



31Z-METER | TRUCK-MOUNTED CONCRETE BOOM PUMP

31Z-METER





# A NEW STANDARD OF INNOVATION AND EXCELLENCE

## A BOOM WITH ALL THE RIGHT MOVES

One of Putzmeister's best kept secrets, the highly flexible 31Z-Meter offers a unique five-section Z-Fold boom design that easily handles unusual site configurations as well as more typical applications. In the hands of a skilled operator, the boom can be strategically positioned to maximize the reach of each boom section to obtain

precise concrete placement. The model's low 18 foot 8 inch unfolding height and boom flexibility enable the operator to maintain a single location throughout a job while preventing the need for extra delivery line.



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## ERGONIC® SYSTEM BENEFITS



3

**ERGONIC PUMP  
CONTROL SYSTEM (EPS)**

The computer-aided EPS constantly monitors and regulates the operation of the concrete pump and truck engine. The electronic regulation of this system means the pump always runs at peak performance. EPS results in more productivity and greater efficiency with less for the operator to worry about.



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**ERGONIC OUTPUT CONTROL (EOC)**

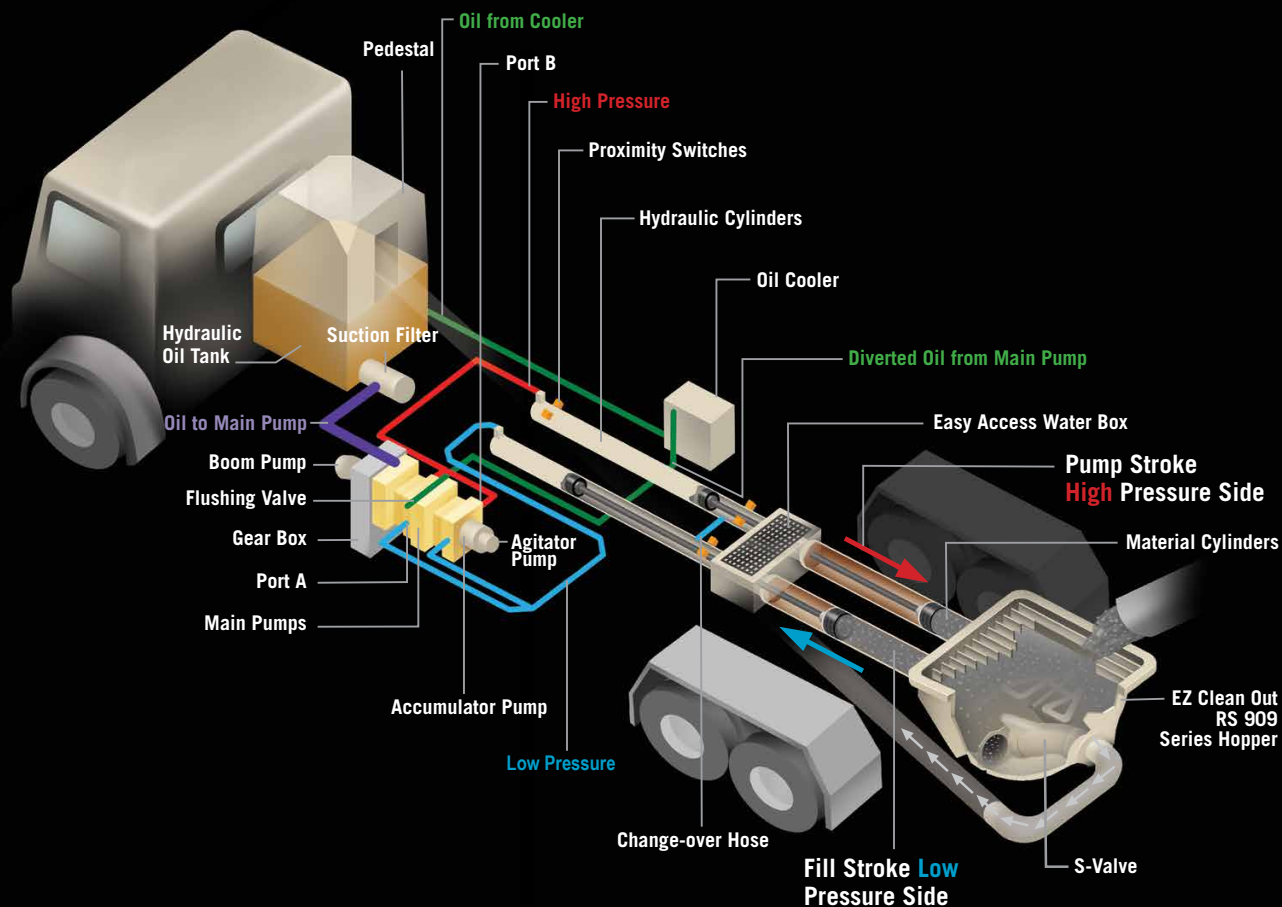
Integral to EPS, EOC reduces fuel consumption, wear and noise. EOC automatically adjusts the engine speed to the minimum required for the delivery rate specified by the operator on the remote control.



