

CATALOGUE

PROCESS

Monitoring for Powder,
Dust & Gas

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WHAT WE DO

ENVEA has over 70 years experience in designing and manufacturing a wide range of instrumentation to support industries in better understanding and controlling their processes.

We employ innovative technologies and solutions for the monitoring of powders, dust and gases, helping not only to enhance the manufacturing process but also to reduce lost production time, reduce maintenance and reduce other associated costs. Our instruments provide a window into the manufacturing process, providing data to optimize plant efficiency and product quality.

The ENVEA Process instruments are supported by a global sales and service subsidiary network as well as distributors in over 80 countries. Our experience in the process industry is allied to over 40 years in the environmental compliance sector, for whom we manufacture class leading particulate and gas CEMS together with mercury, flow and air quality analysis systems.

Innovative monitoring solutions



A low-angle photograph of an industrial plant. A large, dark, insulated pipe runs diagonally across the upper half of the frame. To the left, a tall, white cylindrical tower with a metal walkway is visible. To the right, a tall, multi-story industrial structure with a grid-like facade rises. In the foreground, a large, cylindrical tank with a metal walkway is partially visible. The background shows a blue sky with scattered white clouds and a large, corrugated metal roof structure.

OUR EXPERIENCE IS BASED ON THOUSANDS OF
INSTALLATIONS WORLDWIDE, HELPING TO IMPROVE
YOUR PROCESSES

INDUSTRIES

Our extensive experience in process applications in a wide range of industrial markets has provided us with an unrivaled knowledge and understanding of differing applications and the potential cost reductions and process enhancements that our instruments and services can bring.

Working closely with many of the world's leading manufacturers has given us an in-depth understanding of their needs which has always been an important driver in the development of our instrumentation. Often installed in harsh working environments, our sensors have been designed to provide rugged, reliable monitoring often with built-in self-checks to assure optimum instrument functionality.

Working in a wide range of applications from heavy industries such as power, minerals and steel to complex processes in the chemical and food industries, our instrumentation for the monitoring of powder, dust and gas help to make processes more reliable and more cost efficient.



MINERALS

- Cement
- Lime
- Gravel
- Asphalt
- Quartz
- Gypsum
- Brick
- Ceramics
- Salt
- Mining
- Coal / Coke
- Glass
- Asbestos
- China clay
- Fiberglass
- Lead glass
- Refractory
- Quarrying
- Vermiculite

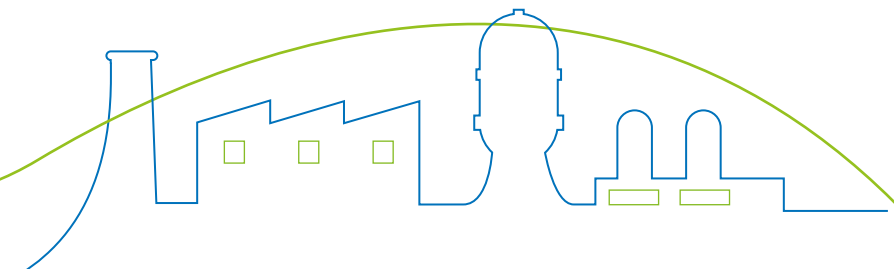
METALS

- Steel
- Galvanizing
- Foundry
- Aluminum recycling
- Aluminum smelting
- Copper recycling
- Copper smelting
- Ferrous foundry
- Lead recycling
- Lead smelting
- Nickel smelting
- Precious smelting
- Zinc recycling
- Zinc smelting



CHEMICALS

- Plastic
- Refinery
- Painting
- Pharma
- Fertilizer
- Rubber
- Cosmetics
- Carbon black
- Pesticides
- Ink
- Tyres
- Detergents
- Pigments
- TiO₂
- Coating





ENERGY

- Coal
- Biomass
- Gas
- Bio fuels
- Oil

INCINERATION

- Clinical
- Chemical
- Crematoria
- Municipal



FOOD

- Coffee
- Milk powder
- Sugar
- Animal / pet food
- Cereals
- Pectin
- Grain
- Tobacco
- Beverages
- Flour
- Starch



WOOD

- Insulations
- Floors
- Chipboards
- Pulp & paper
- Celluloses
- Fibers and additives
- Particleboards
- Timber products

and many more...

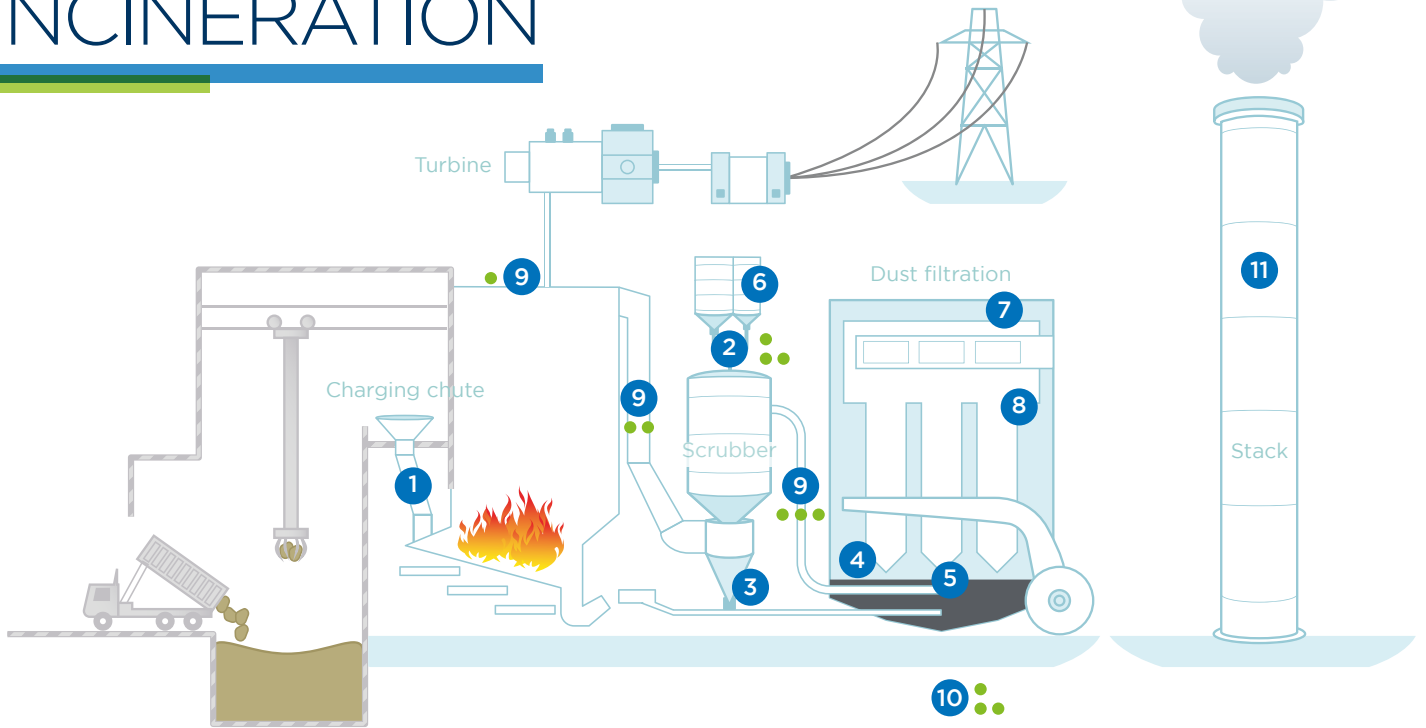
WHATEVER INDUSTRY, WE WORK IN

Our installations are driven by:

- Providing our users with increased automation for energy and raw material efficiency
- Increasing the potential for on-line real time quality control and trending
- Providing real time sensor feed-back information for more flexible and highly effective production
- Meeting new regulatory demands and developments for environmental protection whilst driving operating costs down

