EN

PROCESS

MONITORING FOR POWDER, DUST & GAS

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POWDER 12

Flow Measurement
Flow/NoFlow Detection
Moisture Measurement
Velocity
Screen Break Detection
Level

DUST 24

Broken Bag Detection
Filter Performance
Dust Monitors

WHAT WE DO

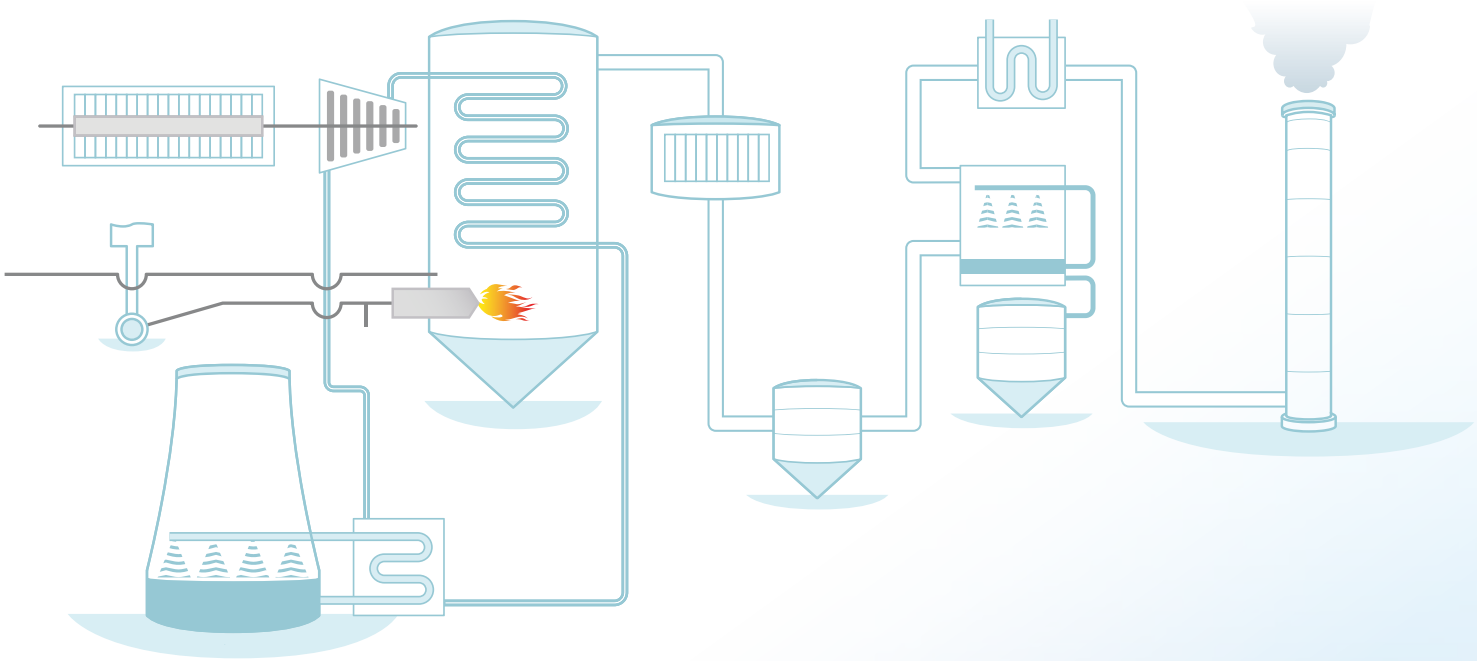
The newly formed **Process** division of envea™ (trademark of the Environnement S.A Group companies) brings together the expertise of a range of global instrumentation companies already established as experts in their respective fields to provide an unrivalled range of monitoring solutions for industrial processes.

The process division includes market leading companies who each provide innovative instrumentation for the monitoring of powders, dust and gases specifically for manufacturing industries to provide added value measurement solutions.

Together our companies provide over 70 years of experience of producing ground breaking instrumentation to enhance manufacturing processes helping to reduce lost production, plant maintenance times and associated costs. Our instruments are supported by a global sales and service subsidiary network as well as distributors in over 70 countries.

Our experience in the process industry is allied to the over 40 years' experience of our parent company Environnement S.A's in the manufacture of gas CEMS and air quality analysis systems.

PROCESS CONTROL



Our experience based on thousands of installations helps to improve your process


OUR SOLUTIONS ADAPT TO YOUR NEEDS.

INDUSTRIES

WHERE WE ARE

Since years we supply instruments and solutions to many industries.
Understanding the applications and needs of our customers has always been an important driver in the development of our systems.

Often working in harsh environments our sensors have been designed to provide rugged, reliable monitoring often with built in self-checks to assure the instruments correct functionality.

Working in both heavy industries such as power, minerals and steel as well as sensitive processes in the chemical and food industries our instrumentation for powder, dust and gas help to make processes more reliable, increase their efficiency and create cost reduction benefits for our customers worldwide.

