



Precision equals freshness

For commodities that require fresh-air circulation, like most fresh fruit and vegetables, our reefer containers can provide air exchange through ventilation.

During transport, fresh fruit and vegetables continually respire and, thus, produce gases such as carbon dioxide and ethylene. As these respiratory gases can lead to cargo damage such as uncontrolled ripening, aging and off-flavor, they have to be removed from the container atmosphere. Depending on the respiration rate of the commodity that is being shipped, fresh-air vents of a reefer container are usually opened at defined set points in cbm/h for most fresh fruit and vegetables. Hamburg Süd's reefer containers can provide vent openings in the set-point range of 0 to 285 cbm/h .



The single permitted dimension unit for ventilation settings is “ cbm/h ”. Due to a lack of standardization, ventilation measured in percentages (“%”) is not acceptable, as it could lead to severe misinterpretations depending on the manufacturer of the cooling unit. Vent openings must be closed when transporting frozen goods or controlled-atmosphere loads.



No matter what.

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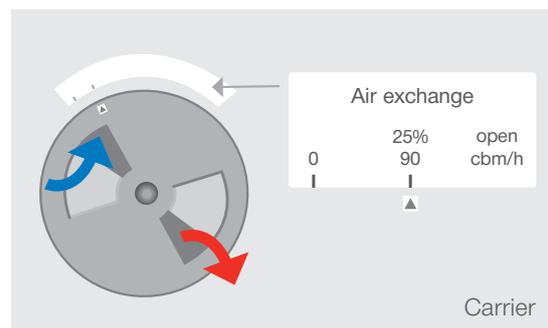
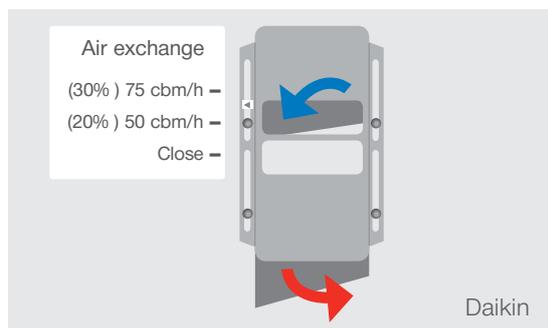


Working principles and sizes of fresh air openings heavily differ depending on the reefer container type, model, and size used. Due to this fact, a ventilation setting like 1/4 open (25%), which is commonly used for grapes, oranges, or apples in North America, does not result in the same fresh-air ventilation ratio but varies for example between 65 and 90 cbm/h, taking a Daikin and a Carrier unit as examples. **Please find Hamburg Süd recommendations for ventilation settings as a guidance to choose the appropriate set point for your cargo.**

Examples of ventilation settings and the impact of conversions from % into cbm/h

Commodity	Vague ventilation setting	Setting for manufacturer 1 unit (Daikin)	Setting for manufacturer 2 unit (Carrier)	Hamburg Süd recommendation
Grapes, table (fresh)	1/4 open = 25%	65 cbm/h	90 cbm/h	10 to 15 cbm/h
Oranges (fresh)	1/4 open = 25%	65 cbm/h	90 cbm/h	15 to 25 cbm/h
Apples (fresh)	1/4 open = 25%	65 cbm/h	90 cbm/h	10 to 60 cbm/h

Examples of different designs of fresh-air openings of reefer container manufacturers



cbm/h Cubic meter per hour

 Ambient Air

 Carbon Dioxide, Ethylene

Unnecessary high ventilation rates should be generally avoided in order to ensure a quick achievement of the set-point temperature and the prevention of excessive energy consumption with the related environmental impact. Detailed information regarding recommended transportation conditions can be found in our reefer guide STAY COOL – WE CARE.



Call today and ask to speak with one of our reefer cargo experts.



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