Level | Pressure | Flow | Temperature | Liquid Analysis | Registration | Systems Components | Services | Solutions

Technical Information

# ASP Station 2000

## Stationary Water Sampler
## Automatic sampler for liquid media

PROFIBUS PROCESS FIELD BUS

### Application

Municipal and industrial sewage treatment plants:
- Self monitoring
- Efficiency monitoring; cleaning performance determined
- Curve recording
- Process monitoring
- Monitoring of indirect dischargers
- Monitoring of wastewater network

Laboratories and Water Conservancy Boards:
- Hydrology and drinking water supply (e.g. dam monitoring)
- Monitoring of direct and indirect dischargers

Monitoring of liquid media in industrial processes.

### Your benefits

Robust and dependable
- Stainless steel cabinet with foamed insulation, for safe sample preservation
- Sample compartment with seamless inner shell and evaporator in foam – no freezing and no corrosion of cooling plates

Simple and user-friendly
- Menu-led operation with “Quick-Setup”, for quick commissioning
- Media-carrying parts easy to mount without tools, for easy cleaning and maintenance
- Separate bottle trays with grips, for easy sample transportation

Flexible
- Parallel sampling, switching and event programmes for practical programming
- Modular installation of electrical components for extended functions

Communicative
- Integrated data logger, for recording measured values (e.g. pH value) and sample statistics (standard in the case of ASP station 2000 peristaltic, optional in the case of ASP station 2000 vacuum)
- RS232 interface for configuration, data transmission and read-outs from internal data logger (optional in the case of ASP station 2000 vacuum)
- Profibus-DP interface, for connection and control with control systems (optional in the case of ASP station 2000 vacuum)
- Connection possibility for multiparameter sensor (optional in the case of ASP station 2000 peristaltic)

Safe
- ATEX II 3G certification for safe operation in zone 2 hazardous areas (optional in the case of ASP station 2000 vacuum)
- Trouble-free sampling operation in case of power failure by means of battery buffering in the case of ASP station 2000 peristaltic

TI059R/09/en
No. 50092270

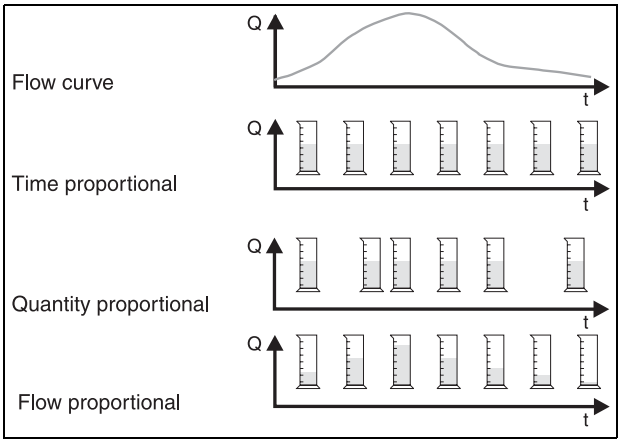
Endress+Hauser
People for Process Automation

# Function and system design

**Measuring principle**

The ASP station 2000 is a stationary sampler for fully automated sampling, defined distribution and thermostatic storage of liquid media.

**Sampling methods**




**Time- proportional:**
A constant sample volume is taken at constant time intervals.

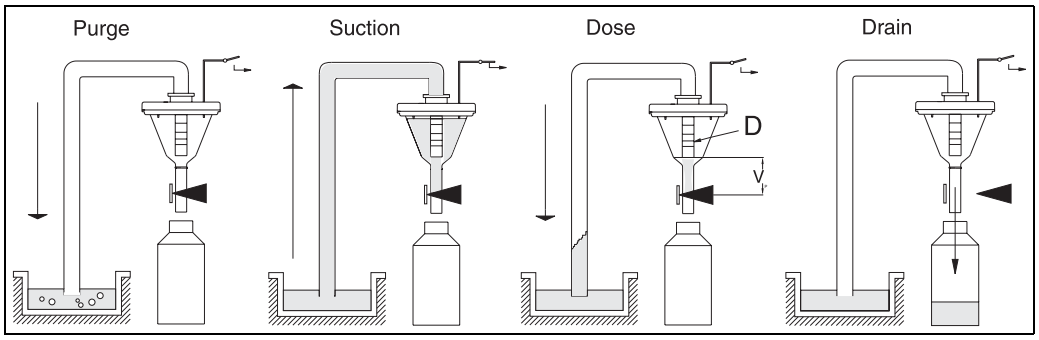
**Quantity-proportional:**
A constant sample volume is taken at variable time intervals.

**Flow- proportional:**
A variable sample volume is taken at constant time intervals.

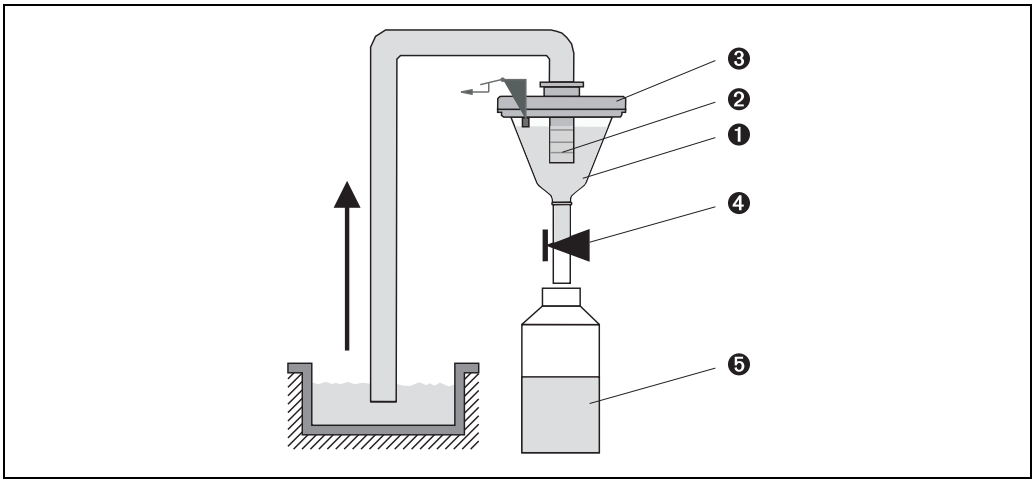
**Sampling unit**

**ASP station 2000 with vacuum system**

There are four stages in the sampling process:




1. Blow out:
   The diaphragm pump blows the suction line clear via the dosing system.
2. Suction:
   The “Airmanager”, a pneumatic ratchet gear, switches the air pipe of the diaphragm pump to suction mode. The sample liquid is drawn into the dosing funnel until the conductivity probes of the dosing system are reached.
3. Dose:
   The suction process is stopped. Depending on the position of the dosing pipe (item D), the excess sample liquid flows back to the sampling point.
4. Drain:
   The hose constriction is opened and the sample is drained into the sample bottle.



