

## Q-MACS Process



### technical specification

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

<b>general</b>	description	three path infrared spectrometer with IR-light source
	sensitivity	up to ppb range [1]
	time resolution	up to millisecond
	size	710 mm x 440 mm x 1390 mm
	weight	137 kg
<b>components</b>	parts	optical board light guide cable coupling (on request) laptop with external PCI-card box electronic supply system water cooling system
<b>parameter</b>	power	230 V, max. 2 A (switch-on current 6 A)
	working range	+5 °C to +40°C
<b>QCL</b>	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