

# Product

Catalogue



JENSPRIMA INSTRUMENTS LIMITED

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# **JENSPRIMA** China Sales & Service Center

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TRUSTED MANUFACTURERS OF WATER QUALIFY ANALYZER

JENSPRIMA INSTRUMENTS



Founded in the UK, Jensprima Instruments Limited is an innovative company focusing on water measurement. Since the company started, we have been committed to the research of optical analysis, sensor technology and measurement reagents. We can also provide customers with tailor-made solutions. As the expert in water hardness measurement, Jensprima has a long-standing reputation for reliable product quality and excellent customer service in pharmaceutical purified water and industrial boiler water testing. We also offer solutions for dosing control of precise flocculants.

Jensprima Instruments (Shanghai) Co., Ltd. was officially established in 2017. The company was initially responsible for the marketing, sales and after-sales service of JENSPRIMA products in the Asia-Pacific region, and then the assembly and testing of some products was introduced to Shanghai Jensprima. Our company has passed ISO9001 quality system certification and ISO4001 environmental management system certification.

#### **Brand Advantages:**

- More than 10,000 sets of analyzers installed worldwide.
- Save the investment for your water measuring instrument.
- Regular instruments are available from stock to save your precious time.
- Low-maintenance product design and standardized services can quickly solve your technical problems.

#### **Measurement Parameters:**

Total hardness, total alkalinity, Phenolphthalein alkalinity, streaming current, pH / ORP, temperature, electrical conductivity, resistivity, TDS, salinity, residual chlorine, chlorine dioxide, ozone, turbidity, MLSS, SS, ion concentration, total iron, Level, sludge interface and flow, etc.

Our vision: To be the reliable manufacturer of water quality instrument

Our mission: To innovate and provide more practical solutions to help companies to measure accurately and produce efficiently.

Philosophy: Focus on Reputation. Service with heart.



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Shanghai Sales & Service Center



Anhui Manufacturing Center



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# **Online Water Hardness Analyzer**

# **PACON 5000**

PACON 5000 is a compact, easy-to-operate and high accuracy water quality analyzer for automatic on-line inspection of water quality residual hardness and quality control of water softening processes. This system controls the selectable limits based on the titration colorimetric principle, providing accurate measurement readings by extinction, and a variety of functions to ensure the reliability of real-time operation. Low maintenance and low reagent consumption, suitable for long time continuous operation, maintenance-free, especially suitable for the pharmaceutical purified water and industrial boiler water testing. Select the alkalinity reagent to measure total alkalinity.

#### **Measurement parameters**

Total hardness, Total alkalinity



Process Water **Boiler Water Drinking Water** Water Treatment Cooling Water



#### **Features**

#### • Fully-automatic Measurement

Full-automatically measure the total water hardness with different ranges according to the selected reagent. The analysis process is more efficient than manual measurements and also more reliable than other indirectmeasurement methods, such as ion-selective electrode.

#### Intelligent & Accurate

GB measurement method - titration colorimetric method, the instrument does not require calibration. The integrated measurement technique and the two-stage analysis process can identify external measurement effect, such as contamination of the cell, turbidity of the water sample and external light, and toeliminate these effects in the measurement.

#### Automatic Cleaning

Each analysis will automatically perform Rinsing and Cleaning, ensuring measurement accuracy, repeatability and reduced on-site maintenance.

#### LCD Display

Multi-language graphic backlit LCD display, showing measured values, reagent remaining, alarm values and relaystatus.

#### Low Reagent Consumption

It is very easy to replace the reagent bottle, 500ml reagent can measure 5000-10000 times. Reagent is valid for 2 years.

#### Optional Measurement Interval

Optional measurement interval: 5-360min、Can also control the start-up measurement of the instrument via an external switching signal.

#### 0/4-20mA Output & RS485 Modbus

0/4~20mA, max. 750Ω.

#### Compact design / ca.4Kg

The dimension is only 300x300x200mm, can be directly linked to the wall or mounted on the bracket.

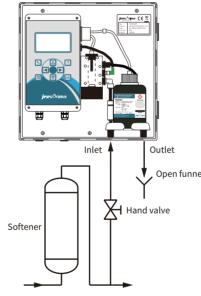
#### SD Card Storage

2G data memory card, can be directly connected to the computer, to access to historical data and system failure information in excel format.

#### Least Maintenance Workload

The measuring slot must be cleaned according to the set measuring interval or the measuring frequency. It is recommended to replace the spare parts every year. The spare parts including: peristaltic pump head, reagent connection tube and seal, Order No. 50-5000-10. No additional tools are required for maintenance and can be easily executed.





#### **Order Guide**

Order No.	Description
33-5000-00	PACON 5000 Online Hardness Analyzer
33-5000-10	PACON 5000 Online Alkalinity Analyzer
50-5000-10	Spare Parts Kit Including pump head (including pump tube), all seals, stirrups, connection pipe of reagent bottle, recommend to exchange every year.
50-5000-20	LED light source, recommended to be replaced every two years

#### **Technical parameter**

Inputs:

Titration method with colour change Measurement method:

Total hardness: 0.21-534.0 ppm CaCO3 (see reagent tabel) Measurement range: Total alkalinity: 5.34-2050 ppm CaCO3 (see reagent tabel)

Measurement duration: ca. 3 minutes depending on the hardness of the water Measurement accuracy: ±5% of the upper value of the respective reagent

±2.5% of the upper value of the respective reagent Repetition accuracy: approx. 0.05-0.5 ml/analysis, depending on the measured Reagent consumption:

concentration

2 years from the factory (<25°C, storage in darkness) Expiry date of reagent: Water sample consumption: approx. 1 L of water per analysis (at 2 bar pressure) Supply Voltage:

85 - 265 VAC. 47-63Hz 25VA (in operation), 3.5VA(standby)

Power consumption: Protection class:

Multi-coloured and multi-lingual graphic display Display

°dH、°f、ppm CaCO3、mmol/l、°e Unit: 1、4 sets of programmable relay outputs (max. 250V, 4A) Outputs:

2. 1 group of 0/4 – 20 mA signals, max. 750  $\Omega$ 

3、RS485 Modbus RTU communication

1、IN1 input (start analysis / flow control switch / water meter)

2、IN2 input (reset device) Measuring interval(5 - 360min) / External signal / Flow signal Analysis cycle:

Configurable (15~1800s) Flush time:

Requirements of clear, colourless, no solid particles, without gas bubbles; the water quality:

pH: 4 - 10.5; Iron: < 3 ppm; Copper: < 0.2 ppm; Al: < 0.1 ppm; Mn: < 0.2 ppm;

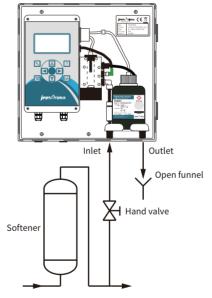
Temperature: Environmental temperature: 5°C - 45°C,

Measuring water temp.: 5°C-40°C 20-90%RH, Indoor installation Humidity:

Water inlet pressure: ca. 0.5 - 5 bar (max.) (recommended 1 -2bar)

Inlet / Outlet connect: 6mm hose

300x300x200mm(WxHxD), ca.4Kg Dimensions/Weight: Wall mounting in closed rooms Installation:



1 JENSPRIMA JENSPRIMA 2

50-5000-10

# **Online Water Hardness Analyzer**

#### **PACON 4800**

PACON 4800 is a compact, easy-to-operate and high accuracy online water hardness analyzer uses the principle of titrimetric colorimetry and is the best choice for water softening systems and reverse osmosis protection for enrev-level measurement. Low maintenance and low reagent consumption, suitable for long time continuous operation. Select the alkalinity reagent to measure total alkalinity.



#### **Measurement parameters**

Total hardness, Total alkalinity

#### **Applications**

Boiler Water、Drinking Water、Water Treatment、Cooling Water

- Economy model, High cost performance
- Automatic calibration, automatic diagnosis and automatic measurement
- Compact design, 300x300x200mm/ca.4Kg
- Low maintenance and low reagent consumption
- Multi-language graphic backlit LCD display
- Continuous measurement or interval measurement (5-360min)
- 2 x programmable contact outputs
- External signal input to control measurement, can be linked with external
- SD card data storage (historical data, fault log), 0/4-20mA output



**Order Guide** 

Description

33-4800-00 PACON 4800 Online Hardness Analyzer

33-4800-10 PACON 4800 Online Alkalinity Analyzer

replaced every two years

Spare Parts Kit Including pump head

connection pipe of reagent bottle,

recommend to exchange every year

(including pump tube), all seals, stirrups,

LED light source, recommended to be

Order No.

50-5000-10

50-5000-20

# **Technical parameter**

Measurement range:

Measurement duration:

Measurement accuracy:

Titration method with colour change Measurement method:

Total hardness: 0.21-534.0 ppm CaCO3 (see reagent tabel) Total alkalinity: 5.34-2050 ppm CaCO3 (see reagent tabel) ca. 3 minutes depending on the hardness of the water ±5% of the upper value of the respective reagent

±2.5% of the upper value of the respective reagent Repetition accuracy: Reagent consumption: approx. 0.05-0.5 ml/analysis, depending on the measured concentration 2 years from the factory (<25°C, storage in darkness)

Expiry date of reagent: Water sample consumption: approx. 1 L of water per analysis (at 2 bar pressure)

85 - 265 VAC, 47-63Hz Supply Voltage:

Power consumption: 25VA (in operation), 3.5VA (standby)

Protection class:

Display: Multi-coloured and multi-lingual graphic display °dH、°f、ppm CaCO3、mmol/l、°e Unit:

1, 4 sets of programmable relay outputs (max. 250V, 4A) Outputs: 2. 1 group of 0/4 - 20 mA signals, max. 750  $\Omega$ 

Inputs: 1, IN1 input (start analysis / flow control switch / water meter) 100 sets of historical curves, directly accessible on the instrument Data storage: 4G SD card storage, Historical data and fault information can be

Measuring interval(5 - 360min) / External signal / Flow signal Analysis cycle:

Configurable (15~1800s) Flush time: Requirements of

dear, colourless, no solid particles, without gas bubbles; the water quality: pH: 4 - 10.5; Iron: < 3 ppm; Copper: < 0.2 ppm;

Al: < 0.1 ppm; Mn: < 0.2 ppm;

Environmental temperature: 5°C - 45°C, Measuring water temp.: Temperature:

Humidity: 20-90%RH, Indoor installation

Water inlet pressure: ca. 0.5 - 5 bar (max.) (recommended 1 - 2bar)

Inlet / Outlet connect: 6mm hose

300x300x200mm(WxHxD), ca.4Kg Dimensions/Weight: Installation: Wall mounting in closed rooms

# **Online Water Hardness Analyzer**

# **PACON 4200**

The PACON 4200 on-line hardness analyzer is a compact, easy-to-operate and accurate measurement based on the titrimetric colorimetric principle, making it the entry-level choice for water softening systems and boiler room water quality monitoring.

# **Measurement parameters**

Total hardness

#### **Applications**

Boiler Water、Water Treatment、Cooling Water

- Automatic measurement and automatic cleaning
- Graphic backlit LCD display, English and Chinese menus
- External signal input to control the measurement for external-

ly starting or stopping the analysis

- 4-20mA output (Optional RS485 communication module)
- 2 relay outputs
- Display unit ppm CaCO3
- Continuous or interval measurement (5-30min)
- Optional SD card data storage (historical data, fault logging)
- Least maintenance workload

#### Hardness reagent(500ml/bottle)

Order No.	Item no.	ppm CaCO3
50-4200-01	TH4201	0.20 - 2.00
50-4200-02	TH4202	0.50 - 5.00
50-4200-03	TH4203	1.50 - 15.0
50-4200-04	TH4204	5.0 - 50.0
50-4200-05	TH4205	15.0 - 150.0
50-4200-06	TH4206	25.0 - 250
50-4200-07	TH4207	50.0 - 500

#### **Order Guide**

Order No.	Description
33-4200-00	PACON 4200 Online Hardness Analyzer
33-0485-01	RS485 communication module
33-4200-20	220VAC power adapter, cable length 1.5m
50-4200-10	Spare parts bag of Hardness Including pump head (including pump tube), all seals, stirrups, connection pipe of reagent bottle, Recommended to be replaced once every two years

#### **Technical parameters**

0.20 - 500ppm CaCO3 (see reagent types) Measuring range:

Measuring time: approx. 3 minutes, depending on water hardness and set rinsing time ±5% of the upper limit value of the selected reagent Accuracy

Repeatability ±5% of the upper limit value of the selected reagent Analysis cycle:

continuous measurement / interval measurement (5-30min)

external start signal Rinse time: 5 - 1800S (default 120s)

Water consumption: Approx. 1 - 2L/analysis depending on inlet pressure and set rinse time Display: Backlit LCD displaying graphic and numerical values

Unit: ppm CaCO3、mmol/l Current output: 0/4 - 20mA, Max, 750Ω

Relay outputs: 2 passive relay outputs NC, 30VDC 1A Inputs:

External switching signal to initiate analysis/flow sensor

#### **Basic parameters**

titration colorimetric method Measuring principle:

Ambient temperature: 5-45°C Temperature of water sample: 5 - 40°C

Water pressure: 0.5 - 5bar, recommended 1-2bar

colorless, no suspended solids, no bubbles pH 4 - 10.5, Water quality requirements: iron: <3ppm, copper: <0.1ppm, manganese: <0.2ppm

Inlet/outlet connection: 1/4" OD hose

Humidity: 20 - 90% RH, indoor Wall installation

24VDC, 25W (Optional 220VAC power adapter available) Power supply: Dimensions/Weight: 250×360×110mm, ca. 2.5Kg (including outer case housing)

Protection rating:

# Multi-Channel Online Hardness/Alkalinity Analyzer

# Flumsys 20HA

The Flumsys 20HA multi-channel controller with PACON 5000 online hardness/alkalinity analyser can automatically monitor 2-6 channels of water samples online and output 2-6 channels of 4-20mA, greatly reducing the customer's purchasing costs.