MINERALS

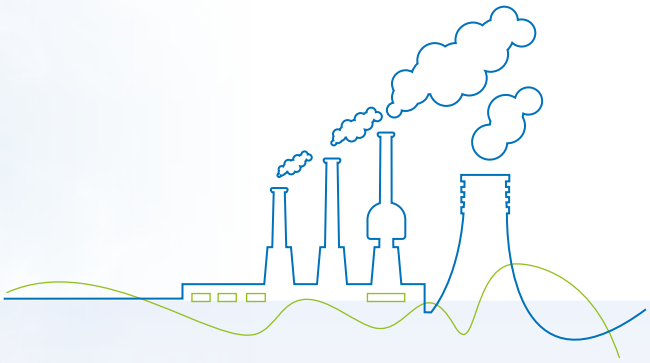
- cement
- lime
- gravel
- asphalt
- quartz
- gypsum
- brick
- ceramics
- salt
- coal / coke
- glass
- asbestos
- china clay
- fiberglass
- lead glass
- mining
- refractory
- quarrying
- vermiculite

METAL

- 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

CHEMICAL

- plastic
- titanoxid
- paint
- pharmacy
- fertilizer
- rubber
- cosmetics
- carbon black
- detergents
- ink
- toner
- tyres
- pesticides
- pigments
- refinery
- TiO_2
- coating powder



POWER

- coal
- biomass
- incinerators
- bio fuels
- gas
- oil

INCINERATION

- clinical
- chemical
- crematoria
- municipal

FOOD

- coffee
- milk powder
- sugar
- animal food
- cereals
- pectin
- grain
- tobacco
- beverage
- flour
- pet food
- starch

WOOD

- insulations
- floors
- chipboard
- pulp & paper
- cellulose
- fibers and additives
- particleboard
- timber products

and many more ...

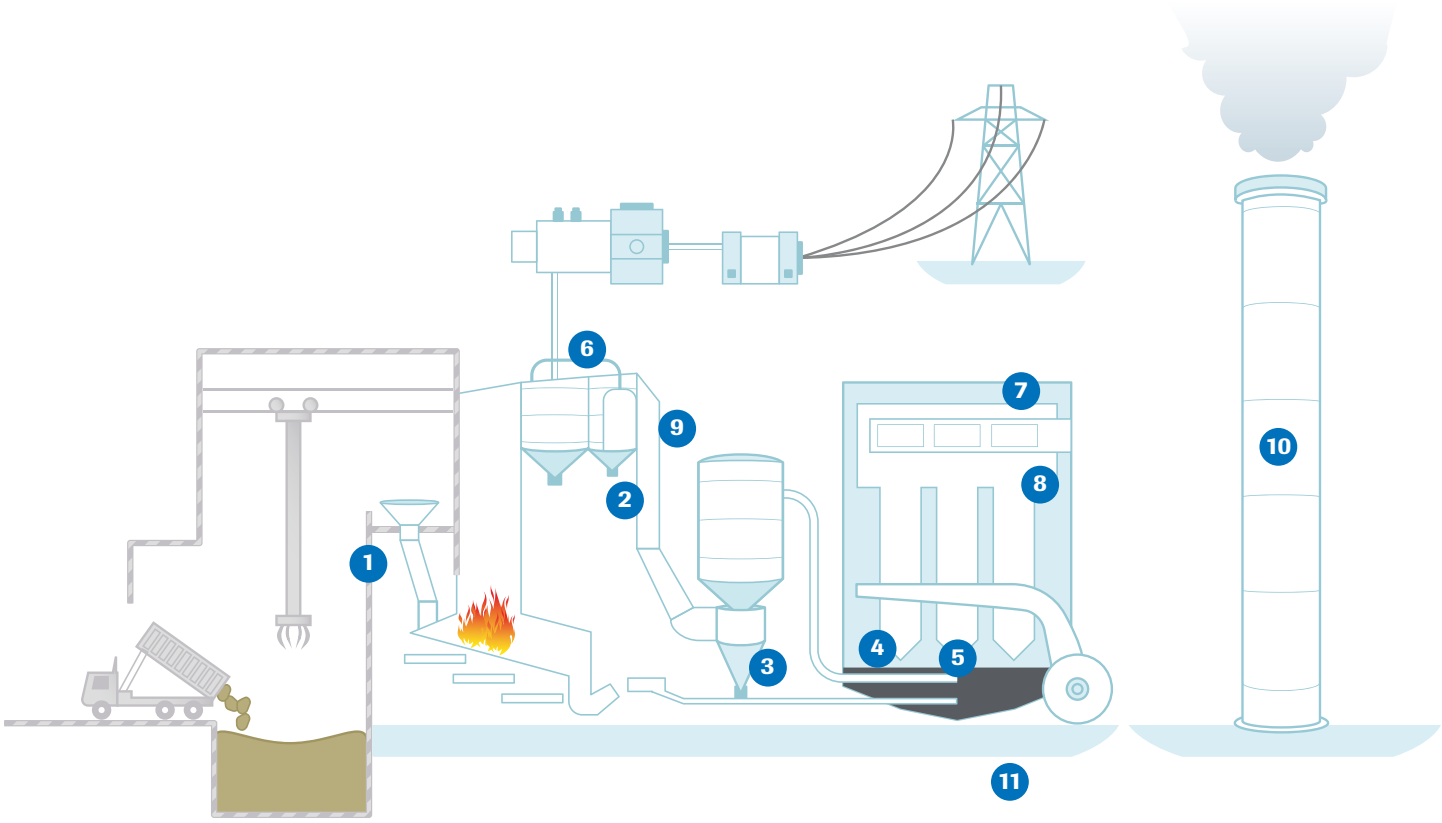
WHATEVER INDUSTRY WE WORK IN

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 high productivity production
- Meeting new regulatory demands and developments for environmental protection whilst driving operating costs down

