

# Equipment services

Solutions for a worry-free life cycle of your equipment



# Equipment services

The unique position that Avantor occupies in the market enables us to offer you an extensive range of equipment in addition to a top-class technical service.

Our qualified and factory-trained team of Service Engineers and our customer-focused administrative team provide support for all of your equipment.

We are committed to providing excellent equipment services and customer service to ensure that all your equipment is installed, repaired and maintained efficiently and effectively throughout its life cycle.

## PRO-ACTIVE PLANNING

At Avantor Services, the customer is central to the planning of service appointments. This is reflected in the follow-up of your annual maintenance and calibrations, as Avantor Services will always contact you proactively to schedule a new service appointment in mutual consultation. We do this several weeks before the expiry date of your equipment.

This means you don't miss any calibration deadlines and significantly reduce the downtime of all your equipment.

Our Service Engineers are responsible for the installation, preventive maintenance and repair of an extensive range of laboratory equipment. To ensure proper functioning, there is close cooperation with a team of Service Coordinators who manage the planning, coordination and follow-up of these installations and repairs.

## ISO 17025

ISO 17025 provides a framework for quality management of calibrations and tests in laboratories. To comply with the ISO 17025 standard, a laboratory or agency must have a functional quality management system and meet the necessary requirements to produce legally valid measurement results.

Avantor Services can perform ISO 17025 calibrations on a varied range of equipment, with an ISO 17025 calibration certificate being delivered.

Our Service Engineers also work exclusively with ISO 17025 calibrated measuring equipment, so that all calibrations can always be traced to ISO 17025.

## SPARE PARTS

At Avantor we know that the aftersales care of your equipment is as important as the initial purchase.

Avantor Equipment Services offers tailor made service agreements with a choice of maintenance and calibration intervals to match your needs for our range of laboratory equipment and instrumentation.

In case your equipment breaks down, our extensive inventory of more than 8000 original replacement parts will keep your instruments and equipment running at the levels you require!

Did you know that you can also order spare parts yourself directly through our website?

Ordering a spare part has never been so easy using our website!

At **vwr.com** your spare part is just a few clicks away.



#### **PROACTIVE**

Customers with a service contract are automatically contacted annually by our Service Coordinators. This means that you do not have to follow up on your annual maintenance or mandatory calibration yourself.

#### **CERTIFIED SERVICES**

Your devices are regularly checked by our specialized and supplier-trained Service Engineers.

You will always receive a detailed report of the Services performed.

#### **SUSTAINABLE OPERATIONAL RELIABILITY**

Timely discovery of wear and tear or technical defects prevents expensive repairs and unexpected downtime.

In addition, you extend the useful life of your devices by an average of 30 percent.

#### **PRIORITY TREATMENT**

Your repairs are handled and scheduled with priority. Due to the fast response, you are assured of only short-term failure of your devices.

#### **OPERATIONAL SECURITY**

Regular maintenance increases the guarantee of safe operation of your lab equipment.

#### **EFFICIENT ADMINISTRATION**

Our Service Coordinators will work with you to find the most suitable execution of the necessary work.

#### **ORIGINAL SPARE PARTS**

Our Service Engineers carry out maintenance and repair only with original Spare Parts, which they have in stock during every intervention.

# Installation

When purchasing all your devices through our sales channel VWR, Part of Avantor, we also offer the technical installation and product training. For this, our Service Coordinators will schedule an installation date in consultation with you. If desired, we can also coordinate the transport of your new device accordingly. Our team of Service Engineers will install the appliance together with you according to the supplier's specifications and declare it conform by means of a test. You will receive an installation report.

# Calibration

The quality of your products and services is increasingly dependent on reliable measurements. Your lab is also subject to specific equipment regulations. By mutual agreement, Avantor Services can calibrate and functionally test all your equipment to ensure their accuracy and reliability. We adjust your equipment or carry out a repair according to the specifications that were agreed upon in consultation.

Our Service Engineers are certified by the relevant suppliers and perform all calibrations in accordance with supplier procedures or ISO standards.

For the highest accuracy and reproducibility, all calibrations performed by Avantor Services are traceable to an international or national standard.

We supply a fully recognized and traceable calibration certificate with all calibrated measuring instruments. Our calibration services are also available when purchasing new equipment.

