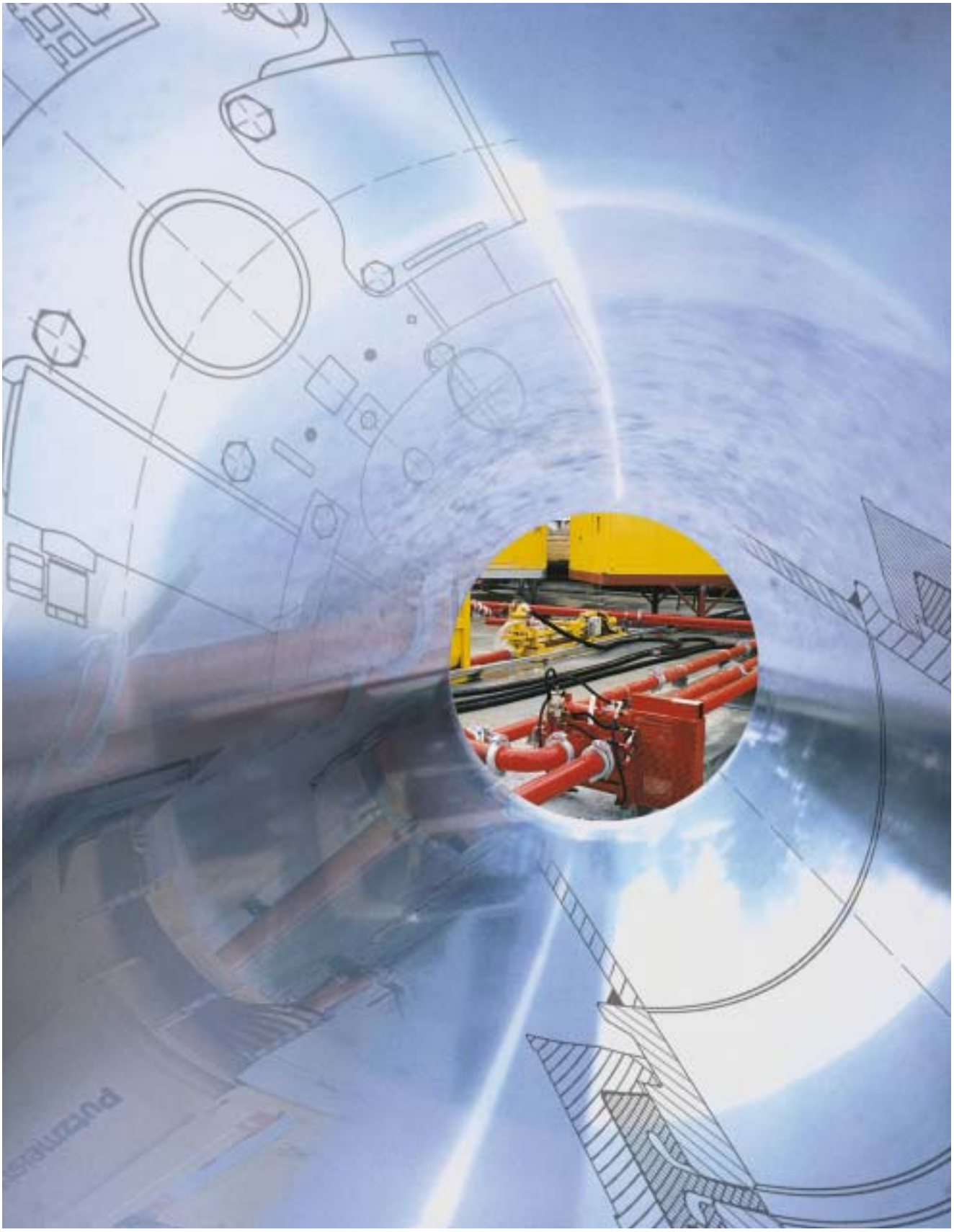
Putzmeister
Delivery line systems



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Putzmeister delivery line systems for concrete pumps

Concrete pumps have become more and more powerful over the last few decades. Whereas concrete pumps in the 80's generally had a conveying performance of 60 - 80 m³/h, conveying pumps nowadays have a conveying performance of 150 - 200 m³/h. This has a considerable influence on the stability under load of the delivery lines because the greater the amount pumped the higher the pressure is, the greater the flow speed of the material and therefore the greater the wear is at the same time.

The product series of the Putzmeister delivery lines hand in hand with the respective pump result in an optimum system for the economic and safe conveying of concrete and high-density solid pumps.

Concreting with truck-mounted concrete pumps

Delivery lines for truck-mounted concrete pumps must be flexible, economic and safe.
The most flexible system is the Putzmeister quick-action system SK. It is flexible and at the same time very robust thanks to the fully galvanized couplings. A large palette of accessories that have more than proven themselves in the field help to place the concrete for the great variety of operations.

Depending upon the demands made, Putzmeister have developed delivery lines with different wear behaviour:

- ST 52 plus lines as reasonably-priced ECOLINE variant for low wear requirements
- Two-layer delivery lines as standard line with hardened inner pipe
- The especially wear-resistant Putzmeister PROLINE is reinforced at the points with the highest wear

The Putzmeister Ultraflex® PX System is optimal for extension lines and especially for the use of refurbishing mobiles.

