

Putzmeister Mortar Machines



Putzmeister Headquarters in Germany

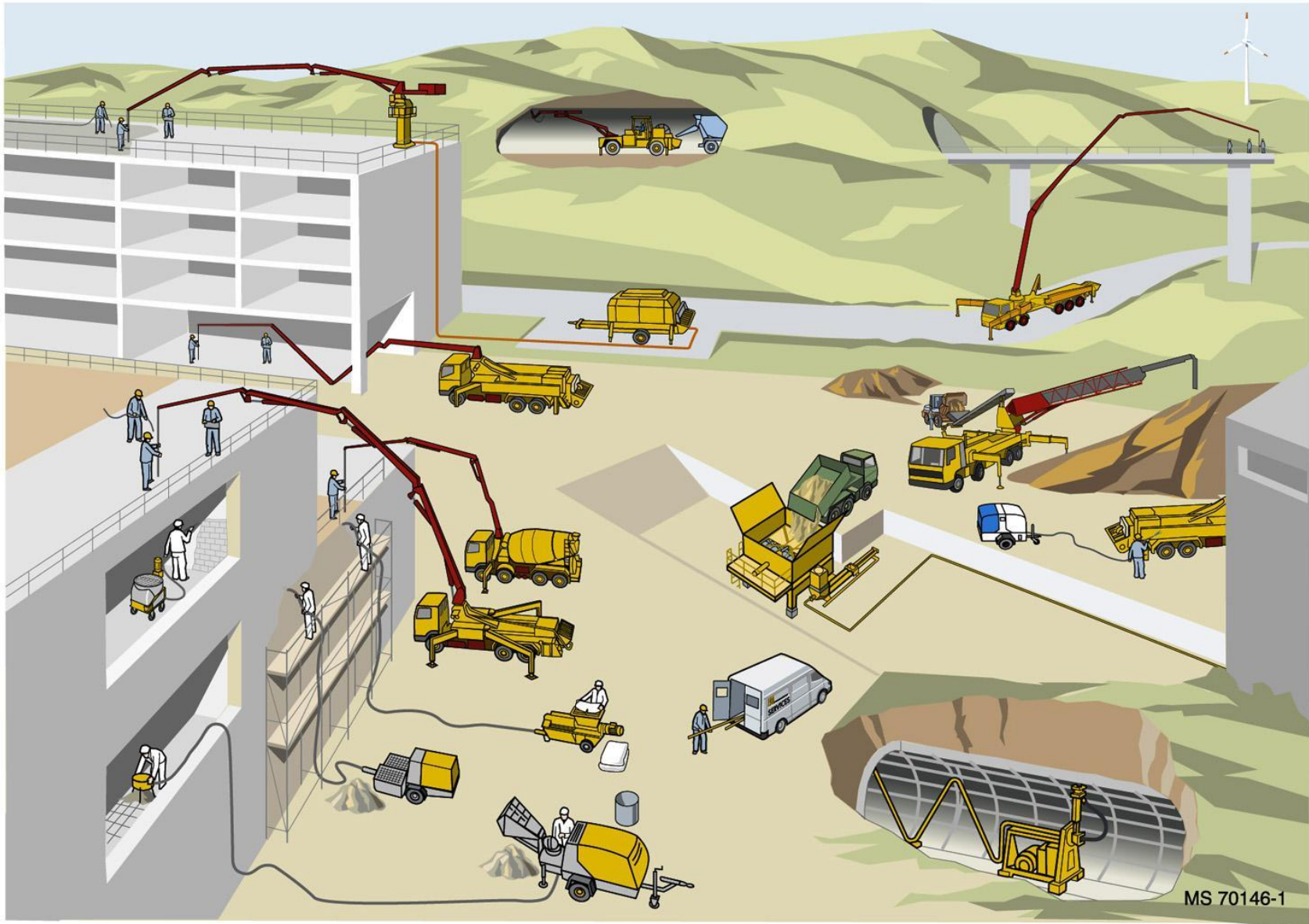


From Aichtal to the whole world...



With several affiliated companies as well as numerous substitutions we are reachable and present world-wide.

Application fields of Putzmeister machines



Concrete Pumps



Mortar Machines



Concrete Pump Range

Stationary concrete pumps



BSA 1003 D



BSA 14000 SHP D



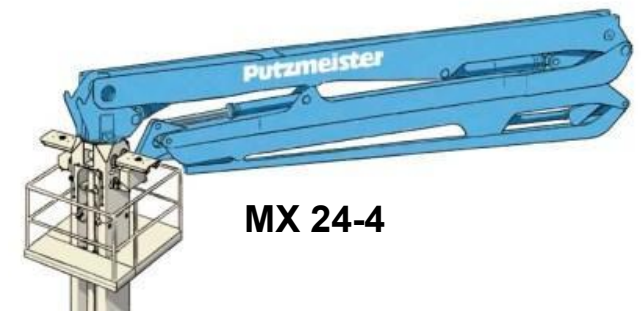
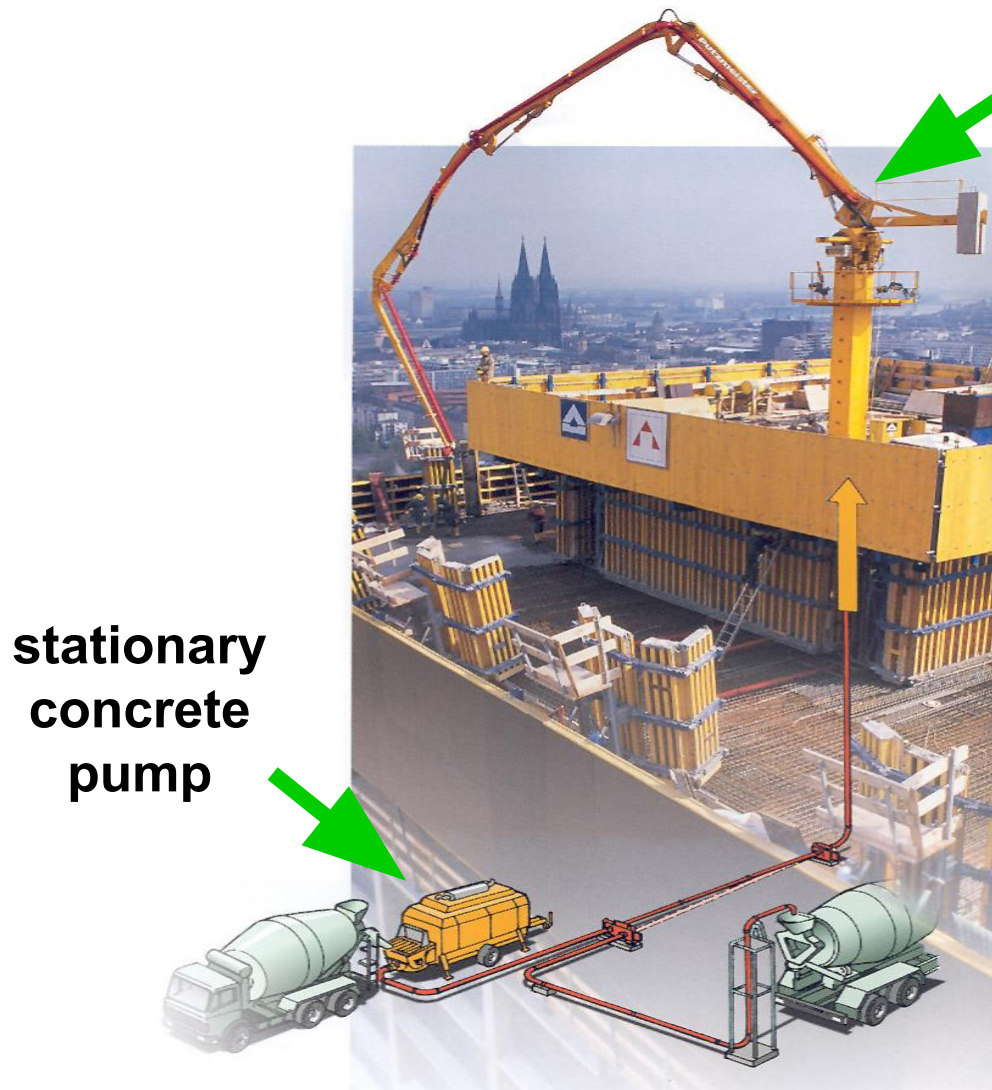
BSA 1409 D



BSA 2110 HP D



Stationary concrete pumps & placing booms





Truck mounted concrete pumps



M 36-4



M 42-4



M 58-5 RZ



M 70-5



Truck mounted concrete pumps



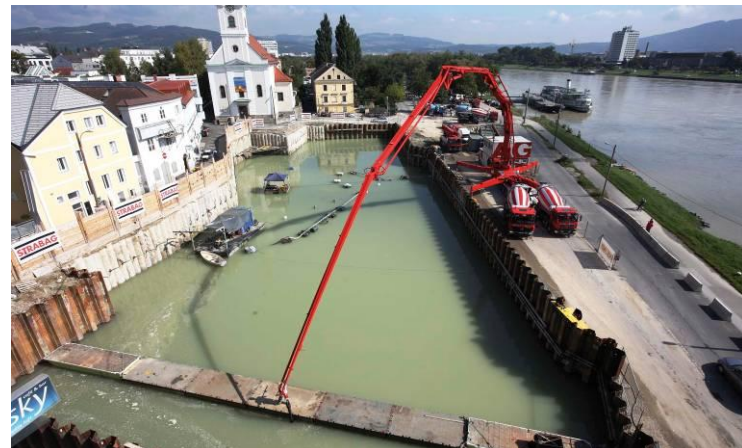
Villa project Oman



LPG tank, Spain



Sports stadium, Turkey



Infrastructure project, Germany

Application fields of Mortar Machines

plastering site-mix plastering pre-mix



P 13



**MP 25 S 5,
SP 11 LMR**

floor screeding



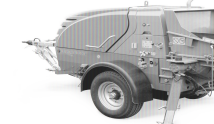
**M 760 DHBS
all Mixokret**

self-leveling



**SP 11 BHF
MP 25, S 5, P 715**

fine concrete



**P 715 (16mm),
P 718 (32mm)**

foam concrete



**SP 11 BHF
P 715**

shotcrete



**P 715
P 13 KA230**

fire-proofing



**S 5 EV/TM
SP 11 LMR**

filling



P

grouting



**SP 11 LMR
S 5, P 13**

injecting



S 5 EV

concrete repair



**S 5 EV
SP 11 LMR**

Plastering with Putzmeister



Plastering area coverage: manual vs. machine

manual



6 labours

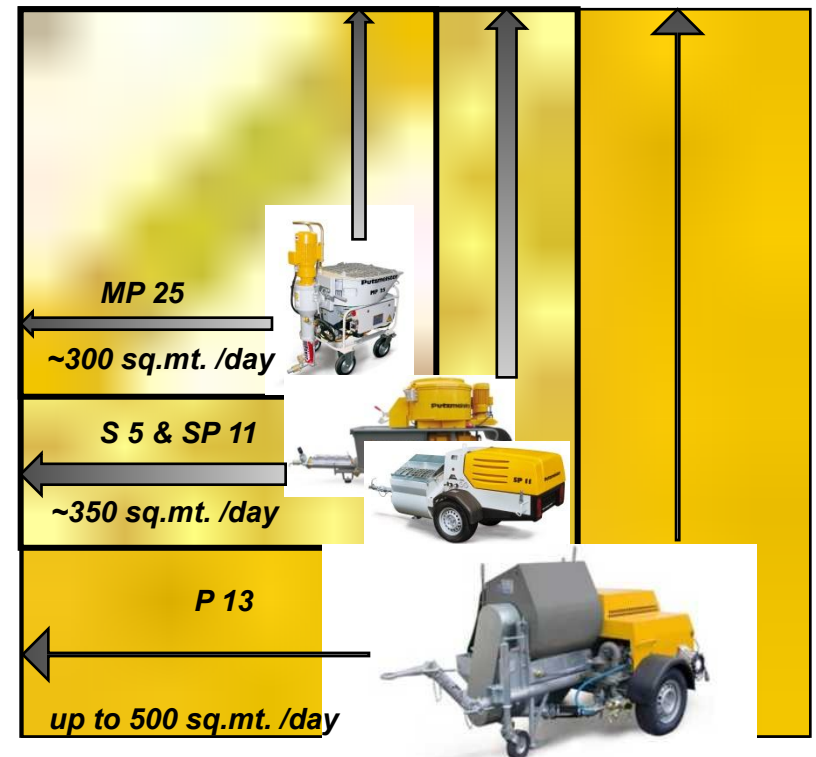


50 sq.mt. /day

machine

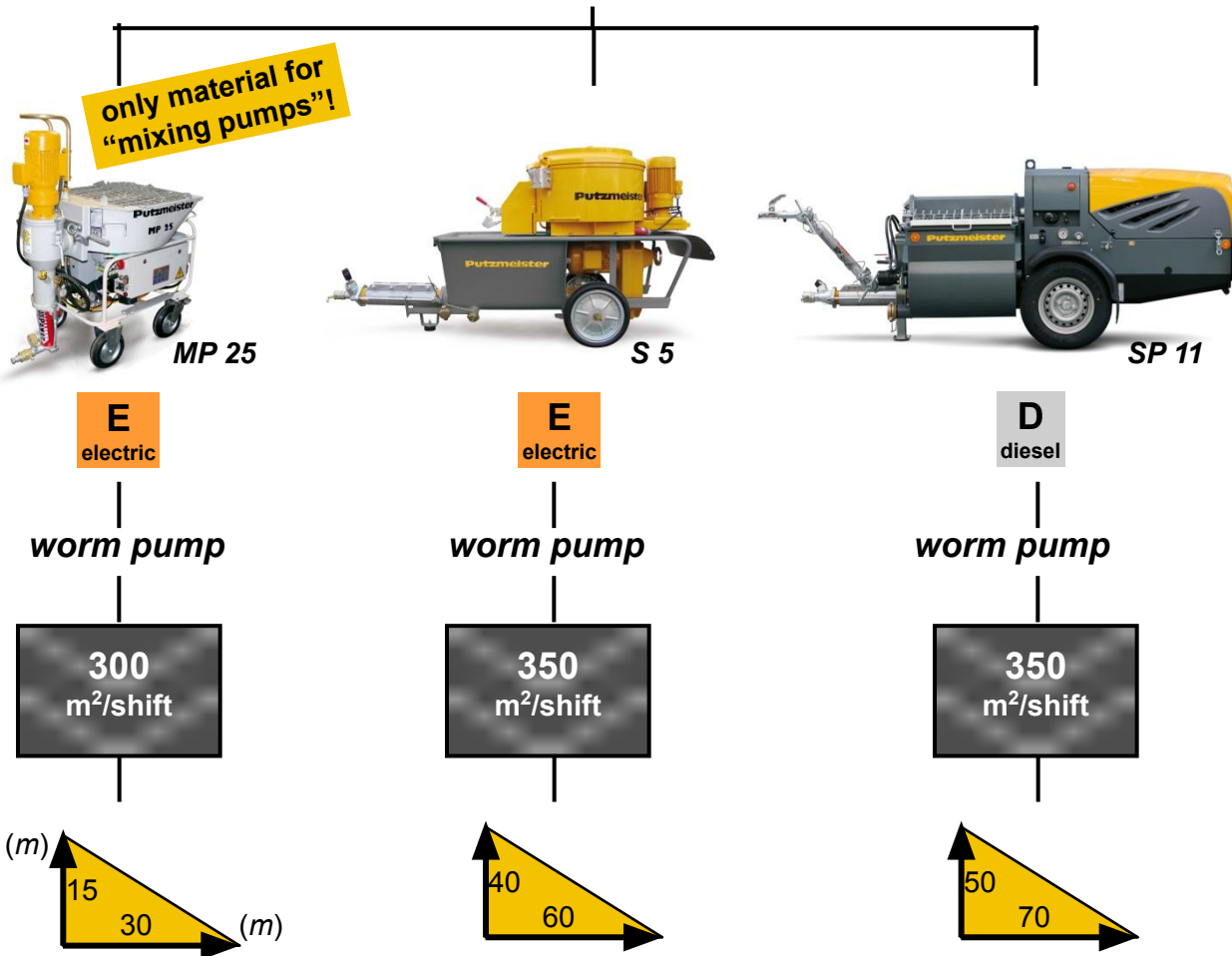
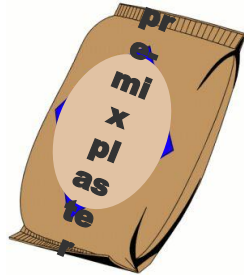


6 labours

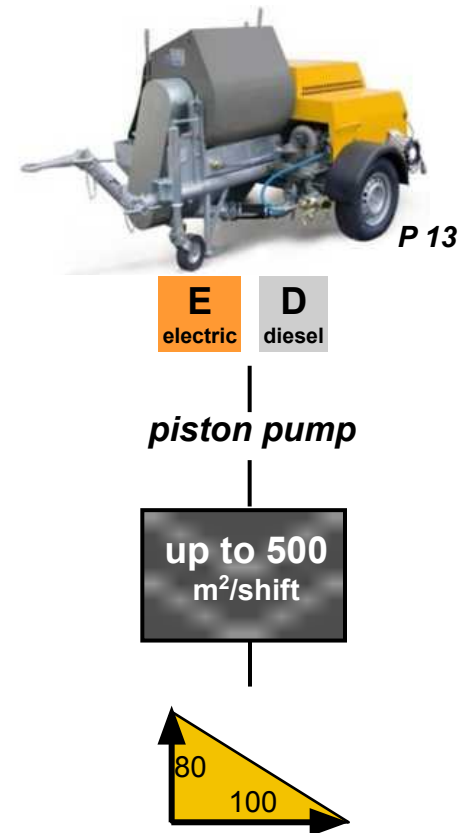


Which material with which machine?

Pre-mix



Site mix



Which material with which machine?



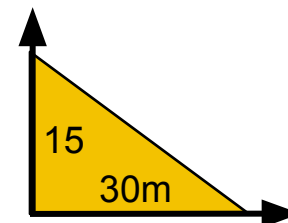
gypsum plaster

short setting time =>

Mixing Pump MP25



25

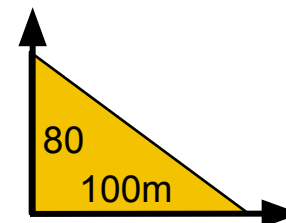


Which material with which machine?



- always keep the same recipe
- trained operators

E electric	D diesel
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MP 25 (worm pump)

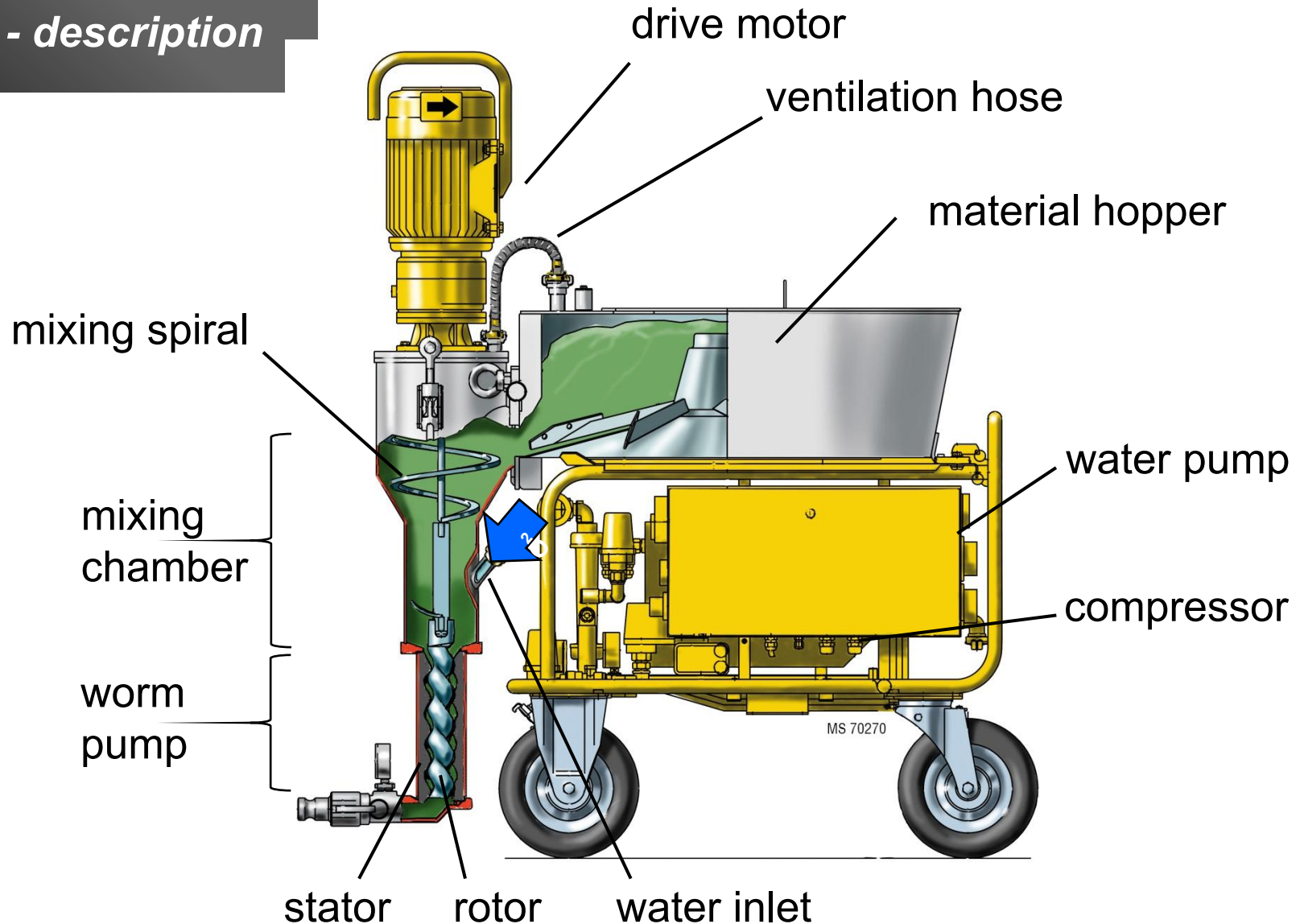


- spray gun
 - mortar hose
 - air hose
- complete accessories
as standard
- compressor ✓
water pump ✓
worm pump ✓

• only for pre-mix material with short mixing time!

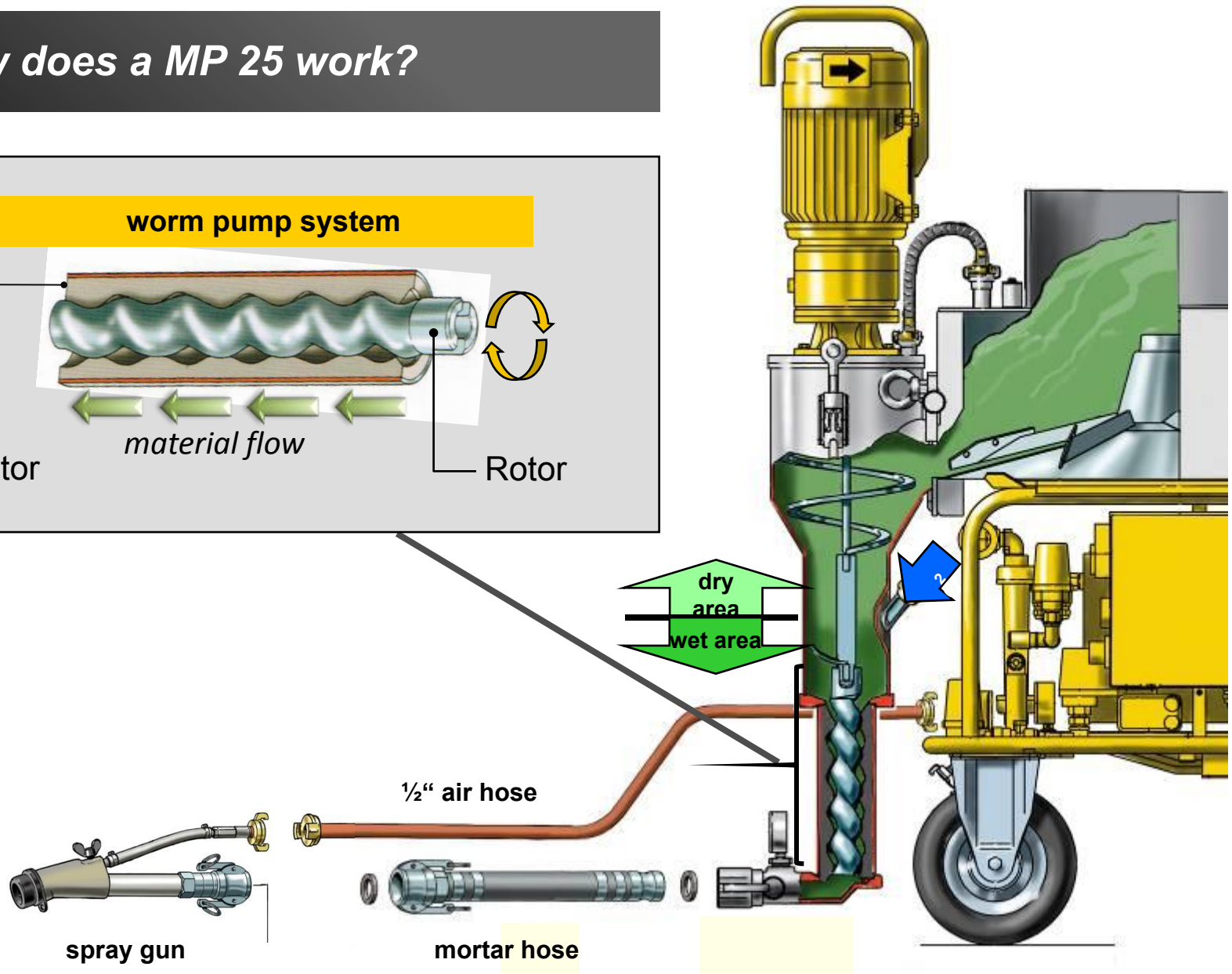
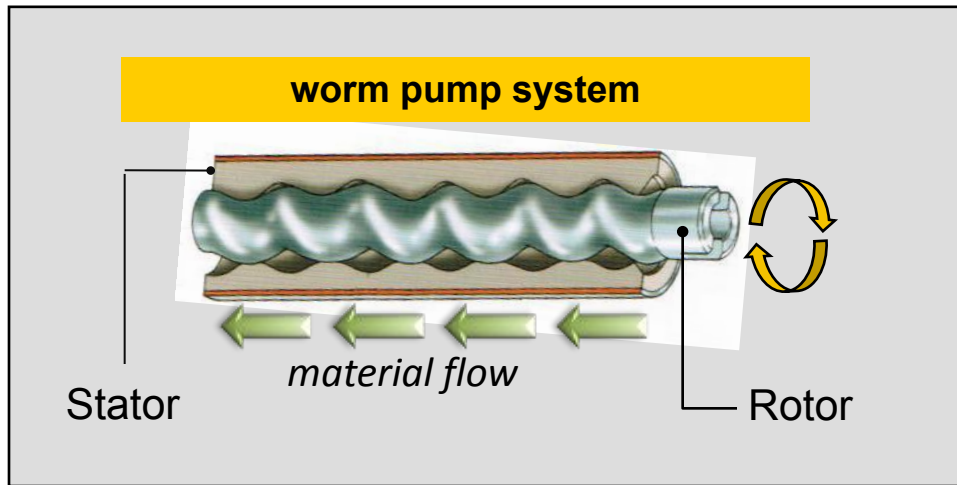
• feed the machine by bag or silo!

