IX Congreso Panamericano de Esterilización

WFHSS

SOLAES

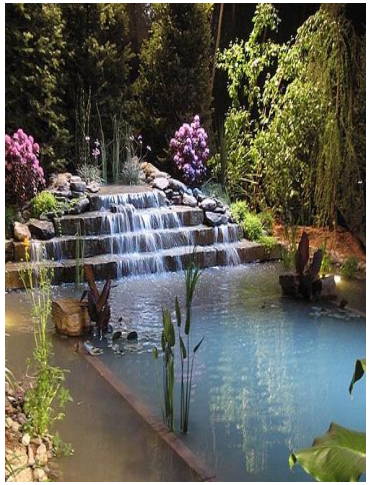
ASOCIACIÓN DE ESTERILIZACIÓN DEL URUGUAY A.EST.U.

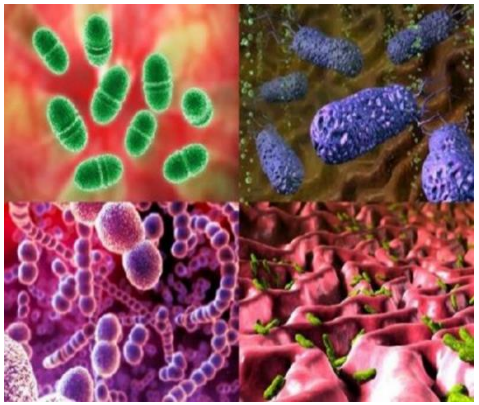
1er Congreso internacional de Control de Infecciones Hospitalarias
1er Congreso internacional de Pacientes y Salas Quirúrgicas
22 al 24 de Junio del 2016, LATU. Montevideo-URUGUAY

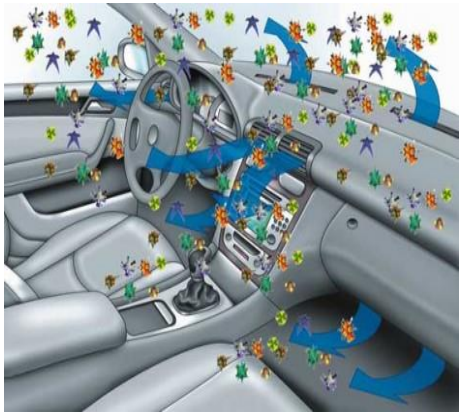
Vision General de la Esterilización y Desinfectión antes y hoy