The examples below show some typical solutions, by industry

INCINERATION

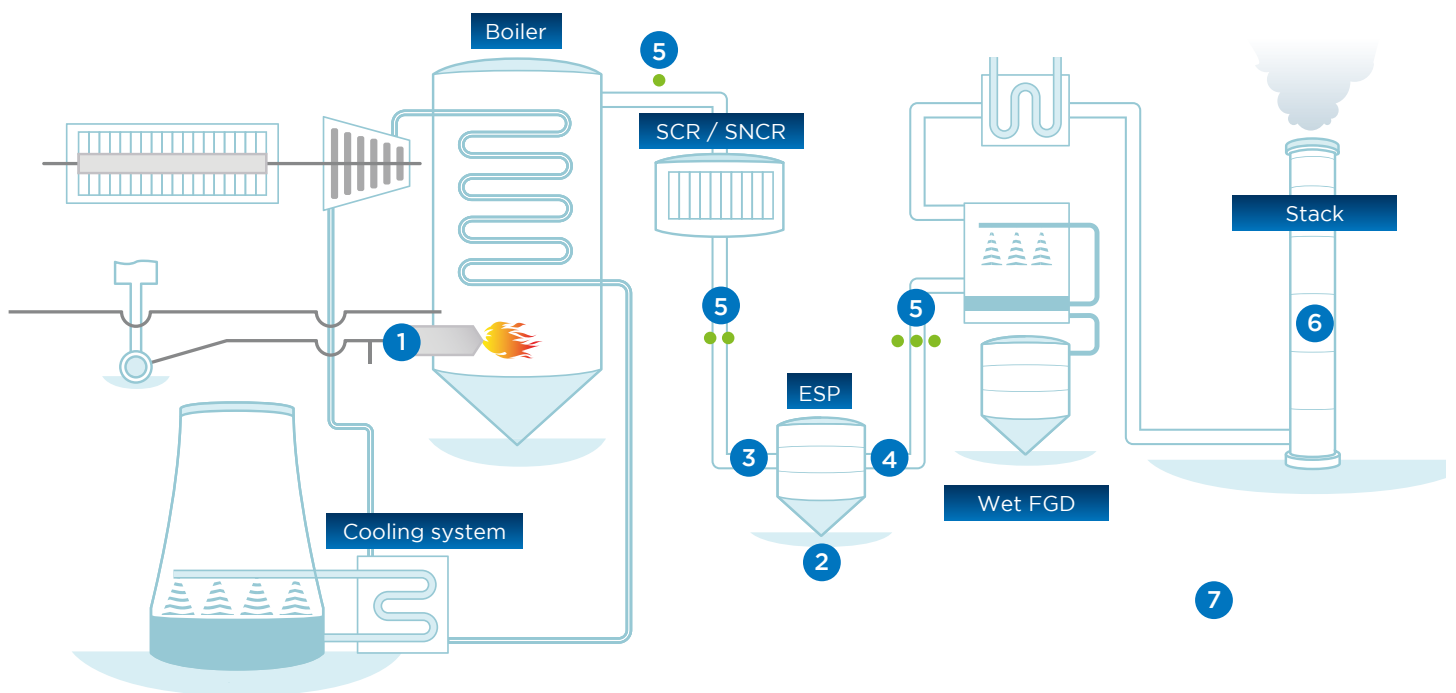


- 1 Point level detection in charging chute
- 2 Mass flow measurement of absorbent
 - Coke, lime
 - Activated carbon
- 3 Flow/NoFlow detection at cyclone outlet
- 4 Ash level detection at filter outlets
- 5 Flow detection at ash transportation system
- 6 Continuous level measurement in storage silos
- 7 Single baghouse outlet monitoring
- 8 Predictive bag filter row monitoring
- 9 Process gas monitoring
 - Combustion optimization (CO, O₂)
 - Acids abatement (HCl, NO_x, SO₂, (CO, O₂, H₂O))
 - Mercury & heavy metals abatement
 - NO_x abatement control (NO, NH₃ if SNCR)
- 10 Process leakage detection
 - Particulate leakage detection
 - Odors & process gas leakage detection (VOCs, NO_x, SO₂, H₂S, NH₃, Hg)
- 11 Stack compliance measurement: NH₃, HCl, HF, NO_x, SO₂, CO, CO₂, O₂, H₂O, Hg, TOC, PCDD/F, dust and flue gas velocity





POWER GENERATION

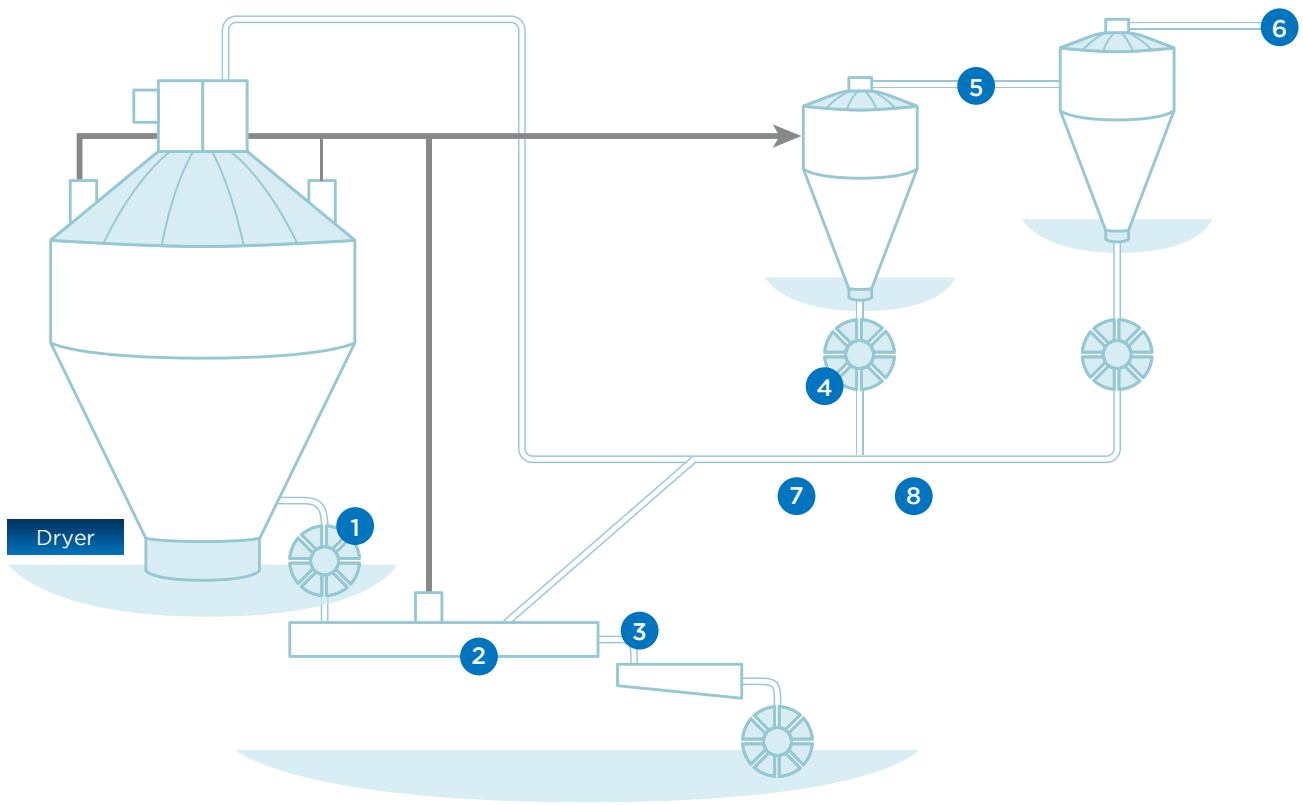


- 1 Flow rate measurement for pulverized fuel
- 2 Ash level detection at filter outlets
- 3 Filter efficiency monitoring
- 4 Predictive bag filter row monitoring
- 5 Process gas monitoring:
 - CO, O₂, NO_x
 - NO_x, NH₃
 - SO₂, O₂
- 6 Stack compliance measurement: NO_x, SO₂, CO, CO₂, O₂, NH₃, HCl, HF, H₂O, Hg, TOC, PCDD/F, dust and flue gas velocity
- 7 Process leakage detection: CO, CO₂, VOCs, SO₂, TRS, particulates



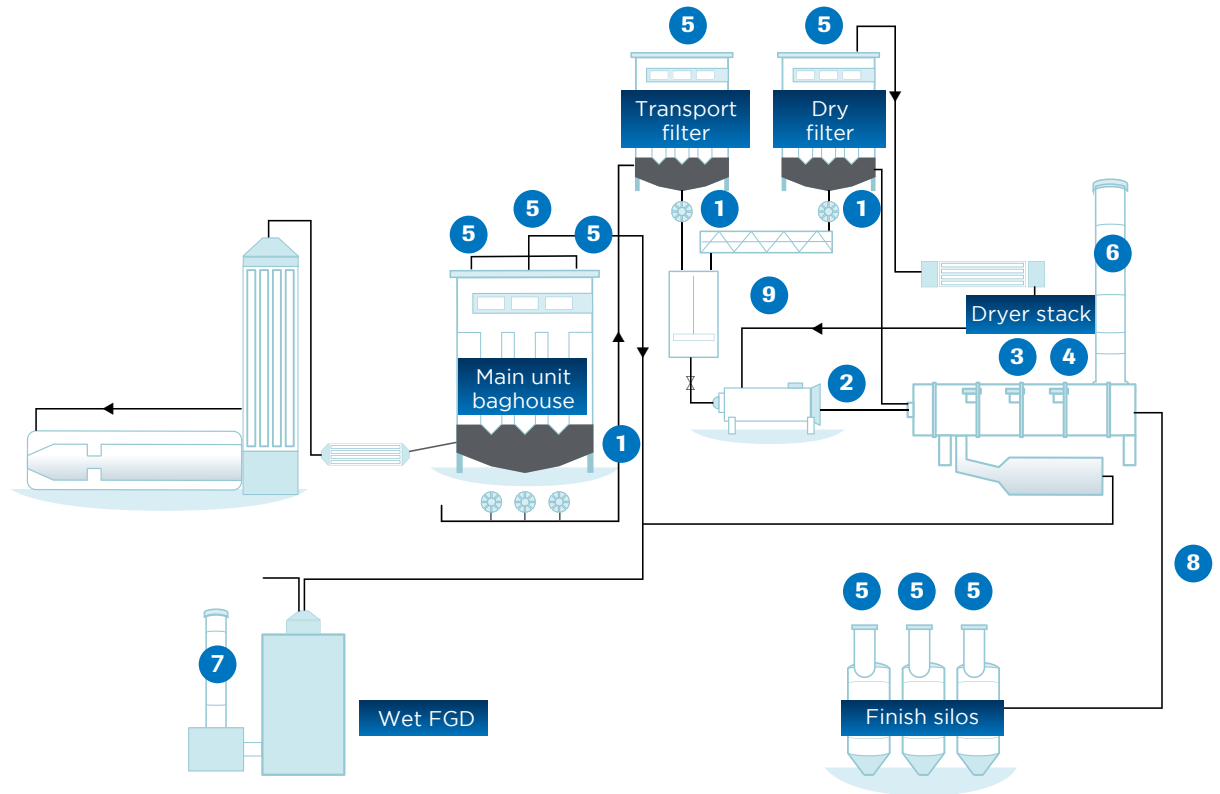
FOOD AND PHARMA

(SPRAY DRYING)