#### **Measurement parameters**

Total Hardness: 0.21 - 534 ppm CaCO<sub>3</sub> Total Alkalinity: 5.34 - 401 ppm CaCO3

#### **Applications**

Boiler feed water and furnace water, softened water, circulating water,

#### **Features**

- Titrimetric principle for accurate and stable measurements
- Simultaneous display of 2 to 6 channels of measured values
- Automatic linkage with PACON 5000, automatic cleaning, automatic measurement
- Programmable measurement interval (5-360min) and flush time
- Automatic system fault alarm and insufficient water inlet pressure alarm
- Free to open/close channels to avoid disruption of other channels due to channel maintenance or shutdown
- 2-6 isolated 4-20mA outputs (depending on the channel selected)
- RS485 Modbus RTU communication
- Data storage function with support for U-disk export (Excel)



#### Technical parameter

Measurement method: Titration colorimetry

Total hardness: 0.21-534.0 ppm CaCO3 (see reagent type) Measurement range: Total alkalinity: 5.34-401.0 ppm CaCO3 (see reagent type) Measurement time:

approx. 3 minutes, depending on the hardness/alkalinity concentration

of the water

+/- 5% of the upper limit of the selected reagent Accuracy: +/- 5% of the upper limit value of the selected reagent Repeatability:

Reagent consumption: approx. 0.05 - 0.5 ml/analysis, depending on the measured concentration

2 years from the factory (<25°C, storage in darkness) Expiry date of reagent:

Water sample consumption: approx. 1 L of water per analysis (at 2 bar pressure)

220VAC.50/60Hz Power supply:

Protection class:

Display: 7" backlit touch screen display

Units available: ppm CaCO3, mmol/l

2-6 sets of 4-20mA signals/RS485 Modbus RTU communication Ontout.

Measurement interval: 5-360min settable, default 10min settable (15~1800s) Rinse time:

colourless, no suspended matter, no air bubbles; pH: 4 - 10; iron: < 3 Water quality requirements:

ppm; copper. < 0.2 ppm; aluminium: < 0.1 ppm; manganese: < 0.2 ppm

ambient: 5°C - 45°C, water samples: 5°C - 40°C Temperature: ambient:

Humidity: 20 - 90% RF, indoor installation

Pressure: ca. 0.5 - 5 bar (max.) (1 - 2 bar recommended)

Water inlet/outlet connection: 6 mm OD hose

Dimensions/weight: 380x750x180mm (WxHxD) Mounting: Wall mounted

#### **Order Guide**

Order No.	Description
33-5520-10	Flumsys 20HA multi-channel online hardness/alkalinity analyser

# **Dual Channel Online Hardness/Alkalinity Analyzer**

#### innoCon 6800H

The Flumsys 20HA multi-channel controller with PACON 5000 online hardness/alkalinity analyser can automatically monitor 2-6 channels of water samples online and output 2-6 channels of 4-20mA, greatly reducing the customer's purchasing costs.



#### **Measurement parameters**

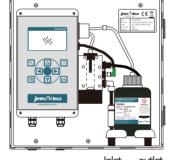
Total Hardness: 0.21 - 534 ppm CaCO<sub>3</sub> Total Alkalinity: 5.34 - 401 ppm CaCO<sub>3</sub>

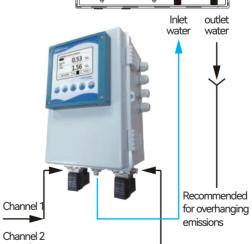
#### **Applications**

Boiler feed and furnace water, drinking water, circulating water, process water

#### **Features**

- Titrimetric principle for accurate and stable measurements
- Simultaneous display of the measured values of 2 channels
- Automatic linkage with PACON 5000/4800, automatic cleaning, automatic measurement Programmable measurement interval (10-360 min) and rinse
- Automatic suspension of measurements in the event of a system failure
- 2 isolated 4-20mA outputs
- 2 Relay outputs
- RS485 Modbus RTU Communication





Inlet pressure 1-2bar

#### Technical parameter

Measurement method: Titration colorimetric method

Total hardness: 0.21-534.0 ppm CaCO3 (see reagent type) Measuring range: Total alkalinity: 5.34 - 401.0 ppm CaCO3 (see reagent type)

Measurement time: approx. 3 minutes, depending on the hardness/alkalinity concentration

of the water

+/- 5% of the upper limit value of the selected reagent consumption. Reagent expiry: approx. 0.05-0.5 ml/analysis, depending on the measured concentration

Consumption of water samples 2 years ex works (<25°C, shaded storage)

220VAC. 50/60Hz Power supply: Protection class:

ppm CaCO3, mmol/ Optional units: Outputs: 1.2 Hi/Lo relay outputs

2. 2 sets of 4 - 20 mA signals, max.  $500 \Omega$ 3、RS485 Modbus RTU communication 10~360min settable, default 10min

Measurement interval: Rinse time: settable (15~1800s)

colourless, no suspended matter, no air bubbles; pH: 4 - 10; iron: < 3 Water quality requirements:

ppm; copper: < 0.2 ppm; aluminium: < 0.1 ppm; manganese: < 0.2 ppm ambient: 5°C - 45°C, water samples: 5°C - 40°C Temperature:

ca. 0.5 - 5 bar (max.) (1 - 2 bar recommended) Water inlet/outlet connection: 6 mm outer diameter hose

Dimensions/weight: Dual channel controller: 350x200x200mm (WxHxD), approx. 4Kg

300x300x200mm (WxHxD), approx. 4Kg Analyser Mounting: Wall mounted

#### **Order Guide**

Order No.	Description
33-6801-80	innoCon 6800H Dual channel online hardness/alkalinity Analyzer

# **Hardness Reagent**

TH

#### Suitable for

PACON 5000 PACON 4800 PACON 4600

PACON 4500 (Discontinued)



TC

#### Suitable for

PACON 5000 PACON 4800 PACON 4600 PACON 4500 (Discontinued)



• The PACON 5000/4800/4600 analyser must use the matching reagents produced by JENSPRIMA to measure different hardness/alkalinity ranges by selecting different types of reagents.

#### Hardness reagent types and measuring ranges

3 - 3 - 3 - 3 - 3 - 3 - 3 - 3 - 3 - 3 -					
Order No.	Model	°dH	°f	ppm CaCO3	mmol/L
50-5000-01	TH5000	0.012-0.12	0.021-0.214	0.21-2.14	0.002-0.021
50-5001-01	TH5001	0.03-0.3	0.053-0.534	0.53-5.34	0.005-0.053
50-5003-01	TH5003	0.09-0.9	0.160-1.602	1.60-16.0	0.016-0.160
50-5010-01	TH5010	0.3-3.0	0.534-5.340	5.34-53.4	0.053-0.534
50-5030-01	TH5030	0.9-9.0	1.602-16.02	16.0-160.2	0.160-1.602
50-5050-01	TH5050	1.5-15	2.670-26.70	26.7-267.0	0.267-2.670
50-5100-01	TH5100	3.0-30	5.340-53.40	53.4-534.0	0.534-5.340

#### Alkalinity reagent types and measuring ranges

	• •				
Order No.	Model	°dH	°f	ppm CaCO3	mmol/L
50-5510-01	TC5010	0.3-7.5	0.534-13.4	5.34-134	0.107-2.68
50-5515-01	TC5015	0.45-11.5	0.801-20.5	8.01-205	0.160-4.10
50-5520-01	TC5020	0.6-15	1.07-26.7	10.7-267	0.214-5.34
50-5530-01	TC5030	0.9-22.5	1.6-40.1	16.0-401	0.32-8.02
50-5550-01	TC5150	4.5-115	8.01-205.0	80.1-2050	1.6-41.0

#### **Total hardness**

Total hardness is the total amount of calcium and magnesium ions in water and the conversion units vary from country to country and are commonly used in mmol, ppm CaCO3. Hard water is not a serious health hazard. However, high hardness water can cause serious problems in industrial environments where it is common to monitor water hardness to prevent costly failures of components such as cooling towers, boilers and other equipment that contain or process water.

#### Warning

Wear protective gloves/protective clothing/face protection. FIN EYES: Rinse cautiously with water for several minutes. Remove contact lenses.ifpresent and easy to do. Continue rinsing.lf eye irritation persists: Get medical advice/attention.

#### How to check the expiry date

The label on the reagent bottle: Expires:11/2026 indicates that the bottle is valid until November 2026.

#### Total alkalinity

Total alkalinity is the total amount of substances in water that can neutralise strong acids. Alkaline compounds in water (such as hydroxides and carbonates) remove H + ions from the water, which reduces the acidity of the water and results in a higher pH. Total alkalinity is measured by measuring the level of acid required to bring the pH of a particular sample to 4.2. At this level, all alkaline compounds are completely used up. Measuring alkalinity is essential to determine the ability of acidity and corrosive influences produced in water and is commonly used in boiler water quality monitoring.

#### **Technical parameters**

Products: Hardness Reagent、Alkalinity Reagent
Capacity: 500ml/bottle
Expiry date of reagent: 2 years from the factory
Number of measurements: ca. 5000~10000 analysis

storage in darkness (<25°C)

# **Hardness Rapid Test Kit**

# TH10/TH100

Jensprima hardness test kits are used to quickly determine the total hardness concentration of water in a simple and fast test in approximately 1 minute, allowing for a quick test of total hardness anywhere, anytime



#### **Measurement parameters**

Total Hardness

#### **Applications**

Rapid determination of hardness of softened effluent and boiler feed water

#### **Product Type**

Model: TH10

TH10 1.0ppm per drop for 5ml water sample For 10ml water sample, TH10 0.5ppm per drop

Model: TH100

For 5ml water sample, TH100 10ppm per drop TH100 5ppm per drop for 10ml water sample

#### **Features**

- Precise: each squeeze is a drop of the same volume of indicator
- Quick: drop in indicator, immediate colour change
- Easy to understand: at a glance you can tell the colour change of an agent
- Economical: hardness concentration can be found by calculating the number of drops, no need to purchase analytical equipment

#### **Instructions For Use**

**1mmol/l = 100ppm CaCO3** 



Take out the hardness test box, there are hardness indicator and sampling bottle inside.



Use the sampling bottle to take 5mL water sample.



Drop the hardness indicator into the water sample and shake it continuously.



When there is hardness in the water sample, the water sample will show a pink colour



Titration until the pink colour changes to dark green, stop titration and write down the number of drops.

Jensprima hardness test kits are used to quickly determine the total hardness concentration of water in a simple and fast test in approximately 1 minute, allowing for a quick test of total hardness anywhere, anytime

# **Online Phenolphthalein Alkalinity Analyser**

# **PACON 4900**

PACON 4900 is a compact, easy to operate and accurate on-line analyser from JENSPRIMA for the automatic on-line measurement of phenolphthalein alkalinity and quality control of boiler water. The titrimetric colour change principle allows the measurement of high and low ranges by selecting different reagents. Low maintenance and low reagent consumption for long continuous operation. Standard 4-20mA and RS485 Modbus outputs for easy integration into your existing control system.



#### Two different measurement ranges of reagents are available:

TP5050 Phenolphthalein alkalinity: 0.2~5mmol/L TP5200 Phenolphthalein alkalinity: 0.8~20mmol/L



#### **Order Guide**

Order No.	Description
33-4900-00	PACON 4900 online Phenolphthalein Alkalinity Analyser
50-4905-01	TP5050 phenolphthalein alkalinity
50-4920-01	TP5200 phenolphthalein alkalinity
50-5000-10	Spare Parts Kit Including pump head (including pump tube), all seals, stirrups, connection pipe of reagent bottle, recommend to exchange every year.

