

DRYING TIME WITH AND WITHOUT ENHANCED DRYING SYSTEM (EDS)

SCIENTIFIC INFORMATION

BACKGROUND



Drying is a critical phase of the sterilization process.¹

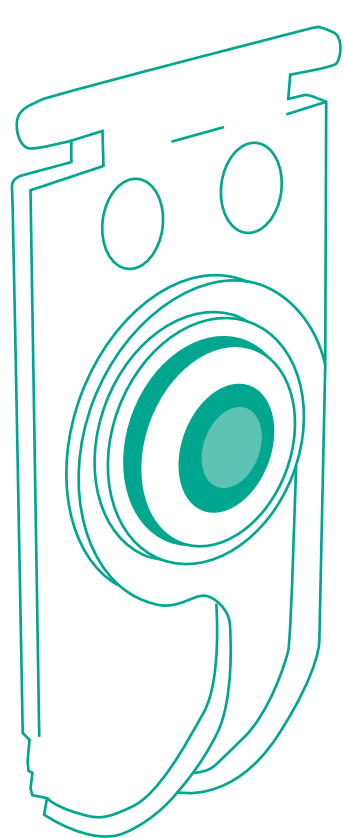


Moisture could provide a vector for microorganisms contaminating the load.¹

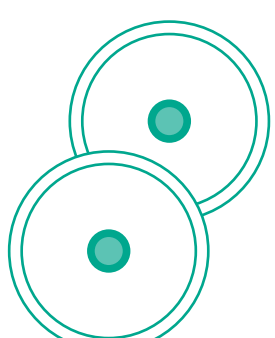


The Association for the Advancement of Medical Instrumentation (AAMI) recommends not to use any item that is wet or a set that contains visible moisture.

OBJECTIVE



The new EDS was developed to **reduce drying times** and to ensure reliable drying results.



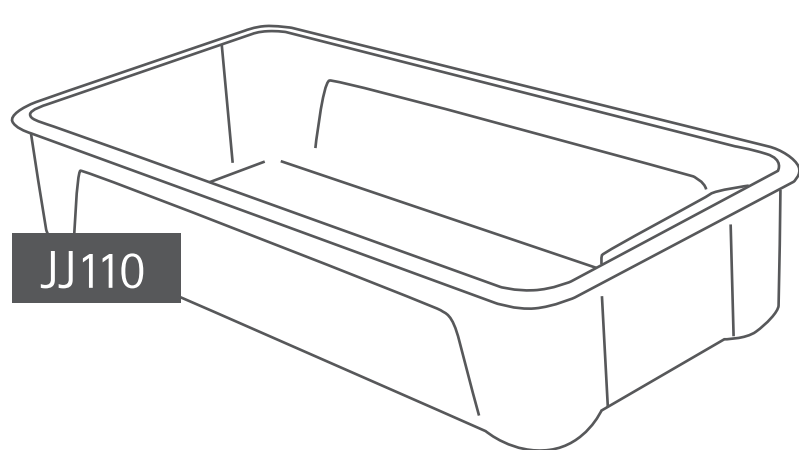
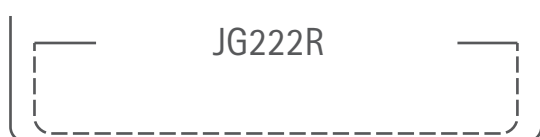
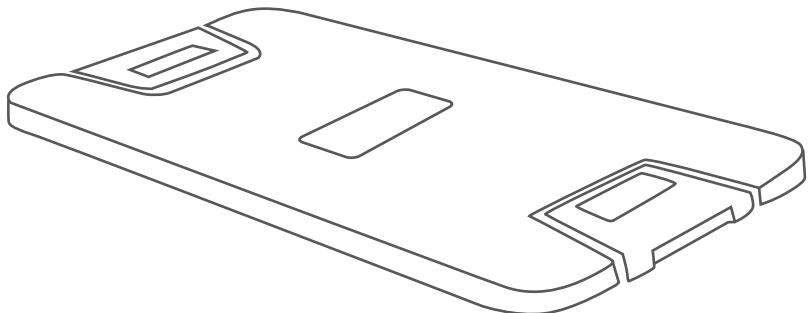
There are two EDS modules per container bottom (optical inspection by clearly visible "blue dot").

Aim of a present test was the **COMPARISON** of the drying time of a new container series **WITH** and **WITHOUT** EDS.

