

Precision photometer for the measurement of silica in high purity water

**COPRA Silica Analyzer**

Analyzer for the continuous measurement of silica in high purity water applications, steam generation and in demineralisation plants.

Measuring range 0.5 ppb to 1000 ppb.

2 channel instrument.

Full-text display (2 x 20 characters).

Menu driven programming.

Programmable automatic calibration (zero point, gain).

Automatic check of sample flow and reagent addition.

Constant-temperature reaction chamber and photometer.

4 signal outputs 0/4 ... 20 mA, freely scaleable.

4 function contacts for remote control (choose channels or switch off channels).

4 contacts programmable as limit switches for SiO<sub>2</sub> or check of sample flow.

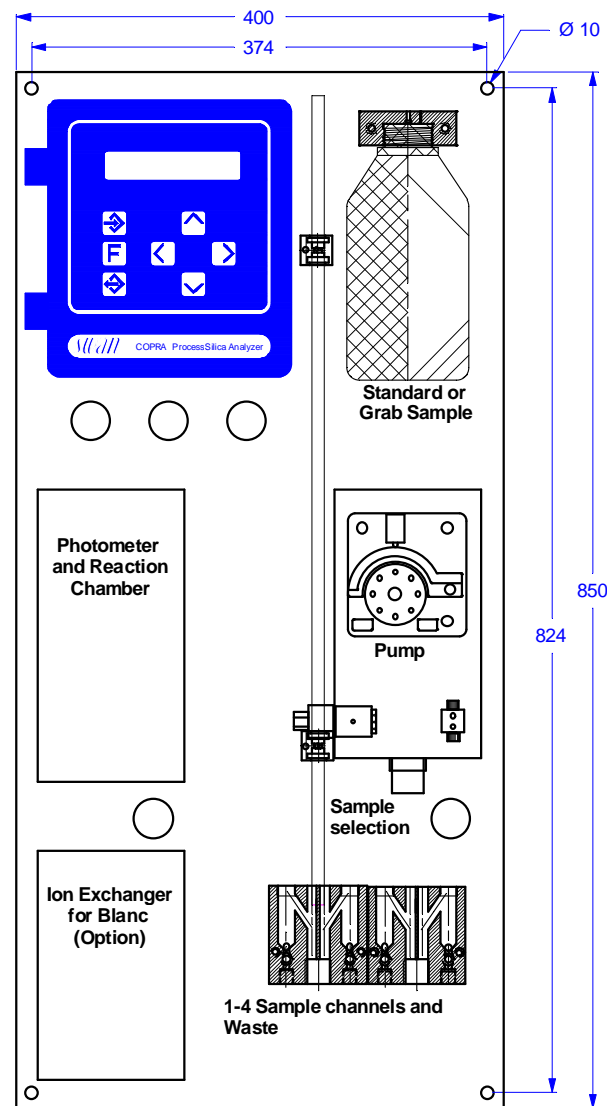
Data logger for roughly 8000 data lines.

Grab-sample testing.

Safety channel.

Options:

- 4 - channel instrument
- Ion exchanger for blank
- Communication board for BUS (PROFIBUS DP, MODBUS) and connection of modem.



(all dimensions in mm)

Order scheme	COPRA Silica Analyzer	A-25.11			
<b>Option 1:</b>	Standard (up to 2 channels)	0			
	Multiplexor (up to 4 channels)	1			
<b>Option 2:</b>	Standard		0		
	Blank function		1		
<b>Option 3:</b>	Standard (RS232)			0	
	Multifunctional communication board			1	
<b>Reagents:</b>	No reagent included				0
	Start-up kit for 1 month (transport restrictions might apply)				1

Option:

A-89.600.010 Steel cabinet series 18500, for COPRA Silica and reagents, with glass door and lock

**Technical data:**

Dimensions (height x width x front-to-back size): 850 x 400 x 140 mm  
Weight: 18 kg  
Mounting panel: stainless steel  
Electronic housing: injection-moulded aluminium  
Protection: IP65  
Ambient temperature: 5 - 45 °C  
Relative humidity: 30 - 95% non-condensing  
Storage and transport: 0 - 50 °C  
Display: full-text display, 2 x 20 characters, green, for measuring values SiO<sub>2</sub> of all channels with time of last measurement / operating status and date / time of clock.

**Cabinet version:**

Dimensions (height x width x front-to-back size): 1600 x 600 x 400 mm  
Weight: roughly 100 kg

**Power supply:**

85 .... 265 VAC, 50 ... 60 Hz  
Power consumption: 85 VA  
Parameter storage without battery.

**Software:**

Menu driven input of calibration parameters, limits, printer, logger, and communication parameters.  
Programming of interval for automatic calibration.  
Password protection for all programs.

**4 Signal outputs:**

Current loop: 0/4 - 20 mA  
Max. burden: 600 Ω

**4 function contacts:**

For potential-free contacts.  
Functions:  
- standby (interruption of measurement)  
- choosing channels  
- switching off channels

**4 contacts:**

Max. load: 24 VDC / 0.1 A (with common reference potential)  
Programmable as limit switches for silica, or no flow, or status contacts

**Error contact:**

Max. load: 1 A / 250 VAC  
Potential-free switching contact  
Summary alarm indication for system and handling errors.

**Interfaces:**

Interface RS232 for printer and firmware download  
Option:  
Multifunctional interface board RS485 including:  
- PROFIBUS DP protocol  
- MODBUS RTU protocol  
- RS232 for modem connection

**Safety:**

Automatic check of sample flow and reagent addition.  
Safety channel.  
No spillage of aggressive reagents during the change of pump tubes, because tubes and photometer can be emptied before.

**Measurement of silica:**

Precision photometer, constant-temperature  
Measuring range: 0.5 ppb to 1000 ppb  
Accuracy for 0.5 to 500 ppb: ±0.5 ppb or 5% of measuring value  
Reproducibility for 0.5 to 500 ppb: ±0.5 ppb or 2% of measuring value  
Response time: 6 min  
Grab sample function

**Calibration:**

Programmable automatic calibration, zero point, gain, blank value with optional ion exchanger

**Sample flow:**

Constant head with tube connection  
Pressure: 0.3 to 3.0 bar  
Flow: min. 10 ml/min  
Temperature: 5 to 45 °C  
Connection inlet: 4x6 mm  
Connection outlet: 14x20 mm (1/2")  
Outlet: Pressure-free outlet  
Suspended soils: less than 10 ppm no oil and no grease

**Multiplexor (max. 4 samples)**

4 constant heads with multiplexor  
The four contacts are used as limit switches for silica.

**Connection scheme:**