General Overview of the Sterilization and Disinfection Once and Today

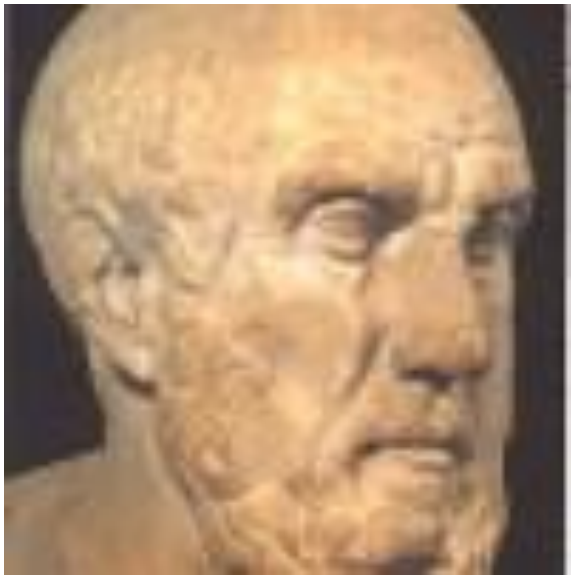
Vlatka Turcic MD. MSc. WFHSS, Croatia







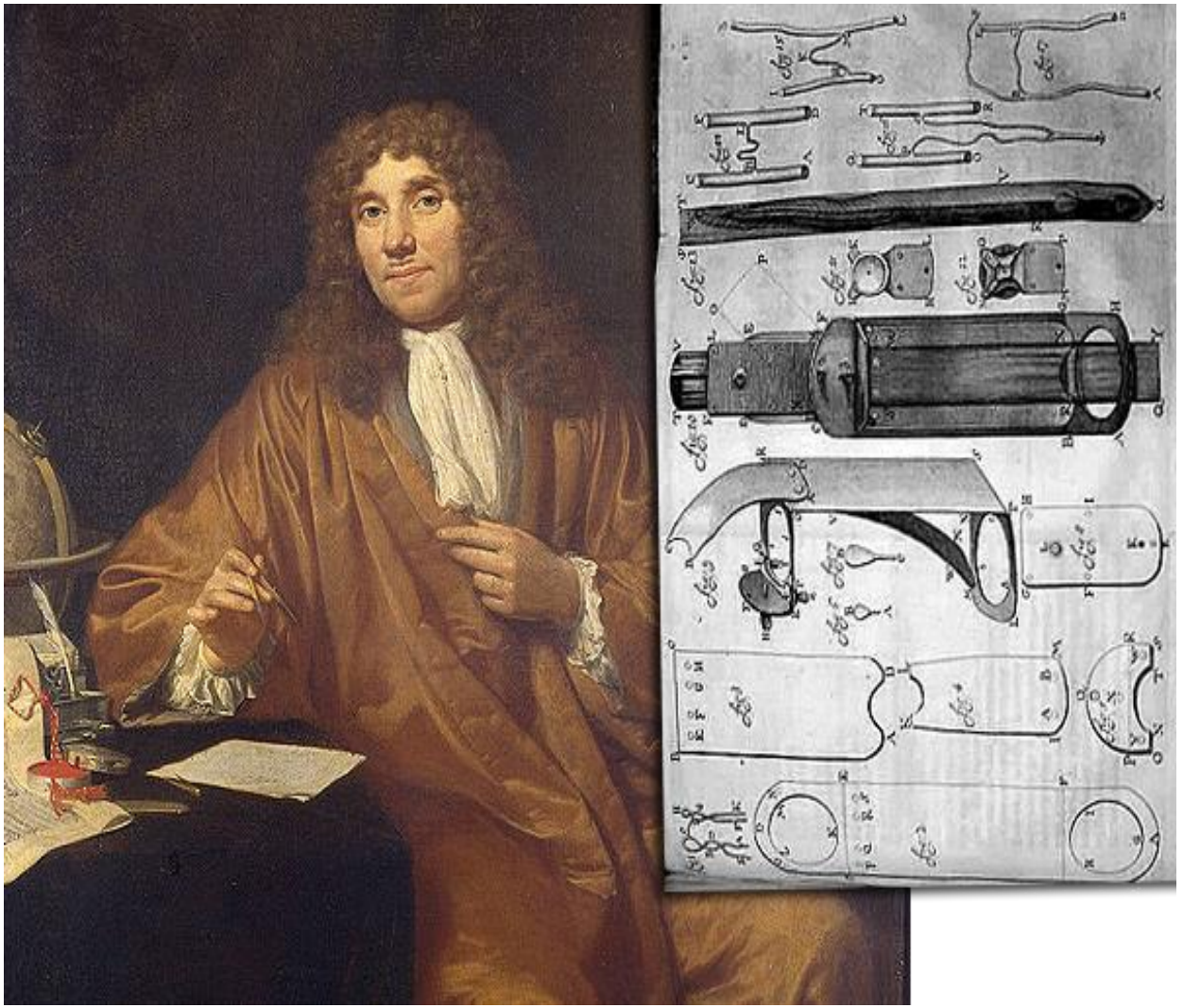
460-377 BC

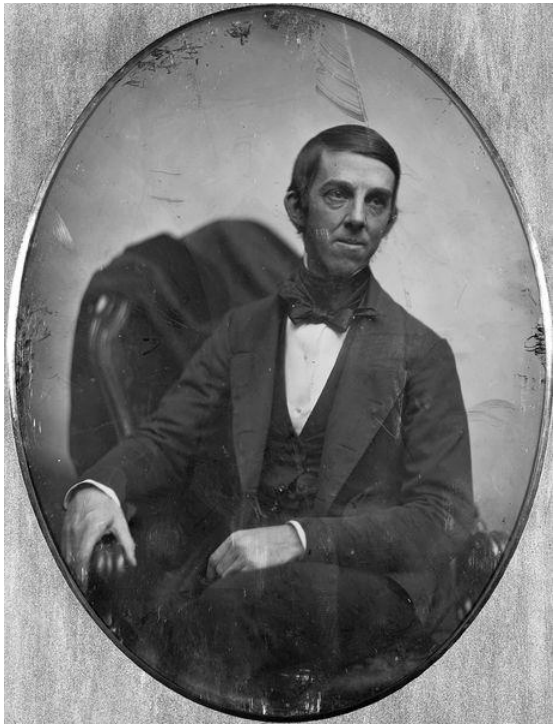



HIPPOCRATIS
COI
MEDICORVM OMNIVM
FACILE PRINCIPIS
Opera
COMMENTARIA
IOAN MARINELLI
VENETIIS. M. D. LXXV.
Ex Officina Victorie, apud Iuntarum Valgrisium.

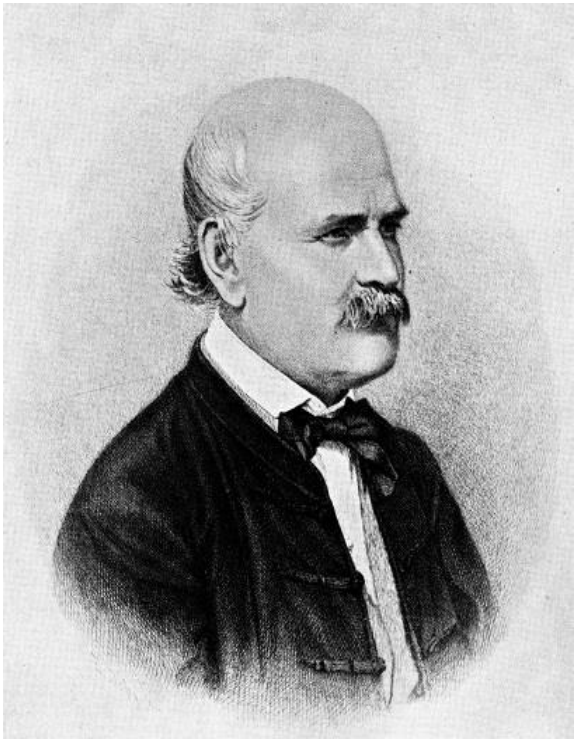

MARC TERENCE VARRON.
Chap. 126.

130-200 BC

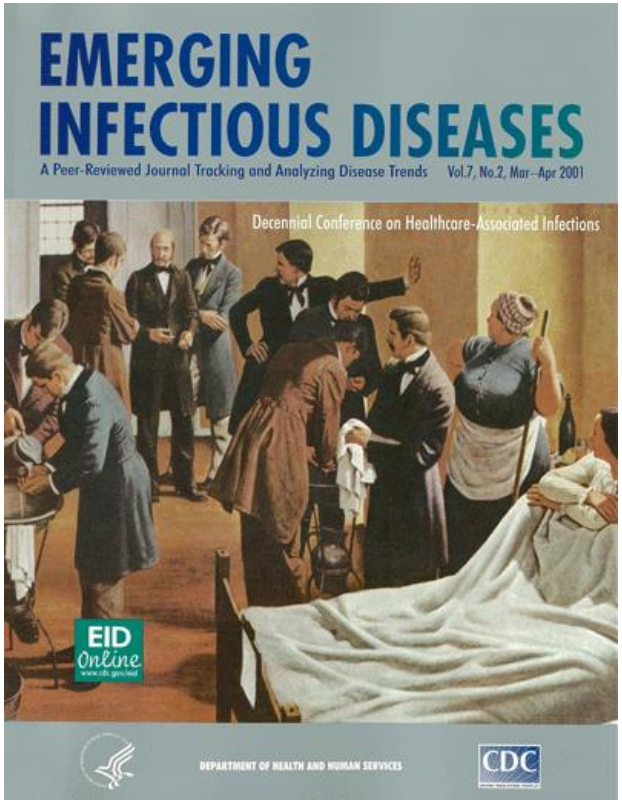




Oliver Wendell Holmes

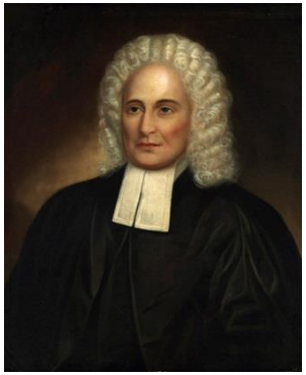


Ignaz Semmelweiss

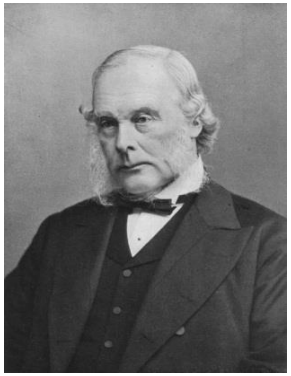

EMERGING
INFECTIOUS DISEASES
A Peer-Reviewed Journal Tracking and Analyzing Disease Trends
Vol.7, No.2, Mar–Apr 2001
Decennial Conference on Healthcare-Associated Infections
EID
Online
DEPARTMENT OF HEALTH AND HUMAN SERVICES
CDC