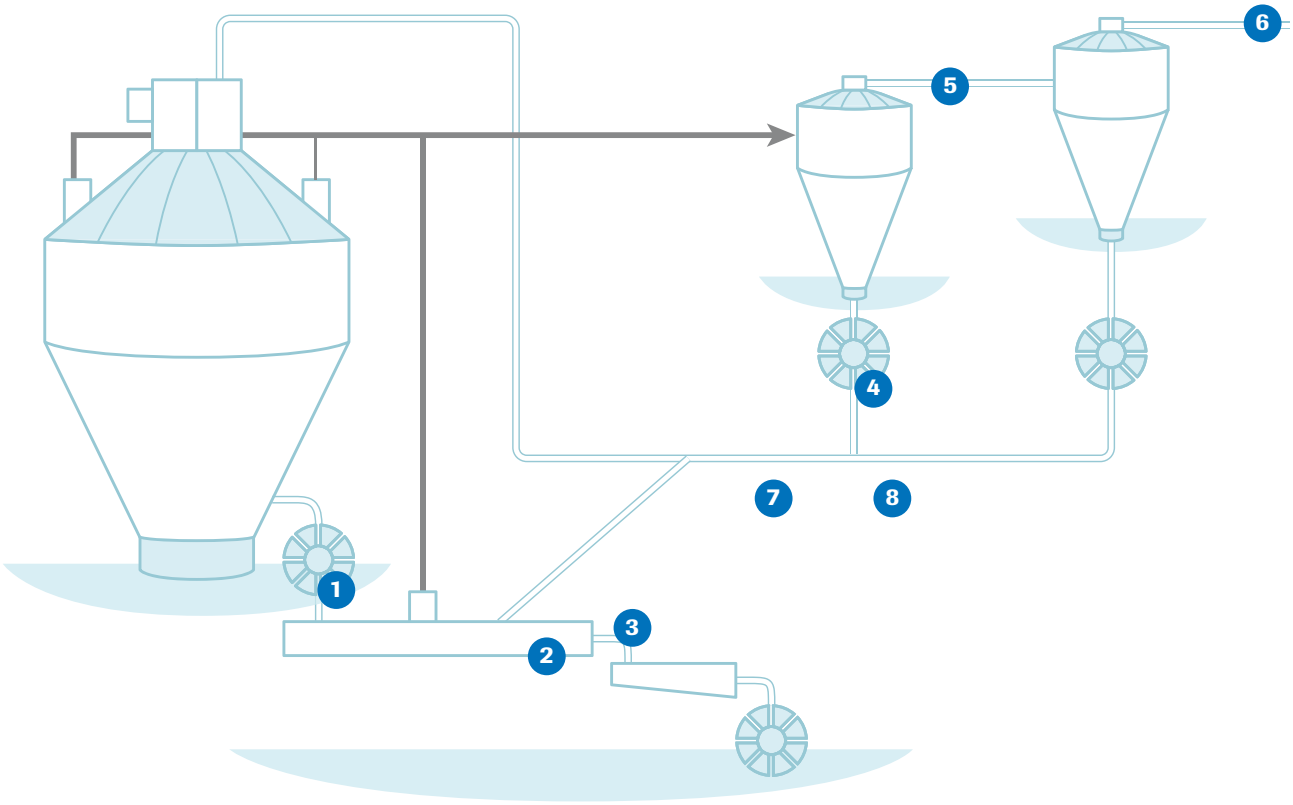
Below examples show typical solutions.

