

# UNISTERI® HP IL "medium" steam sterilizer for labs and pharmacy . . . - sophisticated and simple, with high performance WINNING 9 . -000 0

BMT. Protecting human health.

#### MMM Group – Leading Service Supplier for Health Care

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.

#### Intended Purpose of UNISTERI<sup>®</sup> HP IL Steam Sterilizers

The UNISTERI® HP IL steam sterilizer is a device intended for use in laboratories for sterilization by moist heat up to the temperature of 134 ° C. Some programs and functions of the device do not concern the processing of medical devices. Read the instructions for use carefully.

# Individually Built Sterilization Engineering

The newest modular line of steam sterilizers UNISTERI® HPIL is suitable for the field of microbiology, molecular biology, bio technology and waste decontamination.

Line of sterilizers with chamber volume of 73, 160 and 254 litres. The steam sterilizer is designed for

UNISTERI® HP IL is the representative of the new generation of "medium" steam sterilizers meeting basic technical and legislative EU regulations without any exceptions. The device concept is based on requirements of European regulations No. 2014/35/EU, 2014/30/EU and 2014/68/EU and related standards, mainly ČSN EN 285+A1. The device is also adjusted to individual needs of individual work sites. The pressure chamber and steam generator are designed and manufactured within certified quality system according to the European regulation for pressure devices or - in case of individual requirements according to ASME Code standards (for the USA and Canada) or according to licence regulations AQCIQ (for China). The device construction meets requirements of GMP and GLP. The device corresponds

**Technical and Legislative** 

**Standards** 

PQ – function qualification We offer performance of FAT and SAT tests and sterilizers take over. The validation tests according to the ČSN EN ISO 17665 standard are performed using the potential of our accredited testing laboratory.



#### laboratories

Knowledge and experience obtained in realisation of individual supplies to our clients all over the world together with technical innovation permanently and positively influence the development, construction and manufacture of our devices. The number of patents and utility and industrial designs, sophisticated construction and easy realisation of individual adjustments of our devices further confirm high levels of our works.

#### pharmacy

sterilization of solid objects without contents of liquids, for sterilization of liquids – solutions, cultivation and boiling soils, suspensions and emulsions, liquid medicament forms; steam decontamination.

Steam sterilizer UNISTERI® HPIL – safe, fast, ergonomic design, easily controllable, possibility of individual adjustments and multi-purpose use.

Top quality production, modern electronics and high quality materials of the device  $UNISTERI^{\circ} HP IL$  are as natural as user features or exceptional level of safety and reliability. R2F 3 \ R2F

with recent requirements in labs, in pharmaceutical, chemical and food processing industry. So as to meet the GMP requirements towards proving the permanent quality of the sterilization process in compliance with device parameters as declared by the device manufacturer, it is possible to arrange for users of UNISTERI® HP IL steam sterilizers preparation of documents for the purpose of the process validation:

IQ – installation qualification OQ – operation qualification

010-mouers





# **Unique Characteristics of Optional Equipment**

# Laboratories, pharmacy, BSL 3, BSL 4, bio-models

# **Complete made to** measure systems

People in veterinary and research laboratories, pharmaceutical plants and hospital pharmacies work with highly sensitive laboratory materials requiring extremely responsible handling. Safety, reliability, speed and comfort in everyday use – these are the decisive criteria for use of sterilization and disinfection automats.

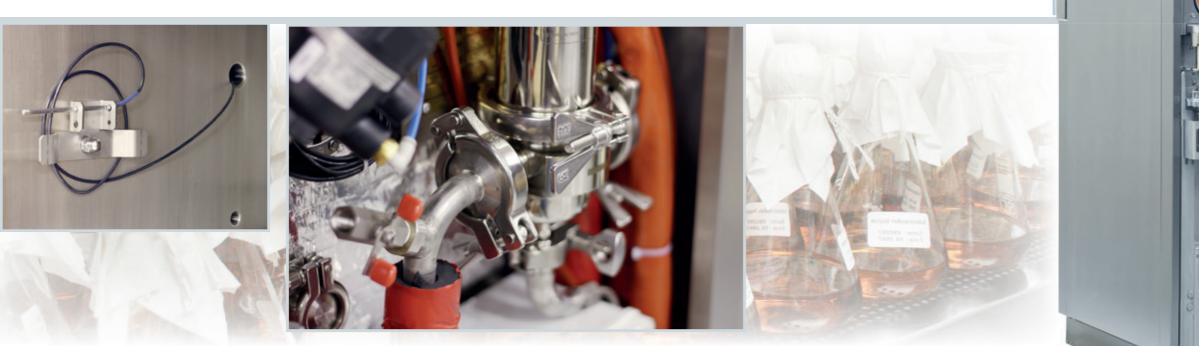
Modular principle of devices construction allows us to offer to you the line of products with unique characteristics - various principles of heat transfer, in several volume sizes, with safe operation procedures.

