



eVOQUA
WATER TECHNOLOGIES



DEPOLOX® 400 M ANALYZER FOR POTABLE WATER

WALLACE & TIERNAN® ANALYZERS/CONTROLLERS

The DEPOLOX® 400 M system is an on-line analyzer designed to measure the disinfectant concentration in drinking and other clean water applications.

The new state of the art electronics incorporates a color touch screen the size of today's popular smart phones making the user interface truly intuitive. Communication with the instrument includes a standard Ethernet port which allows access to built-in web visualization of all pertinent information when connected to a local area network. An RS 485 port and four mA outputs are also standard for communication to other plant monitoring and control systems.

All popular disinfectants utilized today can be measured including: free chlorine, total chlorine, chlorine dioxide, ozone and potassium permanganate. Choose from two types of amperometric disinfectant measurements for use with the new electronics: unless water quality dictates otherwise, the well proven, lowest life cycle cost and extremely fast reacting DEPOLOX 5 C bare electrode measurement is the obvious choice; otherwise choose from a number of membrane based amperometric sensors fitted into our precisely flow controlled VariaSens™ C flow cell. A temperature measurement is standard and there is a choice of adding either an additional pH measurement or a fluoride measurement.

The electronics includes smart operation features such as user configured calibration and service reminders. Instructions are provided on how to set up the analyzer to be compliant with calibration check intervals required by regulatory agencies. The new flow cell LED light indication changing color along with user defined alarm text can easily alert personnel to perform a required calibration check.

Benefits

- Intuitive operation as well as easy visualization of all measured parameters via a 4" color touch panel
- LED lit flow cell that can be programmed to change color in case of an alarm or fault condition
- Data logging of measurement values with easy transfer to remote devices
- Smart operation features: user configured intervals for calibration checks and also for the instrument's service intervals
- State of the art communication possibilities via an Ethernet interface (Modbus® TCP) as well as a RS 485 port
- Very fast reaction to a change in disinfectant concentration with the popular DEPOLOX bare electrode measurement

ELECTRONIC MODULE

Touch panel:

4 inch capacitive color touchscreen with backlight

Measurement inputs:

Rugged 3-electrode sensor DEPOLOX® 5 C for free chlorine, ClO_2 , O_3 , KMnO_4 or 1 x VariaSens™ flow cell with a choice of membrane sensors: FC2 - free chlorine, TC3 - total chlorine, OZ7 - ozone, CD7 - chlorine dioxide and sensors 1 x pH or 1 x fluoride & 1 x temperature

Digital inputs:

5 x freely definable

Output contacts:

Max. six freely definable fused alarm contacts/general fault messages

Relay status is depicted on the display;
max. 3.15 A / 250 V AC; 0.2 A / 220 V DC

Analog outputs:

4 x 0/4 – 20 mA, freely configurable
Load $\leq 1000 \text{ Ohm}$, accuracy $< 0.5 \% \text{ FS}$
Galv. isolated up to 50 V relative to earth

Interfaces:

Ethernet interface (HTTP protocol/Modbus® TCP protocol); RS 485 to connect to the Wallace & Tiernan® Process Monitoring System (option)

Power supply:

100 – 240 V AC $\pm 10 \%$, 50/60 Hz, 48 VA
24 V DC $\pm 20 \%$ 30 W

Ambient temperature: 0 – 50 °C (32 – 122 °F)

Protection: IP 66

Tests and marks: Conform to CE, CSA

Weight (incl. packaging): 4.5 kg (9.9 lbs)

Dimensions (W x H x D):

320 x 311 x 153 mm (12.6 x 12.2 x 6.0 ")

DEPOLOX 5 C FLOW CELL MODULE

The DEPOLOX 5 C flow cell houses the amperometric bare electrode. Stable measuring signals are achieved with hydrodynamic grit cleaning together with optimized flow around all sensors.

VARIASENS C FLOW CELL MODULE

The VariaSens™ C flow cell houses one disinfectant based amperometric membrane sensor.

Both flow cells include a temperature measurement and can include either an optional pH or a fluoride measurement. The flow cells are available as discharge to a gravity drain or to a pressurized line. The following components are integral to both of the above mentioned flow cells.

Flow control valve:

- Controlled sample water flow: 33 l/h (0.15 US gpm)
- Control range: 0.25 – 3.0 bar (3 – 60 psi at valve inlet)
- Back-pressure: max. 1.5 bar (21.7 psi) for press. model
- Sample water temperature: max. 50 °C (122 °F)

Multi-sensor:

- Monitoring of correct sample water flow
Switching point: 21 l/h ± 3 ; Switching hysteresis: 2 l/h
- Measurement of sample water temperature with sensor Pt 1000 for the temperature compensation of the chlorine and possibly the pH measurement
- Sample water earthing with stainless steel sleeve

Sample water connections:

PVC hose 6 x 3 mm or PE hose 6 x 1 mm hose connector adaptors to 1/2 " threaded hose connection

Weight (incl. packaging): approx. 2.5 kg (5.5 lbs)

Dimensions (W x H x D):

253 x 375 x 163 mm (9.9 x 14.7 x 6.4 ")

MEASURING RANGES

DEPOLOX 5 sensor: free chlorine, ClO_2 , O_3 , KMnO_4 :
0 to 20 mg/l; min 200 $\mu\text{S/cm}$

pH: pH 0 to 12 (short time to 14)

pH compensation (free chlorine measurement with DEPOLOX 5 sensor): within the pH range of 5.0 - to 8.0

Fluoride: 0 to 20 mg/l

FC2 membrane sensor; free chlorine: 0 to 10 mg/l

TC3 membrane sensor; total chlorine: 0.05 to 10 mg/l

CD7 membrane sensor; chlorine dioxide: 0 to 10 mg/l

OZ7 membrane sensor; ozone: 0 to 10 mg/l



558 Clark Road, Tewksbury, MA 01876, USA

+1 (800) 832-8002 (toll-free) +1 (401) 821-2200 (toll) www.evoqua.com

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Wallace & Tiernan® Products worldwide

Australia

+61 1300 661 809
info.au@evoqua.com

Canada

+1 905 944 2800
wtoc.can@evoqua.com

China

+86 21 6057 7247
sales.cn@evoqua.com

France

+33 1 4115 92 20
wtfra@evoqua.com

Germany

+49 8221 9040
wtger@evoqua.com

Singapore

+65 6830 7165
sales.sg@evoqua.com

UK

+44 300 124 0500
info.uk@evoqua.com

USA

+1 800 524 6324
wt.us@evoqua.com