

ROHDE electric kilns air supply and exhaust air guide

General information

The kiln must be placed in a well-ventilated room (window ventilation). Ceramic materials release hazardous substances such as hydrogen fluoride or heavy metals during both biscuit and glaze firing. It is therefore necessary to install an exhaust air system that directs these substances into the open air. Source: GUV-SI 8036

Make sure that the kiln environment can be properly ventilated. If this is not the case, a ventilation system must be installed. Please consult a qualified technician specialising in this field.

Firing chamber ventilation (air supply)

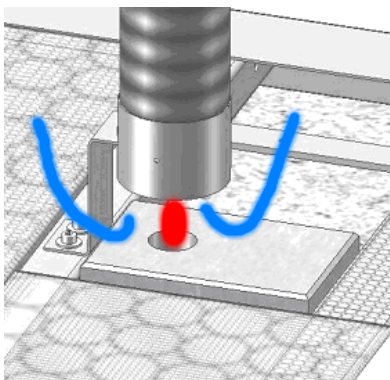
Make sure that suitable room ventilation is available. This can be done using window ventilation. Make sure that a window is open during the entire firing process. If a window cannot be opened, fresh air must be supplied through a ventilation system. Please consult a chimney sweep in your area or a qualified technician specialising in this field.

Firing chamber exhaust air

Frontloader operating mode

Exhaust air is released through the exhaust air opening in the kiln casing. It rises into the exhaust air socket, carrying part of the ambient air. An exhaust air tube can be mounted on to the exhaust air socket to direct the exhaust air out into the open air.

A flexible aluminium pipe (\varnothing 70mm, optional accessory) or a fixed folded spiral-seam pipe (available from qualified shops specialising in heating or ventilation) can be mounted on to the exhaust air socket.



If a ventilation system is installed by an external company, make sure that the exhaust air pipe is not flanged directly on to the kiln!

Instructions exhaust gas temperature

Exhaust gas temperature depends on different factors. When running a glaze firing at 1,050°C, the temperatures in the ceramic exhaust air socket can vary from 600 to 700°C. The exhaust gas temperature cools down immediately when mixed with the ambient air:

- exhaust gas temperature is approx. 110°C 1 metre along the pipe
- exhaust gas temperature is approx. 60°C 2 metres along the pipe

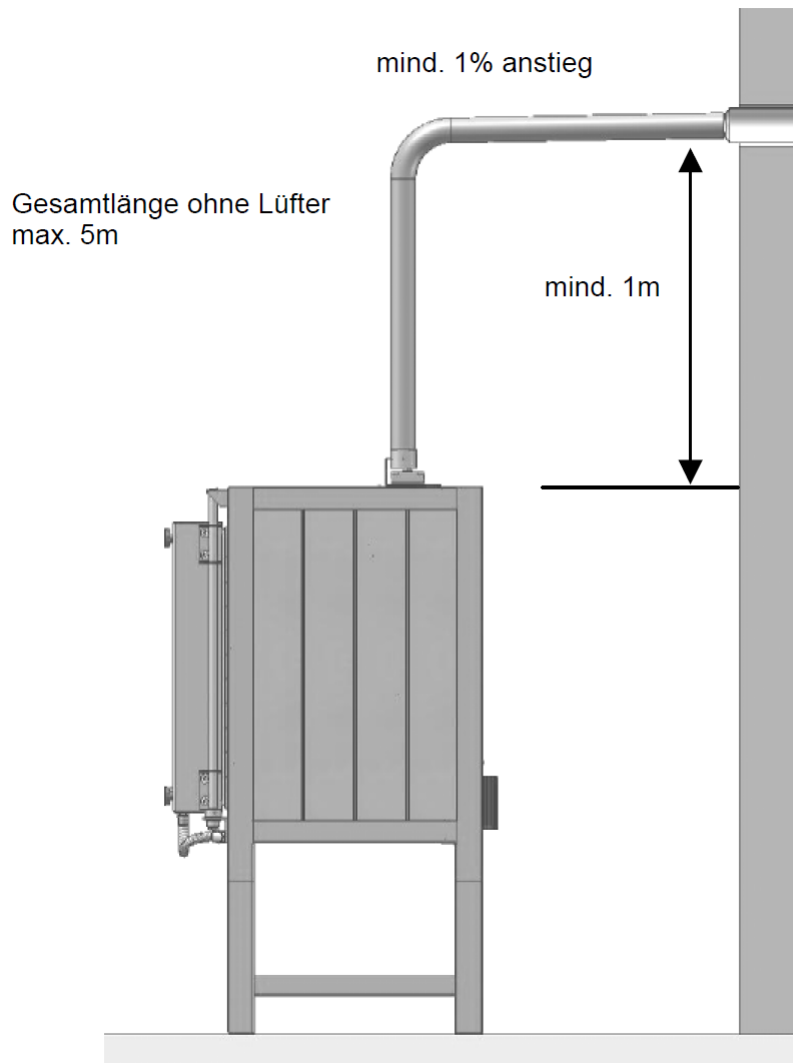
Instructions exhaust gas quantities

In the worst case, i.e. with open view port, the kiln will generate the following volumes of exhaust air:

For example Frontloader KE 450 S up to 10 m³/h

Exhaust air duct without ventilation

This is the most common type of exhaust air duct used in our electric kilns. The pipe is mounted on to the exhaust air socket (figure 2) using a metal sheet screw and directed into the open air.