Steam sterilizer UNISTERI® HP IL represents a sterilization response to challenges of micro-organisms in the lab. Nutrient media, solutions in open or closed bottles, highly pathogenic samples of micro-organisms, solid or porous materials or materials sensitive towards pressure changes, contaminated material, used filters, animal boxes, animal food, food and other materials - all these items set the wide spectrum of our requirements towards materials that may be quickly, perfectly and reliably disinfected and sterilized by the steam sterilizer UNISTERI® HP IL.

UNISTERI® HPIL - variable use, modular construction of the steam sterilizer with wide range of its use.

- the chamber door with pressure air and with possibility of independent control of door at any side
- gastight version of the device "Bio-Seal" with possibility of independent and permanent sealing of • stainless steel frame of the device, pressure sterilization chamber with mirror shine
- complete stainless steel design of piping (tri-clamps, valves, safety valve)
- special stainless steel sterilizable filters at the inlet and outlet of the sterilization chamber with integrity test
- F control of sterilization process, forced cooling of the shell with supporting air pressure, possibility of charge spraying
- air compressor including air jet and cabinet •
- basic documentation for validation according to GMP and GLP (DQ, FAT, SAT, IQ, OQ, PQ) •
- "Air-detector" •
- wide range of special laboratory programs with the possibility of individual modification using a special software UNICONFIG or directly from the touch display
- documentation of sterilization processes with possibility of the device connection to computer • network (LAN)









# Modular layout system

New design, new construction

- single-door and double-door ٠ (interlaying) version with possibility of building into the stainless steel wall
- optional steam source - own, external, combined
- optional roughness of inner surface of the sterilization chamber
- system for manual insertion of materials and system of transport and charging carts
- wide range of optional program equipment

- various possibilities of batch ٠ documentation processing
- wide range of optional equipment for ٠ minimization of operation costs
- possibility of specific additives ٠ selection (e.g. possibility of chamber equipment with a flexible sensor PT 100 for safe and precise control of cycles while working with microbiological cultures and solutions, possibility of building-in

the device for additional cooling of condensate, possibility of adjustment for decontamination of materials, gastight version "Bio-Seal", pressure manometers, wide range of individual adjustments of programs, ...)

wide spectrum of services (incl. ON-LINE internet diagnostics, various types of tests, validation, etc.)

- touch-screen 8.4" control panel with maximum operator and service convenience •
- touch-screen 5.7" on the unloading side of the device for well-organised and easy operation •
- •
- movable door seal •
- steam generator with reduced power consumption for lower operating costs (from 7.5 kW)
- powerful water-ring vacuum pump for short batch times, fast and accurate cycles progress
- dual-processor PLC control with two independent systems for reliable, efficient and safe cycles • progress
- a special method of controlling the continuous steam injection into the steam sterilizer chamber •
- the device is made of high quality stainless steel for long-time durability and reliability







# ... a touch is sufficient





automatic closing and sealing system for (manually operated) hinged doors, user-friendly operation



**Powerful and Comfortable** 

# Unique Microprocessor Control

- the highest possible operation safety, double system of sensors for process information collection and assessment and for their continuous comparison and assessment
- two built-in microprocessor control systems (Master-Slave) for independent assessment, control and documentation of operation cycles
- any established variation exceeding allowed limits induces an error message
- unique error protocol for exact and fast diagnostics of errors
- the basic program equipment includes up to 50 standard programs
- easy realization of individual adjustments of programs



using a USB flash disc
easy and intuitive access for service allows a technician to comfortably set all and any calibrations and configurations and to perform fast

٠

- diagnostics of the device
  the Audit Trail function allows you to record, view and archive important events
- the pressure chamber is heated by steam through heating jacket and it is made of high-quality stainless steel 1.4404 (AISI 316 L)

**Pressure Sterilization** 

Chamber

- special method of control of continuous steam filling into the steam sterilizer chamber
- down bottom of the sterilization chamber for perfect drying
- sterilization chamber with ground surface with roughness of Ra 1,25 μm (Ra 50 μinch); optional polishing with roughness Ra 0,8 μm (Ra 32 μinch) or polishing to mirror shine with surface roughness Ra 0,125 μm (Ra 5 μinch)
- thanks to high-quality insulation materials Rockwool used (no chlorides), equipped with an Al foil, there are reduced the radiated heat losses and requirements towards airconditioning
- as a standard, all the sterilization chambers are equipped for validation with two easily accessible inlet necks
- new, unique, horizontally revolving, automatically lockable door fixed in four points
- if required, we perform chamber passivation (staining)

# **Steam Generator**

- the steam generator together with the heating elements is made of high-quality stainless steel 1.4571 (AISI 316 Ti)
- high-quality Rockwool insulation with AL foil significantly reduces heat loss
- unique automatic control of the steam generator including water filling
- thermal degassing of feed demi water (optional) and automatic desalination to minimize non-condensable gases and for consistently high steam quality