#### **Measurement parameters**

Phenolphthalein alkalinity (p-value)

#### **Applications**

boiler feedwater, boiler water, Cooling Water

#### **Features**

- Durable, accurate analyser method (titration for colour change)
- Automatic on-line monitoring, only one reagent required
- Special material measuring bath, no condensation on optics
- Stable measurements, generally no calibration required
- 4-20mA/RS485 Modbus outputs
- 4 programmable relay outputs
- External signal input function (can be linked with external devices)
- Compact design for easy installation
- Low maintenance and low reagent consumption

#### **Technical parameter**

Reagents selected: TP5050: 0.2 - 5mmol/L 、TP5200: 0.8 - 20mmol/L

±5% of the maximum value of Accuracy:

the selected reagent

±2.5% of the maximum value of Repeatability:

the selected reagent

Titrimetric colour change method

Reagent consumption: 0.05-0.6ml/per analysis 2 years from the factory Reagent expiry: Analysis time: ca. 3 min depending

> on phenolphthalein alkalinity concentration and set rinse time

Measurement interval: 5-360 min optional

The instrument is automatically rinsed after each Automatic cleaning:

measurement

Service menu manual calibration Calibration:

10-45°C Ambient temperature: Water sample temperature: 5-40°C

Water sample pressure: 0.5-5 bar, 1-2 bar recommended

Water quality requirements: Clear, colourless, no suspended matter, no air bubbles,

pH>8.2

100-240VAC, 50/60Hz Power supply: Power consumption: 20W (at work), 3.5W (at standby)

6mm hose, open discharge no back pressure discharge

0/4-20mA 0/4-20mA

Relay output: 4 passive NC/NO relay outputs, 250VAC/1A

2 programmable input contacts External input:

Protection class:

Inlet/outlet:

Current output:

300×300×200mm Dimensions: Weight: ca. 4Kg

Measurement is by titration and the colour changes markedly from red to yellow. Phenolphthalein alkalinity measurements are commonly used in boiler feed water and boiler furnace water to estimate corrosion behaviour and are measured in mmol/L.

# **Online Iron Ion Analyser**

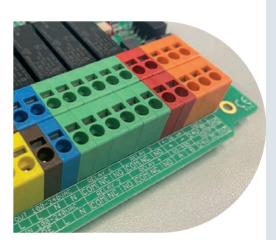
# **PACON 3400**

PACON 3400 is a compact, easy-to-operate and accurate on-line iron ion analyser from JENSPRIMA that measures the concentration of dissolved iron (divalent and trivalent iron) in water for controlled removal of iron ions. Using the colorimetric principle, it is very easy to switch between the LRS (0.01-0.5 mg/L) and HRS (0.2-6.0 mg/L) measurement ranges at any time by using different coloured LED light sources and selecting reagents. Low-maintenance design for long periods of continuous operation. Standard 0/4-20mA and RS485 Modbus outputs for easy integration into your existing control system.



#### Two different measurement ranges of reagents are available:

FE3401 Low range Iron ion reagents: 0.01~0.5mg/L FE3402 High range Iron ion reagents: 0.2~6mg/L



#### **Order Guide**

	Order No.	Description
	33-3400-00	PACON 3400 Online Total Iron Analyser
	50-3400-01	FE3401 Low range Iron ion reagents
	50-3400-02	FE3402 High range Iron ion reagents
	50-5000-10	Spare Parts Kit Including pump head (including pump tube), all seals, stirrup connection pipe of reagent bottle, recommend to exchange every year.

#### **Measurement parameters**

Iron ions (divalent iron + trivalent iron)

#### **Applications**

boiler feedwater、Drinking Water、Iron removal Process

#### **Features**

- Based on ISO 6332 measurement method (colorimetric method)
- Automatic on-line monitoring, only one reagent required
- Special material measuring tank, condensation will not adhere to the optics
- Automatic zero point adjustment before each measurement to ensure measurement stability
- 4-20mA/RS485 Modbus outputs
- 4 programmable relay outputs
- External signal input function (can be linked with external devices)
- Compact design for easy installation
- Low maintenance and low reagent consumption

#### Technical parameter

Measurement method: Colourimetric method

Measuring range: low range: 0.01-0.5mg/L, High range: 0.2-6.0mg/L

Accuracy: ± 5% Repeatability:

Reagent consumption: ca. 0.5 ml/analysis

1 year (<25°C, storage in shade) Expiry date of reagent: Water consumption: approx. 2 L of water per analysis

(at 2 bar pressure) 85 - 265 VAC, 47-63Hz Power supply:

Power consumption: 25VA (operating), 3.5VA (standby)

Protection class:

Display: Graphic backlit LCD display

Measurement units:

Inputs:

Mounting:

Outputs: 1, 4 sets of programmable relay outputs (max. 250 V,

4 A), 2、1 group of 0 / 4 - 20 mA signals, max. 750  $\Omega$ 

3. RS485 Modbus RTU communication

2、IN2 input (reset device)

1、IN1 input (start analysis / flow control switch / water meter)

Analysis period: Time interval measurement (10~360min)/external

signal/flow signal settable (15~1800s) Flushing time:

Water quality requirements: colourless, no suspended matter,

no air bubbles

 $5^{\circ}\text{C}$  -  $45^{\circ}\text{C}$ , water sample:  $5^{\circ}\text{C}$  -  $40^{\circ}\text{C}$ Temperature: ambient: Humidity: 20 - 90% RF, indoor installation

Pressure: ca. 0.5 - 5 bar (max.) (1 - 2 bar recommended)

Water inlet/outlet connection: 6 mm OD hose

300x300x200mm (WxHxD), ca. 4Kg Dimensions/weight:

Wall mounted

# Online Residual/Total Chlorine Analyser (colourimetric)

# **PACON 2501**

The PACON 2501 on-line residual chlorine analyser is an accurate, cost-effective and low-maintenance instrument for continuous on-line monitoring of residual chlorine. It detects the concentration of residual chlorine using the DPD colourimetric method and automatically adds reagents for colourimetric measurement. making it suitable for residual chlorine measurement during chlorination and disinfection and for monitoring residual chlorine concentrations in drinking water networks. Selecting total chlorine reagent, total chlorine concentration can be monitored online.



#### **Measurement parameters**

residual chlorine, total chlorine

Piped water, Drinking water network, Reverse osmosis, Chilled water Swimming pools, Shampoo (liquid), Sterilisation process

- DPD colourimetric method for more accurate and stable measurements
- Auto-diagnostics and auto-calibration
- Low reagent consumption and easy replacement
- Automatic and manual measurement modes
- Analysis cycle time approx. 2.5 minutes
- IP65 protection rating
- 4-20mA output
- RS485 Modbus communication
- Password protection against unauthorised operation

# Must drain without pressure

#### Technical parameter

Measuring principle: DPD colourimetric method

0.00-5.00 mg/l (ppm) residual chlorine Measuring range: 0.01 mg/l (ppm) Resolution:

Accuracy: 1 per cent f.s.

adjustable: 60 - 3600s (system default 300s) Cycle time: 4.3" LCD touch screen display(measured value, Display:

measurement mode and relay status)

Chinese/English Language: 90-260VAC,50/60Hz Power supply:

4-20mA output, Max. 500Ω Analogue output:

Digital output: RS485 Modbus 2 sets of independently set Hi/Lo alarm points

with hysteresis setting, 5A/250VAC

Operating conditions: Operating temperature: 0-50°C;

Humidity: 10-95 per cent, non-condensing Flow rate: 1/min; Pressure: 1 bar Recommendation:

Protection class: IP65

Installation: wall mounting 300x400x180mm Size:

#### **Order Guide**

Order No.	Description
33-2501-00	PACON 2501 On-line Residual/Total Chlorine Analyser
50-2501-00	Residual chlorine reagent kit, 2500 measurements possible
50-2501-02	Total chlorine reagent kit, 2500 measurements possible
50-2501-10	Spare parts kit for residual chlorine, including: peristaltic

# **Online Turbidity Analyser**

# **PACON 2001**

The PACON 2001 flow-through turbidity analyser is an on-line product designed for low range turbidity monitoring in waterworks and pipeline networks. The 90° scattered light method, which meets the ISO7027 standard, is widely used for on-line monitoring of turbidity in all types of clean water, such as waterworks outfalls and engineering drainage outfalls.



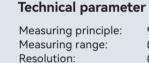
#### **Measurement parameters**

Turbidity

#### **Applications**

Waterworks, industrial processes, drinking water networks

- 90° light scattering principle, conforms to ISO 7027 standard.
- Bubble elimination tank design, easy to install
- Anti-condensation function for high precision measurement
- Chinese/English menu for easy operation
- Password protection to prevent unauthorised operation
- Optional automatic drain
- 2 x programmable Hi/Lo relay outputs
- 4-20mA/RS485 Modbus RTU outputs
- Data storage function, supports data export from USB stick



90° scattered light 0.0001-100NTU 0.0001/0.01/0.01NTU

Accuracy: ±2% of reading or 0.02NTU, which-

ever is the greater.

Light source:

Power supply: 90-260VAC, 50/60Hz, 24VDC optional Display: LCD backlit display of measured value, temperature and relay status

Language: Chinese/English

90-260VAC, 50/60Hz, 24VDC optional Power supply: Analogue Output: Isolated 4-20mA output (turbidity),

Max. 500Ω. Digital communication: RS485 Modbus RTU

Alarm output:

2 groups of independently set Hi/Lo alarm points, with hysteresis setting.

IP65

100-200ml Inlet water flow: Operating temperature: 0 - 50°C Installation: wall mounted Size: 300x400x180mm

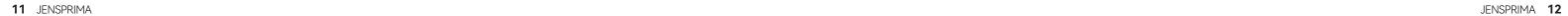
Weight: ca.5Kg

#### **Order Guide**

Protection grade:

Order No.	Description
33-2001-00	PACON 2001 Online Turbidity Analyser, 220VAC
33-2001-04	PACON 2001 Online Turbidity Analyser, 24VAC
33-2001-10	Automatic drain valve, 24VDC





# **Streaming Current Detector**

# Flumsys 10SC

The streaming current detector is used to continuously measure the electric charge on the tiny suspended particles and colloids in the liquid. The electric charge is measured by electronic signal processing. The measurement result is converted into A.C signal or streaming current (SC). The value of streaming current (SC) isproportional to the charge density. The charged state depends on the water after flocculation. The excess positive and negative charges can quickly react to changes in water characteristics (such as chromaticity and turbidity) by detecting the changes in the streaming current (SC) value, thereby making the operation. The personnel can adjust the metering of the flocculant accordingly.



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#### Measurement parameters

Streaming Current Detector (SCD)

#### **Applications**









Water quality purification dewatering

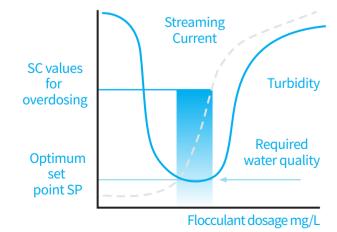
Sludge Wastewater Treatment

Need to add flocculant process

Flumsys 10SC provides water treatment plant operators with an effective tool to optimise and control the amount of flocculant and polymer used!