INCINERATION



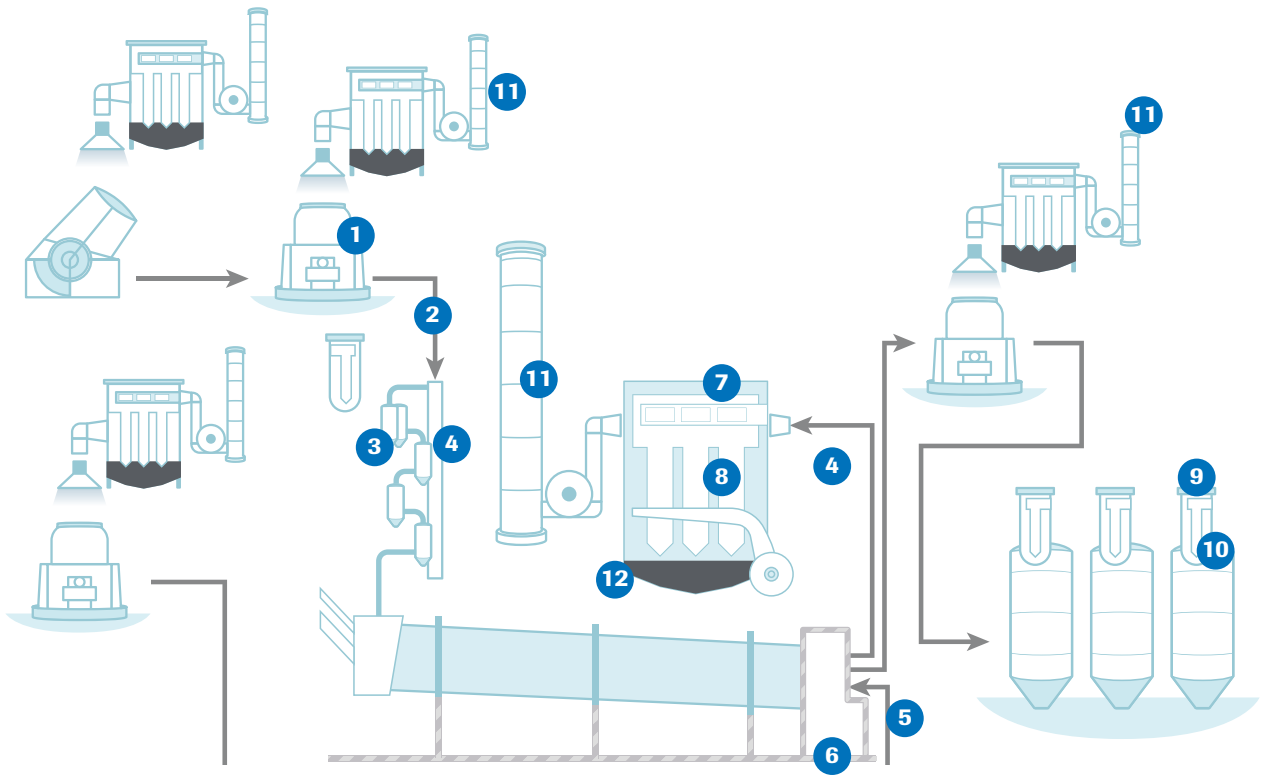
1. Point level detection in charging chute
2. Mass flow measurement of absorbent
3. Flow/NoFlow detection at cyclone outlet
4. Ash level detection at filter outlets
5. Flow detection at ash transportation system
6. Continuous level measurement in storage silos
7. Individual chamber baghouse performance monitoring
8. Predictive bag filter row monitoring
9. Process gas monitoring
10. Mainstack compliance gas, dust and flow measurement
11. Potential hazards measurements

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 stroke trending
7. Ambient dust monitoring
8. Potential hazards measurement