MP 25 - description

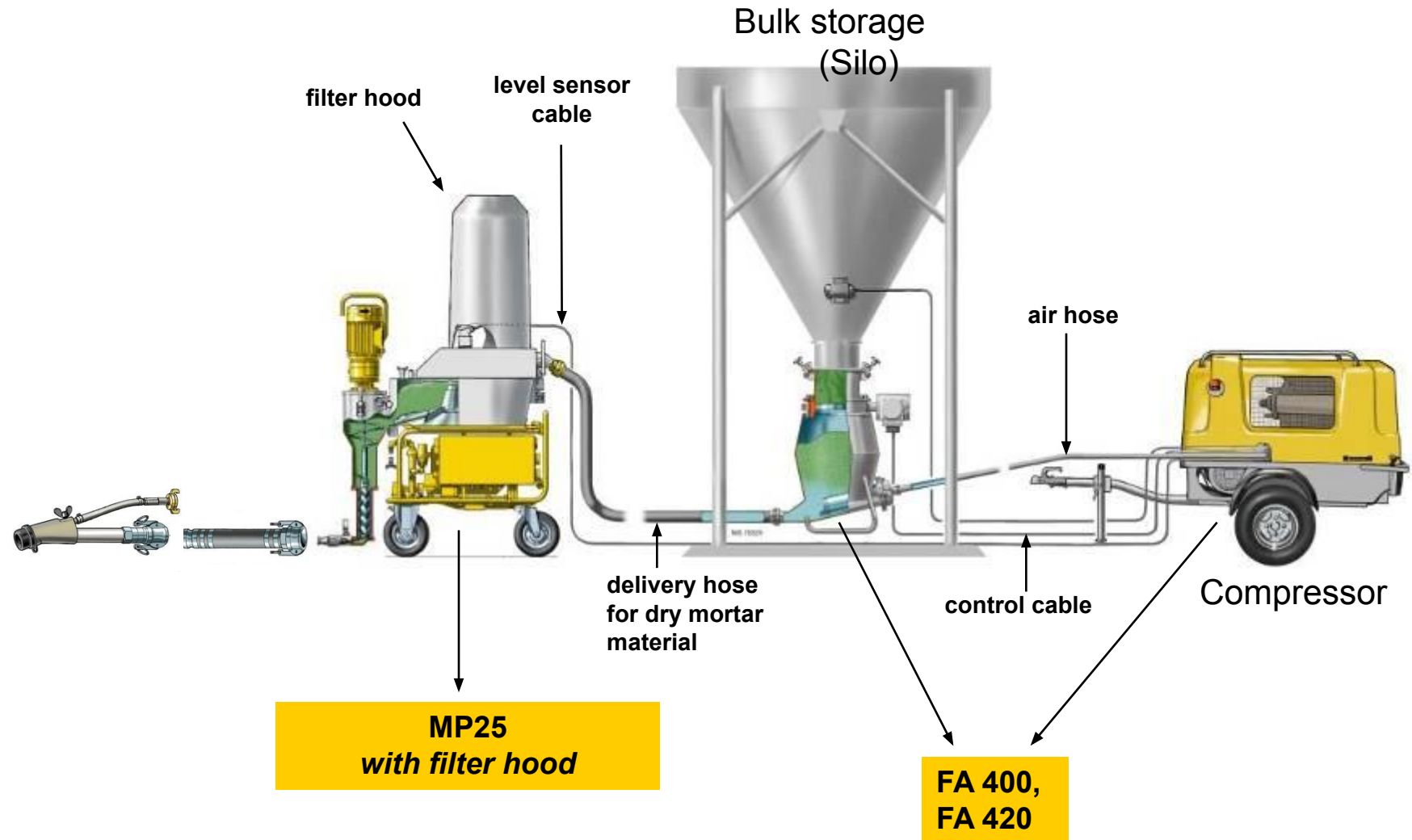




How does a MP 25 work?



MP 25 – silo feeding



Mixer pump MP 25 – Middle East version



- motor: 400V/50Hz
- output: 40 l/min
- pressure: 30 bar
- weight: 240 kg
- hopper volume: 115l
- max. aggregate size: 4mm
- compressor 200 l/min ✓
- water pump ✓

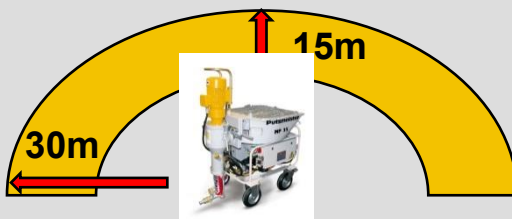
Art. number: 111 417.184 (ME version)

Applications:

only PRE-MIX material (bag or silo)

interior plaster (gypsum plaster)
external rendering (lime/cement)
self leveling floor screed
cementitious adhesive mortar

Pumping distance & height:



Area coverage per bag; 12mm thickness:



Gypsum plaster:

3-3,5 sq.mt. per 50 kg bag

Lime/cement plaster:

2-2,5 sq.mt. per 50 kg bag

Cement plaster:

~2 sq.mt. per 50 kg bag

50kg CP2 => 0,015 m³ plaster => 1,5 m²
(15mm)

Theoretical area coverage* per hour with D5 short:



10mm thickness:

240 sq.mt. per hour

12mm thickness:

200 sq.mt. per hour

15mm thickness:

160 sq.mt. per hour

* continuous output with D5 short pump = max. 40l/min

Realistic area coverage* per day with D5 short:

300 - 350 sq.mt. per 8h

Mixer pump MP 25 – Middle East version



- motor: 400V/50Hz
- output: 40 l/min
- pressure: 30 bar
- weight: 240 kg
- hopper volume: 115l
- max. aggregate size: 4mm
- compressor 200 l/min ✓
- water pump ✓

Art. number: 111 417.184 (ME version)



Standard accessories:

- 1 pc. ID 35 spray gun
- 1 pc. ID 35 mortar hose 13,3m
- 1 pc. air hose 15m
- 1 pc. D5 rotor & stator & clamp
- 1 pc. water suction hose w. filter
- 1 pc. 14mm plaster nozzle
- 3 pcs. sponge balls for ID35



Additional accessory recommendation:



Mortar Hose DN35X13.3m PN40
P/No.: 207615007



Air hose DN 13X15M 1/2" GEKA
P/No.: 212 333.002



Sponge ball 45 MM for ID35 hoses
P/No.: 065 044.001



Compression ring ID35
P/No.: 213 725.004



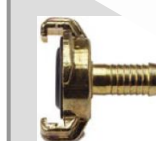
Fine plaster rubber nozzle 14 mm
P/N.: 214 754.003



Fine plaster rubber nozzle 16 mm
P/N.: 214 755.002



Stator D5 short
P/N.: 071 011.002



Rotor D5 short
P/N.: 071 234.009



GEKA coupl. for water hose 3/4"
P/N.: 001 387.007



GEKA coupl. for water hose 1"
P/N.: 001 390.007



CEE Socket 32 A, 380V/50Hz, 5pol.
P/N.: 014 184.006



Grease Spray to insert rotor into stator
P/N.: 508 975

Putzmeister plastering machines: MP 25



← min. 2 bar!
min. 3/4" hose!

MP 25 (worm pump)

The universal worm pump S5

S 5 EV – various versions

S5 EV



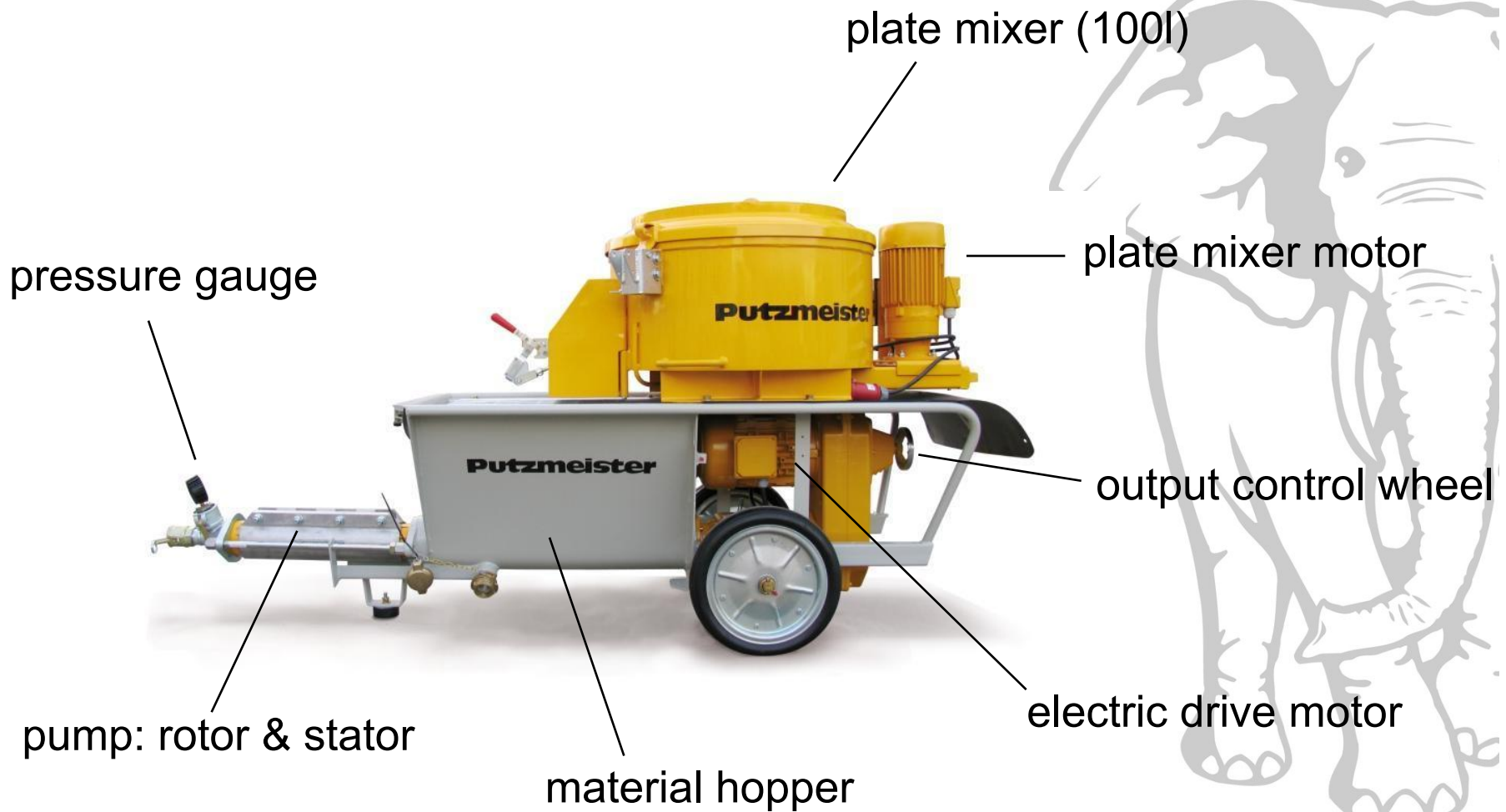
S5 EV/TM



S5 EF (high output pump)

infinitely variable output control with hand wheel (7 - 40 l/min)

S 5 EV/TM – with plate mixer



S5 EV/TM – the multi-use mortar pump with mixer



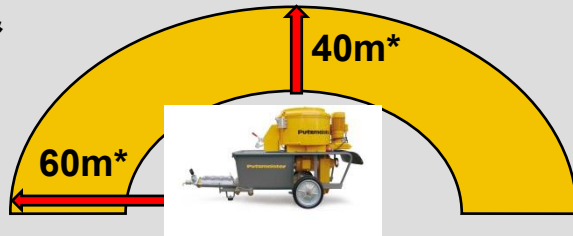
- drive motor 5,5 kW 400V/50Hz
- output 7-40l/min
- pressure 25bar (2L6 pump)
- mixer volume 100l
- weight 400kg
- dimensions 2290/680/650mm
- max aggregate **6mm!**

Article number: 111 452.330

Very versatile use:

- interior & exterior plastering with pre-mix material
- monocoat plaster
- fire-proofing of steel constructions
- repair works of bridges, concrete buildings
- injecting, grouting
- filling

Pumping distance & height:



*depending on material properties

Machine provides:

- **mixing:** plate mixer (100l) as standard
- **pumping:** worm pump (rotor & stator 2L6)
- **spraying:** compressor (360 l/min.) as separate order

Features:

- **air remote control:** switch on/off pump at the spray gun
- **output regulation:** infinitely variable speed control
- **continuous operation:** mixing and pumping at the same time
- **different pump models** attachable for more/less output and more/less pressure

Typical material for S5 use (max. 6mm grain size):

- dry-mixed and wet mortars
- ground plasters: lime / cement
- insulating plasters
- masonry mortar
- repair mortar
- bonding mortar
- texture plasters etc.

Realistic area coverage for plastering per 8h:

350 sq.mt. (= 3.700 sq.ft.)

S5 EV/TM – the multi-use mortar pump with mixer



- drive motor 5,5 kW 400V/50Hz
- output 7-40l/min
- pressure 25bar (2L6 pump)
- hopper volume 100l
- weight 400kg
- dimensions 2290/680/650mm
- max aggregate **6mm!**

Article number: 111 452.330



Standard accessories:

- Remote control cable 20m
- CEE Socket 32 A, 380V/50Hz, 5pol.
- 2 pcs. Sponge balls for ID35 hoses
- Grease gun & cartridge
- Tools and gaskets



Additional accessory recommendation:



(3x) Mortar hose ID35X13.3m PN40
P/No.: 207 615.007

pneumatic remote control cpl.
P/No.: 465 951



(2x) Air hose 1/2", 20m GEKA
P/No.: 001 665.004



Compressor V-MEKO with fuse, 360 l/min.
P/No.: 400 168



ID 35 spray gun
P/No.: 203 054.002



Sponge ball 45 MM for ID35 hoses
P/No.: 065 044.001



Fine plaster rubber nozzles
14mm: P/No.: 214 754.003
16 mm: P/No.: 214 755.002



GEKA coupl. for water hose
3/4": P/N. 001 387.007
1": P/N.: 001 390.007



Reduction piece V35/V25-40
P/N.: 207 795.008



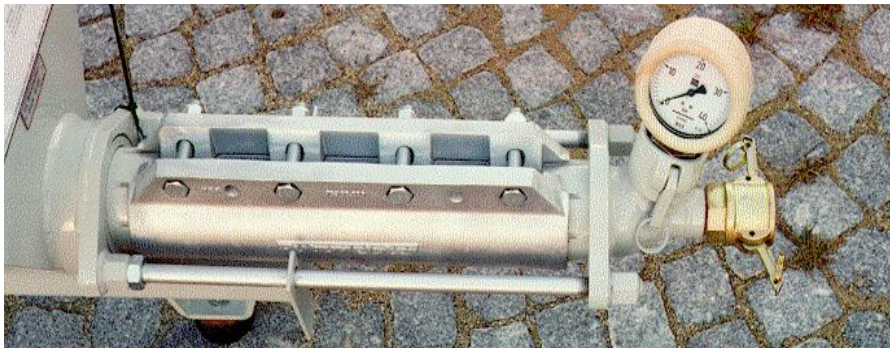
Gauge for pressure testing
P/N.: 208 745.002



Compression ring
ID 35: P/No.: 213 725.004

Rotor / Stator	Output [l/min]
D4 ½ *	1.5 to 9.5
D4 *	2.5 to 14
D5 / D8-2 *	4 to 23
2L6	7 to 40
2L88	8 to 50
2L54*	9 to 55
2L74 (only S5EF)	90

* requires modifications



Depending on the material consistency, the output may vary!

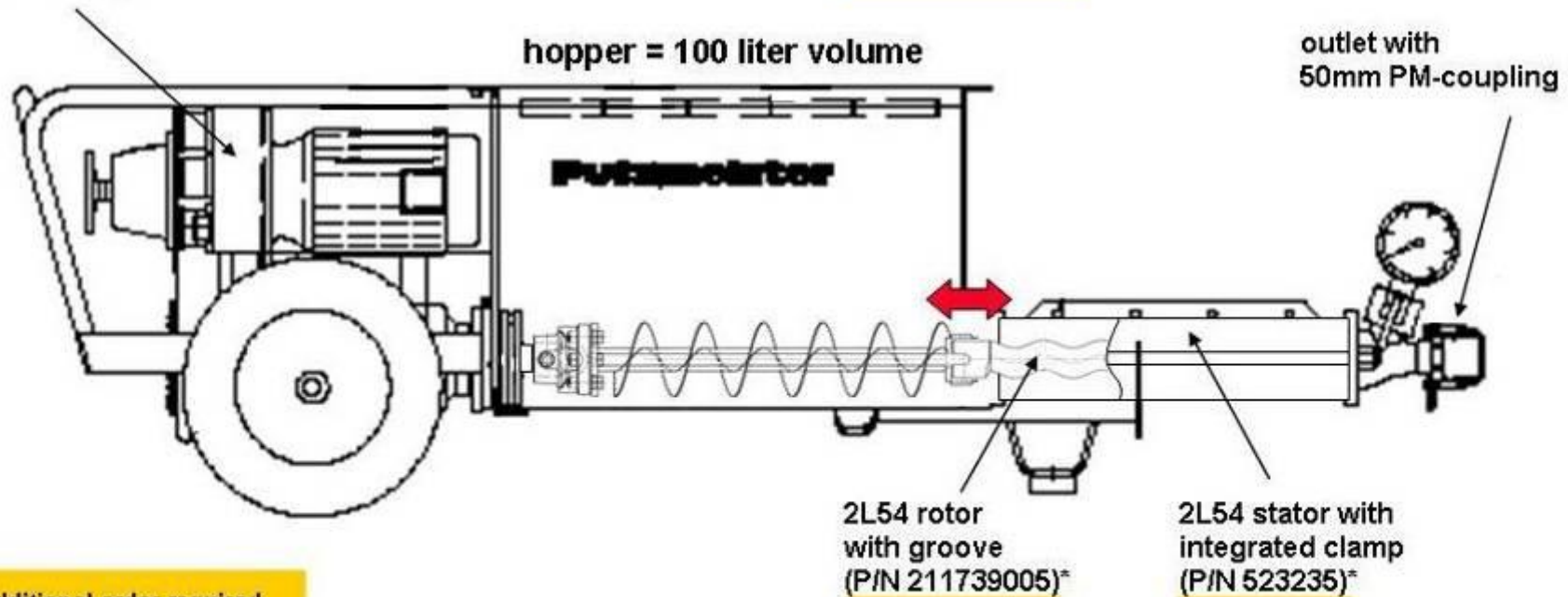
S5 EV with 2L54 for max. 10mm material

- S5 EV:**
- with plugged cardan shaft
 - worm pump 2L54 with integrated clamp
 - for up to **10mm grain size**
 - output from **9 – 55 l/min**

5.5 kW vario drive
400V/50cycles

hopper = 100 liter volume

outlet with
50mm PM-coupling



* additional order required

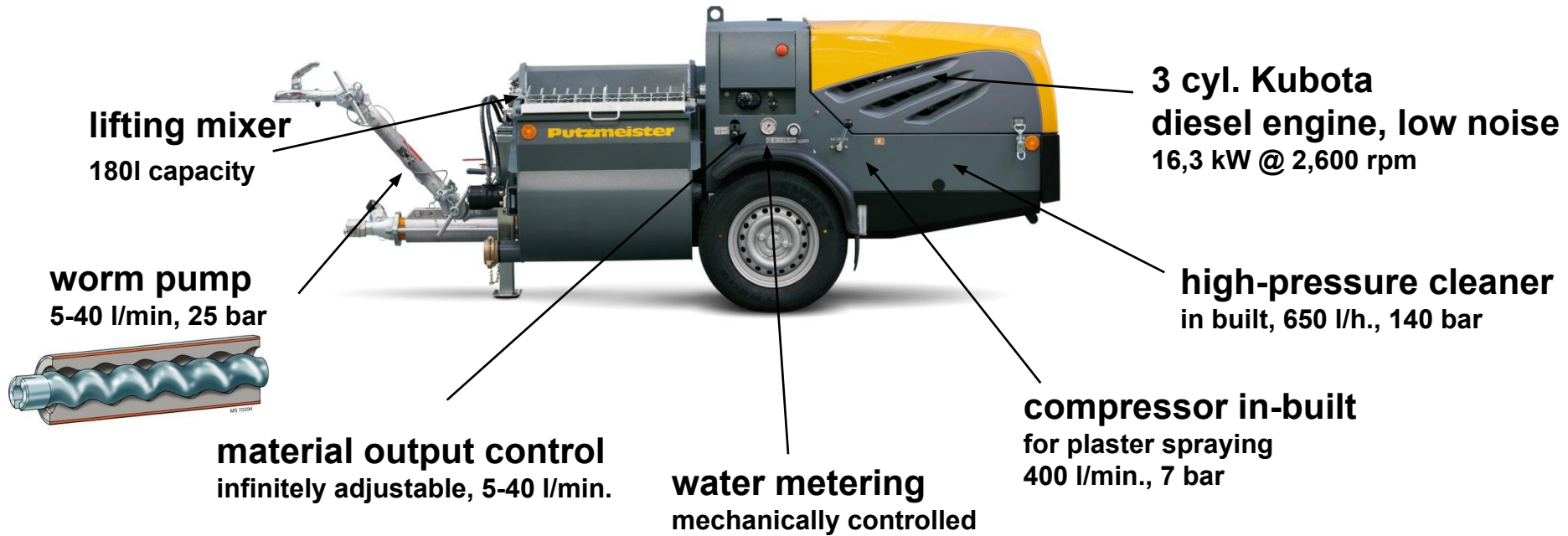
S5 EV with D6 Power

Site in Italy with dry-mix mortar Mapegrout from Mapei (Italy)

- lower output
- higher pressure
- maintenance free stator



SP11 diesel driven worm pump



- mixing



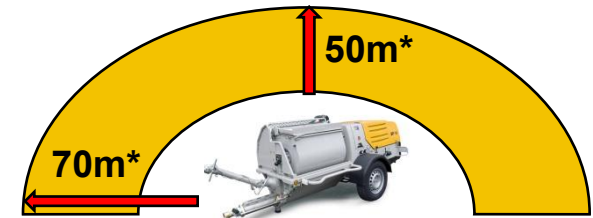
- pumping



- spraying



- cleaning



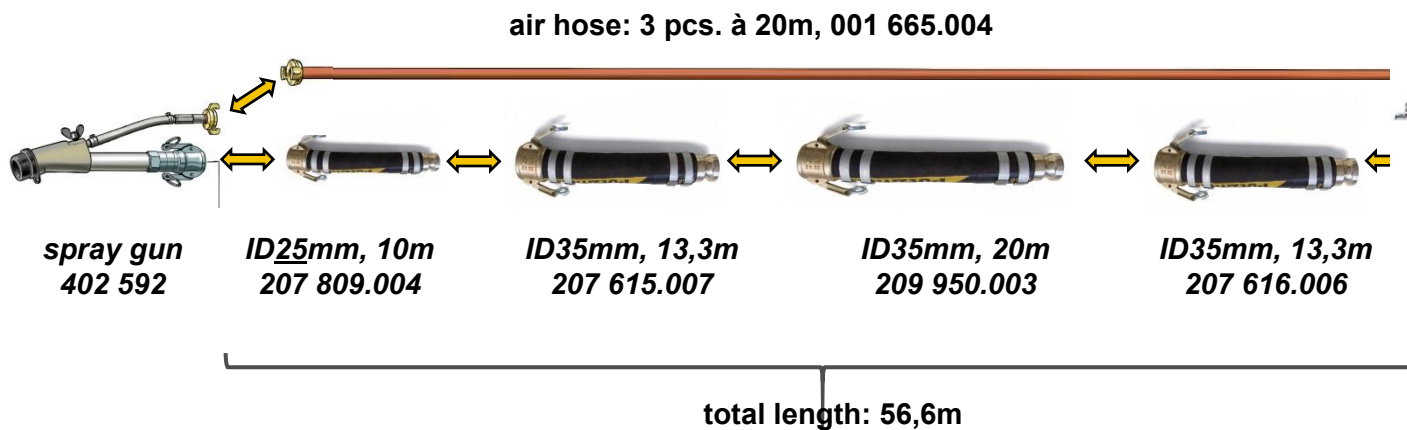
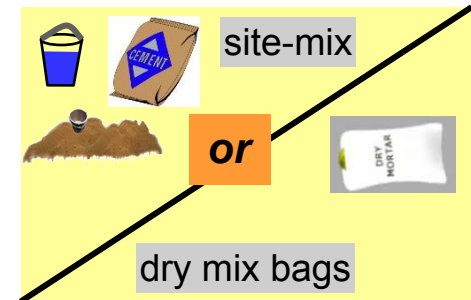
Made in Germany

SP11 diesel driven worm pump



SP11 plastering pump with accessories

max. grain size: 6mm!



SP11 LMR
111 622.010



SP11 LMR – lifting mixer, diesel driven



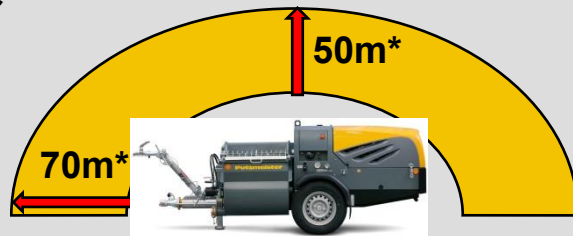
Article number: 111 622.010

- engine 3-cyl. Kubota diesel
- compressor 400 l/min., 7 bar
- output 5-40l/min
- pressure 25bar (2L6 pump)
- mixer volume 180l (hopper:220l)
- weight 750kg
- dimensions 3510/1420/1250mm
- max aggregate **6mm!**

Very versatile use:

- interior & exterior plastering with pre-mix material
- site-mix with lime/cement plaster (no gypsum)
- monocoat plaster
- fire-proofing of steel constructions
- repair works of bridges, concrete buildings
- grouting, filling

Pumping distance & height:



*depending on material properties

Machine provides:

- **mixing:** mixer (180l) is standard
- **pumping:** worm pump (rotor & stator 2L6)
- **spraying:** compressor (400 l/min.) is standard

Features:

- **air remote control:** switch on/off pump at the spray gun
- **output regulation:** infinitely variable speed control
- **mechanical water dosage**
- **continuous operation:** mixing and pumping at the same time
- **different pump models** attachable for more/less output and more/less pressure

Typical material for SP11 use (**max. 6mm grain size**):

- dry-mixed and wet mortars
- ground plasters: lime / cement
- fire-proofing material
- insulating plasters
- repair mortar, masonry mortar
- bonding mortar, texture plasters etc.

Realistic area coverage for plastering per 8h:

350 sq.mt. (= 3.700 sq.ft.)

