

Additional operating instructions for machines in accordance with Directive 2014/34/EU (ATEX)

RKR Gebläse und Verdichter GmbH
Braasstraße 1 • 31737 Rinteln
Tel. +49 (0) 57 51 40 04 -0
Fax +49 (0) 57 51 40 04 30
E-mail: info@rkr.de



1. The machine/stage is approved for use in the certified zone (see order-related declaration of conformity).
2. You must ensure that the machine/stage is used and operated within the contractually agreed performance limits (see performance data sheet).

2.a This applies in particular to:

- Intake medium
- Intake temperature
- Min and max motor or stage speed
- Pressure difference



3. Operation of the machine in continuous operation (8000 h per year) is prohibited without the approval of RKR Gebläse und Verdichter GmbH.
4. Hazardous / combustible dust deposits must be removed regularly.
A proven method of achieving this is a cleaning plan setting out binding specifications on the type, extent and intervals of cleaning. The specifications must be adapted by the operator to the individual conditions in place.
In particular, surfaces which are difficult to see or access and on which considerable amounts of dust may accumulate over time must be taken into account.
Where larger quantities of dust are released, for example in the event of leaks, ruptured containers etc., dust deposits must be removed immediately.
For the removal of dust deposits, suction processes have proven effective. Cleaning methods that stir up dust must be avoided.
5. An enclosure (acoustic protection hood) is not permitted without the approval of RKR Gebläse und Verdichter GmbH.
6. Appropriate measures must be taken to ventilate the machine room, with allowance made for the individual conditions in place at the operator's premises.
7. RKR machines are technically sealed systems as defined by TRBS 2152 / TRGS 722 and must be checked regularly as set out in the maintenance plan.
- 7.a The operator must draw up a maintenance plan and proceed in accordance with the specifications in the maintenance / maintenance plan section of the operating instructions for the machine. For other components, the enclosed translation of the original operating instructions applies.

Additional maintenance:	Check the shaft seal on the drive shaft
Interval:	Every 1,000 operating hours or monthly, whichever is first.
Scope of inspection:	Visual inspection, possibly with the aid of leakage spray. For double mechanical seal or double shaft seal ring with grease barrier, note additional operating instructions.
Maintenance/replacement:	Replace the shaft seal after 8,000 operating hours, at the latest after 12 months.
- 7.b The leak tightness of the machine must be checked after lengthy interruptions to operation, modifications, repairs and conversion measures.
- 7.c Use a torque wrench to check the tightening torque of the fastening screws for the taper lock bushings every 2,000 operating hours to ensure that they are correctly in place.
- 7.d No liquid condensate should get into the machine. To protect against droplet condensation, a condensate separator must be provided on the intake side if not present in the machine. Condensate drains must be opened regularly and the condensate collected safely.

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8. Maintenance and service work may only be carried out after the machine has cooled down completely to ambient temperature. The machine must be absolutely gas-free.
9. After shutting down the machine and isolating it from/to the system using appropriate fittings, render the machine inert (in the case of flammable gases). Use a dry medium to displace corrosive gas (e.g. nitrogen purging).
10. To avoid electrostatic charging, the machine and the acoustic hood must be earthed with an earthing cable (min cross-section 16 mm²). RKR has provided appropriate brackets on the machine / acoustic hood.
11. a) Machine with intake filter (e.g. for external zone 22)

To prevent foreign bodies from entering the stage, a filter is required on the intake side. The filter resistance must be protected by a pressure monitor. If the intake pressure falls below the value specified in the measuring point and instrument list, the machine must switch off.

➔ Change intake filter.
- b) Machine with pipe intake

To prevent foreign bodies from entering the stage, a startup filter is required on the intake side. The resistance of the startup filter must be protected by a pressure monitor. If the intake pressure falls below the value specified in the measuring point and instrument list, the machine must switch off.

➔ Clean and reassemble startup filter.
12. To detect wear and damage to the stage in good time, the vibration values must be measured at regular intervals (recommendation: after 1,500 operating hours or every 2 months). Maximum permissible vibration values can be found in the VDI 3836 standard.
13. If not included in the RKR delivery, instruments for monitoring of the machine must be installed in accordance with applicable regulations.
- 14.1 For a machine with a direct drive, check the torsional backlash on the flexible coupling and thus the wear on the flexible elements in accordance with the intervals set out in the enclosed translation of the original operating instructions for the coupling.
- 14.2 For a machine with a belt drive, further restrictions apply with regard to belt speed and change intervals depending on the explosion group and device category.
15. For machines for use in zone 1, we recommend the use of appropriate gas warning devices.
16. To reduce the risk of ignition associated with adiabatic compression and/or shock waves, only the use of slow opening/closing sliders or valves in the supply lines is permitted
- 16.a Fast opening/closing sliders or valves in the supply lines shall only be used after consultation with RKR Gebläse und Verdichter GmbH.
17. The machine does not have its own protection against lightning. The machine must be integrated into the operator's lightning protection strategy.