

# Designed to exceed — the 20 m class

M20, M24 and M28 – compact machines, endless possibilities



Maximum versatility – the new 20 m class

Above all, the new 20 m class stands out because of its wide variety of possible applications. It always offers the right solution, even for special applications, and makes daily work significantly easier – for example in inner-city areas, in low buildings, tunnels, when concreting bridges and for hose applicat-

Familiar robustness and a brand-new compact design

Thanks to the new TRC design, the machines are more compact and manoeuvrable than ever before. This means they bring all the necessary prerequisites for inner-city jobs. At the same time, they impress with maximum stability and robust components – the best foundation for a long life.

Infinitely variable support in the smallest of spaces

The space-saving machines now offer infinitely variable support positions thanks to the new TRC support: With infinite options from zero to full support, the new generation of machines adapts to any construction site.

The new Ergonic® 3 - clear, fast and safe

Many aspects have been optimised, but tried-and-tested features have stayed the same. The result is the Ergonic® 3, which features pleasantly intuitive and practical operation thanks to new, future-oriented functions. In this way, even concreting in low buildings becomes incredibly easy.

**Increased storage** space that makes all the difference

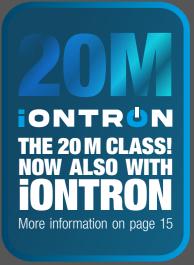
The 4.3 m long, free and continuous flatbed offers 10% more storage space. Thanks to this new, modular storage concept, the new 20 m class can be perfectly adapted to your individual requirements since it can transport more than 200 m of hoses/pipes and other accessories.

Ergonomics and safety Small core pumps, at the highest level

Work becomes quick and easy when everything is geared towards the machine operator. A high level of safety also comes as standard, for example with a continuous flatbed, handrails, a safety cut-out on the hopper and many more features. This is something we really care about at Putzmeister!

mighty pressure!

Our economic core pumps with outputs of up to 160 m<sup>3</sup>/h and a pressure of 85 bar have proven their worth many times over and continue to be used here. An even more efficient and at the same time environmentally friendly option are the latest iLS core pumps and the iONTRON hybrid drive.



## M20, M24 and M28 highlights – compact machines, endless possibilities

# VERSATILE, RELIABLE AND INNOVATIVE

We listened to our customers and involved them in the development process for the latest generation of the 20 m class. Customers from six different countries on three continents participated in joint meetings, workshops and live demonstrations. Owners, machine operators and service technicians were involved so we could develop the best 20 m class ever. Thank you to all of them!"

> Patrick Hildenbrand, Product Manager, Putzmeister Global Product Management



#### PERFECT FOR ANY APPLICATION

Above all, the new 20 m class stands out because of its wide variety of possible applications. That is why it always offers the right solution, even for special applications, whether in inner-city areas, in low buildings, tunnels, when concreting bridges, for hose applications or much more.





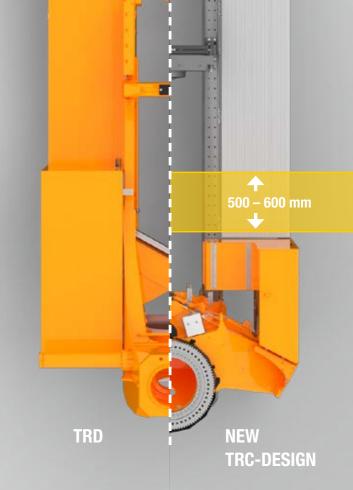
#### **TOP FEATURES**

- **#** Lowest possible support area for inner-city pumping
- # Core pumps for all possible applications, from small single-family homes to concreting or high-pressure pumping at 160 m<sup>3</sup>/h
- **#** Generous space for storage containers (concreting with hoses)
- # Sophisticated arm kinematics for low buildings/tunnels as well as for concreting
- # Safety and ergonomics take top priority
- # New Ergonic® 3 control system clear, fast and safe
- # Environmentally friendly pumping with iONTRON hybrid

#### THE TRC BOOM PEDESTAL -THE COMPACT FOUNDATION **FOR YOUR SUCCESS**

Our new TRC design (Trapezium Compact) is a further development of the proven TRD system - except it is even more compact thanks to double telescopic support legs which reduce the required space to a minimum. The TRC not only saves a lot of space – 500 to 600 mm compared to the TRD – but also offers the option of infinitely variable support (more information on the next page).