- 1 Mass flow measurement out of spray dryer
- 2 Continuous moisture measurement in fluidized-bed dryer
- 3 Mass flow measurement for inline blending
- 4 Flow/NoFlow detection in return powder lines
- 5 Primary filter performance monitoring
- 6 Compliance dust measurement trending
- 7 Process leakage detection:
CO, CO₂, VOC, NO₂, H₂S, SO₂, TRS, particulates
- 8 Additional monitoring:
odor detection, gas purity control

CARBON BLACK

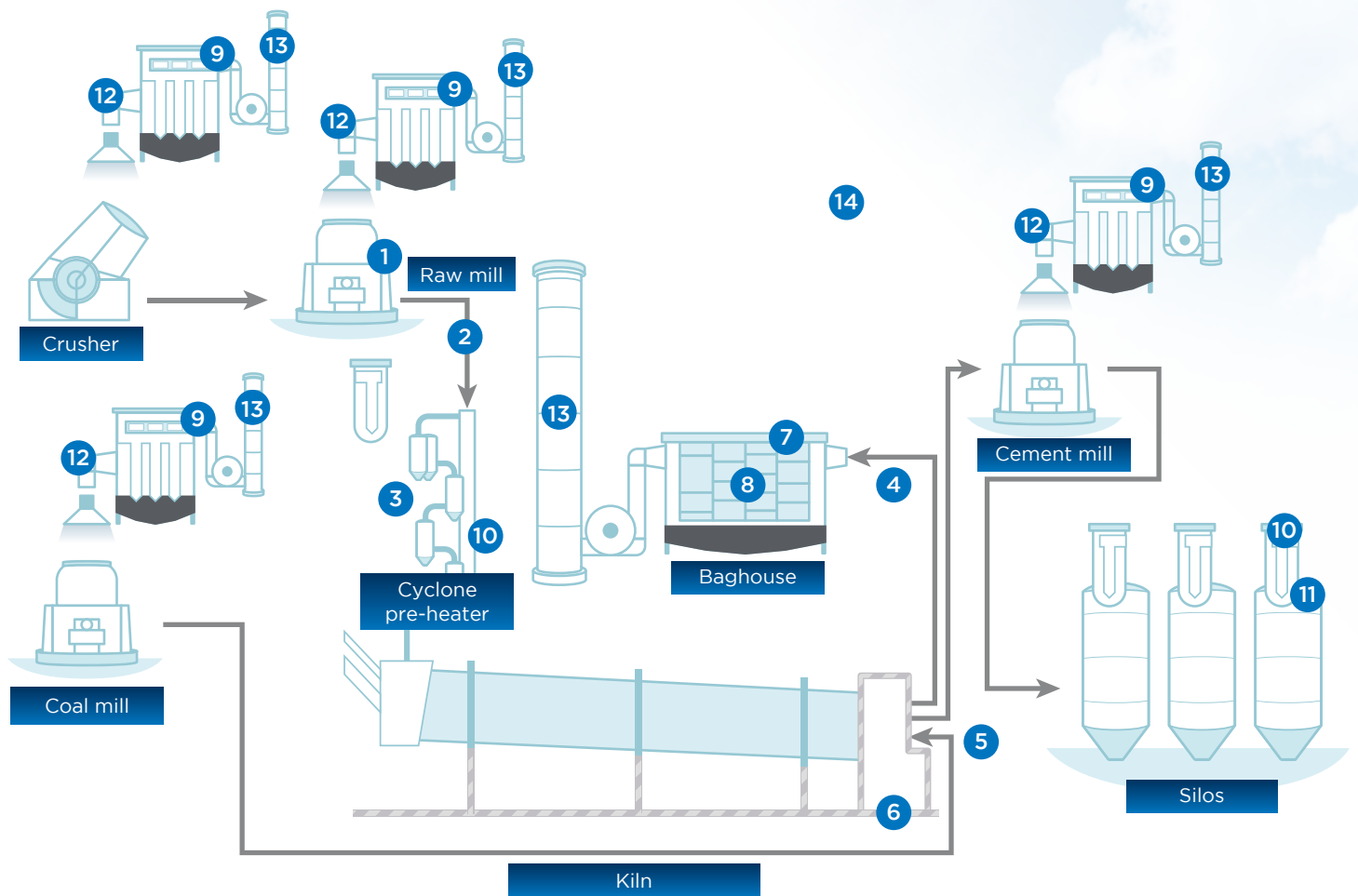


- 1** Flow/NoFlow detection at filter outlets
- 2** Flow measurement after pelletizer
- 3** Continuous moisture measurement after dryer
- 4** Process gas monitoring: CO, O₂
- 5** Predictive monitoring of bag row failure
- 6** Final stack emissions compliance monitoring: CO, CO₂, SO₂, NO_x, H₂O, O₂, CH₄, VOC, dust and flue gas velocity
- 7** Wet FGD stack dust emissions measurements
- 8** Mass flow measurement of carbon black to silos
- 9** Process leakage detection: CO, CO₂, NH₃, SO₂, VOC, particulates





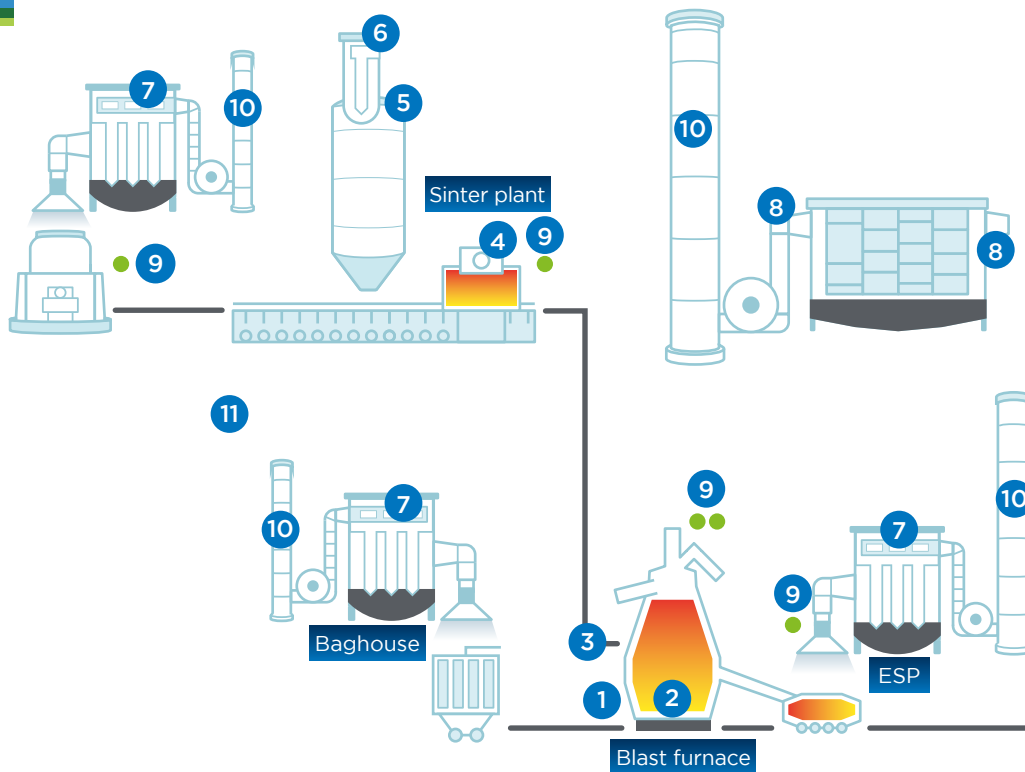
CEMENT



- 1 Continuous mass flow measurement of mill reject
- 2 Flow trending in air slides
- 3 Flow/NoFlow detection on cyclones
- 4 Process gas monitoring:
NO_x, CO, O₂, SO₂, Hg, H₂O, flue gas velocity
- 5 Mass flow and velocity measurement of coal into kiln
- 6 Continuous moisture measurement of secondary fuel
- 7 Baghouse chamber performance monitoring
- 8 Predictive bag filter row monitoring
- 9 Filter performance monitoring
- 10 Silo baghouse performance monitoring
- 11 Continuous level measurement in storage silos
- 12 Gas combustion monitoring: CO, O₂
- 13 Stack emissions compliance:
HCl, SO₂, CO, CO₂, NO_x, H₂O, O₂, VOC, PCDD/F, Hg,
flue gas velocity and dust
- 14 Process leakage detection:
SO₂, VOCs, NO_x, Hg, particulates