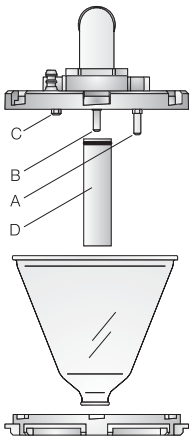
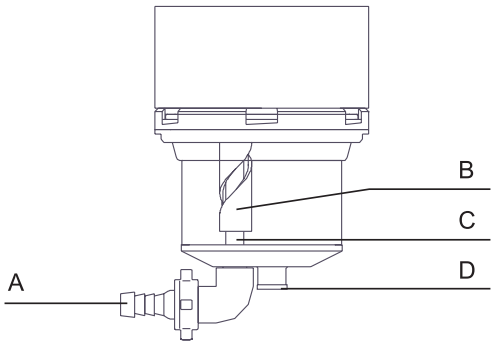

*Sampling principle*

*Item 1 : dosing funnel*
*Item 2 : dosing pipe*
*Item 3 : dosing funnel lid*
*Item 4: hose constriction*
*Item 5: sample bottle*

The sampling liquid is extracted discontinuously by means of a vacuum system. The vacuum system of the ASP station 2000 consists of the following components:

- Vacuum diaphragm pump
- Wear-resistant, pneumatic “Airmanager” step ratchet gear”
- Dosing system (see table below)

**Dosing systems, ASP station 2000 vacuum system**

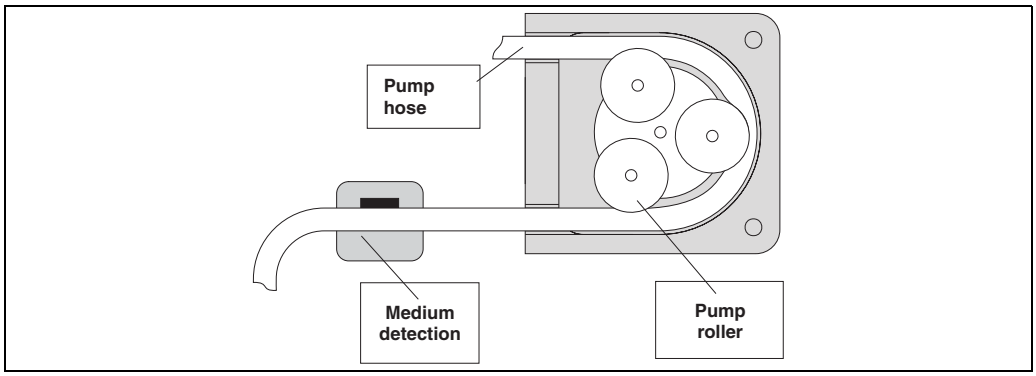
| Standard | Twiddle principle |
|---|---|
|   |   |
| *Standard dosing system*<br>*Item A: conductivity probe (long)*<br>*Item B: conductivity probe (long)*<br>*Item C: conductivity probe (short)*<br>*Item D: dosing pipe* | *"Twiddle principle" dosing system*<br>*A: inlet*<br>*B: rotatable pipe*<br>*C: stationary pipe*<br>*D: outflow sample container* |

| Standard | Twiddle principle |
|---|---|
| ■ There are three conductivity probes in the dosing funnel lid. During the suction process, the sample liquid first reaches the longer conductivity probes (item A and B). In this way, the filling of the dosing funnel is detected and the suction process is stopped. If the conductivity probes (item A and B) fail, safety switch-off takes place by means of the shorter conductivity probe (item C).<br>■ The sample volume is set between 20 ml and 200 ml by moving the dosing pipe (item D).<br>■ The dosing system can be disassembled and cleaned easily without tools. | ■ Inside the dosing system there is a stationary, vertical pipe with an oblong hole and a rotatable pipe with a spiral-shaped cut-out (see diagram Seite 3). By rotating the pipe with the spiral-shaped cut-out, the vertical position of the opening is changed. This in turn changes the dosing volume.<br>■ The sample volume is changed using a motor and is configured via the controls. The sample volume cannot be changed manually.<br>■ When sampling starts, the upcoming current flow is queried, and the relevant dosing volume is configured as early as during the blow-out phase.<br>■ In addition to flow-proportional sampling, time- and quantity-proportional programmes with different dosing volumes are also possible. |

**ASP station 2000 peristaltic system**

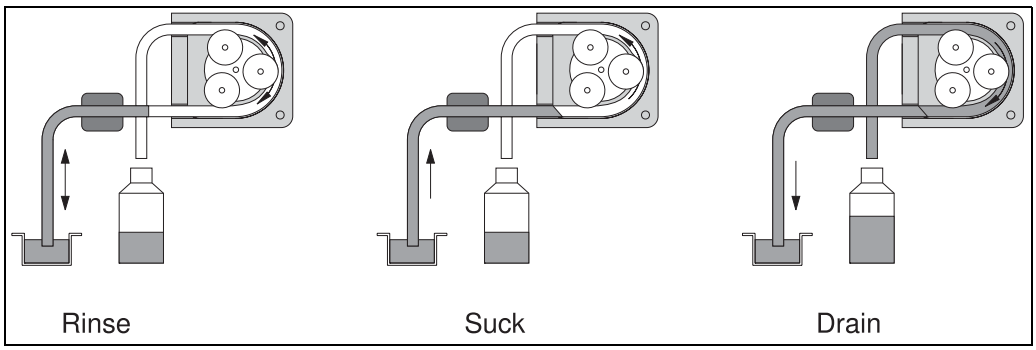
A hose pump is used to suck in and dose the sampling liquid. The pump hose is periodically twisted by rollers running along the circumference of the hose, thereby generating a pump effect. The medium detection system controls the electronic volume measurement.
The medium detection system is a new system developed by Endress+Hauser. A pressure sensor is at the heart of the system. The pressure sensor detects the difference between a full and empty pump line.