The stability of the entire unit is also improved, supported by a reduced weight that allows for a higher payload.



#### THE FRAME -**SAFE AND FLEXIBLE**

Benefits of the new frame concept:

- # High level of rigidity, extreme stability
- # Flexible and simple assembly of attachments



#### AT LEAST 10 % MORE STORAGE SPACE -FOR EVERYTHING YOU NEED ON THE GO

The 20 m class offers more space for containers, racks or storage compartments for hoses, pipes, couplings and other accessories as well as making them more accessible. This is ensured by the 4.3 m long, free and continuous flatbed combined with

As a result, you can transport more than 200 m of hoses and pipes depending on the machine configuration.

#### Modular storage concept:

The choice is yours! The machine can be adapted to your personal requirements at three different levels (A to C). All this serves a simple goal: Making your hard daily work easier!

Configure the storage space now with your responsible sales employee!



## M20, M24 and M28 highlights – compact machines, endless possibilities

## THE NEW TRC SUPPORT IN A COMPACT DESIGN – IDEAL FOR INNER-CITY AREAS

- # Perfect combination of narrow support and horizontal reach
- # Flexible double telescopic support legs provide stability in any position
- # TO rear support legs for shorter paths in the working area
- # Extent of supports up to 1 m smaller (10 % smaller support area with identical reach\*)

\* Compared to the old M28 generation and depending on the configuration



#### MORE ACCESSIBLE THAN EVER BEFORE

Despite its compact design, the 20 m class offers easy access to the water tank, water box, the side decks and the core pump.

Thanks to the new base structure, the 4.3 m long flatbed completely free from obstacles: Neither the support cylinder nor the delivery line are blocking the working area. The new delivery line runs parallel to the core pump, which not only saves spaces but also makes installation and maintenance easier.



## INFINITELY VARIABLE SUPPORT – COMPLETE FLEXIBILITY ON ANY CONSTRUCTION SITE

With the infinitely variable support, any leg position between zero support and full support can be approached. The machine operator adjusts the legs depending on the space available on the construction site – the machine calculates and does the rest!

**Our safety promise:** If the machine is properly supported with the new iSC system (intelligent Support Control), the safety and stability of the machine is guaranteed in any support configuration. In accordance with ISO EN 12001.

#### **SIMPLY MORE**

- **#** Up to 30% bigger working range on both sides\*
- # Arm assembly can be rotated 360° (with zero support and Arm A vertical)