History of disinfection

- The first disinfectant – iodine (for cleaning wounds) Davies 1835.
- Chlorine water – Le Ferne 1843.
- Introduced by Semmelweiss 1847.
- Lister – 5% carbolic acid 1860.
- Antun Grosic – iodine tincture 1905.
- The first disinfection of drinking water – Pula, 19th century (great epidemic of typhoid fever)



Samuel Davies



Joseph Lister
1827.-1912.

Louis Pasteur (1822 -1895)

- The father of stereochemistry
- 1865. – Phenol (wound disinfection)
- Alcoholic phermentation
- Pasteurization

Robert Koch (1843-1910)

- Antrax
- Cholera
- Tuberculosis – Koch's bacillus
- Malaria

Partisan barrel

Boer wars 1889-1902

Disinfection procedures

Mechanical	Physical	Chemical
Washing and cleaning Filtering Ultrasonic cleaning	Heat UV radiation	Chemical disinfection procedures

If by definition the disinfection procedures are said

- to destroy,
- inhibit or
- remove microorganisms,

then washing and cleaning are the least aggressive and highly efficient procedures to remove microorganisms

The resistance of microorganisms to disinfectants

Very sensitive

- Mycoplasma
- Enveloped viruses
- Majority of the gram - positive bacteria
- Majority of the gram - negative bacteria
- Fungi and their spores
- Certain gram - positive bacteria
- Certain gram - negative bacteria
- Viruses without lipid envelopes
- Acid-resistant bacteria
- Bacterial spores

Very resistant

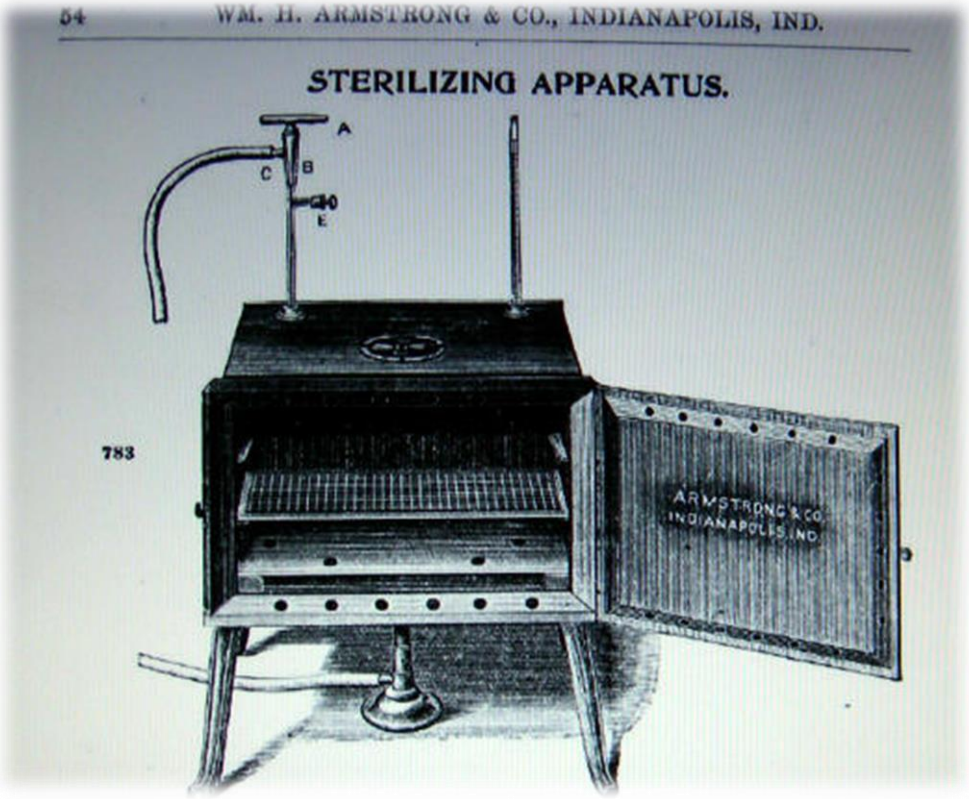
The final efect of chemical disinfectants

- **Biocidal** - irreversible damage to the bacterial cells
- **Biostatic** – reversible damages to the bacterial cells

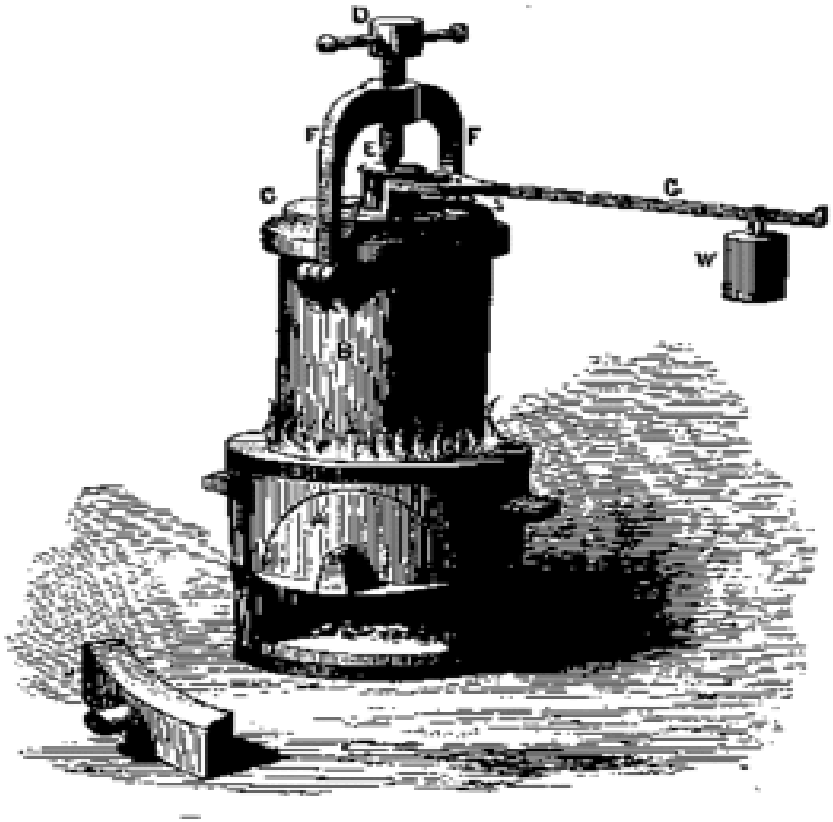
Since the sterilization is a process destroying all types and all forms of microorganisms a way had to be discovered to achieve that goal


