



ON LINE WATER ANALYSER

UV300



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ON LINE WATER ANALYSER

UV300

THE **UV300** IS A COST EFFECTIVE WATER ANALYSER FOR APPLICATIONS FOCUSED ON ONE OR TWO PARAMETERS.

MAINLY BASED ON **UV** SPECTROSCOPY, WELL KNOWN FOR ITS STABILITY AND LOW OPERATING COST, THE **UV300** CAN MEASURE PARAMETERS LIKE ORGANIC MATTER, NITRATE, COLOUR, AROMATICS HYDROCARBONS (**PAH**). COMPLEMENTARY MODULES ALLOWS THE MEASUREMENT OF **PO₄** BY COLORIMETRIC METHOD AND TURBIDITY BY A VISIBLE OR INFRA-RED LASER DIODE.

EXTERNAL PROBES CAN BE ADDED FOR PHYSICOCHEMICAL PARAMETERS LIKE **pH**, **ORP**, DISSOLVED OXYGEN AND CONDUCTIVITY.

THANKS TO ITS AUTOMATIC CLEANING SYSTEM AND ITS EXTREMELY LONG LIFE TIME LAMP, THE MAINTENANCE IS ROUGHLY LIMITED TO THE PERIODIC REFILL OF THE INEXPENSIVE CLEANING SOLUTION.

A NEW WEB-BASED INTERFACE ALLOWS THE CONTROL AND THE TROUBLESHOOTING AT DISTANCE USING AN INTERNET BROWSER ON A COMPUTER, TABLET OR I-PHONE.

ADVANTAGES

UV300

MAIN METHOD : UV - Vis SPECTROSCOPY

MOST OF THE MEASUREMENTS (UV254, NO₃, COLOUR, PO₄, PAH) ARE BASED ON THE UV-VIS SPECTROSCOPY THAT BRINGS FAST AND STABLE MEASUREMENTS WITH A SIMPLE HYDRAULIC CIRCUIT FOR A HIGH RELIABILITY.

ALL THE MEASUREMENTS (EXCEPT PO₄) ARE DONE WITHIN 5 SECONDS.

THE PATENTED FLOW CELL ALLOWS VERY HIGH LEVEL OF SUSPENDED SOLID WITHOUT CLOGGING. THE TURBIDITY IS AUTOMATICALLY COMPENSATED BY A DUAL-WAVELENGTH METHOD AS SHOWN ON THE FIGURE.

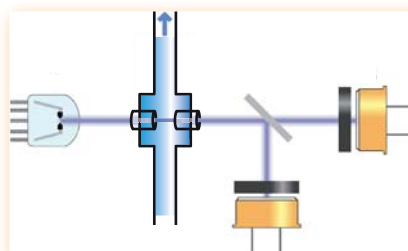
THE UV SOURCE IS A XENON FLASH LAMP SPECIFIED FOR 10⁹ FLASHES THAT CORRESPONDS TO MORE THAN 10 YEARS OF LIFE TIME WITH ONE MEASUREMENT EVERY MINUTE.

PHYSICO-CHEMICAL MEASUREMENTS (pH, ORP, DISSOLVED OXYGEN, CONDUCTIVITY) CAN BE ADDED TO THE INTERNAL MEASUREMENTS BY USING EXTERNAL PROBES. THE DISSOLVED OXYGEN PROBE IS BASED ON FLUORESCENCE METHOD FOR A LOWER MAINTENANCE AND HIGHER STABILITY.

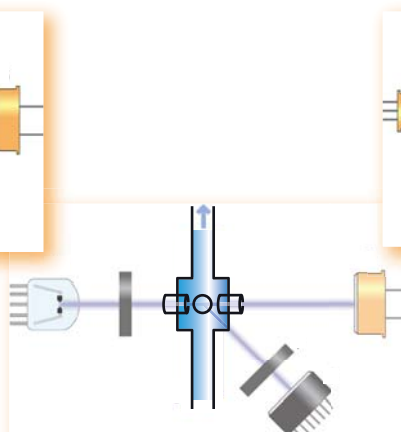
TWO EXTERNAL TURBIDITY PROBES (HIGH AND LOW RANGE) ARE ALSO AVAILABLE IF THE MEASUREMENT NEED TO BE DONE IN SITU, FOR EXAMPLE BEFORE FILTERING.