## SAFETY AND ERGONOMICS AT THE HIGHEST LEVEL

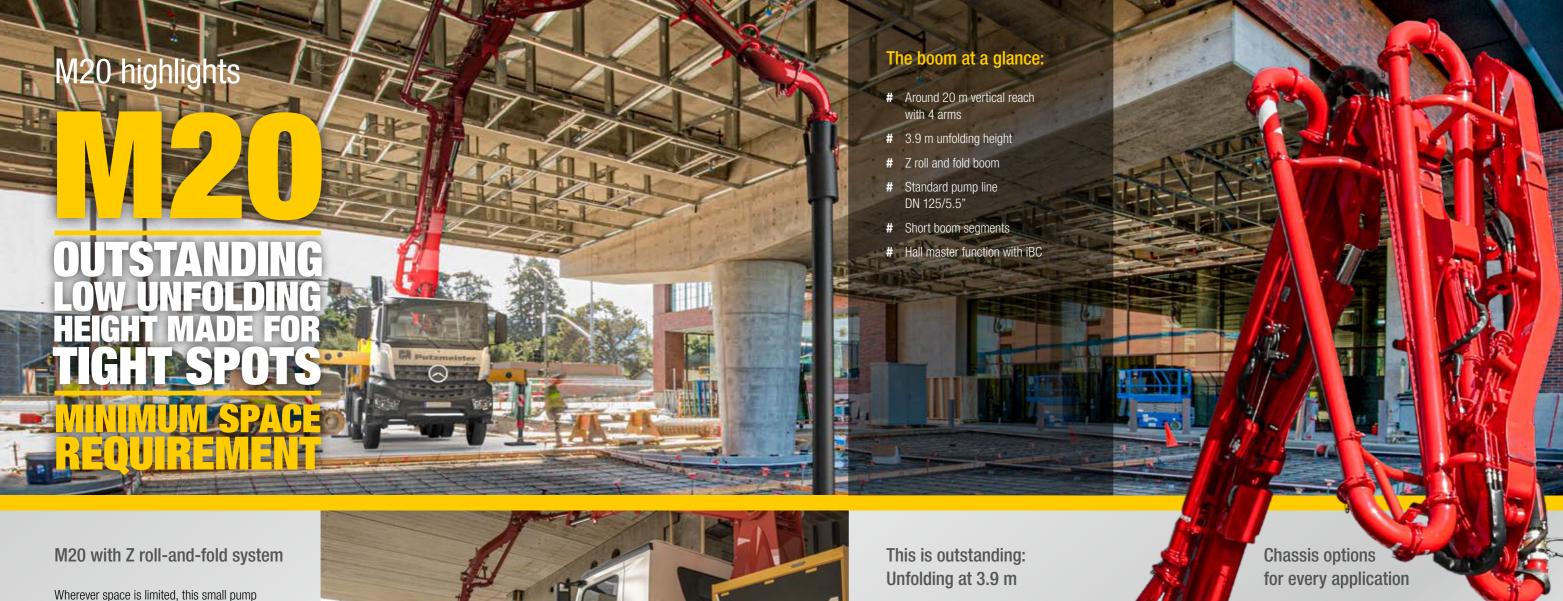
Safety with every step: With the new continuous flatbed, the machine offers an easily accessible and therefore safe working area without obstacles.

The bigger steps reduce the risk of tripping and, together with the new all-round lighting, create ergonomic working conditions during long, hard days. As a result, the machine can be set up well even in bad lighting and obstacles are detected in good time with the flexible spotlights.

Everything is geared towards making the daily work of machine operators and service employees as easy and safe as possible.



\* Compared to the old OSS



comes through. Whether in halls, tunnels, under bridges, or when building multi-storey buildings – the 20-4 is at home on small and medium-sized job sites. The remarkably low unfolding height of 3.9 m play a major role in this!

Introducing flexible hydraulic front outriggers and rear support with the width as the chassis makes the M20 more user friendly to set up. At the same time, the M20 has the smallest support width of the Putzmeister Portfolio of 3.80 m in the front and 2.60 m in the rear. This machine can be set up and operated where no machine can be used.



M20, this is about a 20 m vertical reach distributed over 4 arms and compactly located in roll Z-folding. With excellent slip into building properties thanks to low unfolding height this boom opens a wide range of applications such as the concreting inside halls or below bridges.

Short boom segments makes it easy to operate even on jobs with low ceilings. The 4-arm boom can be folded out quickly and thus saves valuable working time.

2-axle chassis with small wheelbase make the M20 very compact and easy to manoeuver..

There are also 3-axle trucks available these enable enough payload to store hoses on and pipes on the machine.

#### **# MINIMUM SPACE REQUIREMENT**

With the smallest support width this machine can be operated where no other machine can be set up

### **# USER-FRIENDLY MACHINE SET UP**

Hydraulic front outriggers and lift cylinders makes it more user-friendly to set up the machine

#### **# OUTSTANDING LOW UNFOLDING HEIGHT**

Low unfolding height of just 3.9 m combined with new feature: Driving into low buildings with the boom in front of the driver's cab

### **# EXCELLENT OPERATION WITH LOW CEILINGS**

Short boom segments makes it easy to operate the boom even on jobs with low ceilings

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### M24 highlights

# 24

PLACING BOOM
MASTER OF LOW BUILDINGS
Z ROLL-AND-FOLD SYSTEM

**OPTIMUM**USE OF SPACE

## M24 with Z roll-and-fold system – whenever space is tight

The M24 truck-mounted concrete pump only requires a small space and yet offers big benefits. Small to medium universal construction sites with restricted set-up situations particularly play to its strengths. A truck-mounted concrete pump that delivers a particularly impressive performance in buildings, tunnels and low buildings, when building bridges and during renovation work with hoses and pipes that can be aligned flexibly.

