Process Gas Analysis

CONTHOS 3 - TCD
Process Thermal Conductivity Gas Analyzer

Key Features
- Extremely long term stable analysis of H₂ and noble gases in binary and quasi-binary gas mixtures with lowest ranges up to 0 – 5000ppm
- Extremely suppressed ranges up to 99.5 - 100%
- Ultra-fast response $T_r \leq 3$ sec
- Highly corrosion resistant TCD cell with Al₂O₃, glass and quartz for process gases with Cl₂, HCl, SO₂, H₂O
- Cross compensation of up to 3 components for reduction of interference

Typical Applications
- Metallurgical process gases such as blast furnace, converter steel or direct reduction
- Steel industry: Heat treatment & hardening
- Petrochemistry: Gas processing to synthesis gas, reformer gas & coal gasification
- Monitoring of gas purity, pressure swing adsorption, LEL/UEL as well as inert gases
- H₂ and O₂ purity in water electrolysis

Explosion proof version
CONTHOS 3-TCD Ex p | ATEX

Key Features
- Extremely long term stable analysis of H₂ and noble gases in binary and quasi-binary gas mixtures with lowest and extreme suppressed ranges: 99.5 -100%
- Ultra-fast response $T_r \leq 3$ sec
- Highly corrosion and temperature resistant TCD detector with Al₂O₃, glass and quartz
- ATEX Ex p version for ex zones 1 and 2
- Extremely low purge gas consumption

Typical Applications
- Metallurgical process gases such as blast furnace with flammable gases in hazardous areas
- Steel industry: Heat treatment & hardening
- Petrochemistry: Flammable gases in hazardous areas - Gas processing to synthesis/ reformer gas & coal gasification
- Monitoring of gas purity, pressure swing adsorption and LEL/UEL
- H₂ and O₂ purity in water electrolysis
- Monitoring of hydrogen in turbogenerators
Process Gas Analysis

CONTHOS 3 - TCD HT
High Temperature
Thermal Conductivity Gas Analyzer

Key Features
- High temperature analyzer with thermostat controlled gas paths up to 180°C for high dew points
- High temperature analyzer up to 180°C to avoid possible salification
- Extremely long term stable analysis of H₂ in binary and quasi-binary gas mixtures
- Ultra-fast response $T_{res} \leq 3$ sec
- Highly corrosion resistant TCD cell with Al₂O₃, glass and quartz for process gases with Cl₂, HCl, H₂O or NH₃, CO₂, H₂O and H₂

Typical Applications
- Metallurgical process gases such as nitration and nitrocarburizing
- Heat treatment & hardening with hydrogen, ammonia and carbon dioxide
- Chemical processes with hydrogen as well as acidic and alkaline components
- Monitoring of processes with hydrogen, water vapor and high dew points

CONTHOS 3-PMD
Paramagnetic Oxygen Gas Analyzer

Key Features
- Oxygen specific analysis utilizing paramagnetic sensor
- Magnetomechanical measuring principle (dumbbell principle)
- Temperature controlled for increased stability and performance
- Up to 3 measuring ranges
- Optional paramagnetic cells for corrosive gases and solvents
- Optional intrinsically safe measuring cell for flammable gases

Typical Applications
- Fast response process gas measurement
- Flue gas control
- Inertization plants
- Biogas measurement
- Air separation, gas purity
- Power plants, metallurgical, chemistry, petrochemistry
Process Water Analysis

LFE TOC-810
On-line TOC Analyzer

Key Features
- Continuous real time analysis
- Continuous fast sample conditioning
- Quick response to changes in TOC level
- High-temperature oxidation
- Extraordinarily stable measuring characteristics
- Reliable system calibration
- Highest operational reliability
- Intelligent self-monitoring
- Designed from the ground up for process analysis

Typical Applications
- Pure water monitoring (e.g. boiler feed water, condensate)
- Production facility monitoring
- Drinking water monitoring
- Mixed drainage water monitoring
- Influent and effluent wastewater treatment monitoring
- Airport de-icing water treatment monitoring

USR-F
Sample Filter System
with Ultrasonic Irradiation

Key Features
- Automatic ultrasonic cleaning of filter element
- Filter element in cross-flow configuration with pore sizes from 1 µm to 200 µm available
- High reliability of the analyzer system
- Minimized filter maintenance

Typical Applications
- Long-term stable sample filtration for use with process water analyzers
- Sampling for analyzers such as TOC, conductivity, pH, dissolved O₂, turbidity, etc.
- Process water with high corrosion potential and degree of contamination

USR-S
Ultrasound Cleaning System
for process liquid analytical sensors

Key Features
- Cross-flow vessel for up to 3 process liquid analytical sensors
- Automatic ultrasonic irradiation of the sensor vessel
- Sensor connections for diverse process liquid sensors
- Corrosion resistant transducer membrane made of Hastelloy®
- Control unit housed in a water-protected, wall-mounted enclosure

Typical Applications
- Long-term stable sensor cleaning for use with process water analyzers
- Sampling for analyzers such as conductivity, pH, dissolved O₂, turbidity, etc.
- Process water with high corrosion potential and degree of contamination
- Defined and constant cleaning
Components

Series 54 Peristaltic Pump

Key Features
- Microprocessor controlled stepper motor
- User-selectable rotational speeds
- Remote digital control for high degree of flexibility
- Protective housing (IP 65)
- Quick and easy change of tubing
- Maintenance free
- Self-priming

Typical Applications
- For process analytical applications
- Sample transport
- Condensate transport
- Sample dilution
- Sample metering
- Back-flushing of sample lines

Analysis Cells for Process Photometers

Key Features
- Compatible with Emerson Process Management's BINOS® photometer system
- High corrosion resistance
- Continuous operating temperature up to 160°C
- Suitable for UV, VIS and IR process photometry
- Available in various optical lengths from 10 to 200mm

pControl 2F
Backpressure Controller for process gas analysis instrumentation

Key Features
- Eliminate pressure errors at the source
- Quick and precise pressure control
- Extremely wide range of gas flow
- A single pControl-system is suitable for use with multiple gas analyzers

Typical Applications
- Precise measurement at constant pressure instead of insufficient or impossible pressure correction algorithms
- Long-term stable pressure control also for gases with high corrosion potential
- Sample gas return into process at defined higher pressure
- Defined setpoint pressure to dispose of flammable and toxic sample gases into a flare or scrubber

Note:
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