

*pHix<sup>®</sup> compact  
innovative and  
smart design  
pH and Redox transmitter*



[www.pHix.dk](http://www.pHix.dk)



*pHiX<sup>®</sup>  
compact*

- *pHiX<sup>®</sup> Compact* pH and Redox transmitter in a new and innovative design that is easy to install and maintain. Measuring electrodes, transmitter, and mounting hardware all in one unit.

The unique design of *pHiX<sup>®</sup> Compact* eliminates high impedance electrode connections and special hardware for mounting the sensor.



# *pHix<sup>®</sup> for Wastewater treatment Water treatment, and Industry*

- The *pHix<sup>®</sup> Compact* can simply be installed by connecting it to a display and a 12 – 30 V DC power supply.
- *pHix<sup>®</sup> Compact* is also equipped with a 2-wire 4 - 20 mA connection with Hart<sup>®</sup> communication for direct connection and communication to a PLC.
- *pHix<sup>®</sup> Compact* has a galvanically insulated 4 - 20 mA current loop, and all measurement parameters can be programmed via Hart<sup>®</sup> communication.
- *pHix<sup>®</sup> Compact* is IP68 enclosed to withstand 1 bar pressure, which corresponds to an immersion depth of 10 m.

## **WASTEWATER TREATMENT**

Typically, chemicals (caustic or acid) are added to incoming raw sewage to control the pH value. If the pH is too high or too low, it can kill the bacteria in the process. The pH of the final effluent from the plant must also be checked to ensure compliance with environmental regulations.



**pHix<sup>®</sup>**  
*compact*

For measurement in process lines *pHix<sup>®</sup> Compact* is equipped with a 2" union mounting configuration.

*pHix<sup>®</sup> Compact* can be calibrated using one of three different methods:

- Using a built-in tilt switch, which is activated by turning the transmitter upside down.
- Using a built-in magnetic switch.
- Manual 2 or 3 point buffer calibration via Hart<sup>®</sup> transmitter or PLC.



*pHix<sup>®</sup> for  
Wastewater treatment  
Water treatment,  
Industry<sup>and</sup>*

### **Specifications**

Power supply:	12 - 30 V DC
Power consumption:	Approx. 48 mW
Temperature:	- 20 ... + 80 °C
Material:	PPS
Measuring electrode impedance:	> 10 <sup>12</sup> Ω
Reference impedance:	> 10 <sup>9</sup> Ω
Measuring range:	pH: 0-14 ORP: -1 to +1 V
Output:	4 - 20 mA
Communication:	Hart <sup>®</sup>

### **WATER TREATMENT**

Measuring pH will help determine how much chemical (aluminium or iron sulphate) to add to incoming raw water.

It also increases the efficiency of flocculation in the filtering phase of the plant.





**The innovative measuring electrode design provides**

- Less sensitivity to fouling and longer cleaning intervals.
- Better performance in liquids with low xxx concentration like desalinated water or surface water.
- The low impedance and the big membrane and volume have significant importance for longer sensor life.

**Hart® communication with commands for:**

- temperature
- set-up parameters
- selection between pH and ORP
- measuring ranges
- electrode condition
- alarm limits
- buffer calibration



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Wastewater treatment  
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**pH sensor**

Double junction reference with flat glass measuring electrode.

pH glass: Low impedance

Reference junction: Sintered PTFE

Reference system: KCl gel, double junction

Impedance: 50 M $\Omega$  at 25 °C

Estimated lifetime: 1 - 2 year, depending on process conditions.

**ORP electrode**

Double junction reference with platinum measuring electrode.

Reference junction: Sintered PTFE

Reference system: KCl gel, double junction

Impedance: 2 K $\Omega$  at 25 °C

Estimated lifetime: 1 - 2 year, depending on process conditions.

**INDUSTRIAL PROCESSES**

Chemical production, power, pulp and paper production, and especially food processing (e.g. controlling yoghurt bacteria cultures) depend heavily on accurate pH measurement and control for proper operation.



## *pHix<sup>®</sup> Compact advantages:*

- Simple to install and use.
- Measuring electrode, transmitter, and mounting hardware are all in one unit.
- Typical humidity problems with high impedance connections are eliminated.
- Extremely easy to install.
- Three unique calibration methods.
- Less sensitivity to fouling and longer cleaning intervals.
- Simple set-up with Hart<sup>®</sup> communication.