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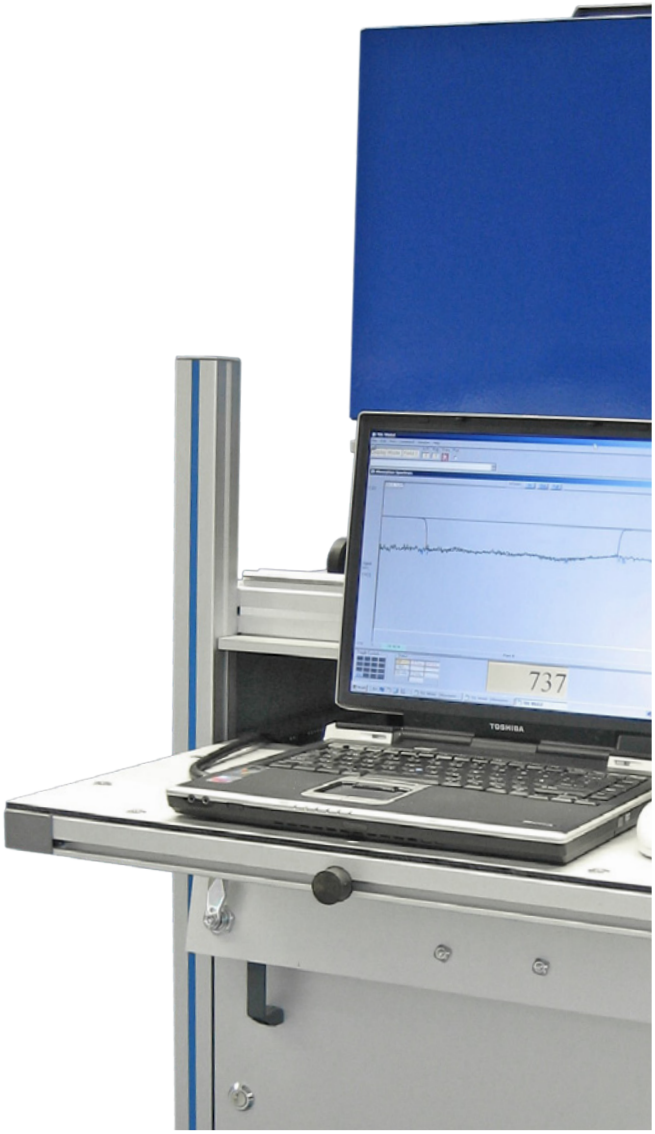
Q-MACS Process

technical specification

The Q-MACS Process is a portable monitoring system for on line measurements of industrial processes. It is based on the Q-MACS Basic and features a three channel setup to improve the signal-to-noise ratio and to achieve long-term stability. This open path system uses infrared absorption spectroscopy to measure absolute molecular concentrations. The optical coupling to the measurement's region can also be provided by an optical fibre.



general	
description	three path infrared spectrometer with IR-light source
sensitivity	down to ppb range [1]
time resolution	down to milliseconds
size	710 mm x 1375 mm x 440 mm
weight	137 kg

components	
parts	▪ optical board ▪ light guide cable coupling (on request) ▪ industrial PC with acquisition hardware ▪ electronic supply 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