The advantages of the Endress+Hauser system:
■ Intelligent: the suction height is detected automatically and does not need to be configured
■ Maintenance-free: ceramic diaphragm




*How the hose pump works*

Sampling takes place in three steps:




*Sampling steps*

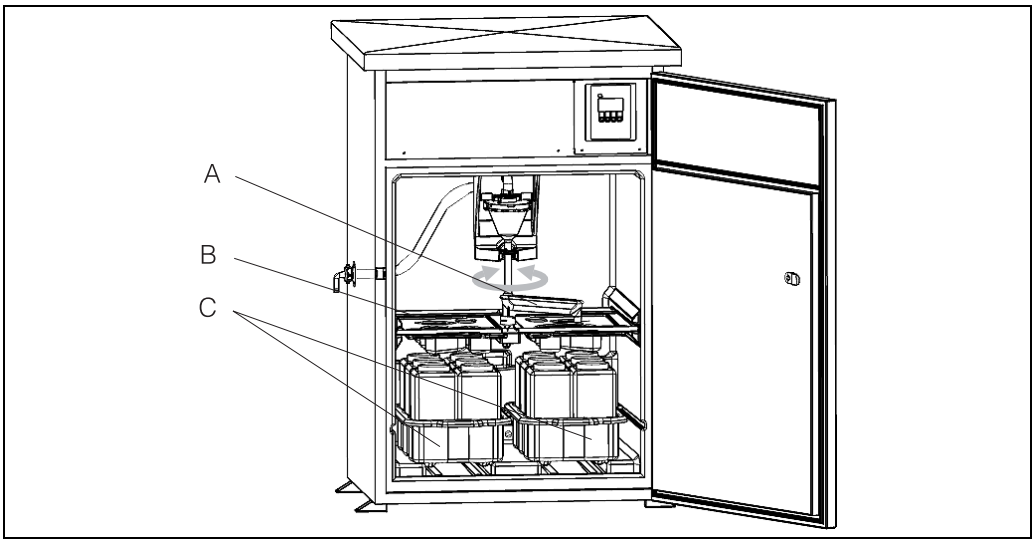
- Rinsing the suction line: the sampling liquid is sucked in until the medium detection system is triggered. Then the pump reverses and pushes the liquid back to the sampling point. The rinsing process can be repeated up to three times.
- Sucking the sampling liquid: the sampling liquid is drawn from the sampling point to the sampler, and the sample volume is calculated electronically.
- Emptying the suction line: after sampling, the liquid remaining in the suction line is pumped back to the sampling point.

### Dosing system data

| System | Vacuum | | Peristaltic |
|---|---|---|---|
| | Standard | Twiddle principle | |
| **Sampling methods** | ■ quantity-proportional<br>■ time-proportional | ■ flow-proportional<br>■ quantity-proportional<br>■ time-proportional | ■ flow-proportional<br>■ quantity-proportional<br>■ time-proportional |
| **Dosing volume** | 20 to 200 ml (20 to 500 ml optional) | | 20 to 9999 ml |
| **Dosing accuracy** | 4% of the set volume | | ± 5 ml or ± 5 % of the set volume |
| **Repeating accuracy** | 2% | | 5% |
| **Conveying velocity** | > 0.5 m/s, to EN 25667 | | |
| **Conveying height** | max. 6 m (8 m optional) | | |
| **Conveying distance** | max. 30 m | | |

### Sample distribution (vacuum and peristaltic)

The sample liquid is distributed into the individual bottles by means of a tap (item A). In addition to a 30 l and 60 l composite container, various bottle distributions are available. The distribution version can be replaced or changed easily without the need for tools. The ASP station 2000 allows flexible configuration of the sample distribution. Individual bottles and bottle groups can be freely defined for the main, switching and event programmes. Individual bottles are located in two separate bottle trays (item C). Grips on the bottle trays make transportation easy and practical.




*ASP station 2000 sample distribution*

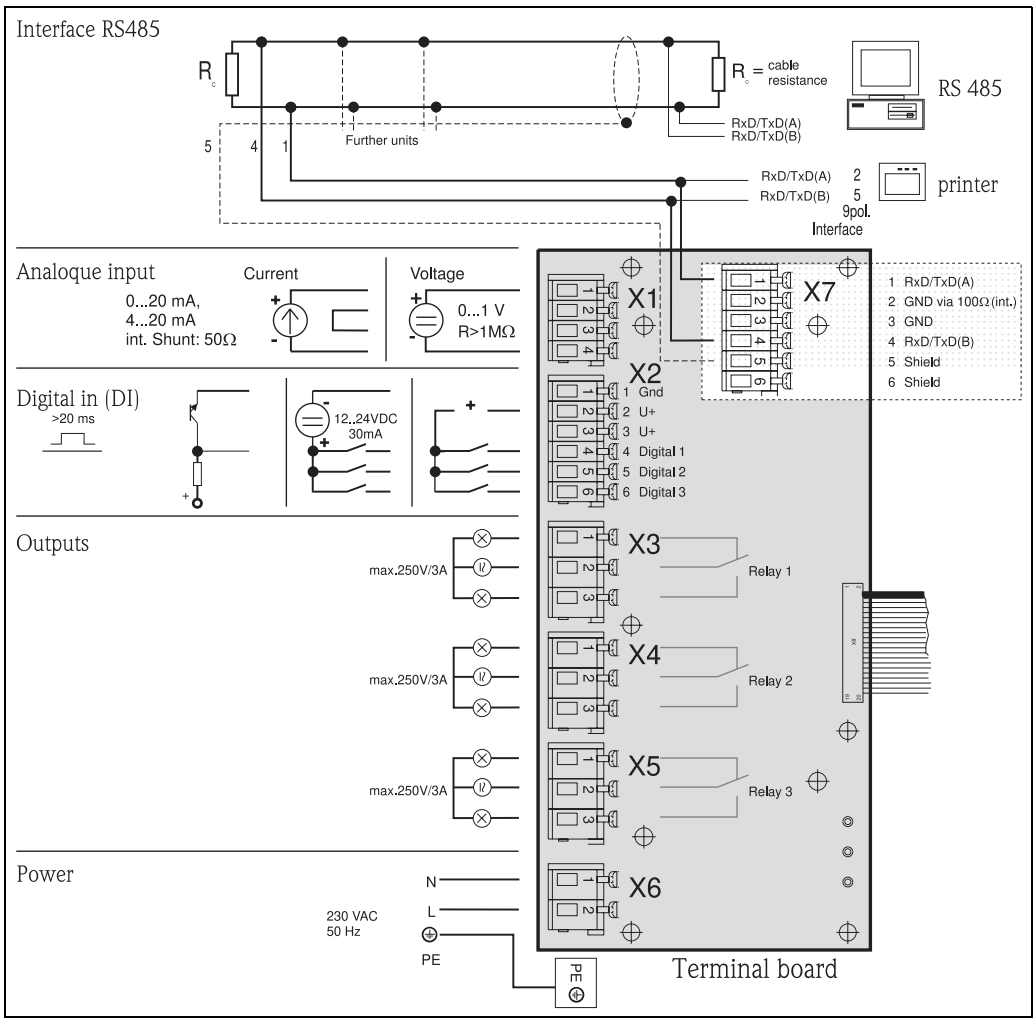
*Item A: tap*
*Item B: distribution pan*
*Item C: bottle trays*

**Sample preservation**

The sample bottles are located in the wet room of the sampler. The sample compartment temperature can be set directly at the controls from +2 to +20 C (factory setting: +4 C). The current sample compartment temperature is displayed at the controls and recorded in the internal datalogger (optional). The evaporator and defrost heater are packed in the PU insulation behind the inner shell, protected against corrosion and damage. The compressor and liquefier are located in the upper section of the sampler.
All parts carrying media (e.g. tap, dosing system, distribution pans) can be easily disassembled and cleaned without tools. The entire sample compartment is fitted with a seamless plastic inner shell for easy and effective cleaning.