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**ERGONIC GRAPHIC DISPLAY (EGD)**

Putting the operator in control of success, the color EGD provides EPS monitoring from one convenient location. The simple-to-use EGD shows a quick and clear visual display of important system information and allows the operator to set individual pumping performance parameters.



## PUTZMEISTER | FREE FLOW HYDRAULICS

### FREE FLOW HYDRAULICS IN A CLOSED LOOP SYSTEM

The pumps at the heart of Putzmeister's free flow pumping system are bi-directional, variable displacement piston pumps. Depending on stroke, oil flows in a closed loop from either port A or port B on the pump to the hydraulic cylinders.

Depending on the specific pump cell size, up to 20% of the oil leaves the simple closed loop system during each stroke through a flushing valve on the main pump and cycles to a cooler before it returns to the hydraulic oil tank. Removing and cooling only this minimal amount of oil is possible because, unlike an open loop system, the oil flows freely without passing through any unnecessary valves that can generate heat.

The closed loop also requires far less oil to run the system, as a larger reservoir is not necessary to cool all of the oil.

Speed and timing are also critical to superior performance. Quicker and more responsive than a hydraulic signal, the electrical system on a Putzmeister pump minimizes the time it takes to change direction at stroke end.

An electrical signal precisely synchronizes the drive cylinders with the accumulator system that controls the S-Valve in the hopper. Reserved energy stored in a nitrogen bladder is sent as a supercharged blast of oil at precisely the right moment to facilitate a smooth and fast shift of the S-Valve from one position to another.

### KEY ADVANTAGES OF PUTZMEISTER'S FREE FLOW HYDRAULICS

- Changes in material pressure in the delivery line are reduced to ensure smooth pumping and a consistent concrete flow.
- The intelligent design minimizes wear-inducing pressure peaks, increases service life and makes our pumps extremely powerful.
- Rapid change-over of the stroke means higher outputs, a smoother flow of concrete and less boom bounce.
- There is greater pump output due to the efficient use of all available energy.



# 31Z-METER | TRUCK-MOUNTED CONCRETE BOOM PUMP STANDARD FEATURES

## BOOM

- 100' 1" (30.51m) vertical reach
- Low 18' 8" (5.70m) unfolding height
- Versatile 5-section Z-Fold boom
- Manual lubrication, optional auto lubrication
- Integrated work lights

## BOOM OPERATION AND CONTROL

- Smooth and precise boom positioning at greater distances
- Fully proportional HBC radio remote
- Fully proportional remote with 130' 0" (40m) cable
- Gauge Port Central (GPC)
- Modular Boom Controls (MBC)
- 24V electrical system

## DELIVERY LINE

- Equipped with 5" (125mm) single-layer delivery line on all boom sections providing efficient concrete delivery
- ESSER 400 single-layer pipe with 400 turret elbow
- Easy lift-out brackets for simple delivery line replacement
- Standardized elbows and straight pipe sections
- Common component availability and easy replacement

## PEDESTAL

- Rack and pinion slewing system for better weight distribution, smoother boom rotation and the potential for greater net reach
- Fully integrated pedestal design absorbs all forces
- Access opening simplifies changing of turret pipe
- Easy access large single-suction filter with indicator gauge
- Condensation trap in the tank for water collection
- Two spacious decks for convenient pipe and hose storage
- Manual lubrication, optional auto lubrication
- Side-mounted aluminum toolboxes
- Integrated work lights
- Breakaway rear steps