1



# **High Utility Value**





# **Touch Control Panel**

# **Equipment for a Service**

- user friendly, with intuitive control
- two built-in microprocessor control systems (Master-Slave) with own sensors for independent assessment, control and documentation of operation cycles
- ergonomic position of touch control panel
- touch screen technology 8,4" provides well-organised and simple servicing on charging side
- on discharging side of the device (in case of two-door version): touch -screen 5,7" with possibility of monitoring of current work phase, pressure in sterilization chamber and time left by the end of the cycle
- "Emergency stop" function integrated to the control panel allows for the device to be put into standby status if needed
- possibility of language selection for communication with the device
- well organised digital displaying of steam pressure in sterilization chamber shell and in steam generator, pressure and temperature in sterilization chamber (reference bottle)
- clock an indicator of remaining time of the program and real time indicator
- error protocol with recording of all and any parameters at the moment

- of a fault for the possibility of fast or remote service
- visual and acoustic signalling of statuses and processes
- possibility of building-in a printer for sterilization processes documentation (optional equipment)

#### **Documentation of Batches**

It is possible to arrange well-organized documentation of operation cycles.

- Independent documentation of operation cycles with recording of pressure and temperature and with the possibility of saving 10 recent protocols in the sterilizer memory (optionally up to dozens of thousands – SDHC card)
- By connection to PC and by saving ٠ protocols in the computer memory using the "PrinterArchive" software
- The Audit Trail function allows recording, displaying and archiving of important events.
  - By connection of the sterilizer to computer network (LAN) together with software application Ecosoft and DP 3.5

٠

By built-in printer with the possibility of selection of one of four graphic outlets.

The automatics is equipped with extensive software for easy control, maintenance and testing (interactive schemes of tube connection, testing programs allowing testing of safety elements of the device, calibration settings, etc).

We offer ON-LINE internet diagnostics and monitoring of the sterilization device, providing fast and direct communication with engineering and providing fluent and trouble-free operation of the construction site. All these features guarantee low operation costs and long service life of the device. The device allows detailed planning of service tasks with consequent warning on the display or on pharmacy statement.

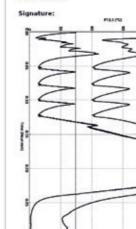
# UNISTERI HP IL 5170661 P05 Bowie+Dick Test Ster: 134°C (PT3.1), 3.5min User1: SERVA1 User2: Open User

User2: Open User Parameters Modified by User Start 13:30:58 2020-03-19 T(PT3.1)=111.2 C; p=99.8kPa Charge 00442

Evacuation (0) T(PT3.1)=111.1°C; p=100.3kPa; 13:31:0 Evacuation (1) T(PT3.1)=107.9°C; p=137.4kPa; 13:34:2 Preheating (3) 13:43:24 2020-03-19 T(PT3.1)=62.2\*C; p=20.3kPa Heating 13:44:57 2020-03-19 T(PT3.1)=108.0°C; p=124.4kPa

Preparation T(PT3.1)=129.8°C; p=270.4kPa Start of Sterilization 13:49:49 2020-0 T(PT3.1)=134.4°C; p=314.3kPa End of Sterilization 13:53:19 2020-03-1 T(PT3.1)=135.2 C; p=314.5kPa Aeration 14:01:02 2020-03-19 T(PT3.1)=55.8°C: p=90.7kPa

#### End 14:01:42 2020-03-19 Program Length = 00:30:44 **Program Passed**



Start 11:29:36 2020-03-23 T(PT3.1)=116.5°C: p=100.6kPa Charge 00445 Evacuation (0) T(PT3.1)=119.2°C; p=100.6kPa; 11:29:58 2020-03 Evacuation (1) T(PT3.1)=111.4°C; p=143.7kPa; 11:32:28 2020-03 Preheating (3) 11:43:41 2020-03-23 T(PT3.1)=102.8°C: p=12.7kPa Heating 11:45:20 2020-03-23 T(PT3.1)=108.2°C; p=129.8kPa

P03 Universal Containers Ster: 134°C (PT3.1), 7.0min User1: SERVA1 User2: Open User

UNISTERI HP IL 5170661

P02 Universal Ster: 134°C (PT3.1), 7.0min User1: SERVA1 User2: Open User Parameters Modified by User Start 09:51:57 2020-02-26 T(PT3.1)=97.8°C: p=95.9kPa

Preparation T(PT3.1)=130.0°C; p=273.6kPa Start of Sterilization 11:49:19 2020-03-23 T(PT3.1)=134.4°C; p=313.5kPa End of Sterilization 11:56:19 2020-03-23 T(PT3.1)=135.4°C; p=314.4kPa Aeration 12:14:35 2020-03-23 T(PT3.1)=131.0 C; p=94.4kPa

