storey floors, can be operated manually

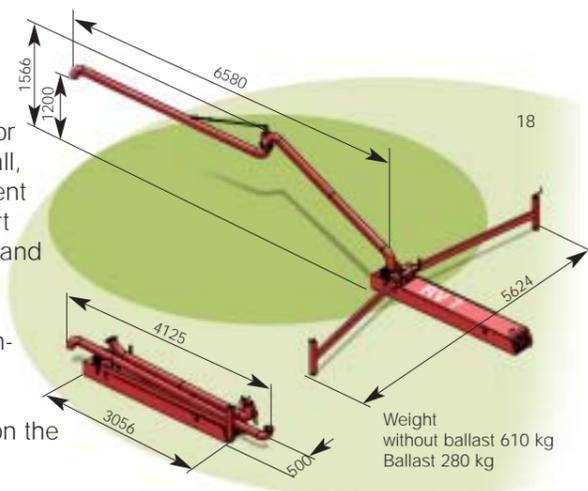


RV 7

| | Reach (m) | Weight | Transport dim. (mm) | Pipeline |
|------|-----------|--------|---------------------|----------|
| RV 7 | 6.58 | 890 kg | 4150 x 620 x 790 | SK 125 |

The RV 7 rotary distributor was developed as a small, flexible piece of equipment which is easy to transport thanks to its dimensions and weight.

Some truck-mounted concrete pumps can even transport the RV 7 in an additional pipe bracket on the support leg.



Stationary pumps and pipelines for the most demanding applications

An extensive product program of stationary concrete pumps with sophisticated technology forms the ideal combination of stationary booms.

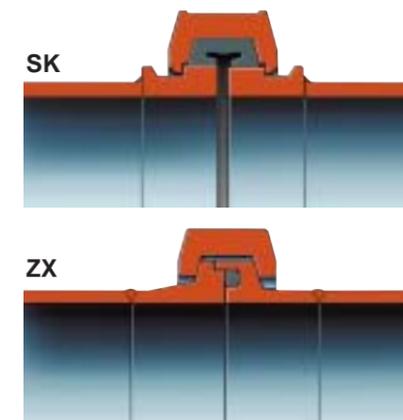
Delivery rates between 55 and 200 m³/h, delivery pressures between 106 bar and 260 bar, pumps with diesel or electric motors fulfil every requirement of a modern concrete pump.

Further information about stationary pumps is available in brochure BP 2632.



The complete system for concreting and cleaning: know how, concrete pump, pipeline and boom

The pipeline and accessories as well as the concrete pump are two further important components for the use of stationary booms. High-pressure resistant ZX pipelines up to 250 bar are indispensable in construction. The SK system is suitable for rotary distributors and booms. This system can be rotated around its connection. Further information is available in brochure PM 2300.



Extensive advice and support for large projects

We plan construction site installations, set-up sites for booms, static calculations of set-up heights and will support you during the entire construction project in all technical aspects. Brochure BP 2362 gives more detailed information.

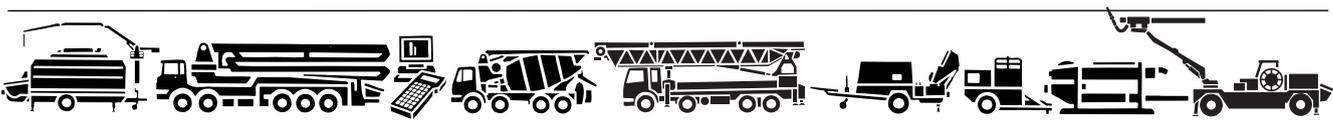
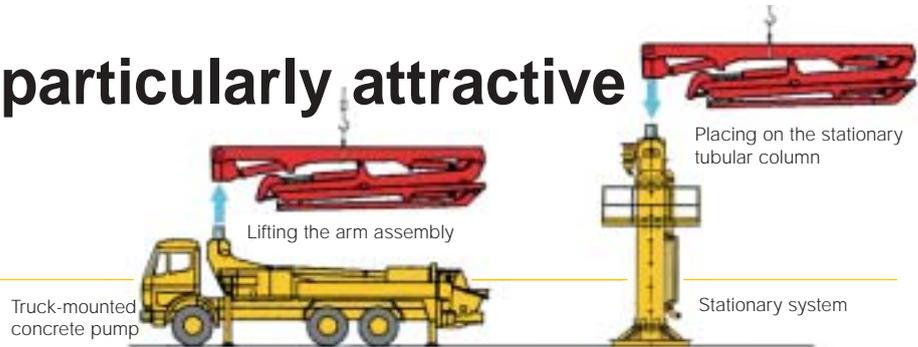
Multi-boom is particularly attractive for pumping services

Maximum flexibility and minimal capital commitment

Many large construction companies concentrate on their core business and subcontract additional services, e.g. installing, operating, cleaning and managing the complete concreting equipment. With their truck-mounted concrete pumps, service providers are now increasingly often taking over this work for house-building. This is why Putzmeister has offered the multi-boom for over 20 years.

Benefits: The multi-boom is usually a part of a truck-mounted concrete pump and is suitable for mobile and stationary use. It can be operated stationary on a tubular column or a lattice tower. A quick release device makes it easier to move the boom from the vehicle to the column or tower. The arm assembly of the M 28 m multi-boom only weighs 4.7 t, so it can be moved easily by normal construction site cranes.

For PM satellite systems, this boom can be moved from one column to the next within 30 minutes. This allows large areas to be concreted with only one stationary boom. The truck-mounted concrete pump is specially designed for high pumping pressures (up to 130 bar) and high pumping rates (up to 160 m³/h). The combination of the multi-boom column and the truck-mounted concrete pump is the perfect solution for many construction sites.



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- PM Telebelt
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