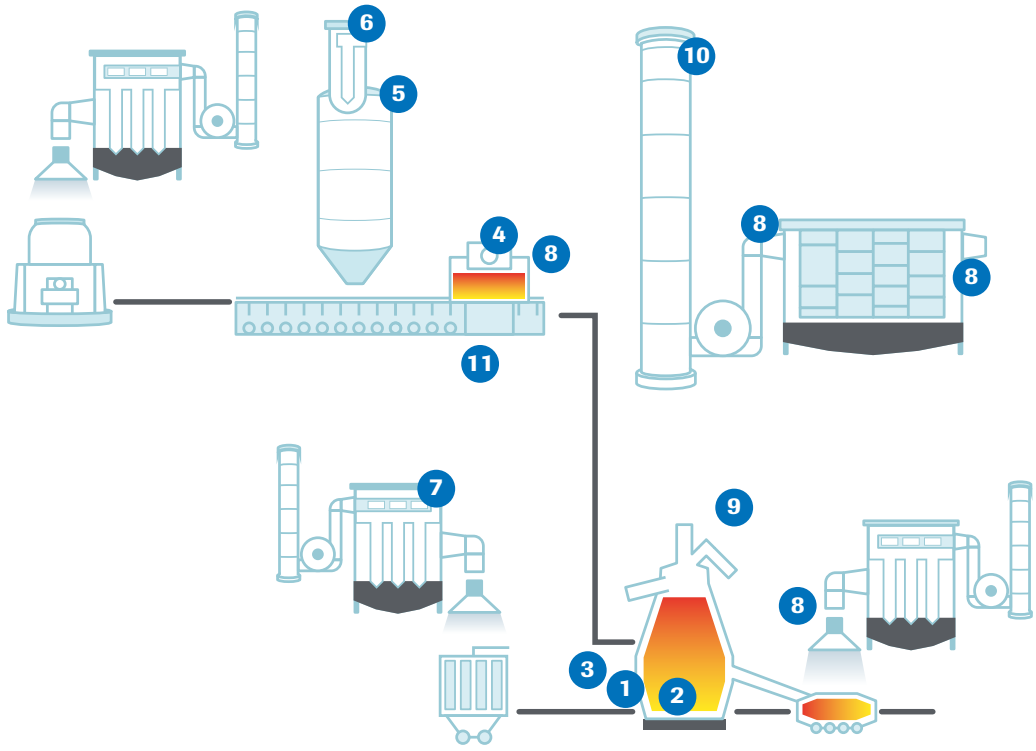
CEMENT



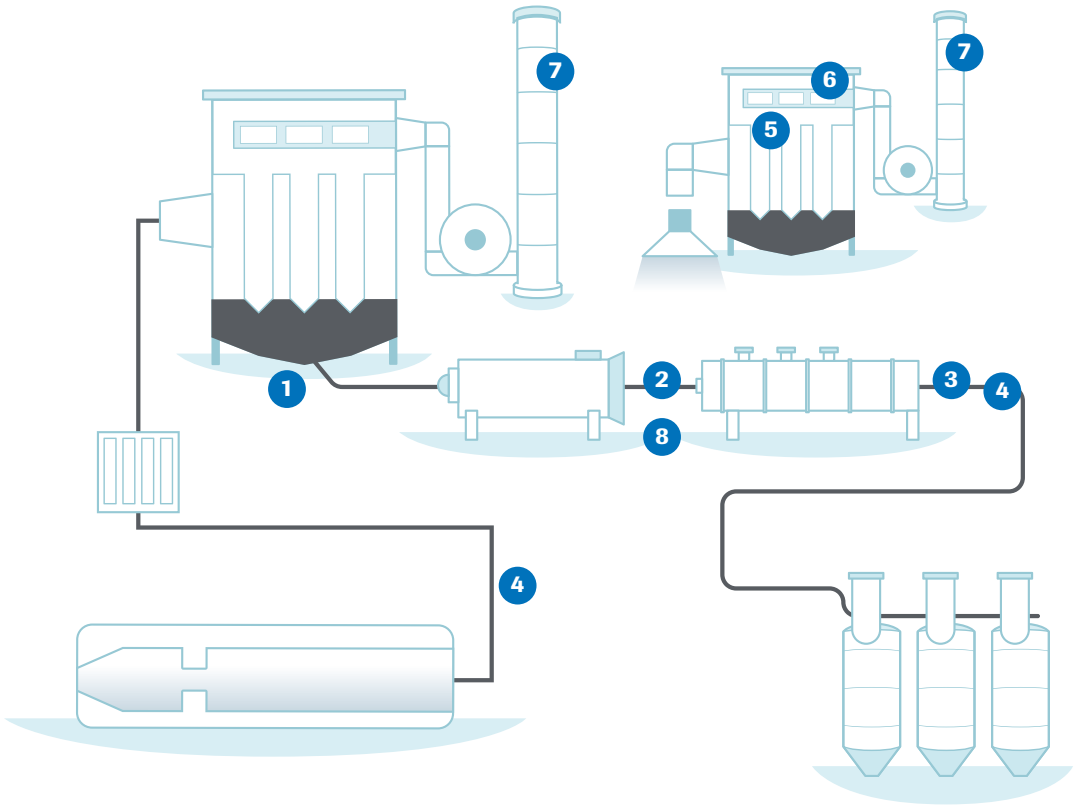
1. Continuous mass flow measurement of mill reject
2. Flow trending in air slide
3. Flow/NoFlow detection on cyclones
4. Process gas monitoring
5. Mass flow and velocity measurement of coal into kiln
6. Continuous moisture measurement of secondary fuel
7. Individual chamber baghouse performance monitoring
8. Predictive bag filter row monitoring
9. Silo baghouse performance monitoring
10. Continuous level measurement in storage silos
11. Mainstack emissions compliance gas, dust and flow measurement
12. Potential hazards measurement

STEEL

1. Mass flow measurement of pulverized coal into blastfurnace
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. Monitoring electro-filter efficiency
9. Process gas monitoring
10. Mainstack emissions compliance gas, dust and flow measurement
11. Potential hazards measurement