PHOTOLAVA.COM

Dry heat sterilizer

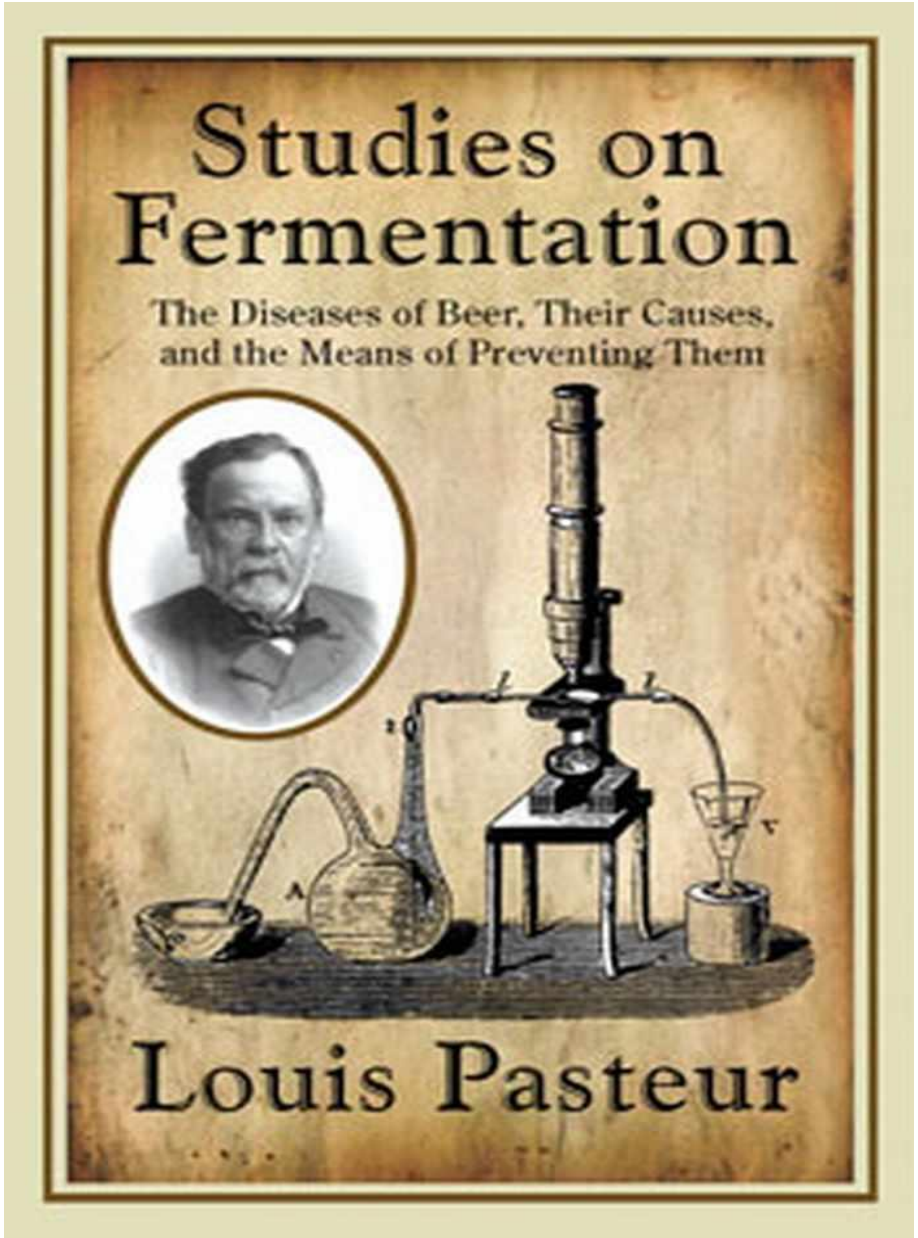


Papin‘s steam digester 1679.



Louis Pasteur (1822-1895)

Proved that damp heat is more effective than dry heat


Studies on Fermentation
The Diseases of Beer, Their Causes, and the Means of Preventing Them
Louis Pasteur

Lister‘s sterilizer for medications

6. **Pulvérisateur** de Lister, pour acide phénique, n° 2 *bis*, à un bec..... 50 »
7. **Pulvérisateur** donnant le jet de pulvérisation horizontal ou vertical..... 55 »
8. **Pulvérisateur** de Lister, n° 3..... 65 »
9. **Pulvérisateur**, n° 4 à un bec..... 85 »
10. **Pulvérisateur**, n° 4 à deux becs..... 100 »
11. **Pulvérisateur**, n° 5 à deux becs..... 150 »