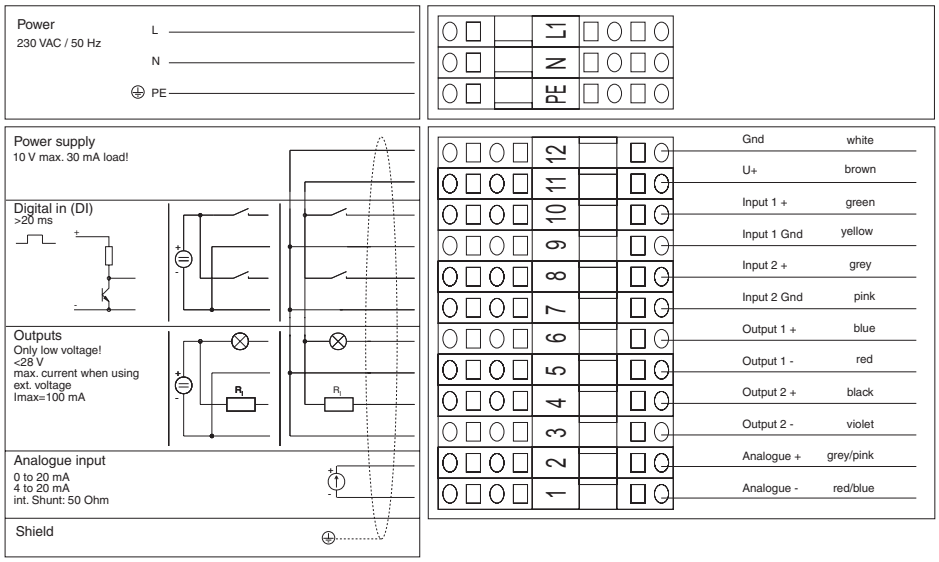
# Power supply

**Electrical connection (wiring diagram)**




*Terminal assignment of the ASP Station 2000*

**Terminal assignment, ASP station 2000 peristaltic**




*Assignment and circuit diagram of terminal block, ASP station 2000 peristaltic*

**Supply voltage**

230 V AC, 50 Hz
110–125 V, 50/60 Hz
Fuse protection at installation max. 10 A
Peristaltic: battery operation for sampling with charger and storage battery 12 V/12 Ah; trouble-free operation even in case of short-term power failure

**Cable entry**

- 2 x cable gland M16
- 2 x cable gland M20
- 2 x cable gland M32

**Cable specification**

Power supply: e.g. NYY-J, 3-core, 1.5 $mm^2$ - 2.5 $mm^2$
Analogue and signal lines: e.g. LiYY 10 x 0.34 $mm^2$
Interface RS485: e.g. LiYCY 2 x 0.25 $mm^2$

**Power consumption**

Vacuum 350 W; peristaltic approx. 340 W

**Connection data interface**

**Serial interface**

– RS485 on terminal board (not peristaltic)
– RS232, 4-pole IP 67 socket IP 67 on the front panel (optional in the case of ASP station 2000 vacuum)

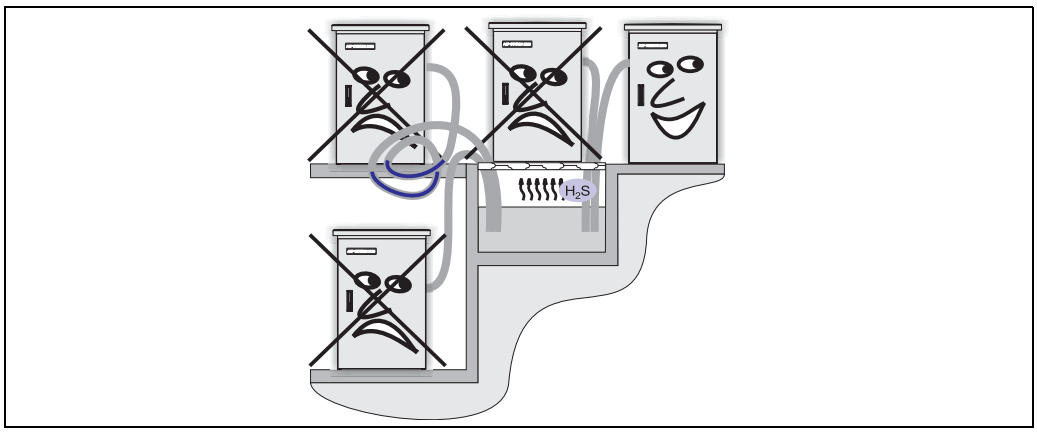
**PROFIBUS®-DP connection (optional in the case of ASP station 2000 vacuum)**

With Profibus coupler on top-hat rail in electronics compartment via RS232, baudrate 9600 kBaud.

# Set-up conditions

## Set-up instructions

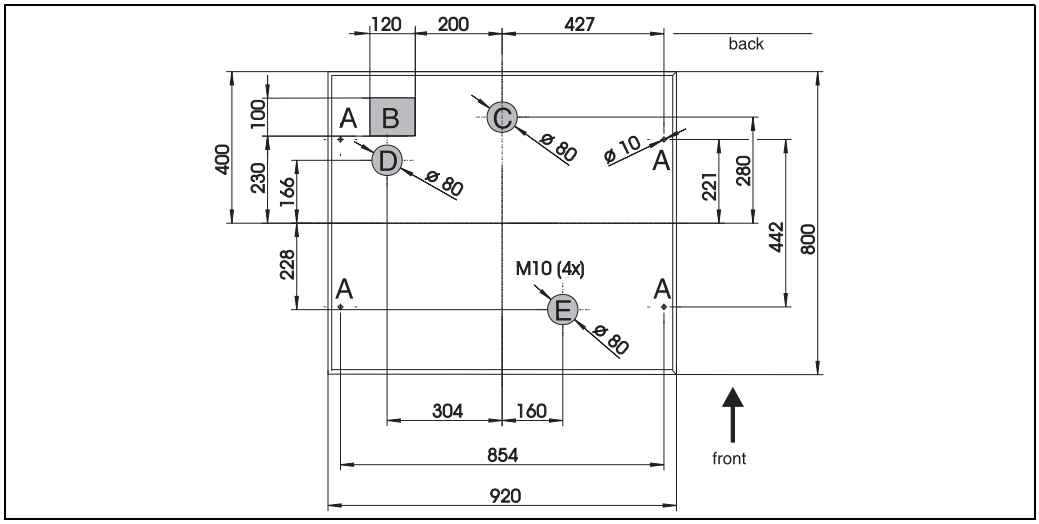
### Suction line




*Laying suction line*

Note!
The suction line must be laid with a drop to the sampling area (as shown in the illustration). Avoid siphon draw!

