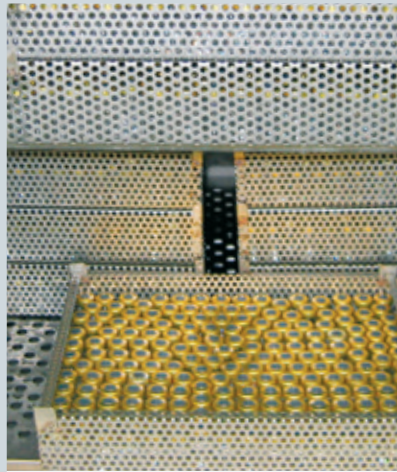




# STERIVAP<sup>®</sup> HP II

Large Steam Sterilizer for Disinfections, Sterilisation and Decontamination in the Science, Research and Industry Area



protecting human health

## Tradition, Quality, Innovation

Since its establishment in 1921, the company BMT Medical Technology s.r.o., a traditional manufacturer of medical equipment, gradually changed from a small region-oriented company „Chirana“ to the international company „BMT“. In 1992, it became the member of European MMM Group, operating on the world market as a supplier of systems acting in health, science and research since 1954. The MMM Group has established with its complex offer of products and services for hospitals, science institutes, laboratories and pharmaceutical industry as an excellent quality and innovation holder over the worldwide market.

## Universal, Actively Demonstrable Quality

STERIVAP® HP II is the representative of a new generation of big steam sterilizers meeting without exception the EU technical-legislative rules. The device's conception is based on the requirements of the European directives No. 2014/35/EU, 2014/30/EU, 2014/68/EU and on the provisions of EN 285 and EN ISO 17665-1 standards and is also fit to the individual needs of each working places. The pressure chamber and the steam generator are designed and manufactured within the certified quality system according to ISO 9001 and the European directive for pressure device or – in case of an individual request – in compliance with the ASME Code, Section VIII, Division 1 standards (for the USA and Canada) or according to

For the purposes of fulfilling the GMP requirements for proving of permanent sterilisation quality in line with device parameters declared by producer (importer), we offer also the service making of Q – installation qualification, OQ – operating qualification and PQ – processing qualification (validation) to the STERIVAP® HP II steam sterilizers users. We also offer the making of FAT and SAT sterilizers takeover tests. The tests and validations according to the EN ISO 17665-1 and customer's specifications standards are performed with use of our accredited testing laboratory potential.

## Original without Compromises

- big, colour, tilting control panel "touch-screen" 12" with maximal operating and service comfort
- two-stage, high-performance, suction pump for short charges times, quick and accurate cycle processing
- double-processor PLC control by two independent "Master and Slave" systems for quick and accurate cycle processing
- unique, patented, double chamber jacket with an independent and stable preheating for economical operation and low media consumption
- the device is produced from a high-quality stainless steel inclusive the solid, divided frame for the long-term lifetime and reliability
- thermal deaeration for higher operation reliability and sterilization safety



laboratories

pharmacy

BSL 3 / BSL 4

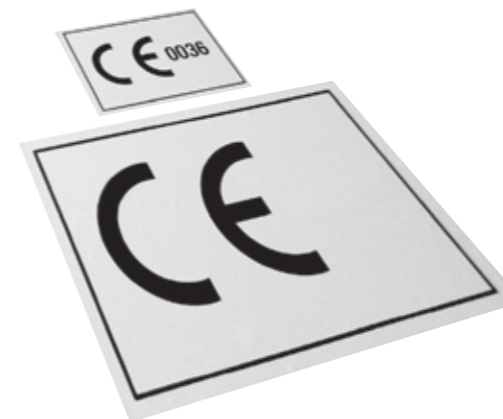
biomodels

Knowledge and experience, acquired during the individual delivery for our customers, as well as new technical innovations continuously positively influence the development, design and production of our devices. A large variety of patents, utilization models and industrial designs and an easy modification of devices according to individual requirements confirm the high quality of our work.

license regulations AQCIQ (for China). The construction of the device meets the GMP and GLP requirements.

The device meets the latest health service, laboratories, pharmaceutical, chemical and food industry requirements.

**MMM Group – perfection in laboratory and medical technique.**



## Individually Built Sterilization Technique

The latest modular-built sterilizer STERIVAP® HP IL is especially suitable for the field of pharmacy and biotechnology, but it is also popular in the field of animal units, microbiology, molecular biology and waste decontamination. The steam sterilizer is designed for sterilization of solid, porous and plastic materials,

## Intelligent Systems of Media and Working Timesavings

- unique divided double sterilization chamber jacket for better and more accurate sterilization cycle processing with an independent and stable system of chamber preheating, which reduces the demi-water consumption by approx. 20%

## Coherent Constructional Solution, Production Machining and Design

- well-arranged, ergonomic placed control panels
- easy intuitive control and service
- modern and ergonomic horizontal chamber positioning
- possibility to use the comfortable transport

# STERIVAP® HP IL

## Revolution on The Big Steam Sterilization Scene



...just a touch

packaged materials, filters, plugs, hoses, filling equipment components, cages, food, bedding and other materials sterilized in animal units, sterilization of solutions in open and closed bottles, processing and subsequent sterilization cooking and culture media (agar), suspensions and emulsions, dosage forms, disinfection of materials, decontamination of laboratory waste, etc.

The STERIVAP® HP IL sterilizer – safe, quick, ergonomically designed, easy to handle, with possibility of individual modifications and with versatile use.

The superior production quality, modern electronic and high quality materials are in case of STERIVAP® HP IL equally obvious as the user properties or extraordinary safety and reliability level.