Concreting with stationary concrete pumps

Delivery lines for stationary concrete pumps must above all be high-pressure resistant, safe and economic. They should also be easy to lay and be able to adapt to all operation conditions thanks to extensive accessories. The SK System for truck-mounted concrete pumps is used for smaller concreting jobs with lower pressures. Extension lines – especially with hoses – ought to be combined with the especially flexible Ultraflex® System PX.

The Zentrifix® System ZX is ideal for larger conveying distances (100 metres upwards) or for differences in height. This system can endure extreme pressures, is absolutely water-resistant and has been designed to be low-wearing at the coupling connections. ZX lines have been successfully used with Putzmeister concrete pumps for numerous world records both in high-rise and long-distance conveying: buildings up to 421 m, differences in height of 532 m and conveying distances of over 2000 m prove just how efficient the ZX System is.
Depending upon the application, pressures of up to 250 bar have been mastered.

2

The high pressure resistant ZX lines up to 250 bar – essential for high rise construction

3

Zentrifx® line, laid horizontally: safe to operate and economic

4

Delivery lines for truck-mounted concrete pumps: favourably-priced like the ECOLINE or the tailor-made PROLINE for long service life and high efficiency

Putzmeister delivery line systems in the tunnel and mining industry and also for industrial pumps

Delivery lines in the tunnel and mining industries

Delivery lines for construction sites underground must be easy to lay and also safe and high-pressure resistant.
The Putzmeister Zentrifix® System ZX ideally meets these requirements. The rigid and absolutely leak-proof connection works in the same way as hydraulic connections as the seal is pressed tightly into its seat when assembled.

The large wall thicknesses with the ZX lines additionally result in a high wear reserve.
ZX delivery lines are used for backfilling, de-watering mines and for transporting concrete over large distances.

Further tasks underground are shotcreting as well as injection work. Here both the quick-action coupling system SK and the Ultraflex® PX System are used.

Delivery lines in industry

Delivery lines in industry must especially be safe and reliable over a long period of operation. The pressure resistance with pulsating load is one particular criterion in designing the delivery line.
The Zentrifix® System was modified for this operational purpose. The so-called ZX-IP lines have proven themselves both for abrasive and non-abrasive pumping media.
ZX-IP lines are used in sewerage treatment works, waste utilization, power stations, for desludging water, in mines and also for a number of special applications.

5

Safe laying of long horizontal lines with Zentrifix®

6

World record - 532 meters high rise delivery of concrete with DN 100-250 bar ZX line

According to the specific application required, they can be modified with regard to design, material and surface treatment so that they optimally suit the pump and medium to be conveyed.

8

Distribution of slurry and boundary layer injection. ZX 150 IP line in an incinerator plant.

7

Tunnel concreting with flexible SK pipelines as expansion pipes

The right system for every delivery job

Every application sets different requirements on the delivery line used - e.g. different materials, special pressure ratios or simply local conditions.

As a summary we would like to show you the three main systems of the Putzmeister delivery line programme.

SK standard coupling system

- This is the standard delivery line for truck-mounted concrete pumps and shorter stationary lines
- For pressures up to 85 bar in the delivery medium
- In special design highly wear resistant or also up to 130 bar
- Delivery pipes with SK couplings can be turned axially and altered up to 2° after laying
- Adapts well to uneven conditions

