

# INJECTION SYSTEMS



**Küchler**  
Technik

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# INJECTION SYSTEMS

## OVERVIEW



	<b>K VARIO MUNGGO®</b>	<b>K MUNGGO®</b>	<b>K Power</b>	<b>K Mini MUNGGO®</b>	<b>K Silo- trailer Fräschi</b>	<b>Mini pump</b>
Mixes and pumps	x	x	x	x	x	
Pumps	x	(x)	x	x	x	x
Silo suitable	x	x	x			
Bags	x	x	x	premixed and bagged	premixed	premixed
Drive kW	4.2 kW	4.2 kW / 5.5 kW	7 kW + 5.5 kW	1.5 kW	4.2 kW / 5.5 kW	1.8 kW
Volt	400	400	400	230	400	230
Adjustable volume	x		x	x	(x)	x
Output min.	396 l/h	330 l/h	500 l/h	12 l/h	396 l/h	42 l/h
Output max.	1 560 l/h	3 600 l/h	10 000 l/h	1 080 l/h	1 560 l/h	360 l/h
Pump pressure max.	up to 60 bar	up to 60 bar	140 bar	up to 30 bar	up to 60 bar	up to 15 bar
Grain size max.	2 mm	2 mm	8 mm	2 mm	2 mm	1 mm
Wired remote control	x	x	x	(x)		
Radio remote control	x	x	x		x	
Flow recording	x	x	x	x	x	x
Weight	259 kg	160 kg	360 kg	118 kg	1 300 kg (empty)	33 kg
Fine binder	x	(x)	x	x		(x)
Grout	x	x	x	x		x
Re-injection	x	x	x	x		x
Anchor fillings	x	x	x	x	x	x
Concrete restoration	(x)	(x)	(x)	x		x

## AREAS OF APPLICATION



**Anchor**



**Geothermal**



**Tunneling**

**METHOD**

**Loose in silo**



Automatic injection at the touch of a button with the Küchler system

**BIG BAG**



Injecting with bagged material or BIG BAG for smaller jobs

**Bagged material**



**APPLICATIONS**



Filling with mortar, cement or KÜMIX®

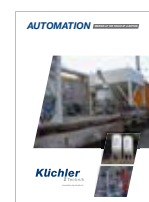


Re-injection with cement or KÜMIX®



Jet grouting with KÜMIX® (40–150 bar)

Further details can be found in this document





**K MUNG®****MORTAR MIXING PUMP**

- **Modular construction system**
- **quickly dismantled and transported**
- **lower filling height and total height**
- **universally applicable**
- **high pump power**
- **easy operation and maintenance**
- **quick start and cleaning time**
- **lightweight and compact design**

### DESCRIPTION

The **K MUNG®** is a **continuously working mortar mixing pump**, that **enables easy mixing, pumping and spraying** (with additional air compressor) of machine use dry mortar.

The drive is easy to service with **only one motor**. The dry mortar or cement is filled via a filling grid in the hopper. From there, the steel screw conveyor of the conveyor mixer feeds the dry material in the mixing chamber, where it is continually mixed with **the injected water**.

**The patented, tension clamp-free and maintenance-free pump part** sucks the material and pumps it with **up to 40 bar up to 100 m wide**. The flow rate can be made variable through the use of various types of pumps (MP 2 – MP 10).



Fully galvanized modular building system. Easy to transport and clean. No downtime due to fast replaceable components.

## SPECIFICATIONS

### DIMENSIONS AND WEIGHT

Total length	1 550 mm
Total width	640 mm
Total height	835 mm
Hopper with chassis	approx. 72 kg
Control	approx. 11 kg
Gear motor incl. flange	approx. 53 kg
Pump part	approx. 18 kg
Conveyor mixer and grid	approx. 6 kg
Total weight	approx. 160 kg

### DRIVE

Gear motor	4.2 kW – 242 rpm	5.5 kW – 406 rpm
Gear	Spur gear	Spur gear
Electrical connection	16A 5 Pol. 380V / 50 Hz 16A 5 Pol. 380V / 50 Hz	
Generator	min. 10 kVA	min. 16 kVA

### FLOW RATE AND PRESSURE

K MUNGGO® pump part 2 yellow	5.5 l/min 330 l/h	8.7 l/min 529 l/h
K MUNGGO® pump part 3 blue	12.5 l/min 750 l/h	20.8 l/min 1 250 l/h
K MUNGGO® pump part 8 orange	24 l/min 1 440 l/h	39 l/min 2 350 l/h
K MUNGGO® pump part 10 gray	36.5 l/min 2 200 l/h	60 l/min 3 600 l/h
Injection pressure	< 60 bar	



# K VARIO MUNGG®

ADJUSTABLE QUANTITY



- quantity adjustable via radio
- Modular construction system
- quickly dismantled and transported
- lower filling height and total height
- universally applicable
- high pump power
- variable pump use
- easy operation and maintenance
- quick start and cleaning time
- lightweight and compact design

## DESCRIPTION

The **K VARIO MUNGG®** has a modular structure and is suitable for the high demands of injection technology. It mixes and pumps several mortars and cements. It can vary the quantity and can be controlled remotely. Thanks to a new mixing technology the K VARIO MUNGG® 30 ℓ/min mixed in a very compact mixing zone.

