

INTEGRA



MEDIACLAVE

Fast, reproducible and
safe media sterilization



Up to 50 programs
medium formulation

1 to 30 L
medium sterilization

Up to 4
operating modes

FAST, REPRODUCIBLE AND SAFE MEDIA STERILIZATION

Preparing high quality media for the cultivation of bacteria is crucial to various routine applications in today's laboratories, and many downstream tasks and results depend directly on the quality of that media. Furthermore, efficient media production is important to reduce labor costs and free staff time for less repetitive tasks.

The **MEDIACLAVE** product range is designed to address these needs by offering rapid and gentle formulation and sterilization of up to 30 liters of culture media. Precise control and monitoring of temperature, time and pressure during the

sterilization process guarantees constant high quality. The intuitive graphical user interface and simple programming make it very easy for everyone to operate **MEDIACLAVE**.

MEDIACLAVE allows you to be flexible, by providing high quality culture media whenever it is needed. This minimizes the need to store media, saving space and eliminating concerns about short shelf lives to guarantee the availability of high quality media.

Process for media preparation



MEDIUM FORMULATION

MEDIACLAVE is quick to set up. Insert the cuvette (media container), fill the water jacket between the cuvette and the vessel to ensure efficient heat transfer, and you are ready to prepare your culture media.

Culture media can be suspended and dissolved directly within **MEDIACLAVE**. The strong magnetic stirrer guarantees homogeneous mixing within the vessel and prevents coagulation. Alternatively, culture media can be dissolved and pre-swelled using the WATER BATH mode prior to sterilization.

The intuitive, multilingual graphical user interface makes it very easy for everyone to use **MEDIACLAVE** – no special training is required. Up to 50 programs with user-defined parameters – such as sterilization temperature, dispense temperature and sterilization time – can be saved for later use.

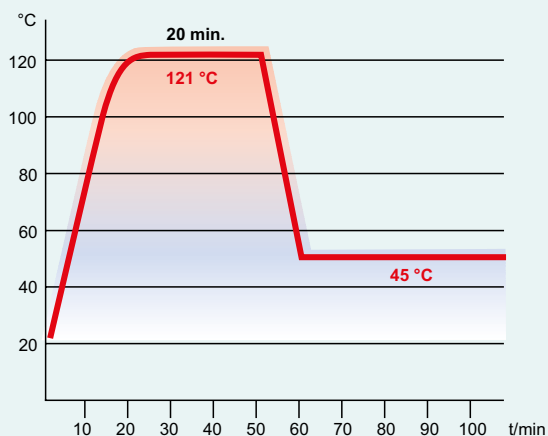


Operation modes

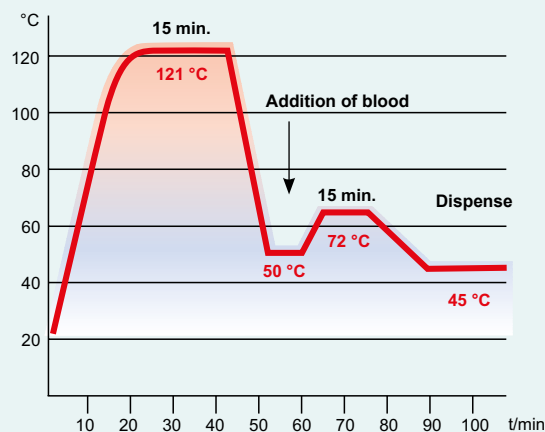
Two main operation modes for media preparation, plus two extra modes can be selected and the parameters set to your needs:

- **STANDARD:** For the preparation of standard and highly sensitive culture media. Sterilization temperature/ time and dispensing temperature can be adjusted.
- **CHOCOLATE AGAR:** This two-step program allows the preparation of complex media. After the first sterilization phase, a supplement (e.g. blood) can be added through a separate port, followed by a second heating phase.

- **WATER BATH:** For pre-swelling culture media prior to sterilization, with a temperature range of 30–80 °C. In combination with an autoclave cuvette, this mode can be used to thermostat liquids in glassware (**MEDIACLAVE 10** only).
- **AUTOClave:** With the optional autoclave kit, the **MEDIACLAVE 10** can be used as a benchtop autoclave for the sterilization of small amounts of culture media in glassware such as Erlenmeyer flasks or test tubes.

