Measurement technology | METPOINT® OCV compact

METPOINT® OCV compact: Process safety through continuous oil vapour measurement and analysis

Oil contamination can affect compressed air processing systems in many different ways, posing a danger to the safety of workers, the environment and the production equipment. Monitoring systems such as the METPOINT® OCV compact continuously monitor the compressed air flow with great precision, measure the residual oil vapour concentration and thus provide accurate data for the analysis and control of your compressed air quality.

The METPOINT® OCV compact caters for the online in-process measurement of residual oil concentrations down to 0.001 mg/m³. This guarantees permanent process safety and saves time and money, doing away with sampling and lab analyses. Thanks to the short measuring intervals, even minor deviations are detected.

The METPOINT® OCV compact has been specifically developed for the measuring of hydrocarbon vapours and gases in compressed air systems. The sensor of the METPOINT® OCV compact works as a photoionization detector or PID, a highly reliable method for the measurement of volatile organic compounds. To ensure extra precise measurements, all values are temperature- and pressure-compensated, so that the device meets the requirements of ISO 8573.

Thanks to the continuous monitoring of the oil vapour concentration in the compressed air, you can be rest assured that your air meets the required quality and purity standards at all critical nodes. All measurements, and thus the compressed air quality are documented. In addition, the data enables you to identify the source of the contamination.

› Validated

- › Constant measuring certainty due patented gas generation
- › Continuous monitoring of process functions
- › Automatic offset adjustment
- › Alarm signal output

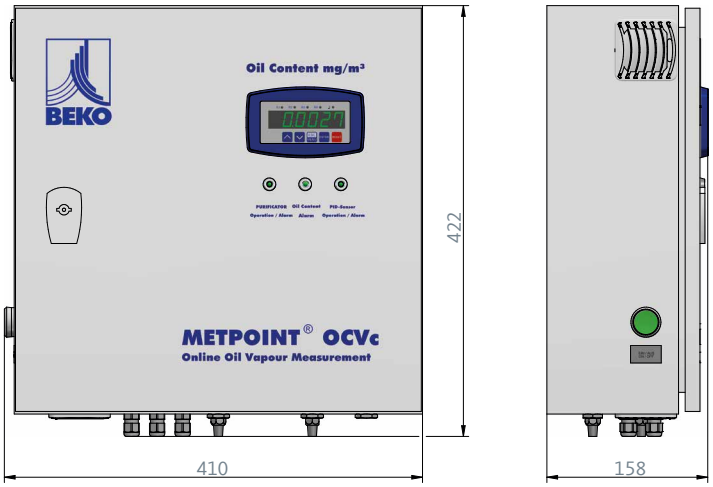
› Reliable

- › Measuring range from ≤ 0.01 ... 2.50 mg/m³
- › Pressure range from 3 ... 16 bar
- › Permanent online monitoring of oil vapour concentration
- › Ten-point calibration as standard

› User-friendly

- › Visualisation of all measurements
- › Easy installation and fast servicing thanks to modular design