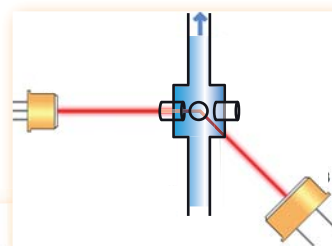
PATENTED CLOGGING-FREE FLOW CELL



UV DOUBLE WAVELENGTH
ABSORBANCE PRINCIPLE



UV FLUORESCENCE PRINCIPLE



TURBIDITY BY LASER DIODE PRINCIPLE

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 NORMALLY ONCE DAY. AN AUTO-ZERO IS PERFORMED AT THE SAME TIME TO AVOID ANY DRIFT OF THE MEASUREMENT. THE PATENTED FLOW CELL LIMIT THE RISK OF CLOGGING INSIDE THE FLOW CELL.

THE LEVEL OF THE CLEANING SOLUTION AND REAGENT FOR PO₄ CAN BE CONTROLLED AT DISTANCE TO PLAN THE REFILL.

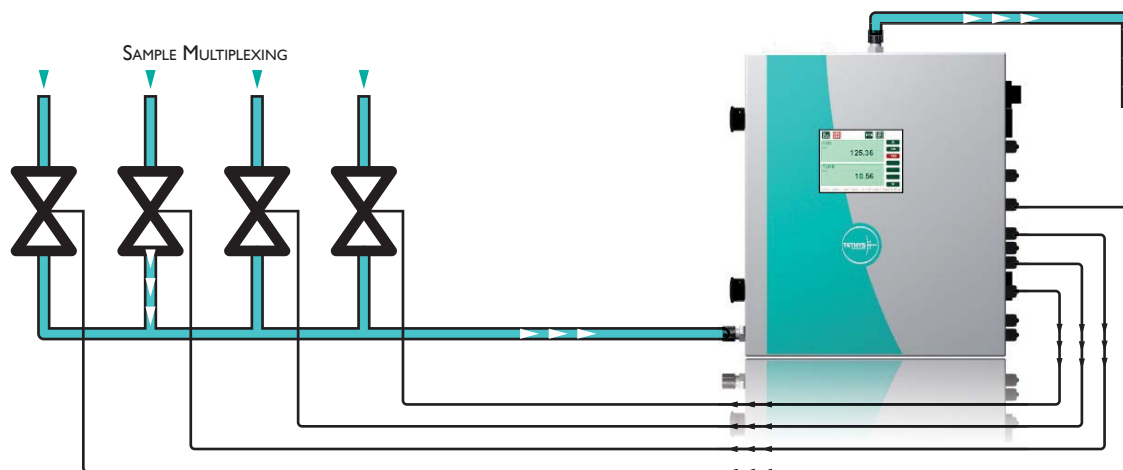
THE IP65 ENCLOSURE WITH AN ACID RESISTANT PROTECTION FILM ON THE SCREEN ASSUMES A EFFICIENT LONG TERM PROTECTION OF THE ANALYSER.

MULTIPLEXING SYSTEM

WHEN DIFFERENT STREAMS NEED TO BE ANALYSED, FOR EXAMPLE INLET AND OUTLET OF A PLANT, A OPTIONAL MULTIPLEXING SYSTEM DELIVERS RELAY CONTACTS TO CONTROL EXTERNAL ELECTRIC-VALVES OR EXTERNAL PUMPS.

UP TO 6 DIFFERENT STREAMS CAN BE SELECTED.

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).

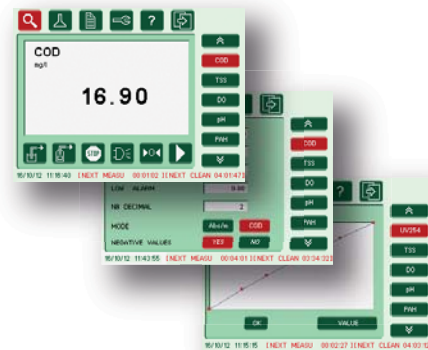


ADVANTAGES

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 ALLOW TO TEST AND TROUBLESHOOT EACH ELEMENT OF THE ANALYSERS (LIGHT SIGNAL, PUMPS, SOLENOID VALVES, ETC...) TO SETUP QUICKLY A MAINTENANCE DIAGNOSTIC.