Due to new technology the K VARIO MUNGG® operates independently by means of the Küchler. It can even process bagged material.



Automatic Water admixture with digital control



Radio control



Wired control



Booster pump



Silo plate

## SPECIFICATIONS

### DIMENSIONS AND WEIGHT

Total length by operation	1 950 mm
Total length by transport	1 400 mm
Total height	910 mm
Total width	660 mm
Total weight	approx. 259 kg

### DRIVE

Gear motor pump	4.2 kW / 103 – 260< rpm
Gear motor mixer	1.5 kW / 406 rpm
Electrical connection	16A/ 5pol / 380V 50Hz
Generator	min. 16 kVA

### FLOW RATE PUMP «variable»

Pump part 3 MP blue	396 – 1 020 l/h
Maximum pressure	60 bar
Pump part 8 MP orange	587 – 1 560 l/h
Maximum pressure	60 bar

# K TRAILER SILO FRÄSCHU

MIXING AND PUMPING EQUIPMENT



- easy to use
- time-saving work
- All-in-one-device
- can be filled via BIG BAGS
- reliable system
- no disposal of packing materials
- 3 m<sup>3</sup> volume

## DESIGN

Made from steel with an internal shaft, including mixing unit and a folding pump unit. Silo and steel and sandblasted, primed and sprayed in off white (RAL9010). Pumping unit galvanized. Two manholes with manhole cover NW 500 in the silo lid. Mount for control cabinet to the silo frame. Ladder fixed to the silo, mounted silo vibrator.





*Tandem wheels under the bridge, supporting roller, 195/50 R13 tires, four tie points, trailers from control, discharge ready, incl. CH-motorway vignette.*

*It can be filled with the silo, the BIG BAG or filled with the discharge screw conveyor.*



## SPECIFICATIONS

### DIMENSIONS

Container length	3.00 mm
Container width	1.5 mm without base plate
Container capacity	approx. 3 m <sup>3</sup>
Drive mixing unit	262 U/min, 400 V, 50 Hz, 5.5 KW
Drive pump unit	242 U/min, 400 V, 50 Hz. 4.2 KW
Control cabinet with water fittings	approx. 53 kg

### READY

ABRT/Saris 3.5 t including silo

Size	300 x 170 cm
Empty weight	1 300 kg
Payload	2 200 kg

# K MINI MUNGG®



- **Modular construction system**
- **quickly dismantled and transported**
- **lower filling height and total height**
- **universally applicable**
- **variable pump use**
- **easy operation and maintenance**
- **quick start and cleaning time**
- **lightweight and compact design**

## DESCRIPTION

*Accessories*  
Remote control cable 10 m / 15 m / 20 m / 25 m with speed control adjustment and on-off switch, air hoses 3/8 inch, mortar hoses NW 20, pressure gage sprayer

## SPECIFICATIONS

### DIMENSIONS AND WEIGHT

Total length by operation	1 480 mm
Total length by transport	870 mm
Total height	800 mm
Total width	530 mm
Total weight	approx. 118 kg

### DRIVE

Gear motor pump	1.5 kW / 106 – 403 rpm
Electrical connection	230 V / 50 Hz
Generator	min. 4 kVA

### FLOW RATE PUMP «variable»

K Mini Mungg® TP 18 gray	12 l/min / 0.5 – 18 l/min
Maximum pressure	30 bar
K Mini Mungg® TP 18 white	6 l/min / 0.2 – 9 l/min
Maximum pressure	20 bar



# PUMPS

## K MINI PUMP 230 V

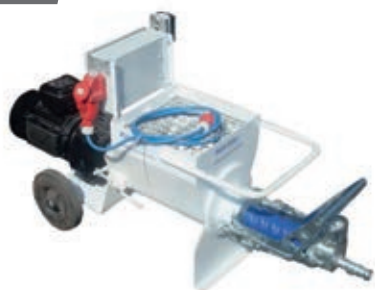


### SPECIFICATIONS

Drive	1.8 kW / 60 – 470 rpm	220 V / 50 Hz
Electrical connection	230 V / 50 Hz	
Generator	min. 4 kVA	
Maximum pressure	15 bar	
Flow rate	42 – 360 ℓ/h	
Grain size	1 mm	
Total weight	approx. 33 kg	
Type of construction	modular, galvanized	



## K SMALL PUMP 400 V



### SPECIFICATIONS

Drive	4.2 kW / 242 rpm	5.5 kW / 406 rpm
Electrical connection	400 V / 50 Hz	400 V / 50 Hz
Generator	min. 10 kVA	16 kVA
Maximum pressure	60 bar	60 bar
Flow rate pump part MP 3	396 – 1 020 ℓ/h	664 – 1 711 ℓ/h
Grain size	2 mm	
Total weight	approx. 55 kg	
Type of construction	modular, galvanized	