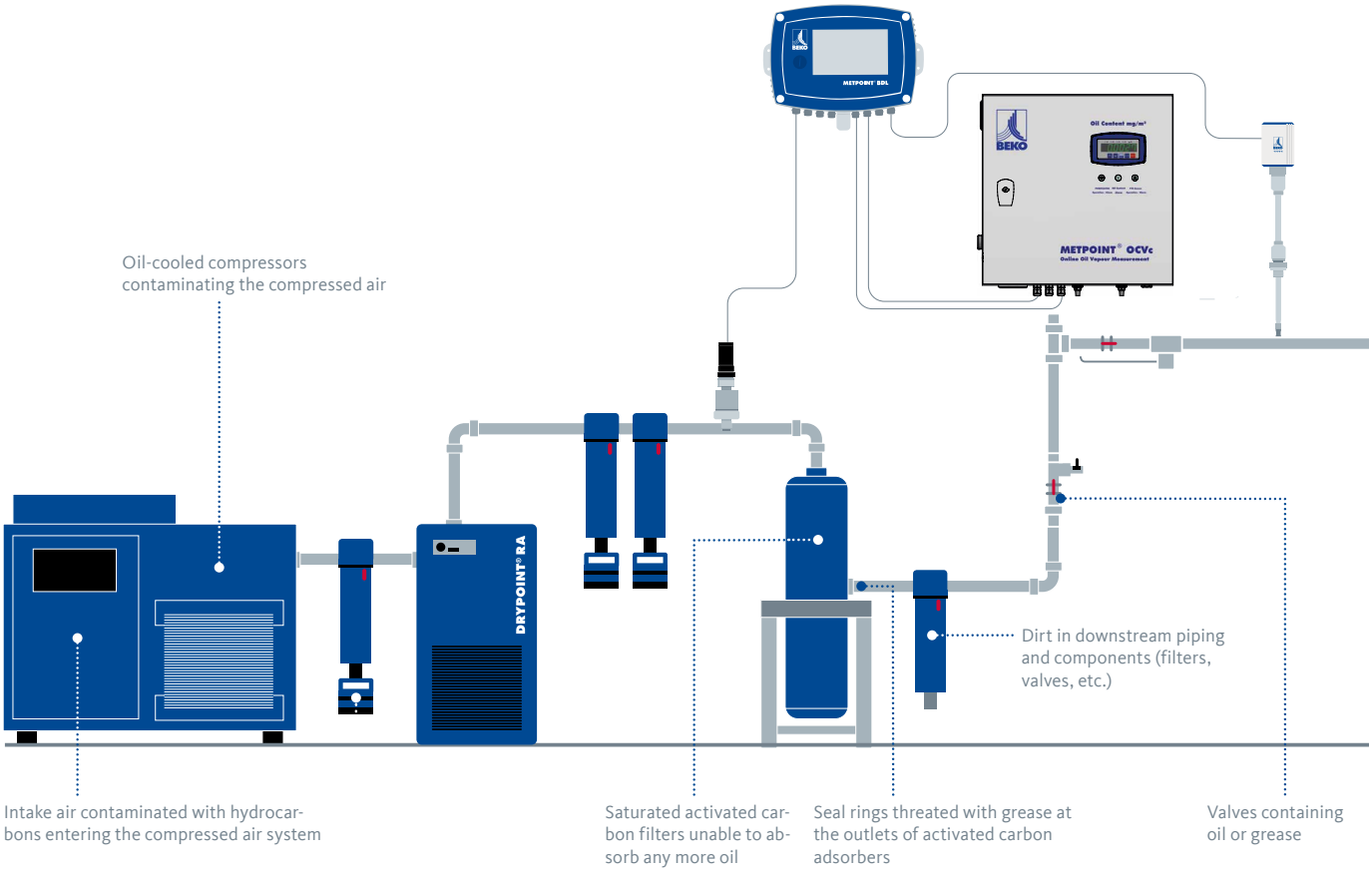
Technical data of METPOINT® OCV compact, version 1 with LED display	
Medium	Compressed air, free of aggressive, corrosive, hazardous, flammable or oxidising substances
Measured parameter	Residual oil content in mg of oil/normal m³, relative to 1.0 bar, +20°C, 0% rel. humidity, according to ISO 8573-1
Detectable substances	Polyalphaolefins, aromatics, hydrocarbons, aliphatic hydrocarbons and functional hydrocarbons
Applications	Downstream of activated carbon filter or activated carbon adsorber Downstream of BEKOKAT® (catalytic converter) Downstream of oil-free compressor always combined with upstream filtration and drying
Ambient temperature	+5°C to +45°C, rel. humidity ≤ 75%, non-condensing
Storage temperature	+5°C to +45°C
Compressed air temperature at inlet	+5°C to +50°C
Operating overpressure	3 ... 16 bar (gauge)
Measuring gas humidity	≤ 40 % rel. humidity, DTP max. +10°C non-condensing
Measuring range	≤ 0.01 ... 2.50 mg/m³
Detection limit (residual oil)	0.001 mg/m³
Measuring range and accuracy	≤ 0.01 ... 0.5 mg/m³ ± 30% from average ± 0.001 ≥ 0.5 ... 1.0 mg/m³ ± 20% from average ± 0.001 ≥ 1.0 ... 2.5 mg/m³ ± 10% from average ± 0.001
Measuring gas flow rate 1)	Approx. 120 normal l/min relative to 1.0 bar absolute and +20°C, not pressurised
Power supply	100-240 VAC / 50-60 Hz / ± 10%
Protection class	Standard IP 54
Outputs	4 ... 20 mA analog output, 2-wire system, for integration into master monitoring system RS-485, MODBUS RTU 2 alarm contacts, configurable as NO or NC contacts
Dimensions	404 x 422 x 158 mm (W x H x D)
Weight	approx. 16.3 kg



Applied EU Directives and harmonised standards

2014/68/EU	Pressure Equipment Directive
2014/35/EU	Low Voltage Directive
2014/30/EU	Electric Compatibility (EMC) Directive
EN 61010-1	Safety requirements for electrical equipment for measurement, control, and laboratory use
EN 61326-1	Electrical equipment for measurement, control and laboratory use – EMC requirements

