Foreword

To Protect Water Quality Around the World

HORIBA Dan
President
HORIBA Advanced Techno, Co., Ltd.

The history of HORIBA began with the founder Dr. Masao Horiba having completed the first Japanese glass pH electrode meter in 1950. Since it is the origin of HORIBA, water analysis is the foundation of HORIBA.

In the 1960s, the desktop pH meter was evolved into a compact design. In the 1970s, the composite electrode was developed by integrating with a glass electrode, a reference electrode and a temperature compensation electrode. In the 1980s and 1990s, we developed card-type, handy-type, and stick-type products in response to different use requirements, and extended into on-line analysis. In the 2000s, the product lineup has been expanded, and our pH products have continually evolved in all aspects of accuracy, quality, and design. In addition to using electrochemistry and conductivity for water analysis, we have developed our spectroscopy technology for liquid applications, and extended water measurements on-line. We now provide a wide range of water quality analysis equipment related to environmental regulations and industrial processes on top of those for research and development.

There are various needs for water quality analysis related to environmental regulations. For example, with the tightening of exhaust gas environmental regulations on ships (Sulfur oxide SOx emissions in general sea areas are now 0.5% or lower), however demands for water quality monitors of exhaust gas purification equipment are increasing. Sulfur oxide in exhaust gas emissions, generated from the ship internal combustion engines, has been suppressed by sprinkling scrubber water on the exhaust gas. However, this scrubber water is itself required to be treated before it is discharged outboard of ships. Our product (EG-100) is indispensable for measuring water quality at the time of water coming into the

...
scrubber system and after water treatment, since water can only be discharged to
the outboard of the ships if it meets the regulation values set by the International
Maritime Organization (IMO).

Meanwhile, in many developed countries, there is a need for improved conve-
nience for water use so that people can realize a high standardization of water
infrastructure facilities, everyday new efforts and new facilities are created to
improve efficiency and protect water quality. The supply of water is not always
balanced against the demand of water use in many countries of the world, and
even at this moment increased water purification and water treatment facilities,
systems and measurement are needed. In addition, it is expected that more coun-
ctries will step up their efforts to recycle natural and industrial wastewater, and
increase activities to reduce environmental impact. In some regions like North
America, the reuse of wastewater and desalination will be more prevalent in cer-
tain areas like the western and southern regions where water shortages are
becoming more serious. In Latin America, it is expected that more countries such
as Brazil and Argentina will promote privatization of water treatment facilities
which will bring it's own challenges. Moreover, in Southeast Asian countries
including China and India, regulations are becoming strengthened to reduce the
environmental impact as these countries advance their capabilities. There is a
demand for efficient and reliable treatment, and quantitative measurements in
various water treatment processes such as drinking water, sewage and industrial
wastewater. We recognize the importance of our role to take a responsibility to
provide reliable measurement data for water quality attributes as these global
needs grow.

With respect to the realization of a sustainable society, in relation to sustainable
development goals (SDG’s) set by the United Nations, HORIBA also contributes
to solve many social issues by using our own technologies, products and applica-
tions to address the SDG guidelines.

In addition to the issues related to “water”that have been described so far, impor-
tant social issues “related to water”, such as microplastics, are now being focused
on by HORIBA today. There is a concern that microplastics will not only affect
the organisms living in the hydrosphere, but also the safety of our drinking water
and bottled beverages. This was also taken up as an important social issue at last
year’s G20. To address these issues, the HORIBA Group also contributes to
expert research and problem solving, centered on our Raman spectroscopy sys-
tems, which is one of HORIBA Jobin Yvon’s main product areas. It is true that
plastics are essential for commercial use and our daily lives, however their dis-
posal and removal from our ecosystem must be controlled. In order to realize a
sustainable society, the HORIBA Group is dedicated to provide unique analysis
and measurement solutions not only for “water” but also for “solids”, such as
plastics.

HORIBA believes that “protecting water quality around the world” is our mission
as a water measurement professional company. We are determined to continue to
be a company that will contribute to global environmental protection and indus-
trial development around the world, in spite of the challenges we all face this year
in our family and work lives due to the spread of coronavirus.