SP11 LMR – swivel mixer, diesel driven



- engine 3-cyl. Kubota diesel
- compressor 400 l/min., 7 bar
- output 5-40l/min
- pressure 25bar (2L6 pump)
- mixer volume 180l
- weight 750kg
- dimensions 3510/1420/1250mm
- max aggregate **6mm!**

Article number: 111 622.010



Standard accessories:

- 1 pcs. Sponge ball for ID50 hoses
- Grease gun & cartridge
- Tools and gaskets



Additional accessory recommendation:



(3x) Mortar hose ID35X13.3m PN40
P/No.: 207 615.007



(3x) Air hose 1/2", 20m GEKA
P/No.: 001 665.004



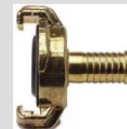
ID 35 spray gun
P/No.: 203 054.002



Sponge ball 45 MM for ID35 hoses
P/No.: 065 044.001



Fine plaster rubber nozzles
14mm: P/No.: 214 754.003
16 mm: P/No.: 214 755.002



GEKA coupling for water hose
3/4": P/N. 001 387.007
1": P/N.: 001 390.007



Reduction pieces
V35/V25-40, P/N: 207 795.008
V50/M35, P/N: 213 217.004



Gauge for pressure testing
P/N.: 208 745.002



Compression ring
ID 35, P/No.: 213 725.004
ID 50, P/No.: 213 266.000

SP11 TMR – lifting mixer, 4-cyl.diesel driven



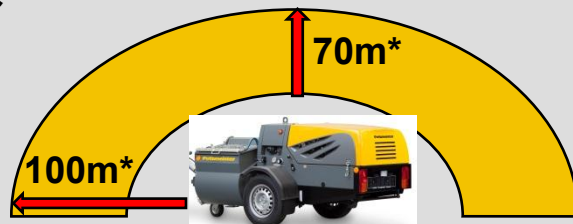
Article number: 111 626.200

- engine **4-cyl.** Kubota diesel
22,7 kW @ 2.600 rpm
- compressor 400 l/min., 7 bar
- output 7-40l/min
- pressure 25bar (2L6 pump)
- mixer volume 180l (hopper: 220l)
- filling height 880 mm
- weight 900 kg
- dimensions 3924/1420/1160 mm
- max aggregate **6mm!** (with 2L75: 8mm)

Very versatile use:

- interior & exterior plastering with pre-mix material
- site-mix with lime/cement plaster (no gypsum)
- monocoat plaster
- fire-proofing of steel constructions, A/C ducts etc.
- concrete repair works of bridges, buildings etc.
- grouting, filling

Pumping distance & height:



*depending on
material properties

Machine provides:

- **mixing:** mixer (180l) is standard
- **pumping:** worm pump (rotor&stator 2L6, option: 2L75)
- **spraying:** compressor (400 l/min.) is standard

Features:

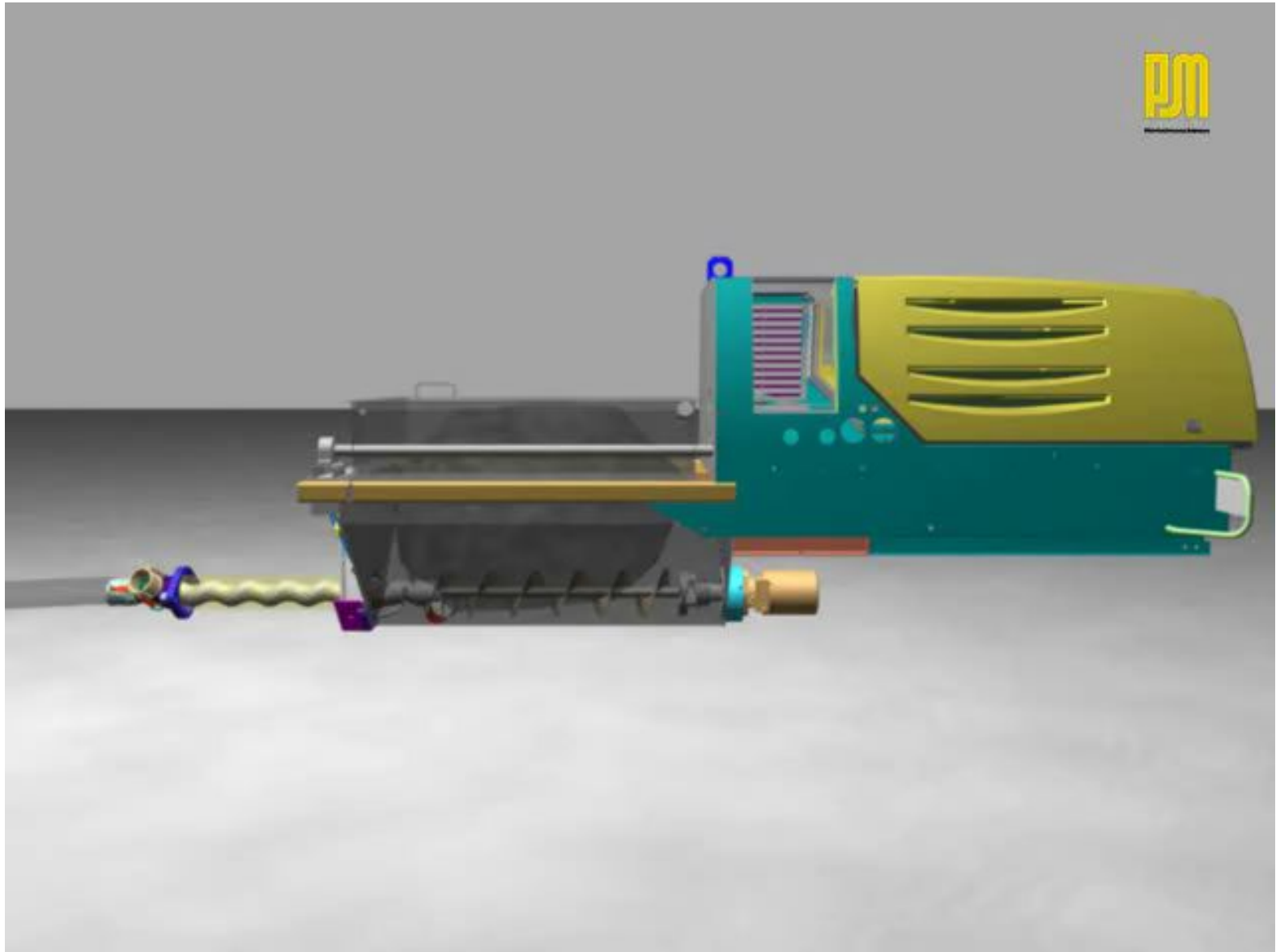
- **very powerful 4-cyl. engine**
- **air remote control:** switch on/off pump at the spray gun
- **output regulation:** infinitely variable speed control
- **mechanical water dosage, high pressure cleaner**
- **continuous operation:** mixing and pumping at the same time
- **different pump models** attachable for more/less output

Typical material for SP11 use (**max. 6mm grain size**):

- dry-mixed and wet mortars
- ground plasters: lime / cement
- fire-proofing material
- insulating plasters
- repair mortar, masonry mortar
- bonding mortar, texture plasters etc.

Realistic area coverage for plastering per 8h:

350 sq.mt. (= 3.700 sq.ft.)



P 13 – piston pump plastering machine



P 13 (piston pump)

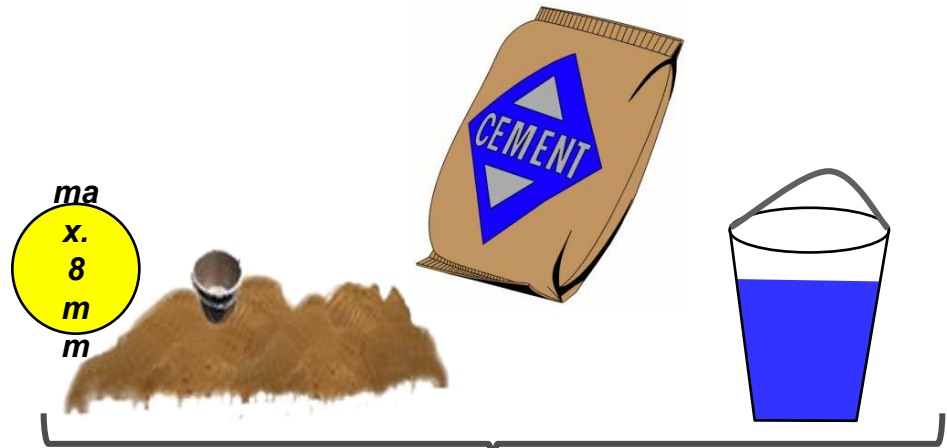
mixing ✓

pumping ✓

spraying ✓

- **for site-mix material**
- **plastering, grouting, filling, small shotcreting applications**

site-mix

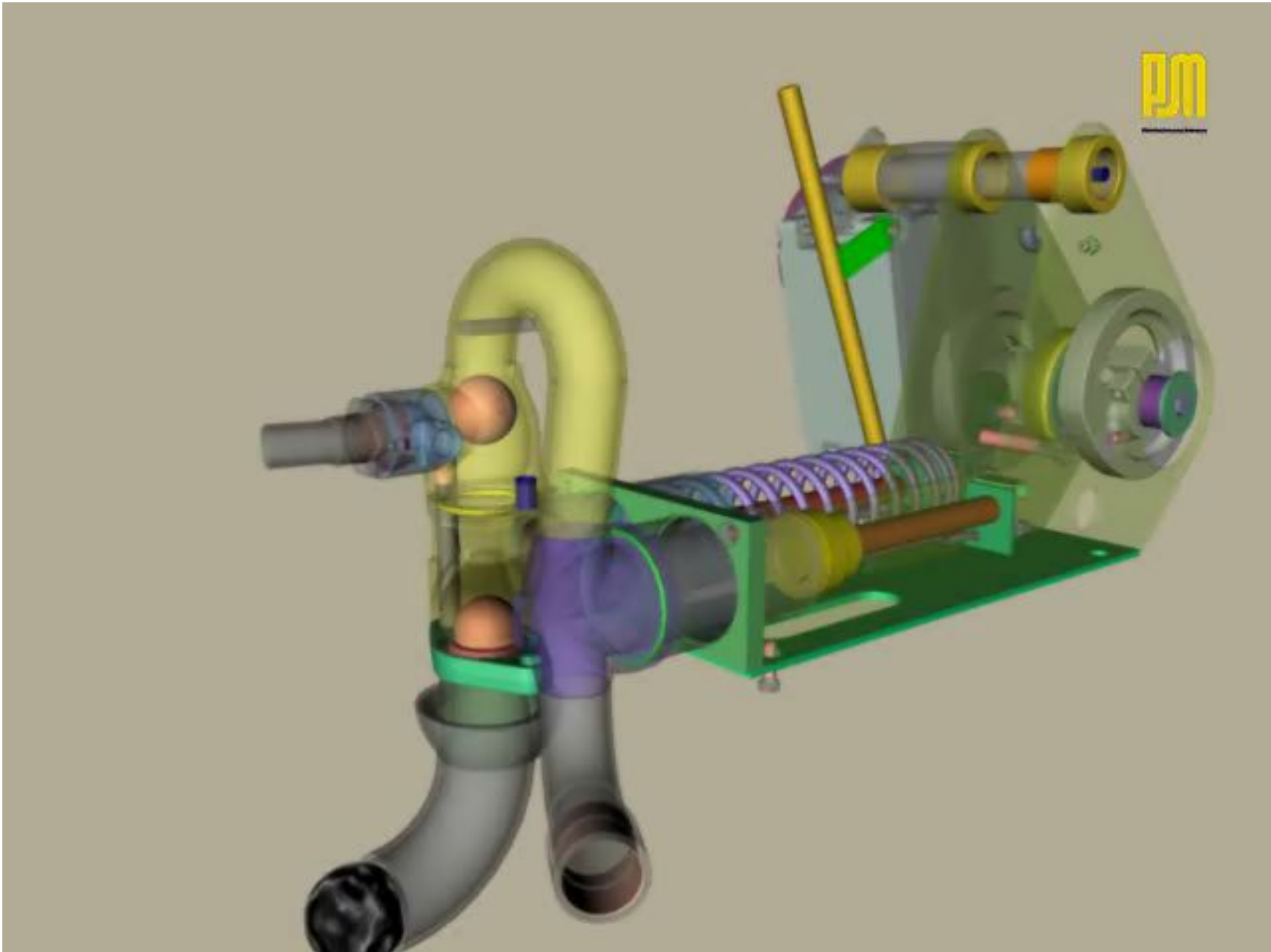


P 13 (piston pump)

P 13 – technical training



Putzmeister plastering machines



P 13 DMR – Middle East version **NEW!**



cylinder Lomb. diesel, 12,5 kW
output: 15-65 l/min.
ax. pressure: 40 bar
ax. aggregate size: 8mm
cylinder-compressor 3,5 bar,
100 l/min ✓
mixer on board ✓
vibrating screen, 8mm ✓

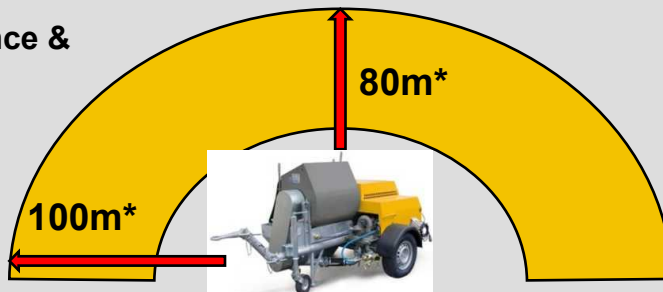
with extra large pump head A/No.: 111 460.070 (ME version)

Applications:

- **the ideal machine for job-site mixes**
- plastering, interior & exterior
- fine concrete pumping, max. aggregate size: 8mm
- injecting & grouting – pressure can be set between 8–40 bar
- shotcreting of small areas, e.g. pools
- **processes all kinds of local plaster sands!**

Pumping distance & height:

*depending on material properties.
For site-mix 40-60m



Machine provides:

- **mixing:** trap mixer as standard
- **pumping:** piston pump for all kinds of plaster sands
- **spraying:** 2-cyl. compressor on board

Features:

- **air remote control:** switch on/off pump at the spray gun
- **output regulation:** choose between 3 different levels
- **pressure setting:** between 8-40 bar (injecting)
- **continuous operation:** mixing and pumping at the same time
- **vibrating screen:** to avoid over-sized aggregates
- **very reliable diesel engine:** almost no wear parts

Typical job-site mix:

- 3-4 parts of plaster sand
- 1 part of cement
- add water until mixture shows the right consistency

Maximum area coverage per 8h (10mm thickness):

up to 500 sq.mt. (=5.380 sq.ft.)

P 13 DMR – Middle East version **NEW!**



with extra large pump head A/No.: 111 460.070 (ME version)

- 2-cylinder Lomb. diesel, 12,5 kW
- output: 15-65 l/min.
- max. pressure: 40 bar
- max. aggregate size: 8mm
- 2-cylinder-compressor 3,5 bar, 300 l/min ✓
- mixer on board ✓
- vibrating screen 8mm ✓



Standard accessories:

- 1 pc. ID 35 spray gun
- 1 pc. 18mm plaster collar nozzle
- 1 pcs. Sponge ball for ID50 hoses
- Grease gun & cartridge
- Tools and gaskets



Additional accessory recommendation:



(2x) Mortar Hose ID50X13.3m PN40
P/No.: 501914



(1x) Mortar Hose ID35X13.3m PN40
P/No.: 207 616.006

(1x) Air hose 1/2", 20m GEKA
P/No.: 214 734.007



(3x) Hose brackets made of leather
P/No.: 000 206.008



(5x) Sponge ball 60 MM for ID50 hoses

P/No.: 000 212.005

(5x) Sponge ball 45 MM for ID35 hoses

P/No.: 065 044.001

(5x) Collar plaster nozzle 18 mm

P/N.: 001 329.007

(5x) Collar plaster nozzle 20 mm

P/N.: 001 330.009

(3x) Fine plaster rubber nozzle 16 mm

P/N.: 214 755.002



(1x) Reduction piece V35/V25-40
P/N.: 207 795.008



(1x) Gauge for pressure testing
P/N.: 208 745.002



Compression ring

ID 35: P/No.: 213 725.004

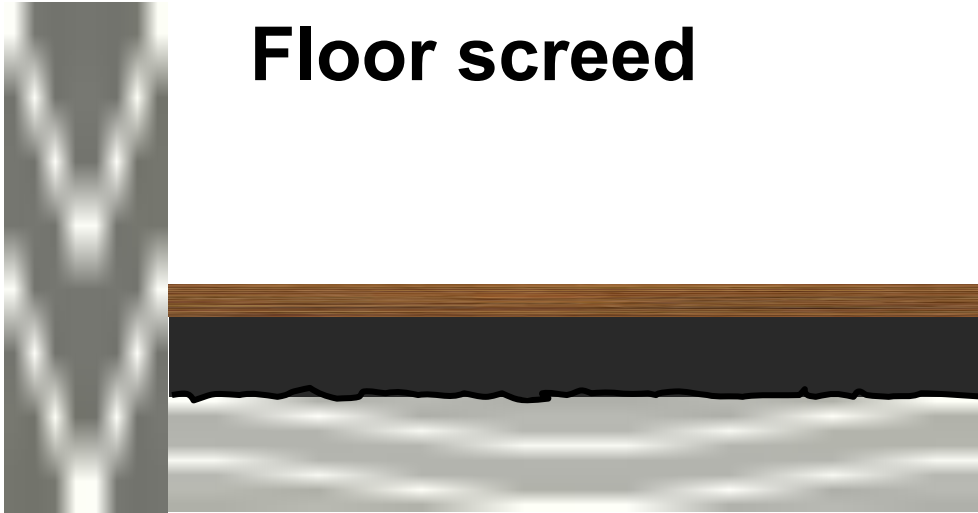
ID 50: P/No.: 213 266.000

Applications

Floor screeding with Putzmeister



Floor screed



- ← final finish (tiles, carpet, timber)
- ← **floor screed layer**
- ← concrete surface

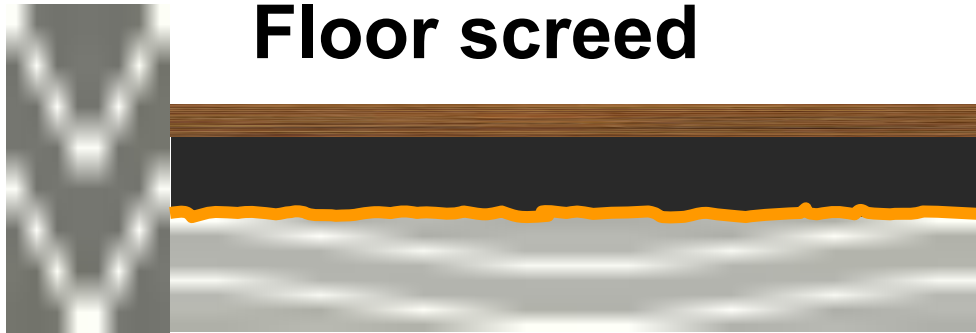
Purpose of floor screed:

- to receive a flat, even layer as a basis for the final flooring
- additional properties: subsonic noise reduction, insulation, water proofing
- to receive the correct final room height

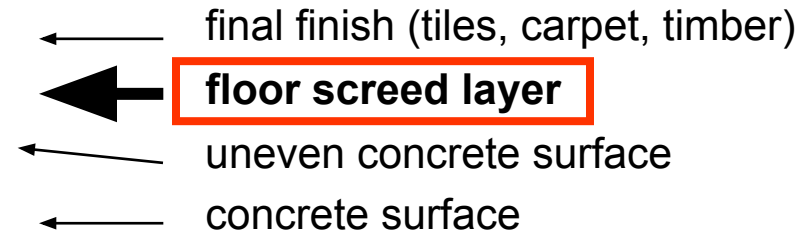
Final layer:

- tiles, carpet, timber, synthetic resin etc.





Floor screed



Why floor screeding and not another concrete layer?

- Wet Concrete means SHRINKAGE
- Shrinkage means uneven surface, cracks, long drying time
- Uneven surface means additional costs due to
 - additional works to prepare for final finish, e.g. epoxy, linoleum, or
 - filling the uneven surface e.g. with very expensive final layer (epoxy or similar), or
 - filling the uneven surface with another filler, which results in expensive extra work and quality risk
- Traditional concrete does not allow slope for drainage. Important e.g. in basement parkings after heavy rain.
- Concrete treatment with vacuum technology to extract water (for even surface) requires a lot of know-how and machine investment.

Floor screeding & Admixtures

- Floor screed is supposed to be applied as dry as possible to control shrinkage.
- In order to be able to reduce the water content, by ensuring the pumpability, chemical admixtures are added.
- When adding these admixtures, the cement ratio can be reduced, which compensates the additional costs.

Types of floor screed

types of screed	water/ cement ratio	shrinkage	material costs	labor costs (finishing)	screed quality strength etc.	pump with...
dry sand & cement mixture	zero water	zero	low	medium	low 	Mixokret "blowing"
semi-dry "traditional cement based floor screed"	0,38 - 0,45	very low, mostly add admixtures	low	high	very good special properties possible	Mixokret Air Conveyors
wet consistency like regular concrete	>0,50	high  => uneven surface => additional work	low	medium	low	Piston pumps: P13, P715, P718
liquid "self-levelling" consistency like yoghurt	0,16-0,5 chemicals!	low, due to high amount of chemical additives	high	low	special properties possible max. 35 N/mm ² possible	any worm or piston pump



dry



semi-dry



wet



liquid

Add Water Reducer to your screed mix => Increases the cement/water reaction (hydration)



Cement ratio can be reduced (from 430 kg/m³ to 270 kg/m³)



Water ratio can be reduced



Better compaction



Less shrinkage



Quicker hydration



Reduced drying time



**Gains strength
quickly**



Cost reduction

**less cracks
less moisture
less final floor failures
=> less quality problems!**

Time saving & flexibility in construction process

Traditional cement based floor screed



M 760 DH diesel



**output: 4,0 m³/h, compressor in-built,
pumps ca. 100m vertical, 150m horizontally**

M 760 DHR diesel

with skip



**built,
pumps ca. 100m vertical, 150m horizontally**

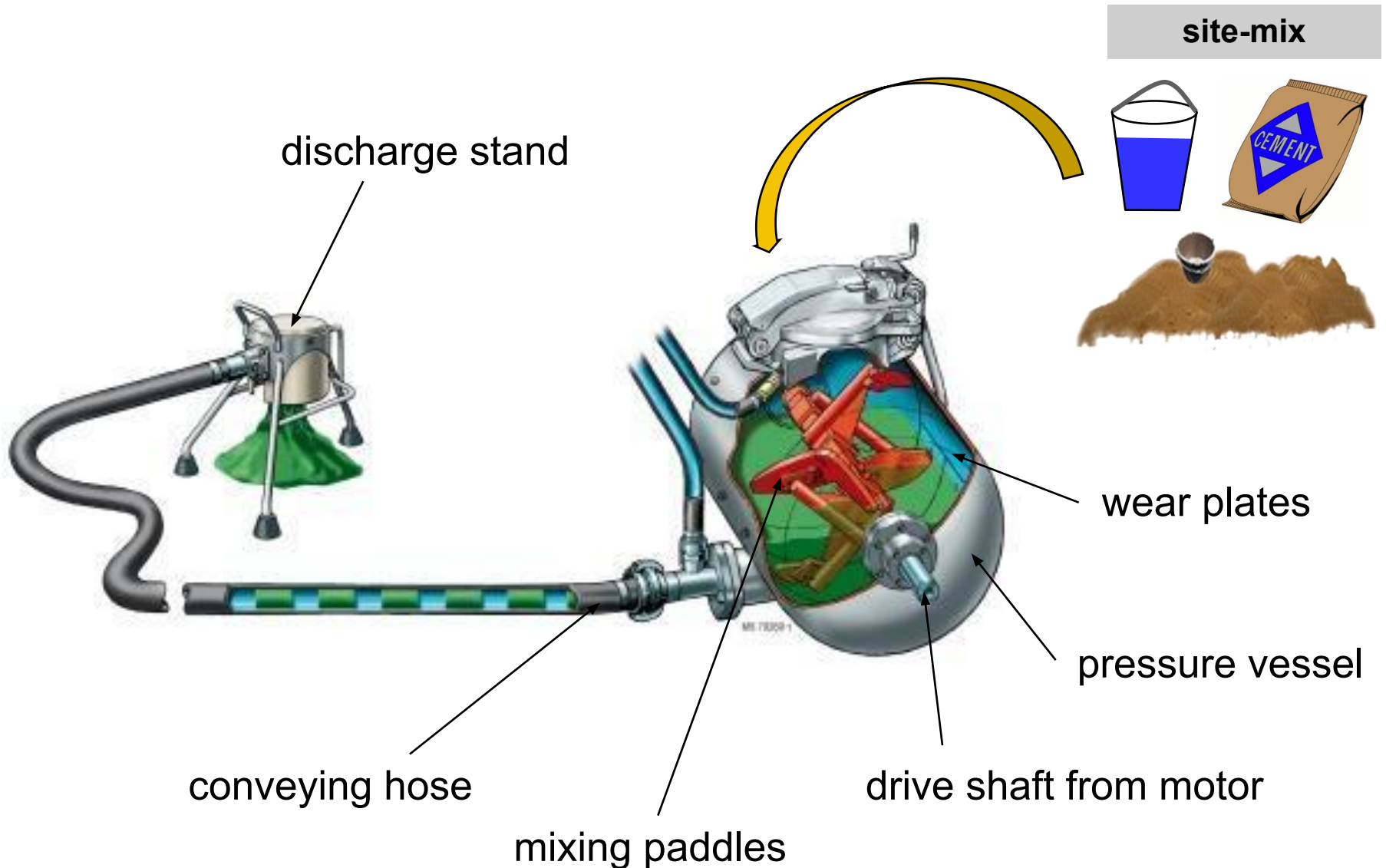
M 760 DHBS diesel

with skip & scraper



**output: 5,0 m³/h, compressor in-built,
pumps ca. 100m vertical, 150m horizontally**

Floor screeding by Pneumatic Air Conveyors



Floor screeding with Putzmeister



Traditional cement based floor screed



M 730/740/760 (diesel)



M 501 (electric)

The only possibility to pump this moist material is with a compressed-air based floor screed conveyor ("Mixokret-Machines").

Self-leveling floor screed



MP 25



S 5 EF



SP 11 THF



P 715

The liquid self-leveling floor screed can be pumped with various worm as well as piston pumps. Requirement: large volume, low pressure.

Cement based floor screed

electric driven



M 501 Electro

+

separate
Compressor
min. 4 m³/min.

diesel driven

compressor on board ✓



M 760 DHBS – diesel engine incl. compressor



Conveying of floor screed, sand, concrete

- with a max. grain size of 16 mm
- to a height of max. 200m!
- the delivery distance depends on the performance of the compressor and of the material
- concrete conveying:
 - ~ 40m high, 60-80m wide
 - regular concrete consistency is o.k., not too liquid!

Floor screeding with Putzmeister



Self-leveling floor screed



Floor screeding with Putzmeister



Traditional cement based floor screed



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MP 25



S 5 EF



SP 11 BHF



P 715

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Mixokret Floor Screed Conveyors



Cement based floor screed

electric driven



M 501 Electro

+

separate
Compressor
min. 4 m³/min.

diesel driven

compressor on board ✓



M 760 DHBS – diesel engine incl. compressor



Conveying of floor screed, sand, concrete

- with a max. grain size of 16 mm
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- concrete conveying:
 - ~ 40m high, 60-80m wide
 - regular concrete consistency is o.k., not too liquid!

