

German MECOTEC Group launches a complete-one-stop solution for deep-freeze, transport, storage and distribution for COVID-19-Vaccines with its first Mobile Hybrid Container.

- First hybrid container solution for ultra-cold transport and storage for COVID-19 vaccines
- Transport and storage of up to 1,000,000 vaccination doses in one standard size container at temperatures down to -80°C / -112 °F possible
- Active deep cooling technology ensures safe and controlled transport and storage without dry ice

Vaccine manufacturers, transport and storage providers are facing major challenges in the fight against the coronavirus, as many of these vaccines only retain their effectiveness at temperatures down to -80°C / -112 °F according to the current state of science. In addition, very few medical facilities have space to store the vaccine in large quantities at constant minimum temperatures.

The MECOTEC from Germany has now launched a complete-one-stop-solution consisting of:

1. Deep-freeze cooling + 2. Transport + 3. Storage & distribution: Immediately after production, the vaccine is frozen on site in a kind of deep cold storage. The vaccines can then be loaded into a container and safely transported to the distribution station at constant minimum temperatures down to -80°C/-112°F. On site at the distribution station, the transport container then functions as a storage and distribution center.

MECOTEC has already developed a mobile cold store solution as prototype, an industrial solution with which the vaccine can be frozen directly at the manufacturer's facility. For this purpose, the cold store system is located near production, the machine container is set up outside the production building. Immediately after production, the vaccine is deeply frozen in the cold store. This cold store solution can be set up anywhere where the vaccine is available for deep cooling.

„The project knowledge that we have gained with the development of the prototype as well as our many years of experience in the field of cooling technology made it possible within a very short time to adapt this deep-freeze facility into a transport, storage and distribution container“, explains Jan Hüneburg, Managing Director at COOLANT, the industrial division of MECOTEC.

„We are pleased that today we can present our Mobile Hybrid Container Solution for the transport and storage of Covid-19-Vaccines and thus make a contribution to a safe and fast supply of the vaccine for people worldwide,“ says the Managing Director of the MECOTEC Group Enrico Klauer. “Since our system is based on an active deep freezing technology, it does not require dry ice for cooling which makes it also suitable for safe international air transport.”

## The process for transport and storage of the COVID-19-Vaccines at constant minimum temperatures down to -80°C/-112°F is as follows:

The Vaccine Veils are loaded into the mobile refrigerated container in transport packaging and insulation boxes and then transported to the distribution (vaccination) center while maintaining the deep-freezing temperatures down -80°C / -112 °F. At the distribution center the veils can be taken out individually. The whole process, including the location and the temperature within the container can be monitored centrally.

The complete solution developed by the MECOTEC Group can be used worldwide. “It is our aim to get the vaccine to the people as soon as possible. Therefore we offer several options: Orders for container production can be placed at MECOTEC directly and at our worldwide sales offices. In addition we also offer licensed production,“ says Klauer.

## Technical Information about the First Mobile Hybrid Container Solution for transport, storage and distribution of COVID-19-Vaccines at temperatures down to -80°C/-112°F

The transport and storage container has a deep-freeze warehouse with a volume of approx. 13 m<sup>3</sup> at a storage temperature of down to -80°C / -112 °F. This room allows - depending on the type of packaging and the load - the transport and safe storage of up to 1,000,000 vaccination doses at constant minimum cooling temperatures. The vaccines can be taken out in small or large amounts directly at the distribution station.

The technology required for this is installed in a 2.7 m<sup>2</sup> technical room directly behind the storage room. The purely electrically operated chiller has two redundantly installed cold generators, which ensure the room temperature for cooling. During the transport, the power is supplied by two built-in generator sets. As an additional security measure, the vaccine is stored in transport packaging with cooling batteries and / or dry ice bags. At the vaccination center, the container can be set up stationary on site and supplied with power via a three-phase power connection with 400V without having to repack the vaccination vials.

Thanks to this independent power supply and redundancy, an availability of almost 100% of the cooling is achieved. Remote monitoring, GPS location and complete temperature recording with an alarm system allow permanent location and monitoring of the container. Since this 20 “container is a standardized size, it can be transported with any conventional container transport vehicle without a special permit.

Source: [www.mecotec.net](http://www.mecotec.net)

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