9210 Silkostat

data sheet

Applications

Monitoring of dissolved silica in :
- Demineralisation plants,
- Power plant boiler water, feedwater and steam

Features

- Multi-channel operation (1 to 6)
- Very low cost of ownership
- Minimal maintenance requirements
- User-friendly menu-operated programming
- Built-in datalogger
- Automatic 2-point calibration (chemical zero and slope)

The 9210 Silkostat, user-friendly multi-channel silica analyser

■ Chemistry

All reagents used for the Silkostat 9210 are available from the major chemical suppliers world-wide. Their unique composition means that their chemical stability is excellent, an essential factor for reliable and reproducible silica measurement.

The use of high purity silica-free water for reagent preparation is not necessary thanks to the new zero calibration method used by the 9210.

The analytical section of the analyser has been designed to ensure minimal reagent consumption. The reagent canisters weighing a total of only 6 kg (13 lbs) when full, need replenishment every 45 days.

The integrated design of the Silkostat (analyser and sequencer controlled by the same electronics) offers real operational advantages and, in addition, the sampling sequence is fully programmable. Analyser status (such as lack of sample on one of the channels or the unit being in its calibration cycle) is fully monitored by the 9210 microprocessor.

■ Calibration

Calibration can be performed manually or automatically by programming regular calibration intervals.
The 9210 uses a real two-point calibration method (zero+slope).

Polymetron has developed its own proprietary chemical zero method.

The zero is performed automatically by the analyser itself without the need for calibration solutions or resin cartridge. Extensive laboratory tests have shown that, even if there are significant levels of silica present in the reagents or in the sample, the innovative method of zeroing the instrument leads to a negligible offset.

To perform the slope calibration, the analyser takes a standard solution in place of the sample.

■ Customer interface

Comprehensive information is available at a glance from the large display (i.e. silica concentration of up to 6 channels, alarm status or concentration trend curves). Clear messages are displayed and the user is guided through menus and sub-menus with ease.

A built-in datalogger allows measurement values, calibration results and alarm information to be recorded (capacity = 3200 data).

The six freely-programmable 0/4-20 mA analogue outputs can be freely assigned to the different channels. The six relays can be assigned to :
● silica high/low concentration limits,
● lack of sample,
● active channel information.
A serial RS 485 interface for digital data transmission is available as an option.

■ Alarms and diagnostics

As the silica analyser works continuously without manual intervention, receiving a warning in the case of an incident or change in status is critical. The 9210 therefore offers two alarm contacts to report :
● lack of reagent or calibration solution,
● calibration parameter drift,
● system alarm.

■ Maintenance

● Every 45 days : replenish reagents,
● Change reagent tube annually,
● replenish calibration solution as required.

Clear step by step instructions are given by the analyser to simplify maintenance operations such as instrument start-up, long term stand-by, and reagent replenishment.

