

# ColApp

## Refrigerator testing software according to IEC 62552-1-2-3: 2015

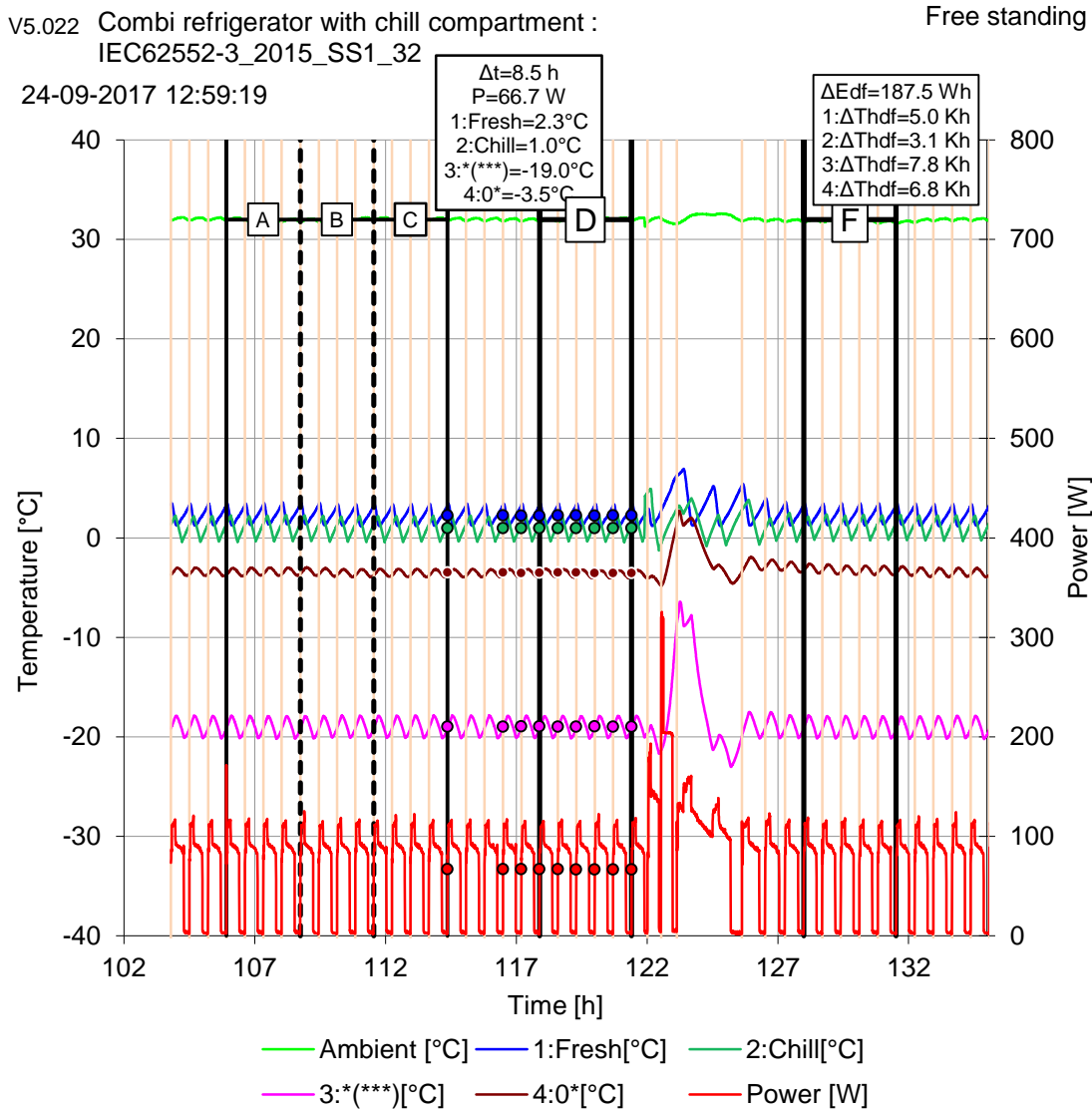


Figure 1; Energy consumption test, SS1 and D&F analysis

## ColApp in short

Re/genT has developed a commercially measurement evaluation software called ColApp, which is already successfully distributed to various refrigerator testing laboratories. ColApp complies with the IEC 62552-1-2-3: 2015 standards and describes energy consumption and performance measurements for domestic refrigerators and contains all stabilization criteria. These criteria are not practical to be evaluated manually and require dedicated software which has been integrated into ColApp. Measurement results are being visualized with a transparent, graphical user interface.

