

# Global Market for pH Sensors

<https://marketpublishers.com/r/G51ED15C2040EN.html>

Date: March 2023

Pages: 173

Price: US\$ 5,500.00 (Single User License)

ID: G51ED15C2040EN

## Abstracts

### Report Scope:

This report will cover the pH sensor industry. Definitive and detailed estimates and forecasts of the global market are provided, followed by a detailed analysis of the product type, regions and end use. Ongoing market trends, market growth drivers and challenges impeding the market are discussed.

Using 2021 as the base year, the report provides estimated market data for the forecast period, 2022-2027. The market size for different regions (regions by product, system and end use) will also be covered. The impact of COVID-19 was also considered when deriving market estimations. Sales value estimates are based on prices in the supply chain. Market-driving forces and industry structure are examined. International aspects are analyzed for all global regions. Profiles of major global manufacturers are presented.

This report considers the impact of COVID-19. In 2020, the growth rate of manufacturing industries around the world was severely affected by the pandemic. The COVID-19 pandemic halted progress in every regional economy. Various governments around the world took measures to contain the economic slowdown.

### Report Includes:

40 data tables and 22 additional tables

An overview of the global markets for pH sensors

Analyses of the global market trends, with data for 2021, 2022 and projections of compound annual growth rates (CAGRs) through 2027

Estimation of the market size and revenue forecast for pH sensors, and market share analysis by type, system, end-user, and region

Highlights of the market opportunities, and major issues and trends affecting the pH sensors industry

Assessment of the current market size and forecast of market development in the coming five years, and insight into the value chain analysis, demand-supply gap, and factors driving and restraining the growth

Information on recent mergers, acquisitions, collaborations, agreements, partnerships, product launches, and expansions in the global pH sensors market

Identification of the major stakeholders and analysis of the competitive landscape based on recent developments, financial performance, and segmental revenues

Company profiles of major players within the industry, including ABB Ltd., Emerson Electric, Honeywell International, Schneider Electric, and Thermo Fisher Scientific Inc.

## Contents

### CHAPTER 1 INTRODUCTION

- 1.1 Overview
- 1.2 Study Goals and Objectives
- 1.3 Reasons for Doing This Study
- 1.4 Scope of This Report
- 1.5 Information Sources
- 1.6 Methodology
- 1.7 Intended Audience
- 1.8 Geographic Breakdown
- 1.9 Analyst's Credentials
- 1.10 BCC Custom Research
- 1.11 Related BCC Research Reports

### CHAPTER 2 SUMMARY AND HIGHLIGHTS

- 2.1 Overview of the pH Sensors Industry
  - 2.1.1 Advantages of pH meter:

### CHAPTER 3 MARKET TRENDS

- 3.1 Industry Landscape
- 3.2 Global Water Industry Trends
  - 3.2.1 Consumer Health Awareness
  - 3.2.2 Need for Water Management
- 3.3 Life Cycle Assessment of Sensors
  - 3.3.1 Life Cycle Stages of pH Sensors
- 3.4 Future Trends and Innovations
- 3.5 Market Dynamics
  - 3.5.1 Major Market Growth Drivers
  - 3.5.2 Market Challenges/Restraints
  - 3.5.3 Key Market Growth Opportunities
- 3.6 Regulatory Trends
- 3.7 Porter's Five Forces Analysis
  - 3.7.1 Bargaining Power of Buyers
  - 3.7.2 Bargaining Power of Suppliers
  - 3.7.3 Threat of New Entrants

- 3.7.4 Threat of Substitutes
- 3.7.5 Market Competition
- 3.8 PESTLE Analysis
  - 3.8.1 Political
  - 3.8.2 Economic
  - 3.8.3 Sociocultural
  - 3.8.4 Technological
  - 3.8.5 Legal
  - 3.8.6 Environmental