The analyser comes in 19" rack format as standard. A wall mounted cabinet is available as an option.
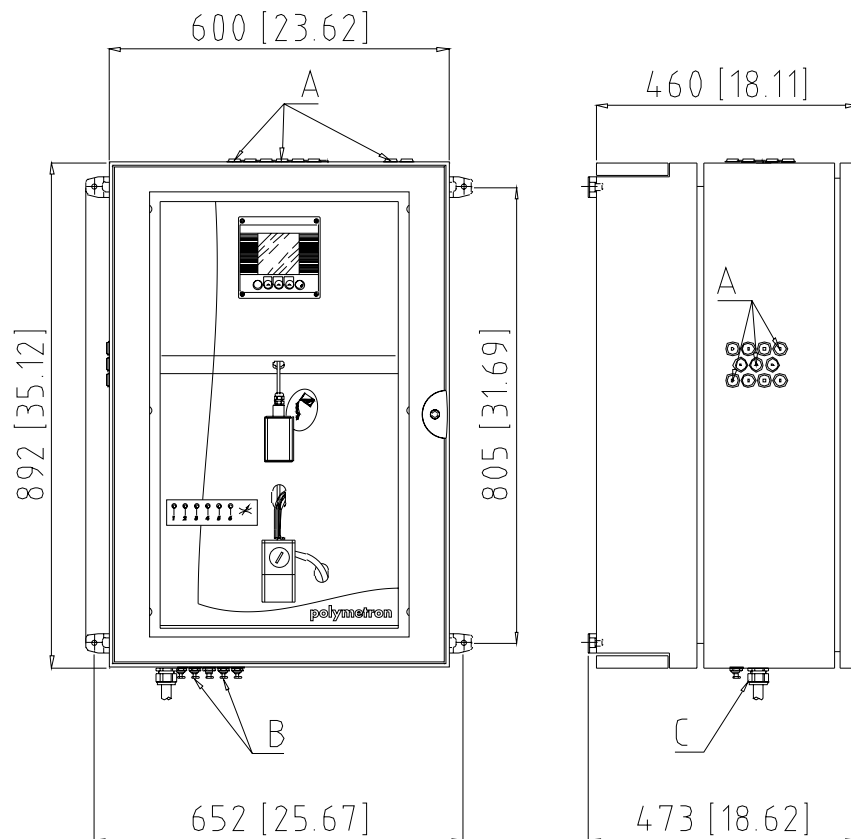Both include :
● a start-up kit,
● an instruction manual in English
  (other languages available on request).
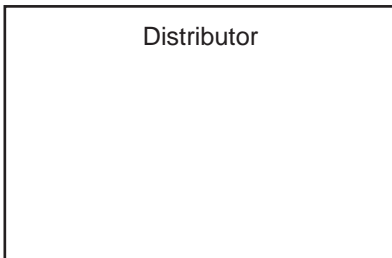
Panel dimensions
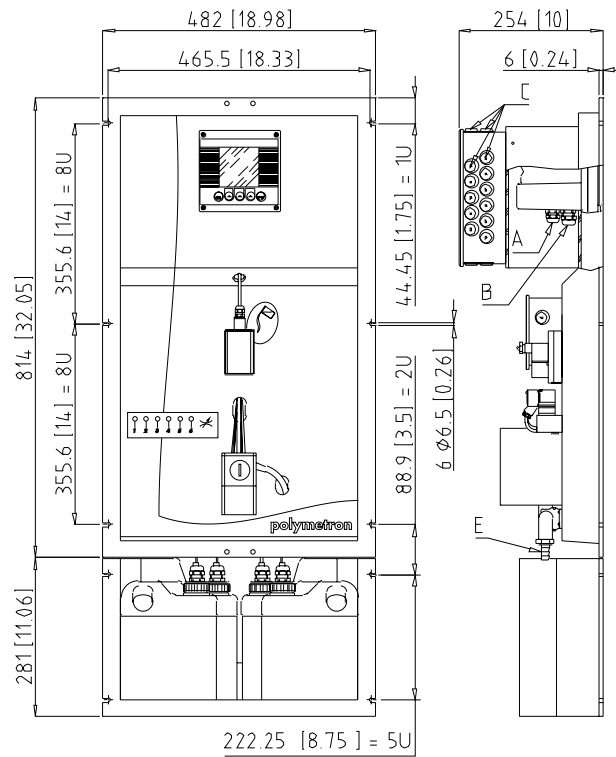
Cabinet dimensions

All dimensions are in mm (inches)

polymetron

a Hach Ultra Analytics solution

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Distributor

HUA_TE9210revH.qxd

CE BVQi ISO 9001

Specifications

Sample	No. of sample streams	1-6, programmable sequence	
	Temperature	5-50°C (41-122°F)	
	Pressure/Flowrate	0.2 - 6 bar (3-87 psi), 15-20 l/h during the sampling phase	
Connections	Sample line	Simple fittings for 6mm O.D. (1/4" O.D. on request) for PE/PTFE tubing	
	Drain	Barbed stem for 12 mm (1/2" I.D.) hose	
	Ambient temperature	5-45°C (41-113°F)	
	Power supply	100-240 VAC, ±10%, 50/60Hz, 80 VA	
Analysis	Measuring range	0-1000 ppb SiO_2	0-5000 ppb SiO_2
	Repeatability	± 0.5 ppb or ± 2 % whichever is greater	(Please consult us)
	Detection limit	< 0.5 ppb	
	Cycle time	~ 9 minutes	
	Calibration	Automatic two-point chemical zero and slope, Programmable frequency Automatic optical zero at each measurement	
Transmitter	Protection	IP65 / NEMA 4X	
	E.C regulations	EN50081, EN50082 (EMC) and IEC61010 (low voltage)	
	U.L	Please consult us	
	Digital backlit display	Display of concentration, diagnostics, alarm status, calibration constants, historical data, trend curves	
	Programming	Menu operation and clear messages in 5 languages	
	Current output	Six 0/4-20 mA for measurement (one per channel), 650 ohms load max.	
	Relay outputs	6 contacts for : - silica concentration alarm sample, - lack of sample, - active channel. 2 contacts for : - warning (reagent/calibration solution low level, sample missing, etc …) - system alarm (calibration error, hardware failure, etc …). Operation in negative or positive safety. 30 VDC, 0.5A maximum.	
	Remote control	- sample stream activation/disactivation - alarm acknowledgement	
Options	RS 485	300…9600 baud, 32 stations max., JBUS/MODBUS. Profibus, please consult us	
Materials	Panel	Polystyrene-polybutadiene copolymer	
	Cabinet	Stove enamelled steel IP 54	
	Weight	Panel: 10 kg (22 lbs), cabinet: 50 kg (110 lbs)	
Maintenance	Every 45 days	Refill reagents and calibration solution	