## Background information

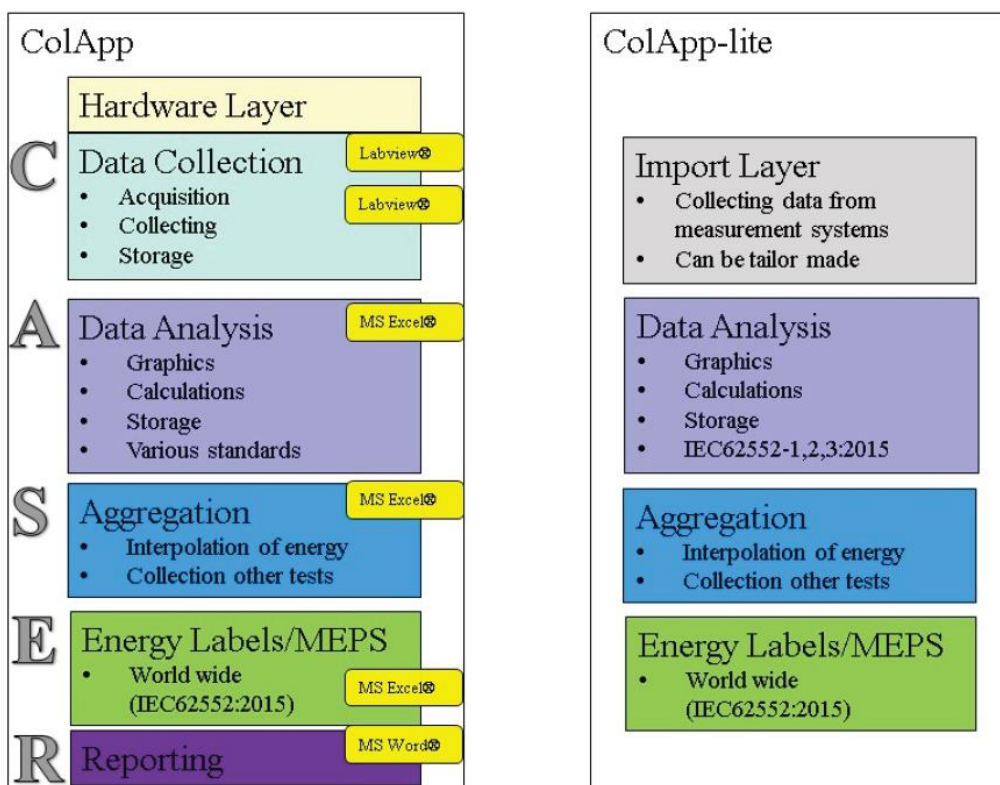
Re/genT is an ISO 17025 accredited testing laboratory. Testing the energy consumption and performance of domestic freezers and refrigerators is a daily activity, being performed by experienced testing engineers for more than 25 years. In order to facilitate the testing process Re/genT has continuously improved its developed, Excel based, measurement software.

Mr. Martien Janssen of Re/genT has been actively involved in the development of the IEC 62552-1-2-3: 2015 testing standards for domestic refrigerators. His role as expert and convener of the IEC SC59M/MT2 technical committee has facilitated this activity. In parallel with the development of the standard, Re/genT has continuously updated its measurement software in order to keep the software compliant with the developed standard. This process finally resulted in measurement software named ColApp, which is ISO 17025 compliant software for testing domestic refrigerators and freezers according to the IEC 62552-1-2-3: 2015 standards.

China, Japan and Europe have already decided to apply IEC 62552-1,-2,-3: 2015 to determine current and future energy efficiency classes. For sure more countries will follow. An important advantage of ColApp is that the software automatically calculates the energy efficiency classes for the countries or regions using this standard. To keep the software compliant with the regulations, ColApp will be regularly updated, keeping the program up to date with energy label and energy limit regulations all over the world.