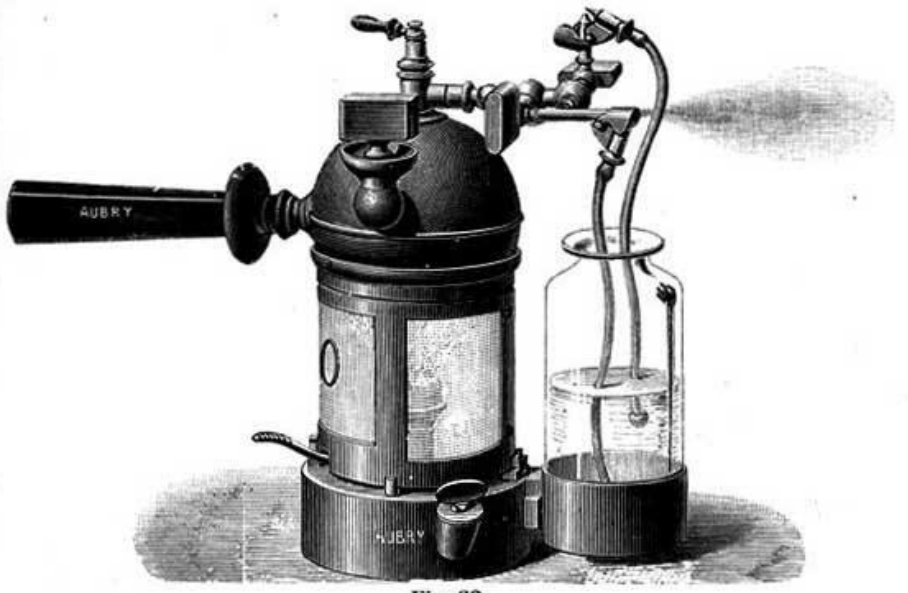
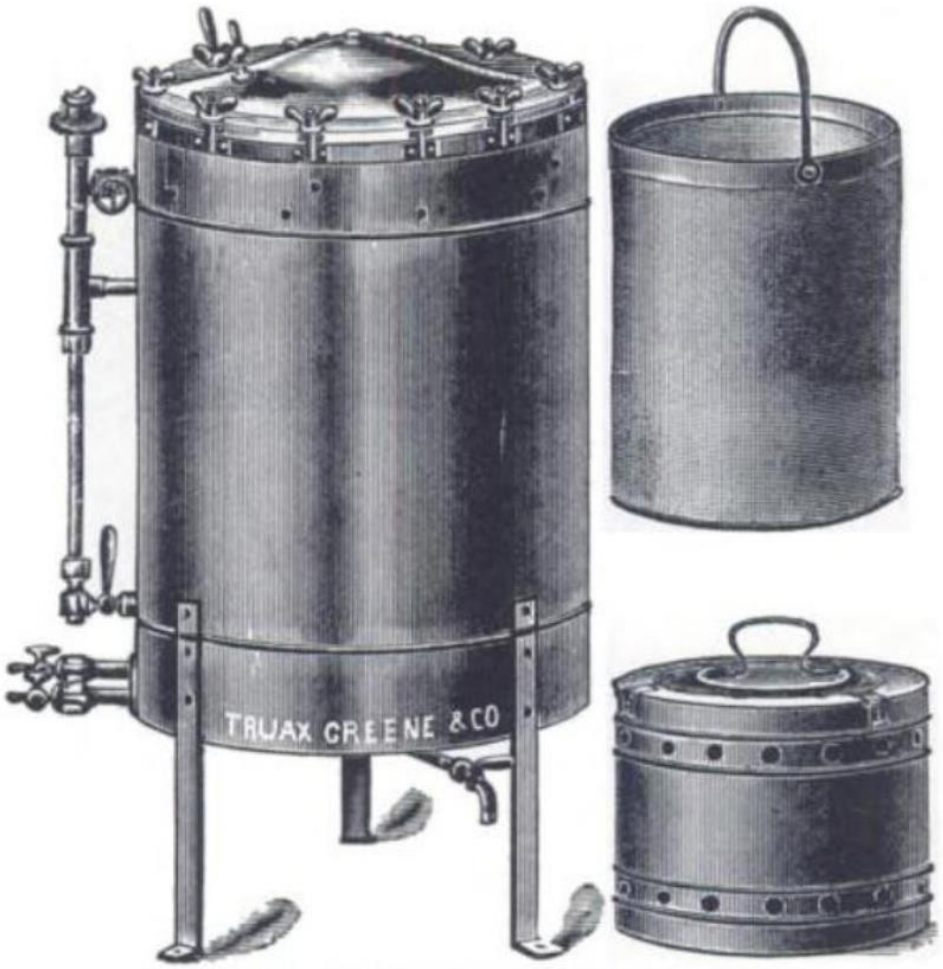


Fig. 62.

12. **Pulvérisateur**, n° 5, à deux becs marchant au gaz..... 150 »
13. **Appareil pulvérisateur** à grande chaudière à deux becs marchant au gaz avec manomètre, monté sur chariot roulant, pour grandes salles à désinfecter..... 500

Schimmelbusch's sterilizer



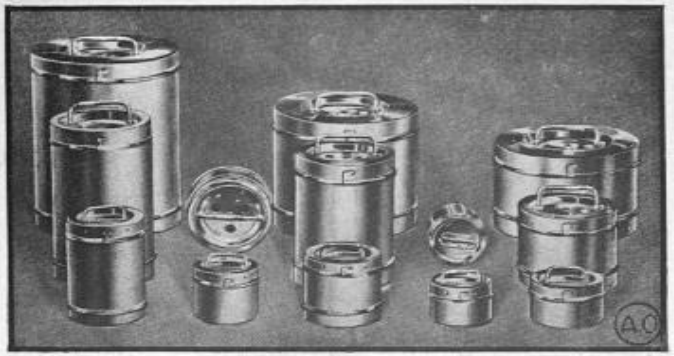
1850.-1895.

Chamberland's sterilizer

1934.

*8220. — **BOITES CYLINDRIQUES** en métal nickelé pour la stérilisation des objets de **PANSEMENTS, LINGES, CHAMPS, BLOUSES** à l'autoclave.

Dimensions des boîtes en millimètres.



8220

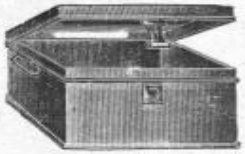
N°	Diam.	Haut.	N°	Diam.	Haut.	N°	Diam.	Haut.	N°	Diam.	Haut.	N°	Diam.	Haut.
8221	80	60	**8230**	120	120	**8239**	200	140	**8248**	260	250	**8257**	320	300
8222	80	80	**8231**	140	120	**8240**	200	200	**8249**	280	150	**8258**	350	150
8223	100	60	**8232**	140	200	**8241**	220	150	**8250**	280	200	**8259**	350	200
8224	100	80	**8233**	140	250	**8242**	220	200	**8251**	280	250	**8260**	350	300
8225	100	100	**8234**	150	100	**8243**	220	250	**8252**	300	150	**8261**	450	170
8226	100	120	**8235**	150	150	**8244**	220	300	**8253**	300	200	**8262**	450	250
8227	100	150	**8236**	180	130	**8245**	260	80	**8254**	320	150			
8228	120	80	**8237**	180	200	**8246**	260	150	**8255**	320	200			
8229	120	100	**8238**	180	250	**8247**	260	200	**8256**	320	250			

N° **8263.** — Nous fournissons sur demande spéciale une éclipse supplémentaire sur le fond de la boîte.