- outer insulating jacket of the sterilising chamber with high quality insulation, which reduces substantially the heat losses, saves the energy
- standard built-in device for saving of water for suction pump, which saves ca 15% of water running costs
- steam generator with the microprocessor automatic, with the unique construction, with the high performance, with the thermal deaeration of the demi-water for minimisation of the non-condensed gases and with the automatic desalinisation secures short times of the sterilising cycles and permanently high steam quality
- function "Automatic morning putting-on" is other from many economical products, which will save the operating personnel working time; the device will be put on at the predefined time without the operating personnel presence, it will be automatically preheated and makes the vacuum test, and so it is prepared for operation on the start of user working time

- and charging equipment for all types automatic sealing and motoric door movement
- service only from the front and one optional side wall
- possibility of the right and left version for optimal space use
- robust divided stainless-steel skeleton, with possibility of door opening of 1 000 mm
- motoric sterilisation chamber door control with an unique spring mechanism without counterweight, with double security door protection (security bar and coupling)
- simple mechanical filters on the media inputs for the valve and air pump protection
- bacteriologic filter for filling the sterilisation chamber by air (0,1 µm)
- watertight outlet supply – for the reason of humidity elimination in the instrument area are all pipes connected into a common reservoir, insulated from the ambient
- tubular distributions and the valves transporting steam into the sterilisation chamber and demi water into the built-in steam generator are standard made from the stainless steel
- powerful, noiseless air pump for higher efficiency and reliability (two-stage for the 446 to 669 types)

- on-line device monitoring
- motor driven door with an unique spring system without counterweight
- constructional modular system gives the possibility of individual device construction
- ergonomic adjustable position of the touch control panel placed outside the thermally exposed zone secures the high quality readability and easy operating personnel work regardless the figure height
- forms simplicity and usefulness, high-quality surface of stainless-steel facing sheets enables the perfect hygiene
- facing sheets, reinforced by divided, stainless steel frame grant the noiseless operation and extended device lifetime
- manual and transporting and loading system guaranties the easy operating personnel work with sterilizing material
- maximally effective use of internal sterilizing area



laboratories



pharmacy



BSL 3 / BSL 4



biomodels

## Modular Arrangement

- single and double (passing through) door version (type 446–6618 vertically and type 9612– 9621 horizontally sliding door)
- stainless steel device facing sheets are against the standard solutions hardened by frame ensuring the extended lifetime and noiseless device operation
- easy access into the device is secured by lockable door panels
- own, external and combined steam source
- more than 60 optional specific additives (e.g. a possibility of chamber equipping by a flexible PT 100 sensor for safe and accurate cycles controlling during the work with microbiological cultures and solutions, a possibility of building-in the device for the after-cooling of condensate, a possibility of adaptation for decontamination of materials, "Bio-Seal" gastight version, pressure gauges, a range of individual programmes modification, ...)
- unique error protocol for precise and quicker error diagnostics
- up to 20 standard programmes in basic software
- easy individual programme modification
- more than 80 service programs for easy set-up, calibration, diagnostics and service

## The Highest Safety for Sterilization of Solutions

Besides the standard operation and safety procedures and processes, the sterilization of solutions is monitored also by three independent systems – chamber temperature and pressure check, temperature in the reference bottle check and the minimum time necessary for the sterilization cycle check. Only if the conditions of all three mentioned processes are met, the program is declared as finished and the system allows to open the chamber door.

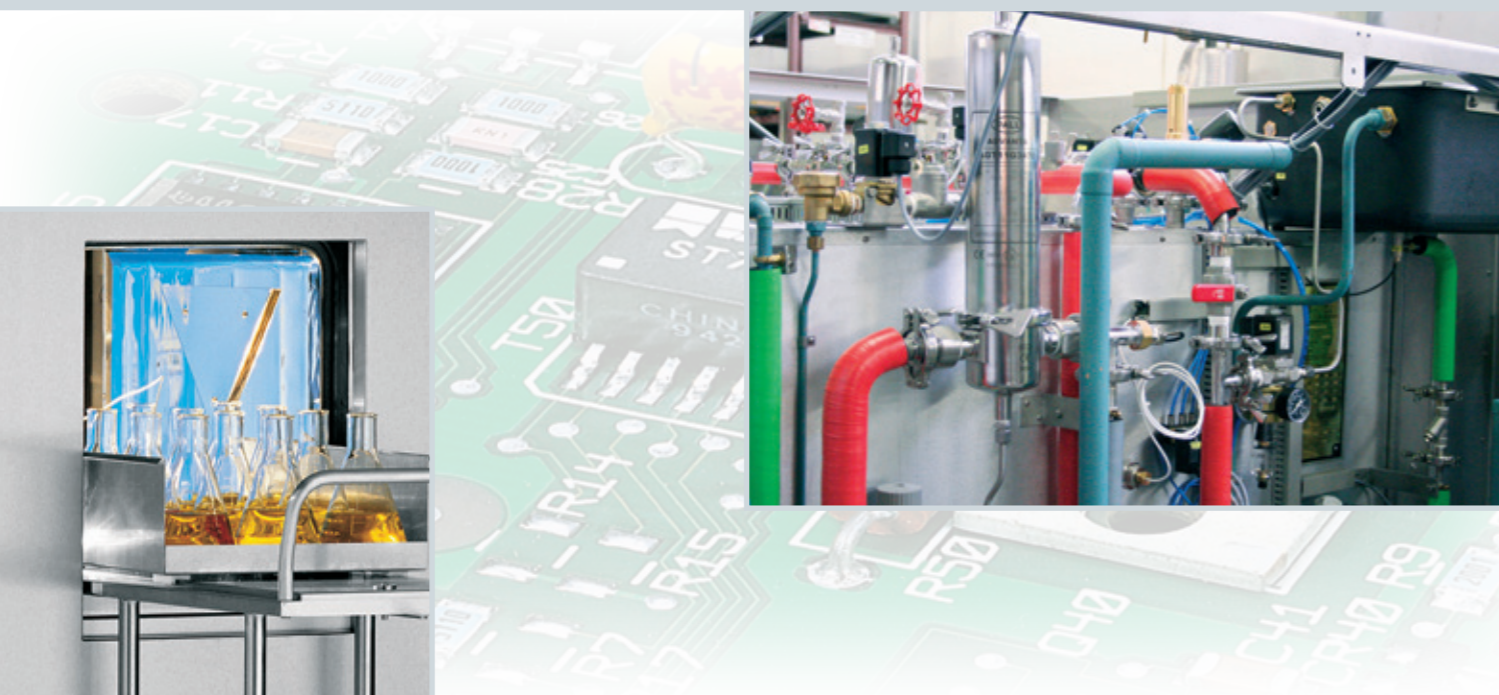
- surface roughness Ra 0,125 µm (Ra 5 µinch)
- perfect Rockwool thermal insulation with thickness of 125mm together with the third external insulating jacket as a standard, all chambers are provided with two easily accessible input nozzles for validation with the diameter of 25 and 50 mm
- the motor driven door with a spring system without counterweight is provided by two independent safety systems – a contact bar and clutch with an adjustable slip force
- on demand, we make the chamber passivation (pickling)