## ColApp and ColApp-lite

Two full functional software packages are available named: ColApp and ColApp lite. The follow scheme explains the differences.



ColApp has the functionality to automatically read measurement data. The software communicates with various state of the art temperature and power measurement data acquisition systems. ColApp lite does not contain this connection to measurement hardware, but has an important tool for measurement data, which can be adapted to any customer data acquisition system.

### ColApp automatic stability analysis

ColApp has integrated stability functions to automatically evaluate stability for the following tests:

- Energy consumption test, SS1 case
- Energy consumption test, D&F case
- Energy consumption test, SS2 case
- Storage test
- Freezing capacity test
- Cooling capacity test
- Temperature rise

Stability compliance is automatically shown in a graphical format on your display screen, which make testing analysis practical, accurate and easy to do.

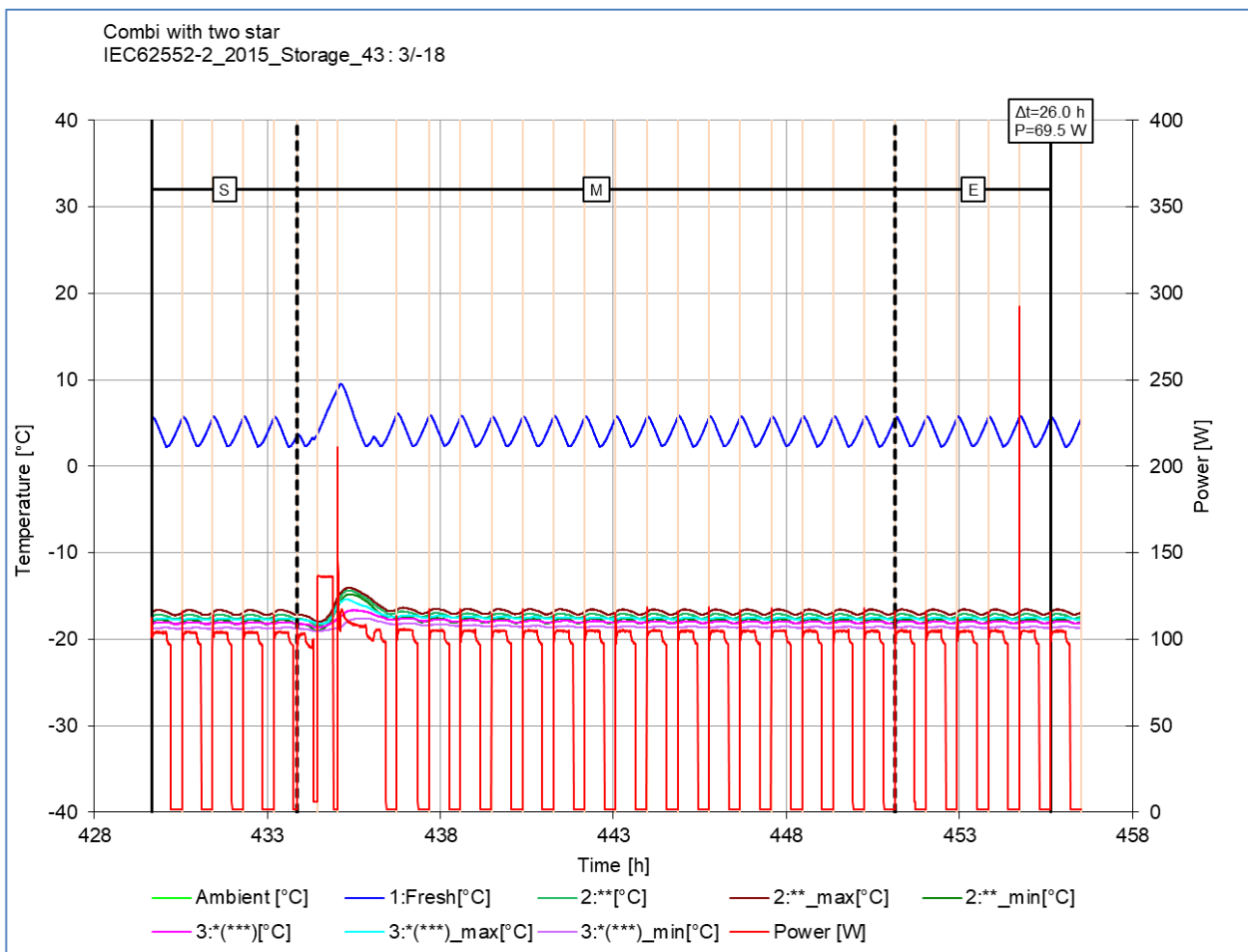


Figure 2; Temperature test analysis

### ColApp energy consumption interpolation tool

ColApp contains a module which determines the energy consumption at 16 and 32°C for tests with different control settings. This module automatically interpolates refrigerators with up to 6 different compartments each with its own temperature control. Interpolation results are visualized in a clear graphical format, which gives a perfect overview of the completed measurement points. Evaluation of the suitability of tested operating points, become visual immediately, thereby easing the decision process whether additional testing points are required or not.