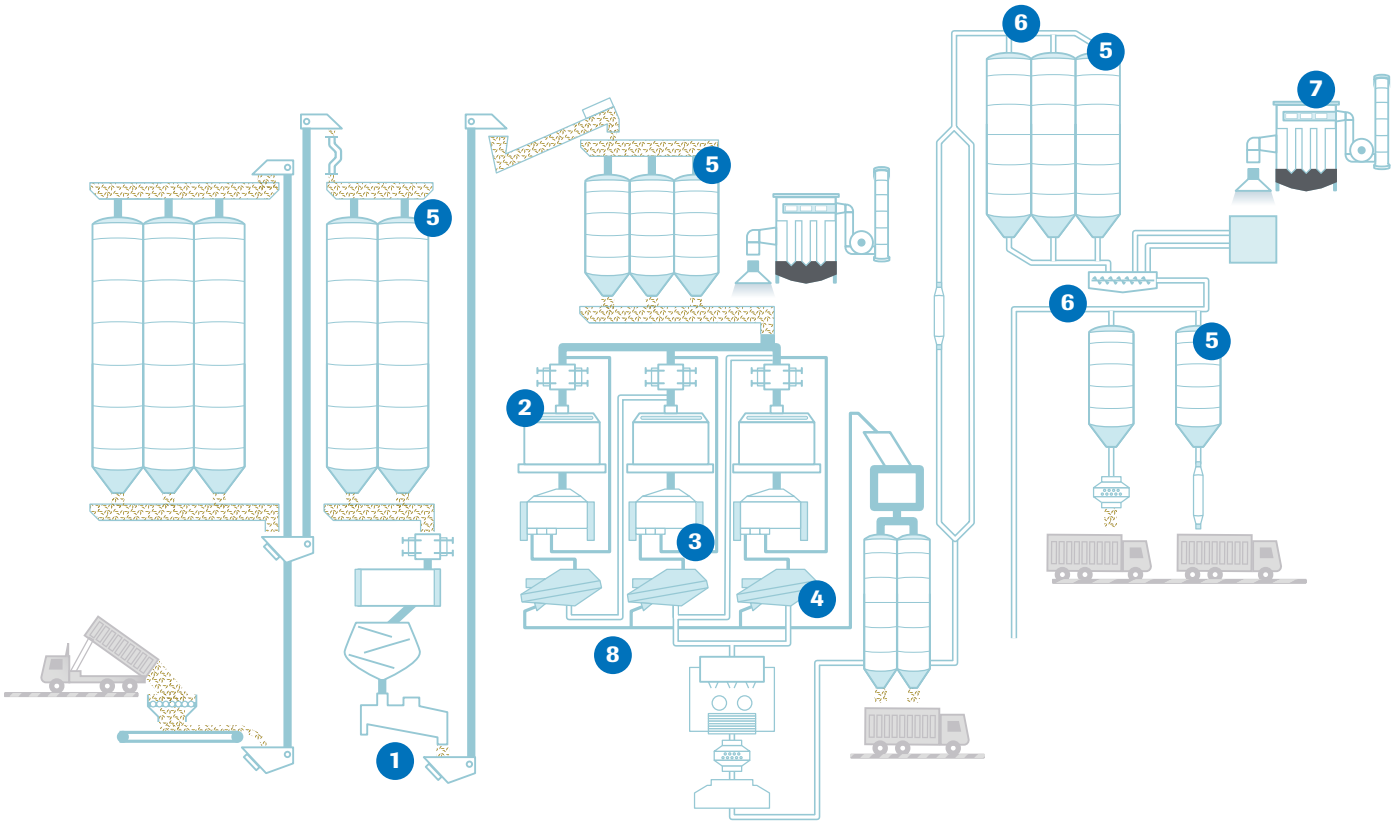


CARBON BLACK



1. Flow/NoFlow detection at filter outlets
2. Flow measurement after pelletizer
3. Continuous moisture measurement after dryer
4. Process gas monitoring
5. Predictive monitoring of bag row failure
6. Final stack emissions for compliance and performance monitoring
7. Emissions compliance monitoring
8. Potential hazards detection

GRAIN



1. Flow measurement after intake and cleaning
2. Flow/NoFlow detection of flow into roller mills
3. Continuous moisture measurement after conditioning
4. Screen break detection
5. Continuous level measurement in storage silos
6. Silo baghouse performance monitoring
7. Stroke filter performance
8. Ambient dust monitoring

POWDER

envea™ - SWR engineering manufactures an unrivalled range of monitors for powder, granulates and dust to meet the continued demands of industrial processes to better understand and control their processes to help provide increases in efficiency and product quality.
With almost 25 years of experience **envea™ - SWR engineering** has achieved extensive knowledge in use of sensors for the measurement of flow, level, moisture, concentration, velocity and particle size detection. All working with the latest ground-breaking microwave and electromagnetic technologies.

FLOW MEASUREMENT

IN GRAVITY TRANSPORT AFTER FEEDERS

SOLIDFLOW 2.0
Microwave

MAXXFLOW HTC
Electromagnetic

IN AIR SLIDE TRANSPORT

SLIDECONTROL
Microwave

IN PNEUMATIC CONVEYING

Leanphase

PICOFLOW
Electrodynamic

SOLIDFLOW 2.0
Microwave

Densephase

DENSFLOW
Electromagnetic

POWDER

FLOW MEASUREMENT

APPLICATIONS

MASS FLOW MEASUREMENT IN GRAVITY TRANSPORT

SOLIDFLOW 2.0

Waste incineration plant

Material: Furnace coke

Installation: Freefall between screw conveyor and injector

Volume: 300 - 400 kg/h

Customer benefits: Easy process control in exhaust gas cleaning. Avoidance of under- and overdosing. Contactless measurement, thus no erosions.

MAXXFLOW HTC

Building materials

Material: Clay

Installation: Freefall after screw conveyor

Volume: 30 - 80 t/h

Customer benefits: Contactless and maintenance-free measurement of high throughput rates. Replacement of Impact Flowmeter.

For flow rates up to 250 t/h

FLOW MEASUREMENT IN AIR SLIDES

SLIDECONTROL

Cement plant

Material: Cement

Installation: Air slide after main storage silo

Volume: Approx. 80 t/h

Customer benefits: Securing of constant material availability at the filling machine. Easy to retrofit sensor.

POWDER

FLOW MEASUREMENT

APPLICATIONS

MASS FLOW MEASUREMENT IN PNEUMATIC CONVEYING

SOLIDFLOW 2.0

Starch production

Material: Starch

Installation: Starch pneumatic blow line

Volume: 0 - 3 t/h

Customer benefits: Totalizing starch flow into the silo for inventory control.

For flow rates up to 20 t/h

PICOFLOW

Incineration plant

Material: Furnace coke, hydrated lime

Installation: Pneumatic blow line

Volume: 4 - 50 kg/h

Customer benefits: Continuous flow measurement at low air/solid ratios. Documentation of material consumption.