## **CHAPTER 4 TECHNOLOGY BACKGROUND**

- 4.1 Overview
- 4.2 Methods for Monitoring pH
  - 4.2.1 Potentiometric Method
  - 4.2.2 Liquid Indicator Dyes
  - 4.2.3 Visual Method
  - 4.2.4 Paper Strips/Test Strips
  - 4.2.5 Photometric Method
  - 4.2.6 Memosens 2.0: A Cutting-Edge Sensor Technology
- 4.3 Structure and Design of a Glass pH Electrode
  - 4.3.1 Electrode Body
  - 4.3.2 Glass Membrane
  - 4.3.3 Reference Systems
  - 4.3.4 pH Reference Junction
- 4.4 Working Principle of a pH Sensor
- 4.5 pH Calibration
  - 4.5.1 Importance of the Nernst Equation
- 4.6 Benefits of pH Sensors
- 4.7 Manufacturing Process of pH Sensors
- 4.8 Raw Material Trends
  - 4.8.1 Material in the pH Sensor
- 4.9 Patent Analysis

## **CHAPTER 5 PH SENSOR INDUSTRY VALUE CHAIN**

- 5.1 Value Chain Analysis
  - 5.1.1 Research and Development
  - 5.1.2 Raw Materials

- 5.1.3 Manufacturing
- 5.1.4 Distribution
- 5.1.5 Installation and Maintenance
- 5.1.6 Data Analysis and Reporting
- 5.1.7 Disposal and Recycling

## **CHAPTER 6 PRICING ANALYSIS**

- 6.1 Introduction
- 6.2 pH Sensor Cost Determinants
- 6.3 Pricing Analysis Based on Sensor Type
  - 6.3.1 Combination pH sensor
  - 6.3.2 Differential pH Sensors
  - 6.3.3 Laboratory pH Sensors
  - 6.3.4 Process pH Sensors
- 6.4 Pricing Analysis Based on Region
- 6.5 Cost Structure of the pH Sensor Industry

## **CHAPTER 7 IMPACT OF COVID-19 AND RUSSIA/UKRAINE WAR**

- 7.1 Impact of COVID-19 on the pH Sensor Industry
- 7.2 Impact of the Russian/Ukrainian War on the pH Sensor Industry

## **CHAPTER 8 MARKET BREAKDOWN BY PRODUCT TYPE**

- 8.1 Overview
- 8.2 Combination pH Sensors
- 8.3 Differential pH Sensors
- 8.4 Laboratory pH Sensors
- 8.5 Process pH Sensors
- 8.6 Others
  - 8.6.1 Adjustable Diaphragm pH Sensor
  - 8.6.2 Externally Pressurized pH Sensor
  - 8.6.3 Micro pH Sensor
  - 8.6.4 Reduced Diameter pH Sensor
  - 8.6.5 Desulfurization pH Sensor
  - 8.6.6 Electroplating pH Sensor
  - 8.6.7 pH Antimony Sensor
  - 8.6.8 Flat Membrane Glass pH Sensor

## **CHAPTER 9 MARKET BREAKDOWN BY SYSTEM**

- 9.1 Overview
- 9.2 Analog pH Sensors
- 9.3 Digital pH Sensors

## **CHAPTER 10 MARKET BREAKDOWN BY END-USE INDUSTRY**

- 10.1 Overview
- 10.2 Water and Wastewater
- 10.3 Industrial
- 10.4 Medical/Pharma
- 10.5 Oil and Gas
- 10.6 Food and Beverage
- 10.7 Others

## **CHAPTER 11 MARKET BREAKDOWN BY REGION**

- 11.1 Global Market for pH Sensors
- 11.2 Americas
- 11.3 Europe
- 11.4 Asia-Pacific
- 11.5 Middle East and Africa

## **CHAPTER 12 COMPETITIVE LANDSCAPE**

- 12.1 Overview
- 12.2 Company Market Shares of pH Sensors
- 12.3 Mergers, Acquisitions and New Product Developments

## **CHAPTER 13 COMPANY PROFILES**

ABB LTD.  
EMERSON ELECTRIC CO.  
ENDRESS+HAUSER AG  
HALMA PLC  
HACH CO.  
HAMILTON CO.