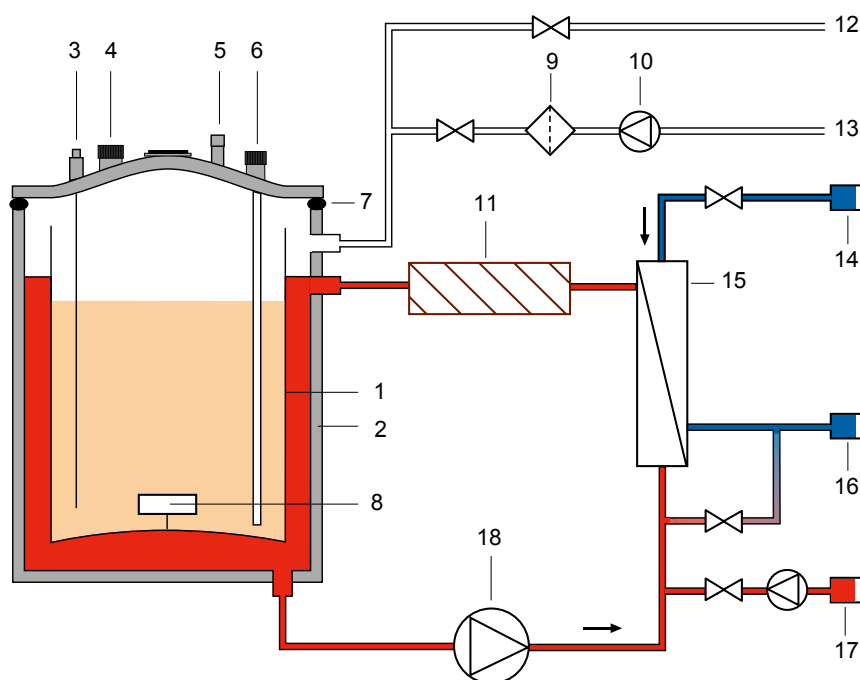


STANDARD mode: Heating, sterilization and cooling to dispensing temperature.



CHOCOLATE AGAR mode: After the first sterilization phase, blood is added, followed by a second short heating phase before dispensing.

MEDIUM STERILIZATION



MEDIACLAVE working principle

- 1 Media cuvette
 - 2 Sterilization vessel
 - 3 Temperature probe
 - 4 Adding port
 - 5 Overpressure safety valve
 - 6 Dispense port with decanting tubing
 - 7 Lid seal
 - 8 Magnetic stirrer bar
 - 9 Sterile filter
 - 10 Support pressure pump
 - 11 Flow heater
 - 12 Deaeration outlet
 - 13 Air inlet
 - 14 Quick connection for cooling water inlet
 - 15 Heat exchanger
 - 16 Quick connection for water outlet
 - 17 Quick connection for coupling water inlet (**MEDIACLAVE 30 only**)
 - 18 Circulation pump
- ∇ Valve

MEDIACLAVE guarantees gentle and rapid sterilization of both standard and highly sensitive culture media. An efficient heating and cooling system – together with homogeneous mixing – minimizes thermal stress during the process, maximizing media quality.

DISPENSING OF THE STERILIZED MEDIA

The wide adding port enables fast and safe addition of supplements – such as antibiotics, blood or growth factors – prior to dispensing. Automatic, in-process sterilization of the dispense port eliminates the risk of media contamination during dispensing.

The vessel and dispensing system of the **MEDIACLAVE** are designed to minimize dead volumes and maximize yields, allowing laboratories to reduce costs.

The **MEDIACLAVE** can be quickly and conveniently connected to the dispensing tubing of the MEDIAJET – an automated Petri dish filler – to dispense up to 540 Petri dishes of agar media at the touch of a button.



High Operational Safety

An automatic pre-sterilization tightness check ensures the vessel is properly sealed before starting, avoiding incomplete sterilization and subsequent media rejection. Furthermore, **MEDIACLAVE** offers multiple independent pressure and temperature monitoring systems, guaranteeing user and environmental safety. The vessel lid is also equipped with an autonomous overpressure safety valve and burst disc in case other electronic monitoring systems fail.

Fast Heating

Powerful heating elements permit fast media processing, minimizing thermal stress and ensuring culture media remains highly effective. Pressure- and temperature-controlled deaeration guarantees saturated steam in the vessel for complete sterilization.



