

## Movex Templates STERIVAP HP and UNISTERI HP

Several interesting templates appeared in the field of Movex data recently. Before describing the new templates and programs developed on their basis, let's recap the conditions existing as from the moment of establishment of new devices Sterivap HP and Unisteri SPS. The first line of Sterivap HP with Bios, release V2.0 used as the basic template the „classic cycle, solutions, Vacuum test and Unicrash“. Movex2 S cooperated with Bios V2.0. The following line of Sterivap HP, so called „hundred“ one uses the basic templates Universal Sterilisation, Vacuum Test and Unicrash. There is used bios V3.0 and higher (the latest being V4.8.3) and there is used Movex3. The creation of Unisteri SPS dates from the „hundred“ line of Sterivaps and the templates are very similar (but not identical). It is also worth to mention the fact that the template Universal Sterilisation in fact joins up in one unit the former „classic cycle and solutions“.

We can consider the above stated templates to be the standard ones. So now let's move to the non-standard ones.

### ■ Template H<sub>2</sub>O<sub>2</sub> (Sterivap HP)

This is the sterilisation program type using hydrogen peroxide vapours as the work medium. The cycle has no predecessor, it originated in the end of the year 2010.

■ **Template Air Mix (Sterivap HP, Unisteri SPS)** originated on the basis of Universal Sterilisation template, and it differs from it only by stages for strain of exposition and the stage of proper exposition, but it differs quite significantly. The cycle is designed for materials in which air pockets appear e.g. due to technological reasons. These are for example syrettes with ingrown piston and with an air bubble below it. The key procedure in case of classic sterilisation is to remove in the best possible way the air and gases from the chamber in stages before exposition. This is the only way how to use in full the favourable characteristics of saturated water steam. But something different happens in Air Mix cycle. Air is admixed to the steam in chamber in the pre-exposition and exposition stage in such a way, so as the developed pressure compensates the air pressure in pockets in the material. The air held in pockets could otherwise damage sterilised material by its thermal expansiveness. But the air presence in the chamber represents a problem, as air is heavier than steam and at quiet it would separate in the bottom part of the chamber and so the exposition would be unequal or even impossible. That means that it is necessary to permanently mix the chamber contents. This can be reached by a unique algorithm of controlling the filling and discharge valves in such an efficient way that it is not necessary to use direct mixing of the chamber interior with a special vent. The internal vent would significantly increase the price for the steriliser construction. The cycle was developed in June 2011.

■ **Laboratory Sterilisation Template (Sterivap HP)** it was developed on the basis of universal sterilisation template, from which it differs only by the way of defining the temperature zone within which must fall the control sensor temperature during exposition.

In case of standard sterilisation, the range is limited by nominal temperature from the bottom and by constant raise of 3° C resp. 4° C from the top. In case of laboratory sterilisation, the upper and lower limit is variable and it is set by movex parameters. Such a cycle is designed for use in labs. The cycle was developed in January 2012.

■ **Unicrash 2 Template (Sterivap HP)** inherited all the characteristic features of the Unicrash template, it differs only in the field of methylene dye filling. Naturally, the cycle requires slightly different „tube“ interconnection of the device. There is eliminated the valve Y504 and the level gauge B102. The valve Y502 is connected in a different way. There is a new level gauge B600. There is not the pump – the medium is transported thanks to pressure difference between the tank and the chamber. The new features of the cycle are based on the fact that the methylene dye is supplied in the form of a concentrate and after finishing the cycle, the used diluted solution is discharged into sewer. Formerly, the non-diluted solution was stored in the tank – it was returned into it. That means that there is also eliminated the large non-comfortable tank. The cycle was developed in April 2012.

■ **Laboratory Sterilisation 2 Template (Sterivap HP)** was developed on the basis of laboratory sterilisation template. It brings completely new elements to stages around the exposition. There is missing the possibility of steaming. The thermal stress of the chamber is conceived in a different way than in case of prior laboratory sterilisation. In fact, the course consists of two flat segments (in their course, the temperature is constant for some time). The first one is called „Preparation“ and the second one „Exposition“. There is a ramp between the two segments and it may be even very smooth. It is a linear connection between both of the segments and it is supposed that the „Exposition“ temperature is higher than the „Preparation“ temperature. After finishing the Exposition segment, the linear ramp goes down. The special feature means that it may represent slower temperature decrease than corresponding to spontaneous cooling. This can be reached by controlled addition of steam to the chamber in the course of the decrease. The cycle was developed in August 2012.