#### **Advantage**

- Automatic control of flocculant dosing
- Reduces overall flocculant costs
- Guaranteed effluent quality
- Low operation and maintenance costs



#### **Features**

- Simultaneous display of actual SC values and relative SC values
- Real-time SC trend graph
- Automatic cleaning function (optional cleaning solenoid valve)
- PID control function
- SC 4-20mA and PID 4-20mA outputs
- 2 high/low alarm outputs
- RS485 Modbus RTU communication
- Password protection against unauthorised operation
- Data logging function, supports U disk to export (Excel)
- Two modes of automatic/manual control
- Optional pre-treatment system for extended maintenance intervals

#### **Water Quality Requirements**

Conductivity:< 3000µS/cm

pH: 4~11pH (pH < 7 after controlled flocculant application, SCD measurement

Optional pre-treatment system for extended maintenance intervals

# water High/low alarm Flumsys 10 SC 4-20mA

#### **Technical parameter**

Measurement parameters: Streaming Current Measurement range: -1000~1000SC ±0.1% Accuracy: Repeatability: ±0.1% Response time:

Operating temperature: Operating temperature: 0-50°C 220VAC.50/60Hz Power supply:

Display: 7"Touch screen LCD display SC 4-20mA and PID 4-20mA output, Max.  $500\Omega$ Analogue output:

Communication: RS485 Modbus RTU High/low alarm contact output, 24VDC/1A Alarm relay:

Automatic cleaning: cleaning interval: 0-9999min cleaning time: 0-999s

Data storage: Real-time data recording, support U disk export (Excel format)

Sampling requirements: flocculant dosing point to sensor time about 3 ~ 5min

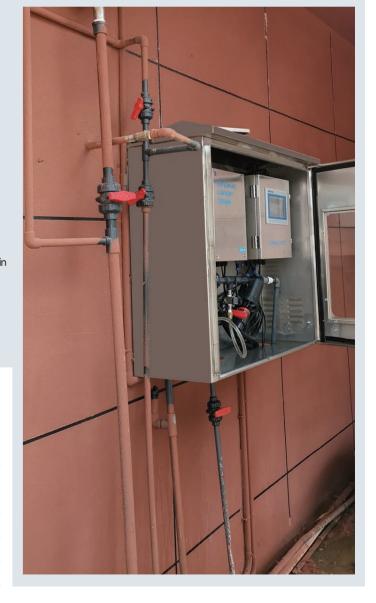
Flow rate requirements: 1 ~ 4L/min

Controller: IP65, Sensor: IP54 Protection class: Controller: 300x350x200mm. Dimensions: Sensor: 250x350x150mm Weight:

Controller: ca. 10Kg, Sensor: ca. 10Kg

#### **Order Guide**

Order No.	Description
33-5510-10	Flumsys 10SC Streaming Current Detector
33-5510-11	Flumsys 10SC cleaning solenoid valve
33-5510-12	Flumsys 10SC matching filter
50-5510-10	Flumsys 10SC PTFE kit



# **Streaming Current Detector**

# Flumsys 10TC-SP

The streaming current is used to continuously measure the electric charge on the tiny suspended particles and colloids in the liquid. The electric charge is measured by electronic signal processing. The measurement result is converted into A.C signal or flowing current (SC). The value of flowing current (SC) is proportional to the charge density. The charged state depends on the water after flocculation. The excess positive and negative charges can quickly react to changes in water characteristics (such as chromaticity and turbidity) by detecting the changes in the flowing current (SC) value, thereby making the operation. The personnel can adjust the metering of the flocculant accordingly.



The Flumsys TC-SP streaming current can be equipped with a pretreatment system to ensure the long-term trouble-free operation of the instrument, with continuous measurement, automatic cleaning,PH measurement and PID control function can be connected to the existing dosing system and start automatic dosing control. The amount of flocculant will be automatically adjusted according to the characteristics of the water.

#### **Measurement parameters**

Streaming Current/SCD, pH

#### **Applications**









Water quality Sludge purification dewatering

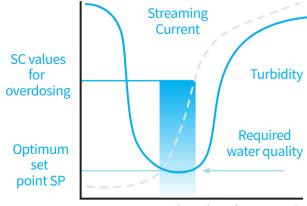
Wastewater ng Treatment

Need to add flocculant process

Flumsys TC-SP provides water treatment plant operators with an effective tool to optimise and control the amount of flocculant and polymer used!

#### Advantage

- Automatic control of flocculant dosing
- Reduces overall flocculant costs
- Guaranteed effluent quality
- Low operation and maintenance costs



Flocculant dosage mg/L

#### **Features**

- Simultaneous display of actual SC value and relative SC value
- Simultaneous pH monitoring (optional) for real-time knowledge of flocculation effects
- Automatic cleaning function
- PID control function
- SC 4-20mA and PID 4-20mA output
- 2 high/low alarm output
- RS485 Modbus RTU communication
- 4.3" colour touch screen, easy to operate
- Password protection to prevent unauthorized operation
- Data recording function, support U disk to export (Excel)
- Automatic control / manual control two modes
- Split sensor design for easy installation on site
- Optional pretreatment system, greatly reducing maintenance

#### **Water Quality Requirements**

Conductivity: < 3000 µS/cm

pH: 4~11pH (pH < 7 after controlled flocculant application, SCD measurement is best)

Optional pre-treatment system for extended maintenance intervals

# Raw Pretreat Mixing pool Flocculation tank Filter tank Flocculation tank Filter tank Flocculation tank Flocculation tank Flocculation tank Filter tank Flocculation tank Flocculation tank Flocculation tank Filter tank Flocculation tank Flocculation

#### **Technical parameters**

Measuring parameter: Streaming Current/SCD, pH
Measurement range: -1000~1000SC

Measurement range: -1000~1000 0-14pH Accuracy: ±0.1% ±0.01pH Repeatability: ±0.1%

Response time: 1s
Operating temperature: 0-50°C
Liquid connection material:PTFE, POM, SS316

Housing: ABS/PC
Power supply: 220VAC, 50/60Hz

Analogue output: 2 x 4-20mA (measured value and PID),

 $\begin{array}{cc} & \text{max. load } 500\Omega \\ \text{Relay output:} & 2 \text{ high/low relays,} \end{array}$ 

alarm value and hysteresis can be set cleaning: cleaning interval: 0-9999min,

cleaning time: 0-999s
Digital communication: RS485 Modbus RTU
Data storage: Real time data recording,

U disk export support (Excel format)
Sampling requirements: flocculant dosing point to sensor

time about 3-5min

Flow rate requirement: 1~4L/m
Protection class: IP65

Dimensions: Controller: Controller: 200×190×90mm, Sensor: 250×350×150mm

Weight: Controller: ca.1Kg, Sensor: ca.5Kg

#### **Order Guide**

Order No.	Description	
33-2310-61	Flumsys 10TC-SP Streaming Current Detector	
33-5510-11	Cleaning solenoid valves	
33-5510-12	Filters	
33-5510-10	PTFE kit	
35-0125-10	innoSens 125T pH/TSensor	



**MULTI-PARAMETER MULTI-PARAMETER** 

# **Conventional Five-Parameter Water Quality Analyser**

# Flumsys 10MT

The Flumsys 10MT multi-parameter controller can be used to simultaneously monitor multiple parameters including: pH, conductivity, dissolved oxygen, turbidity and temperature online through optional sensors according to the customer's requirements. Other measurement parameters can also be extended according to customer requirements. The 7<sup>ii</sup> touch screen controller is easy to operate, easy to install and plug and play for sensors. Data storage function and U-disk export support. RS485 Modbus RTU communication as standard, with optional data telemetry module.

#### **Measurement parameters**

Conductivity Dissolved oxygen

Turbidity

Temperature

Other parameters extendable

#### **Applications**

Surface water

Drinking water sources

Groundwater

Aquaculture

Online water quality monitoring for industrial sectors

#### **Features**

- Flexible configuration of measurement parameters 5 water quality parameters including pH, conductivity, dissolved oxygen, turbidity and temperature can be continuously monitored. Other parameters are customised as required.
- Modular design

Analogue sensors can be configured with different modules depending on

- Sensor plug and play, automatic recognition by the controller
- Imported sensors with good repeatability and stability

The pH sensor uses a PTFE diaphragm for greater resistance to contamination.

The conductivity sensor is a two-stage type with stable and reliable measurement.

The dissolved oxygen sensor uses fluorescence method technology, which is basically maintenance-free and comes with NTC temperature compensation function.

The turbidity sensor complies with ISO 7027 standard method and is not disturbed by the colour of the sample

- Optional air automatic cleaning function
- IOptional automatic air cleaning device with timed probe flush
- 7" colour touch screen, simple and easy to operate Chinese/English menu for quick set-up and calibration. Data storage, access and USB stick export functions.
- IP65 degree of protection

Suitable for various indoor and outdoor installation environments.

- Standard RS485 Modbus RTU communication
- Optional wireless transmission module + cloud platform Optional WIFI/GPRS 4G wireless transmission module, mobile phone APP, web page for real-time data, historical data.







#### Technical parameter

Power supply: 110-240VAC, 50/60Hz

Power consumption: <20W

Digital output: standard RS485 Modbus RTU

Wireless transmission: optional wireless transmission module + doud platform Display: 7" colour LCD touch screen with LED backlight

Resolution:

Data storage: Historical data can be queried, support U disk export Storage interval: Can be set from 1–3600s, default 10s

Case material: ABS/PC Storage temperature: -20-70°C

Operating temperature: 0-60°C 229 x 203 x 99 mm Dimensions:

Protection class: IP65 Weight: Ca.1.5Kg

#### Measurement range

рН	Measurement principle: Measurement range: Resolution: Accurate: Response time:	Glass Electrode 0-14pH, -2000-2000mV 0.01pH, 1mV ±0.01pH, ±1mV ≤30s	
Conductivity	Measurement principle: Measurement range: Resolution: Accurate: Response time:	Two-stage 0-2000uS/cm 0.01uS/cm ±1%f.s. ≤30s	A STATE OF THE STA
Dissolved Oxygen	Measurement principle: Measurement range: Resolution: Accurate: Response time:	Fluorescence 0-20.00mg/L 0.01mg/L ±0.1ppm/±1% ≤30s	
Turbidity	Measurement principle: Measurement range: Resolution: Accurate: Response time:	90°scattered light 0-100NTU/0-4000NTU 0.001/0.01/0.1NTU, Depend on the measuring range $\pm 2\%$ of reading $\leq 30$ s	
Temp	Measurement principle: Measurement range: Resolution: Accurate: Response time:	Thermistor Method 0-100°C 0.1°C ±0.2°C ≤30s	·
Free Chlorine Chlorine Dioxide	Measurement principle: Measurement range: Resolution: Accurate: Response time:	Constant Voltage Method 0-2.000/0-20.00mg/IL 0.001/0.01mg/L ±2%f.s. ≤30s	

<sup>\*</sup>Digital Water Quality Sensors Technical Data Consult JENSPRIMA Inc.

#### **Order Guide**

Item No.	Measurement Parameters	Additiona	l Parameters	Signal Transfer
Flumsys 10MT —				
Five parameters:	pH, conductivity, dissolved oxygen, high-range turbidity, temperature. pH, conductivity, dissolved oxygen, Low-range turbidity, temperature. Other customised		0 NO 1 chromaticity	R RS485 Modbus RTU G Wireless Transmission A APP+Cloud Platform

MULTI-PARAMETER MULTI-PARAMETER

# Multi-Parameter Water Quality Analyser (For Drinking Water)

# Flumsys 20MT

Flumsys 20MT online analyser is designed for network water quality monitoring, secondary water quality monitoring and agricultural water quality monitoring, integrated integration, can measure and display multiple parameters at the same time, with data storage, data transmission and other functions. The Chinese operating interface is simple to operate and allows for quick setup and calibration of the sensor. The analyser uses a high precision turbidity module with built-in antifoaming structure for more stable and accurate measurements. The residual chlorine module is available with DPD reagent colourimetric method or constant voltage electrode method to meet the different application requirements of customers

#### **Measurement parameters**

Free chlorine

Total chlorine

Chlorine dioxide

Turbidity

pH ORP

Conductivity (Salinity/TDS)

Dissolved oxygen

Temperature

#### **Applications**

Waterworks

Water supply network

Rural drinking water

Swimming Pool

#### **Features**

Highly accurate turbidity measurement

 $90^{\circ}\,\text{scattered}$  light principle in accordance with ISO 7027

Built-in bubble elimination structure and anti-condensation function for more accurate and reliable measurements  $_{\circ}$ 

LED light source, no need to replace in 10 years. 0.0001 – 5/20/100NTU range available.

 Colourimetric measurement of residual chlorine by DPD reagent and constant voltage electrode method

The DPD reagent colourimetric method is the international standard for high precision and stability measurements.

Constant voltage electrode method, without any reagents, no need to change diaphragms and electrolyte.

Modular design, flexible configuration of measurement parameters

7 water quality parameters including residual chlorine, turbidity, pH, ORP, conductivity, dissolved oxygen and temperature can be continuously monitored and customised as required.

Multi-parameter integrated design

Small footprint, easy to install, low maintenance, can be suitable for long unattended and stable operation.

• 7" colour touch screen, simple and easy to operate

Chinese menu for quick set-up and calibration. Data storage, access and USB stick export functions.

IP65 protection class

Suitable for indoor and outdoor installation in a variety of environments

 Optional wireless transmission module + cloud platform RS485 Modbus RTU communication as standard, optional WIFI/GPRS 4G wireless transmission. Mobile APP, webpage for real time data and historical data.





