

# KAPTA 2000-AC2

## ELECTROCHEMICAL SENSING MODULE

Chlorine (HOCl, HOBr or ClO<sub>2</sub>) & Temperature

### Typical applications

- > Water quality control
- > Drinking water security
- > Industrial process control
- > Chemical dosing measurement and control
- > RO membrane security
- > Swimming pool water quality
- > Cooling towers
- > Fish farming

### Benefits

- > Real-time water network monitoring
- > No on-going membrane / electrolyte maintenance
- > Chemical free operation

### Main features

- > Amperometric sensor
- > Measurement of the main disinfection species: HOCl, HOBr or ClO<sub>2</sub>
- > User replaceable sensing head
- > Inline monitoring at up to 10 bar pressure
- > Easy conditioning
- > 1 year shelf life



### General description

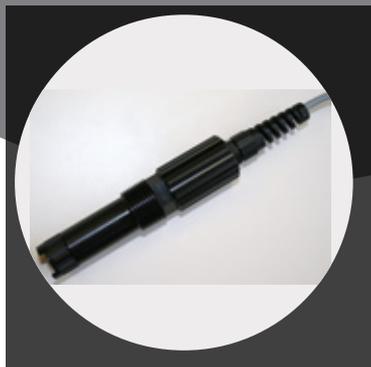
The KAPTA™ 2000-AC2 probe has been specifically developed to measure active chlorine (HOCl) and temperature directly within a pressurised pipe for many applications including management and control of a drinking water network, real-time, rapid control of chemical dosing for industrial water processes and cleaning regimes and management of chlorine levels within swimming pools and spas.

The KAPTA™ 2000-AC2 is an amperometric sensor using a structured photo-polymerised membrane directly on the electrode which suppresses the well-known drawbacks of amperometric sensors with electrolyte, such as pressure and flow sensitivity, and enables the probe to be installed directly within pipes up to 10 bar flow pressure without flow or pressure control.

The sensor principal also eliminates the need for field re-calibration and on-going routine membrane replacement allowing both long-term stability of the signal and reduced maintenance costs. The principal of the measurement is based on a Clark-type cell with a working, counter and reference electrode.

The sensor design includes a simple replaceable head which is easy to handle and requires no reagent or electrolyte. As the lifetime of the sensor can vary with the application, this design allows more flexibility and price improvement for critical applications.

*KAPTA™ new generation probe is the answer from ENDETEC™ to in-line water sensing needs. With a complete line of amperometric probes, KAPTA™ product range offers unique environmental detection solutions for water quality distribution networks.*

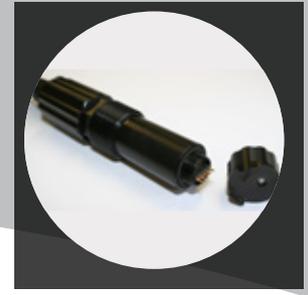


**YOUR WATER QUALITY UNDER CONTROL!**

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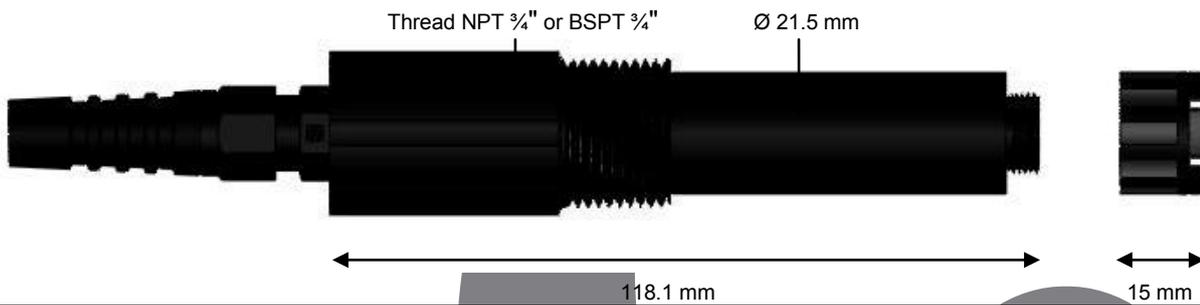


