

## Mercury Process Analyzer PA-2 / PA-2 Gold

### PROCESS

#### ON-LINE PROCESS CONTROL OF MERCURY WITH THE PA-2 / PA-2 Gold

The Mercury Process Analyzer PA-2 / PA-2 Gold is meant for continuous monitoring of mercury concentrations in industrial processes and in the environment

#### MAIN APPLICATIONS

- effluent and quality control in chlorine-alkali plants
- monitoring of scrubber water of waste incinerators and power plants
- control of industrial sewage and purification plants
- quality control of sulphuric acid and caustic solutions
- environmental monitoring
- drinking water
- surface water

#### PA-2 or PA-2 Gold?

The PA-2 Systems come with either the VM-3000 or the UT-3000 photometer to meet different requirements regarding accuracy and sensitivity of measurements:

PA-2 measuring ranges:  
0.1 ... 1µg/l to 0 ... 10mg/l

PA-2 Gold measuring ranges:  
0.01 ... 1µg/l to 0.1 ... 10µg/l

Thanks to its GoldTrap, the UT-3000 is able to measure mercury in ultra trace concentrations (ppt range).

#### SPECIFIC FEATURES

- Fully automatic system
- Easy menu-driven operation
- Proven and reliable detection method: CVAAS
- Measuring ranges from 10 ppt to 100 ppm
- High flexibility of sample pretreatment
- Suited for complex sample compositions
- Low reagent consumption
- Corrosion-protected construction
- Automatic self diagnosis system for reliable operation



## TECHNICAL SPECIFICATIONS

Measuring principle:	UV absorption (CVAAS), wavelength = 253.7 nm
Principle of preconcentration:	Amalgamation on gold, thermal desorption by rapid heating (MI GoldTrap)
UV source:	Electrodeless low-pressure mercury lamp (EDL)
Stabilization method:	Reference beam method
Optical cell:	Fused silica (Suprasil) l = 230 mm heated, approx 55°C
Measuring ranges:	<ul style="list-style-type: none"> <li>• PA-2: 0.1 ... 1µg/l to 0 ... 10mg/l</li> <li>• PA-2 Gold: 0.01 ... 1µg/l to 0.1 ... 10µg/l</li> </ul>
Response time:	approx. 1 minute
Carrier gas:	compressed air, filtered, approx. 30l/h, 1 bar
Reducing agent:	Tin-II-chloride or sodiumhydroborate
Reagent consumption:	approx. 1 ml
Sample digestion:	HCl or H <sub>2</sub> SO <sub>4</sub> , KMnO <sub>4</sub> or H <sub>2</sub> O <sub>2</sub> or Fenton's Reagenz or NaClO <sub>3</sub> ; depending on sample composition
Liquid - gas separation:	Aerosol-free principle
Operation:	via waterproof membrane keypad
Measurement display:	Graphical LC display with background illumination
Concentration output:	<ul style="list-style-type: none"> <li>• analogue 4- 20 mA</li> <li>• RS 232 / USB</li> </ul>
Status output:	<ul style="list-style-type: none"> <li>• Calibration</li> <li>• Autozero</li> <li>• Service</li> <li>• Malfunction</li> </ul>
	according to NAMUR 64 recommendations
Housing:	Fibreglass-reinforced polyester for use in highly corrosive environment; Reagent storage cabinet made of chemically resistant plastic material
Protection class:	IP 66 (EN 60529 / NEMA 3; 3R; 4; 4X; 12; 13)
Power supply:	230 V AC / 50 Hz (110 V AC/ 60 Hz)
Power consumption:	750 VA max. (PA-2 Gold, heating peak)
Dimensions (WxHxD):	approx. 62 x 78 x 33 cm
Weight:	approx. 50kg

## INDUSTRIAL GRADE DESIGN

To provide optimum protection against corrosive environments all parts of the Mercury Process Analyzer PA-2 / PA-2 Gold are enclosed in an industrial-grade cabinet made of fibreglass-reinforced polyester (protection class IP 66; NEMA 4X;).



The electronic circuitry is shielded from the wet chemical section by a chemically resistant wall.

## OPTIONS

- Multiplexer: alternatively measuring two different sample points.
- Dilution Unit: for samples with high concentrations of salt or caustic soda, dilution ratio up to 1 : 50, automatic on-line control.



On-line measurement of mercury in concentrated (50%) caustic soda with the PA-2 (left), the sample passes a specially designed dilution system (right).

Product developed and manufactured in Germany by:

Mercury Instruments GmbH Analytical Technologies  
Liebigstr. 5  
D-85757 Karlsfeld, Germany

+ 49 (0)8131 505720  
mail.mi@envea.global

(part of the ENVEA Group)



ENVEA (Headquarters)  
111 Bd Robespierre / CS 80004  
78304 Poissy CEDEX 4 - FRANCE  
+33(0)1 39 22 38 00  
info@envea.global



Visit us at:  
www.envea.global