SAMPLING SYSTEM

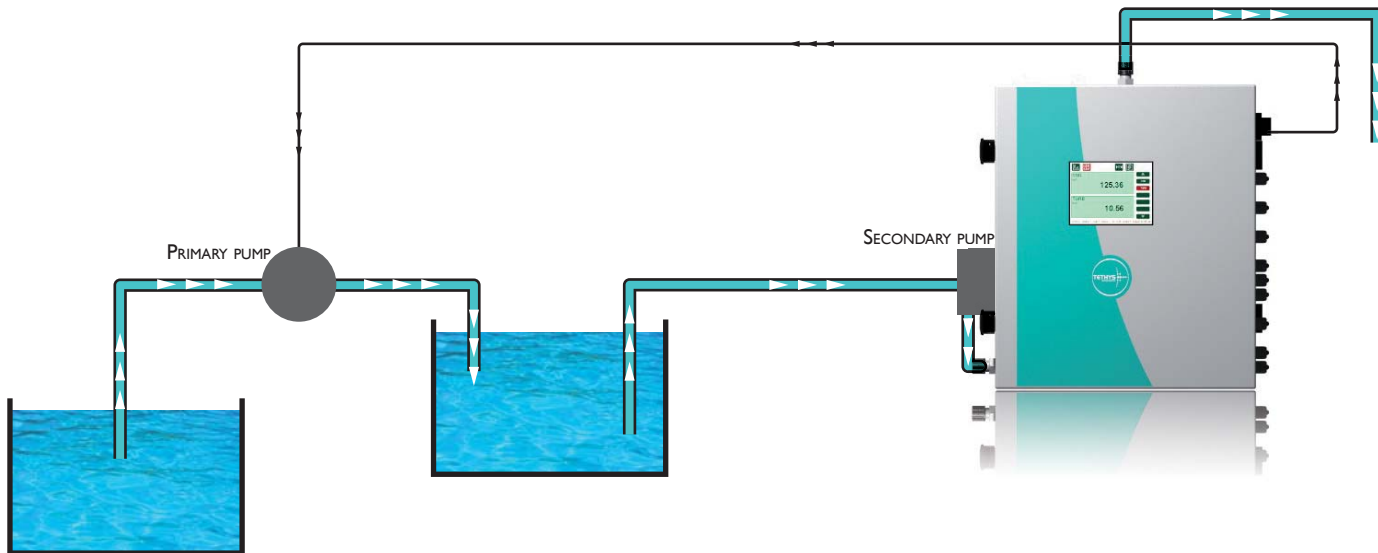
THE **UV300** CAN ADAPT TO MANY DIFFERENT KIND OF SAMPLING DEPENDING OF THE APPLICATION: SURFACE WATER, DRINKING WATER, PROCESS WATER OR WASTEWATER.

IF THE WATER IS ALREADY PRESSURIZED, THE SAMPLE CAN BE ADMITTED DIRECTLY INSIDE THE ANALYSER WITH A MAXIMAL PRESSURE OF 4 BARS. OTHERWISE AN OPTIONAL BUILT-IN PERISTALTIC PUMP, SYNCHRONISED WITH THE MEASUREMENT TO EXTEND THE TUBING LIFE TIME, ALLOWS TO TAKE THE SAMPLE DIRECTLY FROM A TANK LOCATED UP TO 6 METERS BELOW THE ANALYSER.

FOR DEMANDING APPLICATIONS WITH LONG DISTANCES, ANOTHER PERISTALTIC PUMP IN A SEPARATE ENCLOSURE IS PROPOSED AS AN OPTION.

FOR SOME APPLICATIONS ON RIVER WATER OR WASTEWATER WHERE TWO SAMPLING PUMPS ARE NECESSARY, THE UV300 DELIVER A RELAY CONTACT TO SYNCHRONISE THE PRIMARY PUMP. THE DELAY AND RUNNING TIME OF EACH PUMP CAN BE ADJUSTED EASILY IN THE PARAMETERS MENU OF THE ANALYSER.

IN CASE FILTERS ARE USED IN THE SAMPLING SYSTEM, THE **UV300** IS ALSO ABLE TO PROVIDE A RELAY CONTACT TO CLEAN THE FILTER SYNCHRONISED WITH THE MEASUREMENTS.