### Foundations, supports




*Foundation plan (data in mm)*

*A: Fixing points (4 x M10)*
*B: Cable pit*
*C: Outflow for condensation water*
*D: Bottom hose entry (optional)*
*E: Outflow for overflow*

# Environment

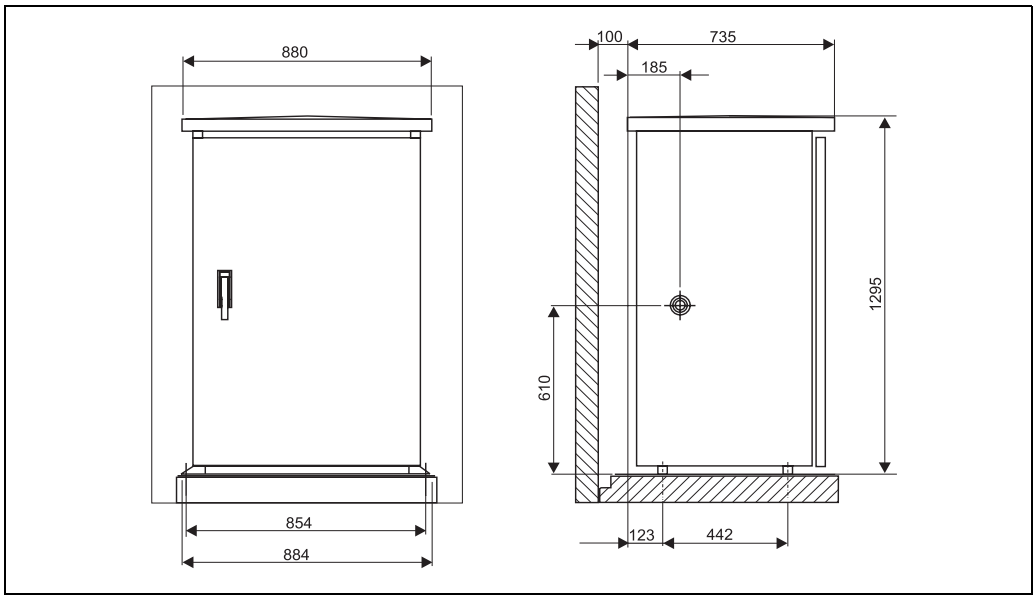
| | |
|---|---|
| **Ambient temperature range** | -20 to +40 C<br>+5 to +40 C, ASP station 2000 Ex |
| **Storage temperature** | –20 to +60 C (preferably at +20 C) |
| **Degree of protection** | ■ Control (front panel): IP 65<br>■ Sample compartment: IP 54<br>■ Electronics compartment: IP 43 |
| **Electromagnetic compatibility (EMC)** | To EN 61 326 |
| **Electrical safety** | To EN 61010-1, class I protection, environment < 2000 m above sea level |

# Process

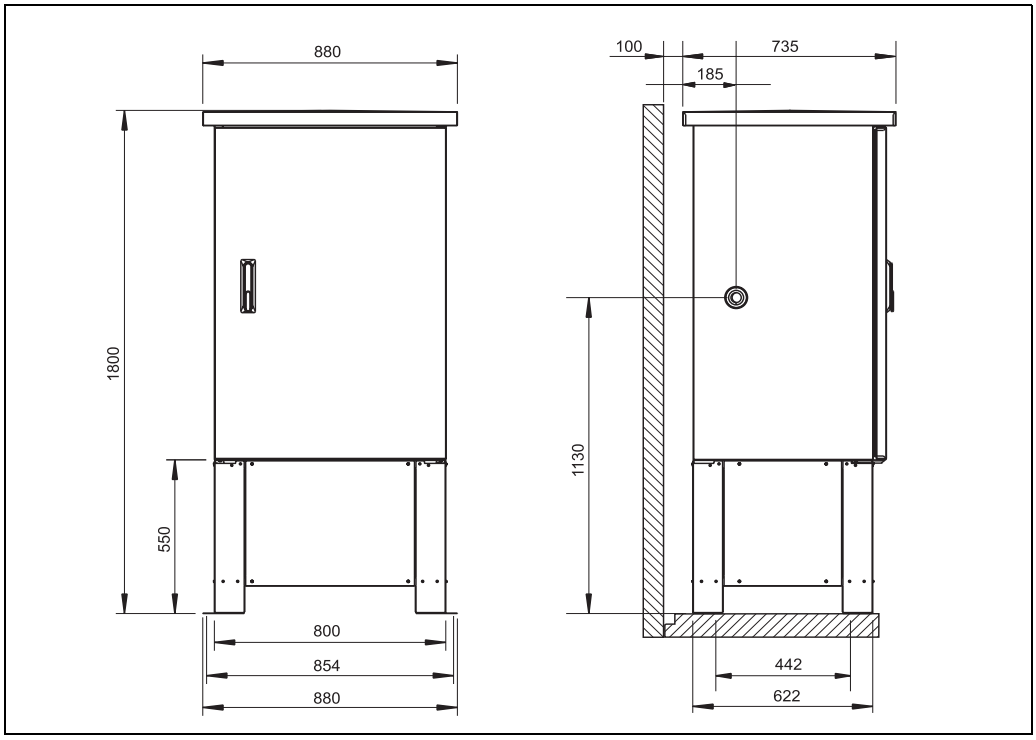
| | |
|---|---|
| **Medium temperature range** | 0 to +50 °C |
| **Operating pressure range** | Unpressurised (standard) |
| **Sample media** | **ASP station 2000 with vacuum system**<br>Pay particular attention to the material resistances of the parts carrying media!<br>Use of capacitive medium detection (optional) with<br>■ Sample media which are high foaming and have high oil/grease content<br>■ Sample media with a conductivity <30 µS/cm.<br>Caution!<br>Do not sample abrasive media and media containing fibres in flow-proportional dosing systems.<br>Pay attention to the material compatibilities of werred parts. |
| **ASP station 2000 peristaltic system** | The sampling media must be free of abrasive substances.<br>Pay particular attention to the material resistances of the parts carrying media! |

# Mechanical construction

**Design, dimensions**




*Standard cabinet (dimensions in mm*




*Standard cabinet with cabinet base (dimensions in mm)*

**Weight**

Approx. 110 kg

**Material**

| | ASP station 2000 vacuum system | ASP station 2000 peristaltic |
|---|---|---|
| Cabinet housing | 1.4301/SS304H (optional: 1.4404/SS316L) | |
| Inner shell, sample compartment | PS | |
| Insulation | PU, $CO_2$ foamed | |

| Parts in contact with medium | ASP station 2000 vacuum system | ASP station 2000 peristaltic |
|---|---|---|
| Suction hose | PVC (optional: NBR) | |
| Hose connection | PP, POM, PA | |
| Dosing pipe | PVC | - |
| Dosing funnel lid | PP | - |
| Conductivity electrodes | SS 303(optional capacitive sensor: PTFE - when using capacitive medium detection | - |
| Dosing funnel | PMMA | - |
| Dosing system outflow hose | silicone | |
| Distribution tap | PP | |
| Distribution tap cover | PE | |
| Distribution pans | PS | |
| Composite containers/bottles | PE (optional: glass) | |

**Pneumatic (only ASP station 2000 vacuum system)**
- Pneumatic hoses: silicone
- Air-Manager housing: PC
- Air-Manager sealing plate: silicone
- Vacuum pump head: anodised aluminium
- Vacuum pump diaphragm: EPDM

Material options on request.