End 12:15:21 2020-03-23 Program Length = 00:45:45

## **Program Passed**

■ 0 STOP ≣. 0 0 0 STOP 0 STOP 10 4 12 () 225 m 1 12 () #15 - 10 Obě strany jsou chráněny Nastavení displei Unisteri HP IL 000000



#### UNISTERI HP IL 5170661



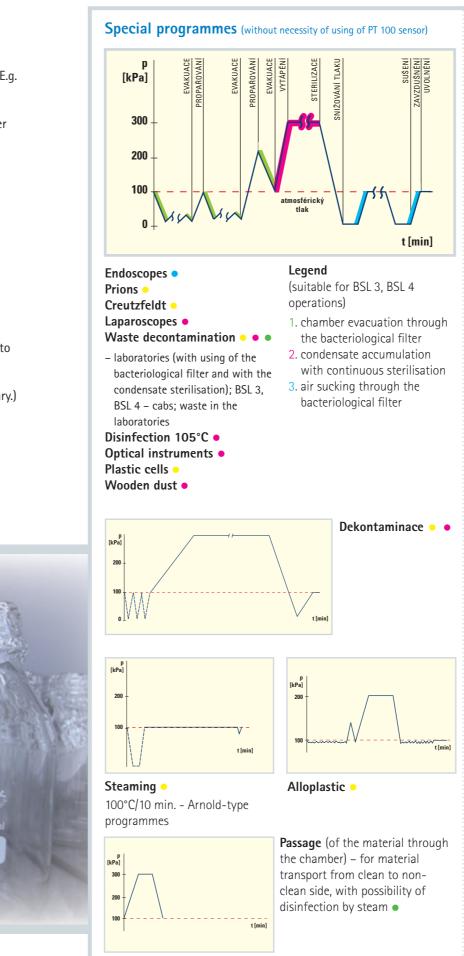
Charles (DT2 1) 7 Amin					
Ster: 134°C (PT3.1), 7.0min User2: SERVA1 User2: Open User Parameters Modified by User Start 09:51:57 2020-02-26 T(PT3.1)=97.8°C; p=95.9kPa		UNISTER System Version: 2.4 Linux BMTDIST Vers		000000	)
Charge 00429		P06 Vacuum Tes Vac: 10kPa, 10, User1: SERVA1 User2: Open Use	t Omin		
Evacuation (0) T(PT3.1)=98.3°C; p=96.1kPa Evacuation (1) T(PT3.1)=112.2°C; p=150.3kl -26		Bacteriologic Fill Start 10:20:12 2 T(PT1.2)=22.9°C	ter - Off 020-02-25 ; p=97.6kPa		
Preheating (3) 09:58:59 2020 T(PT3.1)=118.3°C; p=15.6kP	-02-26	Charge			
Heating 10:00:34 2020-02-26		Prevacuum 10:2 T(PT1.2)=23.1*C	1:21 2020-02-25 ; p=9.9kPa		
T(PT3.1)=109.6°C; p=124.5k	Pa	Vacuum Test 10 T(PT1.2)=24.2°C	:26:20 2020-02-2 ; p=10.4kPa	5	
HP IL 5170661	2020-02-26	End of Vacuum T dp = 0.3kPa T(PT1.2)=26.9°C		20-02-25	
ainers ), 7.0min	020-02-26	End 10:37:10 20 Program Length	20-02-25 = 00:16:58		
ed by User 0-03-23 p=100.6kPa		Program	n Passed	l .	
0445		Signature:	marga		
p=100.6kPa; 11:29:58 2020-03	d		8 8	19	Cit.
p=143.7kPa; 11:32:28 2020-03		r I			
43:41 2020-03-23 p=12.7kPa	5				
020-03-23 p=129.8kPa	3	-			
p=273.6kPa					
n 11:49:19 2020-03-23 p=313.5kPa					
11:56:19 2020-03-23 p=314.4kPa		Town			
2020-03-23 p=94.4kPa	2	2 5			



1 1

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

# **Optional Programmes**



Laboratories
 Pharmacy
 BSL 3, BSL 4

Bio models (laboratory animals breeding)

The UNISTERI<sup>®</sup> 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 50 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/ 3,5min
- Vacuum Test Chamber air tightness test – compensatory phase length is 5 min, test length is 10 min

The installed programs in the device can be modified at any time. The individual programs are downloaded to the device using a USB flash disc and can also be read back to the USB flash disc (up to 50 programs). 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:

- sterilization temperature, the upper limit is 135 ° C
- sterilization time
- the drying phase duration
- number of drying phases
- number of evacuations
- for solution programs, the cooling temperature
- for programs controlled by the F<sub>o</sub> parameter, the F<sub>o</sub> parameter

We also offer special UNICONFIG

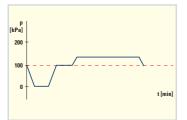
**software** enabling to modify all values of the sterilisation cycle (evacuation, vacuum depth, exposition, drying) and to set the values of the sterilisation cycle temperature and time.

