



Cold Room Calculation App

Alfa Laval Cold Room Calculator for Apple & Android

Cold room calculation

Air cooler units can be found in most cooling and freezing rooms. Air cooler capacities should perfectly match with the specific conditions of each individual cold room. For that reason most air cooler manufacturers supply software to select the best air cooler model for the application. However, prior to air cooler selection a calculation must be made to determine the expected heat load for the cold room.

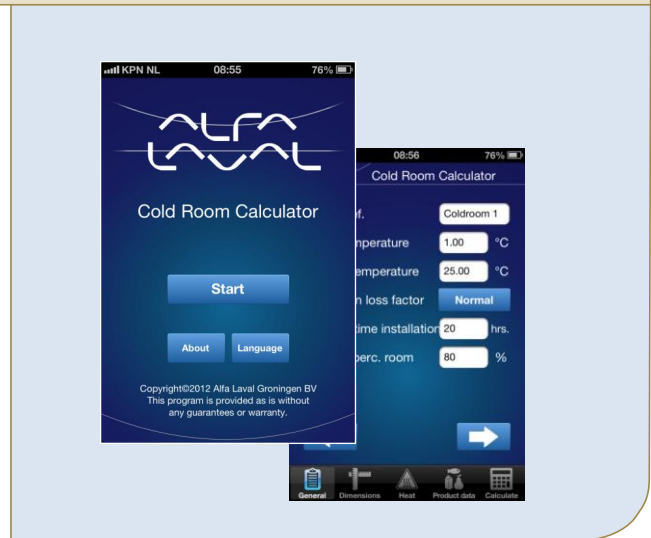
Rules of thumb or accuracy?

For making cold room calculations refrigeration installers can rely on experience based and widely used 'rules of thumb' : 15-20 watt/m³ for a large frozen storage room, 60-70 watt/m³ for a fresh fruit cooling room, etc. Convenient, quick, but not very accurate.

A more accurate method is a detailed cold room calculation using refined calculation formulas in combination with product data tables. This can be done manually or using commercial cold room calculation software. This is relatively time consuming, a computer is required and in addition the software is not for free. And if for instance the room door remains open a little longer than planned, so much for calculation accuracy...

Quick & easy

To offer the market an convenient intermediate solution, a quick & easy cold room calculation module has been added to the selection software for Alfa Laval Helpman heat exchangers some years ago. This non-academic software enabled customers to make quick and reliable 'stand alone' calculations for a cold/freezing rooms. This approach turned out to be a hit and many consultants and refrigeration installers have been using this 'easy access' calculation method since.



Mobile App – for free!

With mobile technology rapidly developing, Alfa Laval decided to 'translate' the existing cold room calculation software into a mobile App for smartphones and tablets. This App is now available for free in both Apple & Google app stores. The new Alfa Laval Cold Room Calculator turned out to be a very easy-to-use tool, with it's functionality fully based on the previous computer software. The App quickly calculates a reliable cooling capacity for any cold or freezing room.

App name	Alfa Laval Cold Room calculator
Platform	Apple & Android
Search string	Alfa Laval; Cold Room Calculator



Functionality description

- *Start*

In the start screen (1) the interface language can be selected. By default this is the language that has been selected for your own smartphone or tablet. At the moment the App is available in some 20 languages, including Arab, Chinese and Russian.

- *General*

The first calculating screen (2) is for general data. Cold room temperature, outside temperature, expected ventilation losses etc. are to be entered here.

- *Dimensions*

The next screen (3) is about cold room dimensions, insulating material specifications etcetera.

- *Heat*

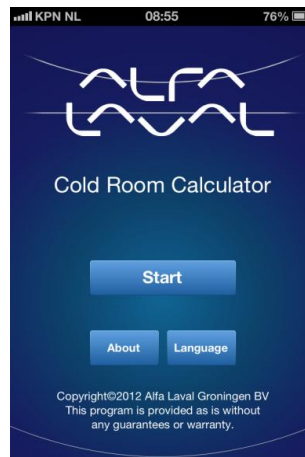
Screen (4) deals with other heat sources. Here an estimation is required for air cooler fan power, room illumination, persons working in the room and other heat sources that may be present. This includes the duration of the specified heat sources.

- *Product data*

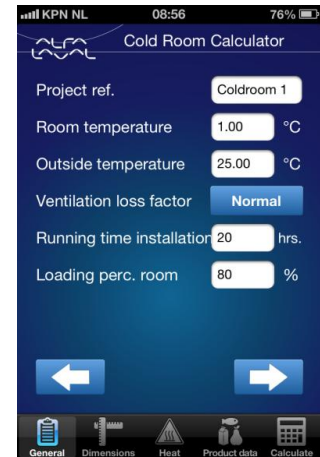
Screen (5) is about stored products. The App includes specific product data for the most common stored products. Here you make an estimate of the storage volume. This is especially important to determine the respiration heat for biologically 'living' produce like fruits & vegetables. In addition the stock shift quantity needs to be defined. This refers to the product volume that is regularly placed in the cell at a different temperature than the cold room temperature. Apart from the entering temperature also the cool down period needs to be defined.

- *Calculate*

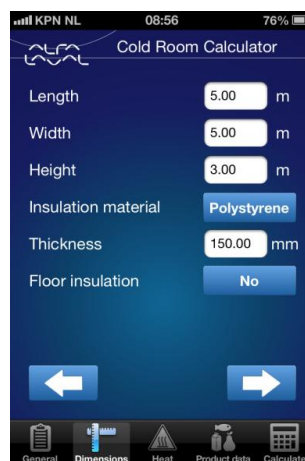
In the final screen (6) the actual cold room calculation is performed. The calculation output includes all selected input values and calculation results. Each calculation can be saved or shared using the built-in email functionality.



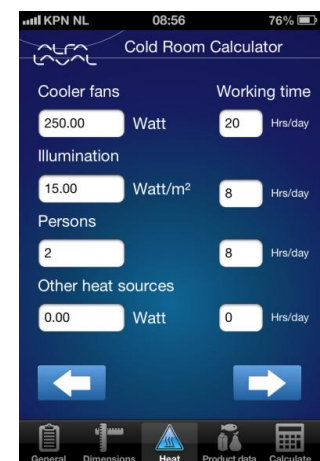
Screen 1 - Start



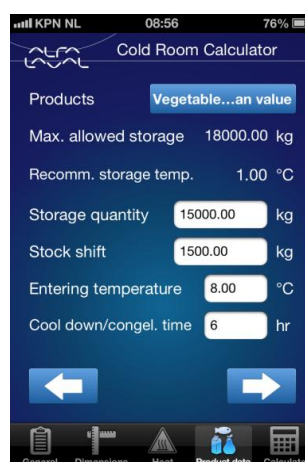
Screen 2 - General



Screen 3 - Dimensions



Screen 4 - Heat



Screen 5 - Product data



Screen 6 - Calculate

How to contact Alfa Laval

Up-to-date Alfa Laval contact details for all countries are always available on our website at www.alfalaval.com