

# Equipment services

Solutions for a worry-free life cycle of your  
equipment with Avantor Services



# 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 over 15 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 4 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

Avantor has over 8,000 different spare parts and accessories in stock. Thanks to a program of supplier training, our Service Engineers have access to all service manuals. We therefore only work with original spare parts that meet our quality requirements. You can also order these directly via our website.



#### **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 Avantor, delivered by VWR, 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 (VEM) 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 (VEM) 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 Collection, 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

## 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:  
[service.dk@avantorsciences.com](mailto:service.dk@avantorsciences.com)

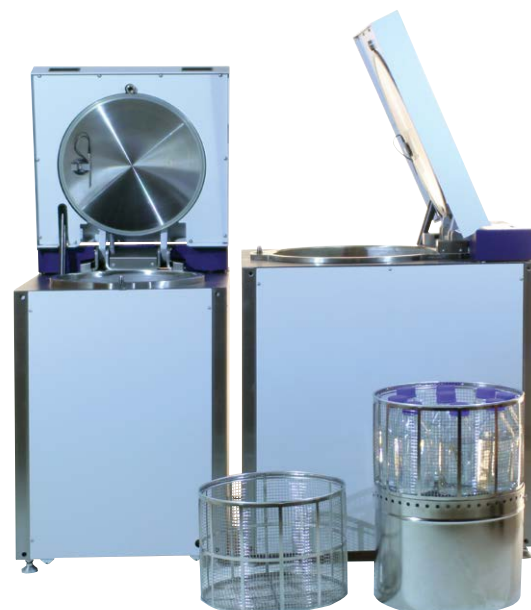
### VWR International A/S

Tobaksvejen 21 | 2860 Søborg | Tel.: +45 43 86 87 88 | [info.dk@vwr.com](mailto:info.dk@vwr.com)



# 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
<b>SERVAUT4CONT1</b>	Autoclave maintenance ≥25 l
<b>SERVAUT4CONT7</b>	Autoclave maintenance <25 l
<b>SERVAUT5CAL</b>	Calibration
<b>SERVAUT5AIB</b>	Assistance during inspection by EDTC
<b>SERVAUT6REPS</b>	Inspection by EDTC
<b>SERVAIR55IQOQPQ</b>	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:  
[service.dk@avantorsciences.com](mailto:service.dk@avantorsciences.com)

### VWR International A/S

Tobaksvejen 21 | 2860 Søborg | Tel.: +45 43 86 87 88 | [info.dk@vwr.com](mailto:info.dk@vwr.com)

# 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 Collection, 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>SERVAIRSS5IQOQPQ</b>	Execution IQ/OQ/PQ

Contact Avantor Services to schedule a maintenance or calibration or for more information about our services:  
[service.dk@avantorsciences.com](mailto:service.dk@avantorsciences.com)

### VWR International A/S

Tobaksvejen 21 | 2860 Søborg | Tel.: +45 43 86 87 88 | [info.dk@vwr.com](mailto:info.dk@vwr.com)



# Centrifuges

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

ISO 17025 calibration on request



## 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

## INSPECTION

Equipment Services performs annual inspections that comply with the Danish Working Environment Authority's Executive Order annually, cf. no. 776, section 16.

Inspections and repairs are carried out on all centrifuge brands and types either at our workshop or at the customer. We also do preventive maintenance inspections.

## 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
<b>SERVCENT4CONT2</b>	Unrefrigerated centrifuge maintenance
<b>SERVCENT4CONT4</b>	Refrigerated centrifuge maintenance
<b>SERVCENT4CONT13</b>	Unrefrigerated centrifuge calibration
<b>SERVCENT4CONT14</b>	Refrigerated centrifuge calibration
<b>SERVAIR55IQOQPQ</b>	Execution IQ/OQ/PQ

Contact Avantor Services to schedule a maintenance or calibration or for more information about our services:  
[service.dk@avantorsciences.com](mailto:service.dk@avantorsciences.com)

**VWR International A/S**

Tobaksvejen 21 | 2860 Søborg | Tel.: +45 43 86 87 88 | [info.dk@vwr.com](mailto:info.dk@vwr.com)

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

Avantor Services performs maintenance and validations for VWR Collection, 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.