9

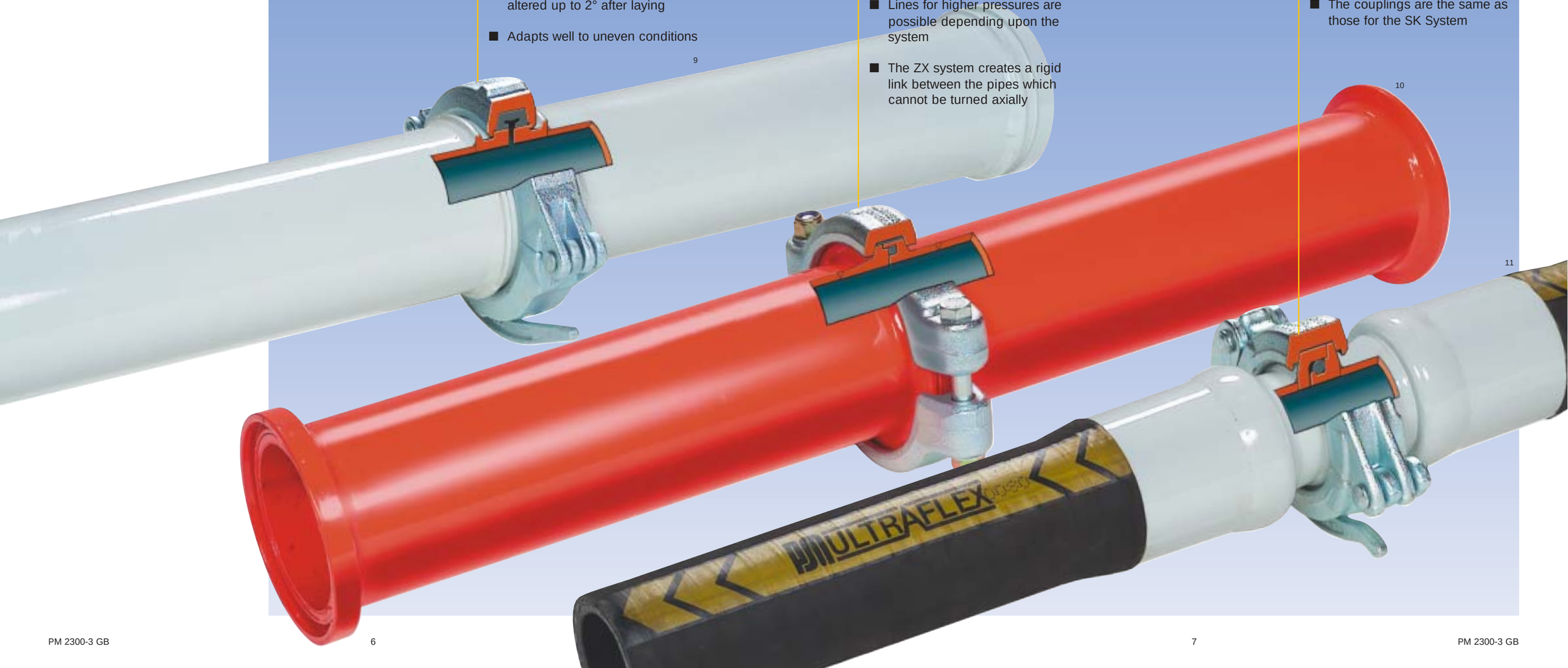
The ZX delivery line system

- The Zentrifix® System is absolutely leak-proof and is especially suitable for stationary pipeline operation
- The ZX Zentrifix® system is manufactured in pressure ratings up to 250 bar
- Applications for static stress but also for dynamically calculated pressures for industrial applications
- Lines for higher pressures are possible depending upon the system
- The ZX system creates a rigid link between the pipes which cannot be turned axially

PX hose line system

- The PX Ultraflex® System is especially quick and easy to couple up – and is therefore especially ideal for hose lines which have to be laid a lot of times
- For pressures up to 85 bar in the delivery medium
- The connection itself is centred and is rigid – thereby extremely wear-resistant
- The couplings are the same as those for the SK System

10



11

Delivery line system SK

It is especially ideal for the flexible laying of pipelines in low pressure areas

The SK delivery line system

Putzmeister SK delivery lines systems enable quick laying of the delivery line. They can be rotated axially at the point of connection. They are therefore especially ideal for the following types of operation:

- **Swivel joints**
- **Placing booms**
- **Rotary distributors**
- **Pipe shears, etc.**

The delivery line can be angled differently up to 2°. The delivery line optimally adapts to the delivery line according to the conditions on your construction site.

By the way this is the standard delivery line for Putzmeister truck-mounted concrete pumps.

In addition they are also ideal for shorter stationary lines on rough ground. In this case, delivery pressures up to 130 bar are also possible.

Couplings

Putzmeister SK couplings are drop forged and standardly zinc-plated by galvanisation. A safety split pin prevents the coupling opening unintentionally under pressure.

The Putzmeister delivery line system SK is available in three different classes of quality:

- ST 52 plus
- IH delivery lines
- 2-layer delivery pipes

Delivery pipes ST 52 plus

These delivery pipes are manufactured out of steel ST 52.0 with test certificate 3.1 B according to DIN 2448 / DIN EN 10220.

The works-internal designation ST 52 plus is a result of the low tolerances and the guaranteed nominal diameter as the minimum wall thickness for these delivery lines.

It is economical for standard concrete compositions (with low abrasion) and low pump performances.

IH delivery lines

IH delivery lines are especially suitable for greater stress and abrasive types of concrete. Compared to the ST 52 pipelines IH pipes usually attain a service life that is 2-3 times higher.

They are manufactured out of single layer, inductively hardened steel.

We recommend the following delivery elbows both for the delivery lines of type ST 52 and the IH pipes:

- Manganese hard-cast elbows

Pipe elbows are subject to greater wear. This is why we only use long-life manganese hard cast elbows in pipelines ST 52 plus and IH.

- Large radius elbows

This type of pipe elbow usually has thicker walls. Putzmeister especially uses these for stationary concrete pumps.

SK lines in daily operational use

Delivery line system SK

ST 52 plus 85 bar

Designation/nominal inside diameter	Product sheet
SK 50 - 3	BP 2480
SK 65 - 3	BP 2481
SK 100 - 4	BP 2482
SK 100 - 4,5	BP 2483
SK 120 - 5	BP 2484
SK 125 - 5,5	BP 2485
SK 150 - 6	BP 2486

ST 52 plus 85 / 130 bar reinforced

Designation/nominal inside diameter		Product sheet
SK 100 - 4,5 HD	85 bar	BP 2514
SK 125 - 5,5 HD	130 bar	BP 2515
SK 150 - 6 HD	130 bar	BP 2516

IH delivery line 85 / 130 bar

Designation/nominal inside diameter	Product sheet
SK 125 - 5,5	BP 2517

Delivery line system SK

Two-layer pipes for high-duty service

Two-layer pipes

Wear means costs. And the cheapest pipeline is not always the cheapest in the long run when the costs per cubic metre pumped are considered.
Putzmeister especially uses two-layer pipes when materials that cause a great deal of wear are to be pumped. Also when great amounts are to be pumped and when efficiency is the main priority. These two-layer pipes consist of a hardened and especially wear-resistant inner pipe and a soft outer one which safely absorbs the high pressures. To complete the system, there are elbows, reduction pieces and further pipe line parts that are manufactured out of hardened or two-layer materials.