Among other aspects, this is made possible by the infinitely variable support that compensates any lack of space, especially in inner-city areas. The flexible four-arm boom with Z roll-and-fold system and specially adapted arm kinematics lets you get into all spaces, no matter how small.

The 260° angle at the last hinge and the space-saving pipeline routing at the last two arms are particularly beneficial in guaranteeing optimum slip characteristics.



## Sprint star in the smallest of spaces

Thanks to the short wheelbase without an overhanging boom, the M24 is easy to manoeuvre and quick to set up even on small construction sites. The four-arm boom masters not only tight spaces, it is also quick to unfold and fold, saving valuable working time. Combined with our intelligent EBC/iBC boom control, work gets done quickly and in safe conditions for all those involved.

#### SCAN ME!

## Mastering low buildings – without compromise

The Z roll-and-fold system undoubtedly offers outstanding slip characteristics combined with a low unfolding height in even the tightest of spaces. The newly designed "Hall-master" function also significantly improves this application, both for the initial folding of the arm assembly to the front of the driver's cab without having to extend the hinges in a complicated process as well as for the facilitated further unfolding procedure in the low building. This saves the required few centimetres and makes daily work in low buildings and tunnels much easier.



## Mission impossible – lesigned for minimum unfolding height

The M24 offers a vertical reach of 24 m distributed across four very flexible arms with large flex angles and folded into a compact Z roll-and-fold system.

This folding configuration makes it possible to fully pump in front of the driver's cab, even inside buildings. With its low unfolding height of just 4.7 m, the boom makes varied and challenging application areas accessible, for example concreting in low buildings and tunnels.

#### **# SMALL BUT NOT TO BE UNDERESTIMATED**

Perfectly suited to all renovation tasks in (low) buildings and tunnels in combination with the storage containers

#### **# REACHES EVERYWHERE**

Maximum flexibility thanks to Z roll-and-fold system, large boom angle and excellent slip characteristics

#### **# MASTER OF LOW BUILDINGS**

Low unfolding height of just 4.7 m combined with new feature: Driving into low buildings with the boom in front of the driver's cab

#### **# OPTIMUM USE OF SPACE**

Enough space and spare weight for containers, pipes, hoses and much more

10



ES®0A 1291

#### M28 – one machine for everything

This compact machine is perfect for anyone looking for mobile, manoeuvrable and flexible concrete pumping. Despite its low height, it can master significant challenges: Tight or restricted set-up spaces, for example in inner-city areas and construction sites requiring good slip characteristics, or when building bridges. The new 28-4 Z boom has also become even more flexible: The A hinge now has an angle of up to 100°, meaning the arm can be overextended to facilitate manoeuvring, for example inside buildings.

#### Urban strength with great reach

With its flexible four-arm boom in a Z fold system, the M28 can reach places others can only dream of. Its maximum reach with minimum support area is particularly impressive in inner-city areas. This advantage, combined with the new infinitely variable support, makes the new M28 a convincing all-purpose solution.



#### Quickly ready for use - thanks to Z fold system and infinitely variable support

The user-friendly Z fold system means the machine can be made ready for use quickly and in fewer steps. The minimum space requirement for support saves additional time and effort. On its compact three-axle chassis, the new M28 only requires a maximum extent of supports of 5.20 m at the front and 2.60 m at the rear. The infinitely variable support legs can approach any position up to full zero support (supported at vehicle width at front and rear) – and the machine will automatically calculate the reach.

#### Incredibly compact and yet manoeuvrable

Even on three axles, the new M28 impresses with its compact length, wheelbase and manoeuvrability of the unit.

design. The compact TRC design not only improves the storage options, but also results in better machine accessibility, overall

#### **# ONE FOR ALL**

Entry-level model with optimum price/performance ratio

### **# THE MACHINE FOR ALL APPLICATIONS**

Manoeuvrable multi-talented machine for any application, from inner-city renovation work to infrastructure projects

#### **# SIMPLY FLEXIBLE**

Quickly ready for use thanks to user-friendly Z fold system

### **# STABLE IN THE TIGHTEST OF SPACES**

Maximum reach with minimum support area, combined with infinitely variable support

