

## Fault finding / causes / remedies for vacuum leak detector III F / IV F / V8 / V13 / V33 / V80Ex / V90

### General information – authorized staff

Assembly, starting up, maintenance and repair of this leak detector have to be carried out only by specialists with proven knowledge of the construction and operation of systems for handling liquids that are hazardous to water, as well as special knowledge in leak detection systems.

Furthermore, the specialists must also have sufficient knowledge in the area of fire and explosion protection.

In general once a fault has been found and remedied, a function check should be carried out in accordance with the relevant technical specification for the leak detector

Fault / defect	Cause	Remedy
Leak detector on alarm status (red light, buzzer); pump runs continuously, does not switch off	Leakage within the system; leakage rate higher than the pump performance	Check that leak detector is not leaking; bypass leak detector with a tube (approx. 1m, 4x2) (bypass between SL and ML) and then check whether there is a leak in the leak detector. Once the leak detector is tight, the pump will switch off immediately and the alarm will go off. Rule of thumb: there is no leak in the leak detector if the period between the pump being OFF and being ON is >40sec. If not in working order: defect in the leak detector (pump, pressure switch, piping, filter, ventilation valve, test valve)
	Tank / pipe is leaking, liquid has entered the monitoring chamber, liquid barrier is closed	Search and close leak, clean all piping, check whether any liquid has entered the leak detector, replace if there is liquid within the leak detector, check condensate bin
	Connections between monitoring space and leak detector are leaky / blocked (screw fittings, pipes, conduits, condensate bins or liquid barrier). Exhaust pipe blocked. Frost has entered the system	Check whether connections are leaking (e.g. by bypassing in several places).  Check whether pipes are clear, clean pipes, defrost the system, install heating
	Only with leak detector type V80Ex and V90: Flame arrestors or ball valves leaking / blocked	Check that flame arrestors and ball valves are neither blocked nor leaking and, if required, replace
	Tank (pipe) leaky	Repair tank (pipe)
	Pump defective or not producing the required performance	Check max. vacuum of the pump direct on the suction inlet on the leak detector. As a rule of thumb the pump must produce a min. vacuum of -500 mbar for type IVF / -600 mbar for type IIIF
	Pressure switch is defective (micro switch defective, switching points not correct)	Check switching points: - attach testing device to test valve, open screw - by opening and closing the ventilation screw the switching points can be checked and, if required, adjusted in accordance with the instructions for adjustment

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Fault / defect	Cause	Remedy
Leak detector on alarm status (red light, buzzer); pump is not running	No supply voltage to the pump; pump is defective; low temperatures / no heating	Check voltage at pump; replace pump; install heating
	The pump's thermo-switch has been activated as a result of overheating (high temperatures within the device, motor has overheated as a result of continuous use). Thermo-switch is defective	Check positioning / surrounding conditions of the leak detector. Determine and remove reason for continuous operation (e.g. leakage)
	Only with leak detector type V80Ex: ex-i inherently safe cable between the instrument panel and the switch box is broken	Check cable and, if required, replace cable; observe instructions in technical description
	Only with leak detector type V80Ex: fuse in switch box is defective	Check fuse, replace
Pump works more and more often or on for a longer period	Gradually increasing leak within the system that has not yet led to the alarm being raised	Check leak detector, connections and tank for any leakages, see above
	Pump performance is decreasing	Check pump performance, see above
Power light (green) OFF	No supply voltage	Check voltage and electrical connections
	Light defective	Replace light
Pump becoming increasingly loud when operating	Defect within the pump (motor / pump head)	Replace pump
When installed outside, pump will not start below -5°C	No heating; heating / thermostat defective	Install heating; repair heating / thermostat