## 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
<b>SERVIO4CONT7</b>	Maintenance CO <sub>2</sub> incubator
<b>SERVIO4CONT8</b>	Maintenance CO <sub>2</sub> incubator with extra check of O <sub>2</sub> levels
<b>SERVHEAT5CAL</b>	Incubator calibration

Contact Avantor Services to schedule a maintenance or calibration or for more information about our services:  
[service.dk@avantorsciences.com](mailto:service.dk@avantorsciences.com)

### VWR International A/S

Tobaksvejen 21 | 2860 Søborg | Tel.: +45 43 86 87 88 | [info.dk@vwr.com](mailto:info.dk@vwr.com)



VWR.COM

Prices, product, and/or services details are current when published and subject to change without notice. | Certain products or services may be limited by country, federal, state, provincial, or local regulations. | VWR, part of Avantor, makes no claims or warranties concerning sustainable/green products. Any claims concerning sustainable/green products are the sole claims of the manufacturer and not those of VWR International, LLC and/or Avantor, Inc. or affiliates. Offers valid in countries listed above, void where prohibited by law or company policy, while supplies last. | Trademarks are owned by Avantor, Inc. or its affiliates, unless otherwise noted. | Visit [vwr.com](http://vwr.com) to view our privacy policy, trademark owners, and additional disclaimers. © 2021 Avantor, Inc. All rights reserved.

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

Avantor Services offers maintenance and calibration for measuring devices from VWR Collection, 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

## VWR International A/S

Tobaksvejen 21 | 2860 Søborg | Tel.: +45 43 86 87 88 | [info.dk@vwr.com](mailto:info.dk@vwr.com)

Contact Avantor Services to schedule a maintenance or calibration or for more information about our services:  
[service.dk@avantorsciences.com](mailto:service.dk@avantorsciences.com)



VWR.COM

Prices, product, and/or services details are current when published and subject to change without notice. | Certain products or services may be limited by country, federal, state, provincial, or local regulations. | VWR, part of Avantor, makes no claims or warranties concerning sustainable/green products. Any claims concerning sustainable/green products are the sole claims of the manufacturer and not those of VWR International, LLC and/or Avantor, Inc. or affiliates. Offers valid in countries listed above, void where prohibited by law or company policy, while supplies last. | Trademarks are owned by Avantor, Inc. or its affiliates, unless otherwise noted. | Visit [vwr.com](http://vwr.com) to view our privacy policy, trademark owners, and additional disclaimers. © 2021 Avantor, Inc. All rights reserved.

# Ovens and incubators

Avantor Services performs maintenance and calibrations of ovens and incubators from VWR Collection, 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

## 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
SERVHEAT4CONT1	Oven/incubator maintenance
SERVHEAT4CONT10	Climate chamber maintenance
SERVHEAT5CAL	Oven/incubator maintenance

## 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:

[service.dk@avantorsciences.com](mailto:service.dk@avantorsciences.com)

### VWR International A/S

Tobaksvejen 21 | 2860 Søborg | Tel.: +45 43 86 87 88 | [info.dk@vwr.com](mailto:info.dk@vwr.com)

# 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
<b>SERVFURN4CONT1</b>	Maintenance contract
<b>SERVFURN4CONT2</b>	Maintenance contract LAF cabinet with particle count
<b>SERVFURN4CONT13</b>	Biosafety cabinet maintenance contract
<b>SERVFURN4CONT14</b>	Biosafety cabinet with particle count maintenance contract

Contact Avantor Services to schedule a maintenance or calibration or for more information about our services:  
[service.dk@avantorsciences.com](mailto:service.dk@avantorsciences.com)

### VWR International A/S

Tobaksvejen 21 | 2860 Søborg | Tel.: +45 43 86 87 88 | [info.dk@vwr.com](mailto:info.dk@vwr.com)



# Filter extraction cabinets

Avantor Services performs maintenance and calibrations on filter extraction cabinets / PCR cabinets from VWR Collection, 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)

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

## 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:  
[service.dk@avantorsciences.com](mailto:service.dk@avantorsciences.com)