## M20, M24 and M28 highlights – overview and application



The new M20 is the machine when it comes to the narrowest conditions. With that the machine can even be operated in low tunnels. Therefor Putzmeister designed this machine to be as compact as possible and is also available on 2-axle

#### Highlights:

- # 3.9 m unfolding height
- # Around 20 m vertical reach with four short boom segments
- # Available on 2- and 3-axle trucks
- # Hall master function with iBC



The **M24** is the master of low buildings. The optimized boom makes it great to use inside buildings and for renovations. At the same time MOLI applications can be covered too with a variety of storage options to make sure enough pipes and hoses can be carried with the machine.

#### Highlights:

- # 4.7 m unfolding height
- # Around 24 m vertical reach with four arms
- # Z roll and fold boom
- # Hall master function with iBC



The multi-talented M28 is a machine for all types of jobs. From residential buildings over urban construction to jobs inside building the 28 can do it all. Therefore the horizontal reach has been maximised with minimum support width.

#### Highlights:

- # 6.3 m unfolding height
- # Around 28 m vertical reach
- # 5.20 m support width in the front and 2.60 m in the rear
- # Z-folding type

| APPLICATION  | BSF 20-4 | BSF 24-4 | BSF 28-4 |
|--|----------|----------|----------|
| Small jobsites, family houses (low output)                         | -        | +        | ++       |
| Urban areas, downtown<br>(small set up positions)                  | ++       | ++       | ++       |
| Indoor pumping<br>(unfolding the boom in a building)               | ++       | ++       | -        |
| Hose/pipe pumping: renovation work (longer horizontal distance)    | ++       | ++       | +        |
| Pipe pumping, highrise, used as Moli<br>(longer vertical distance) | +        | +        | +        |
| Tunnel jobs<br>(very low height and narrow)                        | ++       | +        | -        |

unsuitable application + suitable application ++ very suitable application



#### Reducing CO<sub>2</sub> made easy: Plug & Pump

In addition to the familiar and reliable diesel drive, our iONTRONs also come with a powerful electric motor that is easy and quick to connect to the construction site power supply (125 A) – simply unwind the cable, plug it in and utilise the full power of the electric motor. The operation is the same for the machine operator just guieter and environmentally friendly.





#### Pump power – good for business and the environment!

Our 20 m machines are fit for the future and are also available with the innovative and environmentally friendly iONTRON drive – an unbeatable team in combination with the latest iLS core pumps.



#### When efficiency ...

- **3%** increase in efficiency by preventing leaks
- **10%** improvement in intake behaviour by removing bottlenecks in the concrete flow
- **25%** reduction in consumption through an intelligent control system and E0C 2.0

- **Up to 100%** reduction in CO<sub>a</sub> emissions\* for environmentally friendly construction sites
- 50% lower sound level to meet the growing demand for quieter machines to protect both residents and workers
- 125 A
  - Simply connect to the site power supply and start pumping no additional batteries required
- 100 m<sup>3</sup>/h Working in electric mode covers typical jobs with up to 100 m<sup>3</sup>/h\*\*

<sup>\*</sup> Depending on local electricity mix

<sup>\*\*</sup> Based on construction site tests. The electric power may be restricted depending on the conditions of use. The output volume depends on the pressure and site conditions.

Ergonic® 3

PRECISE INTUITIVE RELIABLE





#### The new Ergonic® 3 – clear, fast and safe

- **# Continuous operating concept** for all Putzmeister products with the same functions and displays – whether on the radio remote control or the Ergonic® Graphic Display (EGD)
- **# Intuitive work and quick reactions** thanks to a clear menu structure and intuitively arranged functions
- **# Full overview** of machine status on the radio remote control and EGD (incl. valves, sensors, LEDs on fuses)
- **# Detailed fault management** for fast detection and rectification of faults – even without a Putzmeister technician
- # Multi-level emergency operation keeps the machine running even in the toughest conditions and in virtually every case.



#### **Dedication in every respect**

Ergonic® inside means that the machines are quickly ready for use and they work with high power, fuel efficiency and low wear.

And most importantly for machine operators: Work becomes easy!

