

# Measuring-, registration- and control systems

## Registration- and control systems

For grouting and filling works

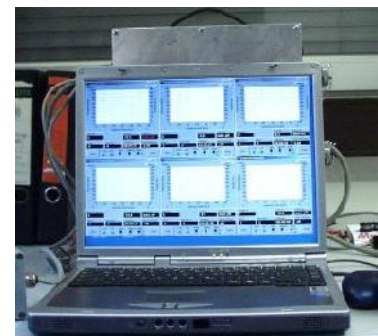
Type	Print-SG	LOG-SG1-S3	LOG-SG2-S3	PC-LOG-SG ..
Field unit:	•	•	•	Industry-PC as built-in unit
Measuring value:				
1 x pressure	•	•		max. 22 x pressure
1 x volume	•	•		max. 22 x volume
2 x pressure			•	
2 x volume:			•	
Sensors –				
Separate, for selection	•	•	•	•
Sensors –				
Integrated in unit		•	•	
Measuring value:				
- Indication	•	•	•	•
- Registration	•	•	•	•
Thermal paper	•			
USB		•	•	•
Pump operation:				
- for one pump	•	•		max. 22 pumps
- for two pumps			•	max. 22 pumps
Pump switching off:				
- automatical	•	•	•	•
Pump control:				
- automatical		•	•	•
Grout points-identification		possible	possible	possible
Internet-Communication		possible	possible	possible
Evaluation software for data manipulation		•	•	•



