

Mobile Calibration System with Battery Buffer



Mobile Calibrator CMK 5T

The mobile microprocessor controlled calibration system CMK5-T is available in two designs. Once as a permeation system to produce span gases according to the permeation method or with an ozon generator to produce ozon span gases - optionally with the added possibility for gas phase titration. Both designs possess an internal zero gas supply for the calibration process. A battery pack supply, which allows the system about 0,5 hours of standby operability without being connected to a power outlet is standard in the permeation system.

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.

Mobile Microprocessor Controlled Calibration System CMK5-T

- **Mobile transfer standard for span gases**
- **Span gas production according to the permeation method 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**



Rear Panel with internal Gas bottle

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.

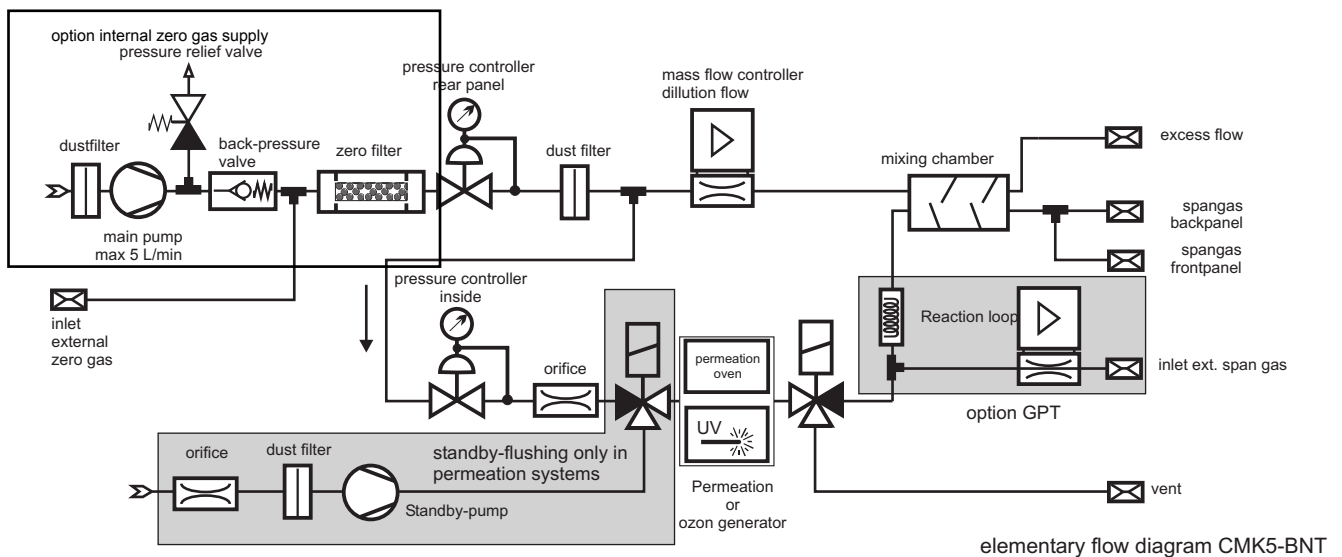
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Mobile Calibration System CMK5-T

The permeation system of the CMK5-BNT is equipped with its own pump to ensure a low energy consumption during the standby operation mode of the system. This increases the buffer time to more than 2,5 hours, without having to forego a purge gas flow. The temperature of the permeation furnace and the operation of the UV lamp of the ozone generator (optionally), are also sustained via the battery pack.

All assembly groups, including the zero gas supply and the battery, are contained within a 19" / 4 HE cabinet. The systems for the generation of ozone laden span gases feature an ozonizer instead of a permeation furnace. 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.



specifications CMK5-T

permeation oven:
range 30 up to 70 °C
temperature accuracy $\pm 0.05^\circ\text{C}$

Ozone generator:
range 5 up to 500 ppb
at 2.5 L/min (other on request)
accuracy $\pm 1\%$ or 2ppb

general specifications:
flow control dilution with mass flow controller
permeation / O₃ with orifice
accuracy $\pm 0,7\% \text{FS}$ and $\pm 0,2\%$ of reading
repeatability $\pm 0,25\%$
max. dilution gas flow max. 5 L/min
standby mode $\geq 2,5 \text{ h}$ (higher possible with larger battery)