(The verification by producer is necessary.)







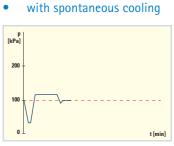




Crash test / Showering •

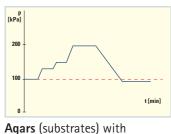
Methylene test •

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

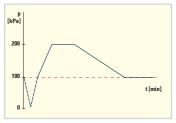


Animal food •

(possible individual sensor use according to the food type)



spontaneous cooling •



Solutions with spontaneous cooling • Solutions with evacuation • Solutions controlled by F<sub>0</sub> parameter •

 with forced cooling and air back-pressure



Solutions with forced cooling and air back-pressure • • Solutions with forced cooling and air back-pressure and air back-pressure controlled by F<sub>o</sub> 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

# **Operation Economy**

# **Intelligent System of** Media and Work Time Saving

The low consumption factor affects the models of the future. More and more demanding legislative requirements putting stress on launching safe products in the market and permanently increasing price of input media represent pressure on sterilization engineering operation costs increase. That is why it is the hit and advantage of current era to provide saving and comfortably equipped sterilizers they represent the very new trend in health care industry operations.

# **Door Mechanism**

The comfort and safety of staff's work with the device is automatically arranged by a locking mechanism of the door, including sealing. The twoprocessor automatic controls the course and multiple check of processes.

#### Easy Maintenance of Sterilization Chamber incl. Door

The construction of the pressure vessel including the door and selection of high-quality of internal surfaces allow perfect, fast and comfortable cleaning of all and any parts of the sterilization space.

## Version with "Automatic Morning Switch-On" Function

One of the economic product line elements, saving your time. The function of "Automatic Morning Switch-On" is able to start the device in pre-set time and to perform pre-heating and Vacuum test without the staff presence. In this way, routine testing programs can be performed in a more efficient way.

# **All For Cost Savings**

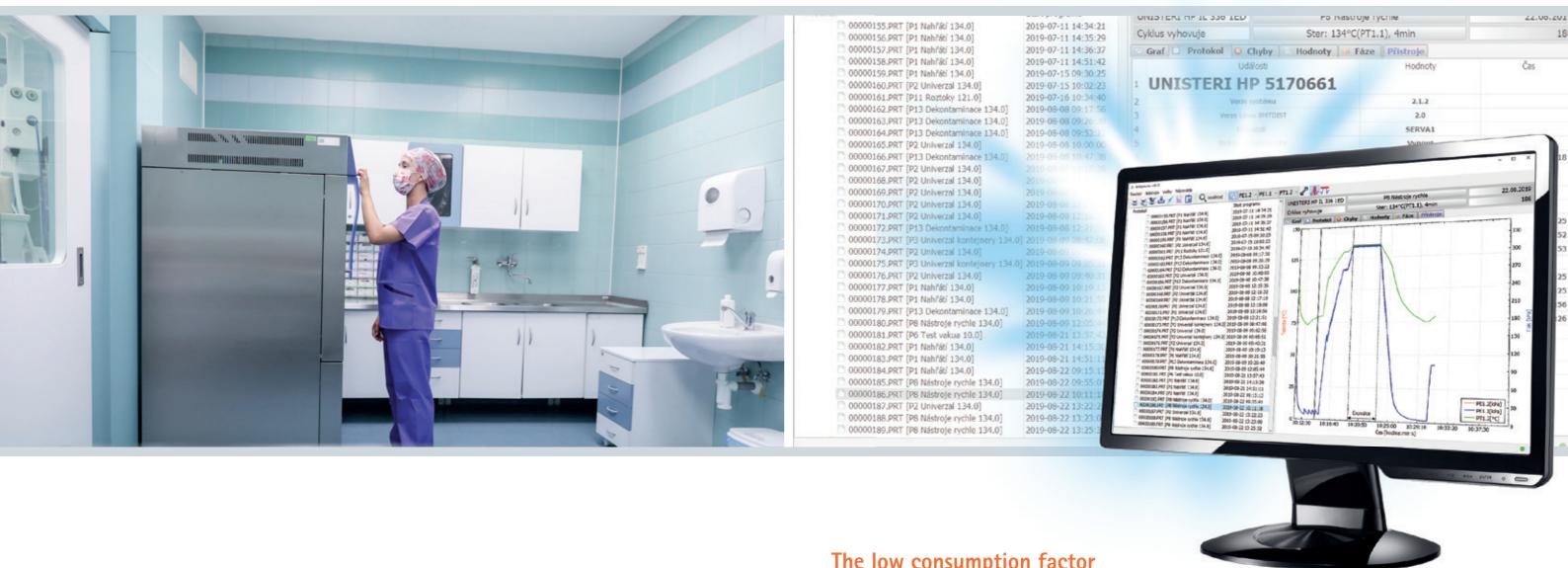
You will save with us!

