WS 316 Ex Stationary Sampler

Sample Chamber Protection for Explosive Substances

Especially in the chemical industry, sampling media can contain flammable substances and present an explosion hazard. In many cases, preventing ignition at the sampling point as well as in the sample storage area is sufficient.

This variation of the WS 316 was developed for such applications, where only the sample storage chamber is classified according to the ATEX norm for Ex Zone II. The huge cost savings compared to a fully ATEX-certified sampler, as well as the outstanding quality, make the WS 316 Ex II Interior a popular sampler among large international companies.

ADVANTAGES AT A GLANCE

The WS 316 Ex II Interior features the same benefits as the WS 316, and in addition offers the following functions:

Sample storage chamber classified according to ATEX norm for Ex Zone II 3G Ex ic IIB T6-10≤Ta≤+60°C

- Pneumatically-operated distributor for direct bottle filling, thereby eliminating the need for a distributor plate and preventing cross-contamination
- Numerous bottle combinations up to 24 x 1 l bottles
- Various sampling systems available
- No recalibrating sample volumes after cleaning
- Available with Ex-proof heating
- Optional static cooling with evaporator plate encased in the rear wall
- If required, sample storage chamber can be provided with lock and/or monitoring of door movements

TECHNICAL DATA

GENERAL

Stationary sampler for indoor and outdoor applications;
not suitable for placement inside Ex-zones

Norms	CE; compliant with ISO 5667 Sample storage according to ATEX norm for Ex Zone II 3G Ex ic IIB T6-10≤Ta≤+60°C
Dimensions	H x W x D: 1.290 x 665 x 720 mm Width including mounting rails: 720 mm
Weight	Approx. 90 – 125 kg, depending on equipment
Power Requirements	230 V AC (optional: 110 V AC); 50 Hz (optional: 60 Hz); Main fuse 16 A
Output	Approx. 750 VA max. including high-performance

SAMPLING

Sampling System	Standard: VAC vacuum pump system for sampling under pressure-free conditions Alternative systems: <u>For sampling under pressurized conditions:</u> FMWW, WS INLINEcut®
Sampling Modes	All sampling systems from WaterSam can take time-, flow (CVVT)- and event-proportional samples Note: the WS 316 EX can be equipped with two separate sampling systems
Sample Volumes	15-350 ml (optional: up to 1000 ml) multiple-shot metering possible
Metering Glass	DURAN 50 borosilicate glass; dishwasher-safe, resistant to acid, alkali, temperature fluctuations
Pump	230 V AC; -0.8 to 1.0 bar; 14l/min free flow; VM 0.5 m/s to 6 m; max. lift height 8 m (optional: high-performance pump; VacuPress for lift heights up to 30 m or more)
Intake Hose	12 mm ID PVC (optional: 16 mm ID)
Wetted Parts	Borosilicate glass, PE, PVC, stainless steel 304/316Ti, silicone (optional: alternative materials as required)

HOUSING / TEMPERATURE CONTROL

Housing Material	Stainless steel 304 Optional: ▪ Stainless steel 316Ti or 316L ▪ Powder coating (RAL colors) ▪ Plastic (UV resistant)
Insulation	40 mm; cold-bridge free; not foamed
Environmental	Construction facilitates easy material separation for proper recycling/disposal
Partitioning	Three separate technical compartments in top dry section for electrical, refrigeration unit and other components
Placement of Sampling System	Metering vessel in temperature-controlled sample chamber; protected from heat and frost
Installation	Easy floor mounting and firm footing with sturdy base rails
Temperature Control	PT 100 3-point thermostat
Refrigeration	Compressor cooling; 230 V AC, 150 W; CFC-free refrigerant R134a; adjustable automatic defrosting (interval, time, duration, max. temperature) for corrosive environment, e.g. H2S: evaporator plate separate from sample storage chamber, clean external air drawn to cabinet via ventilation flange
Heating (optiona)	Electric heating unit in stainless steel sleeve; special design for Ex-zones Note: not available with all bottle sets

DISTRIBUTOR (optional)

Distributor	Carousel direct distributor
Bottle Synchronization	Automatic
Sample Bottles / Sets	See „Bottle Combinations“

CONTROLLER

MS3 Controller

With the MS3 controller, WaterSam has set new standards. In addition to comprehensive communications possibilities, the MS3 sets itself apart with its through its user-friendly layout and easy operation.

ADVANTAGES AT A GLANCE

Easy Operation

The large backlit graphic display permits a clear and simple view of menus. The 24 keys make menu navigation very straightforward and easy. In addition to the numerical and navigation keys, there are direct function keys to start, pause and stop selected programs, as well as take a grab sample. This means controller operation remains dependable regardless of precipitation or extreme temperatures; even when using gloves.

