

Installation drawing for mixers of types: KM / MG -2ME/-2MEM und -3ME/-3MEM

The specifications for connections and tubes are for standard devices. Please always check these specifications at the device and in the associated Technical Data.

Place for setting up: The mixer should be set up protected from the weather. All technical regulations in handling gases must be observed. The allowed ambient temperature (usually -5 °C to 40 °C) as well as other stated ambient conditions must be observed. The gas mixer housing must remain accessible for servicing work.

Mixed gas receiver: A mixed gas receiver with sufficiently dimensioned safety valve must be connected after the gas mixer. If the mixer is not built up a receiver ex factory, a tube must be installed from the mixed gas exit to a suitable, adequately sized receiver.

Pipework: The inner diameter of the used tubes must be at least as large as the inlet and outlet connections at the mixer, respective mixed gas receiver. As rule of thumb can be regarded:
 G3/8" → tube min. DN8; G1/2" → tube min. DN12
 G3/4" → tube min. DN20; G1" → tube min. DN25
 Consider the pressure drop across the tube length and bends in the tubes.

All pipes are to be designed for the maximum permitted gas pressure. The material for the gas pipes, all fittings and all sealing installed there must be designed for the gas and gas temperatures to be used. All pipes must be free of oil and grease, and free of other contamination (e.g. dust, etc.). We recommend to install a tapping point for withdrawal of analysis gas at the mixed gas tube or at the receiver.

Gas supply: On max. mixed gas production, the gas supplies must be able to deliver the single gases in adequate quantities with at least the allowed min. inlet pressure (see Technical Data). The max. pressure difference (ΔP) of the single gases must not exceed 3 bar.

Mixed gas exit / tube to receiver:
 KM: G3/8" RH OT, cone → tube min. DN8
 MG50: G1/2" RH OT, cone → tube min. DN12
 MG100: G1" RH OT, cone → tube min. DN19
 MG200: G1" RH OT, cone → tube min. DN19

Vent pipe on outlet of safety valve (SV) above roof. The following stated SV are exemplary:
 SV 805 → tube DN 12 → max. length 5 m
 SV 851 → tube DN 25 → max. length 15 m
 SV 780 → tube DN 25 → max. length 20 m
 The vent pipe must be able to pipe away the max. discharge capacity of the SV. On longer or crooked tubes, tubes of larger diameter must be used.

Gas connection / connection tubes (check in Technical Data):
 KM ... 2ME/3ME: solder end f. tube AD 10 mm → tube min. DN8
 KM ... 2MEM/3MEM: nozzle for hose → hose DN8
 MG50: solder end f. tube AD 15 mm → tube min. DN12
 MG100: solder end f. tube AD 22 mm → tube min. DN19
 MG200: connections depend on used separate filters

Gas inlet screwing (check in Technical Data):
 KM: G3/8" RH OT, cone - filter integrated in screwing
 MG50: G1/2" RH OT, cone - filter integrated in screwing
 MG100: G1" RH OT, cone - filter integrated in screwing
 MG200: G1" RH OT, cone - separate filter necessary

Receiver min. size:
 KM: 20 liter
 MG50: 100 liter
 MG100: 250 liter
 MG200: 500 liter

Exit receiver / Tube to the point of use:
 20 l: WITTFIX f. tube AD 15 mm → tube min. DN12
 100 l: WITTFIX f. tube AD 22 mm → tube min. DN19
 250 l: WITTFIX f. tube AD 22 mm → tube min. DN19
 500 l: WITTFIX f. tube AD 28 mm → tube min. DN25