Traditional SEMI-DRY floor screed recipe, used in Dubai



water, approx. 20l
(W/C ratio 0,4-0,5)

+

cement
(1 pc. 50 kg bag per vessel)

+

fill vessel with:

50% dune sand
(not washed, must contain
"dust")

+

50% "black sand"=
washed aggregates 2-5mm

+

water reducer chemical
approx. 0.25l

High-rise buildings - Conveying with Mixokret

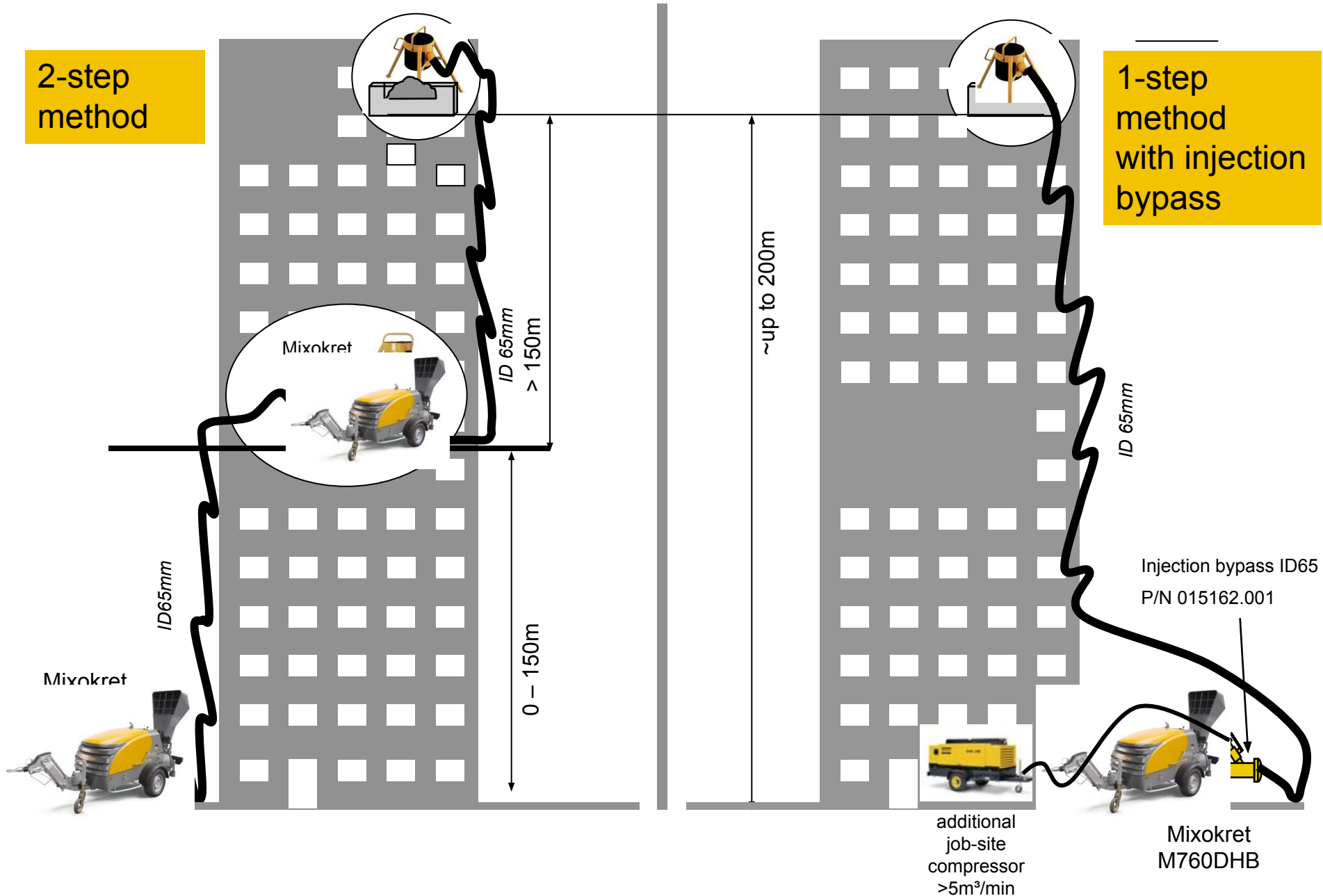


Putzmeister

Mortar Machines

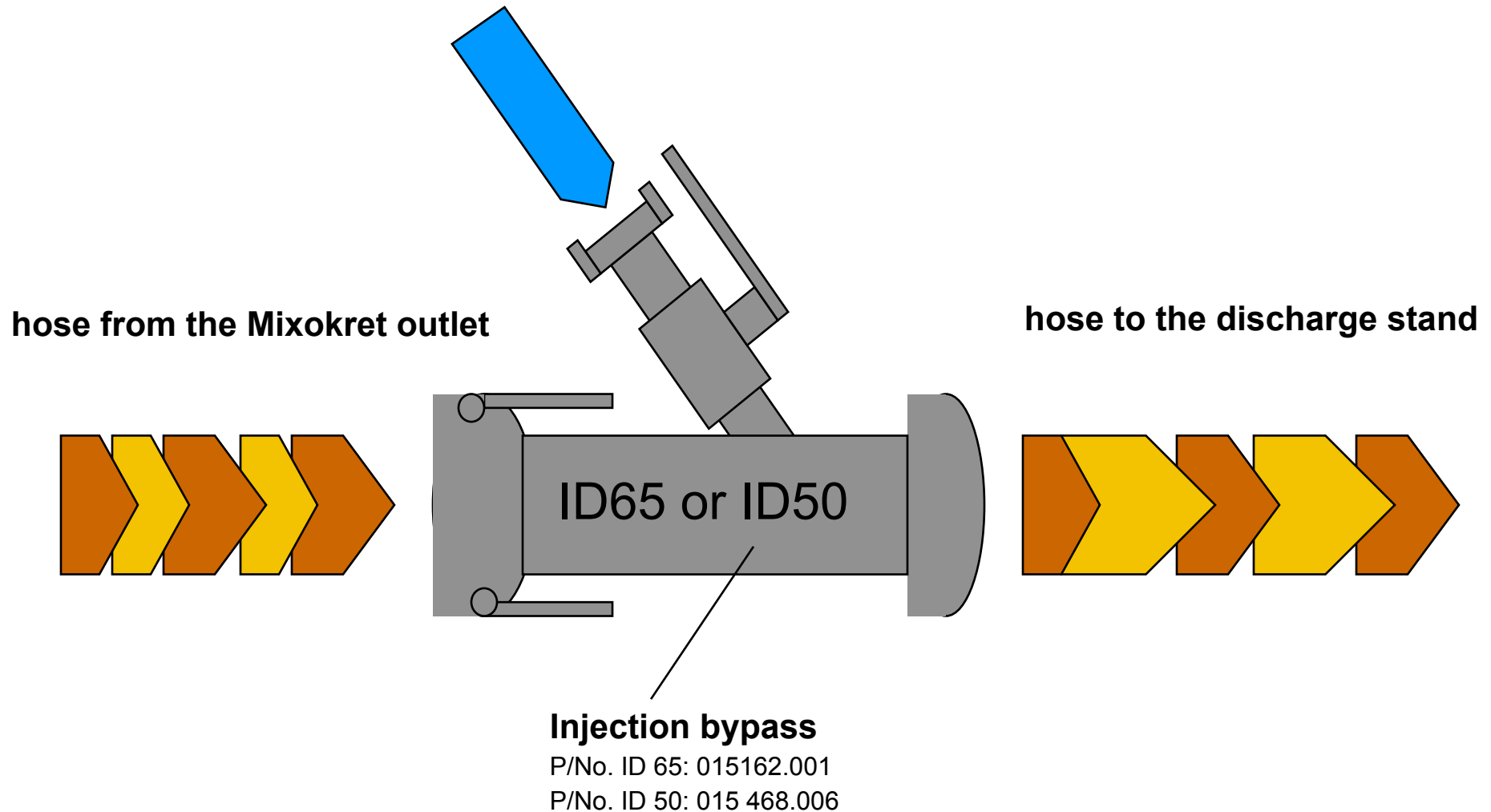
2-step
method

1-step
method
with injection
bypass



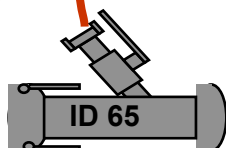
Long Distance Conveying of floor screed

additional air from a site compressor



Cement based floor screed – additional site compressor

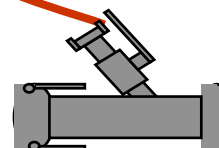
**M 760 DHBS –
incl. compressor**



P/N: 015 162.001



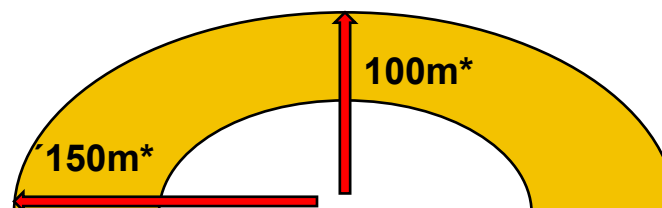
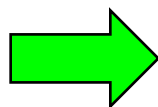
additional site
compressor



How to attach:

Use the machine (incl. its compressor)
as usual, attach the additional compressor
between the machine and the first hose,
or between the first two hoses.

compressor on board:
 $5,0 \text{ m}^3 (= 176,6 \text{ cfm})$

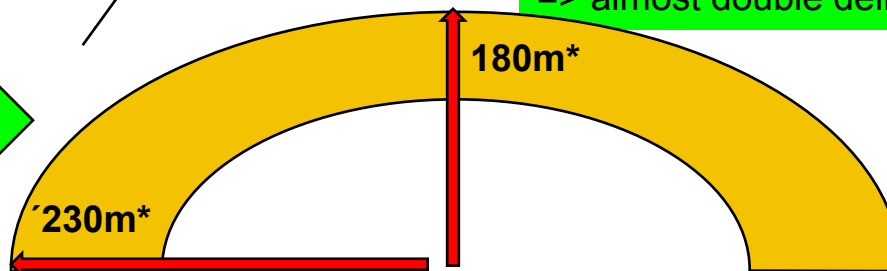
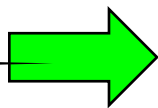


* depending on material
and site conditions!

compressor on board:
 $5,0 \text{ m}^3 (= 176,6 \text{ cfm})$

+

additional compressor:
 $5,0 \text{ m}^3 (= 176,6 \text{ cfm})$



double compressor volume
=> almost double delivery distance

M700 E – floor screed and sand conveyor, electric driven



Standard equipment:
grid safety switch,
operating manual,
steel-discharge stand
with skid incl. connection
ID50, ID65, ID89,
safety lid, standard tools.

separate compressor required!

The Mixokret M 700 E is the successor of the prosperous M 701 and is the basic version of the electric floor screed machines.

It is perfectly suitable to deliver floor screed, sand, gravel and fine concrete up to 16 mm grain size.

M 700 E part-no. 111.599.002



Features

- more compact and steady steel frame with lifting eye
- removable tow bar (not approved to road use)
- powerful electric motor
- mixing vessel with variable position of the lid & large venting system
- air cock for handling the air volume on/off
- separate air cock (EWO coupling) for air removal
- replaceable discharge connections

Technical data:

▪ output	4m³/h
▪ pressure	7bar
▪ mixer volume	260l
▪ compressor	none, required site compressor 2,5 m³ / min.
▪ engine	400 V 50 Hz electric motor
▪ engine power	7,5kW, 3-phase, 400 V 50 Hz
▪ chassis	not approved for road use
▪ weight	700kg
▪ length /w /h	2670mm / 1280 / 1180
▪ filling height	850mm
▪ max aggregate	16mm
▪ pressure connection	KKV 70

M740 D – floor screed and sand conveyor w/o skip diesel driven



- 3-cylinder Deutz diesel, 31,5 kW
- output: 3,8 m³/h.
- max. pressure: 7 bar
- **max. aggregate size: 16mm**
- compressor: 7 bar, 4,3 m³/min.
- mixing vessel on board, 260l
- length/w/h: 4605/1500/1585 mm
- weight: 1.564 kg

with skip loader for quick and easy loading

A/No.: 111 570.210

Applications:

- **the only solution to pump moist cement based floor screed**
- cement or anhydrite screed pumping over long distance
- sand conveying up to 8mm grain size (sand must be dry)
- fine gravel pumping (gravel must be dry)

Machine provides:

- **mixing:** paddle mixer as standard
- **pumping:** conveying by compressed air

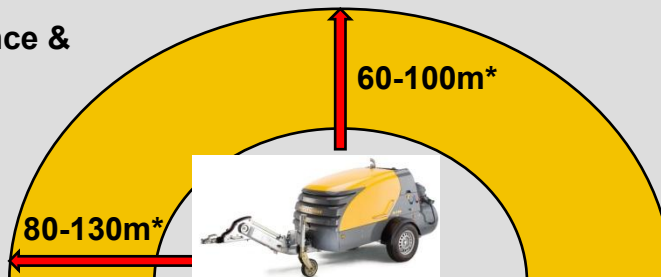
Features:

- **central lubrication system**
- **safety vessel lid (-> pressure)**
- **emergency shut-off switch**
- **lifting eye and working lamp** as standard
- **high pressure cleaner** integrated as option

Typical job-site mix:

- 4-5 parts sand (2 parts natural – 1 part coarse sand)
- 1 part of cement
- W/C ratio: 0,38 – 0,45 (depends on sand)

Pumping distance & height:



*depending on material properties

Cement based floor screed (moist): 130m / 100m

Sand conveying: ~ 80-100m

Fine gravel pumping: ~ 80-100m

if more distance is needed, attach a site compressor by using the injection branch part.

M740 DB – floor screed and sand conveyor with skip, diesel driven



- 3-cylinder Deutz diesel, 31,5 kW
- output: 4,6 m³/h.
- max. pressure: 7 bar
- **max. aggregate size: 16mm**
- compressor: 7 bar, 4,3 m³/min.
- mixing vessel on board, 260l
- length/w/h: 4800/1500/1585 mm
- weight: 1.786 kg

with skip loader for quick and easy loading

A/No.: 111 570.220

Applications:

- **the only solution to pump moist cement based floor screed**
- cement or anhydrite screed pumping over long distance
- sand conveying up to 8mm grain size (sand must be dry)
- fine gravel pumping (gravel must be dry)

Machine provides:

- **mixing:** paddle mixer as standard
- **pumping:** conveying by compressed air

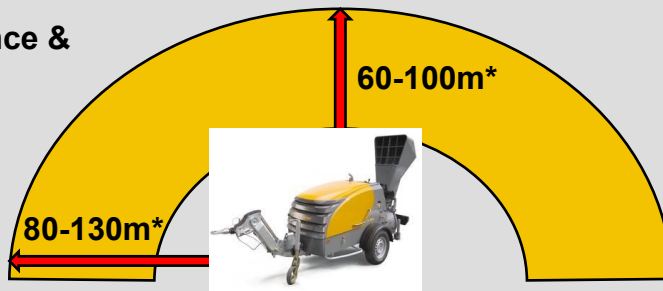
Features:

- **central lubrication system**
- **safety vessel lid (-> pressure)**
- **hydraulic skip loader** as standard with DB version
- **emergency shut-off switch**
- **lifting eye and working lamp** as standard
- **high pressure cleaner** integrated as option

Typical job-site mix:

- 4-5 parts sand (2 parts natural – 1 part coarse sand)
- 1 part of cement
- W/C ratio: 0,38 – 0,45 (depends on sand)

Pumping distance & height:



*depending on material properties

Cement based floor screed (moist): 130m / 100m

Sand conveying: ~ 80-100m

Fine gravel pumping: ~ 80-100m

if more distance is needed, attach a site compressor by using the injection branch part.

M760 DH – floor screed and sand conveyor w/o skip, diesel driven



- 4-cylinder Deutz diesel, 46,5 kW
- output: 4,0 m³/h.
- max. pressure: 7 bar
- **max. aggregate size: 16mm**
- compressor: 7 bar, 5 m³/min.
- mixing vessel on board, 260l
- length/w/h: 4820/1500/1600 mm
- weight: 1.600 kg

A/No.: 111 571.010

Applications:

- **the only solution to pump a semi-dry floor screed mix**
- cement or anhydrite screed pumping over long distance
- sand conveying up to 8mm grain size (sand must be dry)
- fine gravel pumping (gravel must be dry)

Machine provides:

- **mixing:** paddle mixer as standard
- **pumping:** conveying by compressed air

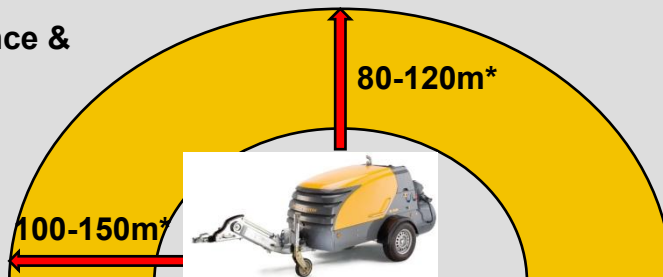
Features:

- **hydraulic driven mixer**
- **central lubrication system**
- **safety vessel lid (-> pressure)**
- **emergency shut-off switch**
- **lifting eye and working lamp** as standard
- **high pressure cleaner** integrated as option

Typical job-site mix:

- 4-5 parts sand (2 parts natural sand – 1 part coarse sand)
- 1 part of cement
- w/c ratio: 0,38 – 0,45 (depends on sand)

Pumping distance & height:



*depending on material properties

Cement based floor screed (moist): 150m / 120m

Sand conveying: ~ 100m

Fine gravel pumping: ~ 100m

if more distance is needed, attach a site compressor by using the injection branch part.

M760 DHB – floor screed and sand conveyor, diesel driven



- 4-cylinder Deutz diesel, 46,5 kW
- output: 4,8 m³/h.
- max. pressure: 7 bar
- **max. aggregate size: 16mm**
- compressor: 7 bar, 5 m³/min.
- mixing vessel on board, 260l
- length/w/h: 4780/1500/1585 mm
- weight: 1.800 kg

with skip loader for quick and easy loading

A/No.: 111 571.020

Applications:

- **the only solution to pump moist cement based floor screed**
- cement or anhydrite screed pumping over long distance
- sand conveying up to 8mm grain size (sand must be dry)
- fine gravel pumping (gravel must be dry)

Machine provides:

- **mixing:** paddle mixer as standard
- **pumping:** conveying by compressed air

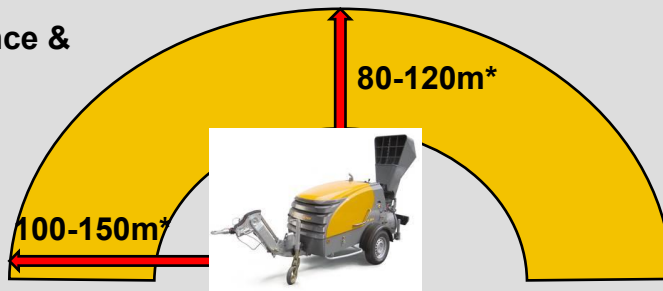
Features:

- **hydraulic driven mixer**
- **central lubrication system**
- **safety vessel lid (-> pressure)**
- **hydraulic skip loader** as standard
- **emergency shut-off switch**
- **lifting eye and working lamp** as standard
- **high pressure cleaner** integrated as option

Typical job-site mix:

- 4-5 parts sand (2 parts natural – 1 part coarse sand)
- 1 part of cement
- w/c ratio: 0,38 – 0,45 (depends on sand)

Pumping distance & height:



*depending on material properties

Cement based floor screed (moist): 150m / 120m

Fine concrete pumping: not recommended

Sand conveying: ~ 100m

Fine gravel pumping: ~ 100m

if more distance is needed, attach a site compressor by using the injection branch part.

M760 DHB – floor screed and sand conveyor, diesel driven



- 4-cylinder Deutz diesel, 46,5 kW
- output: 4,8 m³/h.
- max. pressure: 7 bar
- **max. aggregate size: 16mm**
- compressor: 7 bar, 5 m³/min. ✓
- mixer on board, 260l ✓
- length/w/h: 4780/1500/1585 mm
- weight: 1.800 kg

with skip loader for quick and easy loading

A/No.: 111 571.020



pumping of cement based floor screed (moist material)



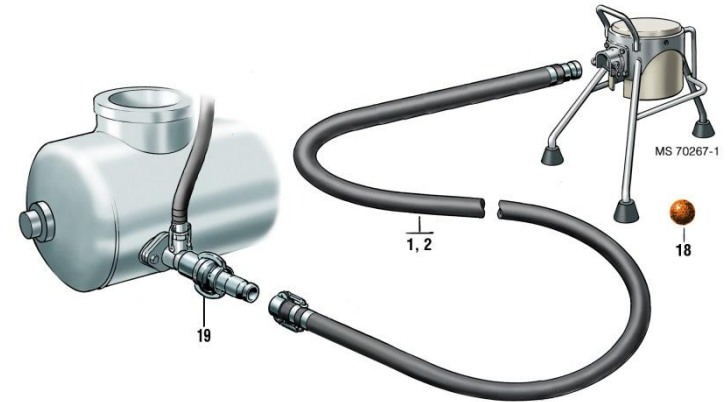
sand conveying

Standard accessories:

- discharge stand
- reduction piece to discharge stand
- 2 pc. sponge balls for ID50 & ID65 hoses
- 50W working lamp
- GEKA coupling RA ½"
- Tools and gaskets



Additional accessory recommendation:



Mortar Hose ID65 KK70, PN10 bar

10m, P/No.: 456 831

20m, P/No.: 456 832

Sponge ball for ID65 hoses

P/No.: 000 246.000

O-Ring for ID 65 hoses

P/No.: 002 224.004

Leather hose holders

P/No.: 000 206.008

Cleaning brush

P/No.: 000 100.007

Injection bypass ID65 to attach additional site compressor

P/No.: 015 162.001



Floor screeding with Putzmeister



Traditional cement based floor screed



Material mix is semi-dry

material costs



time saving



Self-leveling floor screed



Material mix is liquid as yoghurt

material costs



time saving



Self-leveling floor screed



MP 25
electric

2,4 m³/h



S 5 EF
electric

5,4 m³/h



SP 11 BHF
diesel

12,0 m³/h



P 715
electric or diesel

17,4 m³/h

Types of self-leveling floor screed (SLS)



- Calcium sulphate (gypsum) screed
- Cement based SLS (new product, not easy to handle)

Self-leveling floor screed with P715



P 715
electric or diesel

17,4 m³/h

Use surge tank / buffer tank (“Windkessel”)!
- especially recommended with anhydrit based self-leveling floor screed:

fire-proofing

Where applied?

Mostly high-rise &
steel construction buildings,

⇒ to extend the fire resistance
of the steel up to 240 min.

Why machine application?

1. **Compaction** ✓

Due to the air pressure the
material gets compacted
which provides better properties.

2. **Adhesion** ✓

The fact that the material is sprayed with pressure
to the surface results in much better adhesion.

*Both properties can never be reached with
manual application!*



Application field: fire-proofing

fire-proofing



S 5 EV/TM

SP 11 Beliso

Drive motor	Electrical, 5,5 kW	Diesel, 16,3 / 22,7 kW
Delivery height / distance	40m / 60m	50m / 70m
Output (2L6 pump)	40 l/min.= 2,4 m ³ /h, 25 bar	40 l/min.= 2,4 m ³ /h, 25 bar
Max. grain size	6 mm	6 mm
Compressor	optional	standard: 400l/min., 7 bar
Water metering	Optional accessory: manual or automatic	Mechanical (standard) Automatic (optional)
Mixer size	100l	180l
Mixer type	Plate mixer with flap	lifting (hydraulic)

Concrete repair jobs



Why machine application?

1. **Compaction** ✓

Due to high air volume and air pressure the material gets much more compacted.

2. **Speed and material waste** ✓

Due to machine application the working time can be reduced significantly and the waste of material is literally negligible.

A compressor with min. 1.000 l/min. is required.

Material:

- e.g. SPCC-mortar
- often contains fibres for higher strenght

Application field:

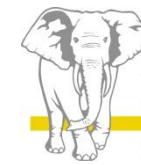
- bridges, towers, dams, causeways, balconies
- if outer concrete layer is broken => inner material may also be damaged (steel corroded)



*special spray gun for
refurbishing,
max. 6mm grain size*

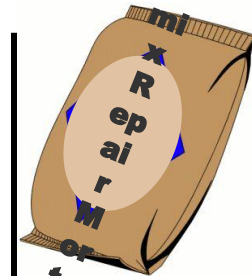
Application: Concrete repair

Concrete repair mortar spraying with S5 EVTM



Putzmeister

Mortar Machines



wet ready-mix

max. 6mm
grain size!