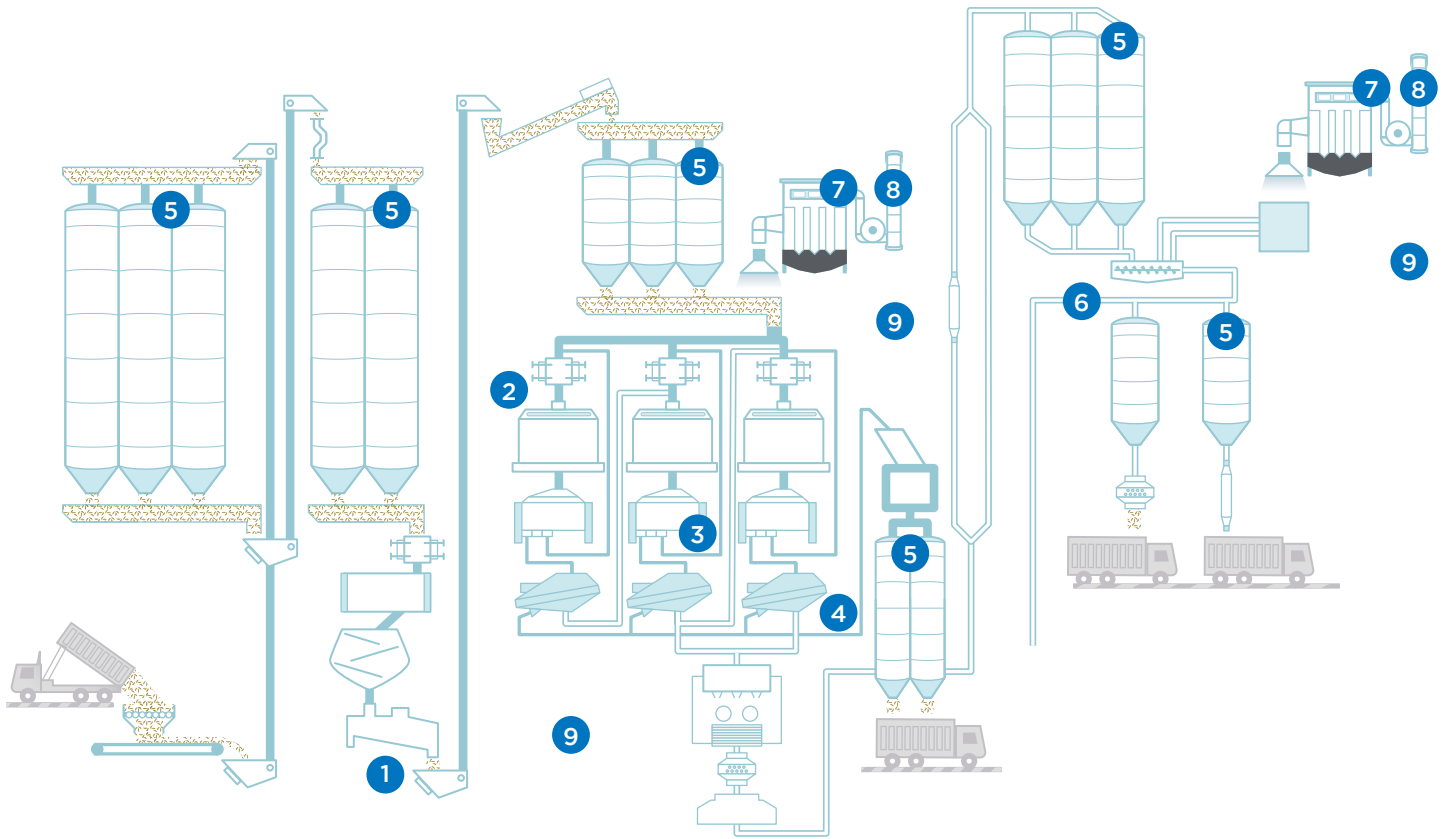


STEEL



- 1 Mass flow measurement of pulverized coal into blast-furnace
- 2 Flow/NoFlow detection in single coal lance
- 3 Continuous moisture measurement of coal
- 4 Continuous flow measurement of sinter dust
- 5 Level detection in storage silos
- 6 Silo baghouse performance monitoring
- 7 Individual chamber baghouse performance
- 8 Electro-filter efficiency monitoring
- 9 Process gas monitoring:
 - CO, O₂
 - NH₃ (if SCR)
- 10 Stack emissions compliance monitoring: CO, SO₂, NO_x, H₂O, NH₃, CO₂, O₂, CH₄, VOC, dust, temperature and flue gas velocity
- 11 Process leakage detection: VOC, CO, CO₂, HF, HCl, NH₃, SO₂, particulates

GRAIN



1 Flow measurement after intake and cleaning

2 Flow/NoFlow detection of flow into roller mills

3 Continuous moisture measurement after conditioning

4 Particle size monitoring

5 Continuous level measurement in storage silos

6 Silo baghouse performance monitoring

7 Baghouse chamber performance monitoring

8 Compliance dust emission measurement

9 Process leakage detection:
CO₂, NH₃, SO₂, CH₄, particulates



POWDERS

ENVEA manufacture an unrivalled range of monitors for powder, granulates and dust to meet the continued demands of industrial processes. Our instruments help you to better understand and control your process to increase efficiency and product quality.

With almost 25 years of experience, ENVEA has achieved extensive knowledge in use of sensors for the measurement of flow, level, moisture, concentration, velocity and particle size. We employ the latest ground-breaking microwave and electromagnetic technologies.



FLOW MEASUREMENT AT LOW AIR/SOLID RATIOS

PicoFlow

Electrodynamic flow sensor for the measurement of low flow rates from 0 to 100 kg/h.

For pipe diameters up to 1 m.

Ideally used in leanphase conveying.

In free fall conditions with at least 2 m/s drop speed.

- suitable for very low concentrations
- ceramic coating prevents sensor wear



MICROWAVE FLOW MEASUREMENT

SolidFlow 2.0

Microwave sensor for online mass flow measurement of solids up to 20 t/h.

Used in pneumatic leanphase conveying or vertical free fall after mechanical feeders.

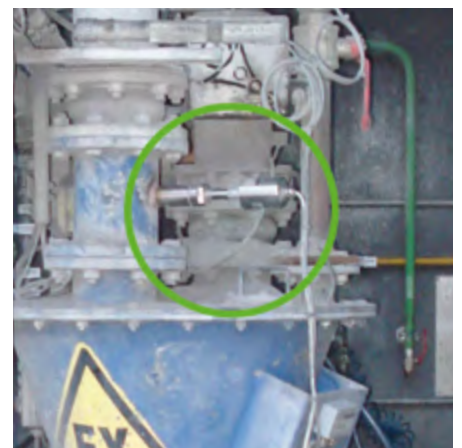
- easy assembly via weld-on socket
- for almost all types of dust, powders and granules
- latest technology with active roping compensation
- suitable for nearly all pipe diameters

Measurement of low flow rates from 0 - 100 kg/h



IDEALLY USED IN LEANPHASE CONVEYING

Measurement for flow rates up to 20 t/h



MOUNTED ON A VERTICAL FREE FALL AFTER FEEDER



ELECTROMAGNETIC FLOW MEASUREMENT

MaxxFlow HTC

Electromagnetic flowmeter, designed to measure bulk material flows up to 300 t/h.

The meter has no mechanical parts in the flow, is 100% dustproof and erosion free because of ceramic inner pipe.

- arbitrary mounting position (inclined/free fall)
- low headroom required
- easy to calibrate



FLOW MEASUREMENT FOR DENSEPHASE CONVEYING

DensFlow

Designed to measure solid flows during pneumatic densephase transport. The sensor measures density and speed.

- no wear because of ceramic inner pipe
- standard version up to 25 bar

DensFlow HP



Also available as a high pressure version up to 110 bar.



FLOW MONITORING IN AIR SLIDES

SlideControl 2.0

Microwave sensor for contactless monitoring of material flow in air slides.

- easy to install
- easy to retrofit
- gives trending information by 4 - 20 mA output
- immediate alarm when flow is interrupted

Flow measurement up to 300 t/h

Flow measurement in densephase conveying lines

Trending flow in air slides



MEASUREMENT AFTER MECHANICAL FEEDING SYSTEMS



INSTALLATION IN PIPE DIAMETERS UP TO 150 MM



EASY TO RETROFIT ON EXISTING AIR SLIDES



FLOW/NOFLOW DETECTION

FlowJam & FlowJam S

Microwave detector for contactless monitoring of material flow (Flow/NoFlow).

Reliable sensor insensitive to deposits or build-up of material.

- with adapters suitable up to 1000 °C and 20 bar pressure
- as compact version or with separate electronics
- FlowJam S with 4 - 20 mA output



BLOCKAGE DETECTION

FlowJam Plus

This microwave sensor is an advanced version of the FlowJam already well known and used in thousands of applications.

Besides Flow or NoFlow, the FlowJam Plus in case of a NoFlow situation indicates if it is ...

- caused by blockage
- or empty pipe caused by a stop of material supply



FLOW DETECTION ON FLEXIBLE PIPELINES

FlowJam T

Triboelectric sensor for powder flow monitoring in thin pipelines for small quantities. The sensor can be used for tubes made of electrically non-conductive material, such as plastic or rubber, with outside diameters between 4 and 25 mm. It is mounted around the pipe for.

- easy to retrofit
- compact device
- free cross section

Fast and reliable Flow or NoFlow detection



INSTALLATION ON PNEUMATIC OR GRAVITY CONVEYING LINES

Detection of blockages as a Plus



INSTALLATION ON A FREE FALL CHUTE

Flow/NoFlow detection on flexible hoses



SUITABLE FOR PIPELINES WITH OUTER DIAMETER: 4 - 25 MM



POINT LEVEL DETECTION

ProGap 2.0

Microwave barrier for contactless detection of dry bulk solids in containers or chutes. Reliable fill level and limit level detection.

- with adapters suitable up to 1000 °C and 20 bar pressure
- 25 m measuring range



POINT LEVEL WITH COMBINED FILL FLOW DETECTION

ProGap 2.0-BS

Microwave barrier for contactless detection of dry bulk solids in containers or chutes. Reliable fill level and limit level detection.

