

TROUBLESHOOTING

Use the list below to identify the problem and find a possible solution.

Symptom/Problem Reference to possible cause & elimination

Flow rate too low	1, 8, 9, 12, 14, 15
Flow rate too high	2, 16
Delivery head too low	2, 3, 5, 8, 9, 10, 12, 15
Delivery head too high	1, 16, 33
Pump does not deliver any flow	3, 4, 5, 6, 8, 15
Pumped flow pulsates	3, 5, 8
Pump operates noisily	3, 5, 6, 7, 12, 13
Power reading too high	2, 6, 7, 10, 11, 13, 16
Power reading too low	9, 15, 32, 33
Pump/motor rotates reverse	18
Pump does not operate smoothly	7, 13, 17, 19, 20, 21, 22, 23, 24, 25, 26, 27, 28, 29
Pump casing leaks	28, 30, 31
Pump overheats	4, 15, 17
Pump seized	6, 7, 13

Code	Cause	Elimination
1	Resistance in discharge piping is too high.	Clean or modify discharge piping or valves accordingly. Check the size of the discharge piping, and increase size of piping if necessary.
2	Resistance in discharge piping is too low.	Use control valve or orifice on discharge side to throttle.
3	Suction pressure is too low.	Increase suction pressure by raising liquid level or pressure level in suction tank.
4	Valve on suction or discharge side closed.	Open the valve. If applicable, verify check valves operate properly.
5	Suction piping not vented properly or contains entrained gas.	Vent the system prior to start-up. Check design and arrangement of suction piping.
6	Foreign objects inside the pump.	Disassemble and clean the pump. Replace damaged components using new original spare parts.
7	Wear of journal bearings.	Check the bearing clearances. Replace if necessary using new, original spare parts.

Code	Cause	Elimination
8	Leak in suction piping.	Check gaskets and flange connections of suction piping and verify torque values of flange bolts. Replace leaking gaskets with new gaskets and re-torque flange bolts using appropriate torque values.
9	Rotating speed is too low.	Check frequency and voltage of the electric motor.
10	Viscosity of the pumped liquid is too high.	Contact KLAUS UNION.
11	Density of the pumped liquid is too high.	Contact KLAUS UNION.
12	Pump/motor rotates in reverse.	Check the motor's direction of rotation prior to start-up (observe direction-of-rotation arrow on the pump).
13	Anti-friction bearings are damaged.	Replace anti-friction bearings and clean the oil chamber. Verify usage of appropriate lubricant.
14	Plugged suction piping.	Clean suction piping from deposits and debris. Clean plugged valves and filters. If necessary, replace suction piping.
15	Magnetic coupling de-coupled.	Shut down electric motor. As soon as the motor comes to a stand still, start it up again. In case of repeated de-coupling contact KLAUS UNION.
16	Rotating Speed is too high.	Check the frequency and the voltage of the electric motor.
17	Internal flush flow is too low.	Check the flushing system. Clean the components if necessary. Check if pump operates in admissible range.
18	Check valve seized.	Verify check valve operates properly. Replace if necessary.
19	Impeller clogged or damaged.	Clean the impeller or replace it if necessary, using new and original spare parts.
20	The pumped liquid starts to solidify.	Increase temperature of the pumped liquid. Check for proper insulation of piping and pump. Consider heating the pump - Contact KLAUS UNION.
21	Oil level in drive frame incorrect.	Check for leaks and repair as necessary. Check anti-friction bearings and replace if necessary, using new original spare parts. Verify correct oil level in drive frame and inspect gauge for cleanliness
22	Improper lubricant for anti-friction bearings.	Check anti-friction bearings and replace if necessary, using new original spare parts. Verify the lubricant meets required specifications..
23	Improper assembly of anti-friction bearings.	Check anti-friction bearings and replace them if necessary, using new original spare parts. Verify proper assembly of anti-friction bearings.
24	Misaligned or loose flexible coupling.	Verify proper alignment of flexible coupling. Observe assembling and alignment instruction in operating manual for the flexible coupling.
25	Flexible coupling is worn.	Replace worn/damaged components of the flexible coupling, using new original spare parts. Follow instructions in coupling manual to ensure proper assembly and alignment.



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Code	Cause	Elimination
26	Poor quality/condition of foundation.	Check and correct the construction of the foundation.
27	Base plate not rigid enough for foundation-less execution.	Contact KLAUS UNION.
28	Pump casing distorted.	Check and correct suction and discharge piping to not exceed admissible forces and moments.
29	Misapplied pump design.	Contact KLAUS UNION.
30	Improper case gasket material.	Replace existing case gasket with correct gasket material, using new and original spare part.
31	Casing stud nuts tightened insufficiently.	Tighten casing stud nuts using required torque rating.
32	Density of pumped liquid is too low.	Contact KLAUS UNION.
33	Viscosity of pumped liquid is too low.	Contact KLAUS UNION.