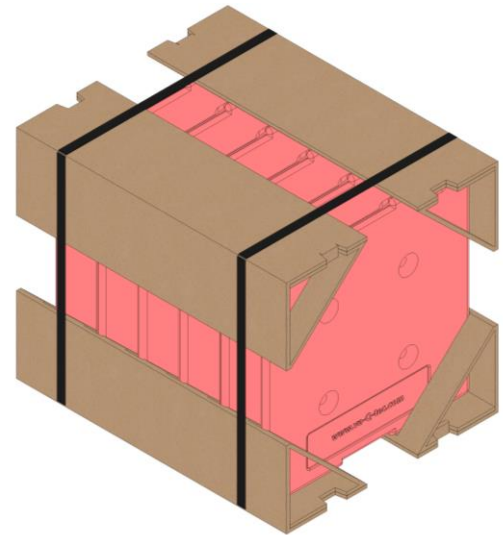


Preconditioning Instruction for temperature batteries at constant temperature

For va-Q-accus -50G

The ability to stabilize the temperature inside va-Q-tec's high performance insulating container/parcel shipper for a qualified duration is caused by va-Q-tec's unique temperature batteries. Depending on customer requirements temperature batteries are available with different Phase Transition Material (PCM) in individual colours. For a temperature-controlled shipment, a proper preconditioning process of the temperature batteries is mandatory. This instruction document describes each step of the preconditioning process for va-Q-accus at a constant temperature.







Step I

Before use check the temperature batteries for damages such as leakages. Do not use damaged temperature batteries! A detailed check 3 years after the manufacturing date is recommended.

Step II

Depending on the PCM in use, store the temperature batteries at a temperature as defined in the table below.

	<i>PCM</i>	<i>Colour Code</i>		<i>Temperature</i>	<i>Duration</i>
		<i>PCM</i>	<i>Cap</i>		
-50G	<i>For -50°C Shipments</i>			Dry Ice: about -78.5°C ¹	≥ 24 hrs
-50G	<i>For -50°C Shipments</i>			≤ -65°C ²	≥ 72 hrs

¹ The preconditioning process with dry ice is dependent on the conditions available at customer site and hence needs to be customized. A questionnaire, that is shared on request, covers the most relevant factors to define a customized preconditioning process. Please fill in the questionnaire. In case of any unclarities and questions reach out to va-Q-tec's service address: Packaging@va-Q-tec.com

² A slight difference in performance can be expected when a preconditioning is conducted with a freezer.

Note!

Store the temperature batteries preferably horizontally. It is necessary to secure proper airflow around the temperature batteries during the entire preconditioning process. A space of at least 1.5cm (0.6") between each temperature battery is required.

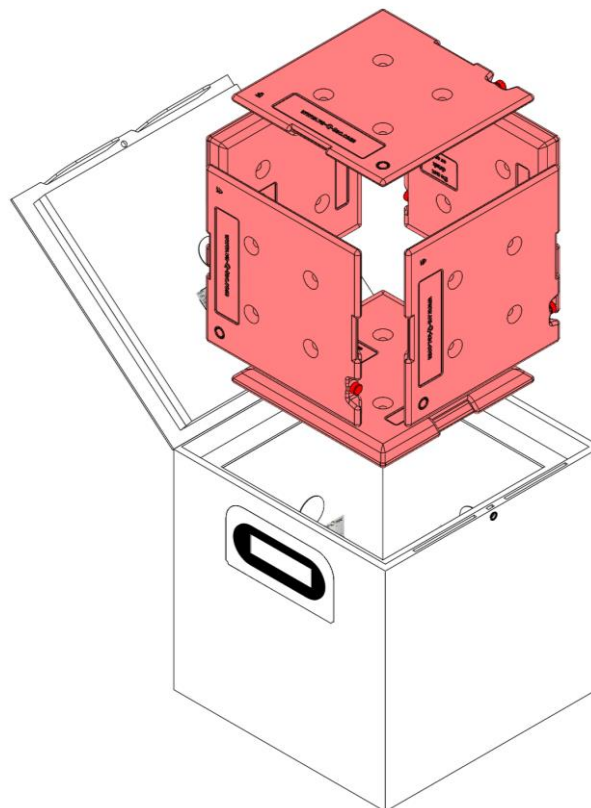
It is recommended to use va-Q-tec's preconditioning racks to ensure the space and best preconditioning results (see example of preconditioning racks in the figure on the previous page). Preconditioning racks can be ordered separately if requested.

Step III

Remove the temperature batteries from the preconditioning device.

Step IV

Load the temperature batteries into the container/parcel shipper as per the respective loading instruction.



Prior a shipment with the preconditioned temperature batteries, it is suggested that the user performs a validation process with the equipment available and under the conditions available. A test in worst case conditions is recommended. The temperature batteries can buffer energy and keep the temperature stable. Customized solutions for modified temperature ranges and other requests can be addressed to our service team: Packaging@va-Q-tec.com