For extremely low flow rates from 0 to 100 kg/h

DENSFLOW

Steel plant

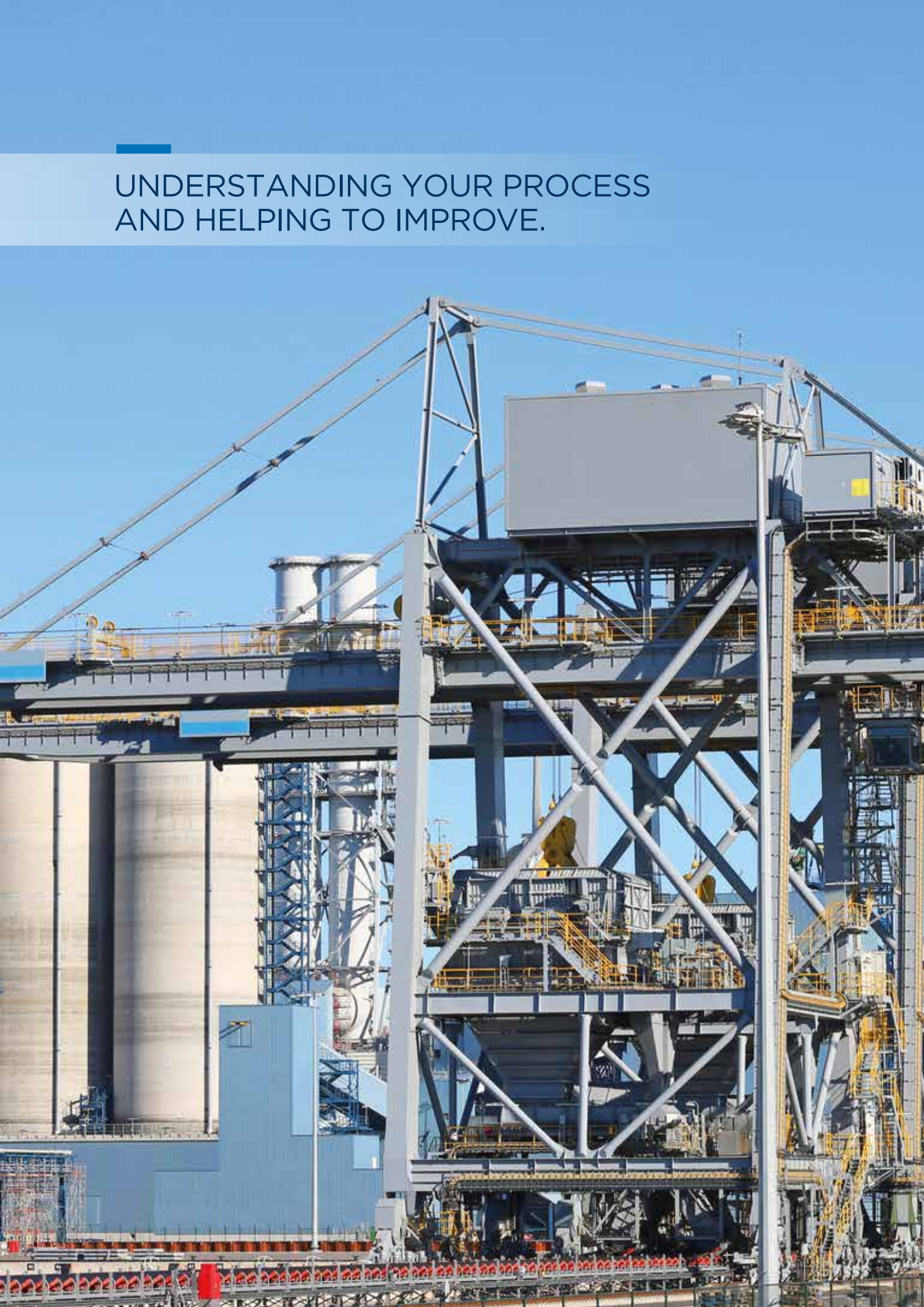
Material: Coal

Installation: Pneumatic densephase conveying

Volume: 2 - 10 t/h

Customer benefits: Controlling coal flow in main pipe from vessel to coal distributor.

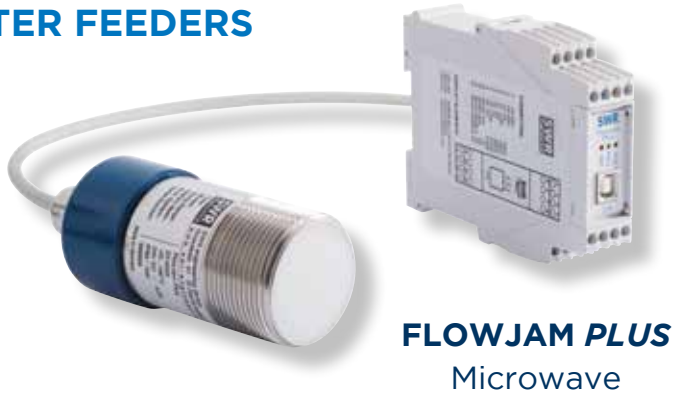
UNDERSTANDING YOUR PROCESS AND HELPING TO IMPROVE.



POWDER

FLOW / NOFLOW DETECTION

IN GRAVITY TRANSPORT AFTER FEEDERS



FLOWJAM *PLUS*
Microwave

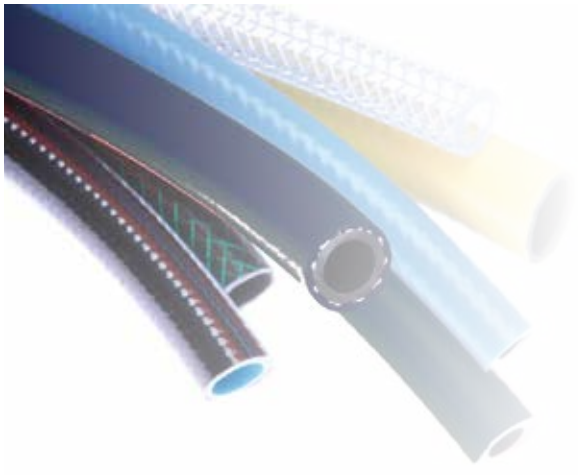
Gives Flow/NoFlow PLUS
jam / no jam information