### Specifications

<b>General specifications</b>	<ul style="list-style-type: none"> <li>Detection of active chlorine (HOCl, HOBr or ClO<sub>2</sub>) (0 – 5 mg/l or 0 – 2 mg/l)</li> <li>Integrated temperature sensor PT1000 (0 - 40°C)</li> <li>Maintenance free for at least 9 months (continuous use) depending on application</li> <li>Reagent free probe</li> <li>Real in-situ, online active chlorine measurement</li> <li>Miniaturized low power consumption sensor probe for the voltage version output</li> </ul>		
<b>Maximum pressure</b>	10 bar	<b>Minimum conductivity</b>	100 µS/cm
<b>[Cl<sup>-</sup>]</b>	> 2 mg/l	<b>Response time</b>	< 30 s
<b>pH range</b>	5 – 9 Lower pH than 5 can damage the sensor head irreversibly	<b>Maximum chlorine concentration</b>	The lifetime of the sensor can be reduced if higher concentration than 5 ppm is used.
<b>Measurement accuracy</b>	±2% and min. ±0.03 ppm at pH 7 in potable water	<b>Minimum flow rate recommended</b>	0.03 m/s
<b>Operating temperature range</b>	0 - 40°C	<b>Temperature response time</b>	< 15 s/°C
<b>Weight</b>	175g	<b>Requires external galvanic isolation</b>	
<b>Wetted material</b>	PVC and Viton® O-ring seals	<b>Probe cable length</b>	3 m (specificities can be obtained upon request)

### Probe dimensions

This sensor has been designed to fit directly in a pipe with a threaded fitting of ¼"



### Performance

Model	Active chlorine range	Chlorine output	Chlorine sensitivity	Temperature sensitivity	Input voltage	Thread
KAPTA™ 2000 AC2 R1_O1_F1	0 – 5 ppm	4 – 20 mA	1.4 - 2.1 mA/ppm	4 wires output for PT1000	10 – 24 VDC	BSPT
KAPTA™ 2000 AC2 R1_O1_F2			3.5 - 5.2 mA/ppm			NPT
KAPTA™ 2000 AC2 R2_O1_F1	0 – 2 ppm	0 – 5 V	470 - 700 mV/ppm	20 ± 2 mV/°C	5.5 – 12 V	BSPT
KAPTA™ 2000 AC2 R2_O1_F2			1 - 1.6 V/ppm			NPT
KAPTA™ 2000 AC2 R1_O2_F1	0 – 5 ppm	0 – 5 V	470 - 700 mV/ppm	20 ± 2 mV/°C	5.5 – 12 V	BSPT
KAPTA™ 2000 AC2 R1_O2_F2			1 - 1.6 V/ppm			NPT
KAPTA™ 2000 AC2 R2_O2_F1	0 – 2 ppm	0 – 5 V	470 - 700 mV/ppm	20 ± 2 mV/°C	5.5 – 12 V	BSPT
KAPTA™ 2000 AC2 R2_O2_F2			1 - 1.6 V/ppm			NPT

Active Chlorine Range R1: 0 – 5 ppm, R2: 0 – 2 ppm, Chlorine Output O1: 4 – 20 mA, O2: 0 – 5 V, Threaded Fitting F1: BSPT, F2: NPT

Model Sensing Module	Part number
KAPTA™ 2000 AC2 R1_O1_F1	PROB21000
KAPTA™ 2000 AC2 R1_O1_F2	PROB21001
KAPTA™ 2000 AC2 R2_O1_F1	PROB21002
KAPTA™ 2000 AC2 R2_O1_F2	PROB21003
KAPTA™ 2000 AC2 R1_O2_F1	PROB21004
KAPTA™ 2000 AC2 R1_O2_F2	PROB21005
KAPTA™ 2000 AC2 R2_O2_F1	PROB21006
KAPTA™ 2000 AC2 R2_O2_F2	PROB21007
<b>KAPTA™ 2000 AC2 replaceable sensing head</b>	<b>HEAD21000</b>

### Ordering information

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