# K MUNG® / K VARIO MUNG® ACCESSORIES

## PUMP PART FOR DIFFERENT APPLICATIONS



**K MUNG®**  
**Pump part**  
**2 yellow**



**K MUNG®**  
**Pump part**  
**3 blue**



**K MUNG®**  
**Pump part**  
**8 orange**



**K MUNG®**  
**Pump part**  
**10 gray**  
**13 white**

Item number	<b>Stator 51-12 00 02</b>		<b>Stator 51-12 00 03</b>		<b>Stator 51-12 00 08</b>		<b>Stator 51-12 00 10/13</b>	
	<b>Rotor 51-12 00 02-1</b>		<b>Rotor 51-12 00 03-1</b>		<b>Rotor 51-12 00 08-1</b>		<b>Rotor 51-12 00 10-1/13-1</b>	
<b>Applications</b>	For <b>very low</b> pump power or for targeted injection with a stable pressure  Re-injection Self-drilling anchor Rupture of valves Joint work small injections		For <b>low</b> pump power or for targeted injection with a stable pressure  Re-injection Self-drilling anchor Rupture of valves Joint work small injections		For <b>medium</b> pump power or for targeted injection with a stable pressure  Re-injection Self-drilling anchor Rupture of valves Joint work small injections		For <b>very high</b> pump power  Backfilling Shell fillings Screeds Piles Injections	
Dimension	Ø = 89 mm / l = 270 mm		Ø = 89 mm / l = 270 mm		Ø = 89 mm / l = 270 mm		Ø = 101 mm / l = 350 mm	
Injection /delivery pressure	60 / 45 bar		60 / 45 bar		60 / 30 bar		60 / 40 bar	
Max. grain size	2 mm		2 mm		2 mm		2 mm	
Min. injection hole	5 mm		7 mm		10 mm		25 mm	
<b>Output</b>								
<b>Motor</b>	<b>4.2 kW</b> <b>242 rpm</b>	<b>5.5 kW</b> <b>406 rpm</b>	<b>4.2 kW</b> <b>242 rpm</b>	<b>5.5 kW</b> <b>406 rpm</b>	<b>4.2 kW</b> <b>242 rpm</b>	<b>5.5 kW</b> <b>406 rpm</b>	<b>4.2 kW</b> <b>242 rpm</b>	<b>5.5 kW</b> <b>406 rpm</b>
ℓ / min	5.5	8.7	12.5	20.8	24.0	39.0	36.5	60
ℓ / h	320	520	750	1 250	1 440	2 350	2 200	3 600
Water consumption per hour	110 – 160 ℓ	180 – 220 ℓ	260 – 420 ℓ	440 – 720 ℓ	500 – 830 ℓ	820 – 1 350 ℓ	770 – 1 270 ℓ	1 260 – 2 070 ℓ

## K MUNGG® DELIVERY HOSE

For work without cross-sectional narrowing



- Pressure range** up to 120 bar  
(40 bar working pressure,  
120 bar burst pressure)
- Hose length** 10 m, 20 m
- Connection** 1" AG
- Couplings** K MUNGGE® Fix coupling NW 25

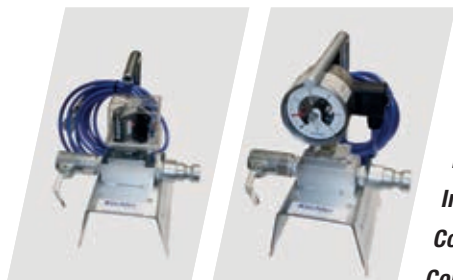
## INJECTION MONITORING AND CONTROL



### K INJECTION PRESSURE INDICATOR

For additional injection pressure control

- Pressure range** 0 – 100 bar
- Instantaneous pressure** readable
- Connection** 1"
- Couplings** K MUNGGE® Fix coupling NW 25



0 – 5 bar

0 – 60 bar

### K INJECTION PRESSURE SWITCH

For automatic injection pressure control

- Pressure range** 0 – 60 bar
- Instantaneous pressure** readable
- Connection** 1"
- Couplings** K MUNGGE® Fix coupling NW 25



### K PRESSURE AND FLOW RECORDER

Logs and controls the injection quantity, time and pressure on a USB stick

- Pressure range** 0 – 100 bar
- Instantaneous pressure** readable
- Connection** 1"
- Supply** 230 V

# K MIXING SYSTEMS

## MORTAR MIXER 230 V



### SPECIFICATIONS

Drive	1.1 kW
Electrical connection	230 V / 50 Hz
Generator	4 kVA
Flow rate	15 – 20 ℓ/min
Grain size	4 mm
Total weight	67 kg
Type of construction	modular, galvanized

## MORTAR MIXER 230 V / 400 V



### SPECIFICATIONS

Drive	2.2 kW
Electrical connection	230 V / 50 Hz
Generator	5.5 kVA
Flow rate	20 ℓ/min
Grain size	4 mm
Total weight	90 kg
Type of construction	modular

## CONTINUOUS MIXER 230 V / 400 V



### SPECIFICATIONS

Drive	2.2 kW
Electrical connection	400 V / 50 Hz
Generator	5.5 kVA
Grain size	8 mm
Total weight	148 kg
Type of construction	modular
Rmp	58 U/min