



Uputstvo za korišćenje Acon programa za izbor klima komora

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1. Login

1. **Web address:** http://acon.flaktwoods.com
2. Select language
3. Key in your User id
4. Key in your Password
5. Click **Login**
6. Information about service windows
7. Click **You can register here if you are a new user** in order to become an Acon user. Key in your data and click **Save**. You will receive an e-mail when you have been registered.
8. Click Web browser requirements and you will get information about web browser requirements.
9. Click **Forgotten your password?** enter your User id and e-mail address and click **Send password**.

The screenshot shows the Acon Fläkt Woods website interface. Callout 1 points to the browser address bar. Callout 2 points to the language selection dropdown. Callout 3 points to the User id input field. Callout 4 points to the Password input field. Callout 5 points to the Login button. Callout 6 points to the maintenance notice. Callout 7 points to the registration link. Callout 8 points to the browser requirements link. Callout 9 points to the forgotten password link. Below the main page, there are two detailed views of the registration and password recovery forms.

Registration Form:

- User id
- New Password
- Confirm New Password
- First name
- Surname
- Language: English
- Country: Bahrain
- Currency: USD
- Telephone
- E-mail
- Company data
- Web application:
 - Acon
 - EXSELAIR
 - Acon & EXSELAIR
- Decimal symbol
- Save

Forgotten Password Form:

Enter your username and the e-mail address registered to your account in order to get a new password sent to you.

- User id
- E-mail
- Send password

2. Settings

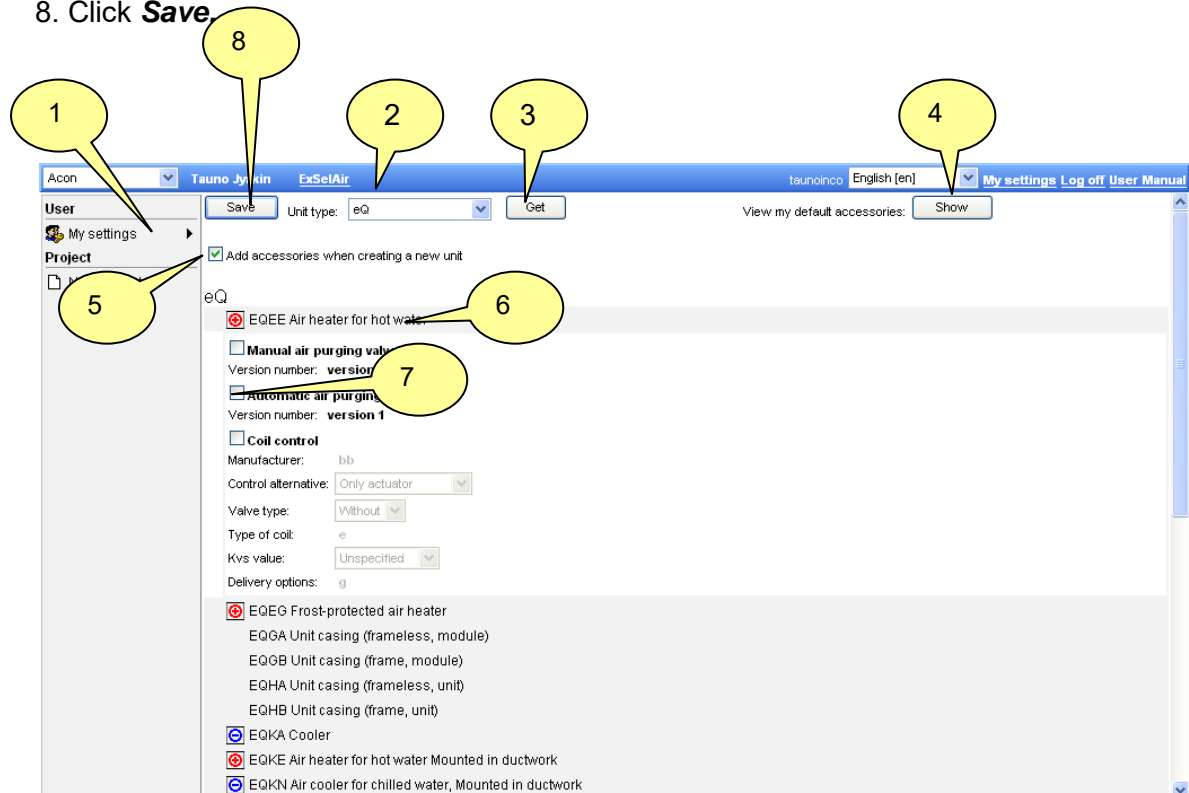
1. Select application, start application can be set in 6. **My settings**.
2. Name, registered in 6. **My settings**.
3. Link to **ExSelAir**, selection tool for air terminal devices, chilled beams and fan coils.
4. Registered User id
5. Select language
6. **My settings**, user account data, decimal symbol and Password can be changed here.
7. **Log off**
8. User manual
9. **My settings** for configuring and dimensioning
 - Default accessories automatically added to new units
 - Default dimensioning data
 - Defaults for Unit configuration
 - Defaults for Life Cycle Cost Calculation
10. Navigation panel
11. Project list, click row to open a project.

