MAKING MODERN LIVING POSSIBLE

Coolselector®
User guide

www.danfoss.com

Coolselector® User Guide

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Software installation requirements
Danfoss only guarantee that Coolselector runs on below specified systems. In case you try to install Coolselector on computers not configured as described below Danfoss can not support that specific installation.

If you have an older PC (from before 2003) the installation may take a long time. You can ask Danfoss to mail you a CD.

Coolselector runs on below PC-configuration
Windows XP, Windows Vista, Windows 7

Coolselector is optimized for use with the Microsoft Office programs.

Coolselector can also be installed on Networks but will require special installation procedures that should be performed only by qualified personnel.

Coolselector installation will check and if required install the following

Microsoft .NET Framework min. version 2.0:
- Hard Disk space required: 280 MB (x86), 610 MB (x64)

Microsoft SQL 2005 Express SP4:
- Hard Disk space required: min. 400 Mb

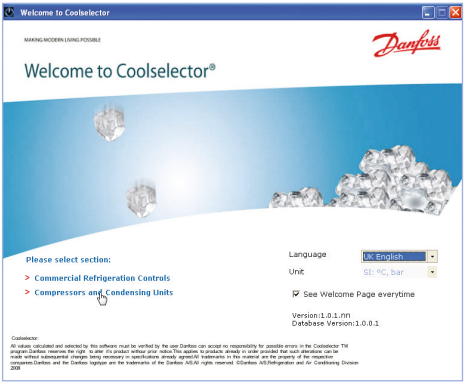
Coolselector software core:
- Hard Disk space required: 20 Mb

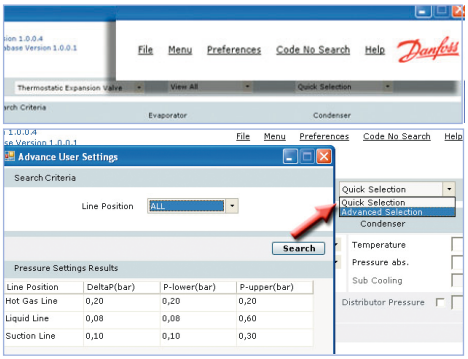
Please note that this may take several minutes, but you can carry on working with other programs meanwhile.

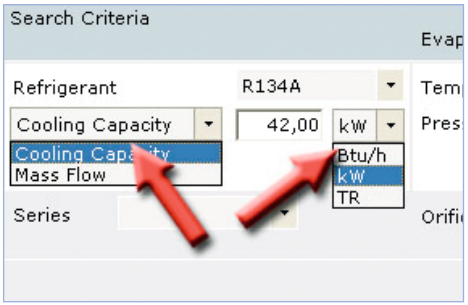
*** Firefox and Chrome users**
Please note that you may be required to execute the installation files manually by double-clicking them in your down-load directory or directly from the down-load manager.

Installing from the Danfoss website
- Go to your local Danfoss website and find Refrigeration and Air Conditioning
- Under Software find the Coolselector
- Please be sure that your PC fulfills the installation requirements

Coolselector will check if the required additional components are installed
- Microsoft SQL Server Express
- .Net 2.0 Framework
- Crystal Reports







First time use

- Please note that the layout may have changed
- Please also read the Disclaimer
- On the welcome screen you can choose your language and default unit settings
- You can always change these settings afterwards
- You can also check if you want to see the Welcome screen every time you start up Coolselector®
- Please note that only the installed and active modules can be chosen, i.e. Commercial Refrigeration Controls and Compressors and Condensing Units.
- Click on the requested module, e.g., Component Selection

Setting the preferences

File: Save and retrieve the selections you have made.

Menu: You can change the pressure settings for the calculations of the more advanced valves. Please note that to do so you will have to change to "Advanced Selection".

Preferences: You can change your default settings in the "Preferences", such as language, default units, the default page you want Coolselector to open and the ambient temperature as reference.

Code no. search will take you to the Danfoss website where you will be able to search for a specific code number.