# Repair

## ONSITE REPAIR

Our team of experienced and supplier-trained Service Engineers specialize in repairing all your equipment. They always take a large stock of original spare parts with them during every intervention, so that most repairs can be completed on the first visit.

## INTERNAL REPAIR

Our workshop is equipped for the repair of smaller equipment. After telephone contact with our Service Coordinators, your defective equipment will be picked up by our own drivers for inspection and repair by our experienced and supplier-trained Service Engineers.

We will send you a quote within three days of receipt of the equipment. If repairing your equipment turns out to be more expensive than 50% of the purchase value, we will mention this on the quotation.

## WARRANTY

Avantor Services offers a complete range of equipment with full manufacturer's warranty.

If you wish, this warranty period can be extended.

In addition, we give you a standard 6-month warranty on our repairs.

# Validation

Advanced measurement devices are used during the validation of your equipment to obtain accurate and reproducible results at all stages of the validation project.

We also offer you extensive support in determining your validation expectations.

Our specialized Service Engineers have extensive experience in performing these validation services for large and small companies in all sectors.

We can help you control your sterilization process, temperature-controlled environments, laminar flow cabinet, ...

Afterwards you will receive the documentation, protocols and procedures you need to comply with your VMP (Validation Master Plan). This gives you the opportunity to focus on your primary processes.

# IQ/OQ/PQ

By using our IQ / OQ / PQ qualification services you can achieve and maintain compliance with FDA, GMP / GLP, European Pharmacopoeia and ISO. These services assure you that the qualified equipment or instruments meet the required specifications.

By default, we use the supplier's official IQ / OQ protocols. If desired, we can tailor our own Avantor IQ / OQ protocols to your compliance level. As an independent partner, we can guarantee that the validation tests are performed by our certified Service Engineers.

For equipment in daily use, we offer a performance rating (PQ). We will test the equipment in actual operating conditions and document these results in a qualification report.

## WE OFFER QUALIFICATION / VALIDATION SERVICES FOR:

- Incubators (CO<sub>2</sub> and others)
- Freezers
- Refrigerators
- HPLC-systems
- Autoclaves
- Ovens
- Biosafety cabinets,
- laminar flow cabinets and fume hoods
- Centrifuges
- Balances
- Electronic pipettes
- And more...

# Equipment Management

Avantor has developed the Equipment Manager software to keep track of all equipment, but goes beyond maintenance management with numerous service partners.

The software handles service requests as well as related documentation, warranties and service contracts.

This software is built around a centralized database for your devices, which not only stores the inventory of your devices, but also lists of spare parts, consumption lists, documentation, pictures, SOPs, the status of a device, etc. It tracks the devices serial number or the order IDs and manages warranties, service provider and supplier information, as well as service requests and work orders.

In addition, Equipment Manager continuously records service data and provides purchasing managers with better information to prepare for the next equipment purchase (downtime, repair costs, total cost of ownership).

# Service projects

Complex projects, such as a relocation or complete refurbishment of a new laboratory, require a lot of energy and time from your team. In consultation with you, we look for the best solutions to ensure that these projects run smoothly. Our experienced team ensures that your project is seamlessly coordinated with the various partners.

We closely monitor delivery times and quality with suppliers, specialized moving companies, contamination experts, external inspectors and our own Service Engineers.

We do everything we can to respect your specific wishes and timeline.



# Air samplers

Avantor Services performs maintenance and calibrations on air samplers from VWR® products, PBI, Merck & MBV.



## MAINTENANCE

Regular maintenance increases the guarantee of the proper functioning of your laboratory equipment. The following tasks are performed when servicing your air samplers:

- Checking the batteries and charging the device
- Verification of mechanical parts
- Cleaning of all accessible parts

## IQ / OQ / PQ

By using our IQ / OQ / PQ qualification services, you can achieve and maintain compliance with FDA, GMP / GLP, European Pharmacopoeia and ISO. Our qualified service engineers have extensive experience in the professional execution of IQ / OQ / PQ services.

## CALIBRATION

A calibration guarantees the accuracy and reliability of your laboratory device.