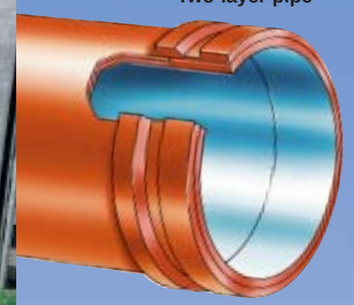
The **standard two-layer pipe** has an inner hardness of 63 HRC Rockwell (the equivalent of approximately 780 Vickers). For delivery lines on the placing boom, the inner pipe is 2 mm (PM 22) or 2.5 mm (PM 252) thick; the outer pipe is 2 mm thick. Thicker lines can also be used on the pump or for stationary lines. These are usually then 5.6 mm on the inside and 3 mm on the outside (PM 53).

A further development in the standard two-layer pipes is the Putzmeister **PROLINE**. Here especially parts in the line where wear is critical, have been reinforced additionally with special cast iron parts. This safeguards optimum use and uniform wear of the total delivery line (more details are available in brochure BP 2597 GB).

20

Indispensable for long-reach boom pumps and high outputs: the Putzmeister PROLINE

21



Two-layer pipe

22

2-layer delivery line
85 bar / 63 HRC

Designation/nominal inside diameter		Product sheet
SK 100	PM 22	BP 2509
SK 125	PM 252	BP 2504
SK 125	PM 22	BP 2506
SK 125	PM 53	BP 2508

2-layer delivery line PROLINE
85 bar / 63 HRC

Designation/nominal inside diameter		Product sheet
SK 125	PM 252 P	BP 2503
SK 125	PM 22 P	BP 2505
SK 125	PM 53 P	BP 2507

2-layer delivery line PROLINE
85 bar / 67 HRC

Designation/nominal inside diameter		Product sheet
SK 125	PM 252 P 67 HRC	BP 3484
SK 125	PM 22 P 67 HRC	BP 3485
SK 125	PM 53 P 67 HRC	BP 3486

Delivery line system ZX-Zentrifix®

These are especially ideal for fixed and stationary pipeline laying

The ZX delivery line system

The Putzmeister ZX delivery line system is absolutely leak-proof and high-pressure resistant.

It is especially ideal for high-rise and long-distance conveying (ZX-BP).

Concrete high rise conveying over 532 m and long distance concrete pumping over 2500 m prove the reliability of this delivery line system.

In addition these delivery lines are used for a number of industrial applications (ZX-IP).

Examples of this are sewage sludges, water sludges, electro-filter ash and other paste-like media.

ZX delivery line connections consist of flanges with male parts (ZXV) and female part (ZXM). The O-ring inserted in a groove functions as an hydraulic seal here.

Couplings

PM Zentrifix® couplings are drop-flanged and zinc-plated by galvanisation.

You can choose between 3 different types:

- Screw couplings
  For the quick mounting of delivery lines which seldomly or never have to be laid.
- Handle couplings
  For the quick assembly of delivery lines which often have to be laid
- Wedge fitting couplings
  which have to be opened as quick as lightning, e.g. at points of discharge or cleaning connections

For this we recommend the following delivery elbows:

- Small radius elbows
  with radius of 280-400 mm
- Large radius elbows
  with radius r = 1000
  or r = 2000 mm.
  Special radii are possible.

ZX concrete delivery lines are usually made out of steel ST 52. On request we also manufacture lines out of a number of special steels (special steel or highly wear-resistant steel, e.g. 2-layer pipes).

ZX-BP delivery lines

ZX concrete delivery lines are designed by static calculation for the given pressures in the concrete. These calculations can also be taken as a basis for other highly abrasive delivery media.

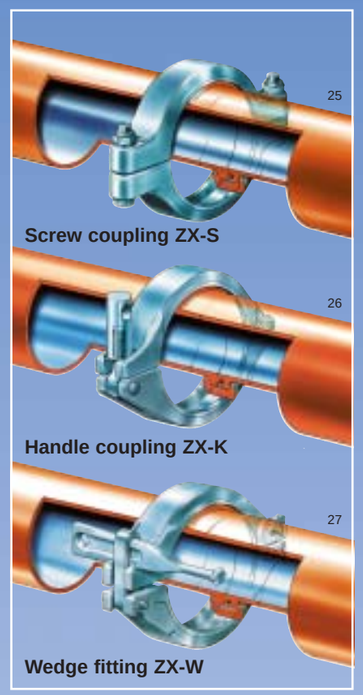
ZX-IP delivery lines

ZX IP delivery lines are designed for the quoted operating pressures by dynamic calculation. The lines have a high fatigue strength and are therefore long-lasting and suitable for non-abrasive media. And especially when high pressure lines have to be laid reliably for a longer period.

23

High-rise conveying with ZX lines.
Here with a cleaning station.