HONEYWELL INTERNATIONAL INC.  
KOBOLD MESSRING GMBH  
METTLER-TOLEDO INTERNATIONAL INC.  
SCHNEIDER ELECTRIC S.E.  
THERMO FISHER SCIENTIFIC INC.  
XYLEM INC.  
YOKOGAWA ELECTRIC CORP.

## **CHAPTER 14 APPENDIX: ACRONYMS**

## List Of Tables

### LIST OF TABLES

Summary Table: Global Market for pH Sensors, by Region, Through 2027

Table 1: Water Pollution Causes and Market Opportunities

Table 2: R&D Investments as a Percentage Share of Total R&D Spending, by Region  
Country, 2016-2024

Table 3: Distribution Shares of Water Consumption and Wastewater Production, by  
Major Sector

Table 4: Average Cost, Water and Wastewater Treatment Systems

Table 5: pH Sensors Regulations/Standards/Frameworks

Table 6: Patents on pH Sensors, 2017-2022

Table 7: Prices of pH Products

Table 8: Global Market for pH Sensors, by Product Type, Through 2027

Table 9: Global Market for Combination pH Sensors, by Region, Through 2027

Table 10: Global Market for Differential pH Sensors, by Region, Through 2027

Table 11: Global Market for Laboratory pH Sensors, by Region, Through 2027

Table 12: Global Market for Process pH Sensors, by Region, Through 2027

Table 13: Global Market for Other Types of pH Sensors, by Region, Through 2027

Table 14: Global Market for pH Sensors, by System, Through 2027

Table 15: Global Market for Analog pH Sensors, by Region, Through 2027

Table 16: Global Market for Digital pH Sensors, by Region, Through 2027

Table 17: Global Market for pH Sensors, by End-Use Industry, Through 2027

Table 18: Global Market for pH Sensors in Water and Wastewater Industry End Uses,  
by Region, Through 2027

Table 19: Global Market for pH Sensors in Industrial End Uses, by Region, Through  
2027

Table 20: Global Market for pH Sensors in Medical/Pharma Industry End-Uses, by  
Region, Through 2027

Table 21: Global Market for pH Sensors in Oil and Gas Industry End Uses, by Region,  
Through 2027

Table 22: Global Market for pH Sensors in Food and Beverage Industry End Uses, by  
Region, Through 2027

Table 23: Global Market for pH Sensors in Other End-Use Industries, by Region,  
Through 2027