#### **Technical parameter**

Power supply: 110-240VAC, 50/60Hz
Power consumption: 20W
Digital output: RS485 Modbus RTU

Wireless transmission: optional wireless transmission module + doud platform Display: 7" LCD touch screen with LED backlight display Data storage: Historical data can be queried, support U disk export Storage interval: Can be set from 1-3600s, default 10s

Dimensions: 380x740x180mm

Protection class: IP65 Weight: ca.15Kg

Inlet pressure: 0.5-1bar(Overpressure recommended with

pressure reducing valve)
Flow Rate: 300-500ml/min

Ambient temperature: 0-50°C
Temperature of watersample: 0-40°C

Water inlet/outlet connection: 6mm/10mm hose

#### Measurement range

	90		
Turbidity	Measurement principle: Measurement range: Resolution: Accurate: Response time:	90°scattered light 0-5/10/100NTU 0.0001/0.001/0.01NTU, Depend on the measuring ±2%of reading for <40 NTU, ±5%of reading ≤30s	range
Residual Total chlorine	Measurement principle: Measurement range: Resolution: Accurate: Response time:	DPD reagent colourimetric method 0-5.00mg/L 0.01mg/L ±1%f.s. ≤2.5min	
Free Chlorine Chlorine Dioxide	Measurement principle: Measurement range: Resolution: Accurate: Response time:	constant voltage method 0-2.000/0-20.00mg/L 0.001mg/L ±2%f.s. ≤30s	
pH/ORP	Measurement principle: Measurement range: Resolution: Accurate: Response time:	Glass Electrode 0-14pH, -2000-2000mV 0.01pH, 1mV ±0.01pH, ±1mV ≤30s	
Conductivity TDS/Salinity	Measurement principle: Measurement range: Resolution: Accurate: Response time:	Two-stage conductivity/Four-stage conductivity 0-10000uS/cm, 0-200mS/cm 0.01uS/cm ±1%f.s. ≤30s	
Dissolved Oxygen	Measurement principle: Measurement range: Resolution: Accurate: Response time:	Four-stage conductivity 0-20.00mg/L 0.01mg/L ±0.1mg/L ≤30s	
Temp	Measurement principle: Measurement range: Resolution: Accurate: Response time:	Thermistor Method -5-100°C 0.1°C ±0.2°C ≤30s	

<sup>\*</sup>Digital Water Quality Sensors Technical Data Consult JENSPRIMA Inc.

#### **Order Guide**

Item No.	Measurement Parameters	Additional	Parameters	Signal Transfer
Flumsys 20MT —				
Four parameters:	turbidity, residual chlorine (DPD colourimetric method), pH, temperature Four parameters: turbidity, residual chlorine (electrode method), pH, temperature Other customised	1 Two-stage conductivity	0 NO 1 Dissolved Oxygen	R RS485 Modbus RTU G Wireless Transmission A APP+Cloud Platform

MULTI-PARAMETER MULTI-PARAMETER

# **Boiler Water Quality Online Monitoring system**

# Flumsys 30MT

Flumsys 30MT Boiler water quality online monitoring system In recent years, maximising the reduction of operating costs for all types of steam boilers has been an important step in improving the economic and environmental performance of businesses, against the backdrop of a global shortage of resources and the promotion of low carbon energy efficiency. In any steam boiler facility, online monitoring of the boiler feedwater or furnace water is an important step in reducing energy costs. In accordance with the Industrial Boiler Water Quality Standard, JENSPRIMA has launched the Flumsys 30MT boiler water quality monitoring system based on the company's speciality products: the online hardness analyser and the online alkalinity analyser, which allow the user to choose the measurement parameters to be measured according to site requirements.

#### **Measurement parameters**

Total hardness: 0.21-534 ppm (Dilution unit can be added)

Total alkalinity: 0.107-41.0 mmol/l Phenolphthalein alkalinity 0.8-20.0 mmol/l

Iron ions: 0.001-0.5ppm/0.2-6.0ppm

pH: 0-14pH
 Conductivity: 0-2000μS/cm
 Dissolved oxygen: 0-200μg/L
 Turbidity: 0-100NTU
 Chlorine ion: 2-20000ppm
 TDS: 0-99900ppm

The above parameters can be freely integrated and combined

#### **Applications**

Water softening Boiler water Recycled water Desalinated water

#### **Solutions**

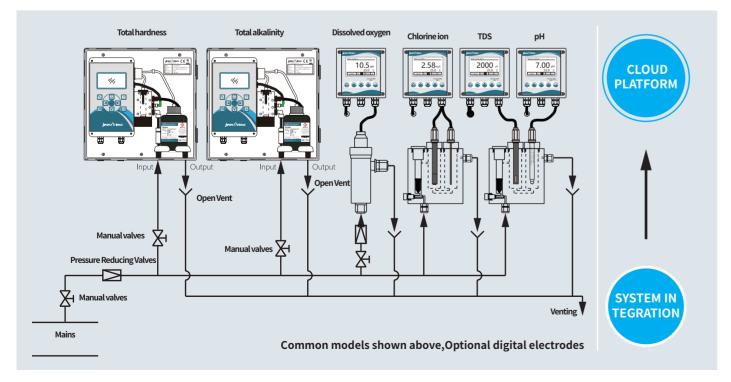
According to the national standard GB/1576, Jensprima can provide the following two boiler water quality monitoring solutions:

- 1. Controller + sensor integration, optional wireless transmission module + cloud APP
- 2. Digital sensor integration + 7" touch screen display, optional wireless transmission module + cloud app



Flumsys 30MT

Multi-Parameter Analyzer



#### **Measurement range**

Total Hardness Total Alkalinity	Measurement principle: Measurement range: Resolution: Accurate: Response time:	Hardness: 0.21- 0.01/0.1/1ppm ±5%per cent of	-534p the n		
Iron ion	Measurement principle: Measurement range: Resolution: Accurate: Response time:	Colorimetry 0.01-0.5mg/L, 0.01/0.1mg/L ±10%f.s. 约7min	0.2-6	5.0mg/L	
Turbidity	Measurement principle: Measurement range: Resolution: Accurate: Response time:	0-5/0-100NTU 0.0001/0.001N	TU	for large values (less than 40	0 NTU),±5%of reading
рН	Measurement principle: Measurement range: Resolution: Accurate: Response time:	Glass electrode 0-14pH 0.01pH ±0.01pH ≤30s	2		
Conductivity TDS	Measurement principle: Measurement range: Resolution: Accurate: Response time:	Two-stage 0-2000uS/cm 0-99900ppm 0.1uS/cm,1ppm ±1%f.s. ≤30s		Technical parameter  Power supply:  Digital output:  Wireless transmission:	220VAC, 50/60Hz RS485 Modbus RTU optional wireless transmission module + cloud platform
Dissolved Oxygen	Measurement principle: Measurement range: Resolution: Accurate: Response time:	Polarography 0-200µg/L 0.1ug/L ±1%f.s. ≤30s		Display: Data storage: Storage interval: Dimension: Protection grade: Weight:	7-inch LCD touch screen with LED backlit display can query historical data, support U disk export 1–3600s, default 10s Conventional 380x740x180mm, according to measurement parameters IP65 approx. 15Kg
Chloride ion	Measurement principle:  Measurement range: Resolution: Accurate:	ion selective electrode 2-20000ppm 0.1/1ppm ±5%f.s.		Inlet pressure: Flow rate: Ambient temperature: Temperature of water sample Inlet/Outlet Connection:	1-2bar (pressure is too high, we recommend addin a pressure reducing valve) 300-500ml/min 0-50°C

#### **Order Guide**

Response time:

≤30s

Item No. Integration Mode	Measuremen	Measurement parameters					;	Signal transmission	
Flumsys 30MT —									
1 Touch screen + digital sensor	0 NO		0 NO		0 NO		0 NO	R RS485 Modbus RTU	
2 Controller + Sensor	1 Total Hardness		1 iron ion		1 Conductivity		1 Chloride ion	G Wireless Transmission	
3 Other customised		0 NO		0 NO		0 NO		A APP+Cloud Platform	
		1 Total All	kalinity	1 pH		1 Dissolve	d Oxygen		

# **Intelligent Controller**

# innoCon 6800 plus

The innoCon 6800 plus intelligent controller is designed for water treatment and industrial process monitoring, with Chinese/English menus, automatic temperature compensation, two 4-20mA/RS485 Modbus RTU and Hi/Lo alarm outputs as standard, panel and wall mounting. Different water quality parameters can be measured by selecting different innoSens electrodes.



33-6801-10

Order No.

33-6801-20

#### **Measurement parameters**

pH/ORP、Conductivity/TDS/Salinity、Residual chlorine/Chlorine dioxide/Ozone、Dissolved Oxygen、Ion concentration

#### **Applications**

Wastewater, boiler water, drinking water process water, untreated water

#### Features

- The latest wide power input, super anti-interference design
- Large-screen backlit LCD shows measured values, temperature and relay status
- Chinese / English menu, easier to operate
- Password protection, to prevent unauthorized operation
- New calibration steps can help reduce operational errors
- 2 sets relay output can set High/ Low
- Automatic cleaning relay output
- 2 channel 4-20mA current
- RS485 Modbus output

Technical par	ameter							
Item No.:	innoCon 6800P	innoCon 6800C	innoCon 6800CL	innoCon 6800O	innoCon 6800I			
Measurement:	pH/ORP	Conductivity/TDS/Salinity	Cl2 / ClO2/Ozone	ppm/ppb Dissolved Oxygen	lon concentration			
Range:	-2.00 - 16.00pH	0 - 2000mS/cm,	0 - 2.000ppm	0 -20.00mg/L,0 - 200%	0 - 20000ppm			
	-2000 - 2000mV	0 - 99900ppm,0-78ppt	0 -20.00ppm	0 - 200µg/L				
Resolution:	0.01pH/1mV	0.01/0.1/1	0.001/0.01ppm	0.01mg/L,0.1µg/L	0.01/0.1/1ppm			
Accuracy:	±0.01pH/±1mV	±1%	±2%f.s.	±1%f.s.	±5%f.s.			
Compensation:	PT1000 or NTC10K	PT1000 or NTC30K	PT1000	PT1000 or NTC10K	PT1000 or NTC10K			
Display:		Big-size screen o	of crystal display, white	back light				
language:			Chinese / English					
Passcode:		Set mode: 0	022, Calibration mode	: 0011				
Power supply:		90 - 260V A0	C, 50/60Hz; 24VDC(Op	tional)				
Current output:	2x Isolated 4	-20mA outputs, programr	mable measured value	and temperature, max. load	ქ 500Ω			
Digital commun	ication:	R	S485 Modbus RTU					
Alarm output:	2 sets	of programmable Hi/Lo co	ntacts with hysteresis s	setting, 5A/250VAC/30VDC	•			
Washing Relay:		Wash interval:	0.1-1000h, Wash time	:1-1000s				
Working temper	rature:		0~70.0°C					
Protection class	:	IP65						
Installation:		Wall/Pipe/Panel Mounting						
Size:		Dimensions: 144 × 144 × 110mm, Panel Cut Size: 138 × 138mm						
Weight:	ht: Ca.0.85Kg							

33-6801-30

33-6801-40

# **Basic Controller**

# innoCon 6501

The innoCon 6501 basic controller is designed for water treatment and industrial process monitoring, with Chinese/English menu, automatic temperature compensation, 1 channel 4-20mA/RS485 Modbus RTU and Hi/Lo alarm output as standard, and panel embedded installation. Different water quality parameters can be measured by selecting different innoSens electrodes.



#### **Measurement parameters**

pH/ORP、Electrical conductivity/Resistivity、Residual chlorine

#### **Applications**

Municipal wastewater、industrial wastewater drinking water、process water

#### **Features**

- The latest wide power input, super anti-interference design
- Economical and practical
- Large-screen backlit LCD display, easy to read all day long
- Chinese / English menu, easier to operate
- Password protection, to prevent unauthorized operation
- 2 sets relay output can set High/ Low
- 1 channel 4-20mA current
- RS485 Modbus output

Technical param	neter						
Item No.:	innoCon 6501P	innoCon 6501C	innoCon 6501CL				
Measurement:	pH/ORP	Electrical conductivity/Resistivity	Residual chlorine				
Range:	-2.00 - 16.00pH	0 - 2000mS/cm,	0 - 2.000ppm				
	-2000 - 2000mV	0 - 99900ppm,0-78ppt	0 -20.00ppm				
Resolution:	0.01pH/1mV	0.01/0.1/1	0.001/0.01ppm				
Accuracy:	±0.01pH/±1mV	±1%	±2%f.s.				
Compensation:	PT1000 or NTC10K	PT1000 or NTC30K	PT1000 or NTC10K				
Display:	:	screen of crystal display, white back ligh					
language:		Chinese / English					
Passcode:	S	set mode: 0022, Calibration mode: 0011					
Power supply:		90 - 260V AC, 50/60Hz; 24VDC(Optional)					
Current output:	1x Isolated 4-20mA outpu	its, programmable measured value and to	emperature, max. load 500Ω				
Digital communicat	tion:	RS485 Modbus RTU					
Alarm output:	2 sets of programm	able Hi/Lo contacts with hysteresis settin	g, 5A/250VAC/30VDC				
Working temperatu	ıre:	0~70.0°C					
Protection class:		IP65					
Installation:		Pipe/Panel Mounting					
Size:		108 × 108 × 145mm					
Panel Cut Size:		92 × 92mm					
Weight:		Ca.0.6Kg					
Order No. 33-6501-10 33-6501-20 33-6501-3							

23 JENSPRIMA 24

33-6801-50

# **Touchscreen Controller**

#### innoCon 6800

25 JENSPRIMA

The innoCon 6800 series of single channel controllers are designed for the measurement of a single water quality parameter relevant to the water treatment industry. with a 4.3" colour LCD display and touch operation, setup is very simple. The series controllers have data storage function and support USB stick data export. Three programmable relays and two 4-20mA outputs are provided for control of auxiliary equipment, and Modbus RTU (RS485) communication is standard.