## OUTRIGGERS

- Quick setup on restrictive job sites
- Fully hydraulic outriggers with integral cylinders
- "X" brace outrigger system
- Front outriggers extend diagonally out and down
- Rear outriggers swing out and extend down
- Four outrigger pads in two side compartments
- Bubble level indicators
- Optional auxiliary fuel tank
- Optional auxiliary water tank
- Optional One-Sided Support (OSS) outriggers 120°

## CONCRETE PUMP

- Ergonic® Pump System (EPS) with color Ergonic Graphic Display (EGD)
- Choose from high pressure or high volume with the same setup
- Free flow hydraulic system for smooth, controllable pumping
- Multi-piece piston cup design
- Hard-chromed material cylinders
- Redundant proximity sensor system with function indicators
- Fully adjustable volume control for very slow pumping with full concrete pressure and boom speed
- Modular pump control box

## EZ CLEAN OUT RS 909 HOPPER

- Large 19.4 ft³ (550L) capacity
- Hard-faced remixer paddle
- Grate-mounted vibrator
- Multi-piece grate featuring bolted connections
- Hopper grate RFID safety switch
- Hinged splash guard covers hopper during transit
- Lower hopper height allows easy discharge from ready mix truck
- Automatic lubrication
- Hopper work light

## S-VALVE

- Ideal for high pressure applications and harsh mixes
- Hard-faced S-Valve
- Gradual 9" to 7" (230 to 180mm) reduction
- Thick-walled valve construction
- Lasting wear over years of use

## CLEAN OUT

- Fast and easy clean out
- 406 psi (28 bar) hydraulically-driven water pump
- Wash out kit and hose
- Integrated 185 gallon (700L) water tank



The PRO-VANTAGE® Warranty Plan extends the coverage on all Putzmeister BSF boom pumps for a total of 36 months or 6,600 hours at no extra charge. Domestic only.



**BETTER BOOM DESIGN**

Lighter and more resilient, Putzmeister's "smart design" boom incorporates welding seams below the edge of maximum stress. The boom is engineered to offer the flexibility to adapt to different loads, features more straight pipe for a less stressful concrete flow and longer wear on parts. The Z-Fold configuration handles space restrictive areas and can pump even if the boom is not fully extended.



**CONVENIENCE AND CONTROL**

The Frequency Hopping system on the standard HBC proportional radio remote ensures minimal interference with other frequency transmitters. Radiomatic Power Boost further enhances reception quality with a 50-100% increase in signal power. A fully proportional cable remote is also standard. Unlike other remote control systems, the radio and cable remote systems are independent, offering redundancies to ensure proportional operation with either the radio or cable remote.



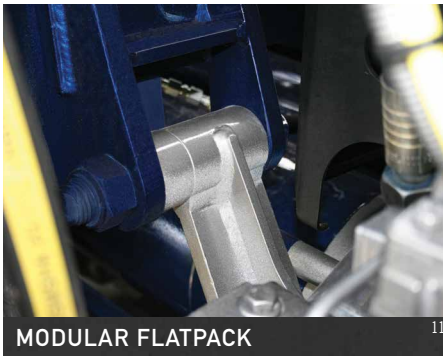
**RS 909 HOPPER**

Putzmeister's robust, yet lightweight EZ Clean Out RS 909 hopper is engineered for performance and durability. Offering 19.4 ft<sup>3</sup> (550L) capacity, the hopper uses one hard-faced remixer paddle motor and grate-mounted vibrator. The multi-piece grate features bolted connections that allow for easy maintenance. An innovative RFID safety switch incorporated in the hopper disables the machine when the grate is opened.



**RACK AND PINION SLEWING**

The 31Z-Meter boom features a simple mechanical rack and pinion design for improved weight distribution and easy serviceability. Specially designed teeth in the system offer smooth rotation and prevent backlash in the swing gears.



