

ISO 5667 Compliant Sampling, Poland



Teledyne ISCO water samplers have been used in Poland for over two decades. Thanks to their reliability and available options, they have become a proven, well recognized and well received brand worldwide. ISCO water samplers are the first choice when ISO 5667 Standard compliance is required.

ISO 5667 Standard

ISO 5667-10 (Part 10: Guidance on wastewater sampling) was the first standard to provide international guidance for water and wastewater sampling, starting with the 1992 edition and revised in 2020. It sets planning, techniques, and rules for collecting representative samples from municipal and industrial sources, ensuring quality data for treatment, compliance, and environmental monitoring. Acquiring truly representative samples is the key focus of ISO 5667. Collected samples must accurately reflect the actual source characteristics.

Representative samples are crucial

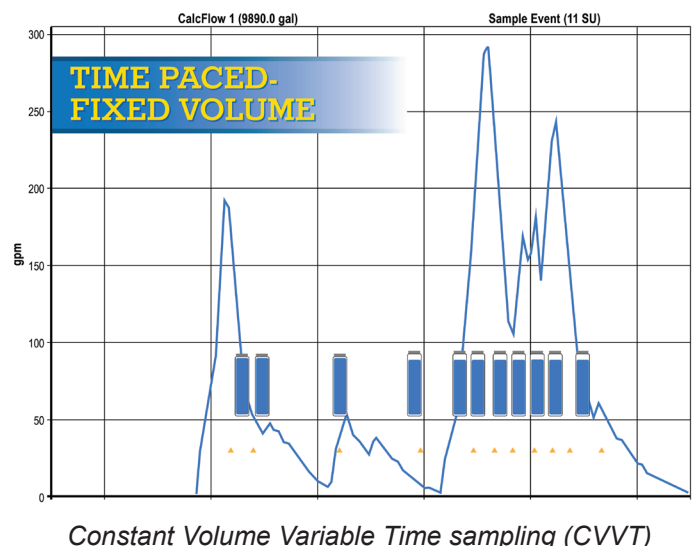
The correct collection and preservation of wastewater samples translates into true representation and thus has a key impact on the laboratory results obtained for a given sample and any subsequent decisions that may be made based on those results. Recommendations included in ISO 5667 set standards to achieve this goal, and they are key for contemporary sampling. Such sampling could not be possible without the unique Teledyne ISCO Water portable refrigerated samplers.

Compliance requirements

ISO 5667 compliance is the primary requirement for customers in Poland, and it refers to both stationary and portable applications. ISO standards define a set of

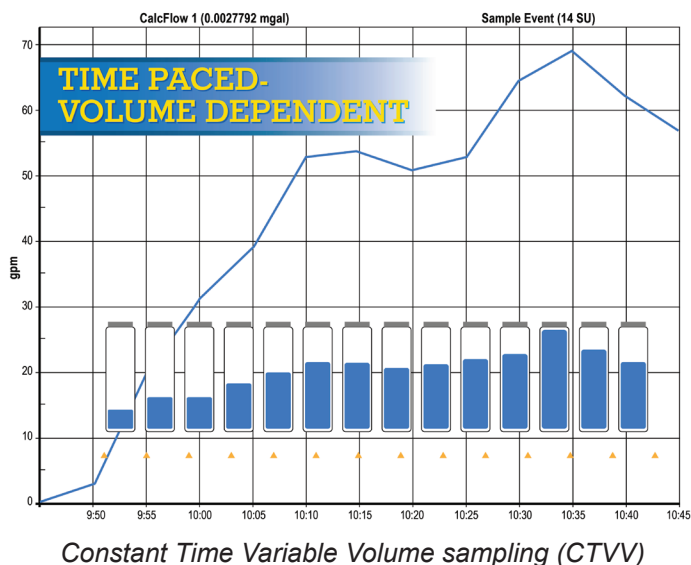
recommendations, i.e., minimum line velocity >0.5 m/s, repeatability of delivered volumes of at least 5 percent, internal sampling line diameter not less than 9 mm, etc. The standard also indicates various wastewater sampling methods:

- Constant Volume Variable Time sampling (CVVT)
Flow-proportional sampling based on collecting equal volumes of samples at a frequency proportional to the flow



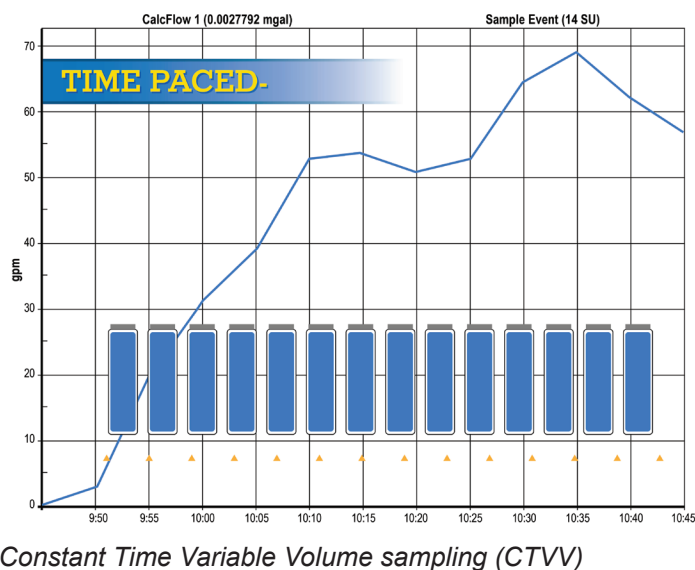
- Constant Time Variable Volume sampling (CTVV)

Flow-proportional sampling based on collecting samples at fixed time intervals with volumes



- Constant Time Constant Volume Sampling (CTCV)

This requirement can be met only with samplers using an effective active cooling system.



Consistent, precise cooling is imperative

The standard also places a strong emphasis on sample preservation. ISO 5667-10 refers to ISO 5667-3 for more detailed instruction regarding sample cooling: The cooling or freezing of samples is only effective if the process is

applied immediately after the collection of the samples. This necessitates the use of cool-boxes or refrigerators at the sampling location. Simple cooling of the sample between 34–41 °F (1–5 °C) is, in most cases, sufficient to preserve the samples during transport to the laboratory.

BLZZRD—A powerfully unique sampler

The ISCO Water Avalanche sampler and its successor, the BLZZRD, have become the standard choice for customers who need to rigidly adhere to sample accreditation guidelines.

One of the main reasons is that the BLZZRD contains a battery-operated refrigerator to ensure active cooling. The bottle compartment temperature can be maintained between 34–41 °F (1–5 °C) throughout the entire sampling program timeline. For the most effective battery operation, the sampler refrigerator starts working after the first sample is taken. After the first sample and until completion of the running program, the sampler cools the refrigerated compartment to 34 °F (1 °C), ± 1 °. This low temperature and narrow range allow the refrigeration system to quickly cool liquid as it is deposited in the bottles.

One hour after the last sample of a program is taken, the sampler adjusts its control of the refrigerator compressor to maintain the samples at 37 °F (3 °C), ± 1 °. At this time, the samples have been cooled and no more liquid at ambient temperature will be added. The 37 °F (3 °C) target temperature maintains the samples within recognized standards while conserving power.



Teledyne ISCO BLZZRD portable refrigerated sampler set-up

Furthermore, a flow meter can be integrated with the BLZZRD sampler for flow-proportional sampling, CVVT and CTVV. The flow meter uses the Doppler principle and can be used for existing open channels.

Water quality parameters and flow rate can be reported. The system records the bottle compartment temperature and generates sampling reports that include the bottle and sample number, date and time, bottle temperature, and more.