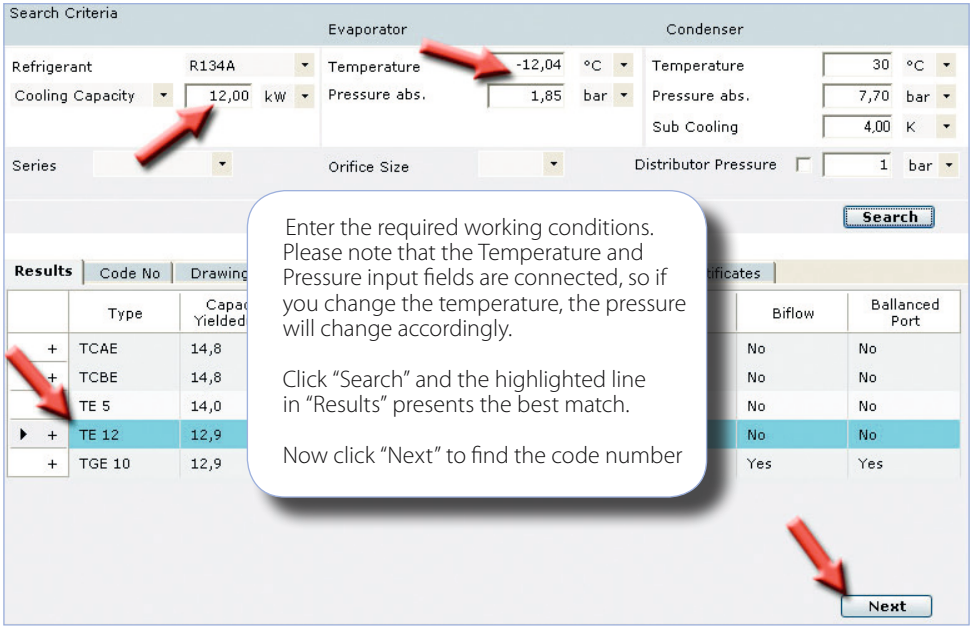
Help: You will be able to access on-line help via this link.

Selecting a valve: The Search Criteria will help you define the operating conditions, under which you want to calculate the valve or component.

Please note that it is the "Advanced Selection" mode that is shown. This means that in the shown example of TXV's you can calculate the performance of the valve by mass flow or by cooling capacity.

You can also change the units individually, if you need to check what 12 kW is in TR or Btu/h.

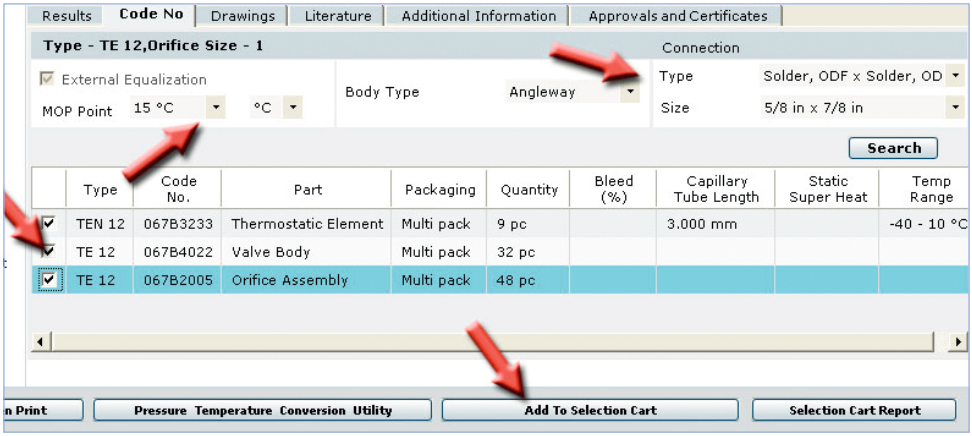
Please note that if you want to change all units, you should make the changes under Preferences. Please refer to above.

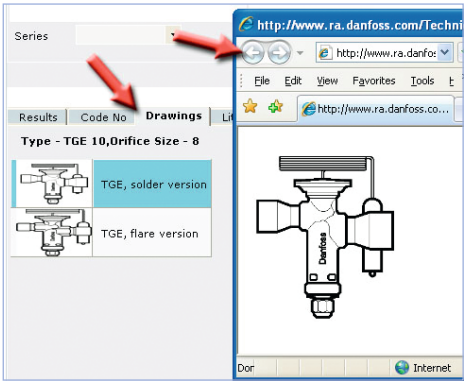


Depending on type of component/valve you may get the code number on the first tab, but in the shown example, TXV, you will need to select MOP or not, body type, and connection type and -size before you get the code numbers to order.

In this example you will need to check three individual code numbers to select a complete TEN 12 valve.