**Process connection**

**ASP station 2000 vacuum system**
Internal diameter, suction hose: 13 mm, 16 mm or 19 mm

**ASP station 2000 peristaltic system**
Internal diameter, suction hose: 10 mm

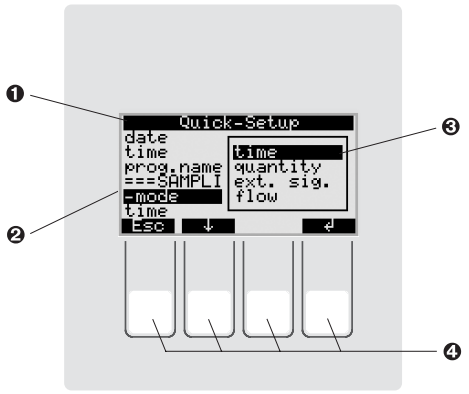
# Human interface

**Display elements**

Liquid crystal display: back-lit, 128 x 64 dot, 32 characters, 8 lines

**Operating elements**

Menu-led operation via 4 operating keys at the device. Picklists and Quick-Setup for quick and easy commissioning.




*ASP Station 2000 user interface*

*Item 1: Quick setup*
*Item 2: Display*
*Item 3: Menu*
*Item 4: Operating keys*

**Remote operation + data logging**

The functions described in this section are optional in the case of ASP station 2000 vacuum and standard in the case of ASP station 2000 peristaltic.

**Interface**
PC interface RS232. It is especially easy to configure the ASP station 2000 (as well as other E+H instruments) with the PC software ReadWin® 2000.

Advantages of the PC software ReadWin® 2000:
- Uniform user interface at the PC under Windows
- Device settings saved in a database
- Device settings read out
- Internal memory read out with measured flow rate, sample quantity taken, etc.

**Internal memory**
Integrated memory for recording an analogue value (flow, pH value, conductivity, etc.), events (e.g. power failure), sample statistics (e.g. sample volume, filling times, bottle assignment).

**Calculation of recording duration**
Automatic display when sampling rate is entered.

# Certificates and approvals

**CE-Mark**

The measuring system is in conformity with the statutory requirements of the EC Directives. Endress+Hauser confirms successful testing of the device by affixing the CE mark.

**Ex approval**

Information about currently available Ex versions (ATEX, FM, CSA) can be supplied by your E+H Sales Centre on request. All explosion protection data are given in a separate documentation which is available upon request.

**Other standards and guidelines**

- EN 60529:
  Degrees of protection by housing (IP code)
- EN 61010:
  Protection measures for electrical equipment for measurement, control, regulation and laboratory procedures.
- EN 61326 (IEC 1326):
  Electromagnetic compatibility (EMC requirements)

**UWWTR**

WRc/E32 (Ref: UC 3489), for RPS20

# Ordering information

**Ordering information ASP Station 2000 Vacuum:**

| Control unit | |
|---|---|
| **A** | 1x user mode |
| **B** | 1x user mode + RS485 |
| **C** | 7x user mode + Profibus preparation |
| **D** | 7x user mode + RS485 + Profibus preparation |
| **E** | 7x user mode + RS485 + DFP + Profibus preparation |
| **F** | 7x user mode + memory + Profibus preparation |
| **G** | 7x user mode + memory + RS232 cable + ReadWin2000 + Profibus preparation |
| **H** | 7x user mode + memory + DFP + RS485 + Profibus preparation |
| **I** | 7x user mode + memory + DFP + RS485 + RS232 cable + Readwin2000 + Profibus preparation |
| **K** | 7x user mode + Profibus-DP |
| **L** | 7x user mode + Profibus-DP + DFP+ RS485 |
| **M** | 7x user mode + preparation RPM20 |
| **N** | 7x user mode + self draining preparation |

| Operation language | |
|---|---|
| **A** | German |
| **B** | English |
| **C** | French |
| **D** | Italian |
| **E** | Spanish |
| **F** | Dutch |
| **G** | Danish |
| **K** | Czech |
| **P** | Polish |

| Sample distribution | |
|---|---|
| **A** | W/o |
| **B** | 1x 30 litre composite container, PE |
| **C** | 1x 60 litre composite container, PE |
| **N** | 4x 12 litre bottle, PE |
| **L** | 4x 20 litre bottle, PE |
| **E** | D12x 3 litre bottle, PE |
| **F** | 24x 1 litre bottle, PE |
| **G** | 12x 2 litre bottle, glass |
| **H** | 24x 1 litre bottle, glass |
| **O** | 6x 3 + 2x 12 litre bottle, PE |
| **P** | 12x 1 + 2x 12 litre bottle, PE |
| **K** | 12x 1 + 6x 3 litre bottle, PE |

| Hydraulic connection; suction height | |
|---|---|
| **1** | Left; max. 6m |
| **2** | Bottom; max. 6m |
| **3** | Left; max. 8m |
| **4** | Bottom; max. 8m |
| **5** | Flow through armature, external feed |
| **6** | Right; max. 6m |
| **7** | Right; max .8m |
| **A** | Left; sampling RPM20, order separately) |
| **B** | Right; sampling RPM20,order separately) |

| Cabinet | |
|---|---|
| **A** | Stainl.steel 304H |
| **B** | Stainl.steel 316L |
| **C** | Stainl.steel 304H + window |
| **D** | Stainl.steel 304H + door stop |
| **E** | Stainl.steel 304H, w/o cooling |
| **F** | Stainl.steel 316L + refrig. system varnished |
| **G** | Stainl.steel 304H + 2x door + window |
| **H** | Stainl.steel 316L + 2x door + window + refrig. system varnished |
| **I** | Stainl.steel, 304H + refrig. system varnished |

