EISELE VERTICAL PUMP

PARTS LIST

EISELE VERTICAL PUMP - Brought to you by TechniPharm

VERTICAL PUMP TYPE VM
TECHNICAL DATA

Performance data assume water as medium. Use of the pump acc. to the performance curve.

	Pump Data		Motor data			Operating voltage 400V/50Hz	
Type	Total head m	Discharge volume l / min	Motor power kW	Motor power HP	RPM	Rated current A	Weight at length 2,0m kg
1541	16	3900	11.0	15	1460	21.2	385
2041	17	4300	15.0	20	1460	28.9	415
2541	21	5400	18.5	25	1460	34.1	449
3041	24	6000	22.0	30	1460	39.5	479

Design
-stator insulation F=155°C, protection class IP 44
-starting: star-delta, optional terminal box
-reversing motor protective switch with thermal overload releases, with 32A CEE-plug at 11+15 kW, and 63 A CEE-plug at 18.5+22 kW
-mechanical seal medium side, oil bath lubricated
-can run dry indefinitely
-screw type impeller with tearing edges of welded carbide tips, optional whirl blades
-heavy duty support frame
-discharge pipe dia 133 mm
-mixing nozzle 235° rotational direction, adjustable up and down, optional 2nd mixing nozzle, different nozzle heights available
-different operating depths lengths in 0.5 m steps from 1.5 to 5.0 m, optional longer pumps
-optional gearbox drive with PTO-shaft (up to 75 kW)
-discharge bend 60° or 90° with 360° swivel
-optional under floor discharge
-special designs on request

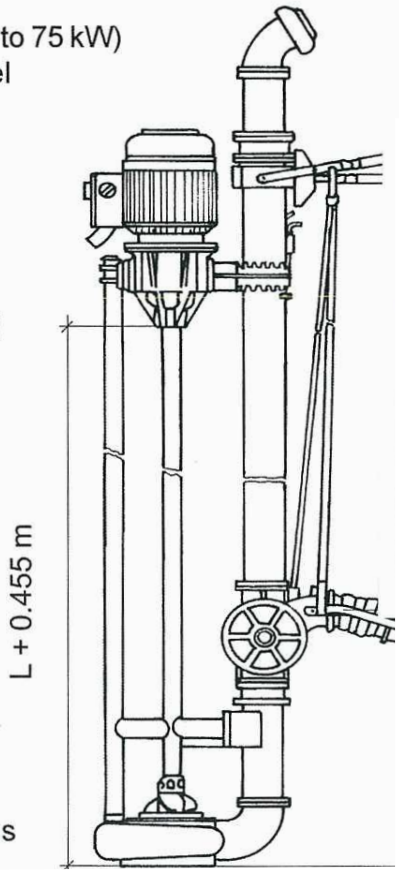
Materials
-pumphousing: cast iron
-screw impeller: ductile iron
-support frame, shaft: steel
-discharge pipe,rods,levers: stainless steel
-screws: stainless steel

Corrosion Protection
-standard paint coat
-optional: 2 coat epoxy

Required openings W x L for installation:
11 +15 kW 500 x 600 mm
18.5+22 kW 600 x 800 mm

Standard size L= 1.5 to 5.0 m (steps 0.5 m)
suitable for tank depths L to L+0.455 m