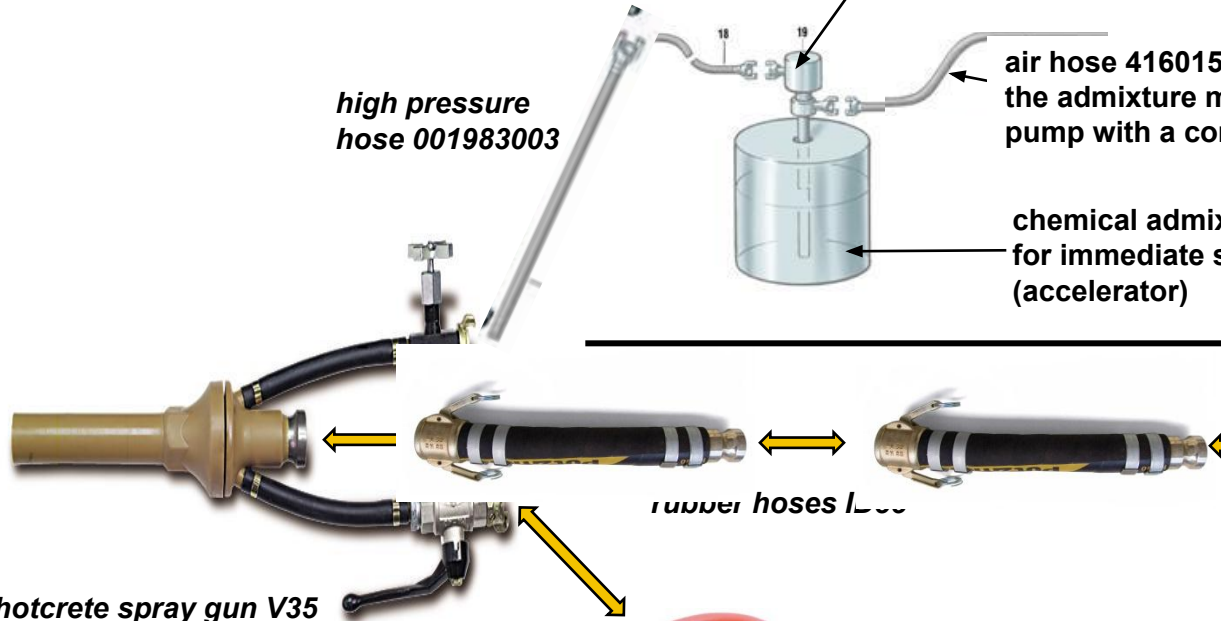


silicate
metering
pump A/No. 002423009

air hose 416015 to drive
the admixture metering
pump with a compressor

chemical admixture
for immediate setting
(accelerator)

high pressure
hose 001983003



rubber hoses 12m

shotcrete spray gun V35
for shotcreting,
max. 6mm grain size
A/No. 011780005

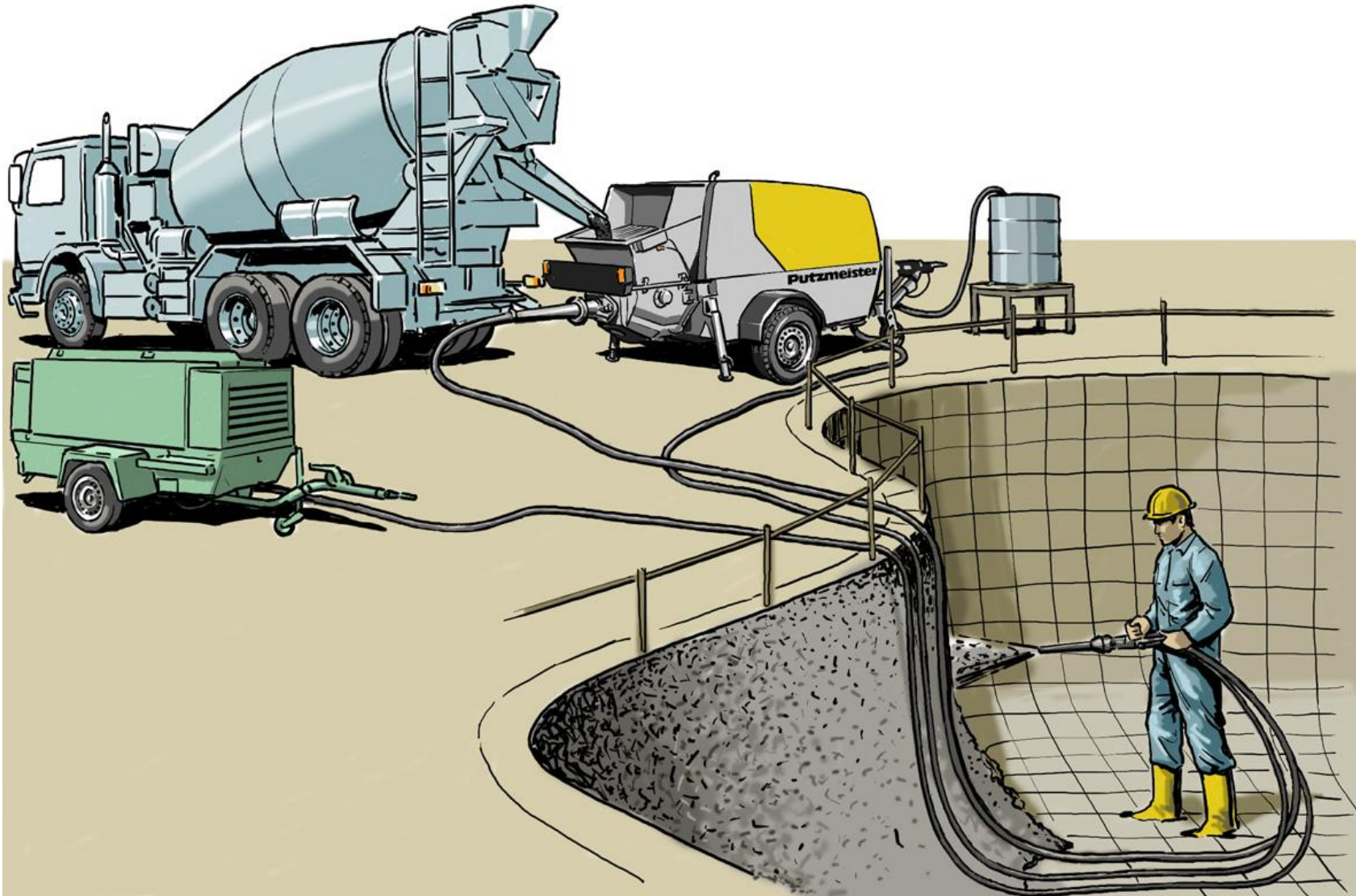
air hose 20m
416015



Putzmeister compressor 360 l/min.
A/No. 400168
or a bigger compressor
to spray the material to the surface



shotcreting



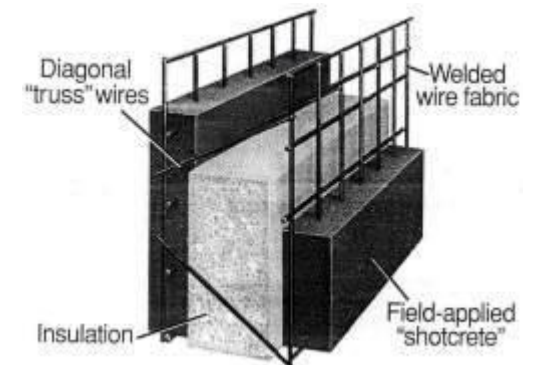
shotcreting

Applications:

- tunnels, pools, slope stabilisation, water pipelines, concrete repair



*special spray gun V50
for shotcreting, max. 8mm grain size*



Application: shotcreting

wet shotcrete



fine concrete pump P715



pumping "ready-mix"
wet shotcrete material



compressed air

add chemical additives

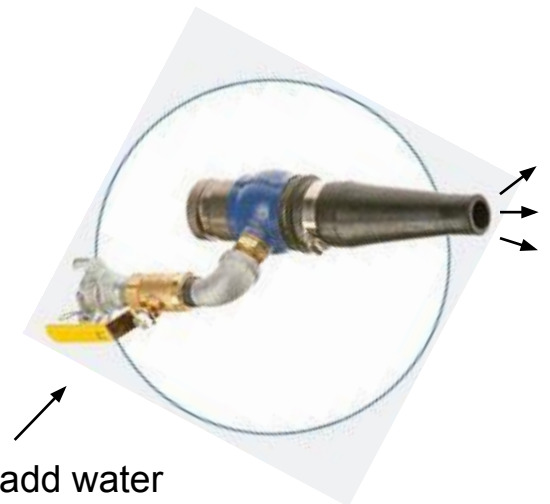
dry shotcrete / guniting



"gunning machine"



blowing dry material (powder)
in the rubber hose



add water

Application: shotcreting

	wet shotcrete	dry shotcrete
shotcrete quality (final quality, under humid conditions the dry powder may clog, mixing)		
costs (material, formwork set-up, wastage)		
material rebound, dust (safety, health, wastage)		
flexibility & set-up on site (long distance pumping etc.)		
cleaning effort		
large area coverage		

Application: shotcreting

Shotcreting with P13



additional site
compressor
min. 3.000 l/min.



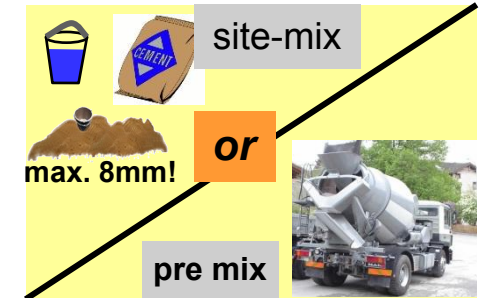
air hose



shotcrete spray gun V50
max. 8mm grain size



rubber hoses 1/2"



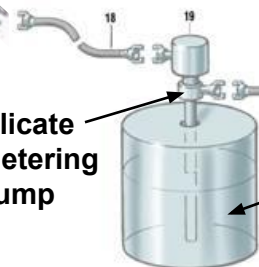
RMC max. 8mm!
ready-mix concrete



optional: chemical admixture

high pressure
hose

silicate
metering
pump



air hose to drive the
silicate metering pump

admixture chemical
for immediate setting

Shotcreting with P715



additional site
compressor
min. 3.000 l/min.



air hose



RMC

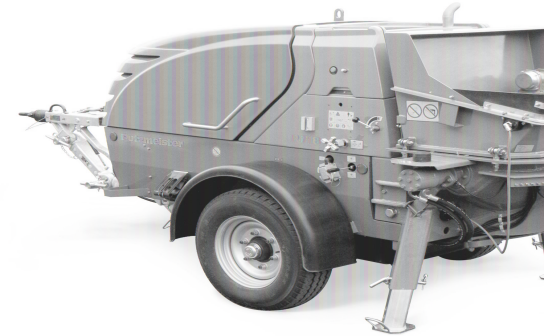


shotcrete spray gun V50
max. 8mm grain size

rubber hoses ID50

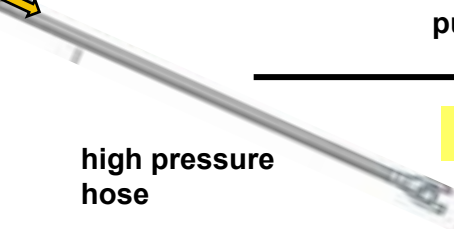


steel pipes for long distance
pumping

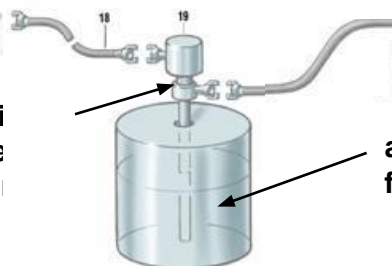


optional: chemical admixture

high pressure
hose



silicate
metering
pump



air hose to drive the
silicate metering pump

admixture chemical
for immediate setting

Application: shotcreting

Shotcreting spray line, SK65 / PM50, max. 40 bar, ≤ 8mm grain size

Complete Set, Part No.: 533 047

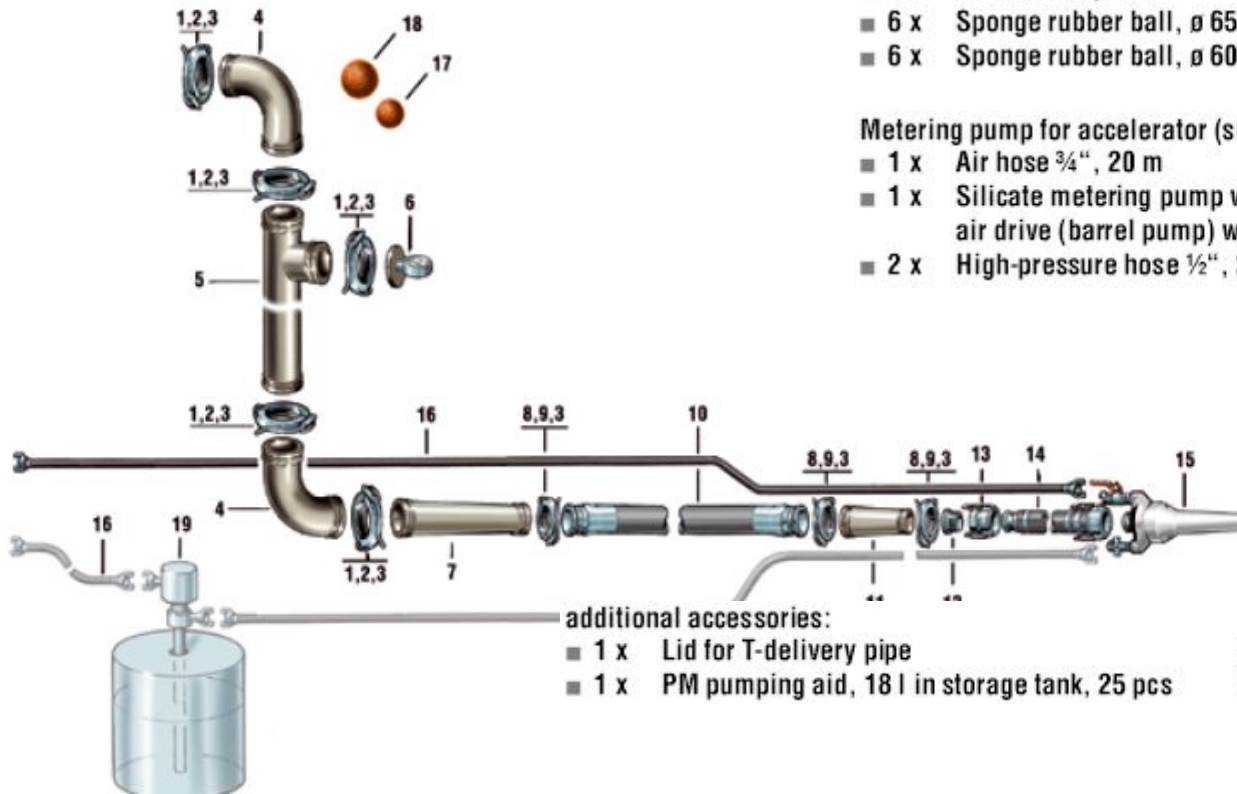
Standard delivery line ≈ 50 m long, consisting of:

- | Part | Part No. |
|--|-------------|
| ■ 4 x Clamp coupling SK 4.5" | 431 613 |
| ■ 4 x Seal DN 100, 4.5" | 057 341.000 |
| ■ 30 x Spring cotter | 018 878.004 |
| ■ 2 x Elbow pipe SK 100, 4.5", 90° | 421 329 |
| ■ 1 x T-delivery pipe SK 100, 4.5", 1 m | 057 614.009 |
| ■ 1 x Pressure gauge SK 100, 4.5", 100 bar | 521 430 |
| ■ 1 x Reduction pipe SK 100, 4.5"-SK 65, 3", 1 m | 224 269.009 |

- | | | |
|--|-------------|----|
| ■ 11 x Clamp coupling SK 3" | 417 798 | 8 |
| ■ 15 x Seal DN 65, 3" | 064 084.004 | 9 |
| ■ 8 x Delivery hose SK 65, 3", 5 m | 057 886.002 | 10 |
| ■ 1 x Reduction pipe SK 65, 3"-SK 50, 3", 1,000 mm | 058 670.000 | 11 |
| ■ 1 x Transmission piece | 082 784.001 | 12 |
| ■ 1 x PM coupling M 50, 2" | 211 600.008 | 13 |
| ■ 1 x Mortar hose DN 50 TS PN 40, 13 m | 501 914 | 14 |
| ■ 1 x Concrete spraying nozzle V 50, 30 mm | 072 157.004 | 15 |
| ■ 2 x Air hose 3/4", 20 m | 416 015 | 16 |
| ■ 6 x Sponge rubber ball, ø 65 mm | 000 246.000 | 17 |
| ■ 6 x Sponge rubber ball, ø 60 mm | 000 212.005 | 18 |

Metering pump for accelerator (silicate):

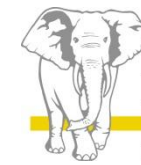
- | | | |
|---|-------------|----|
| ■ 1 x Air hose 3/4", 20 m | 416 015 | 16 |
| ■ 1 x Silicate metering pump with compressed air drive (barrel pump) with connector | 002 423.009 | 19 |
| ■ 2 x High-pressure hose 1/2", 20 m | 001 983.003 | 20 |



additional accessories:

- | | |
|--|-------------|
| ■ 1 x Lid for T-delivery pipe | 057 627.009 |
| ■ 1 x PM pumping aid, 18 l in storage tank, 25 pcs | 266 743.004 |

Accessories for shotcreting with P 715



Putzmeister

Mortar Machines

P 715



T-delivery pipe SK 4,5"
1,000mm
057 614.009

2x elbow 90° 4,5"
421 329

25x Spring cotter
018 878.004

8x clamp couplings 4,5"
431.613

8x seals 4,5"
057 341.000

pressure gauge
4,5"
521.430

3x steel pipes 4,5"
3,000mm
056 863.000

reduction
4,5"->3" SK65
1,000mm
224 269.009

4x clamp couplings SK 3"
417.798

4x seals 3" DN65/DN50
064 084.004

8x rubber hoses 3" SK65
5,000mm
535 521

2"

2x clamp couplings SK 3"
417.798

2x seals 3" DN65/DN50
064 084.004

2x Air hose (to compressor)
3/4", 20m
416 015

Concrete spray nozzle
V50, 30mm, max. 8mm aggregates
072 157.004

reduction
3' SK65 -> SK50
1,000mm
058 670.000

1x rubber hose SK50
85 bar, 10,000mm
481 172

Transmission piece
082 784.001

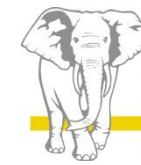
PM Coupling DN50, 2"
211 600.008



Sponge balls recommendation:

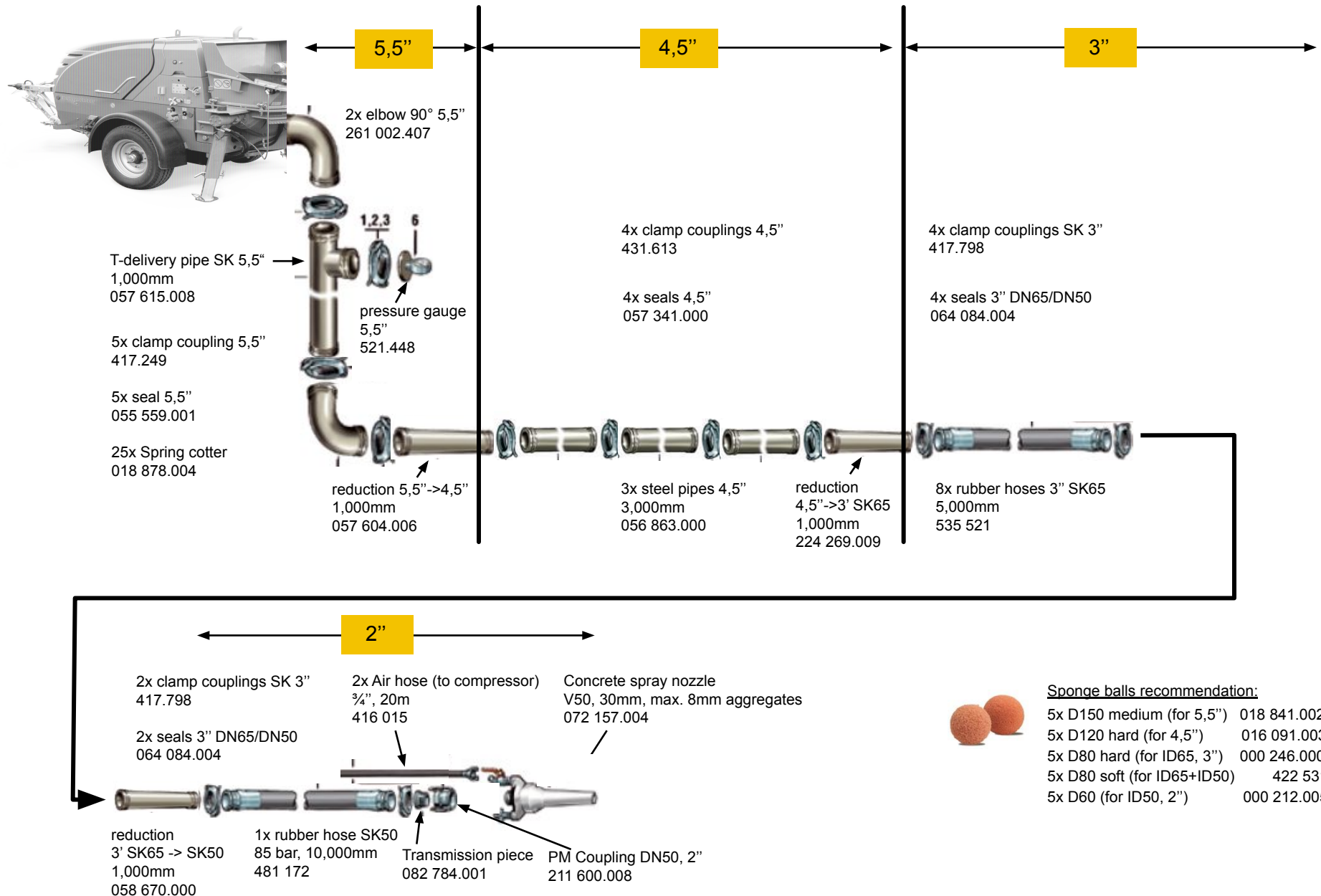
5x D120 hard (for 4,5")	016 091.003
5x D80 hard (for ID65, 3")	000 246.000
5x D80 soft (for ID65+ID50)	422 531
5x D60 (for ID50, 2")	000 212.005

Accessories for shotcreting with P 718



Putzmeister

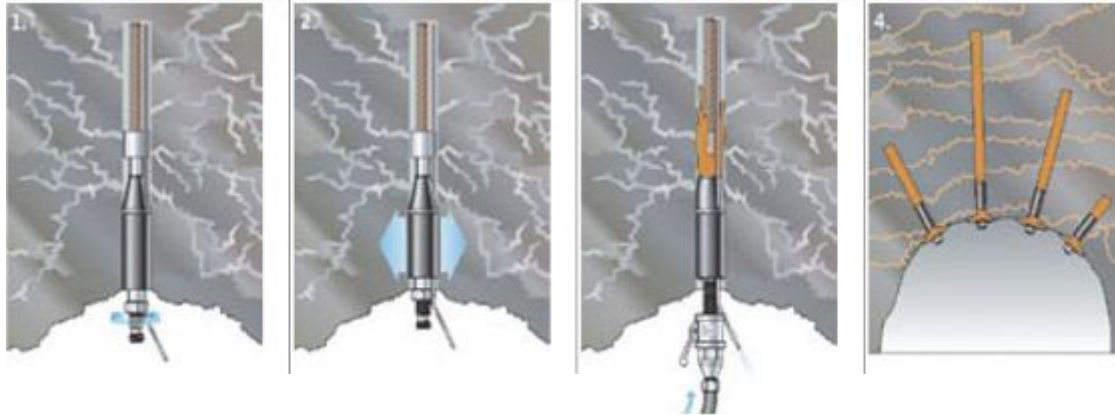
Mortar Machines



Shotcreting with P13



Anchor Setting

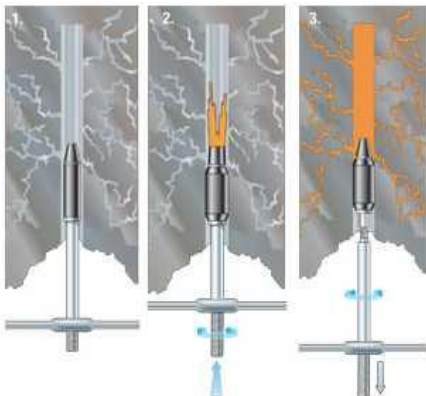
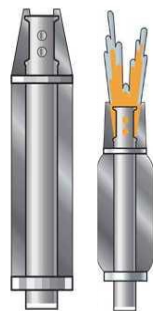


for example:

System Thorbolt®



Packer:



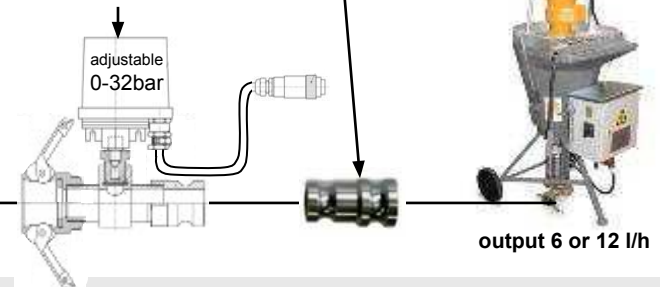
Putzmeister



Sprayboy (Mixing and Pumping Unit)

Pressure Limiter
V25-M25
P/N 523102

V35V25-40
reduced
P/N 207795008

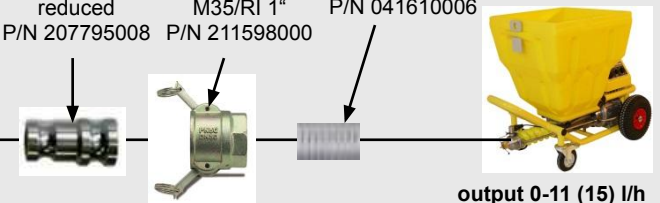


Strobot 401S (or 406S) (Pump with build-in electronic pressure control)

V35V25-40
reduced
P/N 207795008

PM-Coupling
M35/RI 1"
P/N 211598000

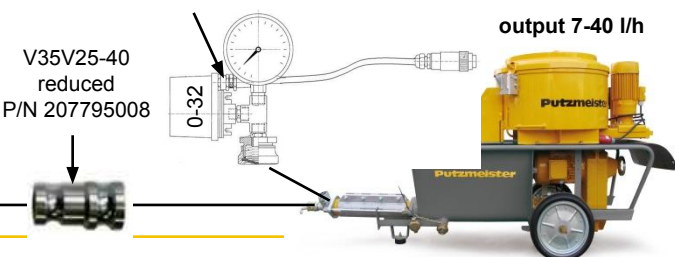
Threaded Pipe 1"
P/N 041610006



S5 EV/TM (Mixing and Pumping Unit) or SP11Beliso

Pressure Limiter V50
P/N 523101

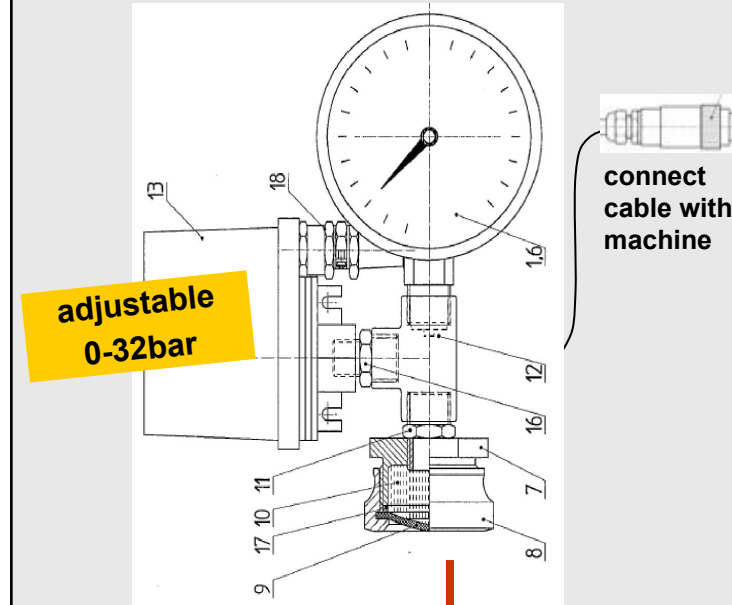
V35V25-40
reduced
P/N 207795008



Anchor Setting, Grouting, Injecting, Filling -with defined pressure -

Machine pumps material until
a certain pressure is reached
=> machine switches off automatically