24



Delivery line system ZX-BP

ST 52 Low Pressure 85 bar

Designation/nominal inside diameter	Product sheet
ZX 125 ND	BP 2488
ZX 140 ND	BP 2487

ST 52 High Pressure 130 bar

Designation/nominal inside diameter	Product sheet
ZX 80 HD	BP 2490
ZX 100 HD	BP 2491
ZX 125 HD	BP 2492
ZX 140 HD	BP 2495
ZX 150 HD	BP 2496
ZX 200 HD	BP 2497

ST 52 Super High Pressure

Designation/nominal inside diameter	Product sheet
ZX 125 200 bar	BP 2493
ZX 125 250 bar	BP 2494

Delivery line system ZX-IP

ST 52 High Pressure

Designation/nominal inside diameter	Product sheet
ZX-IP 125 95 bar	BP 2510
ZX-IP 150 100 bar	BP 2511
ZX-IP 200 70 bar	BP 2512
ZX-IP 250 85 bar	BP 2513

Further versions available on request.

Hose line system PX-Ultraflex®

Especially ideal for quick mounting and dismounting of line

The Putzmeister delivery line system PX-Ultraflex® combines the advantages of the SK system and those of the ZX system.

The system is absolutely leak-proof due to the O-ring seal. The connection is rigid but can still rotate axially. The coupling connection is centred by the father and mother system. A wear-free transition is the result of this.

A special advantage here is the simple operation. Connections can easily be made just by one man.

A further advantage here is the cleaning. Due to a simplification of the seal, concrete residue can easily be wiped away manually. The seal no longer has to be scratched out at great effort.

Due to these properties the PX system is mainly used for hose lines which have to be mounted frequently and quickly, and dismounted again. This system has also well-proven itself for pipe connections that have to be often laid.

Insert together and close the coupling; simple to be carried out by just one person.

Couplings

The well-proven SK standard couplings can be used as couplings. They are drop-forged and standardly zinc plated by galvanisation. This guarantees a long service life and excellent operation.

Hoses

The Putzmeister delivery hoses are not just used for pumping concrete. In addition also mortar and floor-screed mixes as well as abrasive and chemical materials are conveyed.

This means that the delivery hoses are however constantly subject to a high stress.
Tested quality and long-service life of the hose material are decisive here.
Similar to a steel breaker tire, Putzmeister PX hoses have a carcass of tire inserted that is made out of resistive steel wire which is usually enweaved four times. The rubber mix used here is an especially wear-resistant natural rubber.

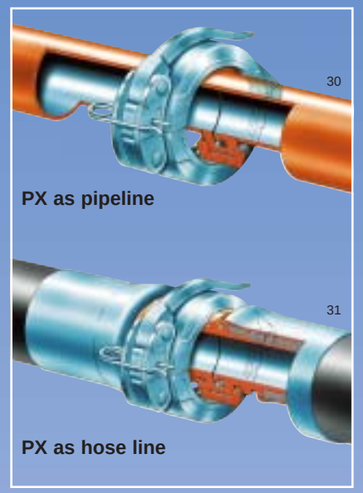
In addition the nozzles of the hoses are hardened.

Original hose lines often have a joint or edge at the transition section between the hose and the connection point. This means greater wear and increases the danger of blockages.

Putzmeister delivery hoses are stripped out on the inside wall. The result then is a seamless transition between the connections.

If you add up all these properties you get an excellent hose system with especially little wear and less service life.

Ideal for refurbishing work on sites where access is difficult. A Putzmeister SANIMA here equipped with hose lines.



PX as pipeline

PX as hose line

Delivery line system PX-Ultraflex®

Hose delivery lines

Designation/nominal inside diameter	Product sheet
PX 65	BP 2501
PX 75	BP 2502

Equipment and accessories

Low-priced, economical and safe

Hoses and hose accessories

Putzmeister concrete delivery and end hoses consist of especially wear-resistant natural rubber and a 4 x steel wire insert as carcass of tire. These are ideal for concrete pumps to convey abrasive and chemical material but also for mortar and floor screed work.

These delivery hoses are designed for an operating pressure of 85 bar. The test pressure in its latest state is 170 bar – i.e. twice the safety.

The hose bushes are hardened against wear up to 63 Rockwell HRC. The hoses are usually stripped out. They then attain a seamless transition between the hose connection piece and the hose. This reduces the wear and extends the service life.

On request we will also supply you with special hoses with LOBA certificate which are resistant against most different chemicals such as, for example, benzene.

Hose and end-hose closure

Putzmeister hose and end hose closures stop the concrete dripping out when the hoses or boom are moved. This is especially important in water protection areas.

Reduction set

Hoses are often too thick or hard to handle for tight formwork. In this case you ought to use the Putzmeister reduction set.

You should use it with the standard plastic dewatering pipes DN 100 (Fig. 36).

With this the concrete can no longer segregate during the free fall for deep formwork. In addition the polystyrene lining of the casing is not damaged.

Fall brake with zoom nozzle

The plastic Putzmeister fall brake stops the concrete dripping out of the end hose during slow concreting and dirtying the men at the point of placement. It is ideal for placing smaller amounts of concrete, e.g. for backfilling work.

This Putzmeister solution is safer than the solution with steel elbows that is often used, and only has one wear part.

