

## Process Optimisation and Emission Reporting Software

PROCESS & EMISSIONS MONITORING SYSTEMS



### SPECIFIC FEATURES:

- System and sensor remote set up
- Real-time trend views, analysis and reporting
- Historical trend views, analysis and reporting (with instrument data loggers)
- Bag filter performance monitoring (with predictive bag leak failure analysis)
- Legislative compliance reporting
- Process control data analysis

## SYSTEM DESCRIPTION

Ease of access to particulate emissions data is vitally important to Process Operators and Environmental Managers of industrial plant. PC-ME DUST TOOLS PC software modules are used for configuring, downloading, displaying, analysing and reporting particulate emissions data from ENVEA's range of sensors and control units, and provides remote set up and trend analysis tools for process optimisation and environmental control and reporting. Instantaneous and historical access to emissions data enables efficient reporting for both process and legislative purposes.

The modular format of PC-ME DUST TOOLS provides users with flexibility and control over software functionality. Additional software modules can be added via a simple upgrade path, if for example plant emissions monitoring requirements change, or further reporting and analysis tools are required.

Software modules are grouped in 3 categories, according to the functionality provided:

### Configuration Modules

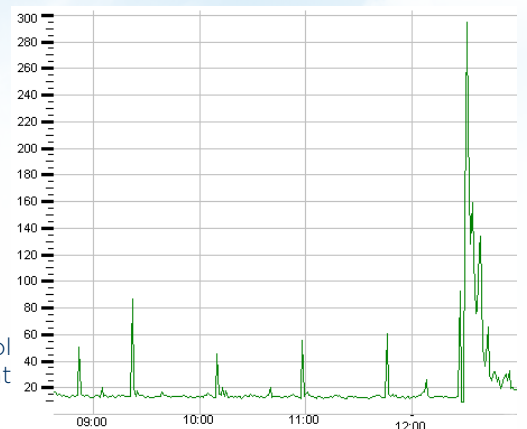
Configure sensor and system settings from networked or local PCs.

### Real-Time Data Modules

Provides networked or local PC access to real-time data from both control units and stand-alone integrated sensors, for process analysis and abatement plant performance monitoring.

### Historical Data Modules

Download from ENVEA's data logging control units to enable historical emissions overview, graphing, reporting and archiving of data on networked or local PCs.



*Data Viewer module providing clear graphical analysis of emission trends and events*

## CONFIGURATION MODULES

ENVEA sensor and control unit set up and configuration on networked or local PCs connected via RS232, RS485 and Ethernet (supports multiple adaptors).

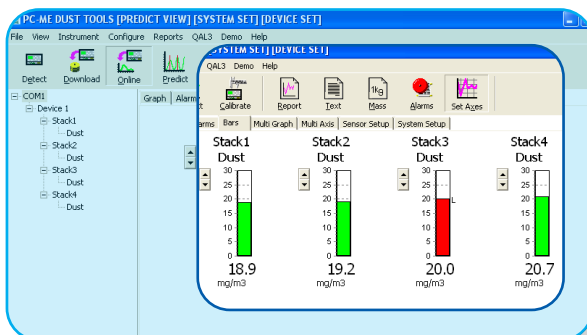
### Device Set

The Device Set software module is used to configure settings in the new range of ENVEA stand-alone sensor devices (sensors with integrated user set-up and display). This is of advantage to plant operators preferring the convenience of a PC interface when configuring sensors, and additionally allows backup and restore of complete sensor configuration files, for ease of maintenance or changes in set up due to process variation.

### System Set

The System Set software module allows full configuration of the more advanced ENVEA systems with separate control units. In addition to the configuration backup and restore functionality, System Set allows convenient access to control unit settings especially for multiple channel networked systems that are often distributed across a large area of plant.

## REAL-TIME DATA MODULES



*Online module, bar graph view*

Monitoring of real-time streamed data on networked or local PCs connected via RS232, RS485 and Ethernet (supports multiple adaptors).

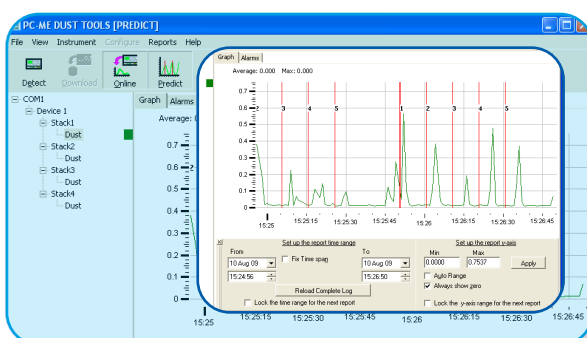
### Online

Access to real-time data from both ENVEA control units and stand-alone integrated sensor systems is provided by the Online software module. When active, users can observe the level and variation of emissions in real-time via a continuously updated scrolling graphical trace, or alternatively in bar graphs or an alarm overview screen for warning of critical emission events. Online alarms notification on a PC can be minimized to run discreetly in the background, returning to prominence to alert users in the event of triggered alarms.

