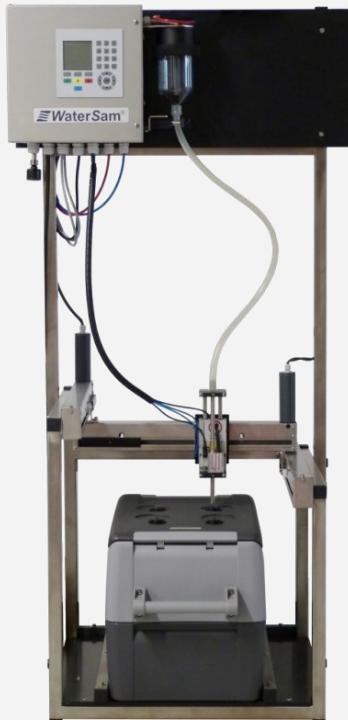


WS 98 F Freezing Sampler



Sub-Zero Sample Preservation

The WS 98 can preserve samples by immediately depositing them directly in its cooler.

The removable cooler can then be brought to the lab, ensuring that the cold chain is never broken.

Thanks to the unique distributor system, a variety of bottles can be filled.

ADVANTAGES AT A GLANCE

The WS 98 F features the same benefits as the WS 98, and in addition offers the following functions:

- Active refrigeration for sample cooling down to -22 °C
- Ability to power cooler with socket in vehicle to maintain cold chain during transport
- Sampler housing, frame and distributor made of stainless steel
- Controller and other electronic components protected in sampler housing
- No icing of fill opening

TECHNICAL DATA

GENERAL

	Stationary sampler for indoor applications
Norms	CE
Dimensions	H x W x D: 1610 x 800 x 710 mm
Weight	Total, incl. frame: approx. 75-85 kg, depending on equipment
Power Requirements	230 V AC (optional: 110 V AC); 50 Hz (optional: 60 Hz); Main fuse 4/10 A
Output	Approx. 60 VA

SAMPLING

Sampling System	Standard: VAC vacuum pump system for sampling under pressure-free conditions Alternative systems: <u>For sampling under pressure-free conditions:</u> VAR-B, VAR-E, VAR-C, peristaltic pump <u>For sampling under pressurized conditions:</u> FMWW, PRF, VAC with isolation valve, INLINEvent, WS INLINEcut®, VacuPress
Sampling Modes	All sampling systems from WaterSam can take time-, volume- and event-proportional samples For flow-proportional sampling, the following systems are suitable: VAR-B, VAR-E, VAR-C, peristaltic pump
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

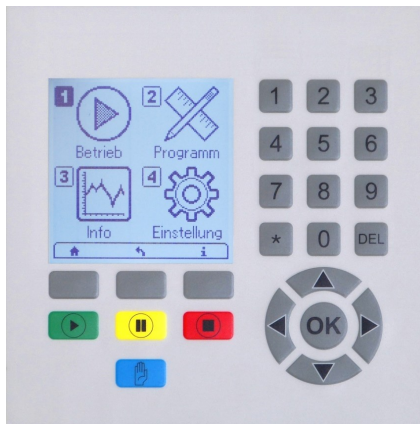
Housing Material	WS 98: stainless steel 316Ti Frame: Stainless steel 304 XYZ Distributor: stainless steel 316Ti Optional: powder coating of stainless steel components (RAL colors) Cooler: polyethylene with polyurethane insulation
Compressor Cooling	12/24 V DC; 6 A with battery monitor (requires external battery) 100-240 V AC; 1.3-0.7 A CFC-free refrigerant R134a
Internal Temperature	Adjustable from -22 °C to +10 °C
Hourly Run Times at	Typical data for 12 V DC / 230 V AC: 12% (power draw Ti=5°C Ta=20°C 7.5 A DC / 0.7 A AC) 22% (power draw Ti=5°C Ta=32°C 7.5 A DC / 0.7 A AC)

DISTRIBUTOR/SAMPLE BOTTLES

Distributor	XYZ Distributor: three-axis coordinate system for direct depositing of discrete samples
Bottle Synchronization	Automatic
Sample Bottles / Sets	1 x 6.4 l / 10.4 l PE 4 x 6.4 l PE 8 x 2 l PE

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 permits 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 webservice facilitates access to sampler functions and information.

The controller has a 4 GB storage space, and 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.



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

PORTS

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

SOFTWARE UPDATES via USB-Stick

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, 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-Stick / TCP/IP
Optional: over Webserver, Modem or Profibus-DP

OPTIONS

The equipment combination possibilities for the WS 98 F 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.

HOUSING EQUIPMENT

- Support frame with castors
- Power socket

Other options
available upon
request

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)
- High-performance pump package with pneumatic pinch valve
- Heavy-duty pump and valve package for corrosive media / environment
- 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)
- Drain position and rinsing with clean water
- Positioning armature for intake hose
- Filter basket

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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