Reliable Sterilization

The large, strong magnetic stirrer offers adjustable speed and reversing rotation direction to ensuring homogeneous mixing across different viscosities. Process parameters are controlled by a Pt-1000 temperature probe and microprocessor for reliable and complete sterilization of culture media.

Rapid Cooling

An efficient plate heat exchanger and built-in support pressure system enable rapid, gentle cooling, and the isolated cooling water system prevents media contamination.



Versatile dispensing

The DOSE IT peristaltic pump can be used to fill containers with unusual volumes or shapes, such as quadrangular Petri dishes, bottles or flasks.

Alternatively, the pressure dispensing kit – including a pinch valve box and a foot switch – allows fast, direct dispensing of media into large containers (e.g. bottles) by increasing the pressure inside the sterilization chamber.

CLEANING AND MAINTENANCE

MEDIACLAVE is easy to maintain, with an integrated CLEANING procedure that automatically sterilizes the vessel, valves and tubing. This is further simplified by the absence of a heating element within the sterilization vessel.



Hot, sterile coupling water is drained at the end of the process, dissolving and removing unwanted agar residues. This allows complete decontamination of all vulnerable parts of the instrument, ensuring the best possible environment for sterile media preparation.

The system will also automatically indicate when the next service is due, preventing unnecessary downtime and maximizing the productivity of the whole media kitchen.



PROCESS DOCUMENTATION

MEDIACLAVE supports process documentation and validation with an integrated web server for direct connectivity via Ethernet, allowing remote monitoring of the sterilization process and instrument parameters. Moreover, it enables robust electronic storage of process files with digital signatures, avoiding the need for printouts according to FDA (21 CFR Part 11)/EU (GMP Annex 11).



Web server

An integrated USB port allows automatic saving of process log files to a flash drive for storage. In addition, **MEDIACLAVE** can be equipped with the dot matrix printer to simplify archiving. Printout intervals and parameters can be adjusted to all process phases, allowing laboratories to reduce paper consumption and operating costs. Alternatively, a standard external printer can be connected directly via the serial interface.



USB port



Dot matrix printer

Technical data

| | MEDIACLAVE 10 | MEDIACLAVE 30 |
|--------------------------------|---|---|
| Capacity | | |
| Stainless steel cuvette | 1-10 l | 3-30 l |
| Autoclave cuvette (Ø, H) | 254 mm, 203 mm | - |
| Temperature range | | |
| Sterilization | 30-122 °C | 30-122 °C |
| Dispensing | 20-80 °C | 20-80 °C |
| Water bath | 30-80 °C | 30-80 °C |
| Max. temperature deviation | +1.0/-0.2 °C | +1.0/-0.2 °C |
| Stirrer speed | | |
| Selectable | 50-200 rpm, reversing direction | 50-200 rpm, reversing direction |
| Utilities | | |
| Heating Capacity | Max. 3 kW | Max. 9 kW |
| Interfaces | 2 x RS232, Ethernet, USB port, AUX contact, footswitch, ext. pinch valve | 2 x RS232, Ethernet, USB port, AUX contact, footswitch, ext. pinch valve |
| Cooling water connections | ¾" thread | ¾" thread |
| Electricity supply | | |
| All MEDIACLAVE 10 instruments | 200-240 V 50/60 Hz, 16 A | - |
| MEDIACLAVE 30, US/JP (136 050) | - | 200-208 V 3~/PE, 50/60 Hz, 30 A |
| MEDIACLAVE 30, EU (136 055) | - | 390-400 V 3~/N/PE, 50/60 Hz, 16 A |
| Dimensions and weight | | |
| Basic Device (H x W x D) | 480 mm x 550 mm x 640 mm | 1040 mm x 550 mm x 640 mm |
| Weight | 57 kg | 85 kg |

Approvals

for MEDIACLAVE 10 | MEDIACLAVE 30







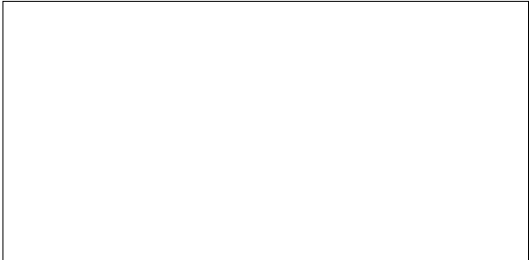
Swiss made



Ordering information

Visit the *parts and numbers* section on our website to view all available accessories and consumables.

