

## Summary

Metrohm has combined the best aspects of laboratory and online systems to create the 875 ProcessLab – a fully customized, automated at-line system for analytical testing. ProcessLab has a compact design that allows for close positioning to the actual process, resulting in faster and more reproducible results. The modular design of ProcessLab gives complete flexibility allowing users to configure application-specific systems. This flexibility also makes it possible to extend or reconfigure a system in view of future analytical testing needs. Finally, it is an economical alternative to online systems and its intuitive design makes it easy to install and operate at any skill level.

With its ability to be configured for a wide scope of applications in various industries, ProcessLab is a perfect system for a production floor, laboratory or anywhere in between. The hermetical separation of the wet-part modules protects the electronic components against dust and splashing liquids in harsh plant environments. The reliable industrial PC and PLC-driven I/O Controller make for extensive control and communication possibilities using standard protocols. Result outputs can be provided as a direct link to the process control center via analog/digital signals or can be delivered via local network to a plant engineer or laboratory manager. Effective monitoring of real-time results can help tighten specifications, detect problems early and avoid wasting money on unacceptable products.

**ProcessLab is easy to use, robust and provides fast, reliable results for safe process control.**

## Introduction

The demand for professional laboratory equipment at the process line as well as for an analyzer that is both robust and flexible spurred the creation of Metrohm 875 ProcessLab. Introduced in the United States by Brinkmann Instruments, Inc., in August 2006, fully customizable ProcessLab fills chemical manufacturers' analytical testing requirements by constantly monitoring product quality atline.

As a cross between a laboratory and online analyzer, ProcessLab offers numerous advantages such as: positioning at the production line to allow for rapid and reproducible results, more economical than online systems, and just as flexible and reproducible as laboratory offline systems. The modular design, configuration flexibility and robustness for a harsh process environment make it ideal for the severe conditions common in process plants.

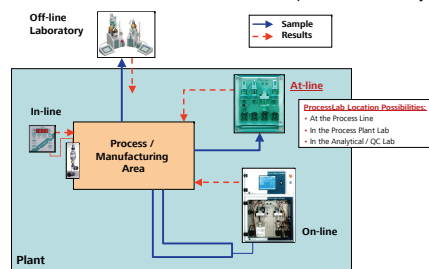
**tiamo™** software fully controls ProcessLab's operation and is capable of exporting results to LIMS. ProcessLab's integrated I/O Controller can incorporate external information into the system for parameter or measurement control as well as serve to output analytical results and signals to a process control system, linking the at-line system to the process environment.



## ProcessLab within a manufacturing process

ProcessLab is designed as an at-line system. Samples are taken from a process, delivered to and identified at the unit and finally analyzed automatically on-site.

ProcessLab's compactness allows close positioning to the actual process for faster results. Its simple, modular design makes it easy to install and operate at any skill level. ProcessLab is an economical alternative to expensive online systems.



## Analyzer modules

ProcessLab's robustness makes it ideal for the harsh conditions that are common in most process plant environments. Hermetical separation of up to 16 wet-part modules protects the electronic components against dust and splashing liquids.

### Base system



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### range of modules

- 800 Dosino
- 807 Dosing Units
- Vessel with magnetic stirrer
- Peristaltic pumps
- Sample loops
- Overflow pipettes
- Valves
- Sensors
- Liquid level controller

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### customized system

## ProcessLab analytical techniques

ProcessLab is configured for a wide scope of applications in various industries:

- pH
- Ion selective measurements
- Oxidation-reduction potential (ORP)
- Trace analysis by voltammetry
- Cyclic voltammetric stripping (CVS)
- Conductivity
- Total acidity
- Free and total alkalinity
- Water hardness
- Chloride/chlorine
- Ammonium/ammonia
- Free and total sulfur dioxide
- White liquor
- Nitrite/phosphate
- Hydrogen peroxide
- Metals
- Hydrogen sulfide and mercaptans
- Vitamin C
- Free fatty acids (FFAs)
- Surfactants
- Karl Fischer (moisture)
- Carbon black
- Sample preparation
- Liquid handling

## ProcessLab industries

- Chemical
- Environmental
- Petrochemical
- Pharmaceutical
- Automotive
- Semiconductor and electronics
- Electroplating and metal surfaces
- Mining and ores
- Metal winning
- Steel production
- Textiles
- Leather
- Plastic and rubber
- Pulp and paper
- Food and beverage

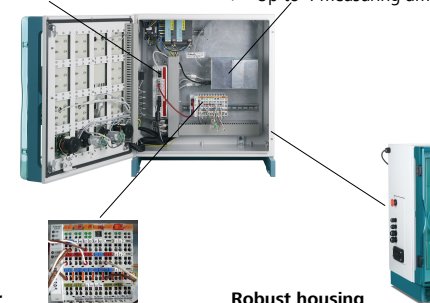
## ProcessLab features

### Industrial PC

- Robust industrial components
- Intranet and Internet communication capabilities

### Metrohm Dosing & Measuring (MDM) Controller (up to 2)

- Up to 8 Dosinos
- Up to 4 measuring amplifiers



### I/O Controller

- Fully integrated in **tiamo™** software
- Expandable and PLC-controlled
- Communication with process environment
  - Digital inputs (3<sup>rd</sup> party equipment)
  - Relay outputs (alarms)
  - Analog inputs (external signals)
  - Analog outputs (4...20 mA signals)

### Robust housing

- Robust powder-coated steel plate housing
- Hermetical separation between wet part module and electronic components
- Protection class IP 54
- Emergency stop button
- Holders for wall mounting

## Networking and process integration

- Easily integrated in local network and process environment
- I/O Controller for internal and external communication
  - e.g. automatic alarm triggering
- Local or client/server based methods and database
- Data export to CSV, LIMS, XML
- Fully operated by remote control (optional)