### VWR International A/S

Tobaksvejen 21 | 2860 Søborg | Tel.: +45 43 86 87 88 | [info.dk@vwr.com](mailto:info.dk@vwr.com)



VWR.COM

Prices, product, and/or services details are current when published and subject to change without notice. | Certain products or services may be limited by country, federal, state, provincial, or local regulations. | VWR, part of Avantor, makes no claims or warranties concerning sustainable/green products. Any claims concerning sustainable/green products are the sole claims of the manufacturer and not those of VWR International, LLC and/or Avantor, Inc. or affiliates. Offers valid in countries listed above, void where prohibited by law or company policy, while supplies last. | Trademarks are owned by Avantor, Inc. or its affiliates, unless otherwise noted. | Visit [vwr.com](http://vwr.com) to view our privacy policy, trademark owners, and additional disclaimers. © 2021 Avantor, Inc. All rights reserved.



# Microscopes

Avantor Services performs maintenance on Carl Zeiss, Motic and VWR Collection 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
SERVMICRO4CONT1	Microscope maintenance
SERVMICRO4CONT2	Microscope and fluorescence maintenance
SERVMICRO4CONT7	Camera maintenance

Contact Avantor Services to schedule a maintenance or calibration or for more information about our services:  
[service.dk@avantorsciences.com](mailto:service.dk@avantorsciences.com)

## VWR International A/S

Tobaksvejen 21 | 2860 Søborg | Tel.: +45 43 86 87 88 | [info.dk@vwr.com](mailto:info.dk@vwr.com)

# Pipet 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.



## WHEN BEING A GMP/GLP LABORATORY

Compliance completely according GLP/GMP requirements you can choose one of our VWR® Insurance Plan's with the option 'As Found Calibration'.

This means we start of with an As Found calibration on the number of volumes and measurements of the plan you have chosen. This is followed by maintenance as described at VWR® Care. Followed by another calibration, from the plan you have chosen to start with. So you always get 2 certificates of how we found the pipette and how it has left.

You can choose the option 'As Found' calibration with each Insurance Plan.

## DOUBLE CALIBRATION CERTIFICATES AND REPAIR GUIDELINES

For all plans we will check the calibration results against the ISO 8655 specifications. In case of an out of specification situation we will adjust the pipette and recalibrate. You will receive in that case 2 calibration certificates, one before and one from after adjustment.

When we have performed an As Found Calibration, we will if we are experiencing 'problems' with the pipet, immediately start to adjust or repair. So you will never receive more than two certificates for one instrument,

In case of repairs exceeding 50% of the value of a new pipette, we will send a quotation. Below this value we will repair the pipette directly without informing you upfront, this to keep the shortest turn around time.

## OUTCOME OF A CALIBRATION

The certificate states the outcome of the calibration in respect to the requested specifications. A pipette complies with the specifications if both the systematic error and the random error comply to the specifications. For an accredited calibration the measurement uncertainty is added to the systematic error. Next calculation applies:

Instrument complies with the requirements (for an accredited calibration):

Systematic error + (measurement uncertainty)  $\leq$  systematic error specification and Random error  $\leq$  random error specification

If the above calculation is fulfilled the outcome will be:  
Instrument complies to the specifications.

In all other situations the outcome will be : Instrument does not comply to the specifications.

## VWR INSURANCE PLANS

Based on our 20 years of calibrating, repairing and servicing pipettes and other liquid devices, we have created Pipetting Insurance Plans which are a complete service package tailored to meet your needs.

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'	•	•	•	•	-
<b>Supplementary Insurance Plan Agreements</b>					
<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				

### VWR International A/S

Tobaksvejen 21 | 2860 Søborg | Tel.: +45 43 86 87 88 | [info.dk@vwr.com](mailto:info.dk@vwr.com)

Contact Avantor Services to schedule a maintenance or calibration or for more information about our services: [service.dk@avantorsciences.com](mailto:service.dk@avantorsciences.com)

# Spectrophotometers

Avantor Services performs maintenance and calibrations on spectrophotometers from VWR Collection, Thermo Scientific, Hitachi, SI Analytics, Merck, Eppendorf, Jenway.



