

# Q-MACS Process fibre

## technical specification

The Q-MACS Process fibre is a portable monitoring system for on-line measurements of industrial processes. It is based on the Q-MACS Basic and features a two channel setup to achieve long-term stability and can be directly coupled to the measuring path via an IR-fibre. The system uses infrared absorption spectroscopy to measure absolute molecular concentrations.

### general

description	two path infrared spectrometer with IR-light source, IR-fibre coupling
sensitivity	down to ppb range [1]
response time	down to milliseconds
time resolution	down to milliseconds, sub-microsecond time resolution on request
size	554 mm x 962 mm x 600 mm
weight	125 kg

### components

parts	<ul style="list-style-type: none"> <li>▪ optical board</li> <li>▪ light guide cable coupling</li> <li>▪ industrial PC with acquisition hardware</li> <li>▪ electronic supply system</li> <li>▪ water cooling system</li> </ul>
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### parameter

power	<ul style="list-style-type: none"> <li>▪ 230 V, max. 2 A (switch-on current 6 A)</li> <li>▪ 115 V, max. 4 A (switch-on current 12 A)</li> </ul>
working range	+5 °C to +40 °C

### QCL

tuning method	<ul style="list-style-type: none"> <li>▪ inter pulse mode (laser sweep mode)</li> <li>▪ intra pulse mode (single pulse mode)</li> </ul>
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