SAMPLER ID# 1650962187 13:19 7-JUL-22			
Hardware: D0 Software: 3.06.0002			
***** COMBINED RESULTS *****			
SITE: BLIZZARD			
PROGRAM: EXTENDED 1			
Program Started at 17:49 MO 4-JUL-22			
Nominal Sample Volume = 500 ml			
			FR-TEMP
SAMPLE	BOTTLE	TIME	C

1,1	1	17:49	23.7
1,1	2	19:49	1.0
1,1	3	21:49	0.9
1,1	4	23:49	0.8
-----			TU 5-JUL-22 -----
1,1	5	01:49	1.0
1,1	6	03:49	1.3
1,1	7	05:49	1.4
1,1	8	07:49	1.3
1,1	9	09:49	0.1
1,1	10	11:49	0.7
1,1	11	13:49	1.5
1,1	12	15:49	1.0
1,1	13	17:49	1.1
1,1	14	19:49	0.8

Impressive list of end users and applications

One of the end users for ISCO Water samplers is the Environmental Protection Inspectorate, the government entity responsible for compliance with environmental protection regulations and the implementation of national environmental monitoring and laboratory testing activities. All 16 Provincial Environmental Inspectorates were equipped with portable refrigerated samplers, flow meters and water quality sondes in 2008 and since that time have been using them for municipal and industrial discharge monitoring.

The BLZZRD also is ideal for the gamut of municipal and industrial WWTPs. BLZZRD has been recognized as a valid alternative to stationary samplers, especially at outlets and inlets of small- to medium-sized treatment plants when frequent sampling is not required. Portable

refrigerated samplers reduce investment costs, as the same sampler can be used for sampling at multiple points. Furthermore, the sampler transport accessory (with pneumatic tires) allows one person to move the sampler from site to site.



Teledyne ISCO Water BLZZRD sampler transported in van

Other end-users are industrial plants, e.g., breweries, dairies, food processing plants, metallurgical plants, steelworks and mines. Samplers help to control water/ wastewater quality discharging into collection systems or to an on-site WWTP. These applications are known for their harsh wastewater content, such as high temperature, acids, bases or solvents, low to high pH, etc. ISCO Water samplers are also used for collecting brine water and pulp from flotation tailing ponds in mines—it's difficult to find a more demanding site.

Excellent products, excellent service

Around 500 portable refrigerated samplers have been delivered to end-users in Poland over the years. This could not have happened without the expert team at OMC Envag, authorized distributor of Teledyne ISCO Water products and services in Poland. Keys to success are professional support, quick service, spare part availability, and a full line of robustly built, innovative, easy to use products that meet or exceed every customer's expectations.

OMC Envag also cooperates with private and public water and wastewater analysis laboratories in Poland, where ISCO Water samplers became the primary equipment for accredited sampling.



Portable Refrigerated Water Sampler

AC or DC Battery Powered Cooling with State-of-the-Art Data Logging

BLZZRD is a portable refrigerated sampler with active cooling from either AC or battery power. Its controller offers all advanced controls, interfaces, data logging, and remote communication features. Based on Teledyne ISCO's industry-leading 6712 controller, you get all the advanced control, data logging, and communication features of the 6712. Bottle options include 2.5- and 5 gallon composites

as well as 4 x 1-gallon, 4 x 1.8 L, and 14 x 950 mL sequentials. A 12V deep-cycle battery delivers 48 hours or more of refrigeration. The power-saving cooling system remains on standby until the first sample is drawn, and only then switches on to preserve the collected samples for pickup. Available routines include: pause-and-resume for intermittent discharge flow monitoring; sampler pacing by time, non-uniform time, flow or external event; and random interval sample collection.

Standard Features

- Standard and extended programming keeps setup simple when you don't need advanced features.
- NEMA 4x, 6 (IP67) controller enclosure is watertight and dustproof.
- SDI-12 interface provides "plug and play" connection with multi-parameter water-quality sondes and other compatible devices.
- Standard 512kB memory gives you great flexibility for logging environmental data.
- Sample delivery at the EPA-recommended velocity of 2 ft/sec., even at head heights of 26 feet.
- Patented pump revolution counter ensures accurate sample volumes and tells you when tubing should be replaced.

About Teledyne ISCO Water

Teledyne ISCO Water is a leading manufacturer of a wide range of innovative products and services designed to increase productivity while improving the quality of life on our planet. Our water and wastewater flow meters, samplers, and related products are used across the world and known for their robust construction, accuracy and dependability. Teledyne ISCO is continually improving its products and reserves the right to change product specifications, replacement parts, schematics, and instructions without notice.

For further information contact your local Teledyne ISCO Water representative or distributor.