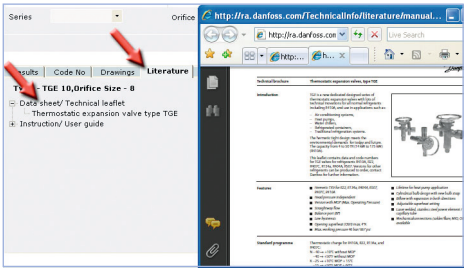
When you have checked all you want to add to the selection cart (or shopping list), click the "Add to selection Cart" button.





Additional Information Drawings:

Select the Drawings tab. To see the drawings you will need to be connected to the Internet. Coolselector will find the available drawings for the particular valve or component you have highlighted in the Results-tab.

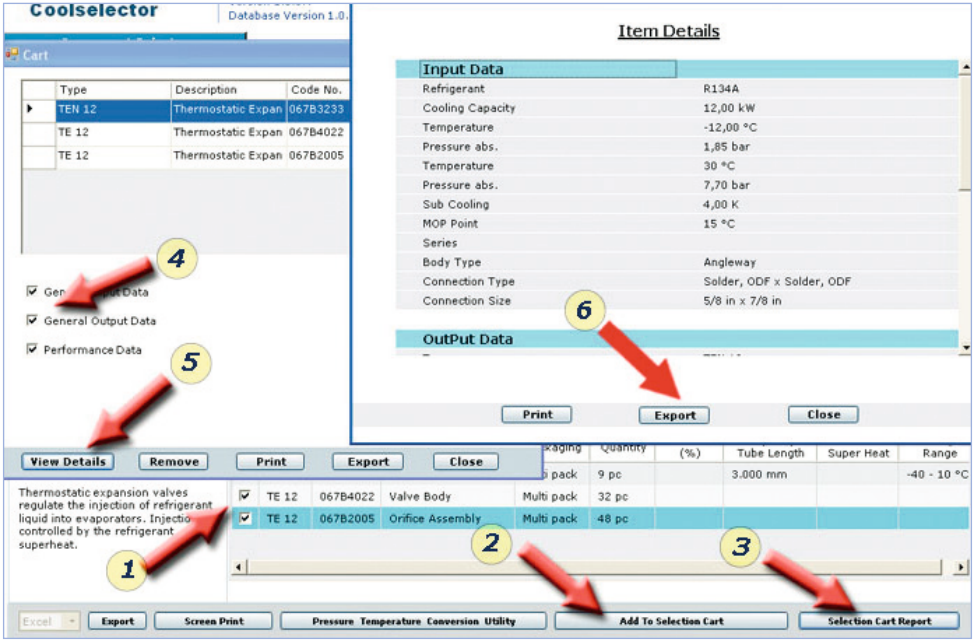


Literature

Select the Literature tab. To access the literature you will need to be connected to the Internet. Coolselector will find the available documents for the particular valve or component you have highlighted in the Results-tab. Please note that the number and type of documents may vary from one valve or component to the next.

Additional Information and Approvals and Certificates

Select the Relevant tab. Both tabs make direct connections to the Danfoss Internet website so you need to be connected to see this information.
Please note that only the information available can be shown.



Add to “shopping list” or -cart

1: In the Code no. tab select the item(s) you want to add to your “shopping list” or shopping cart.

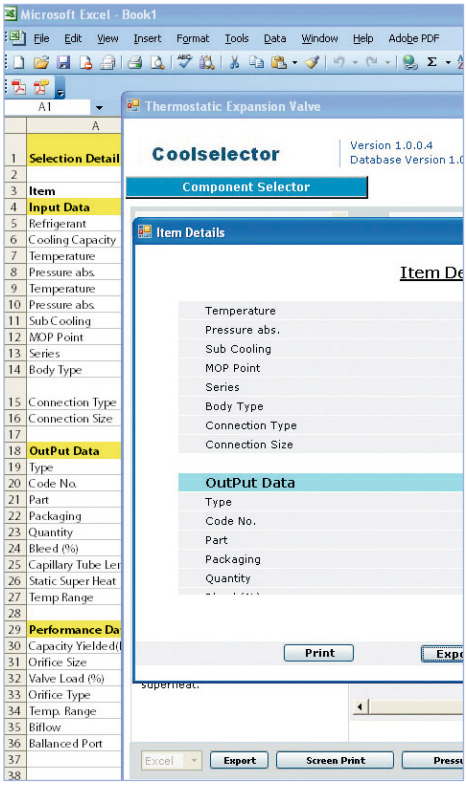
2: Click “Add to Selection Cart”