COMMUNICATION

4-20 mA OUTPUT MODULES CAN BE PLUGGED ON THE MAIN BOARD FOR EACH MEASURING CHANNEL, IN THE LIMIT OF 12 MODULES.

THE RS232 PORT SUPPORT 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.

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.

A USB PORT ENABLE 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 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.



TECHNICAL DOCUMENTATION

UV300



PARAMETERS

STANDARD RANGE*

REPEATABILITY**

UV254 (COD BY CORRELATION)	0 - 200 ABS/M.....	+/- 0.05 ABS/M
	(0-100 MG/L COD ON RIVER WATER)	
	0 - 600 ABS/M.....	+/- 0.15 ABS/M
	0 - 2000 ABS/M.....	+/- 0.5 ABS/M
	(0 - 20,000 MG/L COD ON MUNICIPAL WASTE WATER)	
NITRATE	0 - 100 MG/L NO3	+/- 0.1 MG/L NO3
COLOUR	0 - 100 PT-CO	+/- 1 PT-CO
	0 - 1000 PT-CO	+/- 2 PT-CO
AROMATICS HYDROCARBONS (PAH)	0 - 10 MG/L C6H6	+/- 0.05 MG/L C6H6
CHLOROPHYLL A	0 - 100 µG/L CHLA	+/- 1 µG/L CHLA
PHOSPHATE	0 - 2 MG/L P-PO4	+/- 0.01 MG/L P-PO4
	0 - 20 MG/L P-PO4	+/- 0.1 MG/L P-PO4
TURBIDITY (TSS BY CORRELATION)	0 - 100 NTU	+/- 0.1 NTU
	0 - 1000 NTU	+/- 1 NTU
pH	0 - 14	+/- 0.01 pH
ORP	+/- 2000 mV	+/- 1 mV
DISSOLVED OXYGEN	0 - 25 MG/L O2	+/- 0.1 MG/L O2
CONDUCTIVITY	0 - 2000 µS	+/- 1 µS
EXTERNAL TURBIDITY (TSS BY CORRELATION)	0 - 1500 MG/L TSS	+/- 1% OF READING
	0 - 30,000 MG/L TSS	OR +/- 2 MG/L TSS
		+/- 1% OF READING
		OR +/- 2 MG/L TSS
TEMPERATURE	0 - 80 °C	+/- 0.1 °C

* : OTHER RANGE ON REQUEST

** : TYPICAL REPEATABILITY ON LOW VALVES, MEASURING CONDITIONS MAY AFFECT THE REPEATABILITY

SPECIFICATIONS

UV300

SAMPLE FLOW

RECOMMENDED: 0 - 5 L/MIN

SAMPLE PRESSURE

0 - 4 BAR (0 - 1 BAR WITH SAMPLING PERISTALTIC PUMP)

SAMPLE TEMPERATURE

0 - 80 °C

WET PARTS MATERIALS

QUARTZ, POLYPROPYLENE, POLYETHYLENE, FPM (VITON), PMMA

MEASURING TIME

5 SEC (EXCEPT PO4: 3 MIN)

MEASUREMENT INTERVAL

1 MIN TO 720 MIN (EXCEPT PO4: 4 MIN)

PHYSICOCHEMICAL PARAMETERS MAY BE CONTINUOUS

MEMORY

5000 LINES OF MEASUREMENTS (UP TO 16 CHANNELS) WITH DATE AND TIME

CONSUMPTION

CLEANING SOLUTION (5% SULFURIC ACID): 220 ML/DAY

REAGENT FOR PO4: 2 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, COMPATIBLE WITH: WINDOWS 7 WITH INTERNET EXPLORER VERSION 9, NEXUS 7 TABLET UNDER ANDROID WITH OPERA VERSION 12.10, APPLE I-PHONE 4S WITH SAFARI

RS485 FOR EXTERNAL PROBES (DO, TSS)

USB

WI-FI (IEEE802.11B) OPTIONAL

ETHERNET (IEEE802.3) OPTIONAL

CERTIFICATIONS

CE, EN 61010-1, EN 61326

ENCLOSURE

STEEL WITH EPOXY COATING, IP65, WALL MOUNTING BRACKETS

DIMENSIONS

420 x 360 x 200 MM

WEIGHT

15 KG TO 20 KG DEPENDING ON THE CONFIGURATION