



ISO and water

Great things happen **when the world agrees.**

We are ISO,
the International Organization
for Standardization



We are an independent,
non-governmental organization.



We are a global network of
national standards bodies with
one member per country.



Our job is to make International
Standards.



We are coordinated by a Central
Secretariat in Geneva, Switzerland.



We are not for profit : selling our
standards allows us to finance
their development in a neutral
environment, to maintain them
and to make new ones.



ISO provides a platform for
developing practical tools through
common understanding and
cooperation with all stakeholders.

161* members

21350*
International Standards

100
new standards each month

238*
technical committees

ίσοσ

Notice that our acronym
doesn't match our name ?

It's not meant to.

“ISO” is derived from
the Greek word *isos* (equal),
so that it's the same in
all languages.

* February 2017

Why do we need ISO standards for water?

Water is one of the world's most essential commodities – and the most precious. It is a key element of a sustainable future and a vital ingredient for renewable energy sources, food production and improving sanitation and health.

Around **40%** of the world's population doesn't have enough water and, for those that do, pollution remains a real and serious problem.

Water is also an international resource – and challenge. Rivers and lakes cross national boundaries while droughts and climate change affect us all.



ISO standards offer harmonized technology and terminology, allowing countries sharing the same water resources to work together efficiently.



ISO standards cover almost every water issue, from pipes and irrigation to water quality, management and sanitation.



ISO standards represent consensus on practical solutions and best practice for sustainable water management.



Who benefits from ISO standards for water?

Industry



ISO standards for water help businesses in a variety of ways, with tools for measuring water use and methods to optimize it, as well as offering best practice on the treatment and use of wastewater, the provision of water services and the use of irrigation in agriculture, manufacturing and construction.

Regulators



Regulators can rely on ISO standards as a solid base on which to create public policy that helps address water-related challenges, such as climate change impacts and sanitation, to achieve their national and international water management commitments.

Consumers



Consumers benefit from ISO standards when they are used by business and authorities to improve the quality of drinking water, water supply services, sanitation, water quality, and water use in food production and agriculture.



What water-related sectors does ISO cover ?



Water quality



Irrigation



Water footprinting



Infrastructure



Hydrometry



Piping and valves



Drinking water



Measurement of fluid flow



Wastewater



Water reuse

What standards does ISO have for water?

Out of a total of more than 21 300 International Standards, ISO has more than 1 200 related to water, with many more in development.

Below is a selection of our water standards:

Water quality

- Our water quality standards are developed by **ISO/TC 147, Water quality**

ISO has nearly 300 standards for water quality, applicable to everything from plant treatment agents to natural mineral waters. They provide a common terminology, water sampling methods and guidance on reporting and monitoring to determine a variety of properties and contaminants, from mineral content to the level of bacteria and impurities.

Water footprint

- **ISO 14046** was developed by ISO technical committee **ISO/TC 207/SC 5, Life-cycle assessment**

This standard provides basic requirements for the measurement and reporting of a “water footprint”, setting an international benchmark for water use.

Who develops ISO standards?

ISO standards are developed by groups of experts within technical committees (TCs). TCs are made up of representatives from industry, non-governmental organizations, governments and other stakeholders who are put forward by ISO’s members. Each TC deals with a different subject; when it comes to water, for example, there are committees focused on measuring our water footprint, water quality, sanitation and wastewater, to name a few. Visit our Website ISO.org to find out more about the standards developed in a particular sector by searching for the work of the relevant technical committee.

Water footprint

Water is a scarce and valuable commodity and how we use it can have an enormous impact on how much we consume. Understanding an organization's environmental impact from water consumption and production is a vital step towards finding strategies for improved management.

ISO 14046, *Environmental management – Water footprint – Principles, requirements and guidelines*, is designed to help organizations estimate the potential impact of their water use, thereby facilitating ways to improve efficiency and reduce overall consumption.

ISO/TR 14073*, *Environmental management – Water footprint – Illustrative examples on how to apply ISO 14046*, provides extra guidance to help organizations get more out of their water footprinting assessment.

