



Sampling

Stationary · Portable

Sampling is an important factor for the compliance with required regulations and efficient operation. It forms the basis for continuous monitoring of quality objectives and criteria, in particular for performance analysis of wastewater treatment plants. In addition, sampling systems are used increasingly for managing and optimizing complex production and recycling processes. In this context sampling represents the first link in the chain of work procedures for the examination and analysis of chemical, physical and biological parameters. It thus has a decisive, subsequently irrefutable, influence on results gained from chemical analysis.

Absolutely reliable provision of representative samples is extremely important, as they provide reliable and consistent assessment of contents and water properties.

Sampling

- Sewage Treatment
- Municipal Sewerage Systems
- Water Protection Control

The factors directly connected with sampling (sampling method, sampling location, sampling storage, sampling transport, sampling preservation and the method of analysis itself) have another important influential effect on the result. Consistent and exacting sampling is becoming increasingly significant due to the increase of required regulations.

WTW has added two new units for precise sampling with the PB 8 and the PB 150-SE12 / -SE24. The PB 8 is a compact unit for plant monitoring. PB 150-SE12 / -SE24 is an automatic, self-emptying instrument for process monitoring.

Functionality

Sampling devices work according to the proven vacuum or peristaltic pump principle used in wastewater engineering. The vacuum dosing technology is particularly suitable for continuous stationary sample extraction. As sampling is performed only by means of vacuum or pressure, even heavily polluted wastewater with abrasive contents can be extracted safely and without wear.

In contrast, peristaltic pump technology is particularly suitable for short-term mobile sampling at different measuring locations.

Sampling procedure

Sampling is performed by non-pressurized extraction of either a single sample, a qualified sample, a 24 h composite sample or a 2 h composite sample from a lower level, e.g. from a basin, open channel or pipe under the following conditions:

Time

Constant sample volume, constant sampling frequency

Amount

Constant sample volume, sampling frequency variable according to throughput volume (0/4-20mA or flow impulse)

Flow

Sample volume variable according to throughput volume (0/4-20mA or flow impulse), constant sampling frequency

Event

Constant sample volume, constant sampling frequency, Constant sample filling time or individual samples per bottle

Combination mode

Optional combination of time, amount and event sampling operation

Technical Data Samplers

Sampling
Mains operated



| | PB 8 | PB 150-2 | PB 150-SE |
|--|---|--|--|
| Applications/ Specific Features | Simple robust device for plant monitoring in water and wastewater Wall / Control panel mounting | Proven system for process and wastewater engineering, even for larger polluting load; Frame mounting | System for continuous, unmanned, "around the clock" monitoring. For process and water monitoring measuring networks. Self-emptying; Frame mounting |
| Installation Site | | | |
| Permanent measuring place outdoor installation | — | ● | ● |
| Frost-free roofed installation | ● | — | — |
| Sample Storage | | | |
| Thermostatic control / cooling heating | — | ● | ● |
| Passive cooling (IsoBox) | Option | — | — |
| Sampling Method | | | |
| Vacuum system | ● | ● | ● |
| Vacuum system Var | — | Option | Option |
| Self-emptying | — | — | ● |
| Sampling Method | | | |
| Time | ● | ● | ● |
| Amount | ● | ● | ● |
| Flow volume | — | Option | Option |
| Event | ● | ● | ● |
| Combination mode | ● | ● | ● |
| Communication | | | |
| Modem/GSM | — | Option | Option |
| RS 232 | — | ● | ● |
| System message display | — | ● | ● |
| System messages / signal outputs | — | Option | Option |
| Sample Fractioning/Composite Sample | | | |
| Storage tanks 25 l | ● | ● | — |
| Storage tanks 50 l | ● | ● | — |
| 12 x 1.1 l | IsoBox | — | — |
| 2 x 10 l, 4 x 6 l | — | ● | — |
| 4 x 14 l, 4 x 10 l | — | ● | — |
| 12 x 2.9 l | — | ● | — |
| 12 x 2 l glass | — | ● | 12 x 1,6 l glass |
| 24 x 1 l | — | ● | — |
| 24 x 1 l glass | — | ● | — |
| 24 x 2 l glass | — | — | Option |
| Guaranty | 2 years for defects of quality | 2 years for defects of quality | 2 years for defects of quality |



