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Q-MACS Trace compact

technical specification

The Q-MACS Trace compact is a newly developed compact, easy portable system for high sensitive trace gas measurements using a 36 m optical long path cell. It is based on the Q-MACS Basic and uses infrared absorption spectroscopy to measure absolute molecular concentrations.

general	
description	single path infrared spectrometer with IR-light source and 36 m long path cell
sensitivity	down to ppb range [1]
time resolution	down to milliseconds
size	520 mm x 600 mm x 370 mm
weight	40 kg
system version	Q-MACS Trace 3.6 - 36 m Long Path Cell

components	
parts	▪ optical board ▪ laptop with PCMCIA-card ▪ 36 m Herriot cell ▪ vacuum pump system ▪ water cooling system

parameter	
power	▪ 230 V, max. 2 A (switch-on current 6 A) ▪ 115 V, max. 4 A (switch-on current 12 A)
working range	+5 °C to +40°C

QCL	
tuning method	▪ inter pulse mode (laser sweep mode) ▪ intra pulse mode (single pulse mode)
pulse width	8 ns* ... 256 ns** * depends on the QCL and QCL-voltage used ** longer pulses on request
pulse frequency	up to 1 MHz
QCL temperature range	-35 °C to +40 °C
QCL	tested and installed

[1] depends on species, temperature and pressure