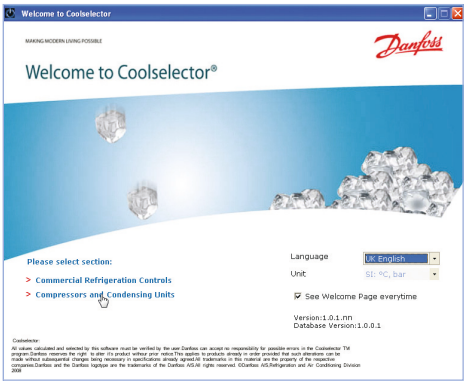
3: To check if the items have been added or to view the accumulated list of items, click the “Selection Cart Report” and the Cart window now opens.

4: To see details related to the selection, i.e. data, conditions etc. mark the details you wish to view.

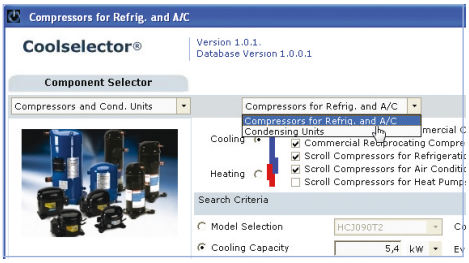
5: Click on the “View Details” button and the Item Details window now opens.

6: If you want to export the details click the Export button and the details will be exported to Excel. From Excel you can copy and paste the details to most other Microsoft programs like Words or you can copy to an e-mail.





Selecting a Compressor:
You select the "Compressor and Condensing Units" on the Welcome screen or you select it in the top left dropdown when the program has been opened.

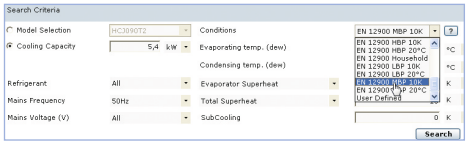


You can now, if you want select Condensing Units but the following examples is about how to select Compressors.

You can select two types of applications, Cooling or Heating, where the Heating is covering compressors for Heat Pumps.

By default the typical compressors for the two applications are chosen using the check-marks and you can modify the selection of models accordingly.

You can however not select, say, reciprocating compressors for Heating applications. These limitations are indicated by the red and blue line in front of the type check-boxes.



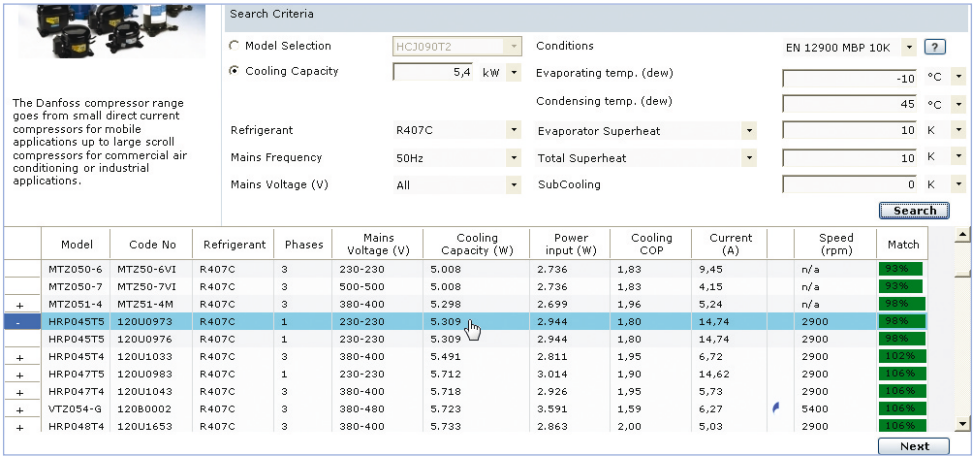
In the "Search Criteria" field you enter or select the operating conditions for the compressor you are looking for.
You can either enter all the values individually, or you can choose from a number of std. conditions in the "Conditions" dropdown.

You can either leave out the selection of Refrigerant or select the requested refrigerant.
Also the Mains voltage selection can be left out.
Please note however that the list of results will of course be longer with less choises made.