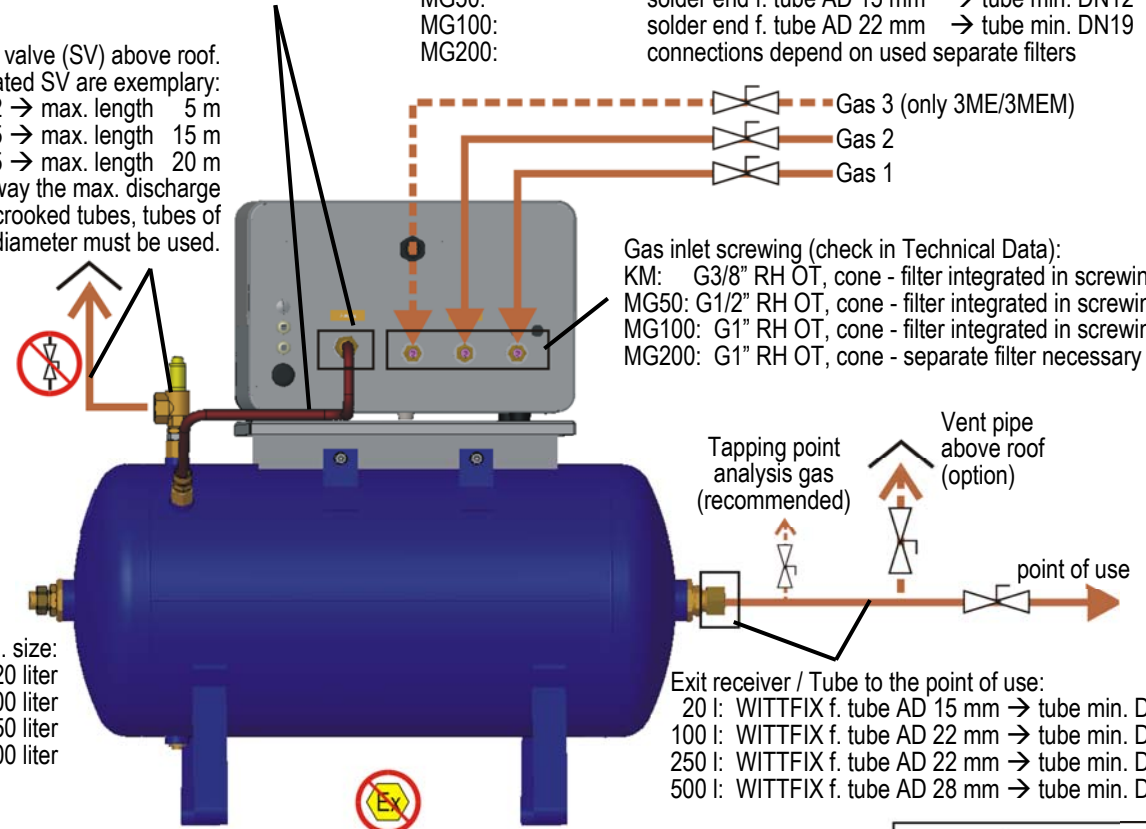
Necessary shut off device

Gas temperature: The inlet temperature of the gases must be between -10 °C and 45 °C (check in Technical Data). The temperature difference (ΔT) of the gases to be mixed must not exceed 15 °C.

Operation with oxygen: The oxygen supply pipe must be connected to the designated connection of the mixer. The oxygen connection must be kept free of oil and grease, and free of other contamination (e.g. dust, etc.).

Power supply:

Usually the mixers require a connection to AC 50-60 Hz, 230 V or 110 V or 24 V DC (check at type plate and in Technical Data what is applicable for your device). On devices of protection class 1, a protective earth connection (PE connection) must be provided. An available functional earth connection must be expertly connected.



Installation drawing for mixers: Supplements for mixers with integrated analyser

The specifications for connections and tubes are for standard devices. Please always check these specifications at the device and in the associated Technical Data.

The analysis and calibration gas inlets as well as the analysis gas outlets are inscribed or marked with symbol labels (see file "Symbol_labels_.....pdf"). Their positions are highly dependent on type of mixer and built in analyser.

Mixed gas / analysis gas supply

- Draw analysis gas from the receiver or from the exit of the receiver.
- The length of the pipe should be as short as possible.
- On mixers built-on receiver, the analysis gas pipe is usually already installed ex-factory.
- **Never draw analysis gas directly from the mixed gas outlet of the mixer.**