Table 24: Global Market for pH Sensors, by Region, Through 2027

Table 25: Americas Market for pH Sensors, by Product Type, Through 2027

Table 26: Americas Market for pH Sensors, by System, Through 2027



Table 27: Americas Market for pH Sensors, by End-Use Industry, Through 2027
Table 28: European Market for pH Sensors, by Product Type, Through 2027
Table 29: European Market for pH Sensors, by System, Through 2027
Table 30: European Market for pH Sensors, by End-Use Industry, Through 2027
Table 31: Asia-Pacific Market for pH Sensors, by Product Type, Through 2027
Table 32: Asia-Pacific Market for pH Sensors, by System, Through 2027
Table 33: Asia-Pacific Market for pH Sensors, by End-Use Industry, Through 2027
Table 34: Middle East and African Market for pH Sensors, by Product Type, Through 2027
Table 35: Middle East and African Market for pH Sensors, by System, Through 2027
Table 36: Middle East and African Market for pH Sensors, by End-Use Industry, Through 2027
Table 37: Global Market Shares of pH Sensors, by Leading Suppliers, 2021
Table 38: Strategies Used in the Global Market for pH Sensor Market, 2019-2022
Table 39: ABB Ltd.: Company Financial Highlights, 2019-2021
Table 40: ABB Ltd.: Product Portfolio
Table 41: Emerson Electric: Company Financial Highlights, 2020-2022
Table 42: Emerson Electric: Product Portfolio
Table 43: Endress+Hauser.: Product Portfolio
Table 44: Halma plc: Company Financial Highlights, 2020-2022
Table 45: Halma plc: Product Portfolio
Table 46: Hach Co.: Product Portfolio
Table 47: Hamilton Co.: Product Portfolio
Table 48: Honeywell International: Company Financial Highlights, 2019-2021
Table 49: Honeywell International: Product Portfolio
Table 50: KOBOLD Messring GmbH.: Product Portfolio
Table 51: Mettler-Toledo International: Company Financial Highlights, 2019-2021
Table 52: Mettler-Toledo International: Product Portfolio
Table 53: Schneider Electric: Company Financial Highlights, 2019-2021
Table 54: Schneider Electric: Product Portfolio
Table 55: Thermo Fisher Scientific Inc.: Company Financial Highlights, 2019-2021
Table 56: Thermo Fisher Scientific Inc.: Product Portfolio
Table 57: Xylem Inc.: Company Financial Highlights, 2019-2021
Table 58: Xylem Inc.: Product Portfolio
Table 59: Yokogawa Electric Corp.: Company Financial Highlights, 2020-2022
Table 60: Yokogawa Electric Corp.: Product Portfolio
Table 61: Abbreviations Used in This Report

## List Of Figures

### LIST OF FIGURES

Figure A: Data Sources Used in This Report

Figure B: pH Sensors Segments

Figure C: Schematic Diagram of pH Sensors

Summary Figure: Global Market Shares of pH Sensors, by Region, 2021

Figure 1: Global pH Sensors Market Trends, 2021-2027

Figure 2: Market Dynamics: Global pH Sensors Industry

Figure 3: Global Food Demand, by Region, 2020

Figure 4: Porter's Five Forces Model: Global pH Sensors Market

Figure 5: PESTLE Analysis of pH Sensor Industry

Figure 6: Reference Electrode

Figure 7: Working Principle of a pH Sensor

Figure 8: Measurement of Potential Difference

Figure 9: pH Sensors Market Industry Value Chain

Figure 10: Global Crude Oil Prices, Dec. 2021-March 2022

Figure 11: Global Market Shares of pH Sensors, by Product Type, 2021

Figure 12: Schematic Diagram of Combination pH Sensor

Figure 13: Global Market Shares of Combination pH Sensors, by Region, 2021

Figure 14: Schematic Diagram of Differential pH Sensor

Figure 15: Global Market Shares of Differential pH Sensors, by Region, 2021

Figure 16: Schematic Diagram of Laboratory pH Sensor

Figure 17: Global Market Shares of Laboratory pH Sensors, by Region, 2021

Figure 18: Schematic Diagram of Process pH Sensor

Figure 19: Global Market Shares of Process pH Sensors, by Region, 2021

Figure 20: Global Market Shares of Other Types of pH Sensors, by Region, 2021

Figure 21: Global Market Shares of pH Sensors, by System, 2021

Figure 22: Global Market Shares of Analog pH Sensors, by Region, 2021

Figure 23: Schematic Diagram of Digital pH sensor

Figure 24: Global Market Shares of Digital pH Sensors, by Region, 2021

Figure 25: Global Market Shares of pH Sensors, by End-Use Industry, 2021

Figure 26: Global Market Share of pH Sensors in Water and Wastewater Industry End Uses, by Region, 2021

Figure 27: Global Market Share of pH Sensors in Industrial End Uses, by Region, 2021

Figure 28: Global Market Share of pH Sensors in Medical/Pharma Industry End-Uses, by Region, 2021

Figure 29: Global Market Share of pH Sensors in Oil and Gas Industry End Uses, by

