

Grout Plants - low pressure



Simple grouting and injection technology



Geothermal Applications



Well construction

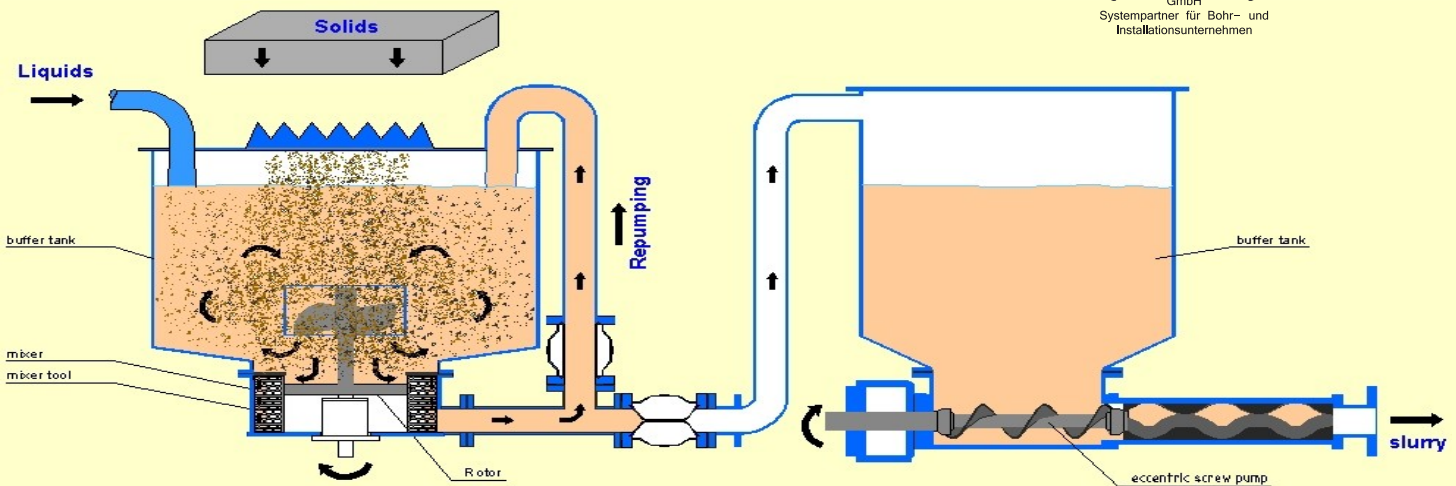


Special civil engineering
Tunnel construction

Colloid mixer
+ Eccentric Screw Pumps

= simple grouting

Principle of operation



Colloid mixer + Eccentric Screw Pumps = simple grouting and injection technology

The injection units for the low pressure area consist of a

high-speed colloid mixer, a secondary tank and a eccentric screw pump

The mixing components are measured into the reserve tank and the colloid mixer separates the solid particles and distributes them uniformly in the suspension. The continuous repumping of the suspension thus creates a homogenous colloidal broken down suspension.