The following tasks are performed when calibrating your air samplers:

- Flow control with certified DA100NT anemometer
- Flow adjustment (if necessary)
- Delivery of the as found / as left certificate

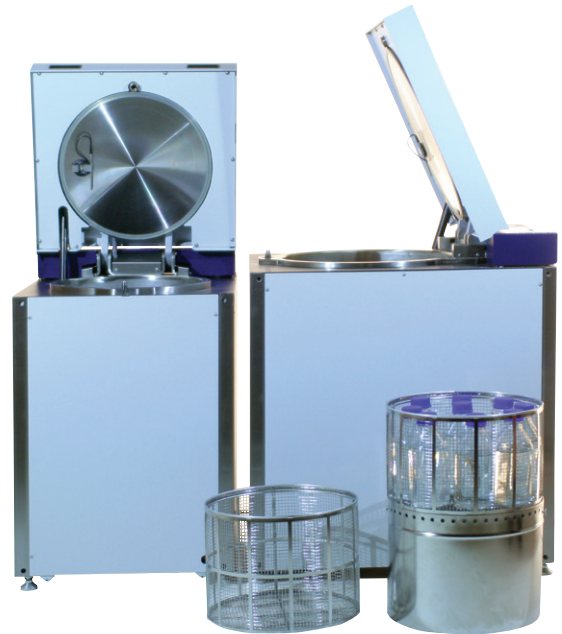
Cat. No.	Description
<b>SERVAIRS4CONT1</b>	Maintenance and Calibration
<b>SERVAIRS5CALAS1</b>	Calibration (without maintenance)
<b>SERVAIRS5IQOQPQ</b>	Execution IQ/OQ/PQ

Contact Avantor Services to schedule a maintenance or calibration or for more information about our services.



# Autoclaves

Avantor Services installs, validates and offers maintenance contracts for Tuttnauer, SHP, VWR-Vapourline brand autoclaves, etc.



## MAINTENANCE

Regular maintenance increases the guarantee of the proper functioning of your laboratory equipment. The following tasks are performed during the maintenance of your autoclaves:

### Cleaning the autoclave:

- Emptying and cleaning the tank
- Cleaning the water filter and the fan
- **Security tests:**
- Verification of connections, safety valve, closing
- Control of measuring instruments:
  - Overpressure and overheating protection

## CALIBRATION

A calibration guarantees the accuracy and reliability of your laboratory device.

The following tasks are performed during the calibration of your autoclaves:

- Pressure and temperature calibration with certificate and raw data of the complete cycle
- Adjustment of the device if necessary
- Replacement of parts subject to wear (not included in the price):
  - Filters, seals, valves, ...

## Inspection by an external technical inspection service

The presence of a service engineer during commissioning and annual inspection by an independent institution recognised (such as EDTC) for autoclaves which must comply with standard CE / 97/23. (For all autoclaves with a volume greater than 25 L and without a steam generator).

Avantor also offers external inspection and scheduling of this meeting in a range of services: Maintenance and inspection by a recognised inspector plus assistance during inspection

Cat. No.	Description
SERVAUT4CONT1	Autoclave maintenance $\geq 25$ l
SERVAUT4CONT7	Autoclave maintenance $< 25$ l
SERVAUT5CAL	Calibration
SERVAUT5AIB	Assistance during inspection by EDTC
SERVAUT6REPS	Inspection by EDTC
SERVAIR55IQOQPQ	Execution IQ/OQ/PQ

## IQ / OQ / PQ

By using our IQ / OQ / PQ qualification services, you can achieve and maintain compliance with FDA, GMP / GLP, European Pharmacopoeia and ISO. Our qualified service engineers have extensive experience in the professional execution of IQ / OQ / PQ services.

Contact Avantor Services to schedule a maintenance or calibration or for more information about our services.

# Balances

Avantor Services can carry out accredited calibrations according to ISO 17025 on all brands and types of balances from 1 mg to 200 kg! (including VWR® products, Sartorius, Mettler, Ohaus, Kern, Acculab, ...)



## MAINTENANCE AND CALIBRATION (ISO 17025)

Regular maintenance increases the guarantee of the proper functioning of your laboratory equipment. A calibration guarantees the accuracy and reliability of your laboratory device.

The following tasks are performed during the maintenance and calibration of your balances:

- Checking the weighing range
- Control of the working environment, the spirit level, the linearity at 7 measuring points, the eccentric load and the repeatability
- Control of specifications and adjustment if necessary
- Application of a calibration sticker, if desired
- Checking the due date for maintenance and calibration
- Calibration certificate with accreditation mark (ISO17025)

## IQ / OQ / PQ

By using our IQ / OQ / PQ qualification services, you can achieve and maintain compliance with FDA, GMP / GLP, European Pharmacopoeia and ISO. Our qualified service engineers have extensive experience in the professional execution of IQ / OQ / PQ services.