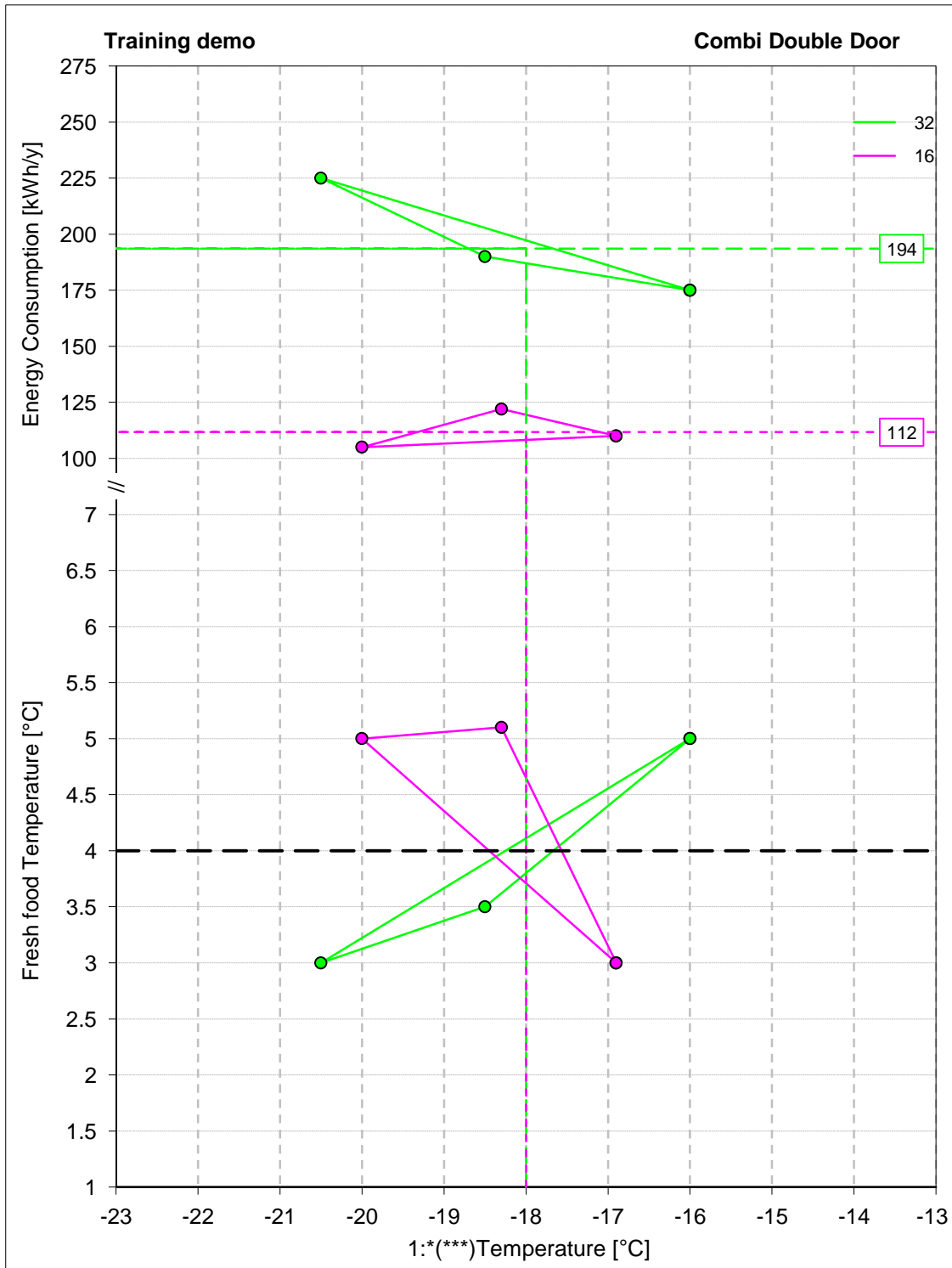
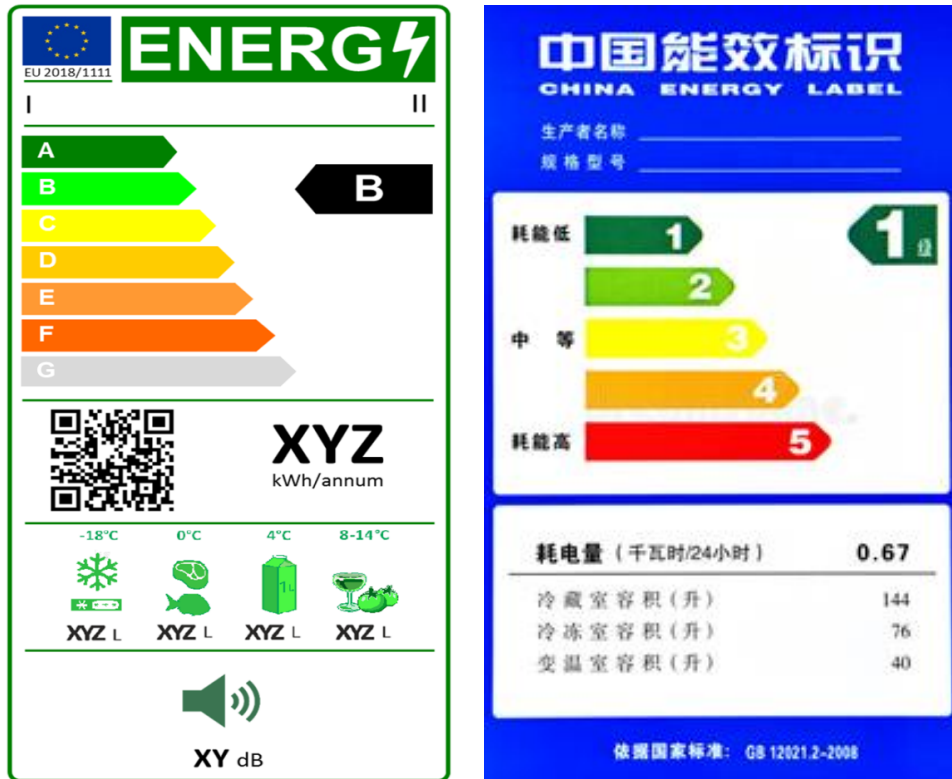


Figure 3; Interpolation combi refrigerator with freezer and fresh food compartment control

## ColApp IEC 62552-1-2-3: 2015 based energy label and energy limit calculation

ColApp contains a module which calculates the energy efficiency label for regions using the IEC 62552-1-2-3: 2015 standard for their label (for example Japan, China and Europe). Updates will be provided on a regular basis keeping the software up to date and complying with regulations anywhere around the world.



## ColApp training

Once ColApp is purchased and installed at the testing location, Re/genT will educate ColApp users how to efficiently use the program. Demo test data for different domestic appliances has been developed specifically for these training purposes. Upon request such a ColApp training can be combined with a detailed IEC 62552-1-2-3: 2015 training.