Versatile Parameter Settings

All programs can be configured according to the user's needs. Programs can be run simultaneously or in a specific order. If the application demands special considerations, a wide range of system and program parameters can be adjusted without hassle. In order to protect the sampler against unauthorized access, a special code can be set by the operator to limit access to several different menu levels. The levels of protection permit varying degrees of access to specific sampler functions and settings.

Comprehensive Communication

The numerous ports on the controller allow simple communication with the sampler. With a Modbus protocol, the sampler can be integrated into an on-site control system
The USB port can be used to retrieve saved data as well as load software updates. The available webserver allows access to sampler functions and information.
The controller has 4 GB of storage space, which can be expanded to 32 GB.
In addition to 4 separate analog inputs and an analog output, the MS3 controller features 16 digital inputs and 16 digital outputs as standard equipment.

Sensor Connection

Intelligent sensors can be connected directly to the MS3, and monitored data can then be stored. This completely eliminates the need for an expensive transmitter.

Energy Efficient

The technologically advanced MS3 has especially low power consumption.
Additionally, portable samplers feature an intelligent sleep mode to further increase efficiency and thereby extend battery life. The sleep mode is activated not only before and after a sampling campaign, but also in between individual samplings.

INNOVATIVE . INTUITIVE. COMMUNICATIVE

MS3 CONTROLLER TECHNICAL DATA

OPERATION

Waterproof keypad with 24 keys, incl. 4 color-coded direct function keys, navigation keys, numerical keypad, 3 flexible-function keys

SOFTWARE & PROGRAMS

Graphic menu;
optional display of various selectable data

Up to 9 programs
(number of programs adjustable), multiple / all programs can be run simultaneously

INTERFACE

RS-232, RS-485, TCP/IP, USB Host, USB Com Port Slave

SOFTWARE UPDATES

via USB flash drive

INPUTS

ANALOG
4 separate analog inputs
0/4-20mA

DIGITAL
16 digital inputs
e.g. for flow, events, external control, start, stop, distributor movement, etc.

OUTPUTS

ANALOG
1 analog output 4-20 mA

DIGITAL
16 digital outputs
e.g. for messages, external control; expandable by request

DATA STORAGE

4 GB, optionally 32 GB or more;

usable for storing internal data (sampling data, quality parameter values, other sampling information) and data from external sources (pH, flow, conductivity sensors, etc.)

COMMUNICATION

Modbus via RS-485 or TCP/IP
Webserver
Optional:
Profibus-DP, Modem

DATA RETRIEVAL

RS-232, RS-485, Modbus
download via USB flash drive / TCP/IP
Optional: via Webserver, Modem or Profibus-DP

NOTE : The MS3 controller is available as a retrofit for your existing WaterSam sampler!

BOTTLE COMBINATIONS

Composite Containers	Bottle Sets
Possible Sizes:	**Possible Sets:**
15.4 l PE 20.0 l PE 26.4 l PE 60.0 l PE	4 x 5.0 l PE 4 x 10.0 l PE / borosilicate glass 8 x 1.8 l PP / borosilicate glass 16 x 1.8 l PP / borosilicate glass 24 x 1.8 l PP / borosilicate glass

INFO BOX

The use of custom bottle combinations and/or client-specific bottles is possible.

Haven‘t yet found the right bottle combination?
Contact us! Other combinations as well as custom solutions are available upon request.

OPTIONS

The equipment combination possibilities for the WS 316 EX are surprisingly varied. We will gladly create a quotation for a sampler especially designed for you and your requirements. You can profit from our years of experience and technical expertise. All desired options will be included when building your sampler to provide a complete package solution.

You‘ll be amazed at the possibilities.

OPTIONS

HOUSING EQUIPMENT

- Carriage with castors
- 300 mm tall base (other heights upon request)
- Controller panel door; with or without window
- Upgrade to monitoring station
- Interior lighting with door switch
- Door switch for access surveillance
- Power socket installed in housing
- Cylinder locks for doors
- Protection hoods for ventilation grills
- Connection flange for hose with external air supply for refrigeration unit

TECHNICAL EQUIPMENT

- Main power switch
- Connection sockets
- Residual-current circuit breaker
- Various vacuum pumps
- Data logger (for saving sampling data, monitoring data from internal measuring instruments and/or external on-line sensors)
- Easy Handling package
- Heavy-duty refrigeration unit for ambient temperatures up to +55°C
- Inlet hose heating

SAMPLING COMPONENTS

- Conforming of materials for the sampling line (intake hose, sampling system, distributor hose, sample bottles) e.g.: PTFE, PVDF, FPM.
- Metering vessels with alternative volumes (e.g. 200 / 350 / 500 / 750 / 1000 ml)
- Positioning armature for intake hose
- Filter basket

Other options available upon request

COMMUNICATION

- GSM modem for remote operation, SMS and program start via mobile telephone, complete access to sampler software via PC / Laptop
- Signal relays (general error alarm, bottle changed, sample taken, program started, program stopped, return of power after power outage)

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QUESTIONS ?

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QUALITY MADE IN GERMANY

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