Cat. No.	Description
<b>SERVBAL5MISOCM</b>	Maintenance and accredited calibration of microbalance (d = 0.001 mg)
<b>SERVBAL5MISOCA</b>	Maintenance and accredited calibration of semi-micro balance, analytical balance or precision balance (d = 0.01 mg - 100 mg)
<b>SERVBAL5MISOC</b>	Accredited maintenance and calibration of precision scales 20 kg - 200 kg (d > 1 g)
<b>SERVBAL5MC</b>	Maintenance and calibration of scales 200 kg - 1000 kg (No. ISO17025 / Without RVA certificate)
<b>SERVBAL5MISOCH</b>	Maintenance and accredited calibration of moisture balance
<b>SERVAIRS5IQOQPQ</b>	Execution IQ/OQ/PQ

Contact Avantor Services to schedule a maintenance or calibration or for more information about our services.



# Centrifuges

Avantor Services performs maintenance and calibrations for centrifuges from VWR® products, Eppendorf, Thermo Scientific, Hettich, Sorval, etc.



## MAINTENANCE

Regular maintenance increases the guarantee of the proper functioning of your laboratory equipment. The following tasks are performed when servicing your centrifuges:

- Control of the rotor chamber, rotor seals, motor and control, electrical safety, control of abnormal vibrations and / or noise, heating of the rotor chamber, detection of imbalance, protection cover system, emergency cover opening, automatic lid opening, maximum speed depending on the rotors, rotor recognition system, automatic rotor locking, correct "torque" of the rotors, adapters and rotor, display and functions
- Cleaning and lubrication of the pivot points of the pivoting rotor
- Acceleration and braking test
- Delivery of the checklist
- Control of the cover springs

## IQ / OQ / PQ

By using our IQ / OQ / PQ qualification services, you can achieve and maintain compliance with FDA, GMP / GLP, European Pharmacopoeia and ISO. Our qualified service engineers have extensive experience in the professional execution of IQ / OQ / PQ services.

### Additional checks for cooled centrifuges:

- Cleaning the cooling condenser
- Control of the temperature and the evacuation of the condensates from the tank

### Maintenance is always included in a calibration

Cat. No.	Description
SERW0600.0100.01	Installation Centrifuge
SERW0600.0900.01	Maintenance Centrifuge
SERW0600.1101.01	Maintenance + Calibration Centrifuge
SERW0600.7000.01	IQ/OQ Centrifuge
SERW0620.0100.01	Installation cooled centrifuge
SERW0620.0900.01	Maintenance Cooled Centrifuge
SERW0620.1150.01	Maintenance+Calibration Cooled Centrifuge
SERW0620.7000.01	IQ/OQ Cooled Centrifuge

Contact Avantor Services to schedule a maintenance or calibration or for more information about our services.

# CO<sub>2</sub>- incubators

Avantor Services performs maintenance and validations for VWR® products, Binder, Memmert, Thermo Scientific, Revco devices and more.



## MAINTENANCE AND CALIBRATION

Regular maintenance increases the guarantee of the proper functioning of your laboratory equipment.

A calibration guarantees the accuracy and reliability of your laboratory device.

The following tasks are performed during the maintenance and calibration of your CO<sub>2</sub> incubators:

- Checking the electrical connections and the safety thermostat
- Control of temperature and CO<sub>2</sub> content and adjustment if necessary
- Cleaning of the electronic compartment (dust removal)
- Checking rubber seals and temperature sensors
- Replacement of the CO<sub>2</sub> filter (if present)
- Checking the oxidation of the inner chamber
- Checking the operation of the door contact
- Checking and adjusting the O<sub>2</sub> content (optional)

## IQ / OQ / PQ

By using our IQ / OQ / PQ qualification services, you can achieve and maintain compliance with FDA, GMP / GLP, European Pharmacopoeia and ISO. Our qualified service engineers have extensive experience in the professional execution of IQ / OQ / PQ services.

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Contact Avantor Services to schedule a maintenance or calibration or for more information about our services.

