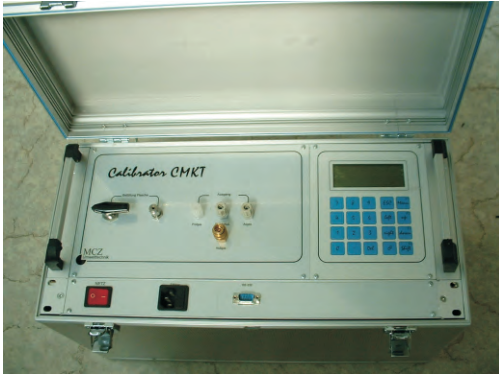
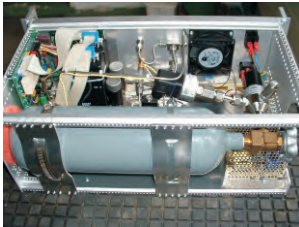


Mobile Calibration System



CMK5-BNT as portable

With internal gas cylinder



With 4 inputs for external span gases and internal data logger



The mobile microprocessor controlled calibration system CMK5-T is available in different designs. As a permeation system to produce span gases according to the permeation method or with an ozone generator to produce ozone span gases - optionally with the added possibility for photometer, gas phase titration, or as gas diluter. Different options like internal gas cylinder, digital MFC, mobile zero gas supply etc. are available. A battery pack supply, which allows the system about 0,5 hours of standby operability without being connected to a power outlet for the permeation system or ozone generator.

The system is suitable for calibrations with mobile measuring readings or as a transfer standard for the alignment of analyzers at different locations.

Multipoint calibration with zero point and seven span gas concentrations is possible.

- Mobile transfer standard for span gases
- Span gas production according to the permeation method, gas dilution or ozonizer and gas phase titration
- Quickly operational through standby mode
- Standby operation via internal battery pack or 12V automobile power supply
- Measurement results from various measuring stations can be compared using a transfer standard

The advantages of a battery buffered calibration system compared to a standard device consist mainly in the fast availability of the span gases after a location change and in the high level of reproducibility of the span gas concentration. This is achieved by maintaining the stability determining basic functions such as the temperature of the permeation furnace, or a flushing of the analytical assembly groups, etc. through the power supplied by the battery pack (standby operation). In contrast to the use of bottled span gas as the transfer standard, a permeation system is significantly easier to handle and makes the transport of heavy and unwieldy span gas bottles unnecessary. For gases not available as permeation tube (e.g. CO, NO) we offer small internal 1l or 2l cylinders

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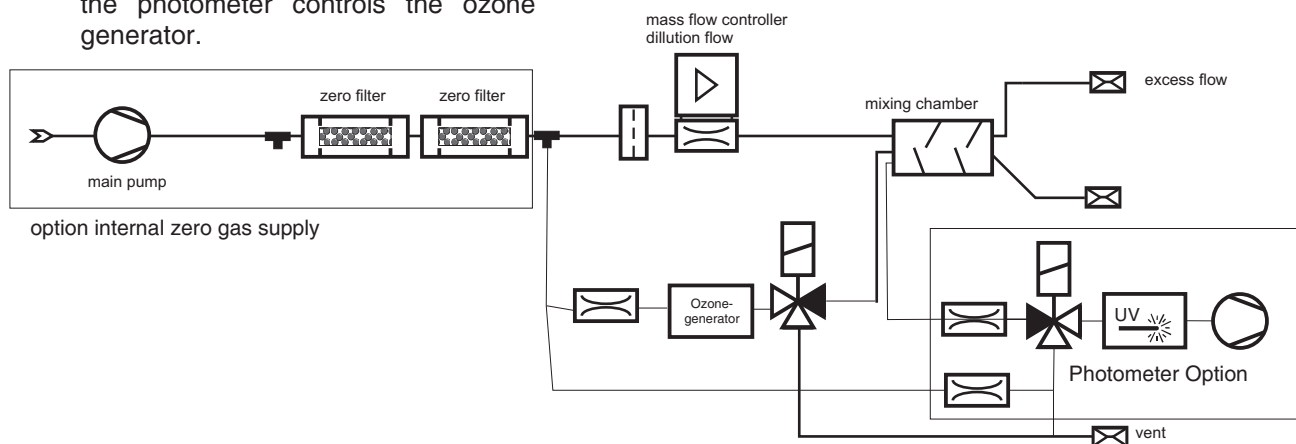
Mobile Calibration System Application Note: Ozone Generator

The mobile ozone generator CMK5-T can be equipped with the option internal ozone photometer and an internal zero gas system.

The ozone generator has an optical feedback. That means the intensity of the light is measured by a photo diode, and controlled if there are any drifts observed. With photometer option, the photometer controls the ozone generator.

All assembly groups, are contained within a stabil aluminium 19" case.

If in special circumstances the internal preparation of the zero gas might not suffice, it is possible to connect a source with externally prepared zero gas to the calibration system.



elementary flow diagram CMK5-BNT
with ozone generator

BASIC SYSTEM

Accuracy MFC	+/- 1% FS analogue MFC, +/-0,5% from actual value & 0,1%FS digital MFC
Flow	according customer requirements; e.g. 0- 5 or 10nl/min for dilution
Repeatability	± 0,5% or 0,2% of the measured value
Operating temperatures	5 bis 40° C
Power consumption	typ. 15 W / 50 W max.
Power supply	230V+/-10%, 50-60Hz
Mechanical	LCD Display, key board on front panel
Weight	12 to 18 kg depends on number of modules
Dimensions	485mm x 268mm x 315mm (LxWxH)

OZONE GENERATOR

Principle	UV-source linearized and temperature stabilized, equipped with a photo-optical feedback circuit;
Ozone output:	0 to 600 ppb (other on request)

OZONE PHOTOMETER

Range:	0-10 ppm
Linearity:	± 1% of full scale
Rise/Fall Time:	< 20 seconds to 95%(photometer response)
Response Time:	< 180 seconds to 95% (system response)
Zero Drift:	< 1.0 ppb/7 days
Span Drift:	< 1%/24 hours

Miscellaneous

Data transmission	RS232, or contacts, TTL, (8 outputs, 24 inputs), optional LAN
Software	internal software for control as well as optional available external PC software
Gas inlets/outlets	optionally up to 7 gas inlets via solenoid valves, inputs for external gases
Internal zero Gas	Internal zero gas supply, catalytical air purifier, (Option)
Housing	Different types of cases are available