- Advanced version of the ProGap 2.0
- with filling signal recognition
 - indicates level and material flow
 - separated version enables installation in positions difficult to access



CONTINUOUS LEVEL MEASUREMENT

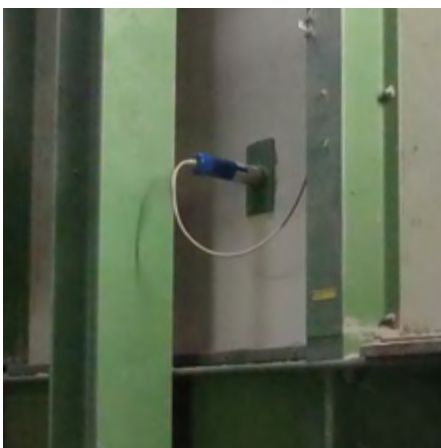
Nico 120

80 GHz-Radar sensor for measuring the level of material in silos and containers.

Available for silos up to 120 m high. Can be used with a wide variety of materials, regardless of the particle size or composition of the material.

- maintenance-free operation through non-contact measuring principles
- reliable measurement independent of vapour, dust and noise

Detection of Max and Min level



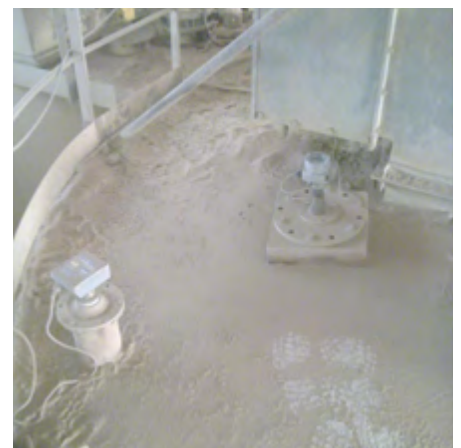
INSTALLATION ON A CHUTE
FOR MIN LEVEL DETECTION

*Detection of Max and Min level
plus flow*



INSTALLATION ON
A CONTAINER

*Continuous level measurement
with excellent precision*



INSTALLATION FOR LEVEL
MEASUREMENT IN SILOS



CONTINUOUS MOISTURE MEASUREMENT

M-Sens 3 & M-Sens WR2

Sensors for continuous moisture measurement on conveyor belts, screw feeders or hoppers.

Two types of sensor technology to cover a wide range of applications. Both sensors penetrate the product for most reliable measurements. Microwave based sensor for high resolution and accuracy.

- up to 120 °C, respectively 190 °C
- highly resistant to abrasion
- integrated temperature reading
- flow detection function
- EX version available

Reliable moisture measurement with high resolution



MEASUREMENT ON A SCREW FEEDER



CONTINUOUS VELOCITY MEASUREMENT

SpeedFlow 2.0

Especially designed for continuous measurement of velocity of solids and particles such as granulates, powders and dusts, which are transported in free fall or in pneumatic transport. Uses triboelectric correlation technology.

- plug-in sensor for easy retrofit
- no calibration required

Speedflow 2.0 - Pipe
Spool piece version

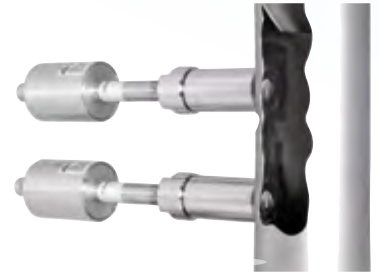


- measures full cross-section
- no calibration required

Accurate velocity measurement



INSTALLATION ON PNEUMATIC OR GRAVITY CONVEYING LINES



PARTICLE SIZE MONITORING

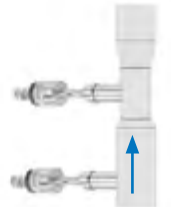
Paddy

Paddy has been developed to supply trending information on material granulation.

Measures changes in particles, for instance, to detect screen breaks.

Not sensitive to contamination and works without the need for a bypass.

Can be used in pneumatic conveying by use of a venturi section or in vertical free fall conditions.



Continuous trending of granulation



IN PNEUMATIC CONVEYING LINES OR FREE FALL



UNDERSTANDING YOUR PROCESS
AND HELPING YOU TO IMPROVE

DUST

ENVEA manufacture an unrivalled range of particulate monitors to meet the broad needs of particulate emitting industries worldwide and the requirements of national and international regulations. Based on this ground-breaking range of approved particulate monitors, ENVEA's instruments allow end users to improve emissions to the atmosphere also better understand and measure their particulate emissions to achieve cost savings (in terms of reduced filter maintenance) and reduce production downtime.



QUANTITATIVE NETWORKED MEASUREMENT SYSTEMS STACK 990

ENVEA's range of networked electrodynamic dust monitors includes the STACK 990 which provides an integrated solution for the monitoring of multiple baghouses.

Transferring data from and supplying power to the sensors via a single network cable, these calibratable instruments provide remote real-time observation and access to logged historical data.

The multi-lingual controller features a large full-colour display and is capable of handling up to 32 channels.

Particulate measurement



ADAPTABLE FOR CORROSIVE AND HUMID STACK CONDITIONS



DUST MEASUREMENT POST ELECTRO-FILTERS DM 170

Compact and stand alone, the DM 170 utilises Back Scatter Technology to provide monitoring of particulate after Electrostatic Precipitators (ESP's) and applications that do utilise a filter. Particularly suitable for very low or very high particulate concentrations or for abrasive/corrosive flue gases, it can be used either for stack monitoring or as a fault monitoring device between primary filter and secondary bag filters.

Single side installation



CONTACTLESS DUST MEASUREMENT



DUST MEASUREMENT WITH SEPARATE ELECTRONICS

ProSens

For those who prefer to interrogate and configure their sensor remotely this controller-based monitors provides reliable and robust monitoring of particulate dust levels and leaks from faulty bag media.

The sensor, installed after the bag-house, amplifies and analyses the dust signal and communicates a secure digital signal to the remotely located control unit, where instrument set-up, local graphical display and both digital and 4 - 20 mA output signals are provided.

Separate version for continuous dust measurement



CALIBRATABLE SENSOR WITH REMOTE CONFIGURATION



MULTI-CHAMBER FILTER MONITORING

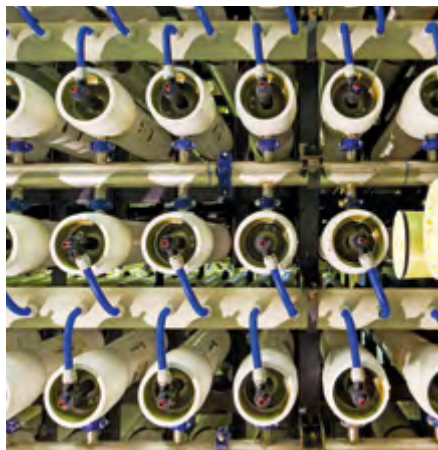
LEAK LOCATE 320 Plus

To understand where in the filter wear is happening before breaches in environmental limits are reached. Provides plant operators with a host of benefits.

The LEAK LOCATE 320 monitors up to 32 compartments per controller, allowing each chamber of a large multi-chamber baghouse to be continually monitored to determine any deterioration of the filter elements at both compartment and row level.

These systems allow preventive maintenance procedures to reduce unplanned filter outages and maintenance times.

Control and localisation of multi-chamber filter leaks



DETECTING DETERIORATION OF FILTER BAGS



COMPACT FILTER LEAK MONITORS

LEAK ALERT 73/75/80

The LEAK ALERT range provides a scalable output to enable calibration in mg/m^3 .

Available both as approved Leak and Measurement instruments to BlmSchV 27 Class complete 2 and 3 (EN 15859) and designed to meet US ASTM D 7392-07 for Bag Leak Detectors they come complete with inbuilt sensor health checks, short circuit and drift (zero and span) to assure instrument functionality. The LEAKALERT range provides a rugged and reliable solution to filter performance monitoring.

Compact sensor with integrated display



CALIBRATABLE AND EN 15859 APPROVED



CONTROLLER BASED GROSS FILTER FAILURE INSTRUMENT

DUST ALARM 40

This two-piece controller based system features an Icon Driven colour display to facilitate the easy setup of the remote sensor and observation of filter trends and alarms.

This design eliminates the need for operators to access the sensor, which may often be installed in difficult to reach locations.

Available with twin configurable alarms and a 4 - 20 mA output, the DUST ALARM 40 provides easy remote observation of filter performance.



GROSS FILTER FAILURE DETECTOR WITH TRENDING

Dusty C

This standalone sensor in addition to a fast filter failure detection with high accuracy and its configurable alarm, also features a 4 - 20 mA output to allow the remote observation of filter trends when connected to the sites Digital Acquisition System.

Dusty C is also an easy to install and easy to setup sensor.



GROSS FILTER FAILURE DETECTOR

Dusty

Dusty provides a simple solution to quickly identify failure of a fabric filter bag houses, cartridge filters or cyclones.

Ideally suited to applications from $<1\text{mg}/\text{m}^3$. Dusty is an easy to install and easy to setup sensor that provides an immediate user configurable alarm in the case of filter failure.

Reliable broken bag detection

Also available for
high temperatures

Easy commissioning
(Plug & Play)



BROKEN BAG DETECTION
WITH EXTERNAL DISPLAY



COMPACT SENSOR FOR
BROKEN BAG DETECTION



SIMPLE BROKEN
BAG DETECTION



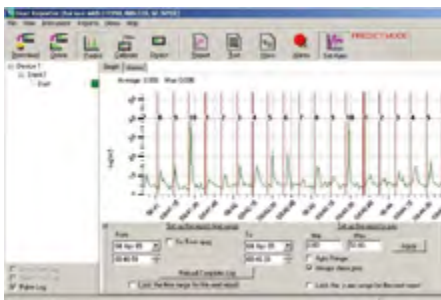
EMISSIONS DATA REPORTING AND ANALYZING

netTools

Ease of access to emissions data from sources plant-wide is vitally important. ENVEA's cloud-based software is a powerful and customizable software suite for displaying, analysing and reporting data from control units.