Factors that determine the residual oil content in compressed air

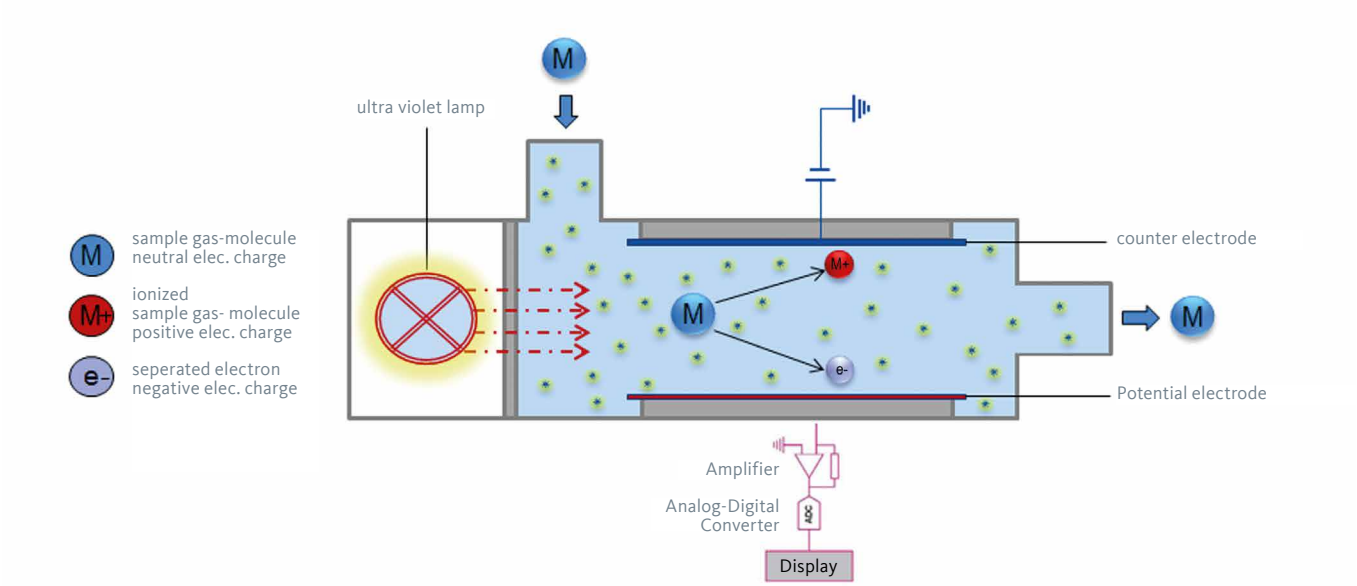


Our calibration service for your METPOINT® OCV compact

Transducers and evaluation equipment are exposed to mechanical stress and temperature fluctuations. As a result, the measuring accuracy of the sensor technology drifts, which means that the results become unreliable, so that production and product quality might no longer be properly monitored.

BEKO TECHNOLOGIES offers its customers a range of calibration services for volume flow sensors, dew point transmitters, transducers and evaluation units. All devices are calibrated in a specified calibration process developed by **BEKO** TECHNOLOGIES, followed by ISO calibration. ISO calibration is based on reference measurements performed with externally provided test specimens and certified reference devices. All reference devices can betraced back to national standards. The relevant procedures and methods meet the requirements of the DIN EN ISO 9001 quality standard.

Precision as a benchmark: the principle behind the METPOINT® OCV compact



The METPOINT® OCV compact was developed for the detection of steam and gaseous hydrocarbons in compressed air. The detection limit of the measuring method is 0.001 mg/m³.

For the measurement, a sample is taken from the partial volume flow and fed to the sensor unit. The photoionization detector (PID) measures the hydrocarbon content by means of UV light. The UV light ionises the hydrocarbon molecules that pass through the beam. The resulting photo ionisation is proportional to the hydrocarbon concentration. This concentration is shown on the touch screen display.

When a user-defined threshold exceeded, the unit triggers an alarm. The device is equipped with a 4...20 mA output for data transmission to a master control system. Furthermore, METPOINT® OCV compact provides regular status messages for upcoming maintenance and calibrations.

Do you have questions about the best way of processing your compressed air?

We have the answers! We offer efficient solutions for any type of processing chain. Please contact us with all your queries. We would be delighted to tell you more about our condensate treatment, filtration, drying, measuring and process technology, and our comprehensive services.

Visit us at

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