#### **AVAILABLE SOON**

#### iBC (intelligent boom control)

Easier handling thanks to movement programs for the boom tip

#### iSC/iSA (intelligent setup control)

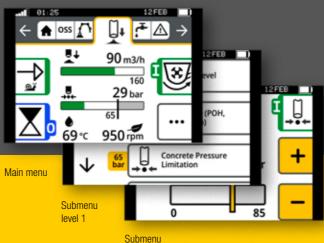
Increased working range limits thanks to live calculations

#### Keeping an overview in every situation

- # Static menu ribbon comprehensively guides users through the
- # Neatly and intuitively arranged functions
- # Simple menu structure with a maximum of two submenu levels
- # Main menu with all standard functions and additional details in submenus

#### **Consistent concept** on all "switching centres"

- # The menu structure is nearly identical on the remote control and the graphic display.
- # Hardware and software are perfectly matched at all operating
- # The same intuitive operation on all Putzmeister products without requiring a lot of training.



level 2



The additional screen on the control cabinet also uses this concept and offers a variety of information, settings and options.

Core pump and drive technology

WHEN POWER MEETS INTELLIGENT SYSTEMS

## **ils core pump**

From tried-and-tested core pumps like the short-stroke 11 H or the long-stroke 16 H to the latest generation of iLS pumps — all offer a high pumping volume per stroke with 85 bar as standard for truck-mounted pumps. At the same time, they are designed to reduce fluid consumption. This not only saves operating costs but is also sustainable.

## The choice is yours – now also with iLS

#### Higher cylinder volume = fewer strokes and less wear.

This calculation principle holds true because, given a large cylinder diameter and the associated high cylinder volume, the pump requires fewer strokes to achieve a comparable output.



|                                  | Туре   | Output<br>m³/h | Pressure<br>bar | Stroke<br>mm | Cylinder<br>Ø mm | Strokes<br>per min |  |
|----------------------------------|--------|----------------|-----------------|--------------|------------------|--------------------|--|
| NOW AVAILABLE FOR THE 20 M CLASS | 15 iLS | 150            | 85              | 2100         | 250              | 24                 |  |
|                                  | 11 H   | 110            | 78              | 1 400        | 230              | 31                 |  |
|                                  | 16 H*  | 160            | 85              | 2100         | 230              | 31                 |  |

#### Innovation makes all the difference

- # Virtually no leaks/stroke compensation
- # Lower service, maintenance and operating costs
- # Proven reliability
- # Very tough construction for the most demanding of tasks
- # Durable core pump and similarly durable wear parts on the market
- # Simplified operation and maintenance
- # Fuel consumption reduced to 90 % on typical construction sites
- # Outstanding wear part life
- # Fewer strokes, less wear

\*not available for M20

## Technical data M20

#### Placing boom

| Fo | lding type     | 4-arm-ZR-f | olding |
|----|----------------|------------|--------|
| Ve | rtical reach   | 19.8 m     |        |
| Но | rizontal reach | 16.3 m     |        |
| De | pth of reach   | 10.3 m     |        |
| Un | folding height | 3.9 m      |        |
| Le | ngth end hose  | 3 m        |        |
| De | livery lines   | DN 125. ma | ıx. 85 |

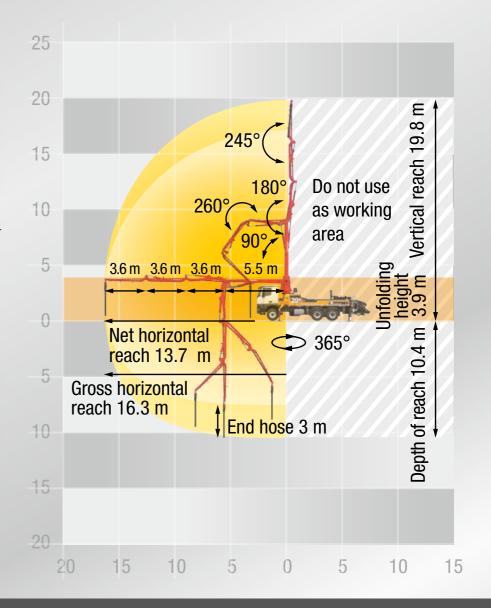
Slewing circle 365°



General

| Suppport width | front / rear        |
|----------------|---------------------|
| Standard       | 3.8 m / 2.6 m       |
| iSC            | 2.6 – 3.8 m / 2.6 r |
| OSS            | 3.1 m / 2.6 m       |
| Overall length | < 10.0 m            |
| Height         | < 4.0 m             |
|                |                     |

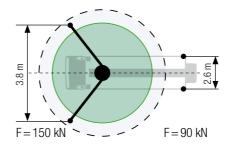
Note: Standard version. The dimensions and weights depend on the truck, pump model and equipment.