When you have selected or entered the required conditions, please click on the "Search" button.

The highlighted selection (in this context the "HRP045T5") has been selected as the best match, but you can see all possible alternatives both higher and lower capacities, and you simply choose by clicking the one that suits your purpose best, and click the button "Next"

Please note the blue icon in the second lowest line: This indicates a compressor with variable speed.



	Model	Code No	Refrigerant	Phases	Mains Voltage (V)	Cooling Capacity (W)	Power input (W)	Cooling COP	Current (A)		Speed (rpm)	Match
	MTZ050-6	MTZ50-6VI	R407C	3	230-230	5.008	2.736	1,83	9,45		n/a	93%
	MTZ050-7	MTZ50-7VI	R407C	3	500-500	5.008	2.736	1,83	4,15		n/a	93%
+	MTZ051-4	MTZ51-4M	R407C	3	380-400	5.298	2.699	1,96	5,24		n/a	98%
-	HRP045T5	120U0973	R407C	1	230-230	5.309	2.944	1,80	14,74		2900	98%
	HRP045T5	120U0976	R407C	1	230-230	5.309	2.944	1,80	14,74		2900	98%
+	HRP045T4	120U1033	R407C	3	380-400	5.491	2.811	1,95	6,72		2900	102%
+	HRP047T5	120U0983	R407C	1	230-230	5.712	3.014	1,90	14,62		2900	106%
+	HRP047T4	120U1043	R407C	3	380-400	5.718	2.926	1,95	5,73		2900	106%
+	VTZ054-G	120B0002	R407C	3	380-480	5.723	3.591	1,59	6,27		5400	106%
+	HRP048T4	120U1653	R407C	3	380-400	5.733	2.863	2,00	5,03		2900	106%

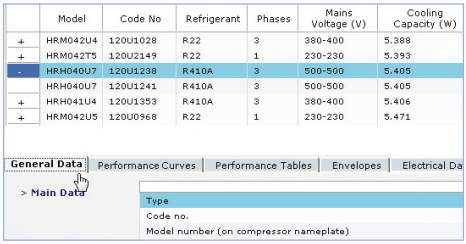
If you click on the "+" symbol to the left of any of the compressor models, the list of possibilities for that particular model is shown.

Below you see the effect of clicking on the Variable Speed Compressor "VTZ054-G", where the performance depend on the speed of the compressor.

It could also be voltages and/or code numbers being varied.

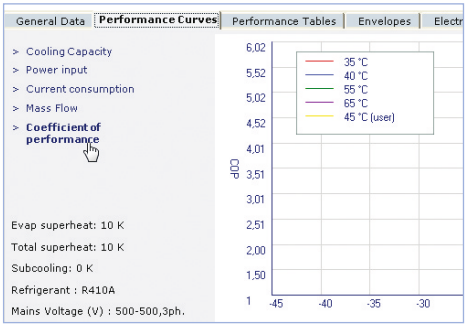
When you have selected the model you want to investigate further, please click on the low right button "Next" to move to the next page.

	Model	Code No	Refrigerant	Phases	Mains Voltage (V)	Cooling Capacity (W)	Power input (W)	Cooling COP	Current (A)		Speed (rpm)	Match
+	HRP047T4	120U1043	R407C	3	380-400	5.718	2.926	1,95	5,73		2900	106%
-	VTZ054-G	120B0002	R407C	3	380-480	5.723	3.591	1,59	6,27		5400	106%
	VTZ054-G	120B0002	R407C	3	380-480	5.455	3.356	1,63	6,02		5100	101%
	VTZ054-G	120B0002	R407C	3	380-480	5.176	3.127	1,66	5,76		4800	96%
	VTZ054-G	120B0002	R407C	3	380-480	4.887	2.904	1,68	5,48		4500	91%
	VTZ054-G	120B0002	R407C	3	380-480	4.587	2.687	1,71	5,19		4200	85%
	VTZ054-G	120B0002	R407C	3	380-480	4.277	2.475	1,73	4,88		3900	79%
	VTZ054-G	120B0002	R407C	3	380-480	3.956	2.268	1,74	4,56		3600	73%
	VTZ054-G	120B0002	R407C	3	380-480	3.625	2.068	1,75	4,22		3300	67%
	VTZ054-G	120B0002	R407C	3	380-480	3.283	1.872	1,75	3,87		3000	61%

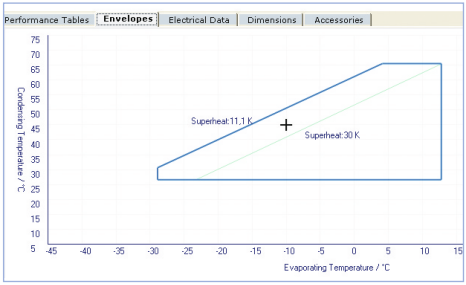


At the top of the page the results-table makes it possible for you to check other compressors without having to re-calculate on the first page.