## High Power Steam Generator

- the steam generator is made from the high-quality stainless steel AISI 316 Ti
- high-quality Rockwool insulation and external insulating jacket reduce the thermal losses considerably
- thermal de-aeration of the demi-water for minimizing the content of non-condensed gases in the steam generator

## Wide Range Of Options

- gastight version "Bio-Seal" with possibility of independent and permanent chamber door sealing by pressurised air
- pressure sterilization chamber with mirror lustre
- stainless steel valves, sterilizable filters with integrity test
- "Air-detector"
- F0 control of sterilizing process with supporting air pressure, forced jacket cooling with supporting air pressure, possibility of the charge showering
- e-documentation of sterilizing processes with the possibility of device connecting into the computer network (LAN)



## Microprocessor Control

- the highest possible operational safety, double system of process data collection and evaluation and continual comparison and evaluation of these data
- any detected deviation above the permitted value activates the error message
- PLC control consisting from two microprocessor control systems (Master-Slave) for independent evaluation, control and documentation of working cycles
- unlimited number and easy modification of programs by means of chip cards

## Pressure Sterilization Chamber

- the massive chamber, door and the heating jacket are made from high-quality stainless steel AISI 316 Ti and AISI 316L
- cambered sterilization chamber bottom for perfect drying
- standard surface of the sterilizing chamber – polishing of the chamber internal surface Ra 1,25 µm (Ra 50 µinch); optional polishing with roughness Ra 0,8 µm (Ra 32 µinch) or polishing into the mirror-lustre with

- the function of water filling and the steam generator power are controlled and monitored by the control system Master-Slave
- for pharmaceutical use, we offer a special equipment instead of standard delivered steam generator



## New Control Panel With An Intuitive Control

- modern technology of the touch display "touch-screen" 12" with ergonomically adjustable panel ensures the transparent and easy operation on the charging device side
- on the discharging device side (in case of two-door version) the display "touch-screen" 5,7" ensures the transparent and easy operation
- PLC control panels located outside the thermally exposed zone
- PLC consisting from two microprocessor control systems (Master-Slave) with own sensors for independent working cycles evaluation, control and documentation
- "emergency stop" function integrated into the control panel, enables, in case of need, the device putting into the idle condition
- built in printer for sterilization processes documentation
- possibility of choosing the language for communication with the device
- transparent digital displaying of vapour pressure in the sterilization chamber jacket and in the steam generator, of pressure and temperature in the sterilization chamber (reference bottle) clock – indication of remaining programme time and indication of real time
- visual and acoustical signalisation of states and processes
- function "Automatic morning putting-on" enables to put the device on at the predefined time without the operating personnel presence, its automatic preheating and making the vacuum test optional accessory for special laboratory applications – choice and start of programme also from the clean side
- „Records history" – this function allows to choose the required record from the history (last 10 records) and to print it, or to display the pressure and temperature record (either in graphical or numerical form)
- „Errors history" – this function allows to display the last 50 error messages
- „Additional comments" – the device allows the operator to add additional comments to the individual programmes and/or cycles (such as the product name, no. of the load, batch no. etc.), the comments will then be printed together with the record
- „Login" (access rights) – the device enables to set the user rights for the device use "Free Use" mode and "Individual Access Rights" mode
- standard batch counter and another optional daily batch counter

**Sterivap HP IL 061120**  
 P1 Warm up, 134.0 °C, 2.0 Min  
 Start 11:30:45 2013-04-09  
 T = 40.3 °C; p = 98.3 kPa

**Charge 000003**  
 Evacuation (1)  
 T = 40.7 °C; p = 99.0 kPa; 11:31:13 2013-04-09  
 T = 68.9 °C; p = 9.1 kPa; 11:32:55 2013-04-09  
 Heating 11:34:12 2013-04-09  
 T = 102.5 °C; p = 130.5 kPa  
 Start Of Sterilization 11:36:46 2013-04-09  
 T = 134.9 °C; p = 316.8 kPa  
 End Of Sterilization 11:38:46 2013-04-09  
 T = 135.3 °C; p = 311.4 kPa