Print - SG



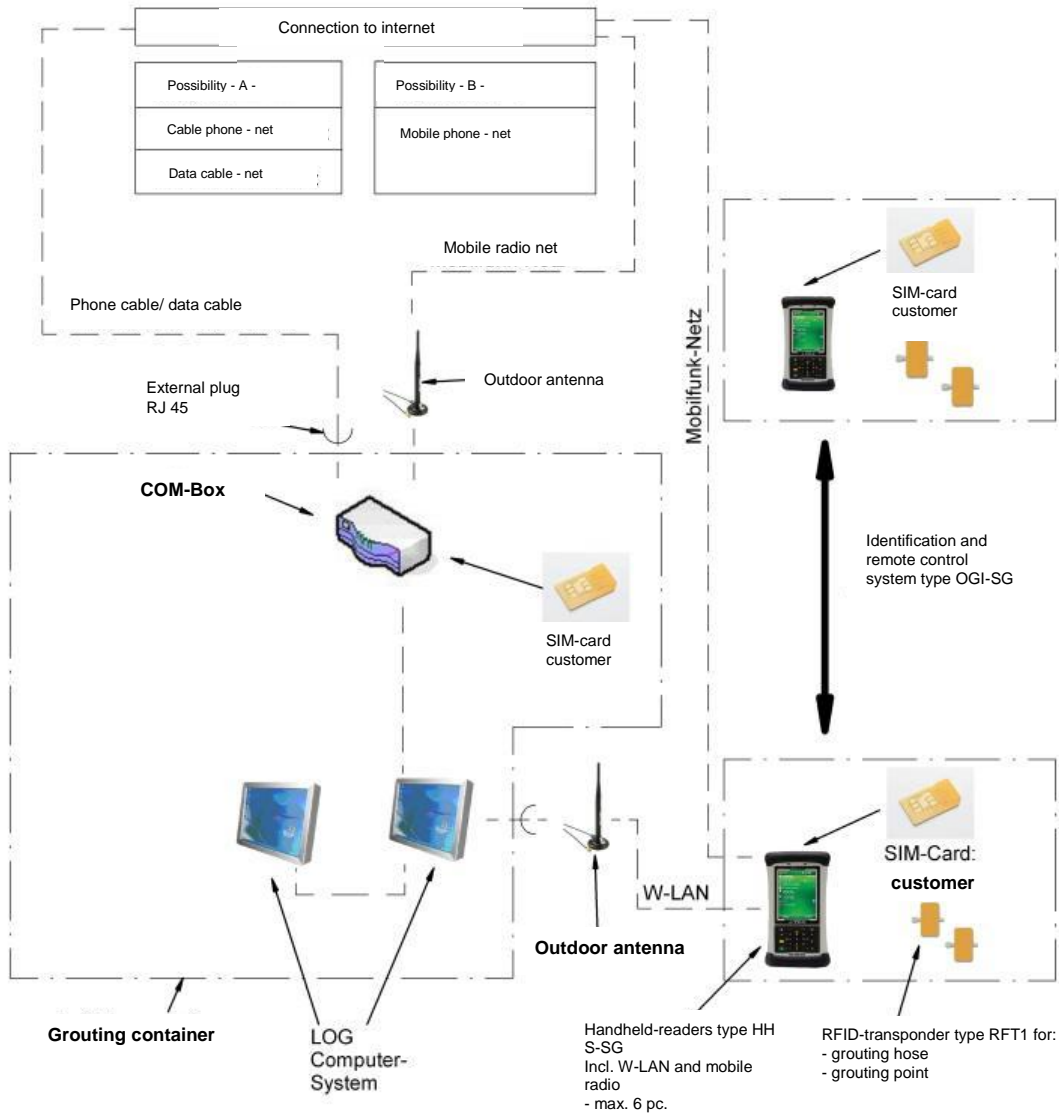
LOG – SG2-SG3



PC-LOG-SG6

# LOG-System

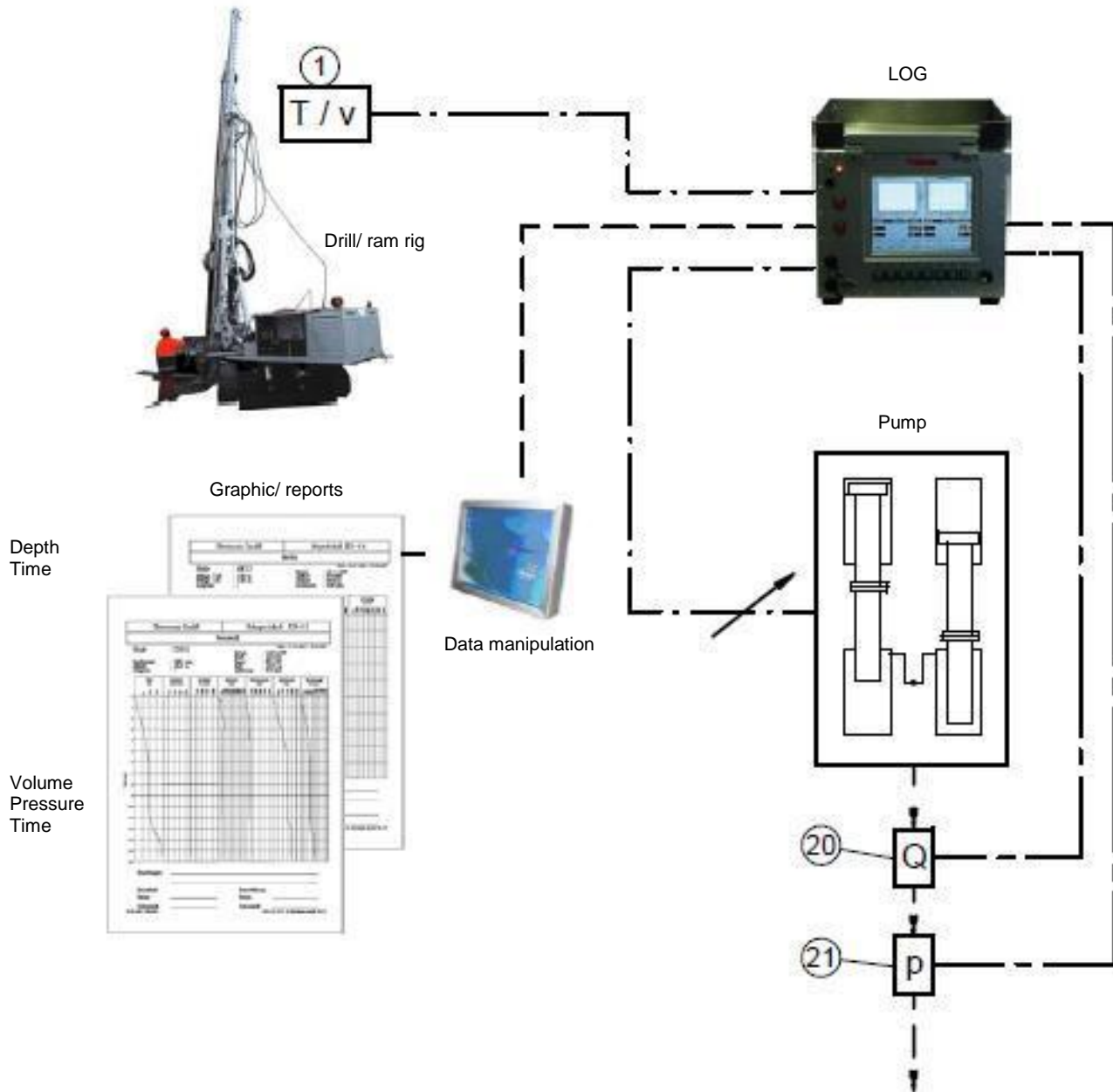
## Identification- and remote control system for grouting