*Under development

Hydrometry

- Our hydrometry standards are developed by **ISO/TC 113**, *Hydrometry*

ISO has around 70 standards for water and sediment measurement in open channels, including movement and availability of groundwater. They enable reliable and accurate measurements to support water planning and conservation.

Agriculture and irrigation

- ISO standards for irrigation are developed by **ISO/TC 23/SC 18**, *Irrigation and drainage equipment and systems*

They ensure greater efficiency by providing test methods and performance measurement. Agriculture is crucial to food production and accounts for a huge proportion of the world's freshwater use.

Giving a boost to sustainability, the ISO 16075 series of standards (developed by ISO/TC 282, *Water reuse*) provides guidelines for treated wastewater use in irrigation projects. In addition, an International Workshop Agreement (IWA 20), which is currently being developed in collaboration with the Standards Institution of Israel, provides information destined to advance the worldwide use of a sustainable drip irrigation method.

Infrastructure

- Water flow and metering standards are developed by **ISO/TC 30, Measurement of fluid flow in closed conduits**

Standards for measuring fluid flow can help with water conservation. In particular, the ISO 4064 series defines the requirements for water meters that monitor both cold drinking water and hot water, covering everything from test methods to installation.



Sludge recovery, recycling, treatment and disposal

- **ISO/TC 275**, *Sludge recovery, recycling, treatment and disposal*

ISO has standards defining the methods for characterizing, categorizing, preparing, treating, recycling and managing sludge and products from urban wastewater collection systems, night soil, storm water, water supply treatment plants and wastewater treatment plants for urban and similar industrial waters.



Drinking water supply and wastewater systems

- **ISO/TC 224**, *Service activities relating to drinking water supply systems and wastewater systems – Quality criteria of the service and performance indicators*

The three key standards for this committee are ISO 24510, ISO 24511 and ISO 24512, *Activities relating to drinking water and wastewater services*. They provide guidelines for the assessment, improvement and management of service activities for drinking water and wastewater systems. They can help water authorities and operators meet the expectations of consumers and the principles of sustainable development.

ISO 24518 provides general guidance for the development and implementation of a crisis management system for water utilities. In addition, several other standards for crisis management are currently in development to help water services prepare for potential emergency situations. These include technical specification ISO/TS 24520, which offers good-practice guidance for establishing a crisis management system, ISO 24527 for maintaining the water supply in the initial phase of a crisis and ISO/TS 24522 that deals with the water quality event detection process in water and wastewater utilities. Other future standards cover flushable products, water efficiency management systems and water loss in urban supply systems.





Water reuse

Escalating demand for water and changes in the climate, such as drought and contamination, increase pressure on the world's water supply. Water reclamation and reuse can help address supply issues by creating new sources. **ISO/TC 282**, *Water reuse*, develops standards in this area, including:

