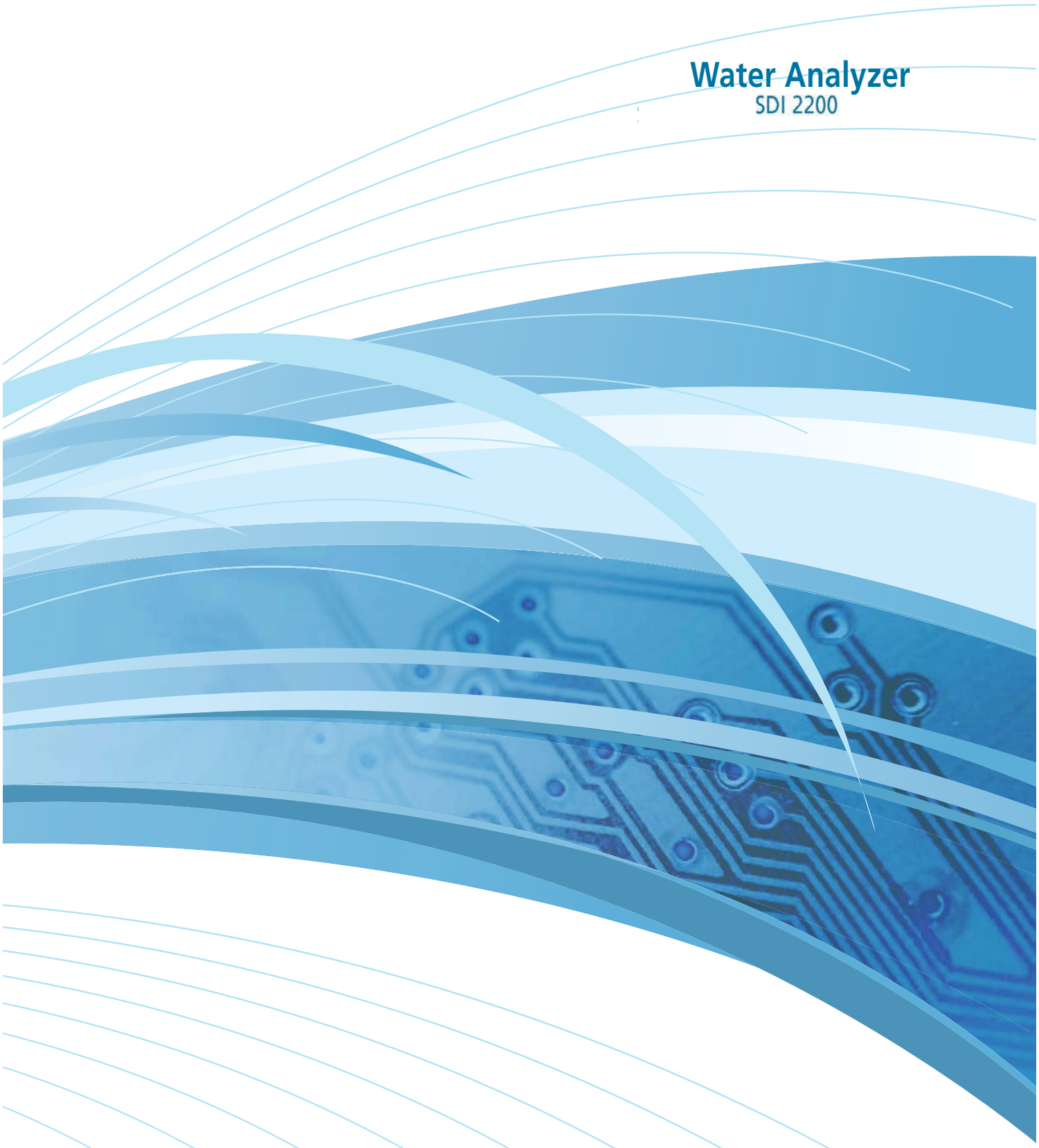
MABAT

Water Analyzer

SDI 2200



MABAT

SDI 2200

The SDI 2200 (Silt Density Index)
fully automatic, multi-channel online analyzers and monitoring systems.

The SDI 2200 designed for continuous,
unattended operation in desalination and other water treatment plants.