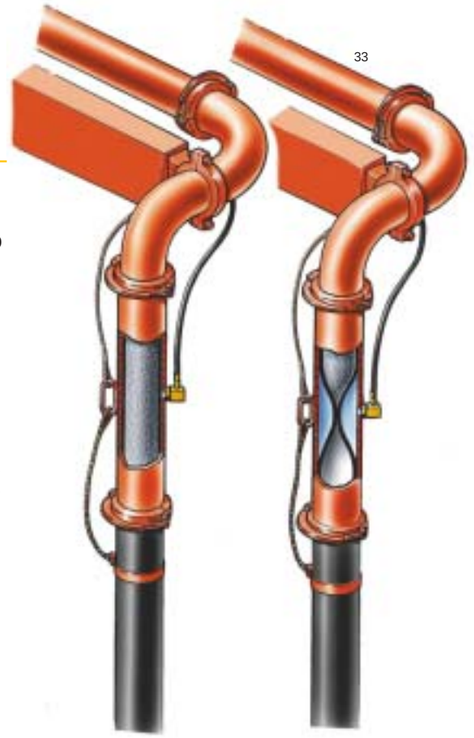
Pneumatic end hose closure

With this accessory you can pneumatically close the delivery line at the end of the boom. Ideal for operations such as underwater concreting or when no concrete is allowed to drop out of the end hose during pumping.

32

Hose closure for hoses without nozzle

33



The pneumatic end hose closure can also be retrofitted

34

Putzmeister slurry
in practical plastic buckets

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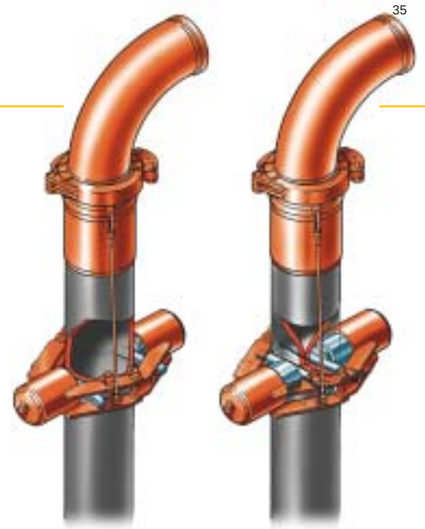


Pneumatic end hose connection on standard hose – simply formed by pressing the hose together

36

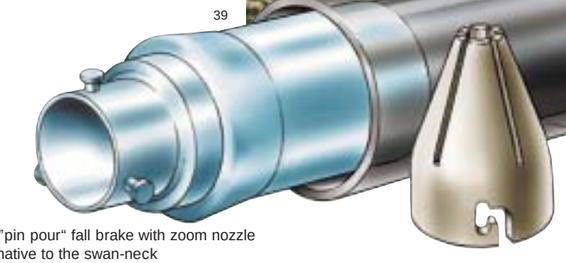
Reduction for plastic pipe. Ideal for tight-fitting formwork.

37

38

Clean and safe work: no splashing when concreting with the zoom nozzle

39



The Putzmeister "pin pour" fall brake with zoom nozzle – the better alternative to the swan-neck

Reductions, transition pieces and cleaning accessories

Practical, reliable, ideal for construction sites and application-orientated

Reduction and transition pieces

When you want to connect two different delivery line systems or diameters, you require reduction and transition pieces.

Putzmeister reductions are offered in three different classes of quality:

- Reductions made out of steel: either made of drawn out material, seam-less and with optimised wall thickness distribution, or ST 52, canted off, and welded with a V longitudinal seam, standard wall thickness 6.3 mm
- Operational or inductively hardened one-layer reductions: Hardness on the inside up to 63 Rockwell HRC for especially stressed reductions such as behind the pressure pipe
- Two-layer reductions in connection with 2-layer pipes

If you have to connect Putzmeister delivery lines with other systems, we can manufacture transition sections for you on request.

Cleaning accessories

Putzmeister offers a large palette of cleaning accessories for cleaning delivery lines.

Sponge balls and plugs

Sponge balls and plugs are made out of tough sponge rubber quality that is especially resistant to tearing.

With correct use you can easily wash 20 to 40 times. And with sponge cleaning plugs even more! They can be used for suction and pressure cleaning and are attainable for all delivery line diameters of 25 - 250 mm, and in special cases even larger.

Sponge cleaning plugs are somewhat more expensive but clean better due to the greater cleaning surface.

Cube made out of foamed material

These are a cheaper alternative to plastic balls and are available in edge lengths of 200 - 250 mm for delivery line diameters of 100 - 200 mm.

Cleaning plugs

These are especially suitable for stationary delivery lines for concrete and industrial pumps with large pipe elbows. These cleaning plugs are especially used when there is danger of material deposits.

They can be inserted into the delivery line both manually and by a cleaning plug sluice. The discharge can then ensue via such a sluice or a catching basket (Fig. 40 and 53). There is a highly-flexible rubber plug for delivery line diameters of 125 mm and this can also be used for tight radius elbows.

Catching baskets

Catching baskets are especially important for pressure cleaning. They catch the sponge balls which are "shot" out of the delivery line under high pressure. Then only the cleaning water or the residue concrete emerges out at the end.

Cleaning connection and cleaning lid

Air or water is to be blown via the cleaning connection into the line after you have inserted 2 to 3 sponge balls. The cleaning port is connected up at the end of the delivery line or at a special cleaning valve.

Connect up the cleaning lid for the water connection to a cleaning opening or a T-piece.