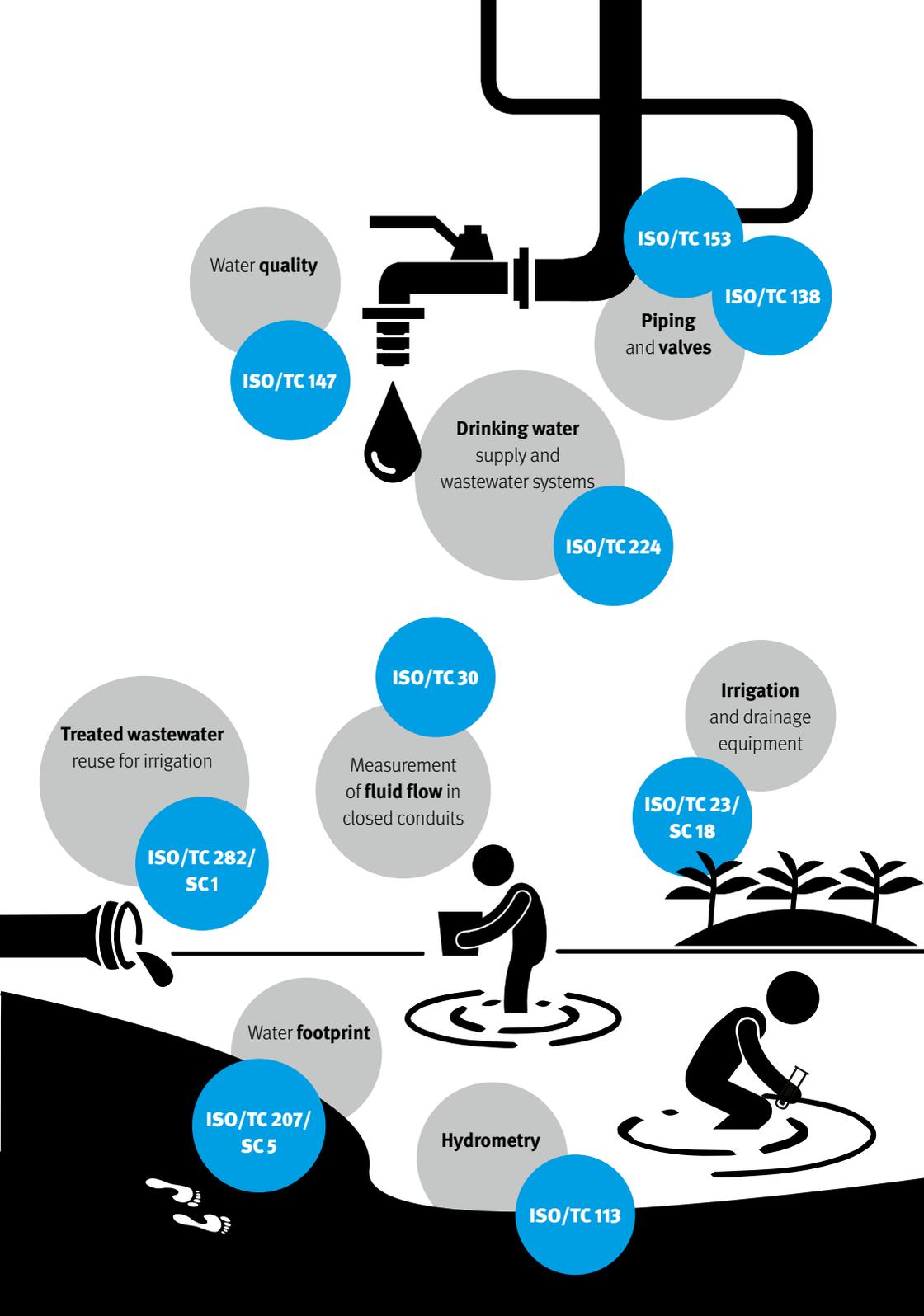
- The **ISO 16075** series on treated wastewater reuse for irrigation (the technical committee is also working on a standard for the adaptation of irrigation equipment to treated wastewater)
- Water reuse in urban areas
- Risk and performance evaluation of water reuse systems
- Industrial water reuse

Work is also underway on standards for calculating the energy consumption of industrial water reuse, which can help organizations improve their energy efficiency in this area.

Piping and valves

- **ISO/TC 138**, *Plastics pipes, fittings and valves for the transport of fluids*
- **ISO/TC 5/SC 2**, *Cast iron pipes, fittings and their joints*
- **ISO/TC 153**, *Valves*

These standards improve the reliability of water supply systems, thus enabling efficient delivery of water.



Water **quality**

ISO/TC 147

ISO/TC 153

ISO/TC 138

**Piping
and valves**

**Drinking water
supply and
wastewater systems**

ISO/TC 224

ISO/TC 30

Measurement
of **fluid flow** in
closed conduits

**Irrigation
and drainage
equipment**

**ISO/TC 23/
SC 18**

**Treated wastewater
reuse for irrigation**

**ISO/TC 282/
SC 1**

Water **footprint**

**ISO/TC 207/
SC 5**

Hydrometry

ISO/TC 113





More information ?



ISO Website
www.iso.org



ISO Website section: “standards in action”
www.iso.org/standards-in-action



ISOfocus magazine
www.iso.org/isofocus



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The symbol on the cover comes from the
International Standard **ISO 7001, *Graphical
symbols – Public information symbols***.

It is used to signify drinkable tap water.

Available on our Online Browsing Platform
at: gotoi.iso/symbols.