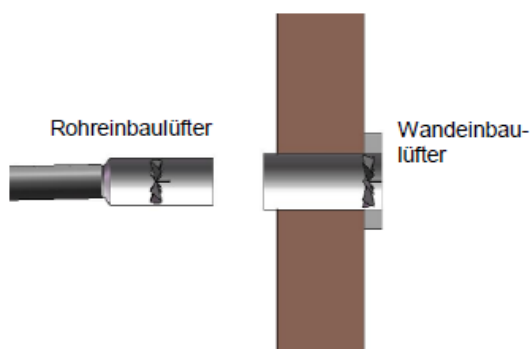
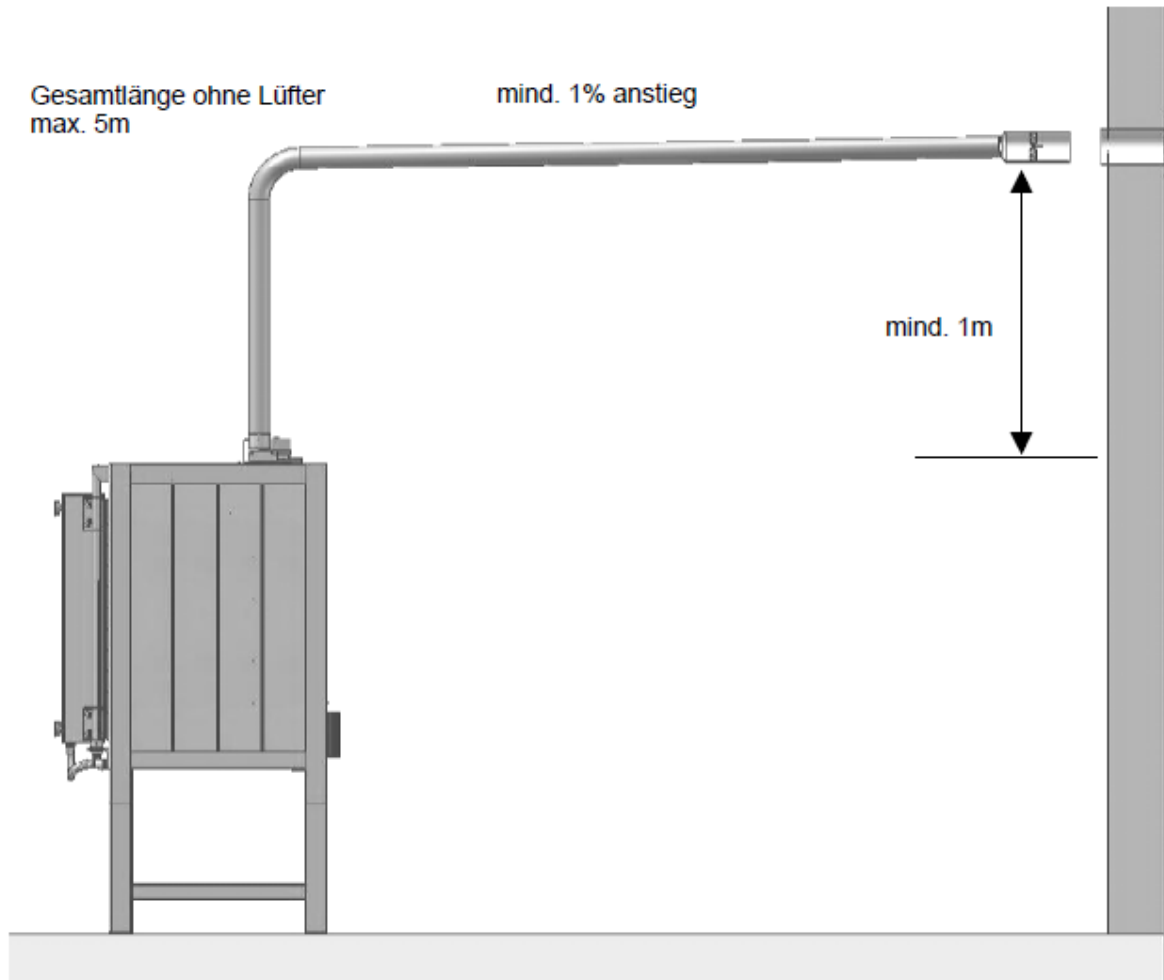


Instructions pipe

- The pipe should be no more than 5 metres in length.
- The pipe outlet should be at least 1 metre above the inlet.
- Horizontal pipe components should be tilted a minimum of 1% towards the outlet.
- Make sure the exhaust air outlet is not positioned on the weather side and not blocked by lamella grids etc.

Exhaust air duct with pipe or wall-mounted ventilation system

We recommend that you use this type of ventilation for pipes up to a length of 5 metres. This will ensure a best possible exhaust air duct. Position the pipe as described in the previous example. Insert the ventilator in the pipe or outlet after at least 3 metres.



Option 1: Integrated pipe ventilation system
A standard integrated pipe ventilator is mounted into the exhaust air duct and directed to the open air or into an exhaust air shaft.

Option 2: Wall-mounted ventilation system
A standard integrated wall-mounted ventilator is mounted on to an external wall or window and then connected to the exhaust air tube.

CAUTION: Please note for both ventilation options:

- The ventilator must be operated during the entire firing process. If the mix of exhaust air and ambient air is insufficient, this can cause the ventilator to overheat. Make sure that the ventilator is operated continuously, using a switch key to regulate the Frontloader's power supply. The ventilator will then operate as long as the kiln is supplied with power.
- This amount of exhaust air must be mixed with sufficient ambient air (as a rough guide 6/7 ambient air per 1/7 exhaust air), i.e. a ventilator with a volume of 70 m³/h is required to cover an exhaust air volume of 10 m³/h.
- The required total volume must not be exceeded when using a power controlled ventilator.
- Make sure the exhaust air outlet is not positioned on the weather side and is not blocked by lamella grids, pressure caused by wind etc.