# LOG-System

Automatic control of the pump speed  
Depending on the command variable: forward speed

- Different values can be set as well for feed as for retreat



- ① = Depth- and feed sensor
- ②① = Flow sensor
- ②① = Pressure sensor

# Sensors for pressure, flow and density

- For the connection to OBERMANN-LOG- or Print-units

Type	MIP ...	MAP ...	MAQ ...	MAQ-..K
For suspensions	•	•	•	•
For synthetic resins	•			•
For electrically non-conductive liquids	•	possible		possible
Pressure sensor – without indication	•			
Pressure sensor – with indication		•		
Flow sensor – with indication			•	•
Flow and density sensor – with inclination				
For one component	•	•	•	<b>MAQ-1 K</b>
For two components				<b>MAQ-2 K</b>

Type	MAPQ	MAPQ-..K	MAPD
For suspensions	•		•
For synthetic resins		•	possible
For electrically non-conductive liquids		possible	•
Integrated pressure sensor – with indication	•	•	•
Integrated flow sensor – with indication	•	•	
Integrated flow and density sensor – with indication			•
For one component	•	<b>MAPQ-1 K</b>	•
For two components		<b>MAPQ-2 K</b>	



**MAP 4-14**



**MAPQ**

# Measuring and registration systems

## Measuring- and registration systems

for jet-grouting-production

• incl. sensors

Type	LOG-JG1	LOG-JG2	LOG-JG3
Unit type:			
Additional operator panel display			
	Field unit/ attachment Option	Field unit/ attachment Option	Field unit/ attachment Option
<b>Measuring, indicating and registration:</b>			
• Jet pressure	•	•	•
• Air pressure		•	•
• Filling pressure			•
• Jet volume	•	•	•
- Measurement value transfer to LOG-System: cable/ option data radio:			
• Air volume		Option	Option
• Filling volume			•
• Jet depth	•	•	•
• Feed-/ retreat speed	•	•	•
• Drill head rotation speed	•	•	•
• Feed and retraction force	Option	Option	Option
• Drill head torque	Option	Option	Option
• Drilling/ direction position	Option	Option	Option
• Jet points-identification	possible	possible	possible
• Internet-communication	possible	possible	possible
• Evaluation-software for data manipulation	•	•	•
Corresponding sensors are necessary for each measuring value			
<b>Application areas:</b>			
Jet-grouting Simplex	•		
Jet-grouting Duplex		•	
Jet-grouting Triplex			•