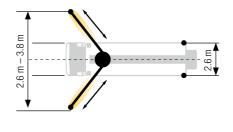


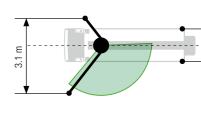
#### Standard – full support

#### iSC\* – full flexible support

OSS\*\* – one-side support





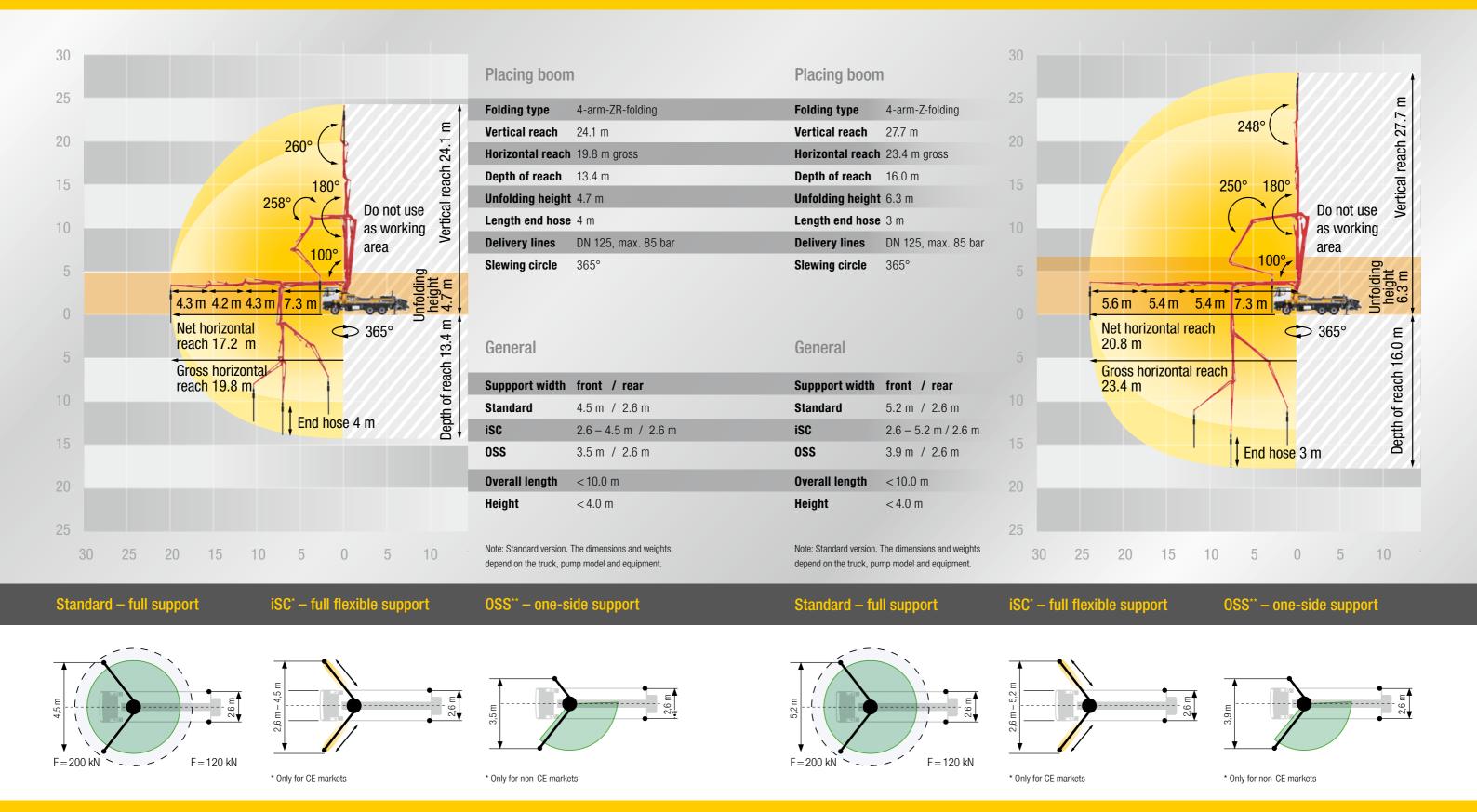


\* Only for non-CE markets

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<sup>\*</sup> Only for CE markets

## Technical data M28



INSTRUCTION

### Added Values

# ADDED VALUES ADDITIONAL ACHIEVEMENTS WITH PUTZMEISTER

# ALL THAT IS GOOD PUTZMEISTER SERVICE

#### Premium quality and customer proximity

If your machine is experiencing problems, you have two options: Either the service team can pay you a visit or you can bring your machine to one of our service workshops.

#### Original parts for maximum availability

Needless to say, we only use Putzmeister original parts in our workshops. You can also be certain that all our international Putzmeister partners work according to our high quality standard.

## Our offers for economical working

### Customer training – benefit from professional knowledge

Practical learning offers a host of benefits: Your employees will be able to master the machine and all of its special features, use it correctly, reduce operating costs and avoid operating errors.

## Obligatory machine inspection – calculable costs instead of breakdown costs that spiral out of control

Visual inspection and function check of components for 100% safety. The hydraulic system with the cylinders, electrical system and core pump are also inspected.

## Instruction during product handover – getting things right from the start

Making sure that you and your machine operators become completely familiar with all the special features and new innovations.

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This after-sales service provides you with a status report for your concrete pump in line with the Putzmeister service plan.

After-sales service after 500 hours – protecting your investment and retaining value

Our technical After Sales department is your first port of call for checking the safety and wear of your machine. You will also receive a status report after the check.

## Efficiency – more output for less input

- # Putzmeister machines are powerful and reliable
- # Our aim for you: Reducing overall costs/TCO (total cost of ownership)