The screenshot shows the Acon user interface. At the top, there are navigation tabs for 'Acon', 'Tauno Jyrkin', and 'ExSelAir'. The user 'taunoico' is logged in, and the language is set to 'English [en]'. The 'My settings' menu is open, showing options for 'Log off' and 'User Manual'. Below the navigation panel, there is a table of projects with columns for 'Project name', 'Project number', 'Date of registration', 'Registered by', and 'Pid'. The 'My settings' form is also visible, containing fields for 'User id', 'First name', 'Surname', 'Language', 'Country', 'Currency', 'Telephone', 'E-mail', 'Decimal symbol', and 'Start application'. The 'FläktWoods' logo is at the bottom left.

| Project name | Project number | Date of registration | Registered by | Pid |
|--------------|----------------|----------------------|---------------|-----|
| Test2 | | 091009 | Tauno Jyrkin | 192 |
| Acon Manual | | 090922 | Tauno Jyrkin | 191 |

2.1 Set default accessories

1. Click **My settings** - Accessories in the menu.
2. Choose **Unit type**.
3. Click **Get**.
4. Click **Show** and view your selected accessories.
5. Mark **Add accessories....** and the accessories will automatically be added when you create a new unit.
6. Click a function, e.g. EQEE.
7. Mark accessories you want added as defaults.
8. Click **Save**.



2.2 Set defaults for dimensioning data

1. Click **My settings – Dimensioning data** in the menu.
2. Select and key in defaults.
3. Mark **Show dimensioning**..... if you want page dimensioning data be shown when you create a new unit.
4. Click **Save**.

The screenshot shows the 'My settings – Dimensioning data' configuration screen. The interface is divided into a top navigation bar, a left sidebar, and a main settings area. The top bar includes the user name 'Acon', project name 'Tauno Jyrkin', and system name 'ExSelAir'. The sidebar contains 'User' (My settings, New project, Search) and 'Project' sections. The main area is filled with various settings for air humidity, outdoor/indoor temperatures, and water heating/cooling parameters. Callouts 1-4 highlight the 'My settings' menu item, a temperature input field, the 'Show dimensioning data in new unit sequence' checkbox, and the 'Save' button respectively.