Technology comparison

What is the benefit of the colloid mixer + spiral pump compared to mixing pumps and slow running forced mixers?	Benefits for the drilling company:	Benefits for the customer:
<ul style="list-style-type: none"> ▶ homogenous stable suspensions ▶ consistent rheological properties of the suspension through optimal mixing quality ▶ lowest possible sedimentation of the mixing components ▶ immediate activation of all mixing components during the mixing process (swelling clay, bentonite, cement) ▶ minimum subsequent swelling of the swelling clay portion ▶ fast hydration of the cement portion ▶ complete absorption of the preparation water ▶ optimal flowability of the suspension ▶ low shrinkage of the suspension ▶ no segregation or bleeding of the suspension ▶ higher pressure strengths after 7, 14 and 28 days ▶ lower water permeability ▶ higher erosion resistance ▶ optimal processing properties of the suspension ▶ optimal thixotrope behavior of the suspension ▶ prevention of micro-cracks in special jacketing 	<ul style="list-style-type: none"> ▶ constant quality control of the suspension ▶ easy troublefree grouting of the geothermal probe (time and cost savings) ▶ optimal grouting quality and flowability of the grouting material ▶ grouting without cavities ▶ easy operation and maintenance of the machinery ▶ low operating costs ▶ minimum startup effort ▶ Increased thermal yield for the end customer, low operating costs, long life of the probe jacket ▶ immediate activation of all mix components and the higher pressure strengths reduce the risk of damage to the probe jacket ▶ suspension fabrication and processing (state-of-the-art) 	<ul style="list-style-type: none"> ▶ high energy efficiency, high energy yield and lower operating costs through the optimal utilization of the grouting material (complete utilization of the rheological properties of the grouting material), consistent heat transfer of the entire length of the probe (no sedimentation) ▶ higher energy yield and lower operating costs by utilizing the entire length of the probe. No cavities during probe grouting, no subsequent development of cavities through water drainage from filled in suspension as well as lower shrinkage when the suspension cures. ▶ higher energy yield and lower operating costs at existing various water horizons since they are optimally separated through the probe grouting. ▶ higher service life and functional reliability of the probe filling through higher pressure strength, higher erosion resistance, lower water permeability of the probe jacket and prevention of micro-cracks. ▶ optimal probe protection through the complete probe enclosure, uniform material distribution within the probe jacket

Performance and technical data

Type	Drive type *)	Maximum delivery rate	Maximum delivery pressure	Max. grain size	Electrical connection	Power consumption	Hydraulic oil required	Hydraulic pressure required	Pressure connection	Useful max. mixer capacity	Useful max. buffer capacity	Useful max. buffer capacity	Length	Width	Height	Weight
		l/min	bar	mm	CEE	kW	l/min	bar	DN	DN	l	l	mm	mm	mm	kg
IS - 33	E	40	16	2	16 A	4,5	-	-	40	25	100	150	1440	710	1250	220
IS - 35	E	65	50	2	32 A	12,3	-	-	40	25	150	300	1620	820	1440	485
	H				-	-	60	180					1620	820	1600	525
IS - 38	E	75	24	2	16 A	7,1	-	-	40	25	150	300	1850	810	1500	465
	H				-	-	60	140					1850	810	1600	480

*) E - Electric drive
H - Hydraulic drive



IS-38-E



IS-38-H

Features IS-XX-E (electrical drive)

- Colloid mixer incl. water metering, filling level indicator, splash guard, repumping discharge line, bag loading crate
- Secondary tank incl. inspection grid
- Eccentric screw pump incl. pressure indicator 0-40 and 0-100 bar respectively, delivery rate adjustable in 2 levels, pressure outlet with mortar coupling
- Electric control (pump on/off, forward/reverse, fast/slow), operating hours counter

Special features IS-XX-E (electrical drive):

- Speed control of eccentric screw pump
- Pressure control of the eccentric screw pump
- Scale module for colloid mixer
- Metering module water/solids
- Remote cable control of eccentric screw pump
- Inspection logging

Features IS-XX-H (hydraulic drive):

- Colloid mixer incl. water metering, filling level indicator, splash guard, repumping discharge line, bag loading crate
- Secondary tank incl. inspection grid
- Eccentric screw pump incl. pressure indicator 0-40 bar, delivery rate adjustable infinitely variable, pressure outlet with mortar coupling
- hydraulic control (mixer on/off, pump on/off, forward/reverse, infinitely variable s slow/fast), hydraulic pressure indicator

Applications



Geothermal Applications

- Grouting of geothermal probes



Well construction

- Grouting work
- Seal water sealing



Special civil engineering

- Drill hole grouting
- Pipe jacking injections
- Anchor injections
- Low pressure injections



Tunnel construction

- Anchor injections
- Pipe arch injections
- Back filling
- Cavity filling