## TEMPERATURE MAPPING

Avantor also offers brand independent temperature mapping with highly accurate measurement equipment over a range of -80 °C to 150 °C for a wide range of equipment. (ISO / IEC17025 on request).

Cat. No.	Description
SERW1630.0100.01	Installation CO <sub>2</sub> Incubator
SERW1630.0900.01	Maintenance CO <sub>2</sub> Incubator
SERW1630.1131.01	Maintenance+Calibration CO <sub>2</sub> Incubator
SERW1630.7000.01	IQ/OQ CO <sub>2</sub> Incubator

# Control of pH meters, conductivity meters, oximeters and electrodes

Avantor Services offers maintenance and calibration for measuring devices from VWR® products, WTW, Mettler, Schott (SI Analytics), Hanna and more.



## CALIBRATION

A calibration ensures the accuracy and reliability of your laboratory device.

The following tasks are performed during calibration:

### METERS

#### Calibration certificate for pH meter and pH- / ionometer

- Voltage check
- pH measurement check
- Temperature measurement check
- Resistance check
- Temperature compensation check

#### Calibration certificate for conductivity meter

- Conductivity measurement check
- Temperature measurement check
- temperature compensation check

#### Calibration certificate for oximeter

- Saturation measurement check
- Temperature measurement check
- Temperature compensation check
- Air pressure correction check
- Leak test

## PROBES

### pH electrode - 3 points:

- Read mV value for the following buffers: buffer pH 4.01, pH 7.00, pH 10.00 and 10.01 at 25 °C
- Slope
- Potential for asymmetry
- Reaction speed

### Temperature probe (integrated or separate):

- 1 point at 25 °C
- Additional points to choose between 5 °C and 50 °C (not included in the price)

### Conductivity measuring cell:

- 1 point
- With Certipur 0.01mol/l (25 °), 1413µS/cm
- Control of other checkpoints on request

### Oxygen probe: 1 point in the calibration cup:

- Galvanic and amperometric cells: The new membrane and the electrolyte are not included in the price.
- Optical cells: The new membrane head is not included in the price.

Cat. No.	Description
SERVELEC5CALPH	pH meter calibration
SERVELEC5CALPH-EL	pH electrode calibration
SERVELEC5CALCOND	Conductivity meter calibration
SERVELEC5CALCONDCE	Conductivity cell calibration
SERVELEC5CALOXY	Oximeter calibration
SERVELEC5CALOXYCEL	Oxygen cell calibration
SERVELEC5CALTEMP	Temperature probe (1 point) calibration
SERVELEC5CALMULTI2	Multimeter pH/cond or pH/O <sub>2</sub> calibration
SERVELEC5CALMULTI3	Multimeter pH/cond/O <sub>2</sub> calibration

Contact Avantor Services to schedule a maintenance or calibration or for more information about our services.

# Refrigerators & freezers

Avantor Services installs, validates and offers maintenance contracts for refrigerators and freezers from VWR® products, Thermo Scientific, Kirsch, Liebherr, etc.

## MAINTENANCE

### MAINTENANCE CONTRACT REFRIGERATOR AND FREEZER (+ 4 °C - 40 °C) :

- Control of the entire refrigeration system, including the compressor (s), condenser, filters, fan motors
- Checking the entire construction, such as door / lid locks, wheels, etc.
- Control of extras such as temperature loggers,
- Control of indicated temperature with actual temperature by means of calibrated measuring equipment
- Checking the battery
- Urgent interventions depending on the schedule and during working hours (Mon to Fri 9 am - 5 pm)
- No 24/7 service
- Replacement device available for a fee depending on availability

### MAINTENANCE CONTRACT ULT FREEZER (-50 °C - 80 °C)

#### Standard maintenance contract, with extra:

- Inspection of interior doors
- Checking and de-icing the door seal
- Control CO<sub>2</sub> backup systems
- Read error codes (if possible)
- Review process temperatures (if possible)



### PREMIUM MAINTENANCE CONTRACT REFRIGERATOR AND (ULT) FREEZER

#### Standard maintenance contract, with extra:

- Guarantee of intervention within 24 hours, 7/7 in case of breakdown
- Free replacement device available

## CALIBRATION

- Control of indicated temperature with actual temperature by means of calibrated measuring equipment
- If necessary adjust all adjustable parameters of the appliance

