

# WS 316

## Stationary Water Sampler



### *Impressive Versatility and Huge Capacity*

The WS 316 is the comprehensive all-weather stationary water sampler from WaterSam, offering the largest sample storage capacity and the widest array of options and equipment for specialized applications.

- Housing made entirely of high-grade stainless steel, incl. roof
- Vacuum/pressure system for precise sample volumes
- No recalibration necessary after cleaning
- 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
- Intake hose inlet on the left and right side, optionally through the floor or rear wall
- XY Distributor for direct sample distribution; no cross-contamination and no distributor plate to clean
- Numerous sample bottle sets; up to 49 x 1-litre bottles
- Filling of different bottles and containers in one set for both composite and backup samples
- Customer-specific bottles can easily be used.
- Park position permits the use of large containers without retrofitting.



# WaterSam WS 316 - Technical Specifications

## General

|                    |   |
|--------------------|---|
| Applications       | Stationary indoor/outdoor water sampling                                    |
| Norms              | CE, ISO 5667-compliant  |
| Dimensions         | H x W x D: 1290 x 655 x 770 mm<br>Width including base rails: 720 mm        |
| Weight             | ca. 90-125 kg, depending on equipment                                       |
| Power Requirements | 230 V AC (optional: 110 V AC)<br>50 Hz (optional: 60 Hz)<br>Main fuse: 16 A |
| Output             | ca. 750 VA max. including high-performance refrigeration and heating units  |
| Ambient Temp.      | -25°C to +42°C<br>(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<br>- VAR-E: variable volume<br>- Peristaltic pump: variable volume  |
| Other (Optional)             | - second sampling system<br>- VAC with safety valve for pressurized lines<br>- Water switches: FMWW, PRF<br>- WS INLINEcut<br>- WS INLINEevent  |
| Sample Volume                | 15-350 ml (optional: up to 2000 ml)   |
| Metering Vessel              | DURAN 50 borosilicate glass; dishwasher-safe, resistant to acid, alkaline, and temperature changes  |
| Pump Performance             | 230 V AC; -0.8 to 1.8 bar; brushless;<br>8 m max. lift height, 14.5 l/min free flow;<br>$V_m$ 0.5 m/s for lift heights up to 6 m<br>(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<br>(optional: alternative materials as required)   |

## Sample Bottles / Distribution

|   |  |
|---|--|
| Composite Container (without distributor) | 15.4 / 20 / 26 / 60 l PE   |
| Distributor (optional)                    | XY Distributor, direct sample depositing with two-axis positioning system  |
| Bottle Synchronization                    | Automatic  |
| Bottle Sets (with distributor) e.g.       | <i>Discrete samples:</i><br>4 x 10.4 l / 15.4 / 20 / 25 l PE<br>5 x 12 l PE<br>16 x 2.9 l PE / 4 l PE / 2 l glass<br>24 x 2 l PE<br>36 x 1 l PE / 0.9 l glass<br>49 x 1 l PE / 0.9 l glass<br><i>Discrete + composite samples:</i><br>12 x 2.9 l + 1 x 12 l PE<br>24 x 1 l + 1 x 12 l PE |
| Additional Bottle Set Possibilities       | Use of customer-specific bottles without additional parts; via software setting change   |

## Housing and Thermal Control

|                              |   |
|------------------------------|---|
| Housing Material             | Double-walled stainless steel 304<br>Optional:<br>- Stainless steel 316Ti<br>- Powder-coating (RAL colours)<br>- 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).<br>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<br><br>Up to 9 user-defined sampling programs; any/all programs can be run simultaneously or linked.<br><br>Memory for fault, event, and operational conditions, preset operating programs, always switchable.<br><br>Preset and user-defined distributor settings |
| Inputs                         | 4 x analog 0/4-20mA<br>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 by request.*

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