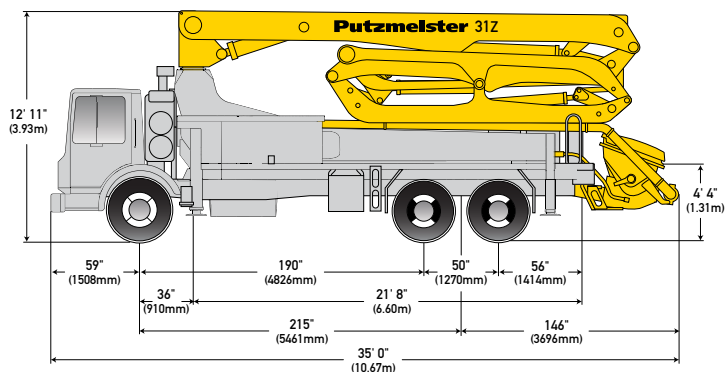
**MODULAR FLATPACK**

Fully removable, Putzmeister's modular bolt-on flatpack and hydraulic system combine versatility and servicing convenience. This simple design allows for cost-effective, minimally labor intensive pump cell replacement for upgrades, repairs or as part of a maintenance program.



**FUEL ECONOMY**

Switch gears and save with Putzmeister's patented Econo-Gear™. The exclusive design allows the Mack chassis engine to run at a lower rpm, achieving less stress on wear parts, lower noise levels and reduced fuel consumption. Econo-Gear makes a significant impact on job site safety and profitability with an estimated 10-15% savings.



## 31Z-METER TRUCK-MOUNTED SPECIFICATIONS

Length	35' 0"	(10.67m)
Width	8' 2"	(2.50m)
Height	12' 11"	(3.93m)
Wheelbase	215"	(5,461mm)
Front axle weight	19,600 lbs	(8,900kg)
Rear axle weight	37,800 lbs	(17,100kg)
Approx. total weight	57,400 lbs	(26,000kg)

Based on Model MACK MRU 613 with .16H pump cell.

Weights are approximate and include pump, boom, truck, driver and some fuel.

Varies with options selected.

Dimensions will vary with different truck makes, models and specifications.

## BOOM SPECIFICATIONS | Z-FOLD DESIGN

### Height & Reach

Vertical reach	100' 1"	(30.51m)
Horizontal reach	87' 3"	(26.60m)
Reach from front of truck*	79' 9"	(24.30m)
Reach depth	66' 11"	(20.40m)
Unfolding height	18' 8"	(5.70m)

### 5-Section Boom

1st section articulation	98°	
2nd section articulation	180°	
3rd section articulation	250°	
4th section articulation	246°	
5th section articulation	251°	
1st section length	24' 7"	(7.50m)
2nd section length	16' 9"	(5.10m)
3rd section length	16' 5"	(5.00m)
4th section length	15' 9"	(4.80m)
5th section length	13' 9"	(4.20m)

### General Specs

Pipeline Size (ID) metric ends	5"	(125mm)
Rotation	365°	
End hose — length	10' 0"	(3.00m)
End hose — diameter	5"	(125mm)
Outrigger spread L - R — front	20' 8"	(6.30m)
hydraulically extend out & down		
Outrigger spread L - R — rear	20' 8"	(6.30m)
hydraulically swing out & extend down		