Region, 2021

Figure 30: Global Market Share of pH Sensors in Food and Beverage Industry End Uses, by Region, 2021

Figure 31: Global Market Share of pH Sensors in Other End-Use Industries, by Region, 2021

Figure 32: Global Market Shares of pH Sensors, by Region, 2021

Figure 33: Americas Market Shares of pH Sensors, by Product Type, 2021

Figure 34: Americas Market Shares of pH Sensors, by System, 2021

Figure 35: Americas Market Shares of pH Sensors, by End-Use Industry, 2021

Figure 36: European Market Shares of pH Sensors, by Product Type, 2021

Figure 37: European Market Shares of pH Sensors, by System, 2021

Figure 38: European Market Shares of pH Sensors, by End-Use Industry, 2021

Figure 39: Asia-Pacific Market Shares of pH Sensors, by Product Type, 2021

Figure 40: Asia-Pacific Market Shares of pH Sensors, by System, 2021

Figure 41: Asia-Pacific Market Shares of pH Sensors, by End-Use Industry, 2021

Figure 42: Middle East and African Market Shares of pH Sensors, by Product Type, 2021

Figure 43: Middle East and African Market Shares of pH Sensors, by System, 2021

Figure 44: Middle East and African Market Shares of pH Sensors, by End-Use Industry, 2021

Figure 45: Global Market Shares of pH Sensors, by Company, 2021

Figure 46: ABB Ltd.: Revenue Share, by Business Segment, 2021

Figure 47: Emerson Electric: Revenue Share, by Business Segment, 2022

Figure 48: Emerson Electric: Revenue Share, by Region, 2022

Figure 49: Halma plc: Revenue Share, by Business Segment, 2021

Figure 50: Halma plc: Revenue Share, by Region, 2021

Figure 51: Honeywell International: Revenue Share, by Business Segment, 2021

Figure 52: Honeywell International: Revenue Share, by Region, 2021

Figure 53: Mettler-Toledo International: Revenue Share, by Business Segment, 2021

Figure 54: Mettler-Toledo International: Revenue Share, by Region, 2021

Figure 55: Schneider Electric: Revenue Share, by Business Segment, 2021

Figure 56: Schneider Electric: Revenue Share, by Region, 2021

Figure 57: Thermo Fisher Scientific Inc.: Revenue Share, by Business Segment, 2021

Figure 58: Thermo Fisher Scientific Inc.: Revenue Share, by Region, 2021

Figure 59: Xylem Inc.: Revenue Share, by Business Segment, 2021

Figure 60: Xylem Inc.: Revenue Share, by Region, 2021

Figure 61: Yokogawa Electric Corp.: Revenue Share, by Business Segment, 2022

Figure 62: Yokogawa Electric Corp.: Revenue Share, by Region, 2022

## I would like to order

Product name: Global Market for pH Sensors

Product link: <https://marketpublishers.com/r/G51ED15C2040EN.html>

Price: US\$ 5,500.00 (Single User License / Electronic Delivery)

If you want to order Corporate License or Hard Copy, please, contact our Customer Service:

[info@marketpublishers.com](mailto:info@marketpublishers.com)

## Payment

To pay by Credit Card (Visa, MasterCard, American Express, PayPal), please, click button on product page <https://marketpublishers.com/r/G51ED15C2040EN.html>

To pay by Wire Transfer, please, fill in your contact details in the form below:

First name:  
Last name:  
Email:  
Company:  
Address:  
City:  
Zip code:  
Country:  
Tel:  
Fax:  
Your message:

**\*\*All fields are required**

Customer signature \_\_\_\_\_

Please, note that by ordering from marketpublishers.com you are agreeing to our Terms & Conditions at <https://marketpublishers.com/docs/terms.html>

To place an order via fax simply print this form, fill in the information below and fax the completed form to +44 20 7900 3970