**Sterivap HP IL 061120**  
 P4 Rubber, 121.0 °C, 20.0 Min  
 Parameters Modified By User  
 Start 06:10:26 2013-04-09  
 T = 25.3 °C; p = 97.9 kPa

**Charge 000061**  
 Evacuation (1)  
 T = 26.4 °C; p = 99.0 kPa; 06:20:26 2013-04-09  
 T = 33.6 °C; p = 8.4 kPa; 06:22:14 2013-04-09  
 Evacuation (2)  
 T = 105.3 °C; p = 125.3 kPa; 06:25:54 2013-04-09  
 T = 51.6 °C; p = 10.5 kPa; 06:28:25 2013-04-09  
 Evacuation (3)  
 T = 106.5 °C; p = 126.1 kPa; 06:30:14 2013-04-09  
 T = 63.7 °C; p = 10.5 kPa; 06:32:21 2013-04-09  
 Evacuation (10)  
 T = 106.5 °C; p = 126.1 kPa; 06:34:01 2013-04-09  
 T = 66.5 °C; p = 10.5 kPa; 06:36:12 2013-04-09

**Error**  
 Air In The Chamber - Failed  
 06:38:16 2013-04-09  
 Phase: 061 - Evacuation - Up  
 PE11 = 92.9 kPa  
 PE12 = 98.1 kPa  
 PE2 = 120.5 kPa  
 PE20 = 129.8 kPa  
 PE3 = 367.9 kPa  
 PE11 = 98.5 °C  
 PE12 = 98.5 °C  
 PE2 = 20.8 °C  
 PE5 = 77.5 °C  
 PE6 = 77.2 °C  
 W1=Heated Y27=Closed Y28=Closed  
 Y23=Closed Y30=Closed Y10=Closed Y8=Closed  
 K5=Disconnected Y29=Closed Y15=Closed Y17=Opened  
 K2=Heated H1U2=Upwards C1=Heated K4=Connected  
 Y103=Closed Y103=Closed Y107=Closed Y20=Closed  
 S11=Not Opened S12=Not Activated  
 B11=Flooded Q2=Not Block B20=Under Press. S11=Closed  
 Q1=Not Block S31=Pressureless B86=Flooded S30=Not Flooded

**Sterivap HP IL 060827**  
 P7 Liquids Fo, 121.0 °C, 20.0 Min  
 Start 09:20:44 2013-04-09  
 T = 33.4 °C; p = 97.6 kPa

**Charge 000015**  
 Evacuation (1)  
 T = 33.7 °C; p = 100.9 kPa; 09:21:00 2013-04-09  
 Heating 09:23:13 2013-04-09  
 T = 38.5 °C; p = 131.0 kPa  
 Start Of Sterilization 09:29:43 2013-04-09  
 T = 121.2 °C; p = 28.1 kPa  
 Cooling Complete 10:53:53 2013-04-09  
 T = 75.9 °C; p = 85.7 kPa  
 End 10:55:44 2013-04-09  
 Program Length = 00:55:00

**Faultfree**  
 Signature:

**Sterivap HP IL 061120**  
 P8 Liquids Fo, 121.0 °C, 20.0 Min  
 Bacteriologic filter - 0  
 Start 13:51:46 2013-04-09  
 T = 36.5 °C; p = 97.6 kPa

**Charge 000**  
 Evacuation (1)  
 T = 36.5 °C; p = 98.0 kPa  
 Heating 13:53:27 2013-04-09  
 T = 40.7 °C; p = 130.0 kPa  
 Start Of Sterilization  
 T = 121.2 °C; p = 215.9 kPa  
 Fo Parameter = 15.0; 15:05:15  
 End Of Sterilization 15:11:15  
 T = 122.3 °C; p = 213.3 kPa  
 Cooling Complete 15:05:53  
 T = 95.0 °C; p = 85.9 kPa  
 Fo Parameter = 23.5; 15:07:05  
 End 15:07:05 2013-04-09  
 Program Length = 01:15:15

**Faultfree**  
 Signature:

**Failed**  
 Air In The Chamber - Failed  
 End 06:44:02 2013-04-09  
 Program Length = 00:33:36  
 Signature:

## Charge Documentation

- independent documentation of working cycles with pressure and temperature recording, allowing the storage of the last 10 records in the sterilizer memory (up to tens of thousands optionally – SD card);
- connection to a PC and storing the records in the computer memory by means of the "PrinterArchiv" software;
- connection of the sterilizer to a computer network (LAN) together with the software application Ecosoft and DP 3.5;
- integrated printer allowing to select one of two graphic outputs
- The plastic and constructional shape of the device control part with possibility of a tipping adjustment of the touch control panel gives to it the unique form of the working desk, which, in standstill phases, returns automatically into its original rest position and therefore it could not be damaged during the normal operation. It secures the high-quality readability and easy operating personnel work regardless the figure height.
- As standard instrument accessories is the built-in thermo-printer for documentation of sterilization processes with possibility of print from one of two graphical programmes.

## Service Accessories

The PLC control is equipped by large software for easy monitoring, maintenance and testing (interactive charts of pipe interconnection, testing programmes enabling the testing of device safety features, calibrating adjustments etc.). That all guarantees low operation costs and long service life of the device. The device allows detailed planning of service acts with consequent warning on the display or on printer output.



# Wide Offer Of Working Programs According To The Specific User Needs

- Laboratories
- Pharmacy
- BSL 3, BSL 4
- Bio models (laboratory animals breeding)

The STERIVAP® HP IL steam sterilizer can be used for sterilization of solid, porous and plastic materials, processing and subsequent sterilization of agars (substrates), sterilization of solutions in open and closed bottles, disinfection of materials, waste decontamination, etc.