8264. — **Boîtes** pour la stérilisation des pansements à l'autoclave, modèle Schimmelbusch.

8264

N°	Diam.	Haut.
***8264**	80	80
8265	100	120
8266	120	120
8267	240	160
8268	240	240
8269	290	160
8270	290	240
8271	340	160
8272	340	240



8273

***8273.** — **Boîte** avec couvercle à charnières pour coton et pansements en tôle étamée.

160×105×55	200×130×115	250×165×140
8274	**8275**	**8276**
300×200×110	300×200×165	350×225×190
8277	**8278**	**8279**

Formaldehyde “sterilizer”

„Sterilizing” by boiling

Sterilization

- Precisely defined procedure guaranteeing the production of sterile goods
- Absolute notion (no compromises)
- Constitution, the organization of work and the infrastructure that provides all the necessary elements for carrying out the procedure

(securing conditions to attain the target quality)

Sterilization

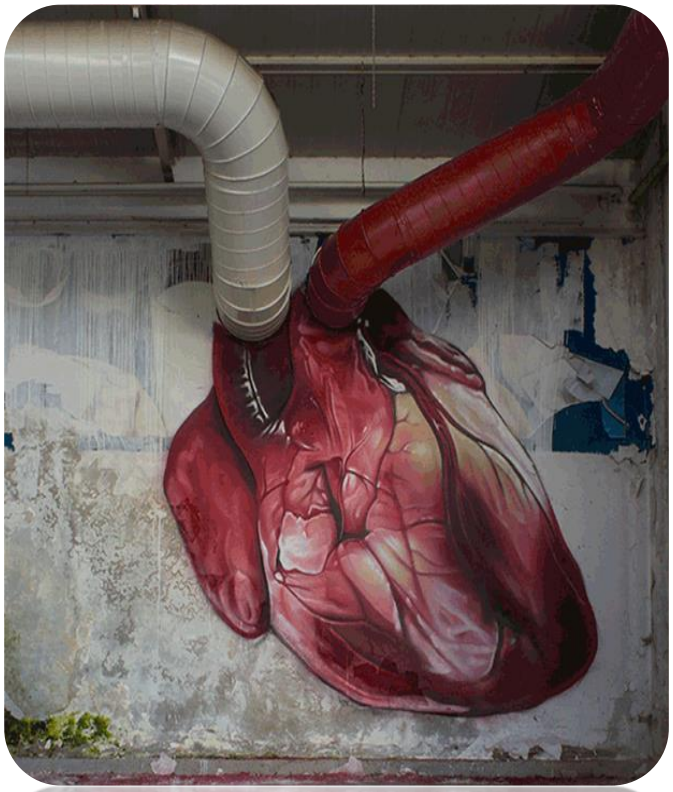
- In the narrow sense of the word effective sterilization is carried out in a quality, well-maintained and validated device – sterilizer (manufacturer or the service company.)

- Everything else needed for the production of sterile goods is the system/infrastructure, which includes the organization of work, the conditions (space, sanitary-technical preconditions, personnel, equipment selection, procurement of consumables) and the staff training (solely our responsibility)

In other words:

- Sterilization is not just a machine
- Sterilization is not only a method
- Sterilization is not only a service to meet the needs and wishes of the users
- Sterilization is a structure.

Sterilization is



the heart of the hospital

the letter A
in the alphabet of medicine

If sterilization stops working the hospital's heart will stop beating.

Sterilization methods

Procedures for heat resistant materials

Procedures for thermolabile materials

ISO 15223 3.24

=

?

Proving sterility

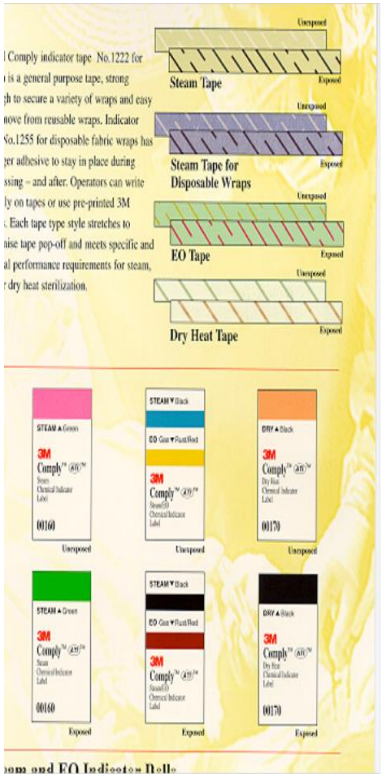
Microbiological tests

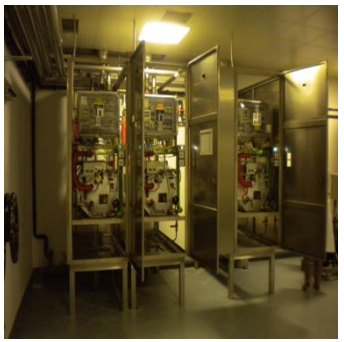
- 30 samples for the:
  - aerobic bacteria
  - anaerobic bacteria
  - fungi
  - viruses

Sterilized

- Undergone the sterilization process
- The process of proving the success of the sterilization cycle is carried out exclusively by indirect methods of monitoring the proper operation of devices and supervising and controlling the procedures

Surveillance






TÜV CERT

CERTIFICATE

The TÜV CERT Certification Body of RWTÜV Systems GmbH

hereby certifies in accordance with TÜV CERT procedure that

SAUTER AG

CH - 6583 Sulgen

has established and applies a quality system for

Design, development and distribution of sterilizers, disinfection and decontamination equipment, pressure chamber for therapeutic use, silo heating systems, concrete cooling systems, general manufacturing of vessels, qualification, validation and routine control of sterilization by instalment