The company reserves the right to make technical alterations



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Assembly instructions

Replacing the impeller or the bearing or seal of V-pumps and mixer Q 1040

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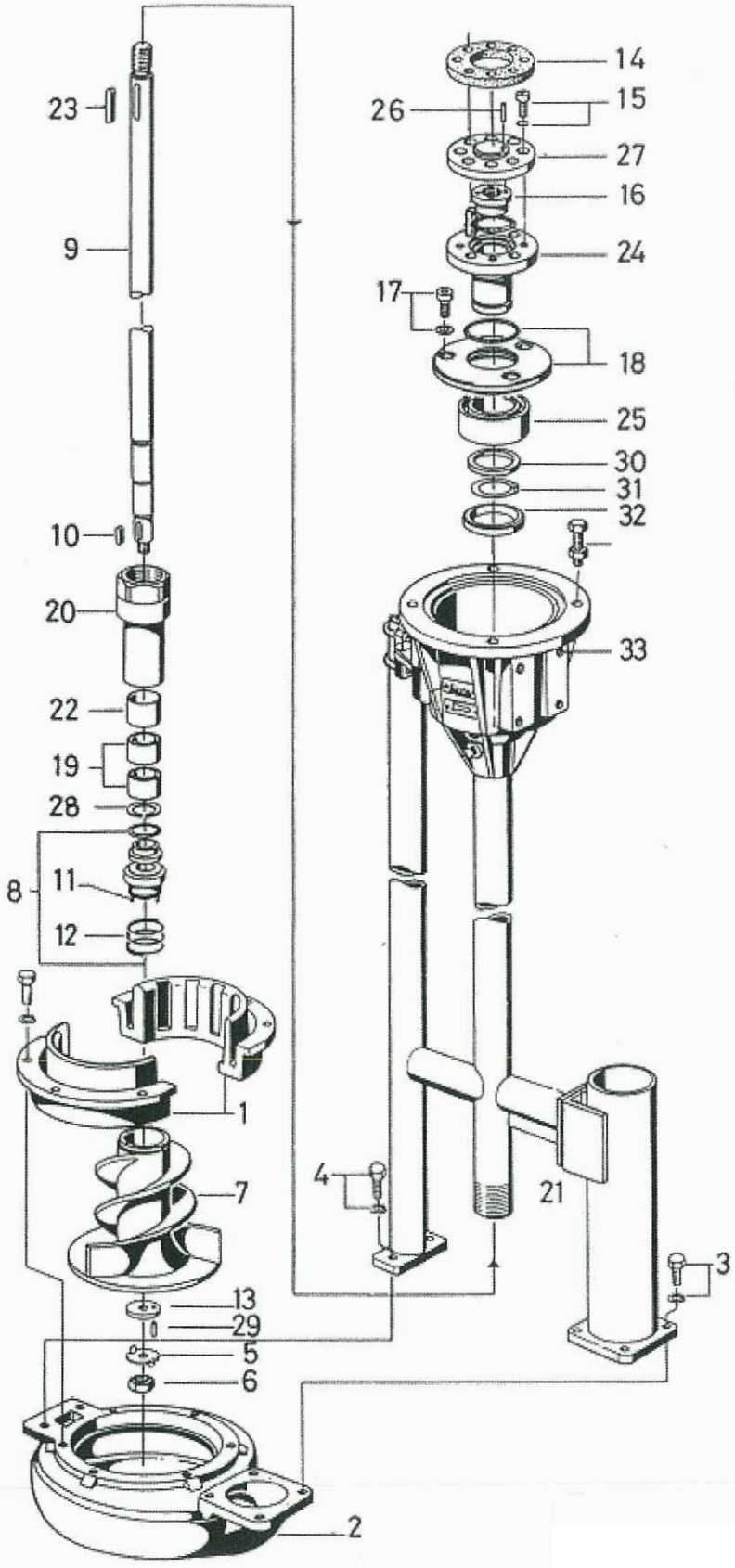

Assembly instructions

Replacing the impeller or the bearing or seal of V-pumps and mixer Q 1040

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PREDESIGN!

Lay pump or mixer horizontally. Disassemble inlet castings (1) and remove the pump housing (2) by unscrewing the four M 12 nuts (3) or hexagon bolts M 12 (3) on the pressure line and the two M 12 nuts (4) on the support pipe (not applicable in the case of the mixer Q 1040). Undo nut locking device (5) on the impeller fixing nut, turn out hexagon nut M 16 x 1,5 (6), (AF 24 mm).