The instrument enables the installation of up to the 20 fixed programmes in the basic version, according to the specific customer needs.

## Standard programmes

● "Heating" 134°C/ 1 min  
Sterilizing programmes with possibility of validation

- "Universal" 134°C/ 7 min, with following drying
- "Universal Containers" 134°C/ 7 min, with intensive drying
- "Rubber" 121°C/ 20 min, with following drying
- "Instruments Quickly" 134°C/ 4 min, with following short drying, for non packed instruments for immediately following use

## Testing programmes

- "Bowie&Dick Test" – Steam penetration test – 134°C/ 3,5 min
- "Vacuum Test" – Chamber air tightness test – compensatory phase length is 5 min, test length is 10 min

The installed programmes could be later, anytime, modified by a **chip card system directly** at the user. On the chip cards, the programmes developed and tested by producer are saved, based on the order up to 20 programs on one chip card).

**Special laboratory software** enables to the operating personnel to make individual modifications of already programmed sterilization programmes. E.g. Arnold steaming 100°C and 75°C.

The user can modify:

- sterilisation temperature  $\pm 3^\circ\text{C}$  from the set values, the upper limit is 135°C
- sterilisation time within 0–600 min
- drying phase length 0–60 min
- number of drying phases within 0–10 phases
- evacuation number within 0–10 phases
- in case of solution programmes, the cooling temperature 70–98°C
- in case of programmes controlled by  $F_0$  parameter, the  $F_0$  parameter within 0–600

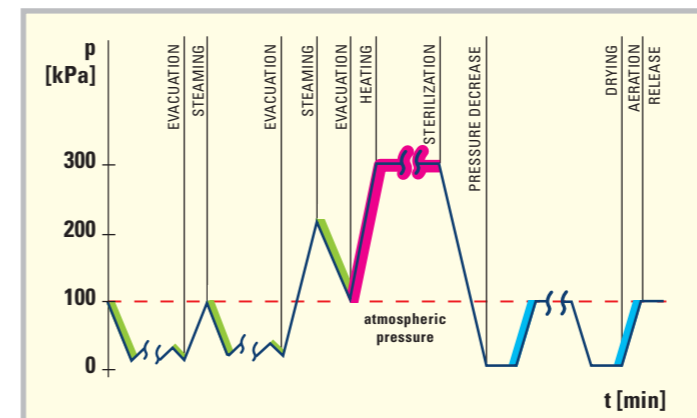
We also offer **special UNICONFIG software** enabling to modify all values of the sterilisation cycle (evacuation, vacuum depth, exposition, drying) and to set the values of the sterilisation cycle temperature and time.

(The verification by producer is necessary.)

# Optional Programmes



## Special programmes (without necessity of using of PT 100 sensor)



Endoscopes ●

Prions ●

Creutzfeldt ●

Laparoscopes ●

Waste decontamination ● ● ●

– laboratories (with using of the bacteriological filter and with the condensate sterilisation); BSL 3, BSL 4 – cabs; waste in the laboratories

Disinfection 105°C ●

Optical instruments ●

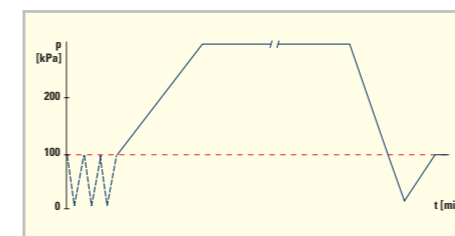
Plastic cells ●

Wooden dust ●

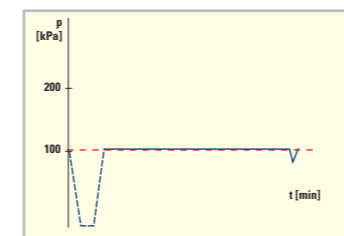
## Legend

(suitable for BSL 3, BSL 4 operations)

1. chamber evacuation through the bacteriological filter
2. condensate accumulation with continuous sterilisation
3. air sucking through the bacteriological filter



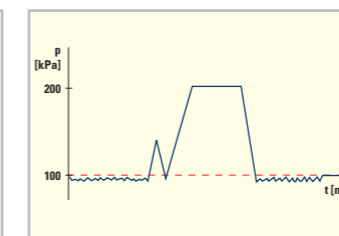
Decontamination ● ●



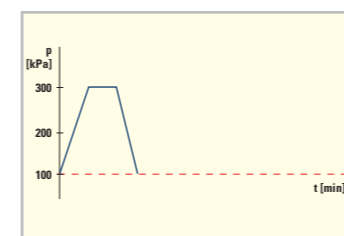
Steaming ●

75°C or 100°C/10 min.

(Arnold-type programmes)

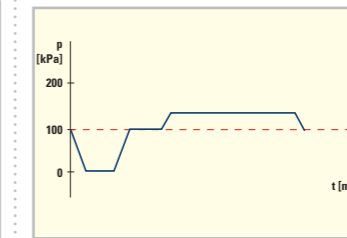


Alloplastic ●

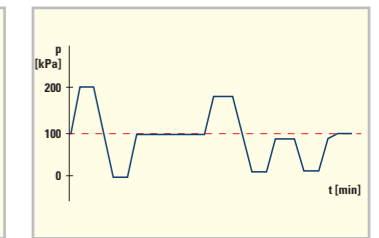


**Passage** (of the material through the chamber) – for material transport from clean to non-clean side, with possibility of disinfection by steam ●

- with special charge testing (illustrative charts)