| Instruments | | Plug | Part no. |
|--|--|---|----------|
|  MEDIACLAVE 10 | 10 liters media preparator complete with cuvette, lid seal, magnetic stirrer, decanting tubing, fitting for dispensing tubing, integrated printer and printer splash guard (200-240 V, 50/60 Hz) | EU (CEE 7/7) | 136 000 |
| | | US (NEMA L6-30P) | 136 010 |
| | | no plug | 136 020 |
|  MEDIACLAVE 10 without printer | 10 Litres media preparator complete with cuvette, lid seal, magnetic stirrer, decanting tubing and fitting for dispensing tubing (200-240 V, 50/60 Hz) | EU (CEE 7/7) | 136 005 |
| | | US (NEMA L6-30P) | 136 015 |
| | | no plug | 136 025 |
|  MEDIACLAVE 30 | 30 litres media preparator complete with cuvette, lid seal, magnetic stirrer, decanting tubing, fitting for dispensing tubing, integrated printer and printer splash guard | 3 x 200-208 V 50/60 Hz (US, JP) (with plug) | 136 050 |
| | | 3 x 390-400 V 50/60 Hz (EU) (without plug) | 136 055 |
| Accessories | | MEDIACLAVE | Part No. |
|  Stainless steel cuvette | for medium sterilization | 10 | 136 030 |
| | for medium sterilization, incl. stainless steel guide tube (length: 311 mm) for temperature probe | 30 | 136 060 |
| | Autoclave kit | for autoclaving/thermostating liquids in containers, incl. autoclave cuvette, stainless steel with grid insert and flexible temperature probe | 10 |
| Magnetic stirrer bar | for homogeneous medium mixing within the cuvette | 10 | 132 130 |
| Magnetic stirrer bar with paddle | for MEDIACLAVE 30 or homogeneous stirring of high viscosity agar media within MEDIACLAVE 10 | 10 + 30 | 136 075 |
| Decanting tubing | for insertion into the sterilization chamber/cuvette for dispensing, incl. silicone tubing, stainless steel nozzle and securing nut | 10 | 136 034 |
| | for insertion into the sterilization chamber/cuvette for dispensing, incl. rigid stainless steel tube (length 613 mm), silicone tubing and securing nut | 30 | 136 061 |
| Fitting for dispensing tubing | for connecting tubing (inner diameter 6 mm) to dispense port, incl. stainless dispense port fitting and spring | 10 + 30 | 136 035 |
| Printer splash guard | for protecting the integrated printer from splashes | 10 + 30 | 136 040 |
| Tubing connector | for adding large volumes of supplements through the adding | 10 + 30 | 136 049 |
| for adding port | port using a silicone tubing (inner diameter 6 mm) | | |
| Injection lid | for sterile injection of supplements through the adding port, incl. cap, punched disc and septum membrane (silicone/PTFE) | 10 + 30 | 136 247 |
| Pressure dispensing kit | for direct pressure dispensing, incl. pinch valve box, foot switch, silicone tubing and stainless steel dispensing tube | 10 + 30 | 136 064 |
| Dispensing tube | for pressure dispensing, length 10 cm, stainless steel, one end dented | 10 + 30 | 171 056 |
| Foot switch w. connecting cable | for pressure dispensing, to trigger the pinch valve | 10 + 30 | 143 200 |
| Volume measuring stick | for convenient measurement of the product volume in the cuvette | 30 | 136 565 |
| Consumables | | MEDIACLAVE | Part No. |
| Lid seal | for sealing the vessel lid, silicone | 10 + 30 | 135 860 |
| Septum membrane | for injection lid, silicone/PTFE, self-resealing, 10-pack | 10 + 30 | 136 047 |
| Paper rolls | for integrated dot matrix printer, 10-pack | 10 + 30 | 136 038 |
| Ink ribbon | for integrated dot matrix printer | 10 + 30 | 136 901 |
| Silicone tubing | for pressure dispensing, length 25 m (bulk roll), inner diameter 6 mm, autoclavable | 10 + 30 | 171 036 |



Contact us:

