

7 Service and repair

This chapter contains information on troubleshooting and correction should an error occur during operation.

Repairs to the unit must be performed by Bühler authorised personnel.

Please contact our Service Department with any questions:

Tel.: +49-(0)2102-498955 or your agent

For further information about our services and customised maintenance visit <http://www.buehler-technologies.com/service>.

If the equipment is not functioning properly after correcting any malfunctions and switching on the power, it must be inspected by the manufacturer. Please send the equipment inside suitable packaging to:

Bühler Technologies GmbH

- Reparatur/Service -

Harkortstraße 29

40880 Ratingen

Germany

Please also attach the completed and signed RMA decontamination statement to the packaging. We will otherwise be unable to process your repair order.

You will find the form in the appendix of these instructions, or simply request it by e-mail:

service@buehler-technologies.com.

7.1 Troubleshooting

CAUTION



Risk due to defective device

Personal injury or damage to property

- a) Switch off the device and disconnect it from the mains.
- b) Repair the fault immediately. The device should not be turned on again before elimination of the failure.



CAUTION



Hot surface

Burning hazard

According to the product type and operation conditions, the temperature of the housing may exceed 50 °C during operation.

Depending on the conditions at the installation site it may be necessary to provide these areas with appropriate warning signs.

Malfunction	Cause	Action
Pump doesn't start up	– Broken or incorrectly connected lead – Defective	– Check connection or fuse and switch – have repaired by Bühler service technician
Pump doesn't convey	– Defective or dirty valves – Bypass valve open – Defective bypass valve O-ring – Torn bellow – Coupling hub broken – Broken/worn ring gear	– Carefully blow out or replace valves or see chapter Replacing the inlet and outlet valves. – Close bypass valve – have repaired by Bühler service technician or see Replacing the O-ring of the bypass valve (optional). – have repaired by Bühler service technician or see Replacing bellow and connecting rod-eccentric-combination. – have repaired by Bühler service technician – have repaired by Bühler service technician or see Inspecting and replacing the flexible spider.
Noisy pump operation	– Crankshaft out of alignment – Work ring gear – Loose coupling hub – Engine bracket damaged	– have repaired by Bühler service technician or see Replacing bellow and connecting rod-eccentric-combination. – have repaired by Bühler service technician or see Inspecting and replacing the flexible spider. – have repaired by Bühler service technician – have repaired by Bühler service technician
Premature ring gear wear	– e.g. contact with ozone influences or similar, causing a physical change to the ring gear	– Eliminate any physical changes to the ring gear
Protective device is triggering	– Coil- and terminal short circuit – Start-up time exceeded	– Measure insulation resistance – Check start-up requirements (see chapter Switching on the sample gas pump).
Poor performance	– Leakage – Torn bellow – Defective or dirty valves	– Tighten head screws, note torque (see chapter Maintenance). – have repaired by Bühler service technician or see Replacing bellow and connecting rod-eccentric-combination. – Carefully blow out or replace valves or see chapter Replacing the inlet and outlet valves.

Tab. 1: Troubleshooting

For information about replacing spare parts, please refer to chapter Maintenance.

7.2 Spare Parts

Please also specify the model and serial number when ordering parts.

Upgrade and expansion parts can be found in our catalog.

Available spare parts:

Sample gas pump	Spare part	Item no.	Position in assembly drawings 42/025-Z02-01-2 & 42/025-Z02-02-2
P2.2/P2.4 AMEX	Bellow	4200015	12a
	Plunger / eccentric combination	4200075	10a, 11
	Coupling ring gear	4220011	28c
	Set of 100 °C valves	4201002	2x 17a
	Set of 160 °C valves	4202002	2x 17b
	Bypass valve O-ring (Viton)	9009115	21a
P2.82/P2.84 AMEX	Bellow	4200071	12b
	Plunger / eccentric combination	4200097	10b, 11
	Coupling ring gear	4220011	28c
	Set of 160 °C valves	4202002	2x 17b
	Bypass valve O-ring (Viton)	9009115	21a

Spare parts, especially for sample gas pumps P2.x AMEX-O2 (item no.: 42.....-O2):

Sample gas pump	Spare part	Item no.	Position in assembly drawings 42/025-Z02-01-2 & 42/025-Z02-02-2
P2.2/P2.4 AMEX-O2	Bellow	4200015-O2	12a
	Plunger / eccentric combination	4200075	10a, 11
	Coupling ring gear	4220011	28c
	PTFE/PEEK valve (1 piece)	4202014-O2	2x 17b
	Bypass valve O-ring (Viton)	9009458-O2	21a

7.2.1 Spare parts and accessories

Item no.	Description
9022325	BAM-approved PTFE sealing tape (Roll of 4,5 m)