UV300-5D
Online Analyser
For Drinking Water

Specialist Of UV Spectroscopy

> UV300-5D Online Analyser for Drinking Water

*The **UV300-5D** is a pre-defined configuration of the UV300 analyser dedicated to drinking water monitoring.*

It offers the possibility to monitor simultaneously FIVE parameters :

- Total residual chlorine
- Turbidity
- pH
- Conductivity
- Temperature

All this is done by a single unit that allows high performance measurements at a cost effective price.

An automatic cleaning system maintains clean the flow cell and also make an auto-zero that guaranties the absence of long term drift.
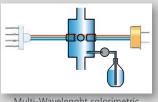
A web-based interface allows the control and the troubleshooting at distance using an internet browser on computer, tablet or i-phone. The reagent and cleaning solution level can be also followed at distance.

Colorimetric DPD Method : *A Reliable Method for Total Residual Chlorine*

● The US-EPA 330.5 (or standard methods 4500-CI-G) DPD method is internationally recognized for its good accuracy and stability, while specific electrodes for chlorine may drift or show a sensitivity to the sample flow.

● Other oxidising agents are also taken in account by the DPD method, that makes it the best choice method.

● The colorimetric module has been specially developed to reach a very small volume flow cell (7ml) that reduces the quantity of reagent to preserve the environment and reduce the operating cost.

● A multi-wavelength LED source assumes a colour and turbidity compensation with an unlimited life time.
Large bore tubing avoid clogging as accumulated sediments might be a problem even on drinking water for long term operation.
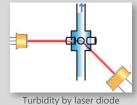
Patented clogging-free flow cell

Multi-Wavelenght colorimetric method principle

Turbidity by Laser Diode

The turbidity module is based on a high stability laser diode to reach low level of detection as required for drinking water.
The automatic cleaning system allows to perform an auto-zero once per day to guaranty the absence of drift on long term. It avoid also the accumulation of sediments that may perturb the measurement.
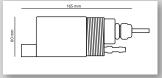
The laser diode could be either a red visible model to ease the maintenance and troubleshooting, or a infra-red model to follow the ISO 7027 nephelometric method at 860 nm.
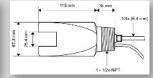
Turbidity by laser diode principle

Robust Industrial Probes

All the probes are specially designed for harsh environments with high level of suspended solid.
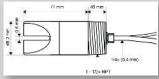
pH and conductivity probes are robust industrial models mounted externally for an easy maintenance. The temperature is obtain from the pH or from the conductivity probe and is also used internally for pH and conductivity compensation.
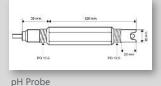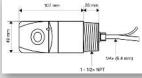
Turbidity Probe Low Range   Turbidity Probe Medium Range   Turbidity Probe High Range

pH Probe   Conductivity Probe   Dissolved Oxygen Probe

As an option,
a dissolved oxygen probe based on fluorescence method for a lower maintenance and higher stability can be added.

Low maintenance and high reliability

The design has been specially oriented for low maintenance and high reliability on the measurements. To avoid deposits on the optical windows and tubing, the UV300 has a built-in automatic cleaning system that injects a 5% sulphuric solution once per day.
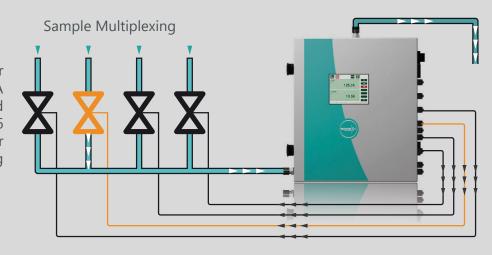
An auto-zero is performed at the same time to avoid any drift of the measurement.
The level of the cleaning solution and reagent can be controlled at distance to plan the refill.

Multiplexing *system*

When different streams need to be analysed, for example different treatments facilities an optional multiplexing system delivers relay contacts to control external electric-valves or external pumps.

Up to 6 different streams can be selected

Sample Multiplexing

The measuring channels can be either duplicated (each one having its own 4-20mA output or MODBUS register), or measured sequentially to fit with the maximum of 16 measuring channels (a MODBUS register indicates which stream is currently being measured).
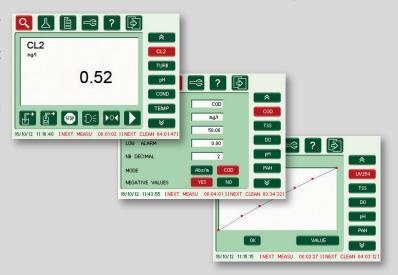

User-Friendly **Interface**

The colour touch screen and intuitive interface available in 8 different languages (Chinese, English, French, German, Italian, Portuguese, Spanish, Turkish) makes very easy to test or configure the analyser.

Many test functions allows to test and troubleshoot each element of the analysers (light signal, pumps, solenoid valves, etc...) to setup quickly a maintenance diagnostic.