Mixer with GC50 analyser

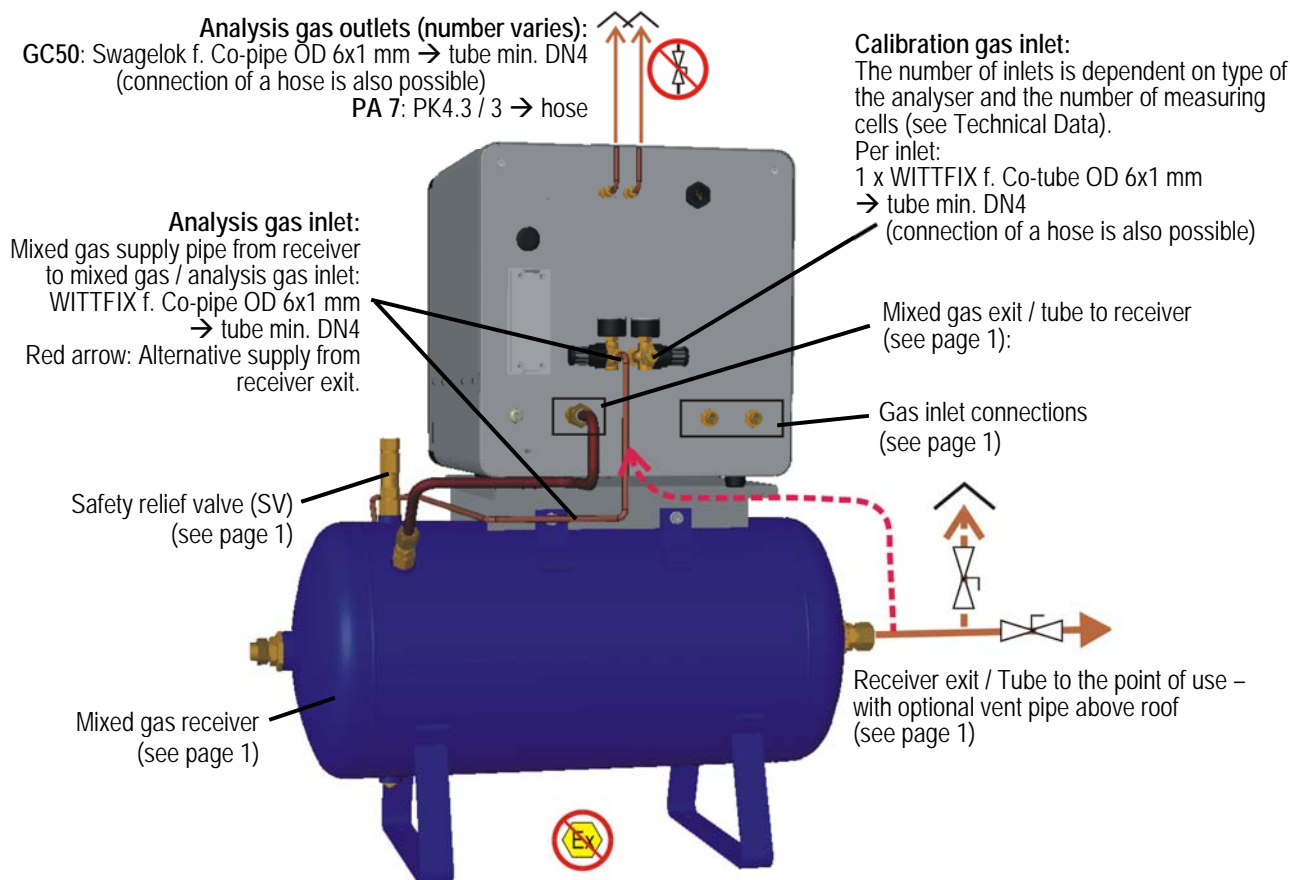
- The flow through the measuring cell is monitored.
- Calibration gas for calibration point 1 (sometimes also called "zero gas") often is ensured internally.
- Calibration gas for calibration point 2 must be supplied by customer.
- Switching between the calibration gases and mixed gas occurs automatically via solenoid valves.

Mixer with PA 7 analyser

- The flow through the measuring cell is not monitored.
- Calibration gas for calibration point 1 (sometimes also called "zero gas") must be supplied by customer.
- Calibration gas for calibration point 2 must be supplied by customer.
- The required calibration gas must be selected by means of a ball valve.

Analysis gas discharge:

- Connect every analysis gas outlet each with a blow off pipe.
- Ensure that the gas is piped away safely (e.g. above the roof). The vent pipes must be appropriately sized.
- Ensure that impurities cannot get into the vent pipes via their outlets. Else there is the danger of blockages.



Calibration:

For every measuring cell both calibration points (calibration point 1 (bottom) and 2 (top)) must be calibrated after first commissioning.

GC50 analyser, additional hint:

For purging purposes, it is necessary that also the analysis gas inlet is supplied with mixed / analysis gas with sufficient pressure. If that is not the case the calibration will be interrupted and flow error will be indicated.

Electrical:

- Always connect to functional earth to reduce EMC influences to electronic system.
- Pay attention to a stable voltage supply. If necessary, use a device for voltage protection and stabilisation and / or and UPS.



Handelsonderneming "PD"

GASAPPENDAGES - GASMENGENS

Postbus 6584
Bijsterhuizen 21-52
Tel: +31 (0)24-3565688

6503 GB Nijmegen
6604 LG Wijchen
Website: www.pdhandel.nl