An audit was performed. Report No. 1966/02

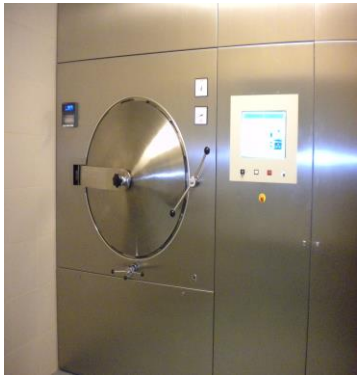
Proof has been furnished that the requirements according to DIN EN ISO 9001 : 2000

are fulfilled. The certificate is valid until September 2006

Certificate Registration No. 04100/4252

The company has been certified since 1994

RWTÜV




Zertifikat

CONCEPT HEIDELBERG

Validierungsbeauftragter

Wir bestätigen hiermit, dass

an

vom 26. – 28. März 2003 in Mannheim erfolgreich in den Themen

Grundlagen der Validierung und Qualifizierung
Validierungsmasterplan / Computervalidierung / Prozessvalidierung
Reinigungsvalidierung / Risikoanalyse / Validierungsdokumentation
Validierungs-/Qualifizierungs-Anforderungen an den Wirkstoffbetrieb
Change Control

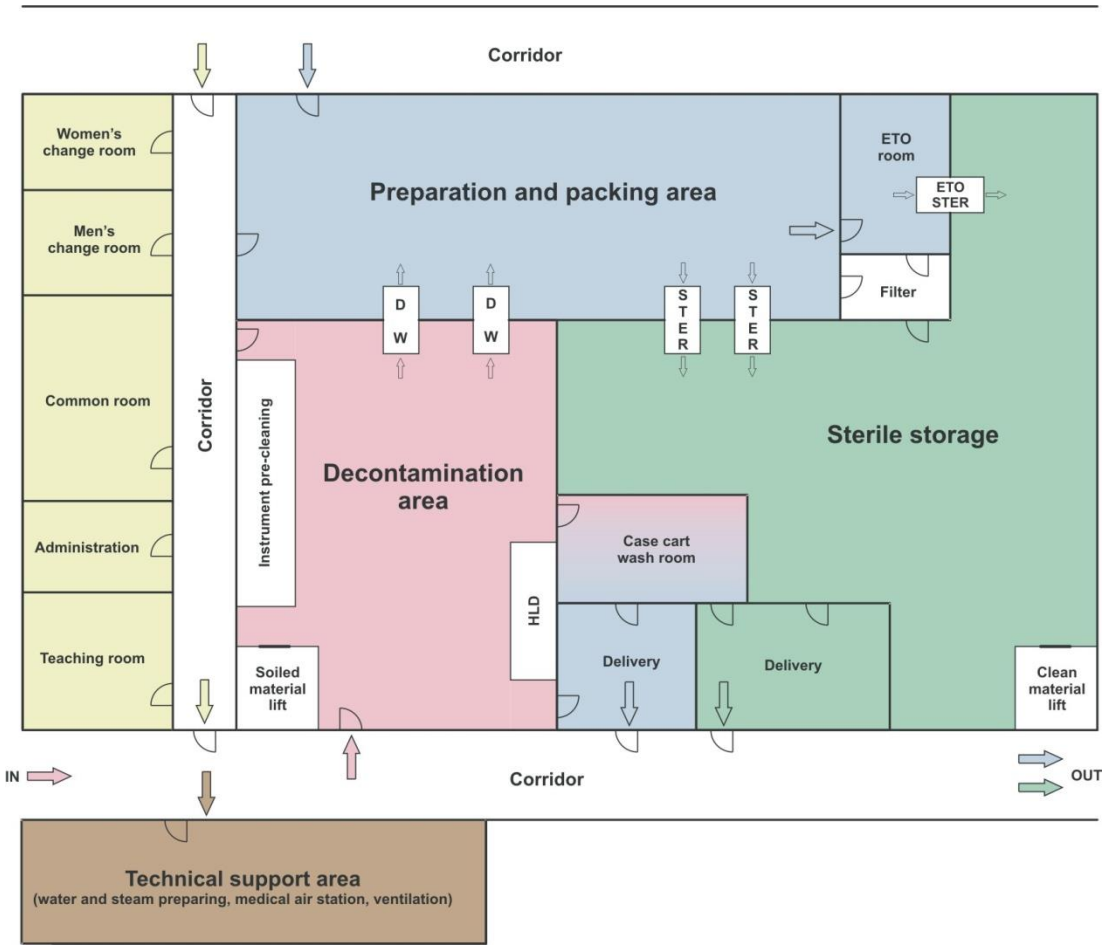
geschult wurde.