Pressure Limiter V50 P/N: 523 101



S 5 EV / TM
output: 7-40 l/h

diesel



SP 11 LMR
output: 5-40 l/h

ID 35



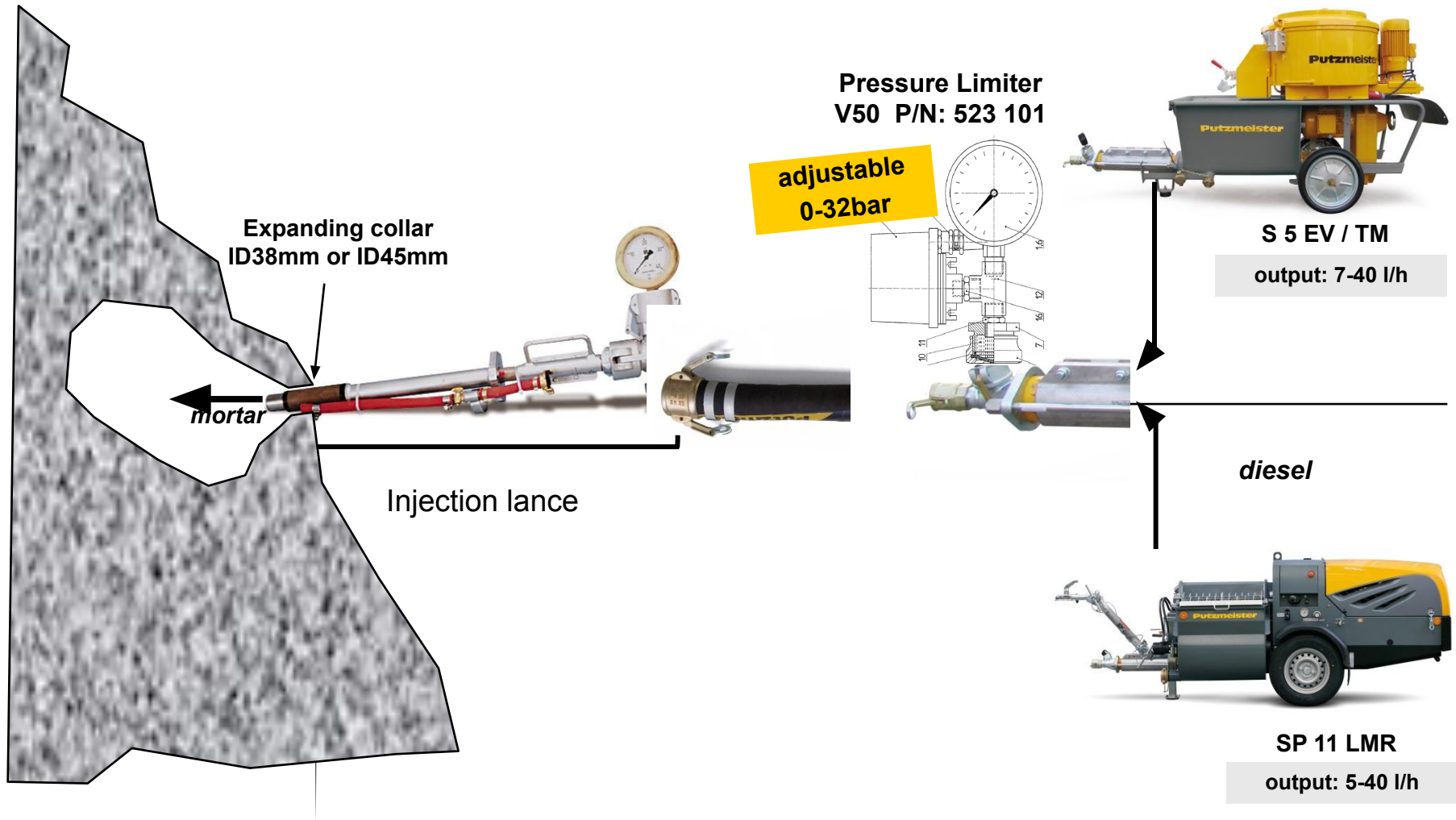
ID 25



P/N: 207 795.008

Grouting, Injecting, Filling -with defined pressure -

- Machine pumps mortar material until a certain pressure is reached
- then machine switches off automatically



Regular Concrete / Lightweight Concrete

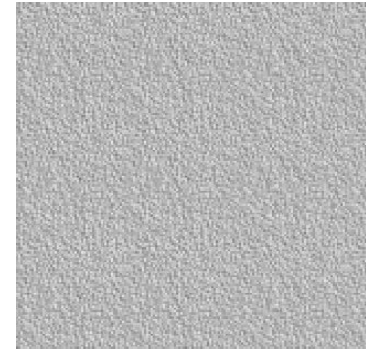
Regular Concrete



strength



Lightweight Concrete (CLC)



thermal insulation



noise reduction



leightweight



fire rating



easy to pump



Regular Concrete / Lightweight Concrete

Regular Concrete

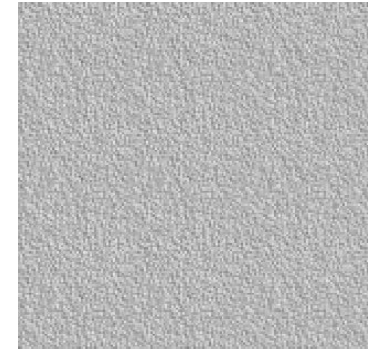


Applications: structural work



=> load bearing, structural stability

Lightweight Concrete (CLC)



Applications:

- roof insulation
- floor screed
- block production
- void filling
- partition walls (prefab)
- cast-in-situ



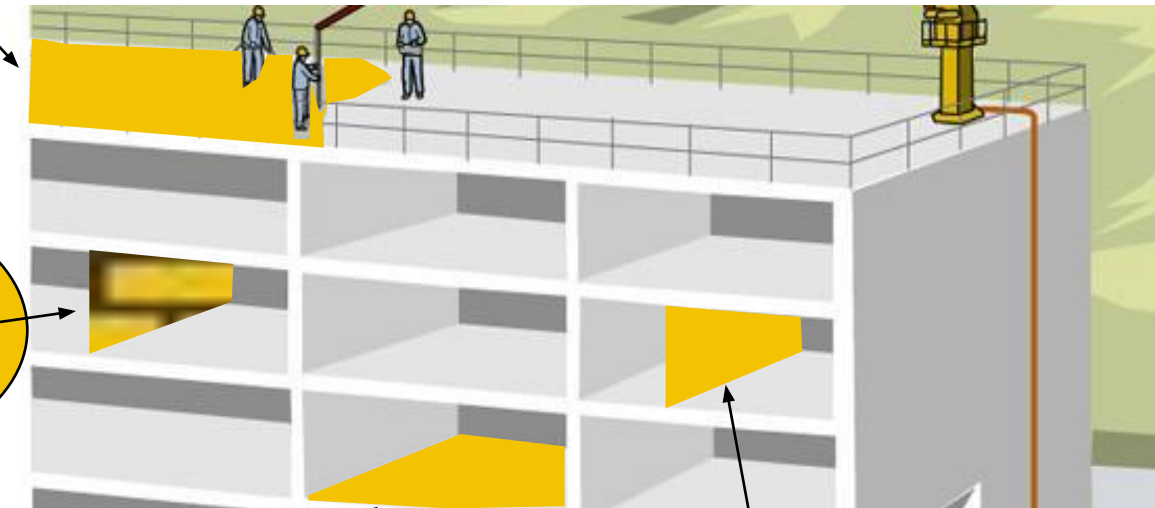
Applications of Cellular Lightweight Concrete

roof insulation

✓ *thermal insulation*

blockwork

✓ *noise reduction*
✓ *easy handling*
✓ *on-site production possible*



floor screed

✓ *noise reduction*
✓ *easy handling*

pre-fab partition walls

✓ *noise reduction*
✓ *quick fitting*
✓ *fire resistance*

Option 1: Foam concrete – produced on site step by step

Step 1: Prepare Cement/Sand/Water mix

Step 2: Prepare Foam with Neopor „Plug & Foam“ unit

Step 3: Mix the foam with the Cement/Sand/Water slurry in a suitable mixer or in a truck mixer
Foam Concrete mix is now ready for pumping

Step 4: Pump the foam concrete with a large worm/screw pump, such as SP11 THF

Option 1: Foam concrete – produced on site output up to 15 m³/h



NEOPOR[®]
SYSTEM
CELLULAR LIGHTWEIGHT CONCRETE
plug&foam unit



foam

+

„concrete“



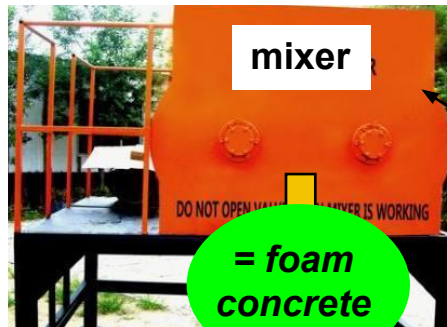
cement



sand, if applicable



water



mixer

*mixer not available
with Putzmeister*

= foam
concrete



SP 11 BHF worm pump

up to 50m hose length



Option 2: Foam concrete – **produced in a batching plant** step by step

Step 1: Prepare Cement/Sand/Water mix in the batching plant

Step 2: Prepare Foam with Neopor „Plug & Foam“ unit

Step 3: Pour the finished Cement/Sand/Water mix into a truck mixer.
Add the foam into the truck mixer and supply the finished foam concrete to the site.

Step 4: Pump the foam concrete with a large worm/screw pump, such as SP11 THF

Lightweight concrete / Foam concrete

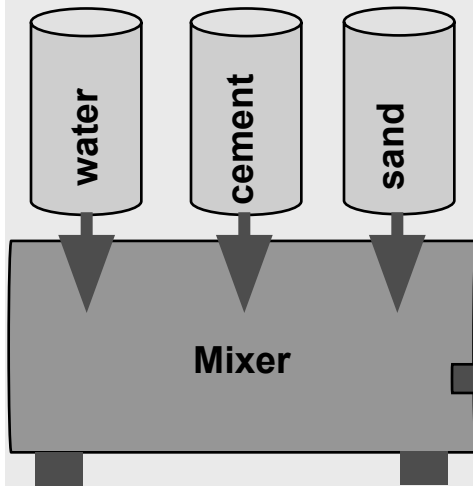


Putzmeister

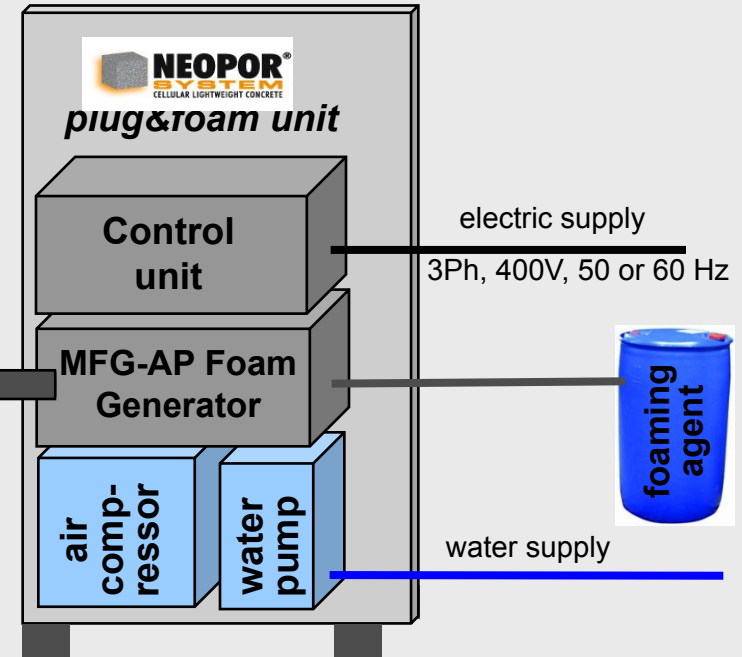
Mortar Machines

Option 2: Foam concrete – produced in a batching plant

Step 1: Preparing Cement slurry



Step 2: Producing Foam



Step 3:
Mixing of Foam and
Cement slurry
in the truck mixer &
supply to site



Step 5:
Pumping of Foam Concrete



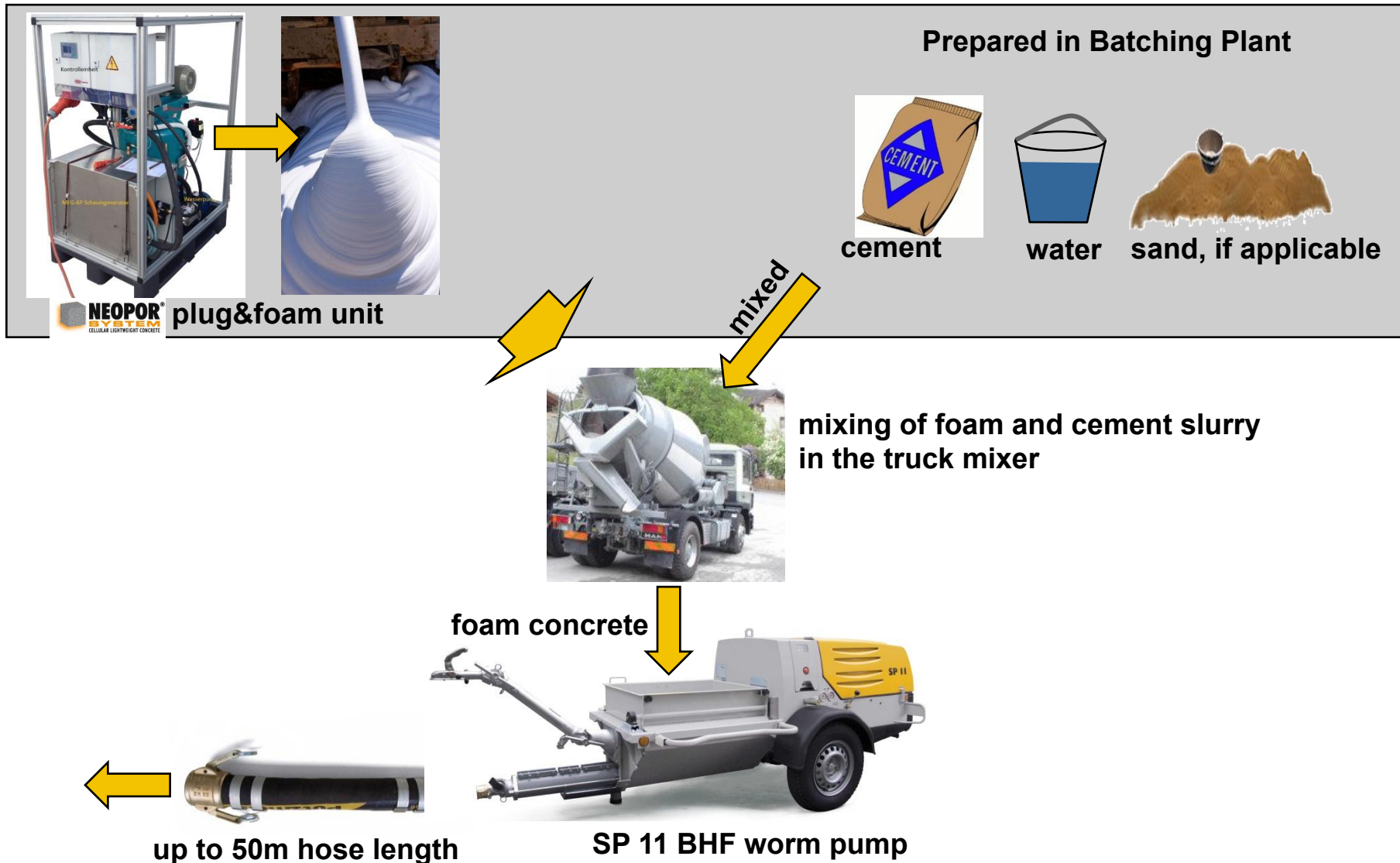
up to 50m hose length

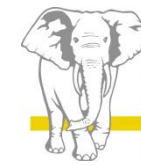


SP 11 BHF worm pump

Step 4:
Pouring Foam Concrete
into Pump

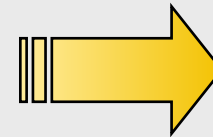
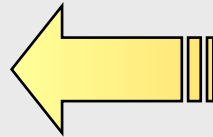
Option 2: Foam concrete – produced in a batching plant output up to 15 m³/h





Different Foam Concrete properties

Properties: Thermal insulation
Noise reduction
Fire protection
Weight reduction

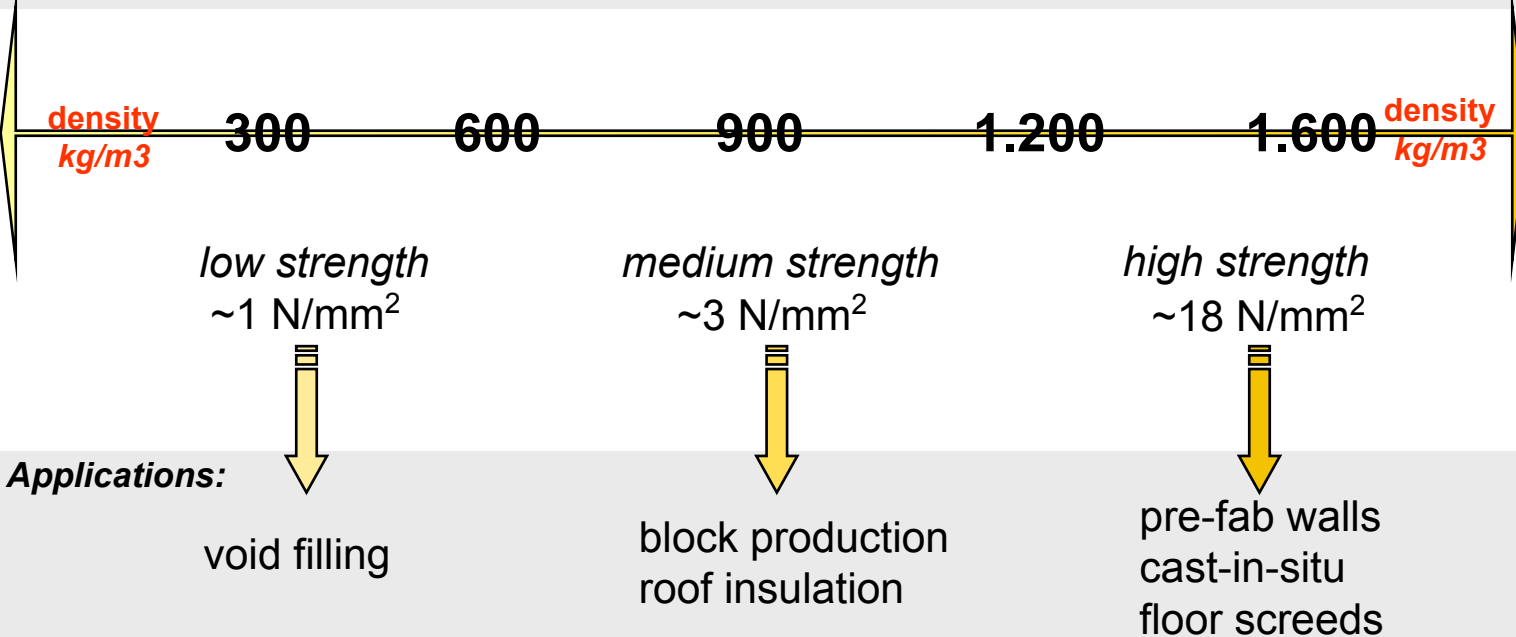


Load-bearing
Structural properties

Cement per m ³	300 kg	310	335	360	400

Foaming agent use:	1,6 kg/m ³	1,4	1,15	0,9	0,6

Average Lambda:	0,096 W/m x K	0,18	0,26	0,40	0,55



Conventional concrete

300-350

-

2,1

~ 2.400

>25 N/mm²

load-bearing structure

Neopor® plug&foam unit



How it works?

Connect:

- electric supply
 - water supply
 - Neopor foaming agent
- ⇒ Neopor plug&foam unit produces foam fully automatic

Technical data:

- 3Ph, 380-440V, 50Hz or 60 Hz
- max. 6,6 kW
- output of foam: up to 10 l/sec. (liters per second)
- air compressor: max. 850 l/min.
- water pump: 80 l/min
- dimensions: l/w/h 120/80/166 cm
- weight: 207kg (gross)

Siemens control unit

- No adjustments of foam required (plug&play system)
- Including rinsing button for cleaning of foam generator
- Output can be metered either in seconds or in liters
- Unit automatically ensures correct electric circuit
- Hours of operation can be seen on display

Neopor® liquid foaming agent

NEOPOR® foaming agent:

- is based on a protein-hydrolisation
- causes no chemical reaction but serves solely as „wrapping material“ for the air to be encapsuled in the concrete or mortar
- is fully bio-degradable.
- is free of chloride

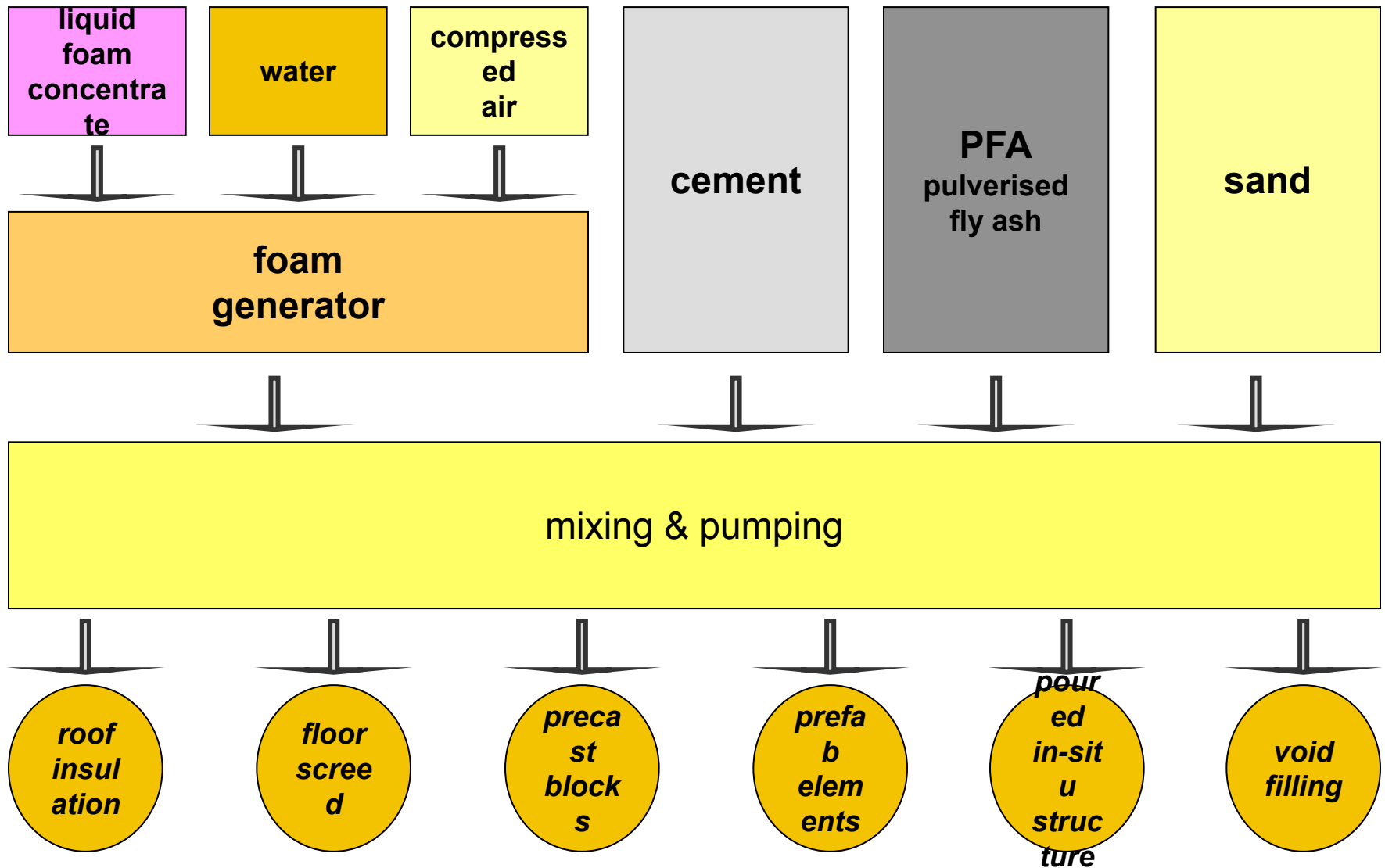
Available from 200l drum till 16,000 kg container

Features of Neopor foam concrete

- Consistent properties even after pumping
- Optimum thermal insulation
- Substantial weight reduction (dead-load)
- Improved fire rating
- Maximum sound absorption
- Fast progress in construction
- Saving in raw material (no gravel)
- Savings in steel reinforcement in high rise
- Savings in transportation (double payload by volume)



CLC: cellular lightweight concrete contents



density: 400 – 1800 kg/m³
crushing strength: 35 - >250 kg/cm²

Application: Fine Concrete Pumping



Applications:

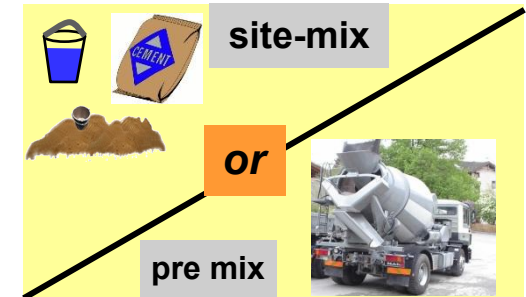
- small and medium sized construction sites: e.g. villa projects
- mortars and fine concrete up to 32 mm grain size (P718)
- job-sites with limited space



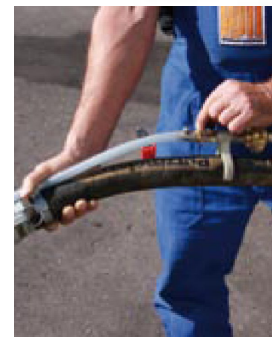
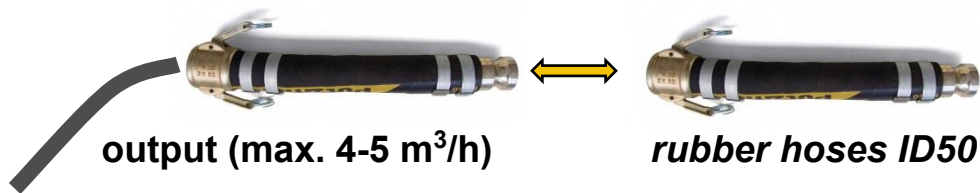
Application: Fine Concrete Pumping with P13

P13, Two options:

- Mixing and Pumping of fine concrete (site-mix)
- Only Pumping of fine concrete (ready-mix)

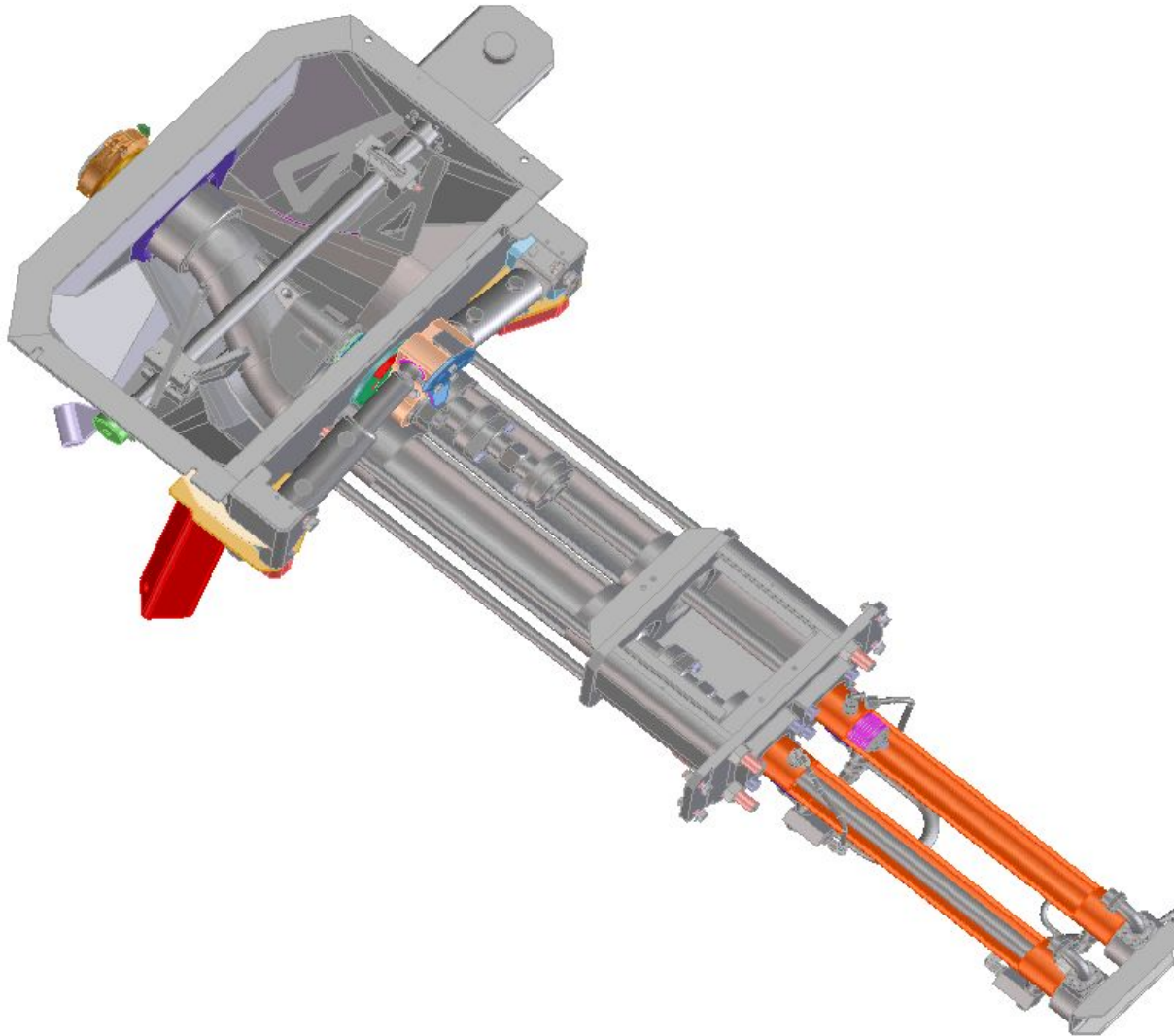


max. 8mm
grain size!



connect air hose in order
to ON/OFF pumping
(remote control system)

Fine Concrete Pumping with a Piston Pump



Fine Concrete Pump P 715

16
m
max.

