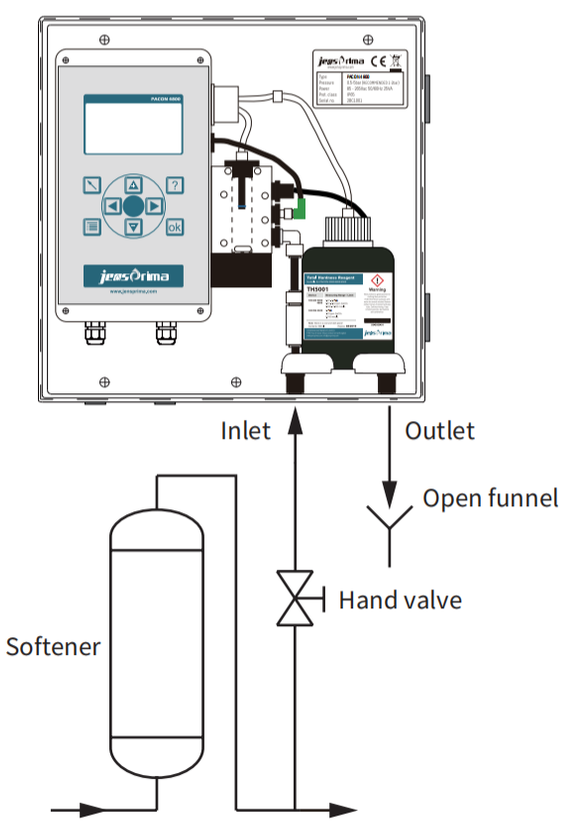
Online Water Hardness Analyzer
PACON 4800

Measurement parameters
Total hardness、Total alkalinity

Applications
Process Water | Boiler Water | Drinking Water | Water Treatment | Cooling Water

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 enrey-level measurement.Low maintenance and low reagent consumption, suitable for long time continuous operation.Select the alkalinity reagent to measure total alkalinity.

Schematic



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.

- **Calibration function**
Generally, there is no need to calibrate the instrument. Built in calibration function to meet higher requirements of customer certification system.

- **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**
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.

Technical parameter

Measurement method:	Titration method with colour change
Measurement range:	Total hardness:0.21-534.0 ppm $CaCO_3$ (see reagent tabel) Total alkalinity:5.34-401.0 ppm $CaCO_3$ (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
Repetition accuracy:	±2.5% of the upper value of the respective reagent
Reagent consumption:	approx. 0.05-0.5 ml/analysis, depending on the measured concentration
Expiry date of reagent:	2 years from the factory (<25°C, storage in darkness)
Water sample consumption:	approx. 1 L of water per analysis (at 2 bar pressure)
Supply Voltage:	85 - 265 VAC, 47-63Hz
Power consumption:	25VA (in operation) , 3.5VA (standby)
Protection class:	IP65
Display:	Multi-coloured and multi-lingual graphic display
Unit:	°dH、°f、ppm $CaCO_3$、mmol/l、°e
Outputs:	1、4 sets of programmable relay outputs (max. 250V, 4A) 2、1 group of 0 / 4 - 20 mA signals, max. 750 Ω
Inputs:	1、IN1 input (start analysis / flow control switch / water meter)
Data storage:	100 sets of historical curves, directly accessible on the instrument 4G SD card storage, Historical data and fault information can be imported
Analysis cycle:	Measuring interval(5 - 360min) / External signal / Flow signal
Flush time:	Configurable (15~1800s)
Requirements of the water quality:	clear,colourless,no solid particles,without gas bubbles; 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
Humidity:	20-90%RH, Indoor installation
Water inlet pressure:	ca. 0.5 - 5 bar (max.) (recommended 1 -2bar)
Inlet / Outlet connect:	6mm hose
Dimensions/Weight:	300x300x200mm(WxHxD), ca.4Kg
Installation:	Wall mounting in closed rooms

Order Guide

Order No.	Description
33-4800-00	PACON 4800 Online Hardness Analyzer
33-4800-10	PACON 4800 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

Hardness Reagent
TH

Suitable for

PACON 5000
PACON 4800
PACON 4600
PACON 4500 (Discontinued)

Alkalinity Reagent
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

Order No.	Model	°dH	°f	ppm $CaCO_3$	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 $CaCO_3$	mmol/L
50-5510-01	TC5010	0.3-7.5	0.021-0.214	5.34-134	0.107-2.68
50-5515-01	TC5015	0.45-11.5	0.053-0.534	8.01-205	0.160-4.10
50-5520-01	TC5020	0.6-15	0.160-1.602	10.7-267	0.214-5.34
50-5530-01	TC5030	0.9-22.5	0.534-5.340	16.0-401	0.32-8.02

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 $CaCO_3$. 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 easv to do. Continue rinsing.If eye irritation persists: Get medical advice/attention.

How to check the expiry date

The label on the reagent bottle: Expires:11/2022 indicates that the bottle is valid until November 2022.

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.

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:	storage in darkness（<25°C）