Heidelberg, den 28. März 2003

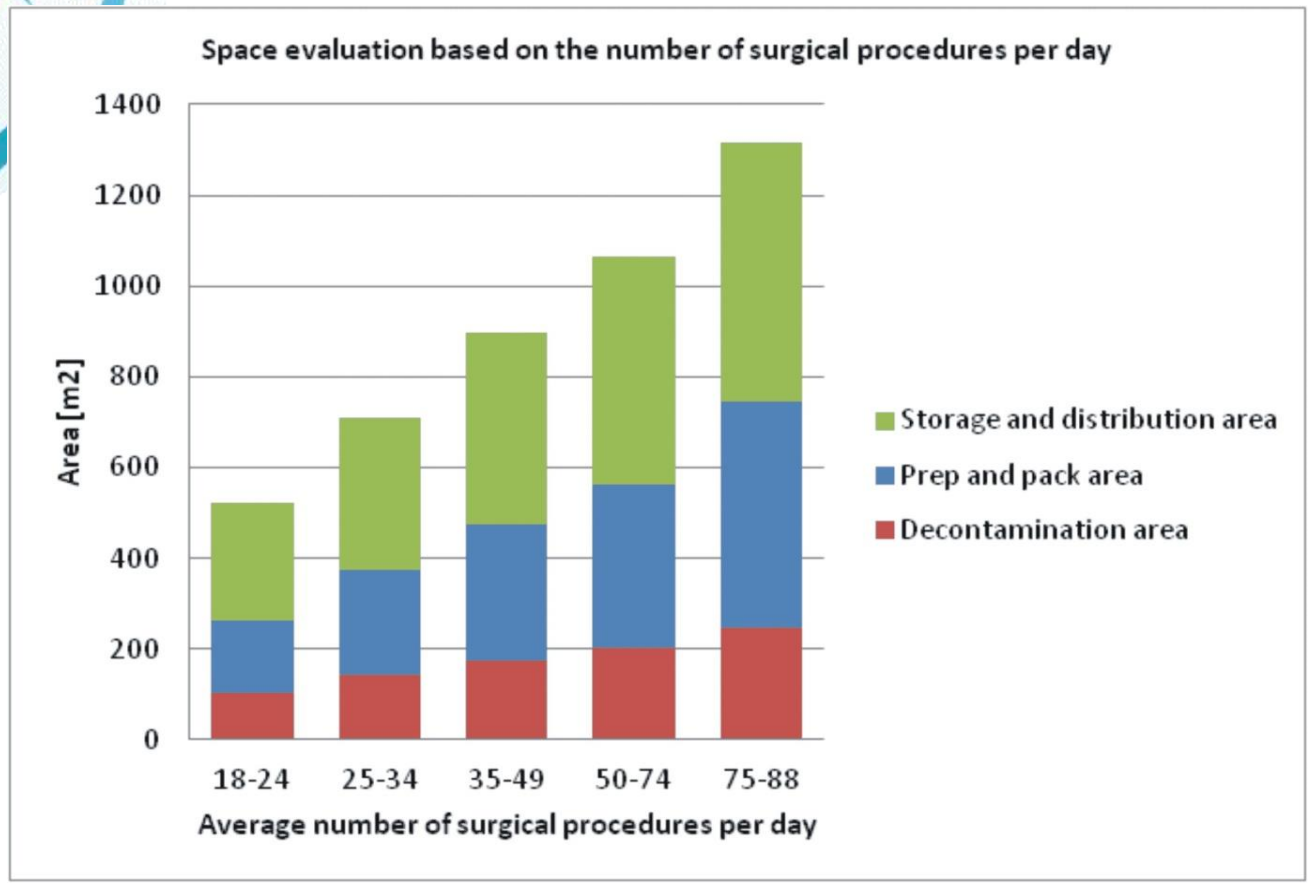
Geschäftsleitung

Projektleiter

Organizing the space



The size of the space per zones according to the number of surgical procedures

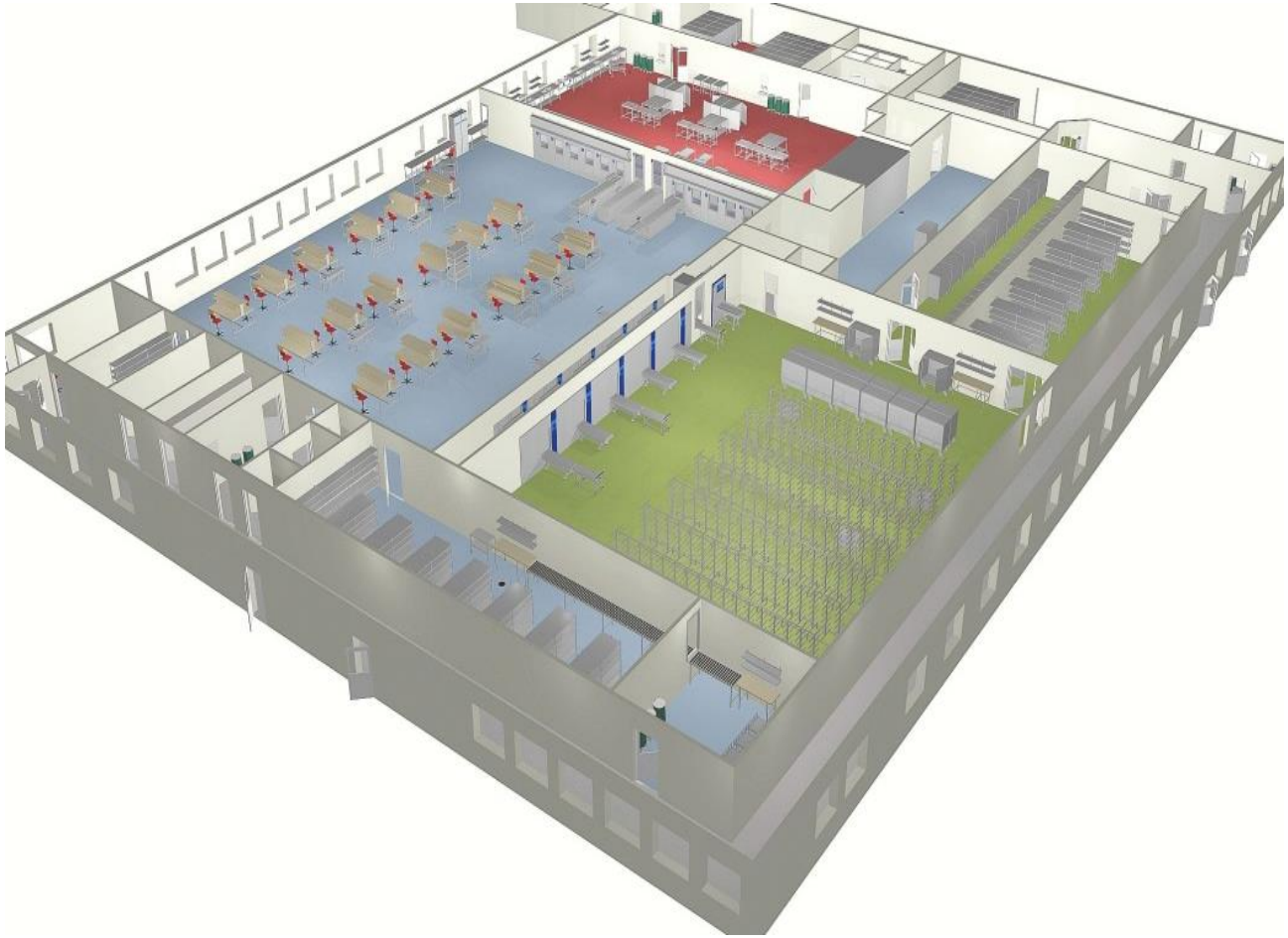


The microclimatic conditions

- Laminar air flow must be provided with a minimum of 10 air changes per houror or 2 changes in spaces without ventilation
- Turbulent air flow causes air whirling and therefore must not be used in CSSD spaces
- The same applies to the split systems without conditioning.
- Relative air pressure must be negative in unclean and positive in clean zones
- Relative humidity of 30-60% is optimal, 40-50%
- Temperature for unclean zones is 18-20 °C and for clean zones it is 18-23 °C

The number and qualifications of the personnel, personnel training, equipment validation, procedure validation etc.

EU Medical Device New Regulation
A Review of Clinical Evaluation Aspects




Juretic Transport

Is this an opportunity or a threat?


JUDGE

Thank you for your attention

Have a nice rest of the day