IN PNEUMATIC CONVEYING

FLOWJAM
Microwave
compact

FLOWJAM S
Microwave
separated version

ON FLEXIBLE HOSES



FLOWJAM A
Microwave

POWDER

FLOW / NOFLOW DETECTION

APPLICATIONS

FLOW DETECTION IN GRAVITY TRANSPORT

FLOWJAM *PLUS*

Incineration plant

Material: Activated carbon

Installation: After rotary valve

Volume: Max. 100 kg/h

Customer benefits: Activated carbon is being dosed into incinerator to reduce dioxin emissions. FlowJam *Plus* monitors the flow continuously and indicates immediately any interruption.

FLOW DETECTION IN PNEUMATIC CONVEYING

FLOWJAM & FLOWJAM S

Building material

Material: White and grey concrete

Installation: Silo outlet before screw conveyor

Volume: Approx. 1 t/h

Customer benefits: Production security by monitoring of material flow. Avoidance of shutdown or waiting time during production process and system start up.

FLOW DETECTION ON FLEXIBLE HOSES

FLOWJAM A

Surface treatment

Material: Glass beads

Installation: Flexible hose after dosing device

Volume: 0,5 kg/min

Customer benefits: Securing of constant material flow with decreased pulsations.

POWDER

MOISTURE MEASUREMENT

M-SENS 2
Microwave

M-SENS WR
Capacitive (wide range)

APPLICATION

Continuous measurement on screw conveyors, hoppers and belt conveyors

M-SENS 2

Pellets production

Material: Wood chips

Installation: Screw conveyor

Volume: 3 t/h

Moisture: 3 - 8 %

Customer benefits: Measurement of dryer input-moisture for control.

POWDER

VELOCITY

SPEEDFLOW 2.0
Triboelectric

SPEEDFLOW 2.0-PIPE
Triboelectric

APPLICATION

Available as plug-in
or full cross-section version

SPEEDFLOW 2.0

Food manufacturing
Material: Ingredients
Installation: Pneumatic conveying line
Volume: 300 - 400 kg/h
Velocity: 10 - 12 m/s
Customer benefits: Ensure that material speed does not exceed maximum to avoid product damage.

POWDER

SCREEN BREAK DETECTION

PADDY
Microwave

APPLICATION

Immediate alarm
when oversize product in fines

PADDY

Refinement

Material: Quartz

Installation: On tumble screen

Volume: 150 kg/h

Customer benefits: Improved continuous monitoring of fines in between the twice-a-day manual check.

RELIABLE SOLUTIONS
BASED ON EXPERIENCE.

POWDER

LEVEL

POINT LEVEL

PROGAP S
Microwave
separate version

PROGAP
Microwave
compact

CONTINUOUS

NICO 15/30
Radar

POWDER

LEVEL

APPLICATIONS

POINT LEVEL

PROGAP

Plasterboards

Material: Paper fibers

Installation: Filling chute of a material hopper

Customer benefits: Detection of material jam at the earliest possible time. Fault-free process control and avoiding process downtime.

PROGAP S

Surface treatment

Material: Sand

Installation: Min. and max. position in storage hopper

Customer benefits: Contactless measurement of minimum and maximum level for filling control.

Up to 25 meters distance

CONTINUOUS

NICO 15/30

Cement plant

Material: Cement

Installation: Top of main storage silo

Customer benefits: Continuous level measurement for inventory control.

DUST

envea™ manufactures an unrivalled range of dust monitors to meet the demands of industrial processes. From both regulation and process standpoints **envea™** instruments allow end users to better understand and quantify their particulate emissions as well as to monitor the efficiency of dust filter systems and process plant.
By the correct selection of a suitable dust monitor industrial processes can achieve both cost savings in terms of reduced baghouse maintenance and lost production and in addition achieve reductions in emissions to atmosphere.
Instruments are available to measure both dry and saturated wet stacks and are based on Cross Stack Optical, ElectroDynamic™ and Laser Scatter technologies.
Baghouses are normally monitored by cost effective probe electrification ElectroDynamic™ devices with Laser Scatter technology predominately being utilised post electrostatic precipitators.
Both ElectroDynamic™ and Scatter technologies can be used as filter trending devices or calibrated to measure quantitatively in mg/m³ with the ElectroDynamic™ sensors used as both MACT compliant bag leak detectors in the USA, as well as being certified to the European EN 15859 standard for both leak and measurement.

BROKEN BAG DETECTION

DUSTY
Low cost
broken bag detection

DUSTY C
Compact sensor
for broken bag detection

DUST

BROKEN BAG DETECTION

APPLICATIONS

The basic broken bag detector

DUSTY

Dusty is the simplest way to detect
a filter break at a minimum.
Conflicts with the neighbors can be avoided
and it saves money.

Compact broken bag detector with trend signal

DUSTY C

For all those, for whom a single
alarm by relay is not enough!
Dusty C additionally provides a 4 ... 20 mA trend
signal and indicates upcoming filter problems.

AMBIENT

AIRSAFE

Continuous dust monitoring in ambient air

DUST MONITORS

PROSENS

Separated version for continuous dust measurement
(mg/m³)