Sampling
Mobile Operation



| | PB 25 S/ PB 25 S/24 | PB 13 | PB 17 |
|--|---|---|--|
| Applications/ Specific Features | Compact design for mobile water and wastewater plant monitoring | Modular system for mobile process and wastewater engineering tasks, even for large polluting load | Compact system with large sample capacity for examination series and load determination in the field |
| Installation Site | | | |
| Frost-free roofed installation | ● | ● | ● |
| Power consumption | | | |
| Battery | ● | ● | ● pluggable |
| Power supply/recharger | external / buffer operation | external / buffer operation | external / buffer operation |
| Sample Storage | | | |
| Passive cooling (cooling accu.) | — | IsoBox | ● |
| Sampling System | | | |
| Vacuum system | — | ● | ● |
| Peristaltic pump system | ● | — | — |
| Sampling Method | | | |
| Time proportional | ● | ● | ● |
| Amount proportional | ● | ● | ● |
| Flow volume proportional | ● | — | — |
| Event proportional | ● | ● | ● |
| Combination mode | ● | ● | ● |
| Communication | | | |
| Modem/GSM | — | Option | Option |
| RS 232 | Option | ● | ● |
| System message display | ● | ● | ● |
| Sample Fractioning/Composite Sample | | | |
| Storage tanks 10 l PE | Option | ● | Option |
| Storage tanks 13 l PE | — | — | — |
| Storage tanks 25 l PE | ● (26 l) | — | — |
| 2 x 5 l PE | — | — | — |
| 12 x 0.5 l glass | Option | — | — |
| 12 x 1,1 l PE | Option | — | — |
| 12 x 1 l glass | — | — | — |
| 24 x 1 l PE | Option | Option | ● |
| Guaranty | 2 years for defects of quality | 2 years for defects of quality | 2 years for defects of quality |

Samplers for use in hazardous areas on request.

Stationary Samplers

PB 8

- Vacuum system
- Continuous adjustment of sample volume
- Optional signal output for IsoBox / distributor

Sampler PB 8 for plant monitoring

Device system equipped with vacuum technology for frost-free roofed installation with mains supply. This robust and compact instrument contains proven components and is easy to operate. Controls were reduced to an absolute minimum. The operator guidance is menu driven showing all relevant parameters in the display. Thus providing a system



which is fully sufficient for a multitude of tasks at a very favorable price-performance ratio. The addition of the IsoBox and cable connection accessory components provides the user with an inexpensive version for 2 h composite samples. With this powerful and reliable device, the operator has a low cost sampling instrument at his disposal which is reduced to core functionalities.

PB 150-2

- Vacuum system for operational safety, low maintenance
- Sampling traceability through data memory and interface mode
- Optional flow proportional Var unit

The instruments of the PB 150-2 series with their numerous versions are stationary samplers for permanent outdoor use under rough ambient conditions. The instruments are equipped with low maintenance and self-cleaning vacuum technology which has been field-tested and proven over years in the wastewater engineering sector. The devices are a further development of the PB 150 series and offer even more powerful and more economical sample storage with complete stainless steel fitting and a technically optimized temperature control system with a forced-ventilation liquifier. With its independent operation from the control system, the multiple point regulation system for cooling and heating the sample storage unit offers safe temperature control, even when the control system is turned off. In the light of representative samples for subsequent analysis combined with water content



assessment, thermostatic control plays an important role. With its overall maintenance- and service-friendly equipment configuration with separate energy, control and wet area and its variable control system with memory for user programs, the device offers a high degree of efficiency and availability. The "Var" version with a variable dosing container is available for users who wish to combine flow proportional sampling with the advantages of vacuum technology. This patented version guarantees a reproducible sampling volume which corresponds to the individual flow volume (0/4-20mA) and permits digital sampling volume adjustment.

Sampling can be traced using the display or fully documented and programmed using the communication software which is linked to a PC by an interface.

PB 150-SE

- Vacuum technology for operational safety
- Sampling traceability through program memory
- System monitoring

For permanent stationary use in water and wastewater monitoring measuring networks, automatically self-emptying samplers are available from the PB 150-SE 12 series equipped with 12 or PB 150-SE 24 equipped with 24 sample vessels. These devices operate with proven low maintenance and self-cleaning vacuum technology. The sample vessels are available in glass (Duran 50) and are easily extractable for cleaning. The bottle is sealed and emptied by means of robust constriction hose valves. The fractioned sample in the device is automatically discarded (emptied) or manually extracted for analysis. Immediately after emptying a sample which is no longer required, the relevant bottle is rinsed with pressurized clean water before it is refilled. These devices can store up to 12/24 reserve samples without supervision. In case of serious disruption of operation or other events, event samples can be taken. The PB 150-SE devices are thus not only suitable for “around the clock sampling” for routine monitoring tasks, but also for event sampling or for a combination of both. Sampling is traceable by means of the program and error memory readout on the display or can be documented and programmed from a PC using the communication software.