## Connectivity – the Putzmeister Machine Cockpit

- # Always keep an eye on real-time data
- # Increased productivity, safety and service
- # Avoid costly downtimes



## Human-machine interface – Putzmeister control technology

- # Easy troubleshooting and maintenance
- # Optimum support thanks to intuitive, convenient and safe operation
- # Reduced downtimes and increased efficiency due to fast response to changed parameters



## Service – close to the customer wherever they are in the world

- # Expert support in more than 120 countries
- # Maximum availability and rapid supply of Putzmeister spare parts
- # Long-term value retention thanks to maintenance offers
- # Efficiency and protection of investments thanks to training at own academy



## Safety – high-end safety concept

- # Protection of operator and machine
- # Safe working with series equipment, optimisation with additional equipment
- # Safety thanks to easy maintenance and retesting of the machine, hose or boom testing, etc.

## M20, M24 and M28 – compact machines, endless possibilities

#### Your benefits at a glance

- Possible applications— with (almost) no limits! There is a wide variety of possibilities, from daily to special use. Our 20 m class impresses even in inner-city areas, low buildings, tunnels or when concreting bridges.
- Support space-saving and infinitely variable! Setting up the machine in the smallest of spaces? No problem, thanks to the infinitely variable TRC support with endless positions.
- Storage space for all requirements! A free and continuous flatbed of 4.3 m and the modular storage concept offer space for more than 200 m of hoses and pipes as well as other accessories.
- Maximum pump performance proven and innovative! The output of 160 m³/h and pressure of 85 bar are familiar values. The iLS core pumps are even more efficient and environmentally friendly, while the iONTRON hybrid drive is completely unique.
- Safety with every step! Everything is geared towards making the daily work of machine operators and service employees as easy and safe as possible.
- Operation truly simple, truly clever!
   The Ergonic® 3 makes work safe and easy.
   The operation is intuitive and practical, making even concreting in low buildings very simple.



#### **Putzmeister Concrete Pumps GmbH**

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