Catalog number	Description
SERW1100.0100.01	Installation Fridge
SERW1100.0900.01	Maintenance Fridge
SERW1100.1101.01	Maintenance+Calibration Fridge
SERW1100.7000.01	IQ/OQ Fridge
SERW1000.0100.01	Installation Freezer
SERW1000.0900.01	Maintenance Freezer
SERW1000.1101.01	Maintenance+Calibration Freezer
SERW1000.7000.01	IQ/OQ Freezer
SERW3000.0100.01	Installation ULT Freezer
SERW3000.0900.01	Maintenance ULT Freezer
SERW3000.1101.01	Maintenance+Calibration ULT Freezer
SERW3000.7000.01	IQ/OQ ULT Freezer

Contact Avantor Services to schedule a maintenance or calibration or for more information about our services.

# Ovens and incubators

Avantor Services performs maintenance and calibrations of ovens and incubators from VWR® products, Binder, Memmert, Thermo Scientific and more.

## MAINTENANCE AND CALIBRATION

Regular maintenance increases your guarantee of the proper functioning of your laboratory equipment.

A calibration ensures the accuracy and reliability of your laboratory device.

The following tasks are performed when maintaining and calibrating your ovens and incubators:

- Checking the electrical connections and the safety thermostat
- Temperature calibration (1 point) and adjustment if necessary
- Cleaning of the electronic compartment (dust removal)
- Checking rubber seals and temperature sensors
- Cleaning the condenser

## IQ / OQ / PQ

By using our IQ / OQ / PQ qualification services, you can achieve and maintain compliance with FDA, GMP / GLP, European Pharmacopoeia and ISO. Our qualified service engineers have extensive experience in the professional execution of IQ / OQ / PQ services.



## TEMPERATURE MAPPING

Avantor also offers brand independent temperature mapping with highly accurate measurement equipment over a range of -80 °C to 150 °C for a wide range of equipment. (ISO / IEC17025 on request).

Artikelnummer	Description
SERW1610.0100.01	Installation Incubator
SERW1610.0900.01	Maintenance Incubator
SERW1610.1101.01	Maintenance+Calibration Incubator
SERW1610.7000.01	IQ/OQ Incubator
SERW1620.0100.01	Installation cooled Incubator
SERW1620.0900.01	Maintenance Cooled Incubator
SERW1620.1101.01	Maintenance+Calibration Cooled Incubator
SERW1620.7000.01	IQ/OQ Cooled Incubator
SERW2210.0100.01	Installation Standard Oven
SERW2210.0900.01	Maintenance Standard Oven
SERW2210.1101.01	Maintenance+Calibration Standard Oven
SERW2210.7000.01	IQ/OQ Standard Oven
SERW2220.0100.01	Installation Vacuum Oven
SERW2220.0900.01	Maintenance Vacuum Oven
SERW2220.1131.01	Maintenance+Calibration Vacuum Oven
SERW2220.7000.01	IQ/OQ Vacuum Oven

Contact Avantor Services to schedule a maintenance or calibration or for more information about our services.

# Laminar flow cabinets

Avantor Services performs maintenance and calibration of laminar flow cabinets from CleanAir, Telstar, ThermoScientific, Euroclone - BioAir, etc.



## MAINTENANCE AND CALIBRATION

Regular maintenance increases your guarantee of the proper functioning of your laboratory equipment.

A calibration ensures the accuracy and reliability of your laboratory device.

The following tasks are performed when servicing and calibrating your laminar flow cabinets:

- Visual inspection of the cabinet
- UV lamp and software check
- Calibration and adjustment of alarms
- Hepa efficiency test (DOP)
- Air velocity measurement and verification (inlet and outlet)
- Particle concentration measurement according to GMP, via the number of particles (optional)

## IQ / OQ / PQ

By using our IQ / OQ / PQ qualification services, you can achieve and maintain compliance with FDA, GMP / GLP, European Pharmacopoeia and ISO. Our qualified service engineers have extensive experience in the professional execution of IQ / OQ / PQ services.