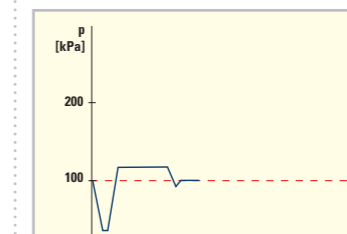
Methylene test ●



Crash test / Showering ●

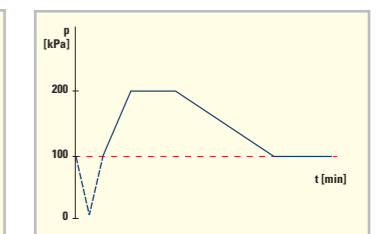
## Special Programmes With Possibility of Use of The Movable PT 100 Sensor

- with spontaneous cooling



Animal food ●

(possible individual sensor use according to the food type)

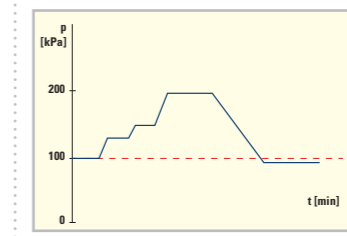


Solutions with spontaneous cooling ●

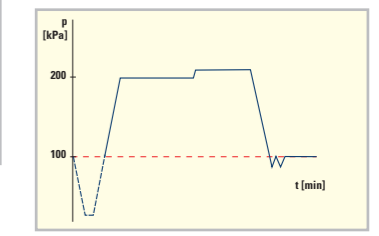
Solutions with evacuation ●

Solutions controlled by  $F_0$  parameter ●

- with forced cooling and air back-pressure



Agars (substrates) with spontaneous cooling ●



Solutions with forced cooling and air back-pressure ● ●

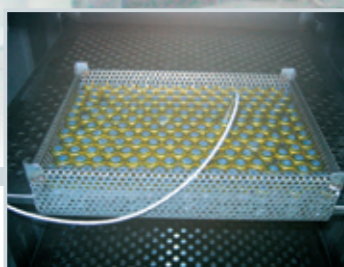
Solutions with forced cooling and air back-pressure and air back-pressure controlled by  $F_0$  parameter ● ●

Ampoules ● ●

Agars (substrates) with forced cooling, with possibility to boil in soft ●

## Special Programmes

- with bacteriological filter on the sterilisation chamber input/output and with continuous condensate sterilisation (suitable for ● BSL 3, BSL 4 operations)
- with wide scale of following specified optional accessories



## Modular System Optional Accessories

- 1** both single and double (interleaf) door type, stainless steel sheets, possibility of mounting into the stainless steel separating walls, mirror device variant, which, in case of installation of more devices close by another, enables combination of two service areas into the one
- 2** optional steam source  
FD – steam supply  
ED – steam supply from an internal steam generator  
FDD – steam supply from internal steam/steam exchanger (steam/steam exchanger is supplied by technical steam)  
FD ED – steam supply from an external medicinal steam source, or steam supply from an internal steam generator (original FED)  
ED FDT – steam supply from an internal steam  
FD FDT – steam supply from an external medicinal steam source, and heating jacket supply by technical steam
- 3** polishing of internal sterilization chamber surface with roughness of Ra 1,25 µm (Ra 50 µinch); 0,8 µm (Ra 32 µinch); Ra 0,125 µm (Ra 5 µinch)

- bacteriological, filter on the chamber output (decontamination inclusive the condensate sterilization)
- bacteriological, sterilisable air-inlet filter on the air supply side with the preparation for the integrity test
- 10** PT 100 temperature sensor
- 11** chip cards system
- 12** drip tube for solutions to the sterilization chamber
- 13** possibility of mounting of an equipment for the condensate aftercooling
- 14** "air detector" for the continual monitoring of the air and non-condensable gases presence in the sterilization chamber during every sterilization programme for maximal sterilization security against the routine monitoring by test programmes (Vacuum and Bowie&Dick test) made only daily before the starting of normal operation (HTM 2010)
- 15** supplementary mechanical manometers – on the loading side – on the unloading side
- 16** draining bath under the device
- 17** big touch display "touch screen" 12" on the withdrawal side too
- 18** bar code reader
- 19** special PrinterArchiv software for charges documentation in the PC
- 20** software for sterilizer connection to the computer network (LAN)