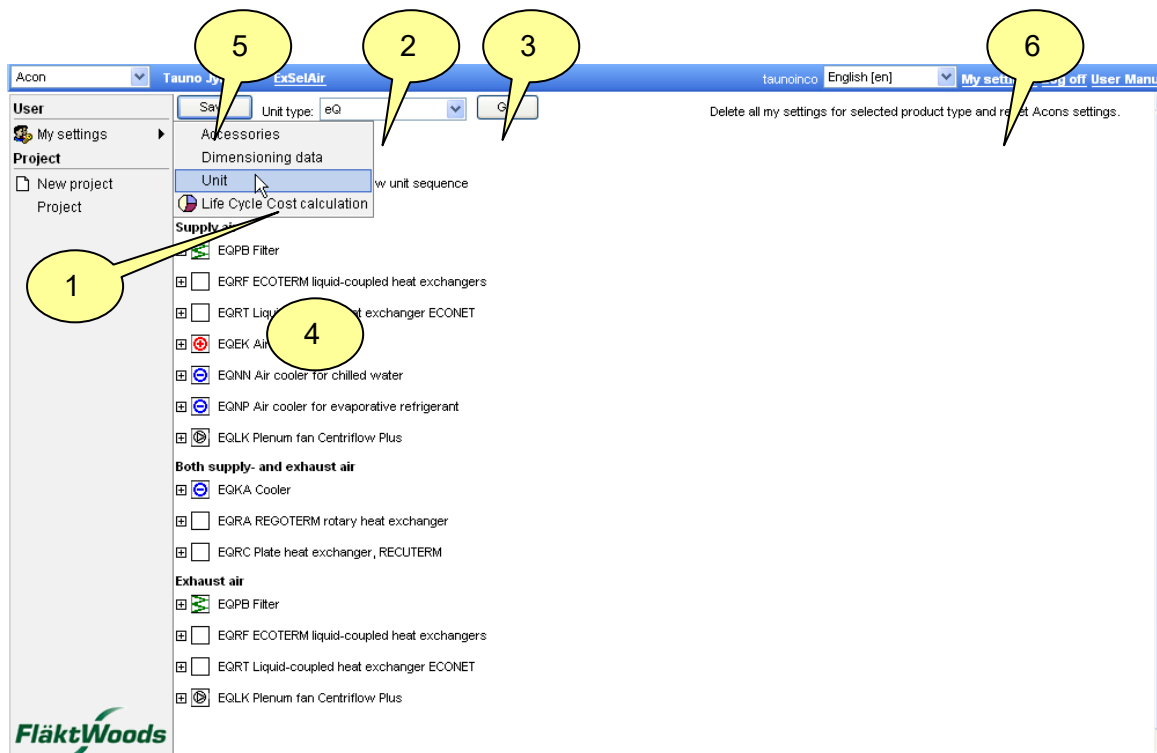
| Parameter | Value |
|--|-----------------|
| Unit for air humidity | % relative |
| Unit for air flow | m³/sec |
| Ref. altitude above sea level [m] | 0 |
| Outdoor temperature [°C] (Summer) | 22 |
| Outdoor temperature [°C] (Winter) | -8 |
| Outdoor air humidity [% relative] | 55 |
| Supply air temperature [°C] | 16 |
| Supply air humidity [% relative] | 50 |
| Exhaust temperature [°C] | 22 |
| Exhaust humidity [% relative] | 40 |
| Heating water temp in [°C] | 80 |
| Heating water temp out [°C] | 60 |
| Antifreeze medium, air heater | Ethylene glycol |
| Antifreeze air heater [%] | 30 |
| Control principle for water heater | flow control |
| Primary pressure hot water [kPa] | 15 |
| Steam temperature [°C] | 110 |
| Temperature margin between heat recovery/air heater [°C] | 0 |
| Chilled water temperature in [°C] | 6 |
| Chilled water temperature out [°C] | 12 |
| Antifreeze medium, air cooler | Ethylene glycol |
| Antifreeze air cooler [%] | 30 |
| Control principle for water cooler | flow control |
| Primary pressure chilled water [kPa] | 15 |
| Refrigerant | R 407c |
| Evaporation temperature [°C] | 6 |
| Cooling | no |
| Max external pressure drop, Econet [kPa] | 40 |
| Water temperature, humidifier [°C] | 10 |
| Max. pressure drop on both coils, EcoTerm [kPa] | 70 |

Show dimensioning data in new unit sequence

Save

2.3 Set default for units

- 1 Click **My settings-Unit** in the menu.
2. Choose unit type
3. Click **Get**.
4. Select defaults for the unit type.
5. Click **Save**.
6. Click **Delete** if you want to remove all your settings.



2.4 Set default for Life Cycle Cost calculation

1. Click **My settings – Life Cycle Cost** calculation in the menu.
2. Choose between the Fläkt Woods model and Simplified Swedish model.
3. Select and key in default data.
4. Click **Save**.

The screenshot shows the Acon software interface for Life Cycle Cost calculation. The interface is divided into several sections:

- User:** My settings (highlighted with callout 1), Project, New project, Project.
- Life Cycle Cost:** Fläkt Woods model (highlighted with callout 2), To temperature.
- Cooling calculation:** Sweden, Jönköping.
- Climate data:** Climate Data / other location Average year temperature, moisture (5.4, 98.1), Winter (Year highest temperature / moisture: 26.5, 73; Normal temperature, summer: 22.5; Normal temperature, winter: -13.7; Year lowest temperature / moisture: -20.8), Summer (Year highest temperature / moisture: 26.5, 73; Normal temperature, summer: 22.5; Normal temperature, winter: -13.7; Year lowest temperature / moisture: -20.8).
- Temperatures:** Supply air temperature / moisture (21, 19.8), Exhaust air temperature / moisture (22, 30), Supply air temperature (18, 18), Outdoor temperature (-20, 0).
- Operation:** Days per week (5), Hours per day (12), Air flow [%] (100), Economy operation (Temp. adjust, economy mode: 2, Outdoor temperature <: -15).
- Energy cost:** Heating (243), Cooling (422), El. (151), Reheating (243), CO2 - emission (243), Price per kWh (0.4), Expected actual price rise (1).
- Power cost:** Heating (0), Cooling (0), El. (0), Cost for installed capacity (0).
- Economy:** Tender sum (0), Interest (6), Operating time (20).
- Variable flow:** Correction factor flow (1), Correction factor external pressure (1).

The **Save** button is highlighted with callout 4.

3. Project

3.1 Create a new project

1. Click **New project**.
2. Key in and select project data.
3. Click **Save**.

The screenshot displays the Acon software interface for creating a new project. The interface is divided into a sidebar and a main form area.