The complete configuration can be saved on a USB key and reload if necessary.

Complementary measurements

Complementary measurement like UV254, NO3, Colour, NH4 may be added or put in replacement of turbidity and/or chlorine parameters thank to the modular concept. Depending on the total number of parameters, UV300 or UV400 models can be used.

Communication

The RS232 port supports the MODBUS protocol to transmit each measuring channel value to a SCADA system.

Additional parameters are available like status code, error code, calibration values and pumps run time. Basic 4-20 mA output modules can be plugged on the main board for each measuring channel. A USB port enables to download on any USB key the last 5000 recorded measurements as well as a diagnostic file containing the configuration and useful information for remote troubleshooting.

The new web interface makes possible to drive remotely the analyser from any computer, tablet or i-phone with a web browser. For this, an optional Wi-Fi or Ethernet module is added inside the analyser to connect it to an existing network with an internet gateway.

The recorded measurements file can be imported to Excel for graphs or other treatments. The software of the analyser can be upgraded by connecting a USB key.

200.00

360.00

420.00

Parameter	Standard range Other ranges on request	Typical Repeatability For low values (<10% FS)
Total residual chlorine	0 - 5 mg/l	+/- 0.01 mg/l
Turbidity	0 - 10 NTU	+/- 0.02 NTU
pH	0 - 14	+/- 0.01 pH
Conductivity	0 - 2000 µS	+/- 1 µS
Dissolved oxygen (option)	0 - 25 mg/l O2	+/- 0.02 mg/l O2
Temperature	0 - 80 °C	+/- 0.1 °C

Sample flow	0.05 - 1 l/min
Sample pressure	0 - 4 Bar
Sample temperature	0 - 50°C
Wet parts materials	Quartz, Polypropylene, Polyethylene, FPM (viton), PMMA
Measuring time	5 sec for turbidity, pH, conductivity, 2 min for chlorine
Measurement interval	2 min to 720 min for chlorine, other parameters are continuous
Memory	5000 lines of measurements (for all channels) with date and time
Consumption	Cleaning solution (5% sulfuric acid): 220 ml/day Reagent for Cl2 : 0.3 ml per measurement
Maintenance interval	Recommended: 6 months to 1 year (except for refilling)
Power supply	90- 264 VAC 50/60 Hz 40 VA - 12V DC 3A maxi
Screen	Colour TFT LCD 320x240 pixels with LED backlight
Communication	RS232, MODBUS or HTTP/Web interface (Windows 7 with IE9, Android with Opera, Apple i-phone with Safari) RS485 for additional probes (DO, pH) USB WI-FI (IEEE802.11B) optional Ethernet (IEEE802.3) optional
Certifications	CE, EN 61010-1, EN 61326 ISO7027 for turbidity and US-EPA 330.5 for chlorine
Enclosure	Stainless steel with epoxy coating, IP65, wall mounting brackets
Dimensions	420 x 360 x 200 mm
Weight	14 kg approx.

The manufacturer reserves the right to modify and/or change any specifications, dimensions, design or drawing at any time without prior notice

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> UV300-5D Parts references

Basic unit

UV300-5D

5 parameters analyser for drinking water
- Total residual chlorine, range 0 - 5 mg/l Cl2
- Turbidity by nephelometry with laser diode, range 0 - 10 NTU
- pH module with probe, range 0 - 14
- Conductivity module with probe, range 0 - 10,000 µS
- Temperature, range 0 - 60 °C

Color graphic display 320x240 pixels with touch screen
Built-in data logger, memory 5000 measurements for each parameter
10 sockets available for additional input or output modules (not included)
7 available glands for inputs / outputs
RS232 included (Sub-D 9 ways female connector) with 2 meters cable for PC
RS485 included for the connection of optional external probes
USB port included for USB key connection
Automatic cleaning system with 2-litres tank
Power supply 90-260 VAC 47-63 Hz with power cord 2 meters
Enclosure IP65/Nema4X 420x360x200 mm (HxWxD) / 14 kg approx.
Mounting lugs for wall

Output modules

MO4-20

4-20 mA output module
Isolated 4-20 mA output
Active output, Max load 500 Ohm

MRELAY

Relay module
Contact rating: 2A/220V
Maximum 6 relays modules allowed

Communications

WIFI400

Wifi Interface
Connection to wireless WIFI network
300m nominal range (open space)
Secured data transfer (WEP keys)

ETHER400

Ethernet interface
Ethernet 10 base-T (IEEE 802.3)

MTI133

Phone modem
Industrial modem 33,6 Kb/s V34+
DIN rail Mounting
Power supply 12V from the analyser

GSM

GSM modem
Dual band (EGSM 900/1800 MHz)
Integral SIM card reader
R & TTE approved

Recommanded consumables for 2 years :

P-ACI-HD1 : Head of cleaning pump (x1)

Cleaning solution and reagents are not provided

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Management System ISO 9001:2008

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