#### Accessories for documentation and independent data storage

Use of the new Ecosoft software application which, together with the connection of the device on the sterilisation work site to the computer network (LAN), allows the documentation of all sterilisation processes and independent data storage, reports printing on an A4 paper, and connection of a bar code reader.

#### Accessories for energy peaks watching

It is a set of software and hardware modifications of the sterilizer, which give the possibility of individual and mutual regulation of the operation of the built-in steam generators so as to ensure monitoring of the maximum energy consumption and the possibility to limit the sizing of the power distribution at the installation site.



The low consumption factor is projected into the models of future



#### **Air Detector**

The Air Detector is a device which monitors and detects continuously the air and/or non-condensable gasses penetration and presence in the sterilisation chamber during each programme of packed materials sterilisation. The equipment of the device with this apparatus represents a higher guarantee of the sterilisation safety than the so far performed routine checks by testing programmes (Vacuum Test and Bowie&Dick Test) done once a day only before the commencement of the common operation.

# **UNISTERI®** HP IL Basic Equipment

- 13 frame: Stainless steel 12 inner surface of the sterilization chamber – ground surface, coarseness Ra 1.25 µm (Ra 50 µinch); pipelines and valves transporting the steam to the sterilization chamber and demineralised water to the integrated steam generator are made of stainless steel, valves of brass technology of touch-screen display 8.4" ensures transparent and easy operating on the loading side 1 control panel on the unloading side in the two-door variant – LED display "The Automatic Morning Switchingon function"
- standard batch counter and an additional optional daily batch counter
- 6 rolling wheels for easy handling during assembly and/or service

#### UNISTERI<sup>®</sup> HP IL – Optional Accessories

- 1 both one-door and two-door (pass-through) variant stainless-steel face metals of the sterilizer
- possibility to built the device into stainless steel partition walls
- mirror variant of the device allowing joining of two service areas into one if more devices are installed side by side <sup>2</sup> optional steam source
  - FD Steam from a central source, - ED - Integrated steam generator (from 7.5 kW)
- FDED Combined steam supply either from a central source or an integrated steam generator
- 12 inner surface of the sterilization chamber – ground surface, coarseness Ra 0.8 µm (Ra 32 µinch); Ra 0.125 µm (Ra 5 µinch)
- chamber passivation (acid cleaning) only in ground/polished surface 3 control panel on the unloading side –
- touch screen 8.4" 4 optional language version for communication with the device air Detector for a continuous control of air and uncondensable gasses presence in the sterilization chamber Thermal degassing of the steam thermal degassing of the steam generator for higher operation reliability and sterilization safety media monitoring – continuous
  - checking of input media parameters

(water, demi water, compressed air,

softened water, steam)

#### Regulation of the device operation - energy peaks watching when more devices are connected to the electric

energetic Maximum function:

- power mains <sup>5</sup> integrated equipment for condensate aftercooling to reduce the waste
- water temperature if plastic waste piping is used 7 additional mechanical gauges
  - on the loading side
- on the unloading side tropical version for countries with
- high temperature of cooling water Integrated printer for the sterilization

XX

00

Tanan Tanan Tanan Tanan

required)

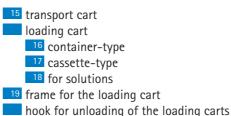
- 14 USB flash disc
- optional electrical connection depending on the requested main parametrs
- 3-phase socket
- stainless vat under device
- according to the ASME, AQSIQ testing and validations according to
- EN ISO 17665 monitoring indicators starting
- package
- 32 GB memory card to record the sterilization cycles
- "Audit trail" system events recording to a memory card (conforms to 21CFR part11) rotary door lock with user-friendly
- operation; automatic door closing and sealing system and other

# **UNISTERI®** HP IL

## System for manual loading

- <sup>20</sup> stainless steel wire insert for shelves and sieves
- <sup>21</sup> stainless steel wire insert for containers and baskets
- 22 stainless steel shelf (max. 4 pcs)
- 23 stainless steel sieve (max. 4 pcs)
- <sup>24</sup> drip tank for solutions put inside the sterilization chamber
- 25 sterilization basket 1 STU, ½ STU

# Transport loading system



cycle record printing

CZ - Česky

EN - English

FR - France

RO - Română

Deutsch

- Español

- <sup>9</sup> PrinterArchive software for batches documentation in a PC
- <sup>10</sup> software (Euro SDS and DP 3.5) for the ste-rilizer connection to a computer network (LAN)
- 11 flexible PT 100 temperature sensor in the chamber
- special programmes allow the operator individual adjustments of already programmed programmes from the sterilizer screen (e.g. microbiological laboratories)
- special UNICONFIG software allows the modification of the individual phases of the sterilization cycle (evacuation, vacuum depth, exposure, drying) and setting of the sterilization cycle temperature and time values (verification with the manufacturer