## Change of Sealing Profile for Unisteri HP

In the course of using the Unisteri HP there were noticed problems with leakage and consequent whistling of the device in some cases, caused by degradation of sealing characteristics. Due to these reasons, the sealing profile and its material was changed at the supplier in the course of the year. The new form of sealing should provide more favourable sealing characteristics even thanks to its higher profile. In case of exchanging the sealing for the new one it is necessary to increase the value of pressure difference from the atmospheric one in 5 kPa in the Setting/Door setting menu. This description is well known to technicians thanks to instructions for service (chap. 4.7). In this case, the material number of the sealing did not change.

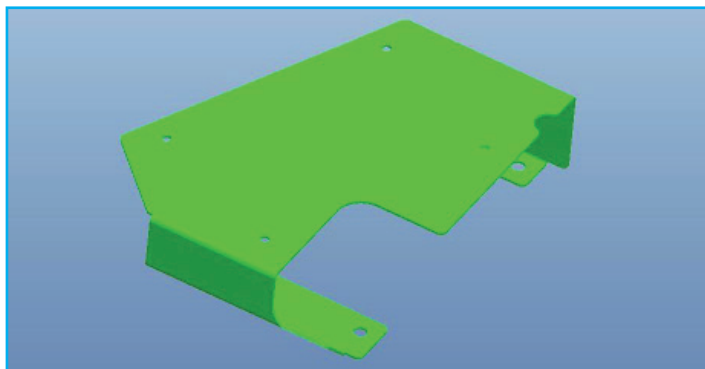
## Finishing the Manufacture of Compressors by Cubigel

In consideration of finishing the manufacture of compressors by the company Cubigel and their consequent unavailability in the market, there were selected suitable substitutes of the compressors manufactured by Embraco. Within the scope of this change, there were substituted the compressors for box sizes FC and CLC 404 and 707. In case of size 707 there is needed – in case of substitution – the COMPRESSOR STAND V211387.

Original material number: 0453047 a 0453033

New material number: 0453010 a 0453011

The change is shown in figures:



Compressor stand CLC 707



Real view

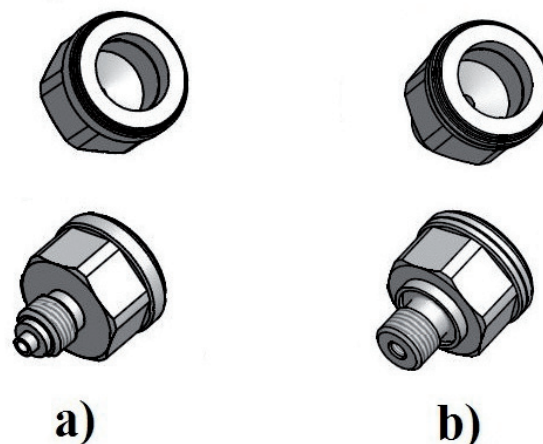


In case of CLC 404, the compressor remains to be placed in current carrier

In case of other smaller sizes of devices there were also selected and successfully tested the substitutes of compressors, which will be installed in products after use up of current stock of compressors.

## Change of Pressure Sensor in CLC B2V MTV

After longer time of new generators operation there started to appear failures of pressure sensors. After consultations with the manufacturer and his analyses we came to conclusion that pressure sensors under some conditions break the pressure impact. So as to avoid damage of pressure switches, the sensor was completed with shock absorber. The functionality and service conditions do not change in any way and the appearance is not different on the first sight as well. The pressure sensor supplied includes even the sealing.



The pressure sensor installed in CLC B2V MTV (Fig. a) was replaced with another type of sensor with shock absorber (Fig. b)

## Display with LED Illumination for STERIVAP HP and UNISTERI HP

The display 8,4" (material number 0470875) was replaced with a new display with LED illumination (material number 0470885). In case of this display to be used as a spare part for the previous display, it must be supplied including the cable S476065. In such a case there will not be used the inverter material number 0470876, but the cable will be connected directly to the connector XP3 on the board of the electronics VP\_CPUM or to the connector XP1 on the board of electronics VP\_CPUME. This display is used for devices STERIVAP HP and UNISTERI HP.

## Change of Connection Screwing of the Pump UNISTERI HP

The input and output necks of the pump for Unisteri 336 were screwed with purchased screwing with tapered thread G1/2". In some cases it proved that the tapered thread causes cracking of the pump cast made of grey cast iron. On request of the pump manufacturer there was performed a change, when the original screwing with tapered thread is replaced with new screwing with parallel thread with copper sealing. The new screwing is manufactured in BMT, as it is not possible to use standard purchased screwing (between the input and output neck there is a neck for operation water intake, all the elements are close to each other, with thin neighbouring walls). In case of using flat Cu-sealing there appear higher space requirements (there must be a bigger hexagon of the new screwing). More, it was also necessary to change the screwing of the middle neck for operation water so as it is possible to assemble all the screwing elements. For sterilisers already manufactured with original parts there was developed the „set of pump screwing R002022" containing all the parts needed for the new layout.