Cat. No.	Description
SERW1211.0100.01	Installation LAF
SERW1211.0300.01	Installation + Testing LAF
SERW1211.1101.01	Internal Check LAF
SERW1211.7000.01	IQ/OQ LAF
SERW1231.0100.01	Installation Ducted BSC
SERW1231.0300.01	Installation + Testing Ducted BSC
SERW1231.1101.01	Internal Check Ducted BSC
SERW1231.7000.01	IQ/OQ Ducted BSC
SERW1241.0100.01	Installation Non Ducted BSC
SERW1241.0300.01	Installation + Testing Non Ducted BSC
SERW1241.1101.01	Internal Check Non Ducted BSC
SERW1241.7000.01	IQ/OQ Non Ducted BSC
SERW1250.0100.01	Installation Fume Hood
SERW1250.0300.01	Installation + Testing Fume Hood
SERW1250.1101.01	Internal Check Fume Hood
SERW1250.7000.01	IQ/OQ Fume Hood

Contact Avantor Services to schedule a maintenance or calibration or for more information about our services.



# Filter extraction cabinets

Avantor Services performs maintenance and calibrations on filter extraction cabinets / PCR cabinets from VWR® products, Erlab and more.



## MAINTENANCE AND CALIBRATION

Regular maintenance increases your guarantee of the proper functioning of your laboratory equipment. A calibration ensures the accuracy and reliability of your laboratory device.

The following tasks are performed when servicing and calibrating your filter extraction cabinets:

- Visual inspection of the different parts
- Control of air flow, inlet speed, filter saturation
- Replacement of the activated carbon filter (filter not included)

## IQ / OQ / PQ

By using our IQ / OQ / PQ qualification services, you can achieve and maintain compliance with FDA, GMP / GLP, European Pharmacopoeia and ISO. Our qualified service engineers have extensive experience in the professional execution of IQ / OQ / PQ services.

Cat. No.	Description
<b>SERVFURN4CONT18</b>	Filter extraction cabinet / PCR cabinet maintenance contract

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Contact Avantor Services to schedule a maintenance or calibration or for more information about our services.

# Microscopes

Avantor Services performs maintenance on Carl Zeiss, Motic and VWR® products microscopes.



## MAINTENANCE

Regular maintenance increases your guarantee of the proper functioning of your laboratory equipment.

The following tasks are performed when servicing your microscopes:

- Visual inspection
- Cleaning of all accessible optical parts
- Inspection and adjustment of mechanical and optical parts
- Lamp and condenser adjustment (if possible)
- Cleaning and lubrication of mechanical parts
- Checking the electrical circuits
- Electronic control and adjustment
- Microscope check
- Delivery of the checklist
- Fluorescence test (optional)

## IQ / OQ / PQ

By using our IQ / OQ / PQ qualification services, you can achieve and maintain compliance with FDA, GMP / GLP, European Pharmacopoeia and ISO. Our qualified service engineers have extensive experience in the professional execution of IQ / OQ / PQ services.

### Camera maintenance

- Lens cleaning
- Checking software parameters
- If possible, check the measurements using the inspection plate

Cat. No.	Description
<b>SERVMICRO4CONT1</b>	Microscope maintenance
<b>SERVMICRO4CONT2</b>	Microscope and fluorescence maintenance
<b>SERVMICRO4CONT7</b>	Camera maintenance

Contact Avantor Services to schedule a maintenance or calibration or for more information about our services.

# Pipette services

Avantor Services performs vendor independent pipette calibrations according to the strictest ISO standards. (ISO17025 and ISO8655)

This ensures that your pipettes meet the standard.

Avantor Services can perform calibrations on all brands of pipettes.



Pipette Insurance Plans	PIP Light	PIP Eco	PIP Classic	PIP Pro	PIP Care
<b>As Found Calibration Optional</b>	<b>Economic calibration</b>	<b>Preventive maintenance, economic calibration</b>	<b>Preventive maintenance, classic calibration</b>	<b>Preventive maintenance, calibration, according to ISO 8655</b>	<b>Preventive maintenance by experts</b>
As found calibration according to chosen plan. ISO 8655 (3 volumes with 10 measurements)	Not applicable				Not applicable
Checked against ISO 8655-specifications	Not applicable				Not applicable
Calibration report	Not applicable				Not applicable
<b>Preventive Maintenance</b>					
Disassembling of pipette and check on worn/defective parts		•	•	•	•
Professional cleaning internal and external parts		•	•	•	•
Lubrication of seals, O-rings and piston, if applicable		•	•	•	•
Assembling pipette		•	•	•	•
Leak and function testing		•	•	•	•
<b>Calibration</b>					
Calibration according ISO 8655 (3 volumes - min., mid., max. - with 10 measurements) - (if min. 10% is not possible than the lowest pipette volume)				•	-
Mono-channel: 2 volumes min., max. with 10 measurements (if min. 10% is not possible than the lowest pipette volume)			•		-
Multi-channel: 2 volumes min., max. with 5 measurements per channel (if min. 10% is not possible than the lowest pipette volume)			•		-
Quick calibration 2 volumes - min., max. - with 4 measurements (if min. 10% is not possible than the lowest pipette volume)	•	•			-
Checked against ISO 8655-specifications	•	•	•	•	-
Calibration report	•	•	•	•	-
Adjustment and recalibration when needed (not included in price)	•	•	•	•	-
Calibration report 'after adjustment'	•	•	•	•	-