 General Description
of Meters

Monitors

IQ_SENSOR NET

Analyzer

 Sample
Preparation

Samplers

Accessories

 Measuring
stations

Ordering Informations Stationary Samplers

| Stationary Samplers | | Order No. |
|---------------------|--|-----------|
| PB 8-230 V | Compact sampler 230V/50/60Hz for wall mounting | 000 180 |
| PB 8-115 V | Compact sampler 115V/50/60Hz for wall mounting | 000 181 |
| PB 150-2/1 | Sampler with thermostatic control for outdoor installation (25 l storage container), 230V 50/60 Hz | 000 190 |
| PB 150-2/R12 | Sampler with thermostatic control for outdoor installation (12 x 2.9 l), 230V 50/60 Hz | 000 191 |
| PB 150-SE/12 | Sampler, self-emptying, with 12 glass bottles (12 x 1.6 l), 230V 50/60 Hz | 000 188 |
| PB 150-SE/24 | Sampler, self-emptying, with 24 glass bottles (24 x 2 l), 230V 50/60 Hz | 000 193 |


2 Year
Warranty

Device alternatives and additional accessories see brochure “Product Details”

Portable Samplers

PB 13

- Low maintenance vacuum system
- Large number of sample cycles with just one battery charge
- Sampling is traceable on display

Portable sampler PB 13 with vacuum technology for universal applications. Thanks to its energy saving functionality, a large number of sample cycles or comprehensive sampling programs, respectively can be performed with just one battery charge. PB 13 can be mounted directly on all common storage containers or onto the IsoBox, which is available in different versions. When combined with IsoBox, it provides the user with a practical and modularly extendable system with passive cooling. IsoBox is not only suitable for temperature control of samples but also for safe protected sample transport.



PB 17

- Energy saving vacuum technology
- Very compact build
- Large bottle capacity

The portable sampler PB 17 with vacuum technology and its immensely compact build is also suitable for field use in difficult terrain. With its large utilizable sample capacity of 24 x 1 l segment bottles, it is particularly suitable for extensive monitoring tasks and load determination. The lower part of the device has a double-wall insulation and offers full sample protection and a passive cooling facility with dry ice or cold storage accumulators. The cover, which is equipped with a lock, offers protection against the elements and unauthorized access. Its easy-to-change rechargeable battery with plug connection prevents downtimes caused by battery charging and facilitates a high level of availability.



PB 25 S / PB 25 S/24

- Compact
- Time, amount, event and flow proportional and combined sampling
- Precise non-contacting water measurement (optional)
- Already starting with 5 ml dosing volume

Portable sampler PB 25 S with peristaltic-pump dosing system and integrated rechargeable battery for collected samples 26 l as well as fractioned samples via turnable distributor on 12 x 1 l, 24 x 0.5 l or 24 x 1 l sample containers. Thanks to the linked non-contacting water recognition (optional) also waters with considerably low or high conductivity can be precisely sampled.



| Ordering Information Portable Samplers | | |
|--|--|------------------|
| PB 13 | | Order No. |
| PB 13 | Portable microprocessor-controlled liquid sampler with vacuum dosing system and built-in rechargeable battery. Delivery includes 5 m suction tubing, screw fitting and tubing end piece. Not included: battery charger, sample containers or IsoBox. The required accessories for PB 13 must be ordered separately. | 000 184 |
| PB 17 | | Order No. |
| PB 17 | Portable microprocessor-controlled liquid sampler in plastic housing with vacuum dosing system and built-in rechargeable battery. Delivery includes 5 m suction tubing, screw fitting, tubing end piece and 24 x 1 l PE sample bottles. Not included: battery charger. The required accessories for PB 17 must be ordered separately | 000 186 |
| PB 25 S and PB 25 S/24 | | Order No. |
| PB 25 S | Portable sampler with peristaltic pump dosing system, built-in rechargeable battery and battery charger as well as turntable distributor for 12 sample vessels. Supplied with 2 x 2 m suction tubing with quick-release coupling, suction piece and wastewater cap. Not included: sample containers (must be ordered separately, for 12 x 0.5 l glass bottles insert EW/25/0.5 is also required) | 000 103 |
| PB 25 S/24 | Portable sampler with peristaltic pump dosing system, built-in rechargeable battery and battery charger as well as turntable distributor for 24 sample vessels. Supplied with 2 x 2 m suction tubing with quick-release coupling, suction piece and wastewater cap. Not included: sample containers (must be ordered separately) | 000 105 |


**2 Year
Warranty**
Additional accessories see brochure "Product Details"