

Technical Data Sheet No. 309-D/ E

Grouting unit VS 109-D

Application: grouting of anchors and micro piles incl. post grouting, flushing pump at drilling works
 Manual operation
 Cement addition with bag cement/ option proportioning auger FS-DKB 160-D for silo-cement



VS 109-D



VS 109-D with option
 Proportioning auger type FS-DKB 160 D
 for silo cement and bag material

Technical data:

Type

VS 109-D

Drive: Diesel hydraulical

18,7 kW

Connections:

- water inlet
- grout pump – pressure side
- grout pump - circulation

BSP 2“
 BSP 1“
 BSP 1“

Dimensions L x W x H

2150 x 1650 x 2180 mm

Weight – acc. to options –

approx. 2.200 kg

Performance VS 109-D

Mixer:

- with bag cement : max. 20 batches = 4.0 m³/h
- with proportioning auger : max. 26 batches = 5.2 m³/h

Grouting and flushing pump:

- pressure : max. 100 bar ¹⁾
- volume : max. 170 l/min ¹⁾

Simultaneous typical values			
Delivery pressure		Delivery volume	
P – bar	(PSI)	Q – l/min	(US gal)
10	145	170	45
20	290	165	44
30	435	150	40
40	580	110	29
50	725	90	24
60	870	75	20
70	1015	65	17
80	1160	55	15
90	1305	50	13
100	1450	42	11

¹⁾ Basic values, infinitely variable pump performance, determined with water

1 bar = 1 x 10⁵ N/m²

technical data: August 2014 – subject to change

Frame:

- Skid mounted steel frame
- Drive unit completely encased
- 3 sides of the machine can be reached by forklift
- Central lifting eye
- Fixing points for transport tension belts and transport ram protection

Water dosage:

- Water dosage tank working capacity approx. 180 l, of stainless steel
- Water inlet valve manually operated
- Water outlet valve manually operated
- Water dosage semi-automatic (SA6-180)³⁾, with max. level switch

Solid agent dosage:

- Manually with bag cement via feed hopper at mixer
- Use of silo cement or bag material, Addition of the cement into the mixer by optional Proportioning auger type FS-DKB 160-D

Mixer:

- Tank of stainless steel, working capacity approx. 200 l
- Tank cover completely removable
- Feed hopper with bag ripper
- Two high-speed mixer tools on one elastically supported vertical drive shafts without stuffing box
- Running dry of the mixer tools without any problems
- Constant mixer rotation speed
- Valves for mixing and pumping-off function manually operated
- Mixer cover (ADS 220),³⁾ for charging auger inlet

Storage tank:

- Tank of stainless steel, working capacity approx. 500 l
- Tank covers completely removable
- Inlet sieve basket of stainless steel
- Cleanout opening laterally at the tank
- Quick drain at the tank bottom
- Low speed agitator tools with constant rotation speed

Grouting and flushing pump:

- Pump valves as ball valves
- Vertical two plunger pumps, plunger Ø 100 mm
- Easy accessibility of the pump valves
- All important pump parts are surface treated and easily to clean without damaging
- Flushing connection (SA 14-50) to delivery pump manually operated, for selection of delivery medium: Suspension (from storage tank) or water (from 2" water hose)
- Circulation valves (SC 14/25/2) in the pump pressure line, manually operated. Valve 1 = Close/ Open in the line to the grouting point. Valve 2 = Close/ Open of the circulation line to the storage tank

Hydraulic:

- Oil tank working capacity: approx. 140 l
- Oil tank of stainless steel, therefore suitable for bio oil Bio-oil filling (B 10)³⁾

Electrics:

- Motor electric 12 V DC
- Voltage converter 12/ 24 VDC for voltage control and remote switching

Diesel drive:

- 3-cylinder Diesel motor, liquid cooled
- Meets the current waste gas prescriptions: Europe and USA The motor is certificated as TIER 4 for the operating in the USA
- Sound absorption
- Fuel tank content approx. 50 l (13.21 gal)
- Starter battery 12 V, 70 Ah

Operation and indication elements:

- Grouting pressure indication as digital value¹⁾
- Grouting pressure adjustment:
- Rotary knob for adjustment of the max. hydraulic pressure
- Adjustment of the pump speed (SD20) electro-proportional
- Control unit Watch B (SD 31)³⁾
- electronic fine adjustment for grouting pressure
- High-pressure button for short time increase of the adjusted pressure up to the maximum pressure
- Indication pump rate l/min
- Volume preselection for parts with autom. switch-off of the pump when volume is reached, indication of the remaining volume
- Indication of total volume with and without reset in litres
- Operating hour meter
- Volume function, volume indication of the last 20 grouting points in l on request
- Connection for remote control (SD9)³⁾
- Remote controls optional
- Cable-remote control RC-2
- Radio remote control RC-6 WL

High-pressure cleaner: Option HDRH

- Integrated in machine frame
- Hydraulic drive
- 3-Plunger pump: 13 l/min – 120 bar
- Hose line with pistol handle

Accessories:

Special tools for operation and maintenance, as necessary/ standard
Operating manual and spare parts list, 3fold

Optional accessories:

- Hydraulically driven proportional auger Type FS- DKB 160-D
- Grouting data recording

¹⁾ Pressure measuring either directly at the grouting unit or by separate pressure sensor type MAP at the grouting point

²⁾ Volume determination by stroke counting of the grout pump

³⁾ Optional