Supplementary Insurance Plan Agreements	
<b>These are the standard agreements applicable for all the above plans</b>	
Recall	6 months
Language	English
ISO 17025 RvA	Yes
As found calibration	No
Calibration sticker	Only calibration date
Repair	>50% quotation

# Temperature Mapping

Avantor Services offers brand independent temperature mapping over a range of -80 ° C to 150 ° C for a wide range of equipment.

Temperature mapping is a service that targets all temperature devices that must comply with regulations, such as FDA and GMP / GLP.



Mapping with different temperature probes (from 1 to 9 points) with variable time. (between 1 hour and 24 hours)

Other options are available on request.

We can also map relative humidity to 1 point as well as pressure to 1 point.

All of this comes with the necessary calibration certificates of the measuring equipment and a detailed report.

## COOLING

Cat. No.	Description
SERVCOOL5MAP1P1H	Temperature mapping, 1 point, 1h
SERVCOOL5MAP1P6H	Temperature mapping, 1 point, 6h
SERVCOOL5MAP1P12H	Temperature mapping, 1 point, 12h
SERVCOOL5MAP1P24H	Temperature mapping, 1 point, 24h
SERVCOOL5MAP9P1H	Temperature mapping, 9 points, 1h
SERVCOOL5MAP9P6H	Temperature mapping, 9 points, 6h
SERVCOOL5MAP9P12H	Temperature mapping, 9 points, 12h
SERVCOOL5MAP9P24H	Temperature mapping, 9 points, 24h

## HEATING

Cat. No.	Description
SERVHEAT5MAP1P1H	Temperature mapping, 1 point, 1h
SERVHEAT5MAP1P6H	Temperature mapping, 1 point, 6h
SERVHEAT5MAP1P12H	Temperature mapping, 1 point, 12h
SERVHEAT5MAP1P24H	Temperature mapping, 1 point, 24h
SERVHEAT5MAP9P1H	Temperature mapping, 9 points, 1h
SERVHEAT5MAP9P6H	Temperature mapping, 9 points, 6h
SERVHEAT5MAP9P12H	Temperature mapping, 9 points, 12h
SERVHEAT5MAP9P24H	Temperature mapping, 9 points, 24h

Contact Avantor Services to schedule a maintenance or calibration or for more information about our services.

# Water treatment

Avantor Services performs maintenance on purification devices from VWR® products, Sartorius, Werner



## MAINTENANCE

Regular maintenance increases your guarantee of the proper functioning of your laboratory equipment.

The following tasks are performed when servicing your water purification devices:

### Ultra Pure devices

- Cleaning the device
- Replacement of UV lamp (if present), cartridges, sterile filter, pre-filter (if present)
- Checking and replacing the ultra filter if necessary
- Replacement of the RO cartridge (if present)
- Replacement of the TOC counter (if present)
- Feed and production water control

## IQ / OQ / PQ

By using our IQ / OQ / PQ qualification services, you can achieve and maintain compliance with FDA, GMP / GLP, European Pharmacopoeia and ISO. Our qualified service engineers have extensive experience in the professional execution of IQ / OQ / PQ services.

### Reverse osmosis devices

- Disinfection of filter holders
- Replacing the particle filter, the activated carbon filter and the pre-filter
- Checking and replacing the filter holder gaskets if necessary
- RO membrane control
- Cleaning the floats (if possible)
- Replacing the tank filter
- Feed and production water control

Cat. No.	Description
SERVWAT4CONT1	Maintenance Ultra Pure water purification device
SERVWAT4CONT	Reverse osmosis water purification device maintenance

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