### Sensor types – for fitting/ adaption to the drill rig:

Measuring value	Sensor-type
Jet pressure	MIP .../ MAP ...
Jet volume	MAQ ...
Air pressure	MIP ...
Air volume	MIQ-SC ...
Filling pressure	MIP.../ MAP ...
Filling volume	MAQ ...
Jet-/ depth incl. feed-/ retreat force	MIL-...
Drill head rotation speed	MIN ...
Feed/ retreat force	2 x MIP ...
Drill head torque	2 x MIP ...
<b>Sensor for drilling-/ direction position:</b>	
Sensor – without sensor drum	IM 500 ...
Sensor – with sensor drum	IMT 500 ...
Measurement value transfer to LOG-System	Cable/ option data radio



LOG-JG

# Measuring- and registration system

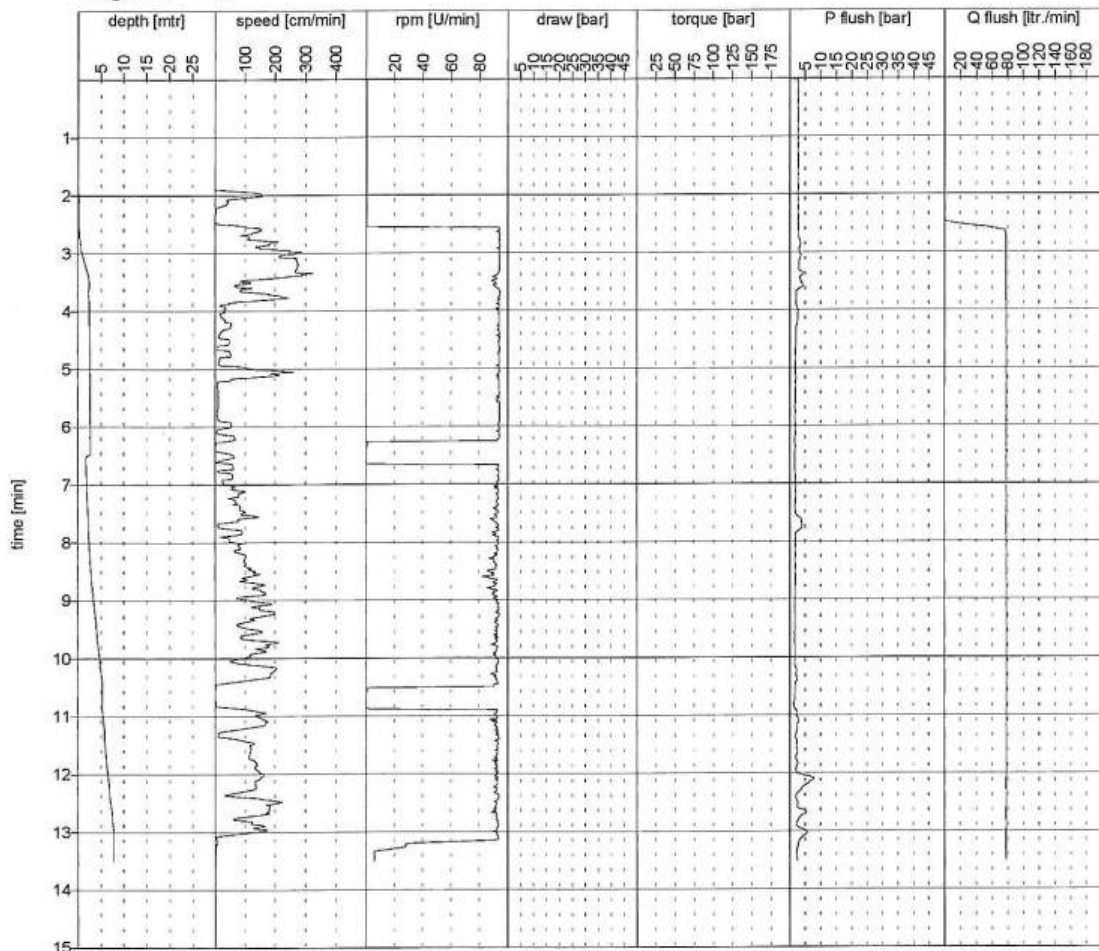
## Jet-Report JG3

Report  
Site  
Foremen  
Shift



start 27.04.2005 11:56:09  
end 27.04.2005 12:09:40  
duration 00:13:31  
angle - X 0°  
angle - Y 0°