#### **Measurement parameters**

Measured parameters, Dissolved oxygen, MLSS, turbidity, ozone, trace oxygen

#### **Applications**

Wastewater, boiler water, drinking water, process water, untreated water

#### **Features**

- Wide power input, touch screen design
- Large backlit LCD display of measured value, temperature and relay status
- Chinese/English menu, easy to operate
- Password protection to prevent unauthorised operation
- New calibration step-by-step instructions to help minimise operating errors
- 2 x programmable Hi/Lo relay outputs
- Programmable auto-purge relay outputs
- 2 x Isolated 4-20mA outputs
- RS485 Modbus RTU communication
- Data storage function, support for USB stick export

Item No.:	innoCon 6800D	innoCon 6800S	innoCon 6800T-1	innoCon 6800T-5	innoCon 6800TO	innoCon 6800OZ
Measurement:	Dissolved oxygen	MLSS	High-range Turbidity	Low-range Turbidity	Trace oxygen	Ozone
Measurement	0.00-20.00ppm	0.0-30.0g/L	0-1000NTU	0.0001-100NTU(FTU)	0 - 2000ppb(μg/L)	0.005-20.00ppm
Range:	0-200%		0-4000NTU			
Resolution:	0.01ppm	0.1g/L	0.1NTU,0.1mg/L	0.0001/0.001NTU(FTU)	0.1ppb	
Accuracy:	±0.1ppm or ±1%	±3%f.s.	±2%f.s.	±0.02NTU,take largest	±0.5ppb/2%,take largest	
Display:		4.3	3 inch colour LCD tou	ch screen display		
Language:			Chinese/Er	nglish		
Password:		Sett	ing mode: 0022, Calil	oration mode: 0011		
Power supply: 110-240VAC,50/60Hz;						
Current Output	ent Output 1: Isolated 4-20mA output, measurable value can be set, maximum load 500Ω					
Current Output	t Output 2: Isolated 4-20mA output, measurable value can be set, maximum load 500Ω					
Digital communication: RS485 Modbus RTU						
Alarm output: 2 sets of programmable Hi/Lo contacts with hysteresis setting, 5 A/250VAC/30VDC						
Cleaning relay: Cleaning interval: 0.1–1000h, cleaning time: 1–1000s						
Temperature: Working temperature: 0~70.0°C,Storage temperature: -20~70.0°C						
Protection class: IP65						
Installation: Ca.1Kg						
Dimension: 200 × 180 × 90mm						
Weight:	eight: Ca.1Kg					
Order No.	33-6800-10	33-6800-20	33-6800-31	33-6800-35	33-6800-70	33-6800-60

# **Dual-Channel Controller**

# Flumsys 10TC

The Flumsys 10TC Dual Channel Controller is designed to measure a range of water quality parameters relevant to the water treatment industry and can be customised to provide the customer with the freedom to choose two measurement parameters to customise the dual channel to support JENSPRIMA sensors only. The 4.3" colour LCD display is touch operated and very easy to set up. This series controller has data storage function, support U disk data export. Provides three programmable relays and two 4-20mA outputs for controlling auxiliary equipment, Modbus RTU (RS485) communication is standard.



#### Measurement parameters

Residual chlorine/turbidity、Residual chlorine/pH、Conductivity/pH (two parameters can be customised)

#### **Applications**

Municipal wastewater, industrial wastewater, drinking water, process water

#### **Features**

- Simultaneous measurement of two parameters, wide power input, touch screen design
- 4.3-inch colour touch screen displays measured value, temperature and relay status
- Chinese/English menu, easy to operate
- Password protection to prevent unauthorised operation
- New calibration step-by-step instructions to help reduce operating errors

JENSPRIMA 26

- 2 x programmable Hi/Lo relay outputs
- Programmable auto-purge relay outputs
- 2 x Isolated 4-20mA outputs
- RS485 Modbus RTU communication
- Data storage function, support for USB stick export

Item No.:	Flumsys 10TC-FT	Flumsys 10TC-FP	Flumsys 10TC-CP	
Measurement:	Residual chlorine/turbidity	Residual chlorine/pH	Conductivity/pH	
Measurement	0-2.000/0-20.00mg/L	0-2.000/0-20.00mg/L	0-20.00μS/cm、0-200.0μS/cm	
Range:	0.0001-100NTU	0-14pH	0-2000μS/cm、0-14pH	
Resolution:				
Accuracy:				
Display:	4.3	inch colour LCD touch screen display		
Language:		Chinese/English		
Password:	Settir	ng mode: 0022, Calibration mode: 0011		
Power supply:	supply: 110-240VAC,50/60Hz			
Current Output	Isolated 4-20mA output, measurable value can be set, maximum load $500\Omega$			
Current Output	2: Isolated 4-20mA out	Isolated 4-20mA output, measurable value can be set, maximum load $500\Omega$		
Digital communi	cation: RS485 Modbus RTU			
Alarm output:	put: 2 sets of programmable Hi/Lo contacts with hysteresis setting, 5 A/250VAC/30VDC			
Cleaning relay:	Cleaning interval: 0.1-1000h, cleaning time: 1-1000s			
Temperature:	Working temperature: 0~70.0°C,Storage temperature: −20~70.0°C			
Protection class:	ss: IP65			
Installation:	Ca.1Kg			
Dimension:	200 × 180 × 90mm			
Weight:	Ca.1Kg			
Order No.	32-2310-78	33-2310-71	32-2310-31	

33-6800-10 33-6800-20 33-6800-31 33-6800-35 33-6800-70 33-6800-60 Order No. 32-2310-78 33-2310-71 32-2310-31

# **PH/ORP Electrode**

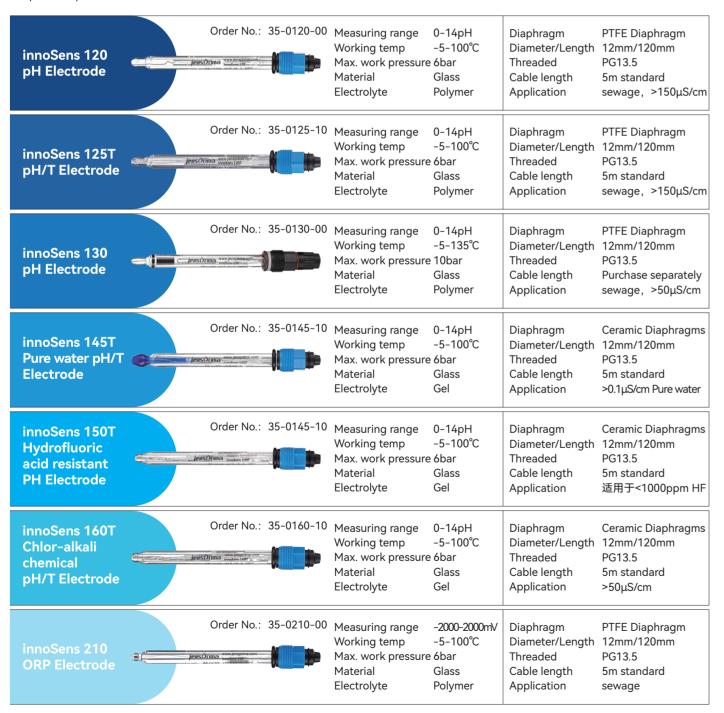
# innoSens pH/ORP

The innoSens series of pH/ORP electrodes are composite electrodes with low-maintenance and high-accuracy features that make them widely used in wastewater treatment, pharmaceutical, chemical, food and beverage industries.

#### **Applicable Controllers**

innoCon 6800P Intelligent pH/ORP Controller、innoCon 6501P Basic pH/ORP Controller、Flumsys 10TC Controller

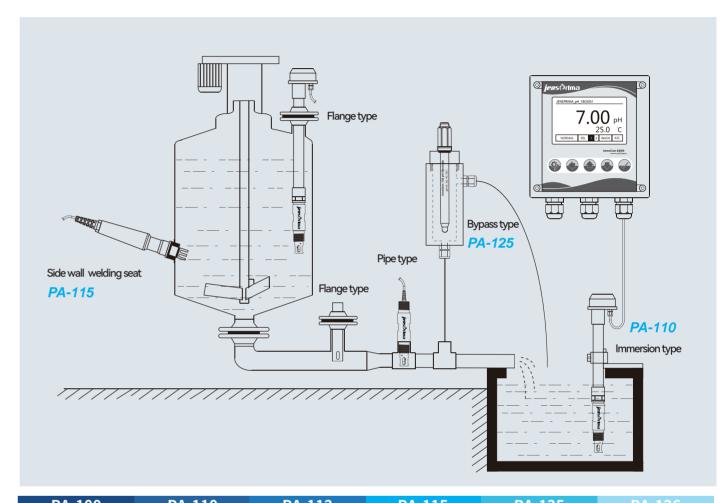
- A/AqCI reference system, Gel and Polymer electrolytes available for longer electrode
- life Open and PTFE diaphragms available for high dirt immunity
- Operating temperature -5-100 °C, high temperature electrodes up to 135°C, optional PT1000 temperature probe (model with T indicates temperature probe included).



# pH/ORP Mounting Accessories

# **PA-100 Series**

JENSPRIMA also provides matching pH/ORP mounting accessories, which can be selected by the user according to the on-site installation requirements.







#### **Order Guide**

Order No.	Description	
50-0100-00	PA-100 Immersion type Mounting Kit	
50-0100-10	PA-110 Electrode cover, CPVC material, PG13.5 to 3/4"NPT	
50-0100-12	PA-112 Chucks cover,316L	
50-0100-15	PA-115 Electrode cover, Sidewall Mounting	
50-0100-25	PA-125 Flow cell, Acrylic material	
50-0100-26	PA-126 Flow cell, Stainless steel material	

**CONTROLLER & SENSOR CONTROLLER & SENSOR** 

# **Conductivity Electrodes**

# innoSens 320/330

The innoSens range of conductivity electrodes offers durability, reliability and high performance for a wide range of conductivity monitoring applications, from ultrapure water to sewage and wastewater treatment.

#### **Applicable Controllers**

innoCon 6800C Intelligent Conductivity Controller、innoCon 6501C Basic Conductivity Controller、Flumsys 10TC Controller



Measuring range 0.01-200.0µS/cm

Temperature probe PT1000

0-100°C(Optional high temperature electrode) Working temp

Max. Pressure

Installation Pipe installation Connection method 3/4"NPT Cable length 5m standard

Two-stage electrode, 316L material, suitable for pure water, ultrapure water



0.1-2000µS/cm Measuring range Temperature probe PT1000

Working temp 0-100°C(Optional high temperature electrode)

Max. Pressure Installation Pipe installation

Connection method 3/4"NPT Cable length 5m standard

Two-stage electrode, 316L material, suitable for raw water, pure water

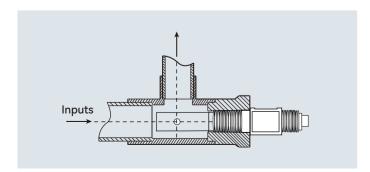


0-200mS/cm Measuring range Temperature probe PT1000 Working temp 0-100°C Max. Pressure 6bar

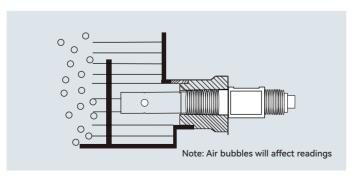
Installation Pipe installation Connection method 3/4"NPT 10m standard

TFour-stage electrode, PPS material, suitable for tap water, sewage

#### Installation Method (1)



#### Installation Method (2)



# **Conductivity Electrodes**

# innoSens 350

The innoSens range of conductivity electrodes offers durability, reliability and high performance for a wide range of conductivity monitoring applications, from ultrapure water to stock solution measurements.

#### **Applicable Controllers**

innoCon 6800C Intelligent Conductivity Controller、innoCon 6501C Basic Conductivity Controller、Flumsys 10TC Controller



Measuring range 0.01-200.0µS/cm

Temperature probe PT1000

0-100°C(Optional high temperature electrode) Working temp

Max. Pressure

Installation Pipe installation

Connection method Chucks

Cable length 5m standard

Two-stage electrode, 316L material, suitable for pure water, ultrapure water

innoSens 350-0.1 Conductivity **Electrodes** 



0.1-2000µS/cm Measuring range PT1000

Temperature probe

Working temp 0-100°C(Optional high temperature electrode)

Max. Pressure

Cable length

Installation Pipe installation Connection method Chucks

Two-stage electrode, 316L material, suitable for raw water, pure water

5m standard

innoSens 350 Conductivity **Electrodes** 

Order No.: 35-0350-03

Measuring range 0-200mS/cm Temperature probe PT1000

Working temp 0-100°C(Optional high temperature electrode)

Max. Pressure

Installation Pipe installation Connection method

Cable length 10m standard

Quadrupole electrode, PP/316L material, suitable for medium water, raw liquid, etc.