40

Pipeline attachment, measuring instruments and rotary distributors

Pipeline attachment

Usually round steel shackles are used to attach pipelines. With H-profiles these can be attached to walls.

Safe attachment of the concrete line is especially essential for high pressure lines to prevent the delivery line knocking.

Pressure gauge

Putzmeister pressure gauges read the concrete pressure at any point of the delivery line. They are attainable for all pressure ranges. They are especially of advantage for localising blockages in the pipeline or to calculate the pressure ratio inside the pipeline.

The pressure gauges are connected up with T-pieces which can simply be installed in the pipeline.

Wall-thickness measuring unit

With this favourably-priced and easy to operate ultrasound measuring unit you can measure the wall thickness of your pipelines.

41

Wall-thickness measuring unit

42

Pressure gauge

43

Standard attachment with U shackles for universal use with H profiles

44

T-pipe, e.g. for pressure gauge closure

Comfortable concrete placing with rotary distributors

Rotary distributors are used to place concrete within small radii on floors.

Putzmeister offers a manifold programme of rotary distributors. Please ask for the separate brochure.

45

Rotary distributor RV 10. Rotary distributors are available in different versions, from RV 0 to RV 22.

Shut-off valves and direction valves

Putzmeister shut-off valves and direction valves are based on Putzmeister's experience with many world records in delivery such as for example at the Post Office Tower, Frankfurt/Main, at the Gothard Tunnel in Spain and at Riva del Garda in Italy.

They have, however, been further developed and supplemented so that the requirements of a modern pipeline system are taken into account. Absolutely leak-proof shut-off valves are the basic prerequisite for this here.

Hardened seal rings take over the sealing function for the high pressure versions. On the other hand, O-rings seal these right up to the housing. Operating pressures up to 250 bar are hereby mastered.

The following shut-off valves and transfer tube types are used:

Flat shut-off valves GVM

GVM (gate valve manual) flat shut-off valves are simple shut-off valves. They are opened and closed manually, i.e. with a hammer. They are attainable both for minimum pressure requirements up to 20 bar (shut-off valve for formwork) as well as for high pressure applications up to 200 bar.

Flat shut-off valves GVH

GVH (gate valve hydraulic) flat shut-off valves are operated hydraulically. They are pressure-resistant and leak-proof up to 200 bar. They shut off reliably. Concrete can no longer bleed, respectively flows backwards.

They can be optionally equipped with electric end switches. These make it possible to electrically control the shut-off valve, resp. an acknowledgement of the signal to the remote control which indicates the present working state of the valve.

Hydraulic transfer tube DVH

These transfer tubes are used when for example two delivery lines have to be fed. They also make it easy to close a cleaning connection so as to clean the delivery line.

Advantage: Whilst concrete is still being conveyed through one delivery line, the other can be cleaned. As the line moves when this transfer tube is pushed, it is only usually used for the delivery line system SK.

Rotary distributor RVH

With the rotary distributor concrete can be distributed to two or more delivery lines. Via a rotatable S-pipe several pipelines can be fed with concrete. On request, any position can be reached automatically and precisely stopped by a metre. RVH rotary distributors are equipped with a remote control.
For each of the outlets a separate signal light lights up when the respective connection link is made.

All rotary distributors are equipped with a central lubrication. The respective control (SPS) as well as the electric equipment must be individually determined in any case at the works.

46

GVM 2/2 20 bar, e.g. for formwork closures

47

Rotary distributor for charging several delivery lines

48

GVH 2/2 high-pressure resistant shut-off valve for shutting off delivery lines

Shut-off valves and direction valves

Plug sluices

There has been a problem here in the past especially in the Chemical Industry and in mines when the plug line parts needed for cleaning have to be dismounted.

This complicated procedure meant a great deal of work and time especially when cleaning had to be carried out frequently. The cleaning line can also be cleaned whilst conveying through the plug sluice with pump stop.

The so-called plug insert sluice can be connected directly behind the pump. This brings the plug into the delivery line by an hydraulic valve system. This plug can then be taken out again through a plug discharge sluice at the end of the delivery line. Under certain conditions a catching basket can be mounted for the plugs.

Hydraulic units

PM hydraulic units produce the necessary oil pressure to switch the hydraulic shut-off valves and direction valves. They generate an oil pressure of up to 315 bar. Just 150 bar is enough for minimum load.

Hydraulic units with hand pump

Hydraulic units with hand pumps are ideal for pipeline diameters up to 125 mm. They can be supplied with or without accumulator.

Hydraulic units with electric drive

PM hydraulic units are equipped with electro drive and manual control valve and on request also with electro valves. In this case an electric control cabinet is necessary. A remote control can also be connected to this. Hydraulic units with a higher performance can also be supplied.

Hydraulic connection of the shut-off valves to a concrete pump

The shut-off valves can be connected to the concrete pump via the agitator hydraulic circuit which is usually protected by fuse with 220 bar. Further possibilities can be individually determined according to the concrete pump.

Forked pipe

It can be useful to use forked pipes when using different types of hydraulic shut-off valves to distribute media (Fig. 8) to several lines.

Remote controls

A cable remote control is attainable for direction valves and shut-off valves with end switches. It has a switch for position "On and Off" as well as two signal lamps (red and green) which indicate the position of the valve. Further versions are available on request.