TECHNICAL DATA

CABINET	PPS / IP53
	Wall Mounted
DIMENSIONS (in mm)	W 620 D 310 H 1,126
DIMENSIONS (in in)	W 24.4 D 12.2 H 44
WEIGHT	50 [Kg], or 106 [Lb]
WETTED PARTS	PP, PVC and Nylon 12

SAMPLE LINE

INPUT PRESSURE	2.4 to 6.0 [Bar] or 35 to 80 [Psig]
FLOW RATE	1.5 [L/min]

FILTER PAPER

TYPE	Standard Millipore 0.45 micron paper roll
LENGTH OF ROLL	6 [Meter] or 20 [Ft]
	Up to 85 measurements per roll

PRINCIPLE OF OPERATION - SDI 2200

SDI STANDARD TEST MODE

Silt Density Index (SDI) is measured by comparing the flow rate of a known volume of water, where the water volume is kept under constant pressure.

The flow rate is measured twice:

- The first time is when the water flows through a standard filter, as a reference, when the filter is unused
- The second time is after the filter is exposed for 15 min or less. The water sample flow is always kept under constant pressure

The drop in flow rate is a direct measure of the silt build-up on the filter.

The pressure is kept constant by precisely regulating air pressure applied on the water surface without the need for any mechanical device.

SDI AUTO TIME TEST MODE

In cases where the Silt Density Index (SDI) reading is unstable and readings are higher than 5 (i.e. plugging factor is higher than 75%), during the 15 minute check time, the analyzer can be programmed to work automatically in Auto Time Test mode based on the following test method:

- The plugging factor calculations will proceed and will be recorded at intervals of one-minute elapsed
- Calculations will stop once plugging factor 75% has been reached
- New SDI readings will be displayed based on the last calculated plugging factor at the last measured time. Check time will also be displayed
- All SDI test readings are on 0-100 scale where the exact check time figure has no valuable meaning as in the Standard Test mode

In general, the higher the SDI reading the more silt is in the water. When the plugging factor is calculated to be lower than 75% after 15 minutes, the analyzer will switch and calculate the test results based on the Standard Method.

SDI is measured while using 0.45 micron filter paper under constant pressure.

UTILITY SPECIFICATIONS

AIR PRESSURE	5.2 to 8.0 [Bar] or 80-120 [Psig]
ELECTRICAL	110 - 230 [VAC], 4 [Amp] or 24 [VDC]
SILT DENSITY INDEX	Range 0.00-99.99

RATED ENVIRONMENTAL CONDITIONS: Indoor or under roof

ENVIRONMENTAL PROTECTION	IP-53
MAX OPERATING AMBIENT	50°C
MAX RELATIVE HUMIDITY	80%

HOW TO ORDER ▸ SDI 2200

Analyzer format definition: SDI 220 **N-A-E-T**

N Number of channels (1-4)
A Number of analog outputs (1-4)
E Ethernet communication
T Temperature measurememt

Contact our main offices to order

E-MAIL info@mabat-systems.com
WEBSITE www.mabat-systems.com

ADVANTAGES

- Fully complies with the ASTM D4189-07
- CE certified
- Up to 4 sampling points
- Up to 85 cycles (to complete one paper filter roll) without operator interference
- Several modes of operation and calculation per channel
- Three built-in operational modes:
  1) Manual (one-cycle only)
  2) Auto (programmable time interval)
  3) Remote (pre-started selected channel from remote station)
- Two built-in calculation formulas can be programmed per channel:
  1) "Standard" mode test for low SDI water (less than 5.0, for 15 minutes)
  2) "Auto Time" mode test for high SDI water (greater than 5.0, for 15 minutes)
  * *Measurement time 1-15 minutes*

OPTIONS

- Optional analog output (programmable range) per channel for remote control and monitoring purposes
- Booster pump - When supply is in low pressure, one booster pump support one channel
- Temperature measurement and compensation (if necessary)

CONTROL SYSTEM

- CPU
- Color touch screen

COMMUNICATION

- RS485
- RS232

DIGITAL OUTPUT/INPUT SIGNAL

- 8 programmable outputs for status indication
- Analyzer remote enable-disable operation
- Separate remote start for each input

ETHERNET COMMUNICATION

- Communication with plant SCADA system
- Transfers and receives data from the plant controller
- SDI remote programming (from plant SCADA system)

ANALOG OUTPUT SIGNAL

Analog isolated output per channel: 0-5 [Volts], 1-5 [Volts], 0-20 [mA] and 4-20 [mA]

RELIABILITY

UPTIME	> 99.9%
REPEATABILITY	Less than 0.1 SDI units

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