

WS 316 SE

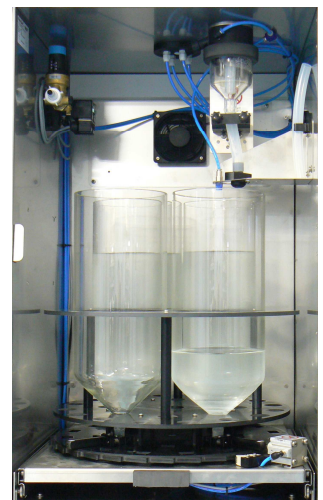
Self-Emptying Water Sampler



Automatic Emptying and Rinsing of Sample Bottles

With the fully-automatic emptying and rinsing of the sampling system and sample bottles, the WS 316 SE is the ideal unit for remote sampling locations or applications where regular sample retrieval is not needed or desired.

- Housing made entirely of high-grade stainless steel, incl. roof
- Vacuum/pressure system for precise sample volumes
- Metering vessel protected in climate-controlled sample chamber
- 8 other sampling systems available, even as double systems
- Program linking and parallel operation as standard software
- Simple upgrade to monitoring station
- Carousel distributor for direct sample distribution; no cross-contamination
- Pull-out drawer for easy removal of bottles
- Easy discharge of sample bottle directly into container, without tap
- Up to 24 x 1.8-litre bottles
- Self-cleaning of sampling system and bottles with clean water
- Optional: 2nd metering chamber for composite samples



WaterSam WS 316 SE - Technical Specifications

General

Applications	Stationary indoor/outdoor water sampling
Norms	CE, ISO 5667 compliant
Dimensions	H x W x D: 1590 x 655 x 770 mm Width including base rails: 720 mm
Weight	ca. 120-180 kg, depending on equipment
Power Requirements	230 V AC (optional: 110 V AC) 50 Hz (optional: 60 Hz) Main fuse: 16 A
Output	ca. 1010 VA max. including high-performance refrigeration and heating units
Ambient Temp.	-25°C to +42°C (optional: up to +55°C, others by request)

Sampling System

Standard	VAC vacuum-pressure sampling system for time-, volume-, event-proportional sampling
Flow-Proportional (Optional)	VAR-B: contactless; variable volume VAR-E: variable volume Peristaltic pump: variable volume
Other (Optional)	Second sampling system VAC with safety valve for pressurized lines Water switches: FMWW, PRF WS INLINEcut WS INLINEevent
Sample Volume	12-200 ml (optional: up to 2000 ml)
Metering Vessel	DURAN 50 borosilicate glass; dishwasher-safe, resistant to acid, alkaline, and temperature changes
Rinsing	Rinsing with potable or other available water; with 1 - 6 bar, valves, pressure regulator with fine filter, PVDF nozzles
Pump Performance	230 V AC; -0.8 to 1.8 bar; brushless; 8 m max. lift height, 14.5 l/min free flow; V _m 0.5 m/s for lift heights up to 6 m (optional: high-performance Pumps and/or WS VacuPress for lifts heights up to 30 m or more)
Intake Hose	12 mm ID PVC (optional: other diameters)
Wetted Parts	Borosilicate glass, PE, PVC, silicone, stainless steel 304/316Ti (optional: alternative materials as required)

Sample Bottles / Distribution

Distributor	Carousel distributor for direct sample distribution
Bottle Synchronization	Automatic
Bottle Sets	4 x 5 l PE 4 x 10 PE / borosilicate glass 8 x 1.8 l PP / borosilicate glass (optionally with additional 6 l container) 16 x 1.8 l PP / borosilicate glass (optionally with additional 10 / 26 l container) 24 x 1.8 l PP / borosilicate glass (optionally with additional 6 l container) 32 x 0.7 l PP

Housing and Thermal Control

Housing Material	Double-walled stainless steel 304 Optional: Stainless steel 316Ti Powder-coating in RAL colours Plastic (UV resistant)
Insulation	40 mm; cold bridge free; not foamed
Environmental Consideration	Construction facilitates easy separation of materials for proper recycling and disposal
Partitioning	Three separate technical compartments in top dry section for electrical/electronics, refrigeration unit and other components
Placement of Sampling System	Metering vessel in thermal-controlled sample chamber; protected from heat and frost
Installation	Easy floor mounting and firm footing with sturdy base rails
Thermostat	PT 100 3-point thermostat
Refrigeration	Compressor refrigeration unit, 230 V, 160 W; R134a refrigerant (CFC-free); with freely adjustable automatic defrosting (interval, time, duration, max. temperature). Optional for corrosive environment, e.g. H2S: evaporator plate separate from sample storage chamber, clean external air drawn to cabinet via ventilation flange
Heating	Electric heating unit in stainless steel sleeve; 230 V, 350 W (optional: 24 V version)
Sample Chamber	Temperature preset to 3°C (adjustable)

Standard Controller

General	Microprocessor controller with 4-button operation, backlit 4 x 20 character display, real-time clock, battery backed-up RAM memory (5 years), overload-protected outputs, 4 completely separated analog inputs (differential input)
Software	Menu-based operating system Up to 9 user-defined sampling programs; any/all programs can be run simultaneously or linked. Memory for fault, event, and operational conditions, preset operating programs, always switchable. Preset and user-defined distributor settings
Inputs	4 x analog 0/4-20mA 10 x digital (flow, event, multiple programmable inputs)
Outputs	16 x digital (program active message, fault message, other programmable messages)
Interface	RS 232, optional RS 485
Modem (optional)	Remote operation / fault message via SMS / Remote start via mobile phone
Advanced controller (optional)	See MS3 Controller datasheet

Additional options and accessories as well as custom equipment available upon request.

Note: In addition to mains electricity, the following on-site requirements are necessary for the automatic functions of the WS 316 SE:

- Clean water supply for rinsing; 2-3 bar pressure (approx. 10 l/min capacity); 6/4 mm connection.
- Drain for unretrieved samples and rinse water
- Compressed air supply; 4-5 bar pressure; 6/4 mm connection (if not available, additional components are required)

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