### Predict

For pulse jet cleaned, multi-compartment and multi-row baghouse filters, the Predict software module provides powerful analysis tools to allow the location of failing and faulty bag filter media before gross filter failure occurs. The Predict module compares emission levels corresponding to pulses for individual filter rows and compartments (real-time data only - see Predict View for historical data version). The correlation of peaks (in graphical format) allows identification of which bag row is starting to leak or where rows are not being cleaned, and therefore provides early prediction and location of bagfilter elements requiring maintenance. The Predict module is a powerful tool enabling structured and predictive maintenance of baghouse filter plant, reduced maintenance costs and minimised emission limit excursion events.

*Note: The Predict module includes the Online module.*



*Predict module, sequential pulse cleaning analysis*



## HISTORICAL DATA MODULES

Analysis, reporting and archiving of long-term data downloaded from ENVEA data logging control units on networked or local PCs connected via RS232, RS485 and Ethernet (supports multiple adaptors).

### Data Downloader

All Historical Data software modules require the Data Downloader module, to allow transfer of logged data (emissions data, alarms, and external inputs where applicable) from ENVEA control units to PCs. Data downloading operations are initiated on-demand by users, for either all logged data or for specified log types and logging periods.

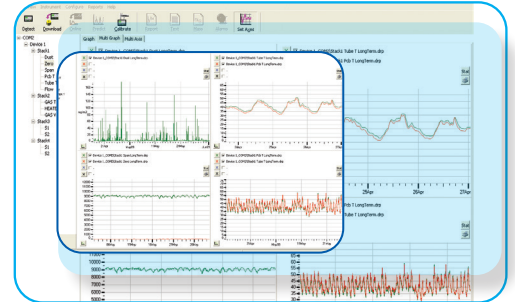
### Autodownload

Data downloading between ENVEA control units and PCs can be automated with the Autodownload software module. The Autodownload module is scheduled to transfer data at user configurable timed intervals, providing automated and secure archiving of emissions data for either unmanned operations or processes where continuity of emissions data is essential for reporting obligations.

*Note: Data Downloader module is required for use with Autodownload.*

### Data Viewer

For powerful instantaneous and long term trend analysis of emissions data, the Data Viewer module is an invaluable tool for process operators and environmental managers. Fast and intuitive zoom and pan features allow users to quickly display the range of data that is needed, and the ability to view multiple graphs and axes simultaneously provides users with clear and convenient means to compare emissions or filter performance from multiple sources.



Data Viewer module, multiple parameter graphing

*Note: Data Downloader module is required for use with Data Viewer.*

### Data Reporter

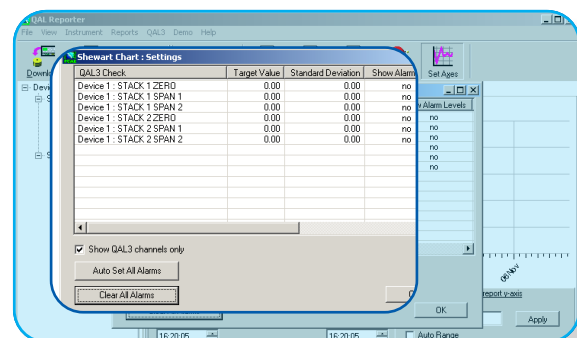
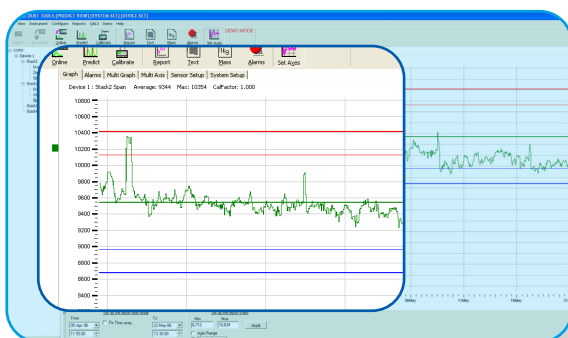
The Data Reporter module provides full reporting functionality for generating emissions reports for process analysis, environmental compliance and legislative reporting. Reports can be generated in graphical format for a clear visual overview, detailed text reports with user defined averaging periods, and alarm reports for emission limit, early warning, instrument self check and power alarm event notification history. Data Reporter also allows emissions reporting by mass (e.g. kg/year) for the comparison of predicted emissions against target emissions, which is calculated from a known constant velocity or otherwise logged where a velocity input signal is provided to the ENVEA control unit. Data Reporter additionally allows the export of logged data in csv format for third party software and spreadsheet compatibility.

*Note: The Data Reporter module includes the standard Data Viewer module. Data Downloader module is required for use with Data Reporter. This module provides functionality equivalent to previous Dust Reporter 2 software.*

### QAL Reporter

For plant regulated under European Standard EN 14181 such as those under the Waste Incineration Directive (WID) and Large Combustion Plant Directive (LCPD), the QAL Reporter software module is designed to integrate with ENVEA QAL1 compliant instruments. QAL Reporter greatly simplifies the reporting of system parameters for ongoing quality assurance as required under QAL3, including the generation of control charts. The software also allows dedicated QAL3 data channel alarming with integrated alarm level calculation to meet EN 14181 definitions, and an Auto Alarm Set feature to define limits using an evaluation reference period of emissions.