Technical data of the hydraulic unit

with electric drive

Performance	7.5 kW
Pressure, max.	315 bar
Delivery volume	12 l/min
Vessel content	63 l
Useful content	40 l

with hand pump

Pressure, max.	300 bar
Manual force at 300 bar	approx. 320 N
Delivery volume	29 cm³ per double stroke

with electric valves

Performance	7.5 kW
Pressure, max.	315 bar
Delivery volume	12 l/min
Vessel content	63 l
Useful content	40 l

49

Shut-off valve GVH 2/2 with hydraulic unit and control cabinet. Operation also via remote control possible.

50

Cleaning station for stationary delivery line through shut-off valve systems

51

DVH 4/2 highly pressure-resistant transfer tube for optional feeding of two delivery lines

52

With valves and direction valves, the complex pipeline systems with PM delivery lines can be laid simply.
Here you see the SK distribution system in Oresund, Denmark.

53

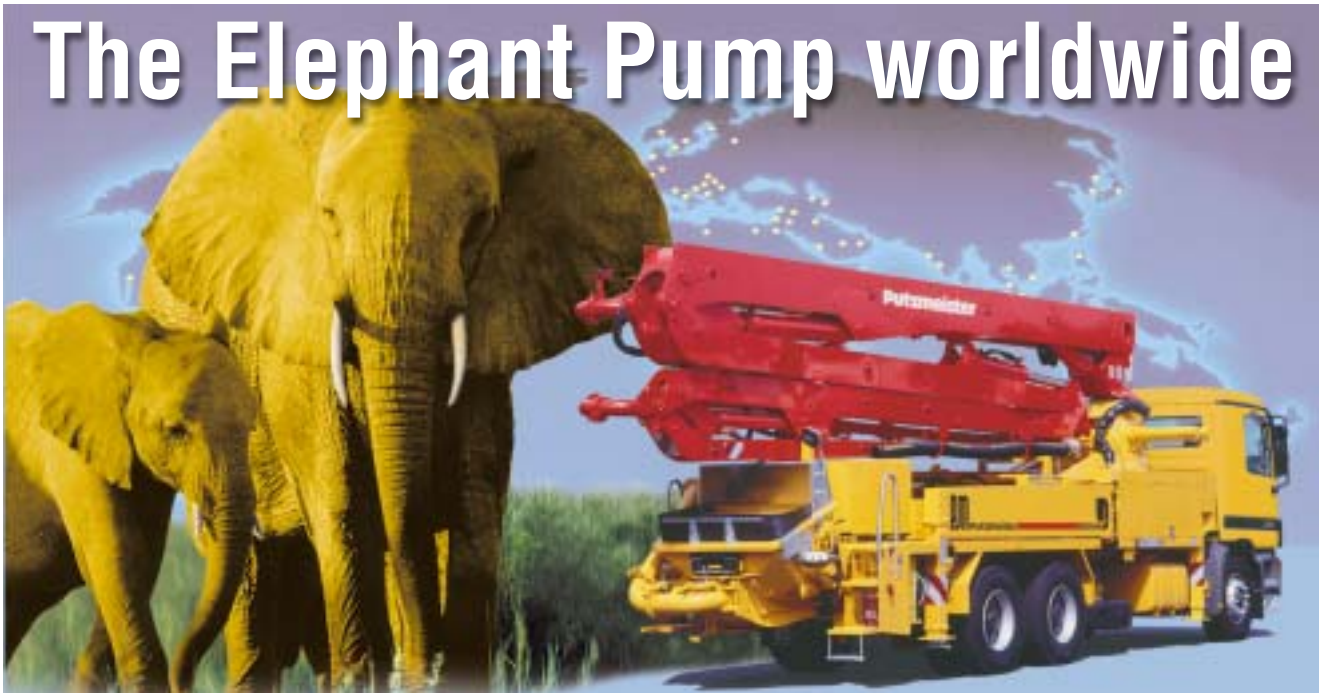
PM plug sluice for inserting and removing plugs from the delivery lines

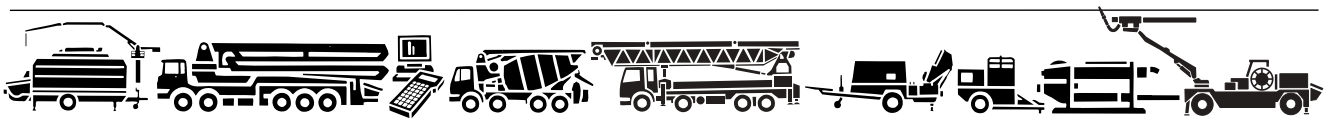
The main site at Aichtal near Stuttgart with central store, construction and administration, also with central After Sales and Parts Services

Putzmeister is a dynamic enterprise with most modern assembly and production plants.

Along with the main works in Aichtal near Stuttgart, numerous subsidiaries and branches serve customers all over the world.

Putzmeister is thereby in the position to meet the special requirements of this market in each specific country and offer their customers the optimum performance.





Putzmeister products and services

PM-Concrete Pumps
PM-Systems Engineering PAT
PM-Telebelt
PM-Mörtelmaschinen GmbH
PM-Dynajet high pressure cleaners
PM-Services
PM-Concrete Project Division CPD
PM-Consulting and Data Technology
PM-Akademie GmbH

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