For multi-row and multi-chamber bag-house operators, the Predict software modules allow failing filter elements to be located and replaced before gross filter failure occurs, enabling scheduled preventative maintenance and minimized process down-time.

Access to data
from controller units



CUSTOMIZABLE SOFTWARE FOR
PLANT-WIDE OPTIMIZATION



GAS

ENVEA operates in almost all stages of industrial processes. In addition to dust and powder measurement, gases are important to monitor and measure in order to keep the process running at an optimal rate. We offer a complete range of products that will help you to control and manage your process.

With our comprehensive range of sampling systems and gas analysis technologies, we are able to offer you the measurement system according to your specifications and requirements in order to maintain the high performance of your industrial processes.



PORTABLE NDIR-GFC MULTIGAS ANALYZER

MIR 9000P

The MIR 9000P belongs to the new generation of ENVEA gas analyzers, offering an IoT design, eco-friendly with embedded intelligence.

It measures 8 gases simultaneously: NO_x, SO₂, CO, CO₂, CH₄, N₂O, O₂ and residual H₂O.

Designed to meet the specific requirements of on-site regulatory emissions measurements.

It guarantees the user superior mobility, robustness, accuracy and compliance with standards.

Superior mobility, accuracy and efficiency



ONLINE GAS MONITORING WITH SUPERIOR MOBILITY



VOC ANALYZER

Graphite 52M

Uses the reference method for continuous measurement of HCT/HCNm/CH₄. "Hot extraction" technology, requiring no sample processing.

One of the sole QAL 1 certified FID analyzers on the market, also available in a transportable version for the measurement of: THC or simultaneous THC, nmHC & CH₄.

Perfectly adapted for online measurements on single or multi-compartment VOC treatment systems, installed in series or in parallel.

Ideal for wet and corrosive process conditions



MONITORING OF COMBUSTION GASES ON INDUSTRIAL FURNACE



MULTI-GAS NDIR-GFC ANALYZER

MIR 9000e

Eco-designed, ultra-compact, intelligent and connected instrument, the MIR 9000e is your next tool for continuous flue gas measurement of industrial boilers or furnaces and process applications.

Simultaneous measurement of up to 8 gases: NO_x, SO₂, CO, O₂, residual H₂O, CO₂, CH₄ et N₂O (greenhouse gases). Extremely compact, it guarantees an easy integration in virtually all analysis rack benches on the market.

MIR 9000ASD
SO₂ analyzer for DeSO_x
system performance



Designed for combustion and process applications



COMBUSTION, DeSO_x / DeNO_x PERFORMANCE



TUNABLE DIODE LASER (TDL) TRACE ANALYZERS

LAS 300 XD

Ideal for selective measurements of gases such as ammonia NH₃, acids as HCl, HF and CO, H₂O or even the O₂ when the conditions are too extreme for zirconia sensors.

Features and benefits:

- latest TDL Absorption Spectroscopy Technology
- robust, contactless and highly accurate, unaffected by gas contaminants
- exceptional range from 100 ppb to % level readings depending on the model
- Perfectly suited to harsh and corrosive environments.

In-situ measurements, in the heart of the process



CROSS DUCT, INLINE COMBUSTION MONITORING



ADVANCED DIGITAL MULTI-GAS ANALYZER

MIR 9000H / MIR IS

Multi-gas analyzer for measurement in hot and humid sampling of:

HCl, HF, NH₃, NO, NO₂, N₂O, SO₂, CO, H₂O, CO₂ and O₂ and H₂O.

It provides up to 4 gas stream measurements.

Features and benefits:

- air ejector sampler embedded to get robustness for harsh flue gas mixtures
- advanced digital communications including Ethernet and Modbus

Measurement before or after the scrubber



GAS ABATEMENT MONITORING OF MULTIPLE GASES



NO, NO₂, NO_x, NH₃/CO, CO₂/SO₂, H₂S, TRS ANALYZERS

AC32e / CO12e / AF22e

Trace elemental analysis is a set of important analytical techniques in the field of health, environmental analysis, metallurgy as well as in the food and pharmaceutical industries.

Thanks to their different measurement technologies, ENVEA's eco-designed e-series analysers allow for continuous measurement of very low gas concentrations in a very wide range of gas samples.



MERCURY ONLINE MONITORING IN GAS

SM-series / PA-2 / UT 3000

Reliable monitoring of mercury in the flue gases, the natural gas, liquids, ambient air or in laboratory samples, our unique Thermo catalytic technology provides accurate, highly stable and reliable measurement with low maintenance required. It helps to reduce reagent consumption, cartridge replacement, solid reagent and water filling.

Incorporating the latest advances in gaseous mercury sensing technology, our Hg analysers revolutionise ultra trace measurements in industrial processes.



FLUE GAS VELOCITY MEASUREMENT

STACKFLOW 100/200/400

Stackflow 100: Compact Micro-Venturi flowmeter. Gas velocity: 3 - 30 m/s.

Stackflow 200: ProPitot™ technology. Gas velocity: 3 - 50 m/s. QAL1 certified.

Stackflow 400: FlueSonic™ technology. QAL1 certified CEM for stack velocity, volumetric flow and pollutant mass release calculations when linked to Gas and Dust CEMS (reporting in kg/year).

Gas velocity: 0 - 50 m/s.

Reference analyzers,
QAL 1 certified by the TÜV

Optimizing reagent injection

Sampling of gas, flow,
temperature & pressure on the
same flange optionally



GAS PURITY QUALITY
CONTROL



MERCURY DETECTION
IN FLUE GASES



STACK OR DUCT ONLINE
MONITORING



LEAKAGE DETECTION

Air quality monitoring is essential for local authorities and industries to understand and prevent air pollution and assess emission sources in order to protect health and contribute to the fight against the greenhouse effect.

Your facilities and equipment can cause fugitive emissions and leakages, resulting in environmental pollution and financial losses for your business. We offer a wide range of gases and particulate monitors, that will allow you to detect any pollution in real time. They will help you ensure the safety of your employees, locate and reduce odor emissions and air pollutant fallout related to your sector.



AMBIENT AIR DUST MONITORING

AirSafe 2

AirSafe 2 is a measuring instrument for monitoring the dust concentration in ambient air, for example in control system areas, silo areas, boiler houses or work stations. It monitors concentrations on the basis of preset limit values.

For example, to avoid the accumulation of dust in explosion zones or to detect unnoticed accumulation of dust from processes.

AirSafe 2 can be used as early detection for dust which could endanger the workplace.

*Monitoring offline
process conditions*



AVOIDING EX-ZONES BY
AMBIENT DUST MONITORING



SENSOR-BASED MINI-STATIONS

Cairnet® & Cairprocess

Embedded in autonomous and wireless stations (solar panel and battery), Cairsens® micro-sensors allow the monitoring of toxic or odorous gases emissions from an industrial installation.

- Cairnet®: turnkey mini-station for real-time air quality surveillance and data centralized in the Cloud

- Cairprocess: ready to use solution for the control of deodorizing systems and compost storage areas.

*Real-time secured data
in the Cloud*



ODORS / GAS LEAKAGE
SOURCES DETECTION



ALL-IN-ONE PORTABLE REAL-TIME Hg MONITOR

Mercury Tracker-3000 XS

Very small, ultra-light, with on-board GPS, data logger, battery pack and color TFT display for very comfortable and easy mercury monitoring in ambient air and other gases.

Portable mercury monitoring and detection is made easy with the Mercury Tracker-3000 XS.

Lightweight, rugged construction and compact, the instrument is perfect for screening the concentration of mercury in the air.

Light, compact and efficient. All in one!



MERCURY LEAKAGE DETECTION



EXTRACTIVE TDLAS GAS ANALYZER

LAS 300 RK

High precision measurements of selective compounds such as: HF, HCl, NH₃, O₂, NO, CO and H₂O. Other gases on request.

Ideal for applications which require reliable and specific measurements, this gas monitor is suitable for monitoring ppb and ppm concentrations in emissions, ambient air or process monitoring. It uses rapid laser tuning and direct absorption spectroscopy to achieve very stable results.

Suitable for ambient air, process and emissions measurements



FAST RESPONSE LEAK DETECTION



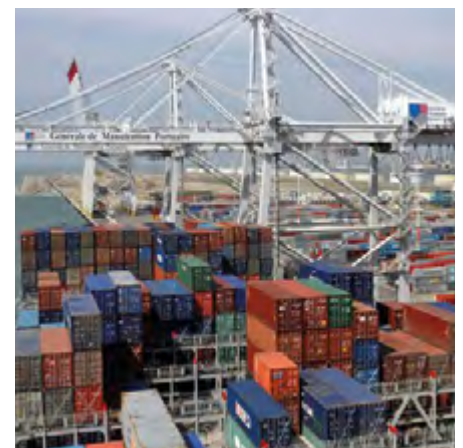
VOCS, BTEX, THC, CH₄, nmHC MONITORING

VOC72e / HC51M

Fugitive emissions of Volatile Organic Compounds (VOCs) are leakages that appear at the sealing elements of equipment such as valves, pumps, compressors, flanges, fittings, etc.

Their control represents a considerable challenge in terms of Safety, Health and Environment, allowing to reduce explosive atmospheres (ATEX), CMR gas emissions, to reduce the impact on the ageing of installations and improve productivity.

