

Precision photometric analyzer for the measurement of trace silica in ultra pure water

**COPRA Silitrace**

Analyzer for the continuous measurement of trace amounts silica in ultrapure water applications using a reversed osmosis system to concentrate the sample (Carrcentrator) \*)

Measuring range 0.005 ppb to 20 ppb.

Full-text display (2 x 20 characters).

Menu driven programming.

Programmable automatic calibration.

Automatic check of sample flow and reagent addition.

Automatic compensation for silica content of reagents.

Constant-temperature reaction chamber and photometer.

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

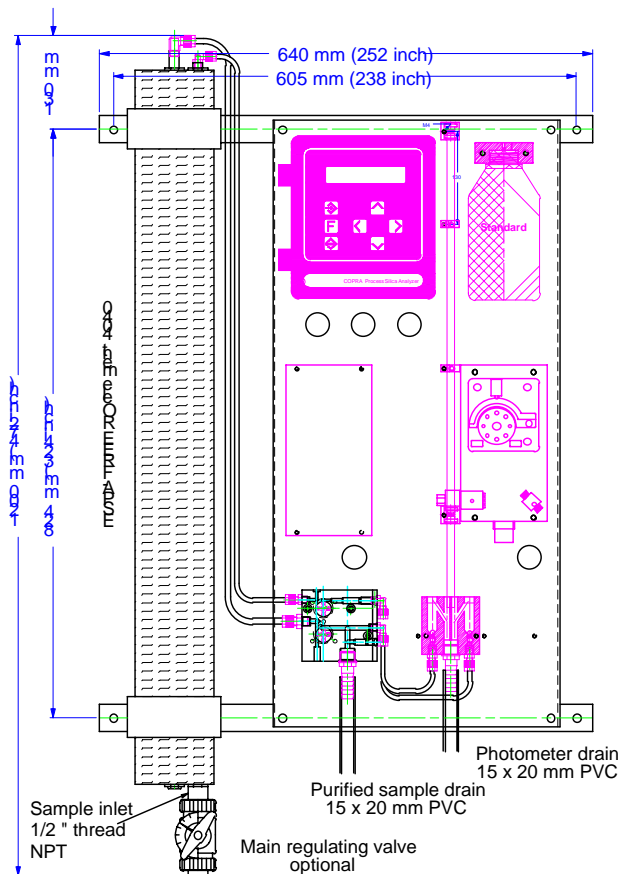
Remote off contact.

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

Data logger for roughly 8000 data records.

**Optional:**

Communication board for field bus application (PROFIBUS DP, MODBUS) or connection of a modem.



Order scheme	COPRA Silitrace Analyzer	A-25.120.0		
<b>Optional:</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		↑

**Optional Steel Cabinet**

A-89.600.012 Steel cabinet series 18500, for COPRA Silitrace and reagents, with glass, door and lock.  
A-89.600.013 Steel cabinet series 18500, for COPRA Silitrace and reagents, with glass, door and lock, including fan.

\*) Patent no. US-6420185

**Technical data:**

Dimensions (height x width x front-to-back size): 1200 x 640 x 140 mm  
Weight: 30 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 for measuring values SiO<sub>2</sub> / operating status and date / time.

**Cabinet version:**

Dimensions (height x width x front-to-back size): 1600 x 800 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:**

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

**Standby function:**

Potential-free contact.

**Limit Switches:**

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 ASCII 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 drained before.

**Measurement of silica:**

Temperature controlled high precision photometer.  
Measuring range: 0.005 ppb to 20 ppb  
Accuracy: ±0.005 ppb or 5% of measuring value  
Reproducibility: ±0.002 ppb or 2% of measuring value  
Response time: 10 min

**Calibration:**

Programmable automatic calibration.

**Sample flow:**

Membrane Module:  
Min Pressure: 2.0 bar  
Max Pressure: 10.0 bar  
Flow: min. 100 l/h  
Temperature: 5 to 45 °C  
Feedwater pH: 3.0 – 10.0 pH  
Inlet connection: ½ " NPT

2 outlets of 14x20 mm (1/2") counter pressure-free

**Connection scheme:**