*Note: The QAL Reporter module includes the standard Data Reporter and Data Viewer modules. Data Downloader module is required for use with QAL Reporter. This module provides functionality equivalent to previous QAL Reporter software.*



QAL Reporter module with QAL3 control charts of automatic zero and span data

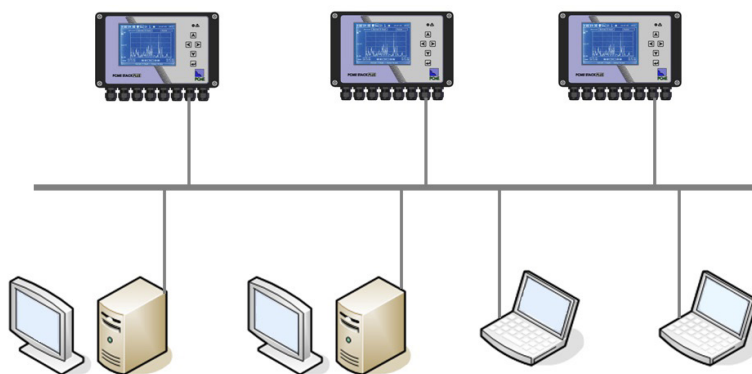
### Predict View

Provides full Predict module functionality (see Real-Time Data Modules) for historical logged data, in addition to real-time data.

*Note: The Predict View module includes the standard Predict and Online modules. Data Downloader module is required for use with Predict View.*

## CONNECTIVITY

All ENVEA products have RS232/RS485 (Modbus RTU) connections. ENVEA Network products with Ethernet functionality enabled allow connection via Ethernet (Modbus TCP) instead of RS232/RS485. Ethernet connectivity increases the range and flexibility of data transfer across factories or offices. Ethernet also enables multiple users across LAN to access multiple control units with no limits on distance.



Ethernet connectivity for plant-wide LAN integration

## SPECIFICATIONS

### PC Requirements

#### Minimum

Windows® 2000 or higher  
Pentium 133MHz or equivalent  
32 MB RAM  
20 MB hard disk free space  
1024 x 768 high colour graphics  
Serial Port

*Note: PC-ME DUST TOOLS software is only compatible with ENVEA range of digital network sensors. Please check with ENVEA or your local distributor for compatibility with existing sensors and systems.*

### System capacity

|                                        |                                                                                              |
|----------------------------------------|----------------------------------------------------------------------------------------------|
| <b>Multiple access to logged data:</b> | No Limit (using shared network drive)                                                        |
| <b>Multiple online access:</b>         | Requires Ethernet                                                                            |
| <b>Number of channels:</b>             | Up to 64                                                                                     |
| <b>Number of control units:</b>        | 8                                                                                            |
| <b>Data recording:</b>                 | More than 5 years                                                                            |
| <b>Data security:</b>                  | Data is write protected<br>Duplicate of latest data on control unit, backup directory option |
| <b>Language:</b>                       | English, French, German, Spanish, Italian                                                    |
| <b>User Licences:</b>                  | Authorised with run time key                                                                 |

## ORDER CODES

| Software Module | Order Code   | Modules Included                             | Modules Required |
|-----------------|--------------|----------------------------------------------|------------------|
| Device Set      | OPT-DEVSET   | Device Set                                   |                  |
| System Set      | OPT-SYSSET   | System Set                                   |                  |
| Online          | OPT-ONLINE   | Online                                       |                  |
| Predict         | OPT-PREDICT  | Predict<br>Online                            |                  |
| Data Downloader | OPT-DOWNLOAD | Data Downloader                              |                  |
| Autodownload    | OPT-AUTODOWN | Autodownload                                 | Data Downloader  |
| Data Viewer     | OPT-VIEWER   | Data Viewer                                  | Data Downloader  |
| Data Reporter   | OPT-REPORT   | Data Reporter<br>Data Viewer                 | Data Downloader  |
| QAL Reporter    | OPT-QALRPT   | QAL Reporter<br>Data Reporter<br>Data Viewer | Data Downloader  |
| Predict View    | OPT-PREDVIEW | Predict View<br>Data Viewer                  | Data Downloader  |

|                                     |                               |
|-------------------------------------|-------------------------------|
| RS232 to USB converter              | ACC2-U                        |
| RS485 to RS232 converter            | ACC2-4                        |
| Multi-User Licence (up to 10 users) | SOFL-x<br>(x number of users) |

## ABOUT ENVEA

As a progressive environmental Company, ENVEA specialises in particulate measurement for industrial processes. With a worldwide reputation for reliability, innovation and technological excellence, the Company produces under the trademark envea™ equipment for concentration and mass monitoring for regulatory, environmental and process control requirements. A dedicated team of qualified application and sales engineers is always on hand and should be consulted in the selection and usage of the most suitable equipment for any particulate application.



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