Health, safety & environment plus economical benefits

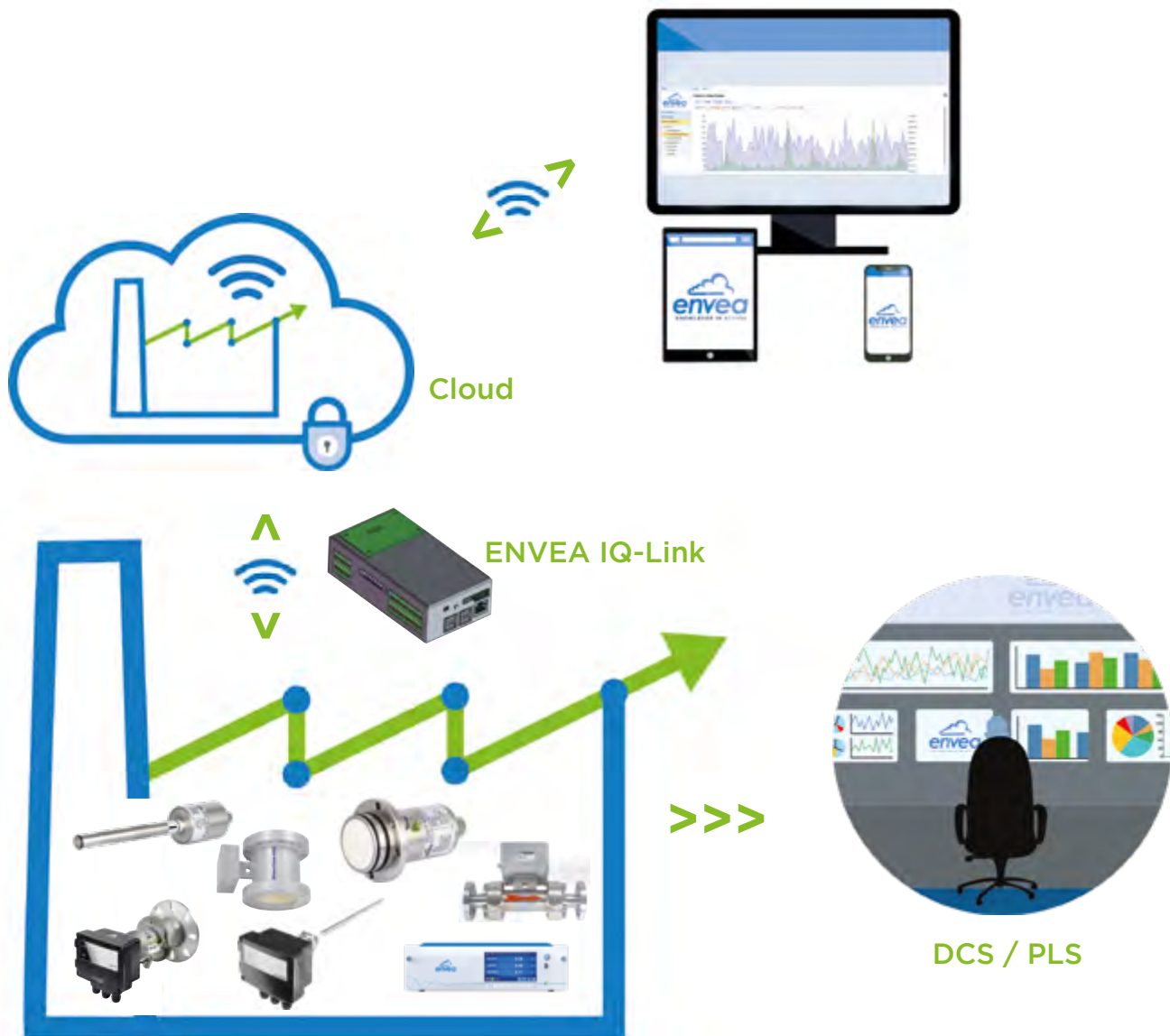


VOLATILE ORGANIC COMPOUNDS LEAKAGES

CLOUD-BASED MONITORING & ANALYSIS

IoT and the digitization of plants and plant components is one of the upcoming topics in process automation and the processing of measurement data in general. The ENVEA Group with its systems for data acquisition is pioneering in this field already today. Beside the transmission of measured values to the existing control system we are opening another communication channel, namely the transmission of as much data from IoT-enabled sensors into a cloud.

To receive real-time sensor measurement data into a cloud is a big step forward for any plant, but with ENVEA you can take the next step and utilise that data to predict, monitor and respond early to issues such as filter leaks and process performance. Plants can use measurement data to be pre-emptive and proactive, performing maintenance not to replace broken filter bags but to avoid broken bags and costly plant shutdown or loss of product.



The basic set up consists of this solution is the ENVEA sensor or measurement device connecting to a controller which in turn connects to the cloud. The software in the cloud then displays the measurements in actionable and reportable formats.

In addition to new ENVEA products, which will have networked and cloud-based functionality, ENVEA can upgrade an existing sensor and controller system to enable cloud-based data acquisition and analysis.

OUR SOLUTIONS ADAPT TO YOUR NEEDS

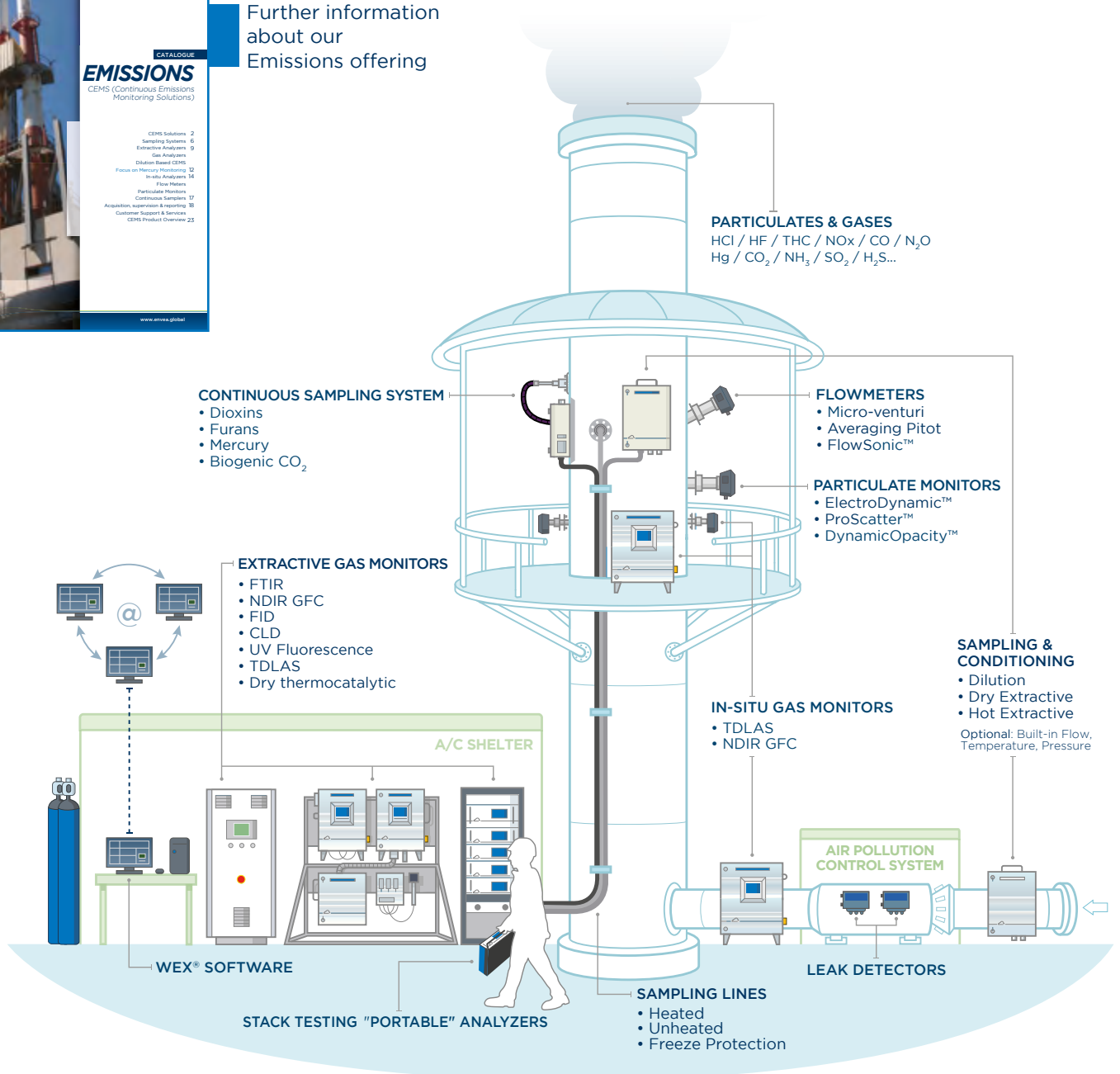


AND FOR YOUR REGULATORY COMPLIANCE...

We design and produce a complete range of state of the art analyzers, sampling systems, data acquisition systems and software for the measurement & reporting of pollutants such as: HCl, SO₂, NO, NO₂, NOx, N₂O, CO, CO₂, CH₄, THC, nmHC, NH₃, HF, H₂S, TRS, O₂, H₂O, temperature, flue gas velocity, pressure, particulates, mercury, dioxins...



Further information about our Emissions offering



With decades of industrial experience, our systems are designed and developed as a **complete turnkey solution**. From sample extraction, through analysis, data acquisition and report management, each system is configured to comply to the normative demands and technical constraints of our clients, no matter the industrial domain:

- Waste-to-energy plants
- Combustion
- Power plants
- Gas turbines
- Biomass
- Glass industry

- Cement plants
- Pulp mills
- DeNOx (SNCR, SCR)
- Boilers & industrial furnaces
- Process control
- Metal, steel, petrochemical, chemical industries...