# Modular System of The Device Arrangement

**Unique Solution for Your Individual** Requirements



P06 Vacuum Test Vact 106Pa , 10.0mir User1: SERVA1 Bacteriologic Filter - Off Start 10:20:12 2020-02-25 T(PT1.2)=22.9'C: p=97.6kPa

Charge 00002

UNISTERI HP IL 5170661 0:26:20 2020-02-25 C: p=10.4kPa

P02 Universal Ster: 134°C (PT3.1), 7.0 User1: SERVA1 User2: Open User Parameters Modified by Start 09:51:57 2020-02-T/PT3 11:97.8 C: ne95

Preparation T(PT3.1)=130.2°C; p=27 Start of Sterilization 10: T(PT3.1)=134.4'C; p=31 Aeration 10:20:47 2020-T(PT3.1)=72.3 C; p=87.1 End 10:21:27 2020-02-20 Program Length = 00:29

Program Pa

UNISTERI HP IL 5170661 System Version: 2.4.2 Linux BMTDIST Version: 2.0

 Charge 004:
 Dot Solution
 Dot Solution

 Evacuation (0)
 P05 Bowie+Dick Test

 Ster: 134°C (PT3.1), 3.5min

 Version: 2.0

 P05 Bowie+Dick Test

 Ster: 134°C (PT3.1), 3.5min

 Version: 2.0

 P05 Bowie+Dick Test

 Ster: 134°C (PT3.1), 3.5min

 Version: 2.0

 Version: 2.0

 Pos Bowie+Dick Test

 Ster: 134°C (PT3.1), 3.5min

 Version: 2.0

 Version: 2.0

 Pos Bowie+Dick Test

 Ster: 134°C (PT3.1), 3.5min

 Version: 2.0

 Version: 2.0

 Pos Bowie+Dick Test

 Ster: 134°C (PT3.1), 3.5min

 Version: 2.0

 Parameters Modified by User

 Start 13:30:58 2020-03-19

 T(PT3.1)=111.2°C; p=99.8kPa

#### Heating 10:00:34 2020-4 T(PT3.1)=109.6°C; p=12 Charge 00442

Evacuation (0) T(PT3.1)=111.1°C; p=100.3kPa; 13:31:06 2020-03 T(PT3.1)=134.4°C; p=31 End of Sterifization 10:1 T(PT3.1)=135.4°C; p=31 -19

Preheating (3) 13:43:24 2020-03-19 T(PT3.1)=62.2°C; p=20.3kPa

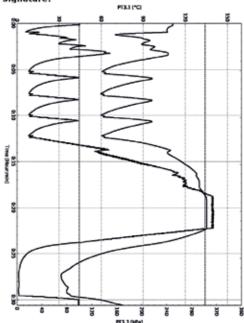
Heating 13:44:57 2020-03-19 T(PT3.1)=108.0°C; p=124.4kPa

Preparation T(PT3.1)=129.8°C; p=270.4kPa Start of Sterilization 13:49:49 2020-03-19 T(PT3.1)=134.4°C; p=314.3kPa End of Sterilization 13:53:19 2020-03-19 T(PT3.1)=135.2°C; p=314.5kPa Aeration 14:01:02 2020-03-19 T(PT3.1)=55.8°C; p=90.7kPa

End 14:01:42 2020-03-19 Program Length = 00:30:44

# Program Passed

Signature



## **Client service** arrangement

# Validace

In addition to the device supplies, we offer other range of services related to the development of central and operating room sterilizations:

- counselling and project drawing including the logistics and capacity calculation;
- turnkey device deliveries including the individual information systems

Service and support of users are fully arranged by a worldwide network of contractual organisations of the company BMT Medical Technology s.r.o. We have an extensive network of brand service work sites connected to HOT-LINE service providing fast response to clients' questions and requirements. So as to arrange user comfort and fast and highquality service intervention we developed a special auto-diagnostic program. We offer ON-LINE internet diagnostics and monitoring of the sterilization device (RMS), providing fast and direct communication with the instrumentation and it arranges fluent and trouble-free operation of a work site. All these features guarantee low operation costs and long service life of the device.

Validation is one of the conditions for arrangement of sterilization process quality. For this purpose, the steam sterilizer UNISTERI® HPIL is offered with the service "Validation", allowing proving of the sterilization processes competence according to the EN ISO 17665 standard; the technical measuring is performed by our own testing laboratory.

