

Q-MACS Trace



technical specification

The Q-MACS Trace is a portable system for high sensitive trace gas measurements using different optical long path cells which depend on the sensitivity required. It bases on the Q-MACS Basic and uses infrared absorption spectroscopy to measure absolute molecular concentrations.

head	description	single path infrared spectrometer with IR-light source and long path cell
	sensitivity	up to ppb range [1]
	time resolution	up to millisecond
	size	1200 mm x 1200 mm x 500 mm
	weight	125 kg
	system versions	Q-MACS Trace 3.6 - 36 m Long Path Cell Q-MACS Trace 5.4 - 54 m Long Path Cell Q-MACS Trace 7.6 - 76 m Long Path Cell Q-MACS Trace 10.0 - 100 m Long Path Cell
components	parts	optical board laptop with external PCI-card box 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