SUPPORT & SERVICES

Improved plant performance through close partnership

ENVEA's global structure enables a close local approach to our customer relationships. Internal technical training provided by specialists and technical experts is available all over the world and our engineers work to fully understand your process. A close partnership with our clients improves their processes, whatever the location or industry.

The Technical Support Services Team, with its worldwide presence of experts, brings experience from a wide range of applications and industrial sectors ensuring that systems are set-up, operated and maintained to maximize functionality for their intended purpose.



COMMISSIONING

Utilizing our commissioning services allows you to ensure a proper commissioning of your process instrumentation. Especially during start-up of your process this ensures that everything runs smoothly and customers have access to all specific skills needed.

MAINTENANCE

Regular calibration and maintenance of the instruments is essential to get reliable information for controlling your process, especially for quality critical processes. ENVEA has a global network, providing cost effective on site services.

TRAINING

Training programs are customized and will specifically adhere to your company's particular needs, whether you require instruction for one individual or a group. All training options are designed to be conducted in a classroom, on-site or in a factory setting.

We can help you run your installation as efficiently and smoothly as possible.

RECAP TABLE

Powder

	Function	Range	Pressure max.	Temperature max.	Velocity	Output	Accuracy	EX
PicoFlow	Flow measurement	> 1 g/min	2 bar optional 25 bar	150 °C	Min. 2 m/s	4-20 mA, Modbus, optional Profibus	± 2-5%	Zone 0/20
Solidflow 2.0	Flow measurement	< 20 t/h	1 bar optional 10 bar	80 °C optional 900 °C	-	4-20 mA, Modbus, optional Profibus	± 2-5%	Zone 1/20
MaxxFLOW HTC	Flow measurement	> 1 t/h	2 bar optional 10 bar	120 °C	-	4-20 mA, Modbus, optional Profibus	± 1-3%	-
DensFlow	Flow measurement	custom-made	25 bar optional 110 bar	120 °C	1-50 m/s	4-20 mA, Modbus, optional Profibus	± 2-5%	-
DensFlow HP	Flow measurement	custom-made	110 bar	-20 to +130 °C	1-50 m/s	Relay, 4-20 mA, Modbus, optional Profibus	± 2-5%	-
SlideControl 2.0	Flow monitoring	custom-made	1 bar optional 20 bar	-20 to +80 °C	-	Relay, 4-20 mA, Modbus, optional Profibus	-	-
FlowJam	Flow detection	-	20 bar	1000 °C	no limit	Relay	-	Zone 22
FlowJam S	Flow detection	-	20 bar	1000 °C	no limit	Relay, 4-20 mA trend	-	Zone 22
FlowJam Plus	Flow detection	-	20 bar	220 °C	no limit	Relay	-	Zone 22
FlowJam T	Flow detection	-	Independent	60 °C	no limit	Relay, 4-20 mA trend	-	Zone 22
ProGap 2.0	Level detection	-	20 bar	1000 °C	-	Relay	-	Zone 22
ProGap 2.0-BS	Level detection	-	20 bar	1000 °C	-	Relay	-	-
Nico 120	Level monitoring	up to 120 m height	-1 - 20 bar	-40 - 200 °C	-	4-20 mA, Modbus, optional Profibus	± 5 mm	Zone 0/20
M-Sens 3 / 2 / WR2	Moisture measurement	0-65% (WR2: 85%) residual moisture	10 bar / 1 bar	120 °C (WR2: 190 °C)	-	4-20 mA, Modbus, Relay, optional Profibus	± 0.1%	M-Sens 2+3: Zone 22/21/20
SpeedFlow 2.0	Velocity measurement	0.75-35 m/s	1 bar (Pipe version max 100 mbar)	80 °C optional 120 °C	0.75-35 m/s	4-20 mA, Modbus, optional Profibus	± 1%	-
Paddy	Particle size monitoring	Particles up to 10 mm	1 bar optional 10 bar	80 °C	-	4-20 mA, Modbus, optional Profibus	-	Zone 1/20

Particulates

	High dust (Purge options)	Net- work- ing	Data- logg- ing	Auto self check (Zero & span)	Auto con- tamina- tion check	Condens- ing (Passive section)	Humidity (Insulated probe)	Corrosive (Acid adapters)	Temperature	EX
STACK 990	✓	✓	✓	✓	✓	✓	✓	✓	up to 800 °C	Inside: Zone 2, Outside: Zone 20
DM 170	✓			Manual	Manual	✓	✓	✓	up to 400 °C	Zone 2 / 22
Leak Locate 320	✓	✓	✓	Manual	Manual				up to 250 °C	Outside: Zone 22
Leak Locate 662	✓	✓	✓						up to 250 °C	Outside: Zone 22
Leak Alert 65-02	✓			Optional	Optional		✓		up to 400 °C	Inside: Zone 2, Outside: Zone 22
Leak Alert 73, 75, 80	✓			Optional	Optional		✓		up to 400 °C	Outside: Zone 20
ProSens	✓							✓	up to 500 °C	Inside: Zone 1, Outside: Zone 2 Inside: Zone 22, Outside: Zone 22
Dust Alarm 40	✓								up to 250 °C	Inside: Zone 2, Outside: Zone 22
Dusty C	✓								up to 140 °C	Zone 2 Zone 22
Dusty	✓								up to 140 °C	Zone 2 Zone 22

Gas

	HCl	HF	NO	NO ₂	NO _x	SO ₂	CO	CH ₄	N ₂ O	VOC	NH ₃	Hg	H ₂ O (%)	CO ₂ (%)	O ₂ (%)
MIR 9000P (mg/m ³)			0-100 /1500 /5000	0-110 /3000 /5000	as NO _x as NO ₂	0-141 /1410 /8500	0-60 /3000 /8000	0-70 /700	0-1000				0-2	0-20 /30	0-10 /25
GRAPHITE 52M (ppm)								0-10 /10000		0-10 /10000					
MIR 9000e (mg/m ³)				0-100 /1500 /5000	0-100 /1500 /5000	0-75 /1500 /7500	0-75 /3000 /12500	0-50 /200 /1000	0-50 /200 /1000				0-2	0-20 /30	0-25
MIR 9000ASD (mg/m ³)						0-100 /1000 /2500									
LAS 300 XD (ppm)	0-10 /3000 (H ₂ O 0-50%)	0-100					Low: 0-500 High: 0-100%				0-15 /500 (H ₂ O 0-50%)				0-10 /100
MIR 9000H (mg/m ³)	0-100 /5000	0-40 /300	0-200 /5000	0-200 /5000	0-200 /5000	0-500 /5000	0-75 /10000				0-15 /500		0-30 /40	0-10 /100	0-10 /25
MIR IS (mg/m ³)	0-15 /5000	0-20 /300	0-100 /5000	0-100 /1000	0-200 /5000	0-75/ 5000	0-75/ 10000	0-10/ 1000	0-20/ 1000	0-50/ 5000				0-10 /100	0-10 /25
AC32e (ppm)			0-10	0-10	0-10										
CO12e (ppm)							0-300							0- 2000	
AF22e (ppm)						0-10									
SM-4 (mg/m ³)												0-500			

Flue-gas flow

	T < 250 °C	T < 500 °C	Velocity m/s	Water droplets	Baghouse	Cartridge filter	ESP	WESP	Scrubber
StackFlow 100	✓	✓	5-30	✓	✓	✓	✓	✓	✓
StackFlow 200	✓	✓ (800 °C)	3-50	✓	✓	✓	✓	✓	✓
StackFlow 400	✓ (≤ 200 °C)	-	0-50	✓	✓	✓	✓	✓	✓

Ambient air

	PM	O ₃	CO	CO ₂	SO ₂	Hg	NO ₂	VOC	HCl	HF	NH ₃	H ₂ S - CH ₄ S	CH ₂ O / organic solvents
Airsafe 2	> 0.1 mg/m ³												
Cairnet (ppm)	0-1000 µg/m ³	0-0.25	0-20	0-5000	0-1		0-0.25	0-16 (nm VOC)			0-25	0-1/ 0-20/ 0-200	0-1
Tracker 3000 XS (µg/m ³)						0-2000							
LAS 300 RK (ppm)									0-50 000	0-2000			
VOC72e (µg/m ³)								0-1000					
HC51M (µg/m ³)								0-1000					

Lowest / highest monitoring ranges, expressed in ppm, mg/m³ or % when indicated. Other ranges available on request.

A STRONG GLOBAL PRESENCE

ENVEA is a leading manufacturer of cutting-edge on-line monitoring solutions for industry, laboratory and local & government institutions.

Faithful to the principles on which it was founded - innovation & quality, ethics & social responsibility, shared values & transparency - the group is committed to providing you with solutions and assistance at the highest standards in order to comply with applicable regulations; as well as the optimization of industrial processes for an improved efficiency, significant savings of raw materials & energy and the reduction of environmental impact.



Our worldwide references guarantee a perfect understanding of your needs and ability to manage a vast range of applications:

More than 40.000 air quality monitors are measuring the pollution of cities worldwide: Barcelona, Seoul, Rio de Janeiro, Istanbul, Mecca, New Delhi, Moscow, Paris, Budapest, Abu Dhabi, Bangkok, Beijing...

Over 28.500 processes & emission sources are monitored worldwide across a broad range of industries such as: chemical, minerals, metal, waste to energy, incineration, food and pharma, engine manufacturers, or wood industry.

Process - Emissions - Ambient
Monitoring solutions



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