# Membrane/Micro Dissolved Oxygen Electrode

# innoSens 420/428

The innoSens 420 Clark Dissolved Oxygen Electrode is used for DO measurements in polluted wastewater surface waters. innoSens 428 Trace Fluorescence Method Dissolved Oxygen Sensor is based on the principle of fluorescence quenching, does not require membranes and electrolytes, is virtually maintenance free, and is widely used for trace oxygen measurements in bio-pharmaceuticals, brewer's beverages, and boiler de-oxidising equipment.



#### **Measurement parameters**

Dissolved oxygen in sewage (membrane method)

#### **Applications**

Municipal sewage, industrial wastewater, aquaculture

#### **Applicable Controllers**

innoCon 68000 Intelligent Dissolved Oxygen Controller Flumsys 10TC Controller

#### **Features**

- Adopts Clark measurement technology
- Built-in temperature probe compensation
- High accuracy and stability
- Integral membrane head assembly for easy replacement
- Low purchase cost

Order No.



#### **Measurement parameters**

Micro Dissolved Oxygen (Fluorescence Method)

#### **Applications**

Biopharmaceuticals, boiler deaerators

#### **Applicable Controllers**

innoCon 6800TO Dissolved Oxygen Controller Flumsys 10TC Controller

#### **Features**

- Fluorescence quenching measurement technology
- Built-in temperature probe compensation
- 316L stainless steel housing

Measuring range:

Detection limit:

Resolution:
Accuracy:

- No membrane or electrolyte required
- Stainless steel flow cell as standard

Measuring range:	0-200.00mg/L, 0-200%
Temperature compensation:	PT1000、NTC 10K
Working temperature:	0-60°C
Maximum pressure:	atmospheric pressure
Flow rate requirements:	≥0.03m/s
Material:	pps, Gold/silver electrode
Installation:	Submerged
Connection thread:	3/4"NPT
Cable length:	10m Standard
Protection class:	IP68
Application:	Sewage treatment, Surface water

35-0420-00

Working temperature:		0-50°C
Maximum pressure:		12bar
Material:		316L stainless steel
Installation:		Matching flow cel
Cable length:		10m Standard
Protection class:		IP68
Application:		Power plant, Boiler water
Order No. 35-04		28-00

0-2000.0ug/L (ppb)

±0.5ppb or 2%, Take a large value

0.5ppb

# Fluorescence Dissolved Oxygen Electrode

# innoSens 450/451

The innoSens450 and innoSens451 fluorescence dissolved oxygen sensors are based on the principle of fluorescence inactivation, require no membranes or electrolyte, are virtually maintenance-free, have excellent performance, are easy to use, do not consume oxygen, and are widely used for DO monitoring of aeration basins in municipal wastewater treatment plants.



#### **Measurement parameters**

Dissolved oxygen, Temperature

#### **Applications**

Wastewater treatment, Surface water, Aquaculture

#### **Applicable Controllers**

innoCon 6800D Digital Dissolved Oxygen Controller Flumsys 10TC Controller

#### **Features**

- Uses fluorescence quenching measurement technology
- No membranes or electrolyte required
- No calibration and maintenance required
- Only need to replace fluorescent cap (cycle 1~2 years)



#### **Measurement parameters**

Dissolved oxygen, Temperature

#### **Applications**

Wastewater treatment, Surface water, Aquaculture

#### **Applicable Controllers**

innoCon 6800D Digital Dissolved Oxygen Controller Flumsys 10TC Controller

#### **Features**

- Adopts fluorescence quenching measurement technology
- Built-in temperature probe compensation
- 316L stainless steel housing
- No membrane or electrolyte required
- Stainless steel flow cell as standard

Technical parameter		
Measuring range:	0.00-20.00ppm/0-200%	
Resolution:	0.01ppm	
Accuracy:	±0.1ppm or ±1%	
Response time:	<60seconds	
compensation:	Built-in NTC temperature probe	
Working temp:	0-60°C	
Flow rate:	No requirement	
Material:	316L	
Dimensions:	Diameter: 33.5mm, Length: 197mm, Connection: 3/4" BSP	
Cable:	10m Standard	
Max Pressure:	5bar	
Protection Class:	IP68	
Order No.	35-0450-00	

Technical parameter			
Measuring range:	0~20.00mg/L或0~200%		
Resolution:	0.01mg/L		
Accuracy:	<±0.3mg/L、<±0.3mg/L		
Response time:	<45s		
compensation:	Standard RS485 Modbus RTU protocol		
Working temp:	Built-in NTC temperature probe		
Flow rate:	0-50°C		
Material:	Submerged installation		
Dimensions:	10m Standard		
Cable:	POM+316L		
Max Pressure:	190mm、Ca. 0.3kg		
Protection Class:	IP68		
Order No.	35-0451-10		

# Fluoride ion/Chlorine ion Electrode

#### innoSens 510/520

JENSPRIMA's ion electrodes have a separate electrode design, which allows for the replacement of worn out parts of the electrode (electrode fluid and cap). This allows the electrodes to be used repeatedly with regular replacement of the cap and electrode fluid, thus achieving a service life that cannot be achieved with similar products in the market.

#### **Measurement parameters**

Fluoride ions, chloride ions

#### **Applications**

Municipal wastewater, boiler water, drinking water, outfalls

#### **Applicable Controllers**

innoCon 6800I Intelligent Ion Concentration Controller Flumsys 10TC Controller



Note: If the electrode has been out of the water for approximately 30 minutes, then it is recommended that the electrode be put back into the water to regenerate for 1 hour.

#### **Order Guide**

Description	
innoSens reference	
innoSens 510 Fluoride ion electrode, cable to be supplied separately	
innoSens 520 Chlorine ion electrode, cable to be supplied separately	
S8 connector cable, 5m	
PA-711 Flow cell, Acrylic	

#### innoSens 510 Fluoride ion Electrode

The fluorine ion-selective electrode is a solid-state thin-film electrode made primarily from LaF3 single crystals with a special polymer periphery.

Technical parameter		
Measuring parameter:	Fluorine ion concentration	
Measurement range:	0.1-10000mg/L	
Slope:	57±2mV/p F-ion	
Response time:	<30s	
Stability:	±0.3mV(30min), ±1mV(24h)	
Interfering ions:	OH-(pH>8),形成HF以及HF2-(pH<5) Interfering	
	ion to fluorine ion ratio produces 10% error	
pH applicable range:	5-8pH	
Operating temperature:	0-40°C	
Sensitive film:	LaF3 single crystal	
Housing material:	black plastic	
Dimensions:	12mm diameter, 100mm length	
Mounting:	Flow-through tank/immersion mounting, optional	
	reference electrode required	

#### innoSens 520 Chlorine ion Electrode

The chloride ion selective electrode is a solid film electrode made of a high strength AgCl/ Ag2 S pressed solid, which is then sealed in a plastic body with resin.

Measuring parameter:	Chlorine ion concentration
Measurement range:	5-35000mg/L
Slope:	57±2mV/p Cl-ion
Response time:	<30s
Stability:	±0.3mV(30min), ±1mV(24h)
Interfering ions:	OH-/Cu2+/Br-/I-/CN-/Ag+/Hg2+/Pb2+/Ti+
	Produces 10% error at a certain ratio
pH applicable range:	1-10pH
Operating temperature:	0-50°C
Sensitive film:	AgCI/Ag2S
Housing material:	black plastic
Dimensions:	12mm diameter, 100mm length
Mounting:	Flow cell mounting, optional reference electrode
	required

# **Ammonia/Nitrate Electrode**

#### innoSens 550/560

The innoSens 550 ammonia nitrogen electrode uses the ion-selective electrode method to measure the concentration of ammonia nitrogen in water. The ammonia ion-selective electrode is used to directly detect ammonium ions in the water environment to determine the concentration of ammonia nitrogen. The ammonia nitrogen sensor uses a pH electrode as a reference electrode, resulting in better stability. The sensor is also susceptible to interference from potassium ions, so when the potassium ion concentration in water is high, an optional potassium ion electrode is available for automatic compensation.

The innoSens 550 ammonia sensor consists of an ammonium ion electrode, a potassium ion electrode (optional), a pH electrode and a temperature electrode in a single sensor, which can be used to correct for each other and for multiple parameters at the same time.



#### **Measurement parameters**

NH4 -N: 0.1-1000 mg/L
pH: 5-10 pH
Temperature: 0-40°C
Accuracy:
NH4-N: ±5% of measured value
pH: ±0.1 pH
Temperature: ±0.2°C
Repeatability: ±3% of measured value
Response time: <2min
Lifetime: 6 months for diaphragm, 3
months for electrolyte
Operating temperature: 2-40°C
Protection class: IP68
Dimensions: φ62mm x 353mm

The innoSens 560 nitrate and nitrogen electrode uses an ion-selective electrode method to measure nitrate and nitrogen concentrations in water, directly detecting nitrate concentrations in the aqueous environment with a nitrate ion-selective electrode. The nitrate sensor uses a pH electrode as a reference electrode to achieve better stability. The sensor is also susceptible to interference from chloride ions, so an optional chloride ion electrode is available for automatic compensation when the chloride concentration in the water is high.

The innoSens 560 nitrate and nitrogen sensor consists of a nitrate ion electrode, a chloride ion electrode (optional), a pH electrode and a temperature electrode in a single sensor, which can be corrected for each other and for multiple parameters.



#### Measurement parameters

NO3 -N: 0.1-3000 mg/L PH: 3-10 pH Temperature: 0-40°C

Accuracy:

NO3-N: ±5% of measured value

pH: ±0.1 pH

Temperature: ±0.2°C

Repeatability:  $\pm 3\%$  of measured value

Response time: <2min

Lifetime: 6 months for diaphragm, 3

months for electrolyte

Operating temperature: 2-40°C

Protection class: IP68

Dimensions: φ62mm x 353mm

#### Sensor installation

Upon receipt of the sensor the user should first check the sensor for external damage and consult a jensprima technical engineer if you have any corresponding queries.

Note: To ensure that the electrodes are not affected by logistics, the electrodes and sensors are packed separately unless otherwise specified by the user. In this case the user must install the sensor according to the following procedure.

#### **Order Guide**

Order No.	Description
35-0550-00	innoSens 550 Ammonia Electrode, Cable 10m
35-0560-00	innoSens 560 Nitrate Electrode, Cable 10m
35-0550-10	innoSens 550 Ammonia/Potassium Ion Electrode, Cable 10m
35-0560-10	innoSens 560Nitrogen/Chloride Electrode, Cable 10m
35-0570-00	Ammonia/ Nitrate Electrode, Cable 10m

#### **Installation steps:**

- 1. Unscrew the electrode protection cover and the fixing cover.
- 2. Remove the electrode holder from the sensor casing.
- 3. Screw the electrodes into the corresponding threaded holes with a spanner and tighten to prevent leakage.
- 4. Write down the corresponding numbers of the different electrodes (the sensors are set at the factory according to  $1 \rightarrow$  ammonia nitrogen and  $2 \rightarrow$  pH).
- 5. Put the electrode holder back into the sensor casing and tighten the fixing cover and the electrode protection
- 6. Place the electrode holder back into the sensor casing and tighten the fixing cover and electrode protection cover.
- 7. The user can set it via the controller.

When the sensor is used for the first time, or if it has been out of the water for more than 30 minutes, leave the sensor in the water sample for more than 60 minutes and take a reading when the value has stabilised.

# Residual Chlorine/Chlorine Dioxide/Ozone Electrodes

#### innoSens 710

The innoSens 710 electrode is based on the double platinum constant voltage measuring principle, where the measuring and reference electrodes maintain a constant potential at which different measured constituents produce different current intensities. During the measurement process, Cl2 or HClO is consumed, so the current intensity generated is related to the concentration of residual chlorine in the water.

When the pH is in the range 6-8, the measurement signal decreases with increasing pH and can be compensated for by entering the pH value on site. Chlorine dioxide and ozone can also be measured using the constant voltage method (innoCon 6800CL intelligent controller only).