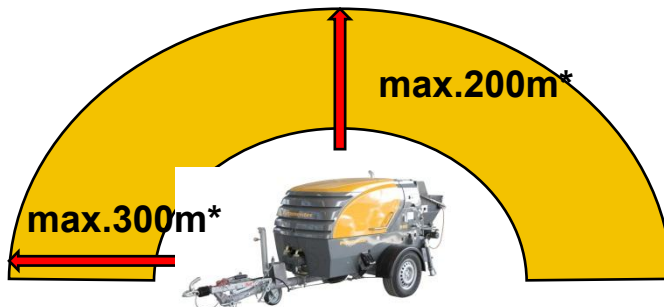
Application:

- fine concrete up to 16 mm grain size
- shotcreting (addit. compressor >2,5 m³/min required)
- self-leveling floor screed



P 715 (piston pump)

- > electric or diesel driven
- > trailer or stationary version



*with self-leveling floor screed

- ✓ delivery rate infinitely adjustable (4 – 17,4 m³)
- ✓ pump pressure adjustable (40 or 68 bar)
- ✓ vibrating grid screen
- ✓ low-maintenance piston pump
- ✓ hydraulic driven pump and S-pipe
- ✓ optional high pressure cleaner

Technical data P715 TD

PUMP DATA

Delivery cylinder dia.:	150 mm	Hydraulic control:	VHS
Hydraulic cylinder dia.:	80 x 45 mm	Main hydraulic pump:	A10V 45
Stroke:	700 mm		
Feed to full/rod side:	boden	Theoretical ratio:	3,52

CHASSIS DATA

Manufacturer:	Deutz	Rating:	34 kW	at:	2600 1/min
Motor type:	F3 M 2011	Rated current for electrical power unit:		A	
PTO type:	----	PTO ratio:	—	Torque control valve:	Ja

TEST DATA

Ambient temperature	12 °C		
Fluid temperature at	Start of test: 50 °C	End of test:	60 °C
Max. engine speed, pump off	Engine: 2500 1/min	Pump:	2500 1/min

Limit values for max. output

rel. pressure:	68 bar	Output:	18 m³/h	lb. of strokes per minute	27 Stroke/min
		(Degree of admission 0,9)			

Performance data P715 TD

ID No	Hydraulic pressure		Actuating pressure	Engine speed	Stroke time	Del press. measured	Effective output	Control pressure M8
	High (bar)*	Low (bar)	(bar)	(rpm)	(sec)**	(bar)	(m³/h)	(bar)***
1	40			2430	2,20	0	18	
2	60			2400	2,20	8	18	
3	90			2350	2,30	14	17	
4	120			2320	2,50	25	16	
5	150			2300	2,85	36	14	
6	180			2260	3,15	46	13	
7	210			2200	3,40	56	12	
8	240			2050	4,00	65	10	
9	250			2300	4,80	68	8	
10								

Measurement no. 1 - reverse pumping

Measurement no. 2 - forwards pumping at minimum delivery pressure

Last measurement - maximum pressure in the pump at zero output

at least 10 measurement points should be taken, with the measurement points being selected appropriately

* With VHS the mid - point gives the effect pressure at the hydr.-cyl.

** Stroke time: mean of 10 strokes

*** Control pressure M8 - efficient pressure downstream of the output throttle device

Concrete outputs - quick calculation from stroke time (degree of admission 0.9):

$$Q = c / t \quad (Q \text{ in m}^3/\text{h} ; t \text{ in seconds})$$

$$c = 2500 * D^2 * L \quad (D \text{ und } L \text{ in m})$$

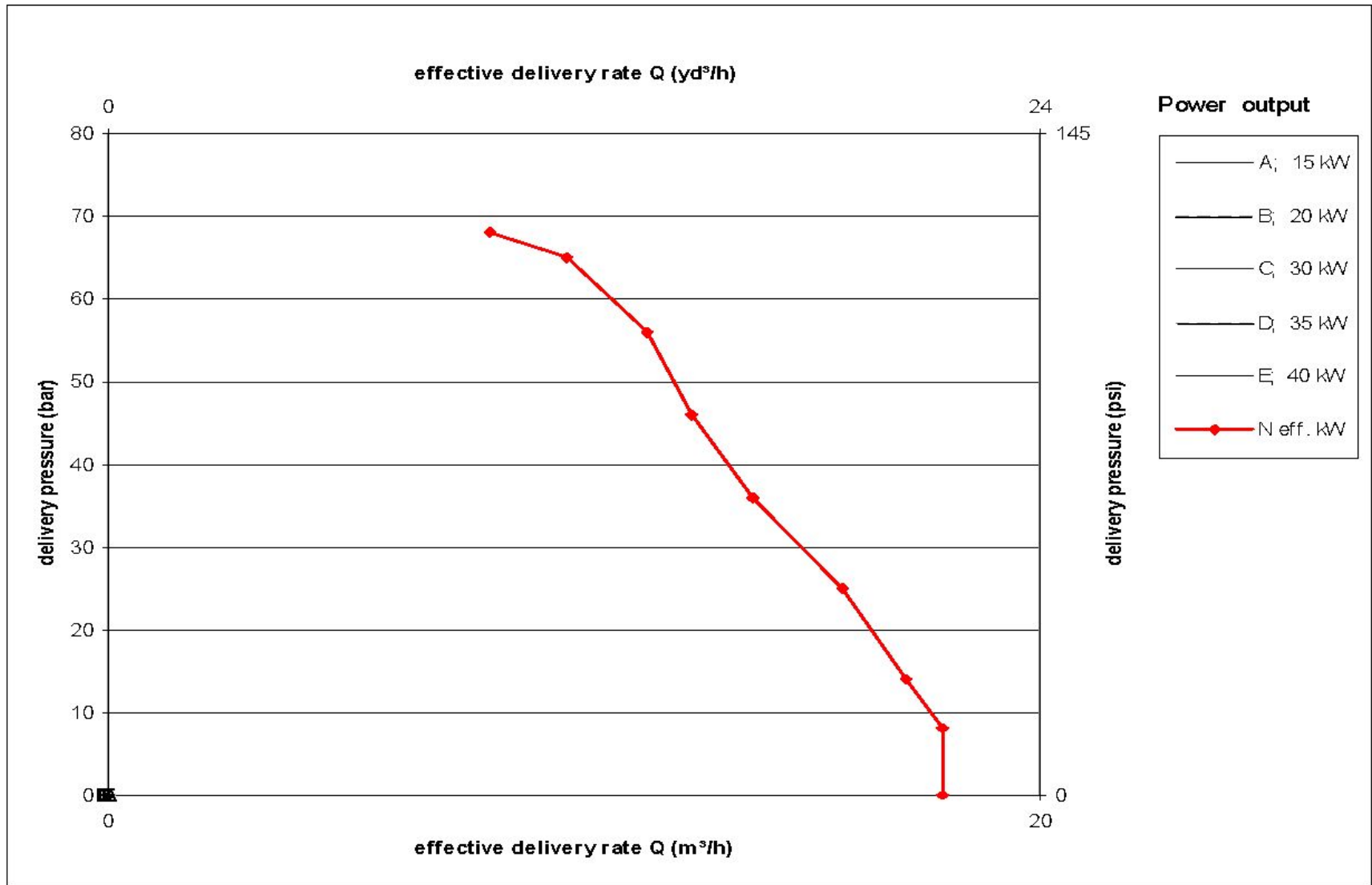
t = single stroke time (seconds)

c = constant representing degree of admission 0.9

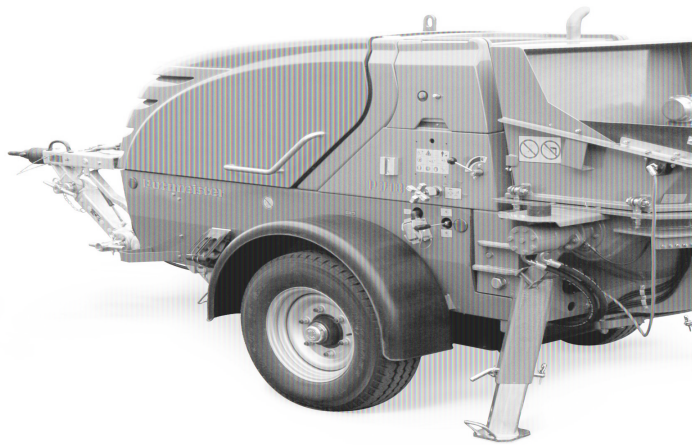
L = delivery cylinder stroke length

D = delivery cylinder diameter

Performance diagram P715 TD



Fine Concrete Pump P 718 – **NEW!**



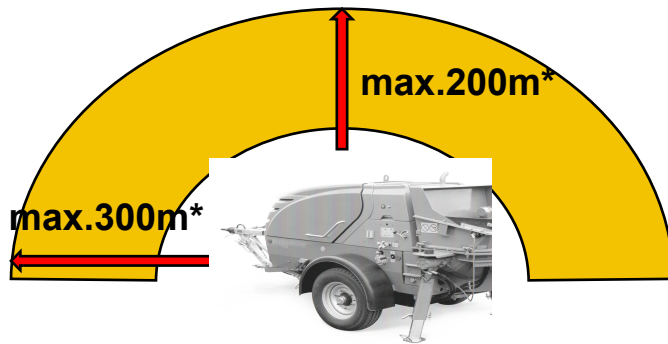
**32
mm
ma
x.**

P 718 (piston pump)

-> diesel driven, 3 cylinder, 34,5 kW

Applications:

- fine concrete up to 32 mm grain size!
- self-leveling floor screed



- ✓ compact design, versatile use, price competitive!
- ✓ delivery rate infinitely adjustable (4 – 18 m³)
- ✓ pump pressure adjustable (40 or 68 bar)
- ✓ vibrating grid screen
- ✓ low-maintenance piston pump
- ✓ hydraulic driven pump and S-pipe

*with self-leveling floor screed

The powerful fine concrete pump P715 TD



Standard equipment:
Wash-out adaptor, clamp coupling with gasket, cleaning accessories, tools, operating manual, spare parts list

article number: 111 591.010

The Putzmeister fine concrete pump trailer is small, light, and features a powerful dual-piston pump. It is used for pumping cement and cementrite self leveling floor screed, fine concrete and anhydrite up to a grain size of 16 mm.

The integrated S-valve with self-seal effect allows pump pressure of up to 68 bar, and is even sealed against sludge and water. The self-adjusting ring on the S-pipe automatically compensates for wear.



Features

- Diesel hydraulic drive
- Plastic motor hood with targa bar
- Concrete hopper with agitator and rubber collar attachment
- Folding 30 mm safety mesh grill with 12 V vibrator
- Folding hopper attachment
- Hydraulic control of pump and S transfer tube
- 2-cylinder piston pump with chrome-plated delivery cylinders
- Infinite manual output adjustment
- External pressure setting of max. pump pressure to 40 or 68 bar
- Central lubrication manifold on the hopper

Technical data:

- output 4-17,4m³/h
- pressure 68bar
- engine 3-cylinder diesel engine, Deutz
- engine power 34,5kW
- chassis 1,900 kg chassis, with brakes
- weight 1850kg
- length /w /h 4200mm / 1510mm / 1600mm
- filling height 1180mm
- max aggregate 16mm
- pressure connection SK 4,5"

The new fine concrete pump P 718



**32
mm
max.**

rt-No. 111 514.010

The new developed, powerful and compact piston pump P718 represents the top level of fine concrete pumps.

The P718 combines all the benefits of its little sister, the P715.

Besides the application pumping of self leveling floor screed the P718 is suitable for pumping fine concrete with a grain size of 32 mm.

Features

- 3-cylinder diesel engine, complies with COM III emissions standard
- 2-cylinder piston pump with hard chrome-plated delivery cylinders
- water box - situated between the drive cylinder and the delivery cylinder - for piston flushing, rod cooling & easy piston replacement
- Hydraulic control system for the pump and the S-tube
- Infinitely variable delivery rate and engine output
- Large-sized, flow-optimized hopper with automatic sealing ring, mounting collar and vibrator
- Flow-optimized S transfer tube reduces wear considerably
- T-chassis, permitted for use on roads, designed up to 2,500 kg, enables easy manoeuvring on construction sites
- Standard lifting eye
- Optional: high pressure cleaner, radio remote control, central lubrication system

Technical data:

- output 17,4m³/h
- pressure 70bar
- engine 3-cylinder Deutz diesel engine
- engine power 34,5kW
- chassis 2500 kg chassis, with brakes
- weight 2450kg
- length /w /h 4350mm / 1600mm / 1750mm
- filling height 1180mm
- max aggregate 32mm
- pressure connection 5,5" 



Start pumping process with Slurry (P715)

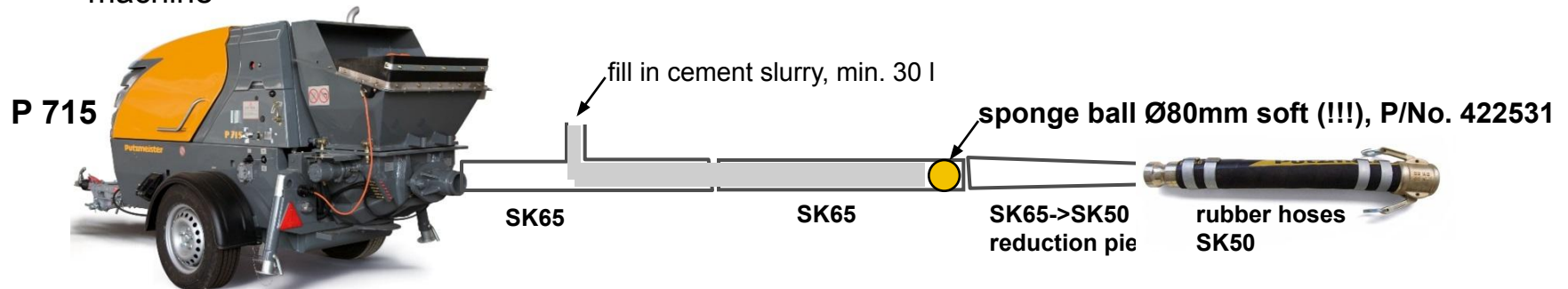
Starting to pump after breaks – Procedure with cement slurry

1 Prepare Cement Slurry

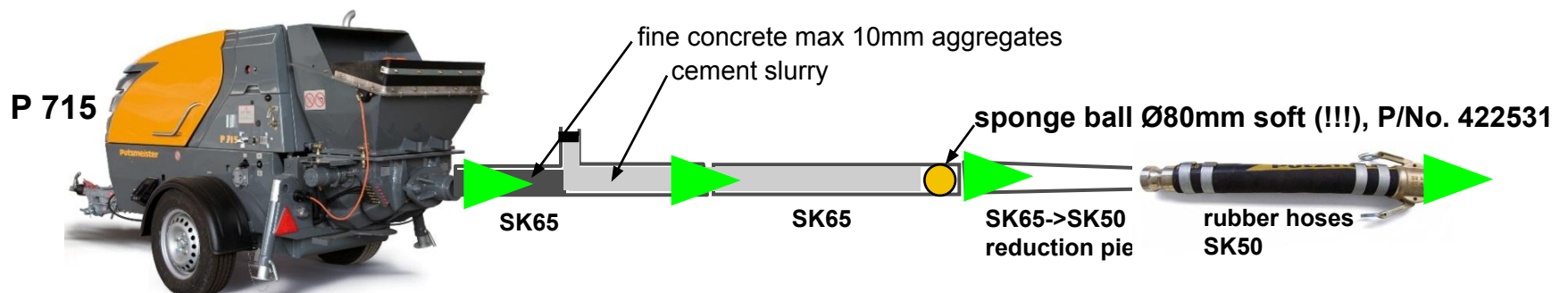
(a) Min. 30 l (b) consistency: like yoghurt (a little more liquid) (c) well mixed (!)

2 Fill in Cement Slurry

Insert sponge ball at the end of 2nd or 3rd SK65 hose/pipe, around 8-12m from the machine

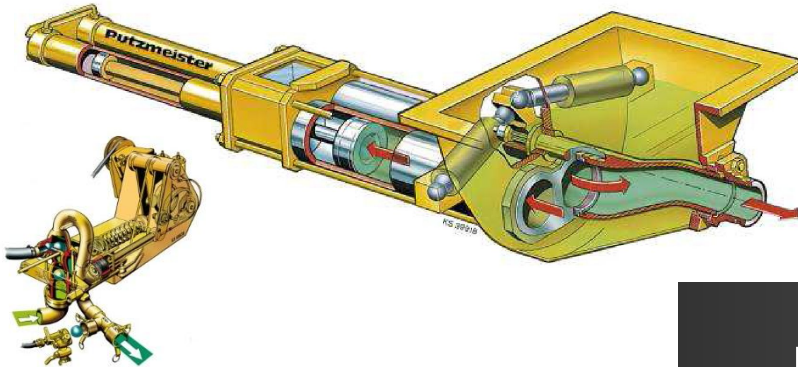


3 Start pumping carefully & slowly

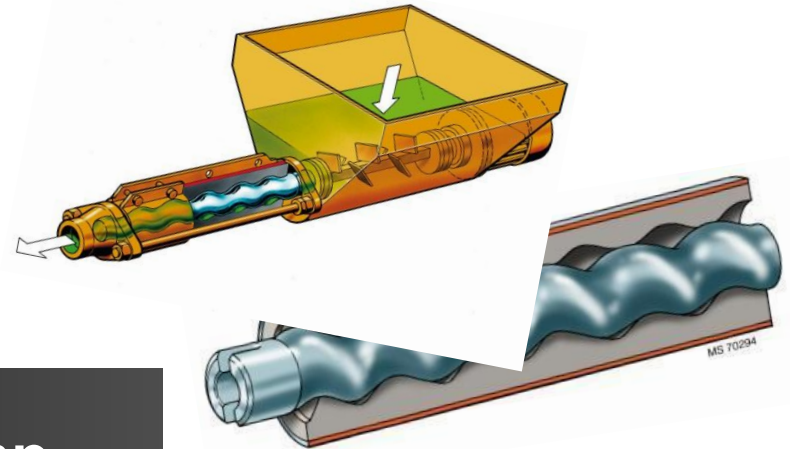


Technical Training

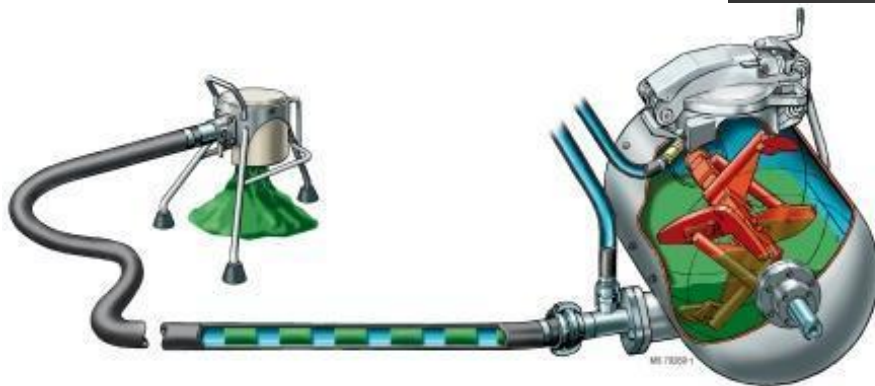
PISTON PUMP



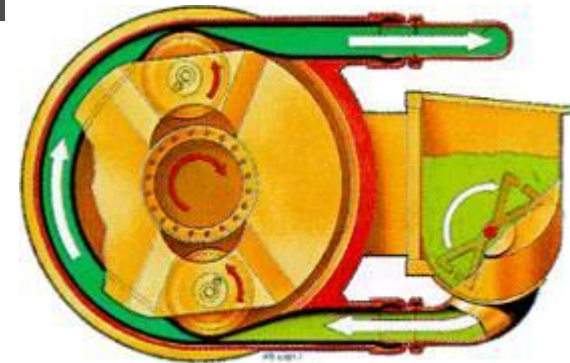
WORM PUMP



Pump systems



AIR CONVEYOR

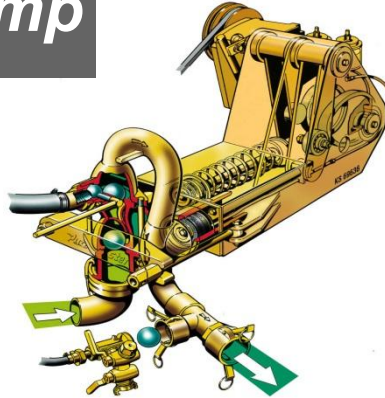


PERISTALTIC PUMP

Piston vs. Worm pump

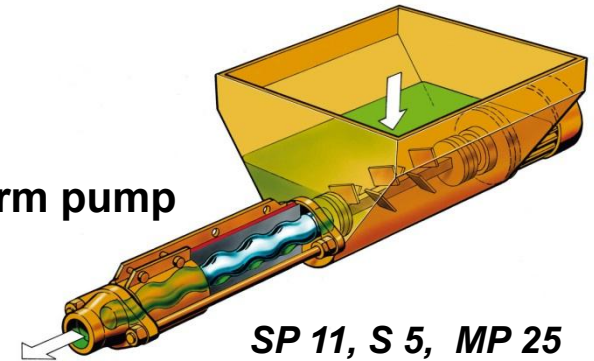
piston pump

*P 13, P 715,
P 718*



worm pump

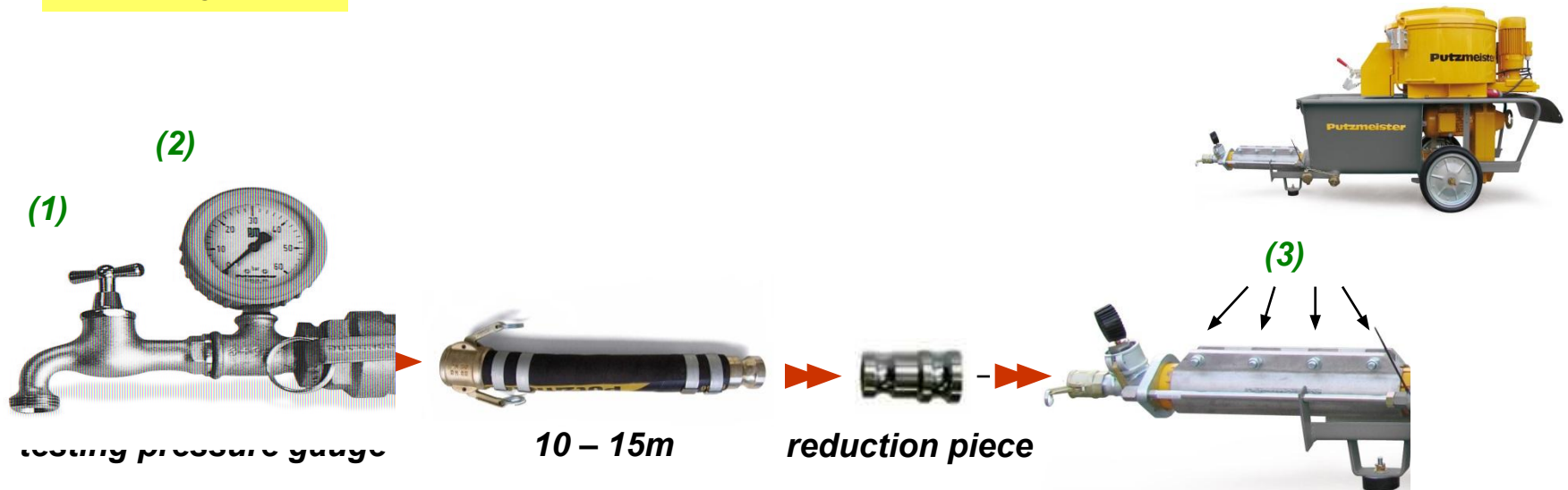
SP 11, S 5, MP 25



Pump type	Piston Pump system	Worm Pump system
Efficiency of pump type	Higher output and pressure ✓	Less output and pressure
Ware parts	Almost no ware, very durable ✓	Rotor and stator to be changed regularly
Continuous output	Not continuous	100% continuous, big advantage ✓
Sensitivity to bigger grain sizes	Not sensitive, advantage of piston pump ✓	Sensitive, results in bigger ware of rotor & stator
Durability	Advantage of piston pump ✓	Disadvantage of worm pump
Cleaning & maintenance effort	Disadvantage of piston pump	Advantage of worm pump ✓

Pressure setting of S5 & SP 11 with clamping jacket system

“open system”



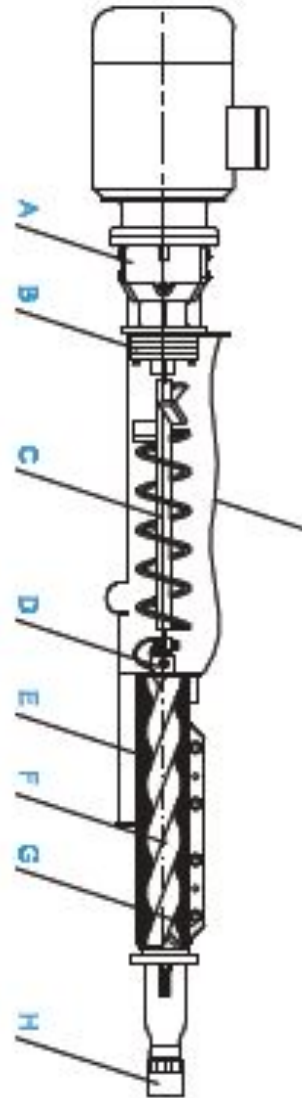
1. Attach “testing pressure gauge” to delivery hose and machine (see picture)
 2. Run the machine as usual
 3. Close the valve slowly (1), meter the actual pressure from the gauge (2)
 4. Tighten or loosen clamp screws **EQUALLY** (3) until required pressure is reached
- The required pressure depends on the pump type, delivery height/distance and material!
 - Approx. figures: 2L6: 15-20 bar / D4: 10-15 bar / 2L88: 15-20 bar
 - If the screws are tightened too much => big ware on rotor & stator!