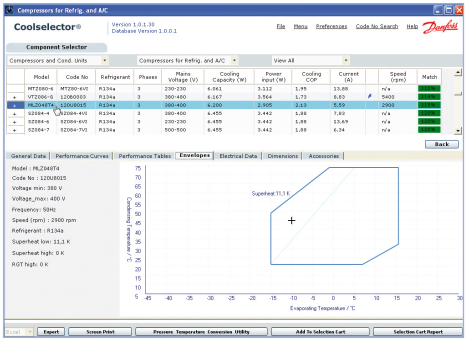
The tabs immediately under the table makes navigation between the types of information easy accessible.



In some of the tabs you can select several display options. In this example you can choose several performance curves, here is shown COP or Coefficient Of Performance.



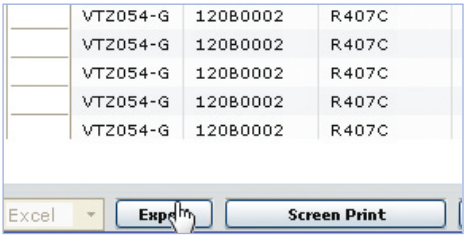
In the envelope tab the cross-hair shows the actual operating point specified on the first page either by Standard Operating Conditions or the conditions specified by the user.

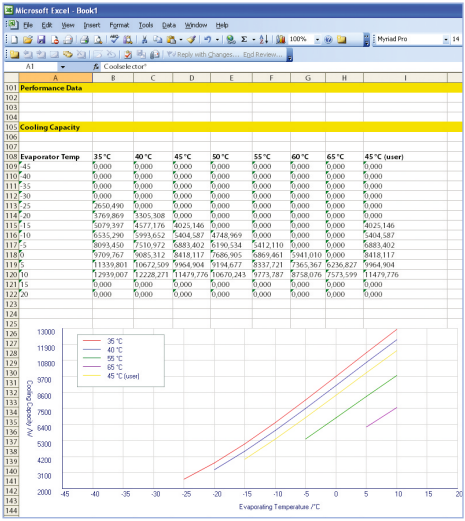


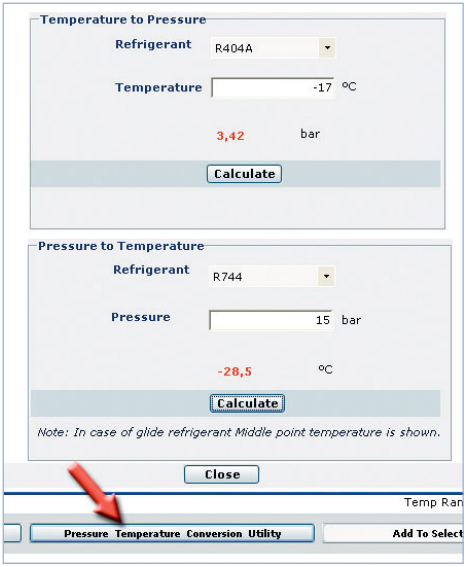
In all tabs the results-table at the top can be used to investigate the performance of other compressors as well:
Scroll to the type you want to investigate and click on the model in the table, and the values in the tabs will immediately change to match the selected model.

To print the results, please click on the low left button “Export”.
Now an Exel sheet will be generated with all results, i.e. tables, graphs etc.
The Excel sheet can now either be stored as an Excel sheet, you can cut-and-paste that part you want to whatever format you want or simply print the sheet.

Please also refer to the pages 6 and 7 regarding shopping lists, additional informations etc.







Pressure/Temperature converter
You can convert pressure to temperature and vice versa. Please note that the list of refrigerants is relatively limited.

Print-outs, Export
From almost all pages you can print the screens and lists. You can also export certain lists. Please note that it will be the selected items that will be exported or printed.