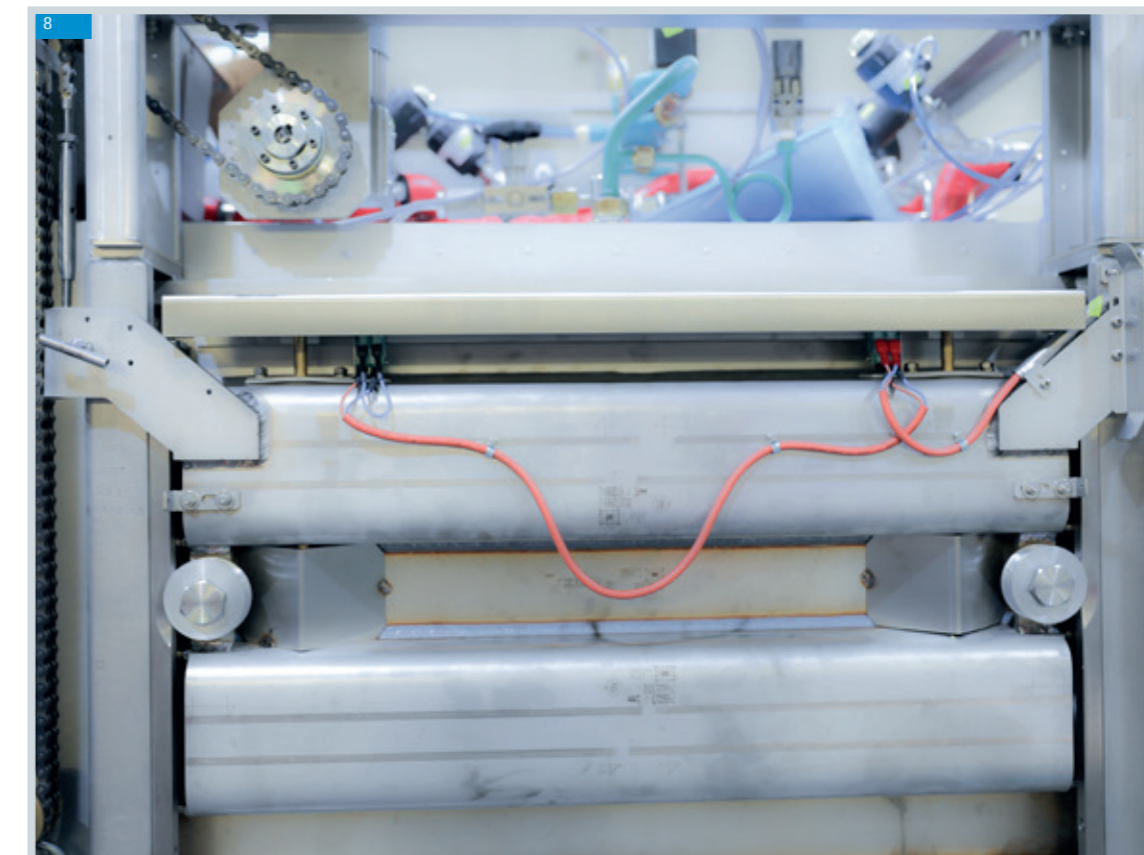
- 4** system of transport and loading carts-frame for the loading cart
- 5** system for manual material inserting – sieves, shelves conduction
- 6** stainless steel valves with screwed or welded necks of the CLAMP type
- 7** stainless steel safety valves
- 8** gastight "Bio-Seal" device version with possibility of an independent and permanent sealing of chamber door by pressurised air
- 9** special stainless steel, sterilisable filters on the sterilization chamber input and output

- chamber passivation (pickling)
- laboratory software enables to the operating personnel to realize the individual modifications of already programmed programmes
- special programmes – "Solutions sterilization with the spontaneous jacket cooling and with the supporting air pressure" (contains also the movable PT 100 temperature sensor)
- "Sterilization process controlled by the Fo value"
- special UNICONFIG software enabling to modify each sterilization cycle phase



- (evacuation, vacuum depth, exposition, drying) and to set the temperature and sterilization cycle time (verification with the manufacturer is necessary)
- mediums monitoring – continual monitoring of the input mediums parameters (pressurised air, both demi- and cooling water too)
- device operation regulation – watching of energetic maximum in case of connection of more devices to the mains
- tropical version for countries with temperature
- optional electrical connection depending on the requested mains parameters
- 20** automatic sterilizer door opening during a power failure
- 32 GB memory card for the sterilization cycles recording (up to 100,000 hours of record).
- "Audit trail" – system events recording on the memory card (conforms to 21CFR part 11)

- material, sterilisation baskets, plastic containers, test tubes, Petri dishes etc.
- 27** basic IQ, OQ, PQ documentation for validation according to GMP and GLP
- tests and validations according to the EN 285 and EN ISO 17665-1 standards
- air compressor inclusive the air accumulator and cabinet (for devices with the aditivum "Solution programme with compulsory jacket cooling and with the supporting air pressure" is necessary the more powerful compressor eg. Ekom plus 2V)
- water treatment device for demi-water preparation
- monitoring starting packet of indicators
- optional language version for communication with the device...



## Optional Equipment

- 21** transport trolley
- 22** loading cart
  - a) universal
  - b) special
  - c) solution
- 23** stainless steel shelf police
- 24** stainless steel sieve (except for 446 and 636)
- 25** hook for charging carts withdrawing
- 26** wide scale of laboratory accessories – bags and sacks for contaminated

## Ensuring of Customer Services

The user service and support are fully secured by the wide-world net of BMT Medical Technology s.r.o. contract partners. We have a wide net of branded service working places, connected to the HOT-LINE service, which secures the quick reaction on the customer inquiries and requests. For securing of the user comfort and for possibilities of the quick and high-quality service intervention, a special diagnostic programme was developed. This all grants the low operational costs and the long device lifetime.

## Environmental Awareness

The device meets all current environmental requirements. It does not load the working place and the environment too. The outer insulating sterilization chamber jacket is made from the flame galvanised sheets with high-quality insulation, which considerable lowers the thermal loses, saves the electrical energy. The two-stage, noiseless suction pump with standard built-in device for water saving saves ca 15% of operating costs. The unique high power steam generator construction with an automatic desalinisation ensures the short sterilization cycles times and permanently high steam quality. The unique divided double sterilization chamber jacket with a new steam filling system, which reduces the demi-water consumption by approx. 20%. The materials assuring high device lifetime are used during the production. The device may be optional equipped by the accessory

for wastewater aftercooling, what enables the setting of its waste temperature. Also during the shop working, the ecological processing methods are used. All important device parts and packing too are recyclable. The device consists of 95% of steel, 4% of other materials, 1% electrical material and plastics. The ecological liquidation is made, after the disassembly, by an authorised person according to the EU rules, which correspond to the WEEE directive (Waste Electric and Electronic Equipment).