fluh volume 857,71 ltr.  
diameter 150,00 mm  
depth (req.) 14,50 mtr.  
depth (tot.) 7,86 mtr.



notes :

Contractor

Orderer

Control

date

date

date

signature

signature

signature

19.10.2005 / 15:16:53

1 / 1

v 2.01 © Obermann KG

# Measuring- and registration systems

for general drilling works/ filling of geothermal drillings

• incl. sensors

Type

LOG-DD

Unit type:	Field unit/ attachment
Integrated display	●
Additional operator panel display	Option
Measuring and indicating	●
Registration:	●
- Drilling depth	●
- Fee-/ retreat speed	●
- Feed-/ retreat force	Option
- Drilling rotation speed – drilling drive no. 1	●
- Drilling torque – drilling drive no. 1	Option
- Drilling rotation speed – drilling drive no. 2	Option
- Drilling torque – drilling drive no. 2	Option
- Flushing pressure no. 1/ suspension pressure	Option
- Flushing volume no. 1/ suspension volume	Option
- Flushing pressure no. 2	Option
- Flushing volume no. 2	Option
- Drilling-no. (manual input)	●

## Application areas:

General drilling works, exploration drilling

## Sensor-types – for fitting/ adaption to the drill rig:

Measuring value	Measuring value
- Drilling depth, incl.	MIL-...
- Feed-/ retreat speed	MIN ...
- Drill head rotation speed	2 x MIP ...
- Feed-/ retreat force	2 x MIP ...
- Drill head torque	MIP
- Flushing pressure	MAQ ...
- Flushing volume – liquids	MIQ-SL ...
- Flushing volume – compressed air	MIL-...



LOG-DD on exploration drill rig

# Drilling measuring system

- for drilling
- for sleeve pipes
- For connection to OBERMANN-LOG-units

Type	IMT 500/30	IMT 500/60 E	IMT 500/100 E
Max. drilling depth/ -length	30 m	60 m	100 m
Distance of the measuring points	0.5 m	0.5 m	0.5 m
Bulkhead drive:			
- Manual drive	•		
- Electric drive 400 V/ 50 Hz	Option	0.75 kW	0.75 kW
- Pneumatic drive	Option	Option	Option
Measuring value transfer to LOG-System	Cable/ option data radio	Cable/ option data radio	Cable/ option data radio



**IMT 500/100**



# Hose reel with depth measuring

- for grouting with packers
- with integrated depth measuring

• For the connection to OBERMANN-LOG-units

Type	HR 16/60 E	HR 16/144 E
Suspension hose:	Option	Option
- Nominal width = 16 mm		
- Pmax. = 100 bar		
Technical clarification is necessary		
Compressed air hose:	Option	Option
- Nominal width = 6 mm		
- Pmax. = 100 bar		
Technical clarification is necessary		
Hose and steel rope reel – hose length	max. 60 m	max. 144 m
- Rope diameter 8 mm – rope length	max. 60 m	max. 144 m
- Max. force of the reel	900 kg	900 kg
- Max. speed – up/ down	0.6/ 1.0 m/sec.	0.6/ 1.0 m/sec.
Electric drive 400 V/ 50 Hz	7.5 kW	11.0 kW
Integrated depth measuring	Option	Option
Integrated pressure and flow measuring	Option	Option
Measuring value transfer to LOG-System (option)	Cable/ data radio	Cable/ data radio



HR 16/144 E