## **Environmental awareness**

The device meets all and any current environmental requirements. It represents no burden for the work and life environment. A powerful suction pump with built-in device for feeding water saving saves approximately 15% of operation costs. The unique construction of the steam generator with automatic desalting arranges permanently high quality of steam.

High quality materials guaranteeing long service life of the device are used for its manufacture. Optionally, the device can be equipped with an element for additional cooling of waste water,

allowing its drainage temperature setting. The device does not produce any harmful waste. Environment - friendly methods are used for its manufacture in the workshop. All the main parts of the device as well as the packages are recyclable. The device consists of 95% of steel, 4% of other materials, 1% electro material and plastics. Environment-friendly liquidation to be performed after dismantling by an authorised person in compliance with EU regulations, corresponding with WEEE directive (Waste Electric and Electronic Equipment).

# **TECHNICAL PARAMETERS UNISTERI® HP IL**

Chamber	(height x width x denth)			Chamber volume (I)	volume	Cca max. input (kW) / fuses (A)		Consumption cca max. per ster. cycle				
	Internal of the chamber	External of the unit	modules	Total	- (Ng)	ED	FD	Water [m³]	Demineralized water [m <sup>3</sup> ]]	Steam [kg]	El. energy ** [kWh]	El. energy * [kWh]
336 – 1	320 × 320 × 625	1500 × 600 × 805	1	73	260	8,5 / 16	1/16	0,06	0,003	2,7	3,0	0,2
336 – 2	320 × 320 × 625	1500 × 600 × 860	1	73	297	8,5 / 16	1/16	0,06	0,003	2,7	3,0	0,2
636 - 1	670 × 350 × 700	1720 × 690 × 965	2	160	520	17 / 25	2/16	0,07	0,005	5,0	5,0	0,3
636 – 2	670 × 350 × 700	1720 × 690 × 1020	2	160	635	17 / 25	2/16	0,07	0,005	5,0	5,0	0,3
559 – 1	$509 \times 509 \times 990$	1720 × 850 × 1255	***	254	690	24,5 / 40	2/16	0,08	0,008	8,0	8,0	0,4
559 – 2	$509 \times 509 \times 990$	1720 × 850 × 1310	***	254	710	24,5 / 40	2 / 16	0,08	0,008	8,0	8,0	0,4
Chamber xxx-1 single – door Chamber xxx-2 double – door.					* FD type – without steam generator, to be connected to external steam distribution							

Connecting voltage model 336 and 636 - 3P/PE 400 V, 50/60 Hz

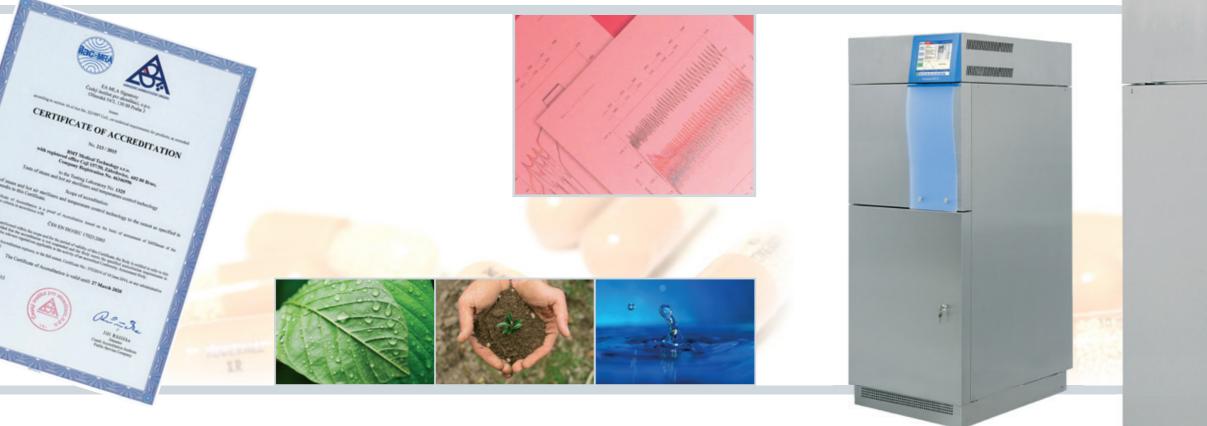
Connecting voltage model 559 - 3P/N/PE 480 V

Noisiness: max. 65 dB

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

#### **UNISTERI® HP IL**

#### ... a touch is sufficient



Technology in the man's service - easily, economically, safely





CE

\*\* ED type – with steam generator

\*\*\* the dimensions are not standardized for the container system





# Make acquaintance with our further offers...



BMT Medical Technology s.r.o., Cejl 157/50, Zábrdovice, CZ 602 00 Brno Tel.: +420 545 537 111, fax: +420 545 211 750, e-mail: mail@bmt.cz, www.bmt.cz

UNISTERI HP IL – 02/2025 – EN/PR