#### **Applicable Controllers**

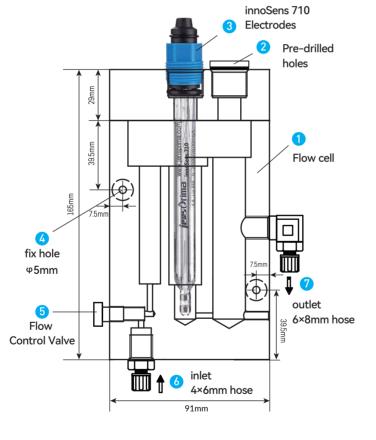
innoCon 6800CL intelligent residual chlorine/chlorine dioxide/ozone controller、innoCon 6501CL basic residual chlorine controlle Flumsys 10TC Controller

#### **Features**

- The latest wide power input, super anti-interference design
- No colourimetric reagents required
- No need to change diaphragms and electrolyte
- Easy to install and low maintenance costs
- Built-in earth wire to prevent electromagnetic interference in the field
- PA-711 flow cell maintains constant flow

Technical parameter	
Product type:	innoSens 710
Measuring range:	0-2.000/0-20.00ppm (mg/L)
Resolution:	0.001/0.01ppm
Accuracy:	±2%f.s.
Temperature compensation:	PT1000 (optional)
pH compensation:	0-60°C
Operating temperature:	Manual pH compensation
Recommended flow rate:	10-30l/h
Electrode material:	Glass
Threaded connection:	PG13.5
Cable length:	3m as standard, 10m optional
Size:	φ12mm×120mm





#### Order Guide

Order No.	Description
37-0710-00	innoSens 710 Double platinum electrodes, cable 3m
37-0710-10	innoSens 710 Double platinum electrodes, cable 10m
37-0710-20	PT1000 Temperature probe, PA-711 for flow cell
50-0711-00	PA-711 Flow cell, Acrylic

# Residual Chlorine/Total Chlorine/Ozone Electrodes

#### innoSens 730/740/750

JENSPRIM offers disinfectant detection sensors based on the Amperometric Overlay Principle: InnoSens 730 Residual Chlorine Electrode, innoSens 740 Total Chlorine Electrode, innoSens 750 Ozone Electrode for processes such as purified/drinking water/hospital wastewater, with simultaneous pH measurement as an option.

#### **Applicable Controllers**

Flumsys 10TC Controller



Measuring parameter: Free chlorine

Measuring range: 0-20.00mg/L, 0-200.00mg/L

Resolution: 0.001/0.01mg/L pH range: 4.0-9.0 Working temperature: 0-45°C Pressure: Max.3bar

Response time: Initial polarisation time about 2 hours

Amperometric overlay method for sewage, medical wastewater, slaughtering

250~500ml/min

wastewater

Flow rate:



Measuring parameter: Total chlorine

Measuring range: 0.005-2.000mg/L, 0-20mg/L

Resolution: 0.001/0.01mg/L
pH range: 4.0-12.0
Working temperature: 0-45°C
Pressure: Max.3bar
Flow rate: 250~500ml/min

Response time: Initial polarisation time about 2 hours

Amperometric overlay method for sewage, medical wastewater, slaughtering

wastewater



Measuring parameter: Ozone

Measuring range: 0.0005-2.000/0.05-20.00mg/L(ppm)

Resolution: 0.001/0.01mg/L
pH range: 2.0-11.0
Working temperature: 0-45°C
Pressure: Max.1bar
Flow rate: 250~500ml/min

Response time: Initial polarisation time about 1 hours

Ampere coating method for drinking water, mineral water, process water



# **Turbidity/Suspension/MLSS Sensors**

# innoSens 810T/815T/810S

JENSPRIMA turbidity sensors have been developed based on the 90 ° light scattering principle in accordance with EN ISO 7027. When light passes through a solution, part of it is absorbed and scattered, and the other part passes through the solution, which makes it possible to measure the turbidity/suspended matter of a water sample by measuring the intensity of the scattered light from the particles in the water.

#### **Applicable Controllers**

innoCon 6800T-1 Touch Screen Controller、innoCon 6800T-2 Touch Screen Controller、Flumsys 10TC Controller



Measuring range: 0-4000NTU

Resolution: 0.1NTU, 0.1mg/L, 0.1ppm

Accuracy: ±2%f.s.

Size: 42mm diameter, 120mm length

Threaded connection: 1"GAS

Cable: 10m as standard
Pressure: Max.4bar
Operating temperature: 0-60°C
Protection class: IP68

90° light scattering technology, 316L/PVC material



Measuring range: 0-4000NTU
Resolution: 0.01/0.1NTU
Accuracy: ±3%

Automatic cleaning: Scraping brush

ize: 42mm diameter, 160mm length

Threaded connection: 3/4"NPT

Cable: 10m as standard
Pressure: Max.3bar
Operating temperature: 0-45°C
Protection class: IP68

90° light scattering technology, 316L/PVC material, automatic scraping function



Measuring range: 0.0-30.0g/L
Resolution: 0.1g/L
Accuracy: ±3%f.s.

Size: 42mm diameter, 210mm length

Threaded connection: 1"GAS
Cable: 10m as standard

Pressure: Max.4bar
Operating temperature: 0-60°C
Protection class: IP68

90° light scattering technology, 316L housing, special optical glass



# **Low Range Turbidity Sensor**

# innoSens 850T

The innoSens 850T low range turbidity sensor can measure ultra-low range turbidity, with built-in anti-foam structure and anti-condensation function to ensure stable and high-precision measurement. With LED light source, no need to replace within ten years, widely used in tap water outlets, engineering drainage outlets and other types of clean water quality turbidity online monitoring.

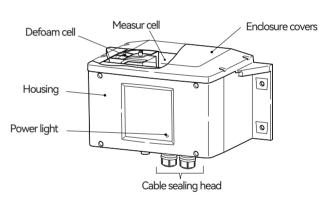
#### **Applicable Controllers**

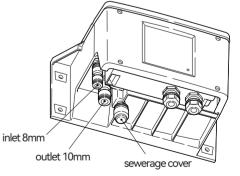
innoCon 6800T-5 low range online turbidity analyser Flumsys 10TC Controller

Product type:	innoSens 850T
Measuring principle:	90° scattered light
Measuring range:	0.0001-100NTU (FTU)
Resolution:	0.0001/0.001NTU (FTU)
Accuracy:	±2% reading or ±0.02NTU, take largest
Light source:	LED
Light source life:	>7 years
Anti-foaming function:	Yes
Anti-fogging function:	Yes
Automatic sewage function:	Option
Response time:	<30s
Inlet water flow:	100-200ml/min
Working temperature:	0-50°C
Protection class:	IP65
Installation:	wall mounted
Dimension:	160×260×150mm
Weight:	Ca.2kg









Note: Always tighten the fixing screws on the housing cover. If the screws are loose, the turbidity may not be measured correctly due to light entering the measuring tank or dust in the measuring water.

#### **Order Guide**

Order No.	Description
33-6800-35	innoSens 850T Highly Accurate Turbidity Sensor

LEVEL & FLOW

# **Electromagnetic Flowmeter**

# innoMag 300

The innoMag 320 uses advanced technology and intelligent measurement algorithms to measure not only low conductive liquids, but also highly corrosive liquids such as acids, alkalis, salts, etc. The innoMag 320 electromagnetic flowmeter is available in a wide range of sensors and lining materials for potable water and wastewater treatment, foodstuffs, chemical industry, irrigation, iron and steel mills, paper mills, and most other operating environments.

#### **Measurement parameters**

Instantaneous flow, cumulative flow

#### **Applications**

Water Treatment、Steel/Paper Mill、Chemical Industry、Mining and metallurgy

#### Features

- Measurement is independent of pressure, temperature, density and flow rate.
- Bi-directional measurement is possible
- High accuracy
- Easy operation and installation
- No piping pressure loss
- Can be used for solid-containing liquid media (depending on operating conditions)

#### Technical parameter Model: innoMag 300 Structure type: S integrated type, L split type DN10~DN2000 Caliber range: 0.2m3/h~30000m3/h Measuring range: Accuracy: ±0.5% Repeatability: ±0.1% Display: backlight liquid crystal display Installation: flange connection can be customized clamping type Medium conductivity: ≥10µS/cm 16 stainless steel, Hastelloy C, Electrode material: tantalum, titanium Lining material: PTFE: DN10 ~ DN1000, rubber: DN50 ~ DN2000 Shell material: controller: aluminum, sensor: carbon steel, stainless steel PTFE: -40~150°C, Rubber: -10~80°C Temperature: -20~70°C Ambient temperature: Signal output: 4-20mA, Max. 750Ω, pulse output, frequency output Communication protocol: MODBUS (standard), HART (optional) 85~260VAC or 24VDC Power supply:

#### **Order Guide**

innoMag 300 Pipe Diameter Combination Electrode Installation Lining Interface Power supply Max. 1 Flange type S 316L F PTFE 1 No communication 11-220VAC S Integrate B Hastell B 2 Clamping type X Neoprene 2 RS485 Modbus 2 124VDC C Hastell C 3 Insertion type A Polyurethane 3 Hart 3 Hart P PFA D Tantalum 4 Other 4 Other T Titanium

P Platinum

# **Ultrasonic Flowmeter**

# innoMag 400

The PACON 2501 on-line residual chlorine analyser is an accurate, cost-effective and low-maintenance instrument for continuous on-line monitoring of residual chlorine. It detects the concentration of residual chlorine using the DPD colourimetric method and automatically adds reagents for colourimetric measurement, making it suitable for residual chlorine measurement during chlorination and disinfection and for monitoring residual chlorine concentrations in drinking water networks. Selecting total chlorine reagent, total chlorine concentration can be monitored online.



# 160.0mm 63.0mm 63.0mm 64.0 mm

#### Overall configuration



#### **Measurement parameters**

Instantaneous flow, Cumulative flow

#### **Applications**

Process Water、Boiler water、Drinking Water、Circulating water、Cooling Water

#### **Features**

- The latest wide power input, super anti-interference design
- High accuracy and improved tolerance of air bubbles in the measuring diameter.
- Large four-line LED display for clearer and more comprehensive display.
- Longer service life of the membrane keypad and more comfortable feel of the keypad.
- Sensor IP68 protection grade
- Unique flip cover design, installation of hidden screws for better appearance.

#### Technical parameter

Model: innoMag 400

Flow range: 0.03-12m/s, forward and reverse measurement Accuracy: ±1% of measured value

Repeatability: 0.2%

Pipe diameter range: DN25-DN1200mm

Temperature range: Controller: -20-60 °C

Sensor: -40°C~80°C (room temperature)

Sensor: -40°C~130°C (high temperature)

Sensor: -40 °C ~ 180 °C (special high temperature) tap water, sewage, seawater, acid and alkali liquids,

lap water, sewage, seawater, acid and aikaii

beer, oil and other conduction
Ultrasonic single uniform liquid

Pipe material: Pipe material: stainless steel, PVC,

glass fiber reinforced plastic, carbon steel and

all other dense pipeline.
Allowed to have a liner

7: 90-260VAC, 50/60Hz, optional 24VDC

Power supply: 90–260VAC, Display: LCD display

Output: 1 channel 4-20mA output

1 pulse output, pulse width 6-1000mS

1 relay output RS485 Modbus

Data storage: SD card timed to store the set parameters and

measurement results (optional)

Protection level: controller: IP65 Sensor: IP68

Installation: Controller: wall mounted

Sensor: external clamp type (V method, Z method)

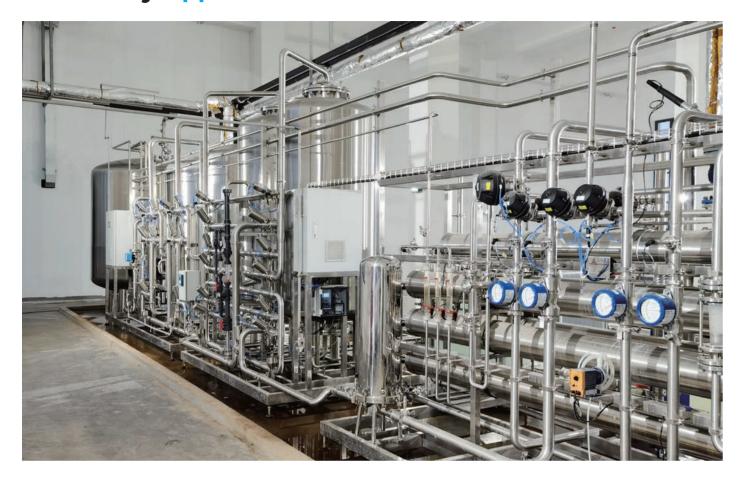
#### **Order Guide**

Communication:

Fluid type:

Order No.	Description
34-0400-00	innoMag 400 Flowmeter

# **Pharmacy Applications**





# **Pharmacy Applications**





# **Boiler water Applications**





# **Boiler water Applications**





# **Petrochemical Industry Applications**





# **Power Plant Applications**





# **Municipal Applications**





# **Municipal Applications**