TESTED MATERIALS

AESCULAP® JJ Series Rigid Container **JJ110**
(processed with the **JG222R** basket)

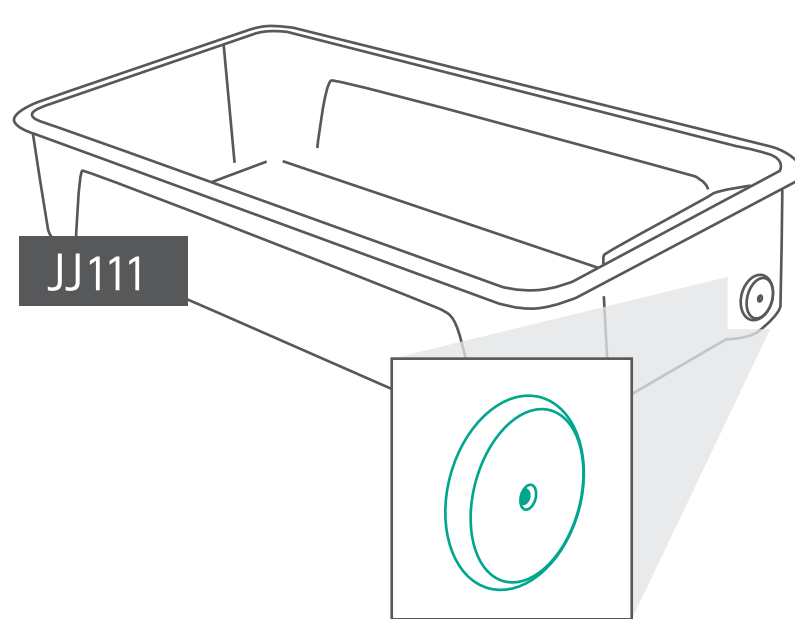
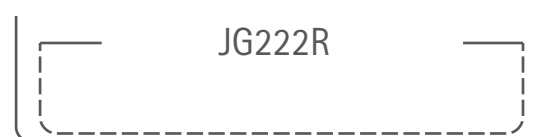
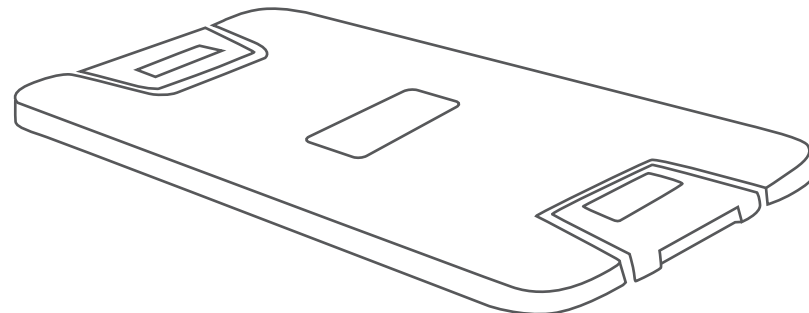
Without EDS



JJ110

AESCULAP® JJ Series Rigid Container **JJ111**
(processed with the **JG222R** basket)

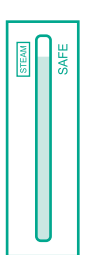
With integrated EDS



JJ111

TEST PROTOCOL

2x



Loaded with stainless-steel bolts² until they met a weight (with lid) of 25 pounds* (lbs) and seeded with two Crosstex/STEAMPlus™ Class 5 Integrators

Loaded with a total combined weight of 25 pounds* (lbs) (and seeded with two Crosstex/STEAMPlus™ Class 5 Integrators)³



2x



132°C (270°F)



4 min.

Processed in a steam pre-vacuum cycle



5 min.



The system was re-weighed after a cooling down, pre- and post-sterilization weights were evaluated.



25 min.



After another 25 minutes, the systems were visually inspected for the presence of moisture.



Integrators were observed for steam penetration.

3x

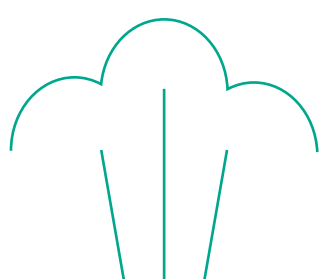
Three test cycles were carried out to show repeatability.

RESULTS

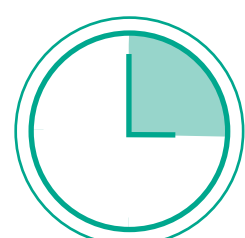


< 0.2%

Systems demonstrated an average pre- and post-sterilization weight difference of less than 0.2%.⁴

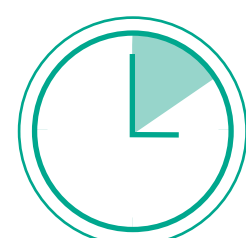


All integrators demonstrated steam penetration.



15 min.

The Aesculap Aicon® JJ110 met or exceeded the acceptance criteria (weight difference of less than 0.2%) and therefore is considered to be properly dried following the pre-vacuum steam sterilization cycle after 15 minutes.



9 min.

The Aesculap Aicon® JJ111 with EDS met or exceeded the acceptance criteria (weight difference of less than 0.2%) and therefore is considered to be properly dried following the pre-vacuum steam sterilization cycle after 9 minutes.

CONCLUSION

It was shown that the **drying time** with the EDS can be significantly **reduced**.

Sources:

- Basu D, J Infect Public Health. 2017 Mar - Apr;10(2):235-239.
- According to EN 868-8.
- According to EN ISO 11140-1.
- According to ANSI / AAMI ST 77.

* English pound = 454 gr.