| | |
|---|---|
| **RPS20-** | ⇐ **order code (part 1)** |

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| | | | | | | | **Cabinet accessories; Dosing chamber** | |
| | | | | | | | **1** | W/o; Acryl chamber |
| | | | | | | | **2** | Base, stainl.steel 304H; Acryl |
| | | | | | | | **3** | Base, stainl.steel, 316L; Acryl |
| | | | | | | | **4** | Castors + handle; Acryl |
| | | | | | | | **5** | Rodent protection; Acryl |
| | | | | | | | **6** | W/o; glass |
| | | | | | | | **7** | W/o; glass + capacitance switch |
| | | | | | | | **8** | W/o; glass + Liquiphant switch |
| | | | | | | | | **Electrical variations** |
| | | | | | | | **A** | W/o |
| | | | | | | | **B** | Main switch |
| | | | | | | | **C** | Internal lighting |
| | | | | | | | **D** | Main switch + internal lighting |
| | | | | | | | **E** | Overvoltage protection, Main |
| | | | | | | | **F** | Earth leakage trip, 2-pole, 30mA |
| | | | | | | | **H** | Measuring pH / temp., CPM223-PR0105 |
| | | | | | | | **I** | Measuring conductivity, CLM223-CD0005 |
| | | | | | | | **K** | Measuring pH / temp. + conductivity CPM223-PR0105, CLM223-CD005 |
| | | | | | | | **N** | Medium detection using capacitance switch-off 60/7 |
| | | | | | | | **P** | Power supply 110-125VAC |
| | | | | | | | **R** | Transmitter 96x96mm, order separatly, Fitting + wiring) |
| **RPS20-** | | | | | | | | ⇐ **order code (complete)** |

**Ordering information ASP Station 2000 Ex:**

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| **Certification** | | | | | | | | | |
| **A** | ATEX II 3G Eex nA/C IIC T4 | | | | | | | | |
| **Y** | Other | | | | | | | | |
| | **Controller/software** | | | | | | | | |
| | **A** | 1 user mode | | | | | | | |
| | **B** | 1 user mode + RS485 | | | | | | | |
| | | **Operating language** | | | | | | | |
| | | **A** | German | | | | | | |
| | | **B** | English | | | | | | |
| | | **C** | French | | | | | | |
| | | **D** | Italian | | | | | | |
| | | **E** | Spanish | | | | | | |
| | | **F** | Dutch | | | | | | |
| | | **G** | Danish | | | | | | |
| | | **K** | Czech | | | | | | |
| | | **P** | Polish | | | | | | |
| | | | **Sample distribution** | | | | | | |
| | | | **A** | W/o | | | | | |
| | | | **B** | 1x 30 litre composite container, PE | | | | | |
| | | | **C** | 1x 60 litre composite container, PE | | | | | |
| | | | **D** | 12x 3 litre bottle, PE | | | | | |
| | | | **E** | 24x 1 litre bottle, PE | | | | | |
| | | | **F** | 12x 2 litre bottle, glass | | | | | |
| | | | **G** | 24x 1 litre bottle, glass | | | | | |
| | | | **H** | 12x 1 litre + 6x 3 litre bottle, PE | | | | | |
| | | | **I** | 4x 20 litre bottle, PE | | | | | |
| | | | **K** | 4x 12 litre bottle, PE | | | | | |
| | | | **L** | 6x 3 litre+ 2x 12 litre bottle, PE | | | | | |
| | | | **M** | 12x 1 litre + 2x 12 litre bottle, PE | | | | | |
| | | | | **Hydraulic connection; suction height** | | | | | |
| | | | | **1** | Left; max. 8m | | | | |
| | | | | **2** | Bottom; max. 8m | | | | |
| | | | | **3** | Right; max .8m | | | | |
| | | | | **4** | Left; flow through armature, external feed | | | | |
| | | | | | **Cabinet** | | | | |
| | | | | | **A** | Stainl.steel 316L | | | |
| | | | | | **B** | Stainl.steel 316L + refrig. system varnished | | | |
| | | | | | **Y** | Other | | | |
| | | | | | | **Cabinet accessories** | | | |
| | | | | | | **1** | Basic version | | |
| | | | | | | **2** | Base, stainl.steel, 316L | | |
| | | | | | | **3** | Castors + handle | | |
| | | | | | | | **Electrical variations** | | |
| | | | | | | | **A** | Basic version | |
| | | | | | | | **Y** | Other | |
| **RPS22-** | | | | | | | | | **⇐ order code (complete)** |

## Ordering information ASP station 2000 peristaltic

| | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| **Power supply** | | | | | | | | | | |
| 1 | 230VAC50Hz + cooling + heater | | | | | | | | | |
| 2 | 110-125V 50/60Hz + cooling + heater | | | | | | | | | |
| 9 | Special version, to be specified | | | | | | | | | |
| | | **Control unit** | | | | | | | | |
| | | A | 1x user mode | | | | | | | |
| | | B | 7x user mode | | | | | | | |
| | | C | 7x user mode, interface, connection for multiprobe | | | | | | | |
| | | Y | Special version, to be specified | | | | | | | |
| | | | | **Operating language** | | | | | | |
| | | | | A | German | | | | | |
| | | | | B | English | | | | | |
| | | | | C | French | | | | | |
| | | | | D | Italian | | | | | |
| | | | | E | Spanish | | | | | |
| | | | | F | Dutch | | | | | |
| | | | | G | Danish | | | | | |
| | | | | K | Czech | | | | | |
| | | | | P | Polish | | | | | |
| | | | | Y | Special version, to be specified | | | | | |
| | | | | | | **Sample distribution** | | | | |
| | | | | | | A | W/o | | | |
| | | | | | | B | 1x 30 litre composite container, PE | | | |
| | | | | | | C | 1x 60 litre composite container, PE | | | |
| | | | | | | E | 12x 3 litre bottle, PE | | | |
| | | | | | | F | 24x 1 litre bottle, PE | | | |
| | | | | | | G | 12x 2 litre bottle, glass | | | |
| | | | | | | H | 24x 1 litre bottle, glass | | | |
| | | | | | | K | 12x 1 litre bottle + 6 x 3 litre | | | |
| | | | | | | L | 4x 20 litre bottle, PE | | | |
| | | | | | | N | 4x 12 litre bottle, PE | | | |
| | | | | | | O | 6x 3 litre + 2x 12 litre bottle PE | | | |
| | | | | | | P | 12x 1 litre + 2x 12 litre bottle PE | | | |
| | | | | | | | | **Hose tap** | | |
| | | | | | | | | 1 | Left | |
| | | | | | | | | 2 | Bottom | |
| | | | | | | | | 3 | Right | |
| | | | | | | | | 9 | Special version, to be specified | |
| | | | | | | | | | **Suction height** | |
| | | | | | | | | | 1 | 6m |
| | | | | | | | | | 2 | 8m |
| | | | | | | | | | 9 | Special version, to be specified |
| | | | | | | | | | | **Cabinet** |
| | | | | | | | | | | A Stainless steel 304H |
| | | | | | | | | | | B Stainless steel 316L |
| | | | | | | | | | | C Stainless steel 304H + door + window |
| | | | | | | | | | | D Stainless steel 304H + door stop |
| | | | | | | | | | | E Stainless steel 304H + w/o cooling |
| | | | | | | | | | | F Stainless steel 316L + refrig. system varnished |
| | | | | | | | | | | G Stainless steel 316L + 2x door + window |
| | | | | | | | | | | H Stainless steel 316L + 2x door + varnished refrig. system + window |
| | | | | | | | | | | Y Special version, to be specified |
| | | | | | | | | | | **Cabinet accessories** |
| | | | | | | | | | | 1 Basic version |
| | | | | | | | | | | 2 Base stainl.steel 304H |
| | | | | | | | | | | 3 Base stainl.steel 316L |
| | | | | | | | | | | 4 Castors + handle |
| | | | | | | | | | | 5 Rodent protection |
| | | | | | | | | | | 9 Special version, to be specified |
| **RPS24-** | | | | | | | | | | **⇐ order code (part 1)** |

| | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | | | **Electrical version** | |
| | | | | | | | | | A | Basic version |
| | | | | | | | | | B | Main switch |
| | | | | | | | | | C | Internal lighting |
| | | | | | | | | | D | Main switch + internal lighting |
| | | | | | | | | | E | Overvoltage protection, Main |
| | | | | | | | | | F | Earth leakage trip, 2-pole, 30mA |
| | | | | | | | | | Y | Special version, to be specified |
| RPS24- | | | | | | | | | | ⇐ **order code (complete)** |

# Accessories

Various accessories can be supplied for the device and they can be ordered separately from Endress+Hauser. More detailed information on the particular order code can be obtained from your local E+H service organisation.

| For ASP station 2000 | | | Order code | Accessory |
|---|---|---|---|---|
| Vacuum | Ex | Peristaltic | | |
| ● | ● | ● | RPS20A-BA | Bottle 1 l PE incl. lid |
| ● | ● | ● | RPS20A-BB | Bottle 2 l glass incl. lid |
| ● | | ● | RPS20A-B3 | Composite container 30 l |
| | ● | | RPS24A-B3 | Composite container 30 l |
| ● | | ● | RPS20A-B6 | Composite container 60 l |
| | ● | | RPS24A-B6 | Composite container 60 l |
| ● | ● | ● | RPS20A-FB | Bottle tray 6x 3 l PE with bottles |
| ● | ● | ● | RPS20A-FC | Bottle tray 12x1 l PE with bottles |
| ● | ● | ● | RPS20A-FD | Bottle tray 6x 2 l glass with bottles |
| ● | ● | ● | RPS20A-FE | Bottle tray 12x1 l glass with bottles |
| ● | ● | ● | RPS20A-FF | Bottle tray 2x12 l PE with bottles |
| ● | | | RPS20A-PA | Profibus DP slave module for top-hat DIN rail mounting from unit software >=V4.10 and 7 programme version |
| ● | ● | ● | RPS20A-SD | Retro-fit kit acstors and handle |
| ● | ● | ● | RPS20A-SE | Retro-fit-kit cabinet base 1.4301/ss304H |
| ● | | | RPS20A-SF | Retrofit kit for capacitive detection from unit software>= V2.03 |
| ● | | | RPS20A-SG | Retrofit kit for flow through armature without base and base cover |
| ● | ● | ● | RPS20A-VA | Distribution system<br>(tap, tap drive, distribution frame) |
| ● | | | RPS20A-VK | Interface cable with ReadWin 2000 only for option memory |
| ● | ● | ● | 50041303 | Bottle 1.0 l glass white with lid |
| ● | ● | ● | 50035320 | Lid for 1.0 l bottle PE |
| ● | ● | ● | 50088586 | Bottle 3L PE with lid |
| ● | ● | ● | 51002312 | Bottle 12 l ASP2000 PE square with lid |
| ● | ● | ● | 51000416 | Bottle 20 l ASP2000 with lid |
| ● | ● | ● | 50089636 | Distribution pan 6x (distr. 12 bottles) |
| ● | ● | ● | 50089637 | Distribution pan 12x distr.24 bottles |
| ● | ● | | 51001074 | Suction hose,13mm, length 3m ASP<br>NBR-rubber/black, inner diameter 13mm |
| ● | ● | | 51001075 | Suction hose, 13mm, length 5m ASP<br>NBR-rubber/black, inner diameter 13mm |
| ● | ● | | 51001076 | Suction hose 13mm, length 10m ASP<br>NBR-rubber/black, inner diameter 13mm |
| ● | ● | | 50076633 | Suction hose, I.D.=16 mm rubber<br>inner diameter 16mm, price per meter |
| ● | ● | | UE-SDH | Hose weight L=500mm V2A<br>for 16mm suction hose |
| ● | ● | | 50031904 | Suction hose, I.D.=19mm PVC<br>PVC reinfored, inflow hose flow through armatur |

| For ASP station 2000 | | | Order code | Accessory |
|---|---|---|---|---|
| Vacuum | Ex | Peristaltic | | |
| ● | ● | | 50079739 | Hose weight L=400mm, V2A, 19mm<br>for 19mm hose |
| ● | ● | | 50031919 | Webbed PVC hose 32x5(internal diameter)<br>Drain hose flow through armatur and CE4 |
| ● | ● | | 50090886 | Hinged submersion holder cpl. |
| ● | ● | | 50079731 | Suction filter cpl.PVC,13/15mm suct.hose |
| ● | ● | | 50079732 | Glass dosing chamber 350ml |
| ● | ● | ● | 51004674 | Metal TAG SS 25x100 |
| | | ● | 51004744 | Spare pump hose 6m<br>package:2 customised tubes for pump head black and white |
| | | ● | 51004745 | Spare pump hose 8m<br>package:2 customised tubes for pump head black and white |
| | | ● | 51002425 | Suction filter 1", V2A |
| | | ● | 50053928 | Suction hose in PVC internal.dia.10mm |
| | | ● | 50070341 | Suction hose in rubber internal dia.10mm |
| | | ● | 51003189 | Hose connection nipple cpl. |
| | | ● | 51003199 | Battery 12V,12Ah cpl. |
| | | ● | 51003198 | Hose end piece cpl. V2A=500mm<br>for 10mm suction hose |

# Documentation

- ❑ Water samplers and measurement stations - Automatic samplers and measurement stationsfor liquid media (FA 013C/09/en)
- ❑ Operating instructions ASP Station 2000 (BA 080R/09/c4)
- ❑ Operating instructions ASP Station 2000 peristaltic (BA 176R/09/c4)
- ❑ Ex-Supplementary documentation: ATEX, FM, CSA, etc.
- ❑ Appendix to the operating manual - ASP Station 2000 DP-Slave-Module_is Pro Gate (ZBA 146R/09/en)
- ❑ Appendix to the operating manual - ASP Station 2000 flow proportional sampling "twiddle principle" (ZBA 096R/09/a2)

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