Worm Pump training



Putzmeister

Mortar Machines



- | | |
|---------------------|-------------------|
| A Gearbox | F Rotor |
| B Backup Rings | G Clamping Jacket |
| C Agitator | H 2" Camlock |
| D Cardan Joint | I Mortar Hopper |
| E Adjustable Stator | |

Worm Pump principle



Pressure setting of MP25 with D6 or D8-2

“closed system”



1. **Attach “testing pressure gauge” to delivery hose and machine (see picture)**
2. **Run the machine as usual (without material, only with water)**
3. **Close the valve slowly (1), meter the actual pressure from the gauge (2)**
4. **As soon as 20 bar is reached, shut-off the machine and meter the pressure after approx. 10 sec.**
5. **When the pressure shows less than 12 bar => replace the rotor/stator with a new one
...or tighten the clamp screws if working with D5 pump**



Материал обучения

торкрет?

Раствор и бетон?

Известь против гипса картона?

песок => прокачиваемый?

Премикс или сайт микс?

Стяжка пола?

Соотношение песка /цемента?

	Бетон	Раствор
Основные свойства	Стабильность и структура зданий, мостов и т. д. ⇒ несущий материал.	Защита и визуальная отделка слоя поверхности
Обычный размер зерна	0-32 мм	0-8мм штукатурка: 0-4мм торкрет: 0-8мм Стяжка пола: 0-8мм
Связующее	цемент	Цемент, гипс, известь
Примеси	☐ Химикаты для увеличения или уменьшения время схват. ☐ Для улучшения прокачив. ☐ Для увеличения прочности	☐ Летучая зола, чтобы заменить недостающую пыль, ☐ Химикаты продлевающие время схватывания ☐ Химикаты для улучшения прока.

Типы гипсовых растворов по связующим

-> связующее вещество	цемент	Известь/цемент	известь	Гипс
прочность	++	+	0	--
водостойкость	++	+	0	-- (не во влажных помещениях => Грибковые проблемы)
гибкость	--	0	+	++
Отделка (интерьер)	--	0	+	++
Возможность откачки	—	0	+	+

Раствор =

Песок	+	Связующее → цемент	+	Примеси	+	Вода
Равномерно распределенный размер зерна => орошая прокачка. Частички пыли важны для прокачки! Отсутствующие частички пыли (вымытый песок) можно заменить Летучей золой, известью или каменным порошком. Слишком много мелких частиц, ведет к трещинам из – за усадки Круглые кукурузные формы лучше, Чем материал с острыми краями (разбился) Материал с острыми краями Увеличивает количество повреждений на шлангах и на насосе Различные гранулометрические составы Для штукатурки, стяжки пола, торкретирования, Огнестойкости и т. Д.		Наиболее распространенным связующим веществом, является цемент. Другие связующие вещества: известь, гипс, летучая зола, Каменный порошок, почва. критерии: - прочность - время схватывания - водостойкость - гибкость => растрескивание - затраты!		Химические вещества: - контролируют время схватыва - улучшают время схватывания - улучшают прокачка - улучшают снижение шума - изоляция Фибра: - прочность - арматура		Саленая вода => трещины (!)

Штукатурный раствор

- sand: 0-4mm
- pumpability!
- normal: 1:2,5 to 1:3 (cement : sand -> volume)
- select binder acc. to setting time, water & air resistance requirements

Стяжка пола

- sand: 0-8mm
- pumpability!
- normal: 1:4 up to 1:5 (cement : sand)
- admixtures: fibres -> reinforcement

Торкрет раствор

- sand: 0-8mm
- no site-mix
- delivered by RMC
- admixtures: for very quick setting time

Огнеупорный раствор

- aggregates: 0-4mm
- pumpability!
- no site-mix only pre-mix
- admixtures: for fire-resistance
- mixing time normally >3 min => no MP25!

Ремонтный раствор

- sand: 0-4mm
- pumpability!
- no site-mix only pre-mix
- admixtures: acc. to special requirements
- preferably with worm pump

Exterior plastering => which plaster type?



Interior plastering => which plaster type?



no gypsum plaster in wet areas like bathrooms (-> fungal!)

Machine plastering material: pre-mix or site-mix?



Site-mix

pre-mix

расходы



доступность



*plaster
sand (?)*



возможность откачки

?



качество штукатурки

?



ошибки оператора

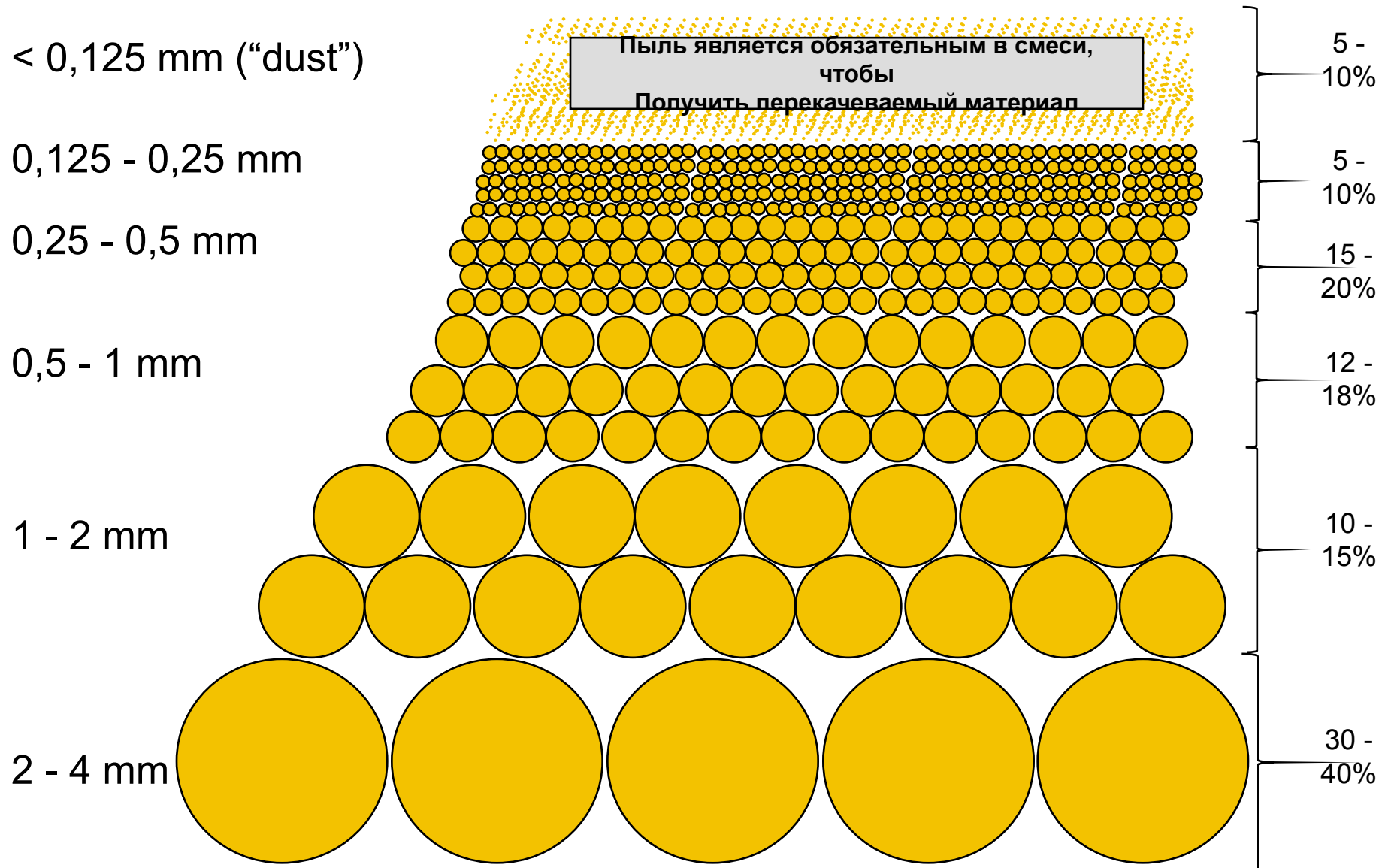


специальные свойства

приложения



Гипсовая песчинка по размеру состава



Мытый песок, например речной песок

Частицы пыли отсутствуют => раствор не прокачивается!

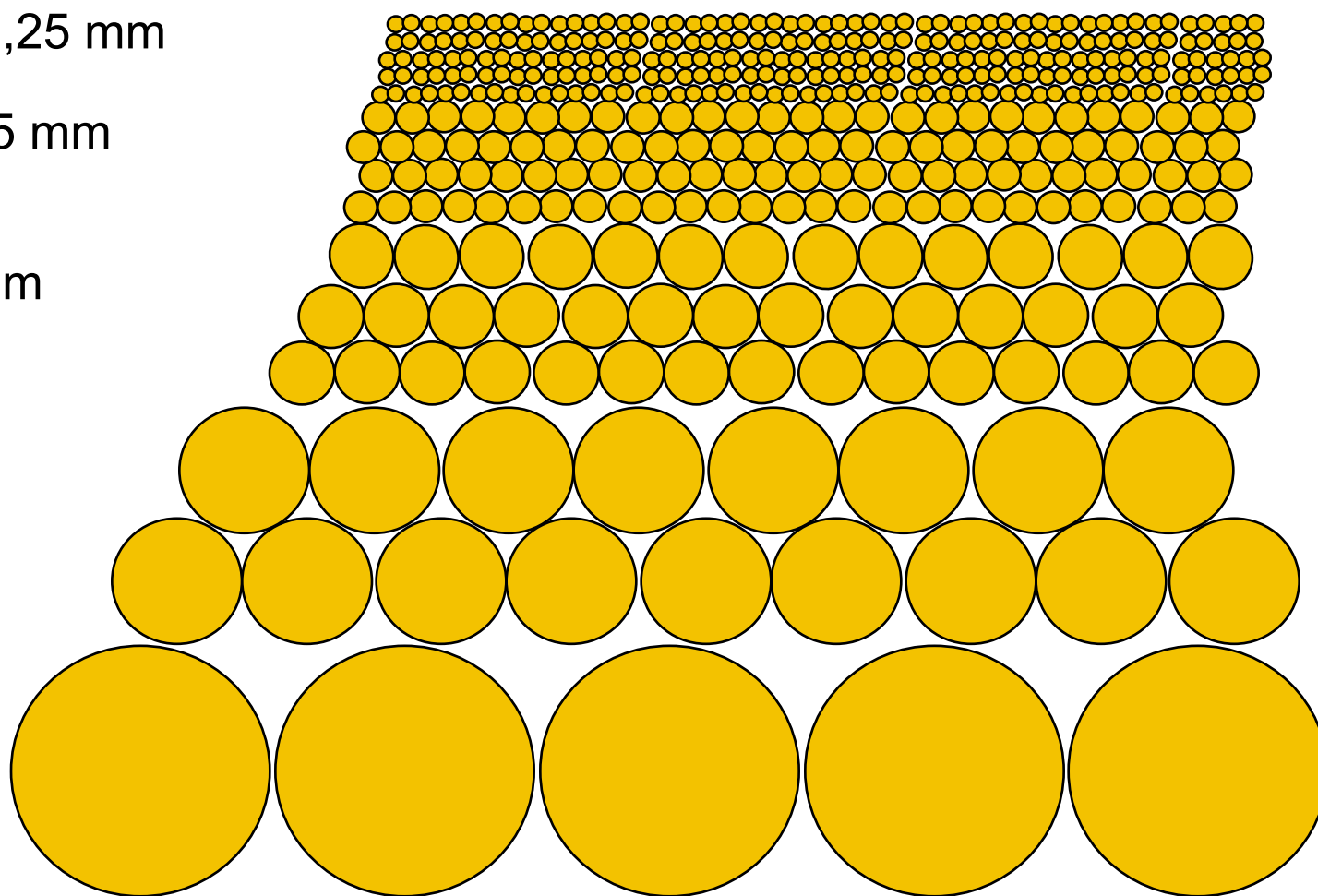
0,125 - 0,25 mm

0,25 - 0,5 mm

0,5 - 1 mm

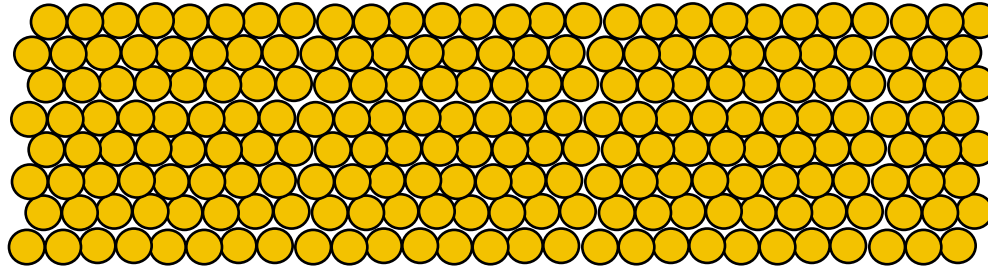
1 - 2 mm

2 - 4 mm



Пример для дюнного песка (одно зернистый песок)

Размер одиночного
Зерна 0,5 мм



Материал с таким качеством не прокачивается без дополнительного:

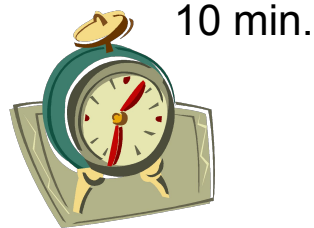
- Каменный порошок - Известь
- Зола - И другие химические элементы

Как проверить прокачиваемость?

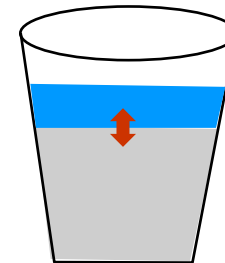
1. Залейте материал вместе с
2. водой в ведро и тщательно
3. перемешайте.



2. Подождите 10 мин.

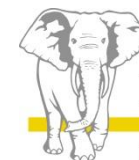


3. Если вода отделяется от материала
=> Смесь не перекачивается!



Вода отделилась
От смеси
=> Смесь не
=> прокачивается!

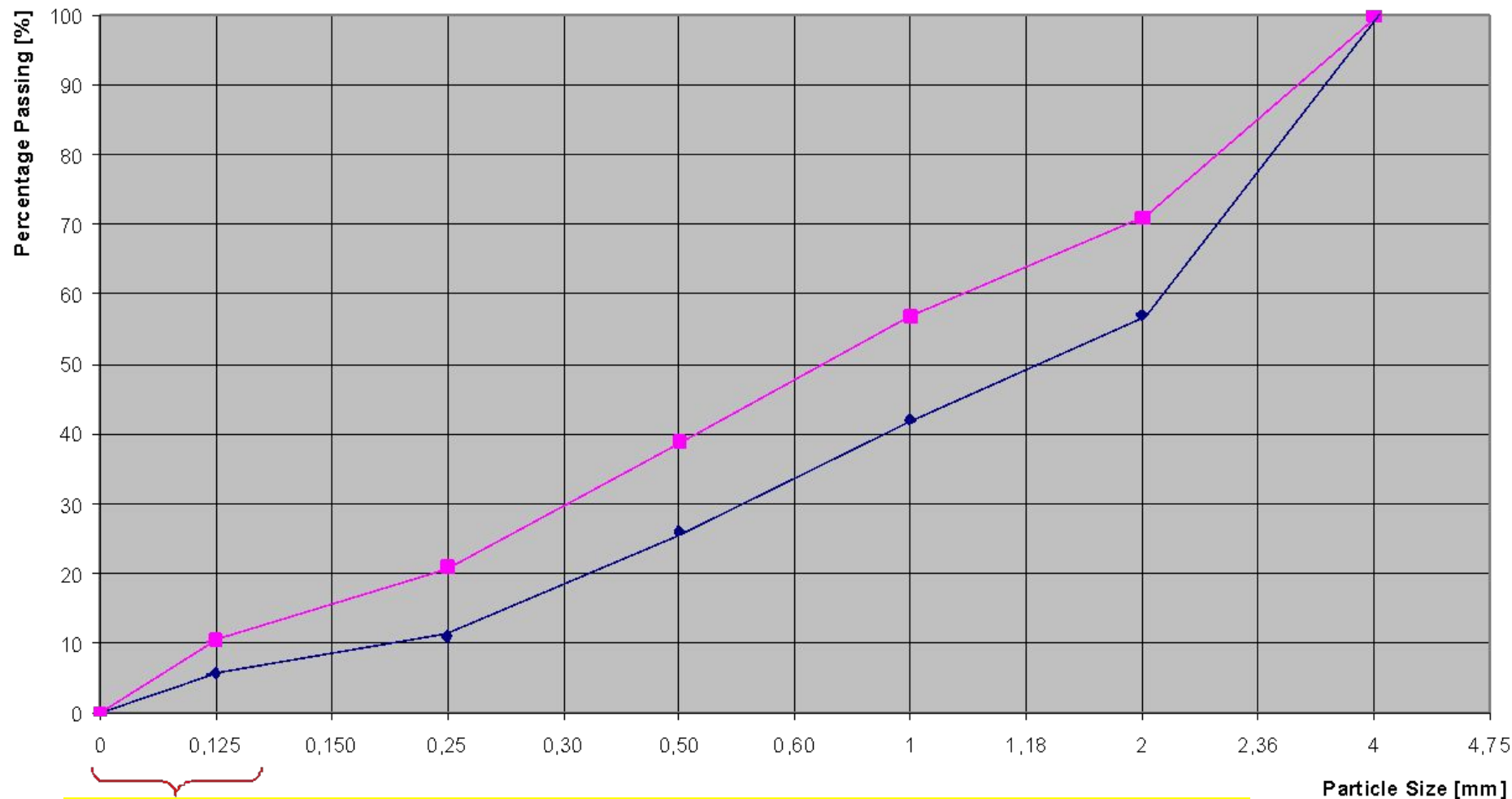
Гранулометрический состав 4 мм гипсового песка



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Mortar Machines

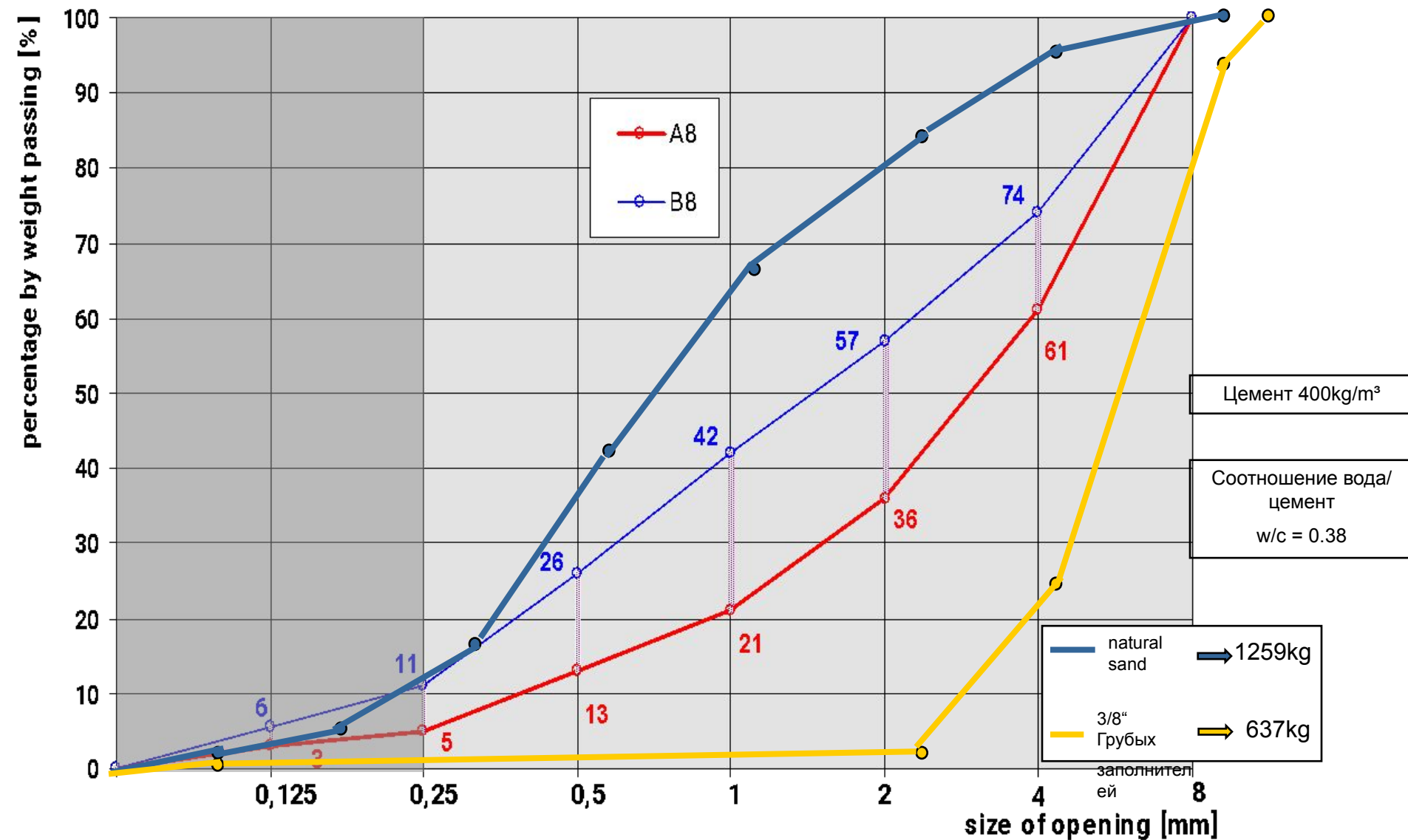
The ideal gradation for mortar machines is between standard curves B4 and C4



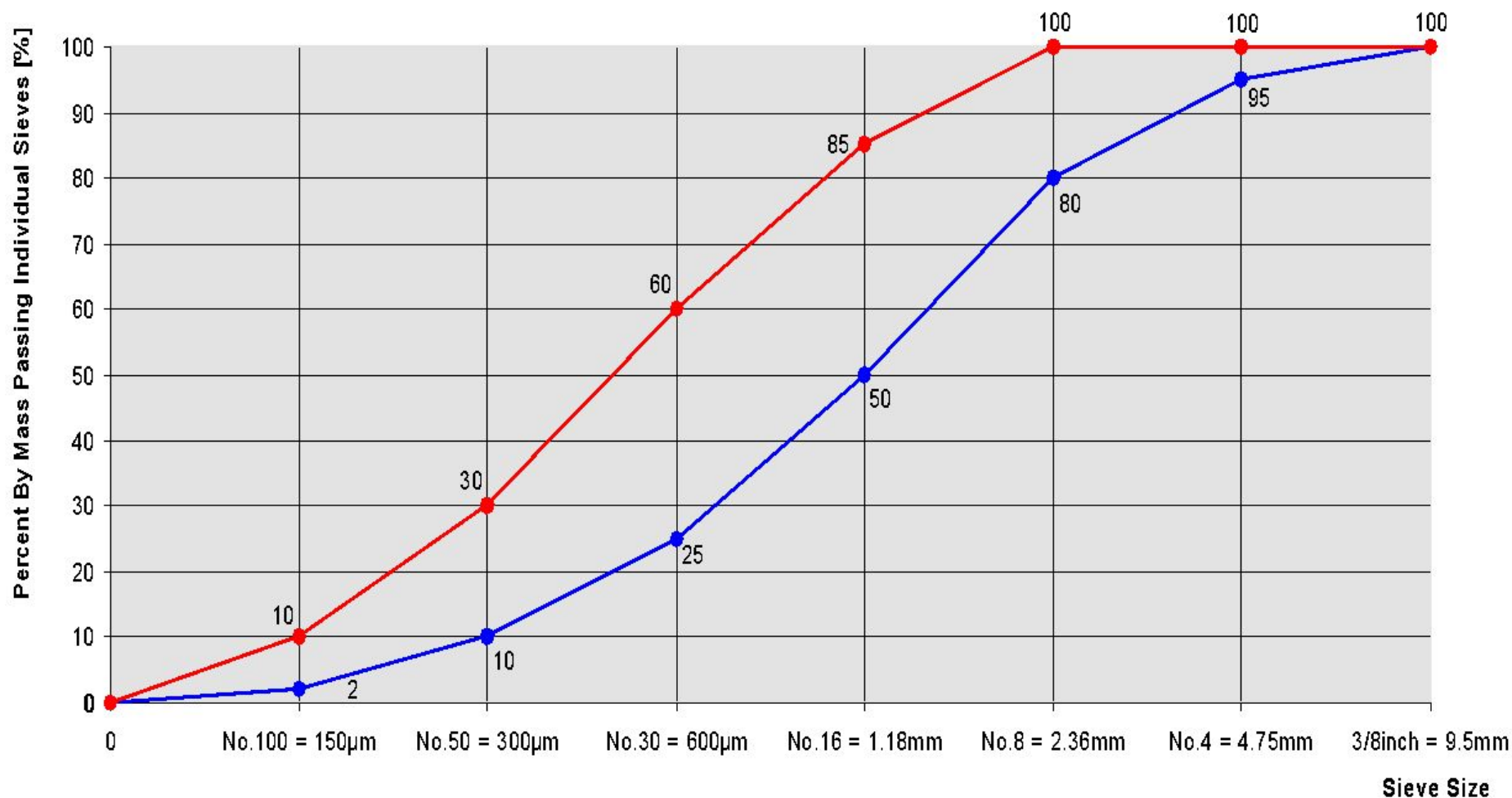
Содержание мелких частиц (наполнителей, глины, пыли) очень важно для прокачиваемости!
Но, если его слишком много, могут возникнуть
Трещины из – за более высокой усадки.

Стяжка пола песком

Желто – зеленая линия складывается в песок между A8 и B8:



Shotcrete Aggregate Grading 3/8 inch



Putzmeister Аксессуары



Technische Daten:
am Bsp. DN50 x 9

Putzmeister:

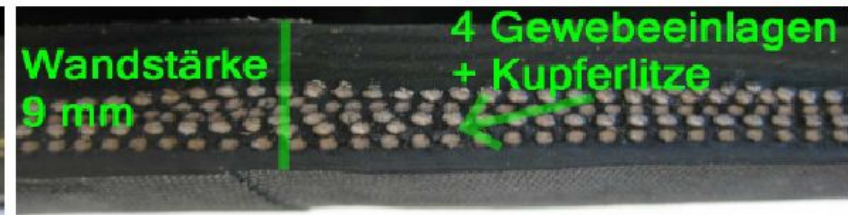
herkömmlicher:

Innen- Ø in mm	Wanddicke in mm	Aussen- Ø in mm	Betriebsdruck in bar	Sicherheits- faktor	Einlagen- zahl
50	9	68	40	2,5	5
50	8	66	40	2	2-4

herkömmlicher:



Putzmeister:



Gewicht: 2,14 kg



Gewicht: 1,78 kg