

# Raman Rxn-30

## Gas-phase probe



Raman Rxn-30 gas-phase probe

### Benefits at a glance

- *In situ* measurement – no transfer lines required
- Compatible with Raman Rxn analyzers
- Certified materials of construction (wetted components)
- Compact profile
- Industry standard installation options



Rxn-30 probe easily integrated into sample conditioning systems

Monitoring gas-phase reactions is particularly challenging because of the corrosivity and wetness of the sample environment and low sensitivity of analyzer technologies. Many of these issues can be addressed by Raman spectroscopy with suitable sampling technology. The Rxn-30 probe was designed as a tool for gas-phase monitoring in chemical processes by allowing low concentrations (100 ppmv – gas dependent) of gases to be measured quickly and reliably in process environments.

Sampling versatility and material compatibility are critical factors for process applications. The design of the Rxn-30 probe is compatible with installations in classified environments by using stainless steel construction of the probe shell and hermetically sealed internal probe components. The Rxn-30 probe has been optimized to enhance sample signal-to-noise ratios and to improve the overall limit of detection (LOD). The Rxn-30 probe also incorporates a patented multi-pass approach to further improve the analyzer's LOD.

The Rxn-30 probe can be directly inserted into processes with temperatures up to 150 °C and pressures up to 68.9 barg, and mounted using either standard NPT fittings or compression fittings. Alternatively, the Rxn-30 probe can be mounted into a gas slip-stream using a sampling cell or integrated into a complete sample conditioning system.

The standard fiber optic cable used with Endress+Hauser probes, which incorporates a single input and single output fiber optic cable, allows the Rxn-30 probe to be installed in a variety of locations and up to 150 meters from the analyzer base unit.

## Advantages

- Compact, easy to install
- No special sample preparation required
- Enhanced signal-to-noise ratio and limit of detection
- Compatible with installation in classified environments (ATEX, CSA, and IECEx hazardous area certification)

## Versatile

- Compatible with installation in various process environments including direct insertion, side insertion, and sample loop
- Installation with ½ inch NPT port or 1-inch compression mount
- NeSSI interface (threaded or compression mount)
- NPT and compression fitting connectivity for integration into sample conditioning systems
- Probe can be installed up to 150 meters from the analyzer
- Optional cross-flow cell

## Specifications

Wetted materials	316/316L stainless steel, PTFE, sapphire, fused silica glass
Laser wavelength	532 nm
Spectral coverage	150-3425 cm <sup>-1</sup>
<b>Laser power</b>	
Maximum laser power	<499 mW into probe head
<b>Sample interface</b>	
Temperature (probe head)	-20 to 150 °C
Temperature (fiber cable)	-40 to 70 °C (cable sold separately)
Temperature (ramp)	≤6 °C/min
Max pressure (at sample)	68.9 Barg
<b>Gas stream</b>	
Filtration	20 micron or better Integrated 20 micron particulate filter standard
<b>Hazardous area certification</b>	
ATEX	II 2/1 G Ex ia op is IIA or IIB or IIB+H2 or IIC T3 or T4 or T6 Ga
CSA	Ex ia op is IIA or IIB or IIB + H2 or IIC T3 or T4 or T6 Ga Class I, Zone 0 AEx ia op is IIA or IIB or IIB + H2 or IIC T3 or T4 or T6 Ga Class I, Division 1, Groups A, B, C, D T3/T4/T6
IECEx	Ex ia op is IIA or IIB or IIB + H2 or IIC T3 or T4 or T6 Ga IECEx ITS 14.0015X

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PU01452C/66/EN/01.22