Pull impeller (7) off with the aid of a withdrawing screw.

Please ensure that the mechanical seal (8) is not twisted on the shaft (9). The feather key (10) must be exactly at a right angle to the two driver pins (11), so that they fit into the holes inside the impeller hub when assembling the impeller (7). Before assembly of the impeller (7), the pressure spring (12) is to be pushed over the holder of the mechanical seal (8). The bore hole of the impeller (7) is to be cleaned and greased/oiled before assembly. Knock grooved pin (29) into the hole of the impeller hub. Knock impeller (7) onto the shaft (9) with a piece of wood in between and gentle taps with a hammer. Hard knocks are to be avoided, as the running surfaces of the mechanical seal (8) is very sensitive. Fix impeller (7) with a locking plate (5), washer (13) and hexagon nut (6).

The pump housing (2) and the inlet castings (1) are assembled in the reverse order to that described above. All bolts are to be tightened well. After conversion, the oil filling of the pump is to be checked as described in the operating instructions.

Replacing the pump shaft

Disassemble motor or gearbox. Remove rubber coupling washer (14). Unscrew the 4 socket head cap screws (15) on the clamping washer (27) and remove clamping washer (27).

The round nut (16) is fixed on the shaft (9) with Loctite and must be heated to approx. 150-200 °C with a welding torch before unscrewing. Unscrew socket head cap screws (17) with ball bearing casing cover (18).

After the housing (2) (not with mixer), impeller (7) and mechanical seal (8) have been disassembled as described above, the shaft (9) can be removed from below.

Attention!

The running surfaces of the mechanical seal (8) must not be damaged under any circumstances. Even minimal damage leads to leakage. Even if only one running surface of the ceramic/carbide rings is damaged, the complete mechanical seal (8) must be replaced.

Assembly instructions

Replacing the impeller or the bearing or seal of V-pumps and mixer Q 1040

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First the bearing bushes previously heated in the oil bath of the needle bearings (19) must be installed on the shaft (9) while hot and fixed with the Seeger retaining ring (28).

To fit the new needle bearings (19), the bearing bushing (20) must be unscrewed from the support frame (21) and the old bearings (19) removed from above. Before installing the new needle bearings (19), clean the bearing bushing (20) thoroughly. Press new bearings (19) in as far as they will go (use suitable mounting sleeve). Wind Teflon sealing tape around thread on support frame (21) to seal. Push spacer bushing (22) into the bearing bushing (20) and screw bearing bushing (20) onto the thread as far as it will go. Push shaft (9) from below through the bearing bushing (20) and the protective pipe (21). Insert feather key (23) for coupling hub (24) into the shaft (9).

Place the ball bearing casing cover (18) onto the coupling hub (24) . Press the angular ball bearing (25) onto the coupling hub (24), fit spacer ring (30) and secure ball bearing (25) with spacer ring (30) via retaining ring (31). Press shaft sealing ring (32) with sealing lip downwards into the bearing flange (33). Insert the fully assembled coupling hub over the shaft (9) into the bearing flange (33). Fix the ball bearing casing cover (18) in the bearing flange (33) with cylinder head screws (17).

Before the round nut (16) is screwed on, the impeller (7) and the mechanical seal (8) must be assembled as described above. The thread of the shaft (9) and the round nut (16) are to be cleaned with fat solvent (Trichlor) and thinly brushed with Loctite. Screw the round nut (16) onto the thread and tighten until the gap between the bearing bushing (20) and the impeller (7) is as small as possible (appr. 1 mm) and the impeller (7) can still be turned easily by hand. Remove retaining pin (26) from the clamping washer (27). Fit clamping washer (27), spot-drill the grooved nut (16) through the pin hole and fix with retaining pin (26). Fit pump housing (2), inlet castings (1) (not with mixer) and motor or gearboxmmissioning, the frame pipe must be filled with SAE 30 HD oil.