## MAINTENANCE

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

- Control of deuterium lamp, halogen lamp or xenon flash lamp
- Optics check
- Check mirrors and filters and clean or replace if necessary
- Check the light path and align if necessary
- Delivery of a calibration report with monitoring of absorption and wavelength

## CALIBRATION

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

The following tasks are performed when calibrating your spectrophotometers:

- Delivery of a calibration report with monitoring of absorption and wavelength

Cat. No.	Description
<b>SERVPHOTO4CONT1</b>	Maintenance & Calibration
<b>SERVPHOTO5CAL</b>	Calibration

## 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:

[service.dk@avantorsciences.com](mailto:service.dk@avantorsciences.com)

### VWR International A/S

Tobaksvejen 21 | 2860 Søborg | Tel.: +45 43 86 87 88 | [info.dk@vwr.com](mailto:info.dk@vwr.com)

# 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

### VWR International A/S

Tobaksvejen 21 | 2860 Søborg | Tel.: +45 43 86 87 88 | [info.dk@vwr.com](mailto:info.dk@vwr.com)

Contact Avantor Services to schedule a maintenance or calibration or for more information about our services: [service.dk@avantorsciences.com](mailto:service.dk@avantorsciences.com)

# Laboratory washer-disinfectors

Avantor Services performs maintenance and checks on your Lancer laboratory washer-disinfector



## MAINTENANCE

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

The following tasks are performed when servicing your laboratory dishwashers:

- Inspection of the tightness of the doors and the closure of the tank
- Inspection and cleaning of the spray arms
- Replacement of column seals
- Cleaning of column injectors
- Rinsing the detergent and acid lines
- Replacement of detergent and acid pump hoses
- Control of detergent and acid absorption
- Inspection of door springs / door cables
- Checking the heating resistors
- Checking the HEPA filter for devices with drying
- Checking for leaks during the test cycle
- Checking the general condition of the device

Cat. No.	Description
SERVWASH4CONT1	Laboratory washer-disinfector maintenance

## 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:  
[service.dk@avantorsciences.com](mailto:service.dk@avantorsciences.com)

### VWR International A/S

Tobaksvejen 21 | 2860 Søborg | Tel.: +45 43 86 87 88 | [info.dk@vwr.com](mailto:info.dk@vwr.com)



VWR.COM

Prices, product, and/or services details are current when published and subject to change without notice. | Certain products or services may be limited by country, federal, state, provincial, or local regulations. | VWR, part of Avantor, makes no claims or warranties concerning sustainable/green products. Any claims concerning sustainable/green products are the sole claims of the manufacturer and not those of VWR International, LLC and/or Avantor, Inc. or affiliates. Offers valid in countries listed above, void where prohibited by law or company policy, while supplies last. | Trademarks are owned by Avantor, Inc. or its affiliates, unless otherwise noted. | Visit [vwr.com](http://vwr.com) to view our privacy policy, trademark owners, and additional disclaimers. © 2021 Avantor, Inc. All rights reserved.



# Water treatment

Avantor Services performs maintenance on purification devices from VWR Collection, 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
<b>SERVWAT4CONT1</b>	Maintenance Ultra Pure water purification device
<b>SERVWAT4CONT</b>	Reverse osmosis water purification device maintenance

Contact Avantor Services to schedule a maintenance or calibration or for more information about our services:  
[service.dk@avantorsciences.com](mailto:service.dk@avantorsciences.com)

### VWR International A/S

Tobaksvejen 21 | 2860 Søborg | Tel.: +45 43 86 87 88 | [info.dk@vwr.com](mailto:info.dk@vwr.com)

# Notes

This image shows a single sheet of white paper with horizontal green lines, resembling notebook paper. The lines are evenly spaced and run across the width of the page. There are no margins, text, or other markings on the paper.

# Notes

[illegible]

## 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:  
[service.dk@avantorsciences.com](mailto:service.dk@avantorsciences.com)

### VWR International A/S

Tobaksvejen 21 | 2860 Soborg | Tel.: +45 43 86 87 88 | [info.dk@vwr.com](mailto:info.dk@vwr.com)