**Technology in the human's service – comfortably, economically, safely.**

# STERIVAP® HP IL- Technical Parameters



Model SPPHIL	Dimensions (h x w x d) [mm]		Number of sterilization modules	Chamber volume [l]	Weight [kg]		Cca max. input [kW]/ fuses [A]		Cca max. consumption per 1 sterilization cycle				
	Internal dim of the chamber	External dim. of the unit			Total	ED	FD	ED	FD	Water [m³]	Demineralized water [m³]	Steam [kg]	Electric energy [kWh]**
446 - 1	480x450x700	1918x1200x970	1	148	780	750	24,5/63	2/10	0,06	0,006	5	5	0,3
446 - 2	480x450x700	1918x1200x990	1	148	800	770	24,5/63	2/10	0,06	0,006	5	5	0,3
559 - 1	509x509x990	1918x1200x1270	***	254	890	840	24,5/32	2/6	0,07	0,008	7	6	0,3
559 - 2	509x509x990	1918x1200x1290	***	254	930	880	24,5/32	2/6	0,07	0,008	7	6	0,3
636 - 1	670x350x700	1918x1000x970	2	160	690	660	24,5/63	2/10	0,06	0,006	5	5	0,3
636 - 2	670x350x700	1918x1000x990	2	160	830	800	24,5/63	2/10	0,06	0,006	5	5	0,3
666 - 1	700x650x690	1918x1300x970	4	314	910	860	38/63	2/10	0,07	0,008	7	6	0,4
666 - 2	700x650x690	1918x1300x990	4	314	980	930	38/63	2/10	0,07	0,008	7	6	0,4
669 - 1	700x650x990	1918x1300x1270	6	453	970	920	47/80	2/10	0,08	0,009	9	7,5	0,4
669 - 2	700x650x990	1918x1300x1290	6	453	1080	1030	47/80	2/10	0,08	0,009	9	7,5	0,4
6612 - 1	700x650x1340	1918x1300x1620	8	610	1120	1070	48/80	3/10	0,09	0,011	11	9	0,6
6612 - 2	700x650x1340	1918x1300x1640	8	610	1260	1210	48/80	3/10	0,09	0,011	11	9	0,6
6615 - 1	700x650x1640	1918x1300x1920	10	748	1170	1120	57/85	3.2/16	0,16	0,012	13	14	1,1
6615 - 2	700x650x1640	1918x1300x1940	10	748	1310	1260	57/85	3.2/16	0,16	0,012	13	14	1,1
6618 - 1	700x650x1940	1918x1300x2220	12	885	1340	1170	66/100	4/16	0,2	0,013	15	15	1,4
6618 - 2	700x650x1940	1918x1300x2240	12	885	1470	1290	66/100	4/16	0,2	0,013	15	15	1,4
969 - 1	1000 x 650 x 990	1918x1900x1270	9	647	1490	1400	48/80	4/16	0,12	0,012	12	11	0,7
969 - 2	1000 x 650 x 990	1918x1900x1290	9	647	1750	1660	48/80	4/16	0,12	0,012	12	11	0,7
9612 - 1	1000x650x1340	1918x1900x1620	12	868	1830	1650	66/100	4/16	0,2	0,013	15	16	1,4
9612 - 2	1000x650x1340	1918x1900x1640	12	868	2040	1860	66/100	4/16	0,2	0,013	15	16	1,4
9615 - 1	1000x650x1640	1918x1900x1920	15	1060	1720	1580	76/125	4/16	0,25	0,02	20	21	1,6
9615 - 2	1000x650x1640	1918x1900x1940	15	1060	1880	1700	76/125	4/16	0,25	0,02	20	21	1,6
9618 - 1	1000x650x1940	1918x1900x2220	18	1260	1870	1690	76/125	5/16	0,3	0,025	23	23	1,7
9618 - 2	1000x650x1940	1918x1900x2240	18	1260	2070	1890	76/125	5/16	0,3	0,025	23	23	1,7
9621 - 2	1000x650x2300	1918x1900x2600	21	1490	-	2560	-	5/16	0,4	-	26	-	2
12612 - 1	1360x650x1340	2200x2000x1640	16	1182	1930	1750	85/125	4.2/16	0,3	0,025	23	23	1,7
12612 - 2	1360x650x1340	2200x2000x1660	16	1182	2230	2050	85/125	5/16	0,3	0,025	23	23	1,7
12622 - 2	1360x650x2300	2200x2000x2620	28	2020	-	3100	-	5/16	0,5	-	34	-	2,2

Model 969, 9612, 9615, 9618, 9621, 12612, 12622 with horizontally sliding door(s).  
 Model xxx-1 single-door type, model xxx-2 double-door type.  
 Connecting voltage 3P/PE 400 V, 50/60 Hz, connecting voltage of the model 559 - 3P/N/PE 480 V, 60Hz (for the U.S.A.)  
 Model 6618, 969, 9612, 9615, 9618, 9621, 12612 - steam generator is placed above or beside the sterilizer

Noise level max. 78 dB.  
 \* Model FD - steam of central source.  
 \*\* Model ED - own integrated steam generator  
 \*\*\* the dimensions are not standardized for the container system



The values may differ depending on specific charge and media parameters. Changes in the design and make reserved.



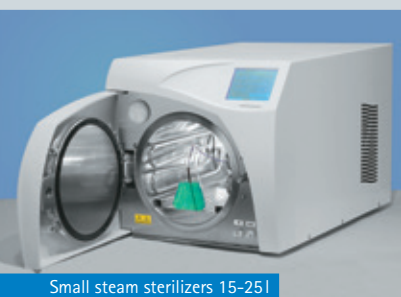




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Stainless steel instrumentation



Formaldehyde sterilizer 110l



Exchanger steam/steam



Washer Disinfectors



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