## PUMP SPECIFICATIONS

### 31Z.12H

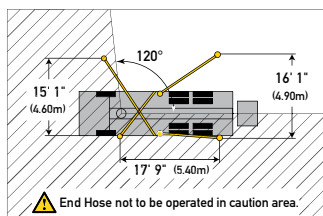
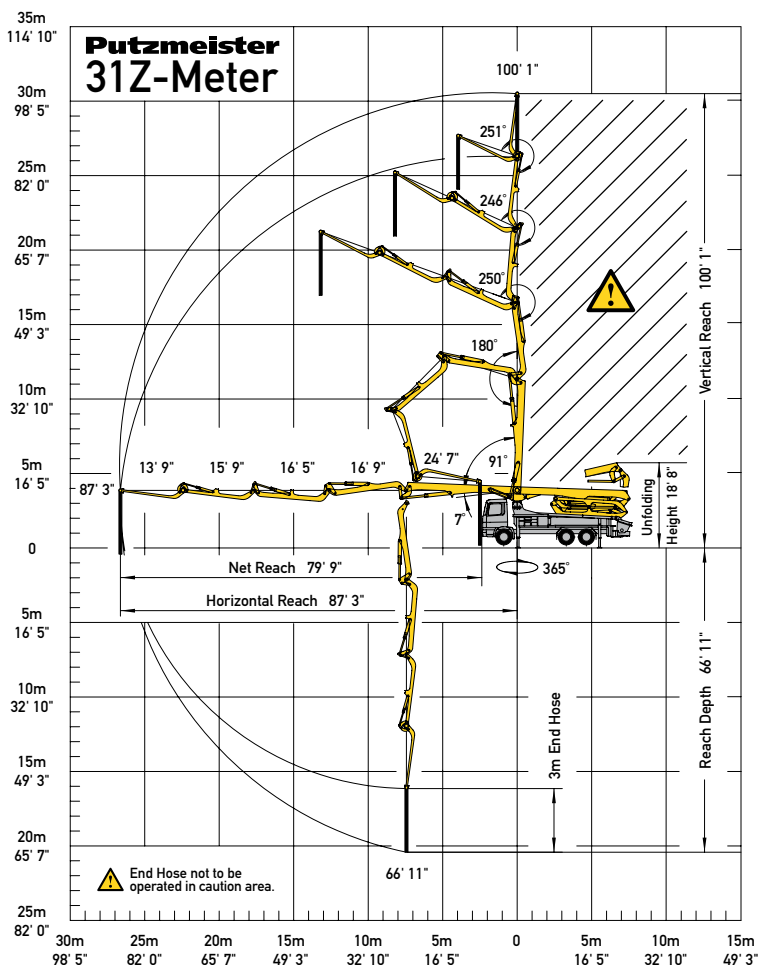
### 31Z.16H

Output — rod side	144 yd <sup>3</sup> /hr (110m <sup>3</sup> /hr)	210 yd <sup>3</sup> /hr (160m <sup>3</sup> /hr)
— piston side	97 yd <sup>3</sup> /hr (74m <sup>3</sup> /hr)	146 yd <sup>3</sup> /hr (112m <sup>3</sup> /hr)
Pressure — rod side	1,189 psi (82 bar)	1,233 psi (85 bar)
— piston side	1,624 psi (122 bar)*	1,885 psi (130 bar)*
Material cylinder diameter	9" (230mm)	9" (230mm)
Stroke length	83" (2,100mm)	83" (2,100mm)
Maximum strokes per minute — rod side	21	31
— piston side	14	21
Volume control	0-Full	0-Full
Vibrator	Standard	Standard
Hard-chromed material cylinders	Standard	Standard
Hydraulic system	Free Flow	Free Flow
Hydraulic system pressure	5,075 psi (350 bar)	5,075 psi (350 bar)
Differential cylinder diameter	5.1" (130mm)	5.5" (140mm)
Rod diameter	3.1" (80mm)	3.1" (80mm)
Maximum size aggregate	2.5" (63mm)	2.5" (63mm)
Water tank — pedestal	185 gal (700L)	185 gal (700L)

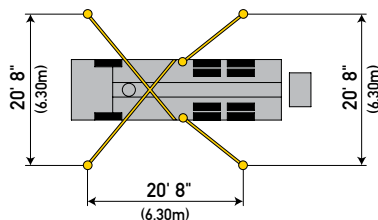
Maximum theoretical values listed.

\* Applies to units mounted on PMA stock truck — MACK MRU 613

• Standard delivery line system rated at maximum line pressure of 1,233 psi (85 bar)

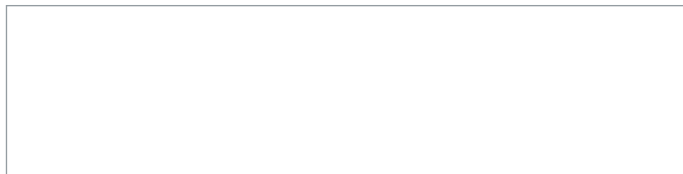


Optional one-sided support (OSS) 120°



Photos and drawings are for illustrative purposes only.

Authorized Distributor



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