Sidebar (Left):

- Header: Acon
- User: Tauno Jyrkin
- Product: ExSelAir
- Language: tauno English [en]
- Menu items: My settings, Project, New project (1), Search

Main Form (Right):

Project Information:

- Pid:
- Project name:
- Project number:
- Customer id:
- Customer name:
- Customer ref:
- Our Reference: Tauno Jyrkin

Location and Units:

- Country: Malta (2)
- Market segment: EQ
- Unit for air humidity: % relative
- Currency: EUR
- Unit for air flow: m³/sec
- Ref. altitude above sea level [m]: 0
- Ref. pressure [Pa]: 101325

Motor and Power Specifications:

- Motor classification: without
- Power supply: 3 x 400 V
- Electrical frequency: 50 Hz

Dates:

- Offer date (yymmdd):
- Expected order date:
- Order date (yymmdd):

Registration:

- Registered by:
- Date of registration:

Buttons:

- Save (3)
- Grant permission
- Move

3.2 Search project

1. Click **Project**.
2. You can search in
 - own projects
 - internal projects
 - external projects
 - or choose Acon ordering code and key in code.
3. Narrow your search further by keying in
 - Project name
 - Project number and/or
 - Project ID.
4. Click **Search**.
5. You can sort the projects according to the headings by clicking them.
6. Open a project by clicking it.

The screenshot shows the Acon software interface with the following elements highlighted by callout boxes:

- 1:** The 'Project' menu item in the left sidebar.
- 2:** The search scope selection area, including 'Internal projects' (selected), 'External projects', and 'Acon Ordering Code'.
- 3:** The search input fields for 'Project name', 'Project number', and 'Pid'.
- 4:** The 'Search' button.
- 5:** A column header in the search results table, such as 'Project number'.
- 6:** A project entry in the search results table, such as '산도림역세권'.

The search results table is as follows:

| Project name | Project number | Date of registration | Registered by | Pid |
|-------------------|----------------|----------------------|----------------|-----|
| Atwood 11 | | 090922 | Jong kook Ahn | 464 |
| KUNSHAN | | 090918 | Jin Seob Noh | 463 |
| aa | | 090917 | Jin Seob Noh | 462 |
| marine air marine | | 090916 | Jong kook Ahn | 461 |
| 1 | 1 | 090914 | Shin Seung hun | 459 |
| 산도림역세권 | | 090914 | Min-Sang Lee | 460 |
| C | | nanam | Sanghak Lee | 455 |

3.3 Project information

1. Click **Project information** in the left hand menu.

3.3.1 Change project data

2. Key in and select what you want to change.
3. Click **Save**.

3.3.2 Grant permission to project

4. Click **Grant permission**.
5. Choose Permission recipient
6. Key in date of validity.
7. Click Add to.
8. Click **Close** to leave the page.

3.3.3 Move a project

1. Open a project
2. Click **Move**.

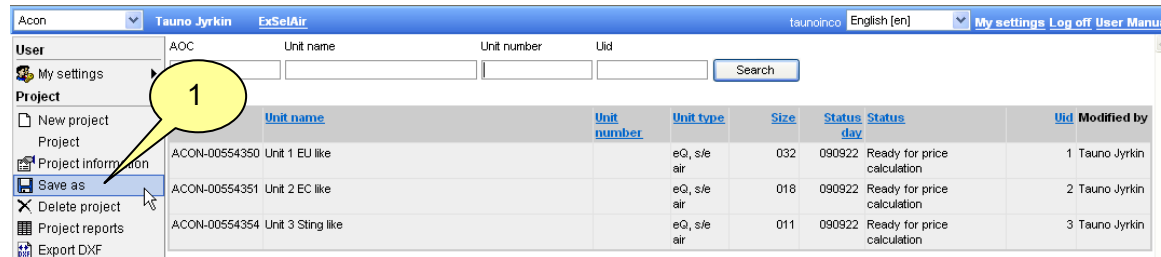
The screenshot shows the Acon software interface for user 'Tauno Jyrkin' and project 'ExSelAir'. The left sidebar contains a 'Project' menu with options like 'New project', 'Project information', 'Save', and 'Move'. A yellow callout bubble labeled '1' points to the 'Move' option. The main area displays project details such as 'Pid: 191', 'Project name: Acon Manual', 'Country: Sweden', 'Currency: EUR', and 'Date of registration: 9/22/2009'. At the bottom, there are three buttons: 'Save', 'Grant permission', and 'Move'. A yellow callout bubble labeled '2' points to the 'Move' button.

3. Select to whom you want to move the project.
- 4.. Click **Move**.

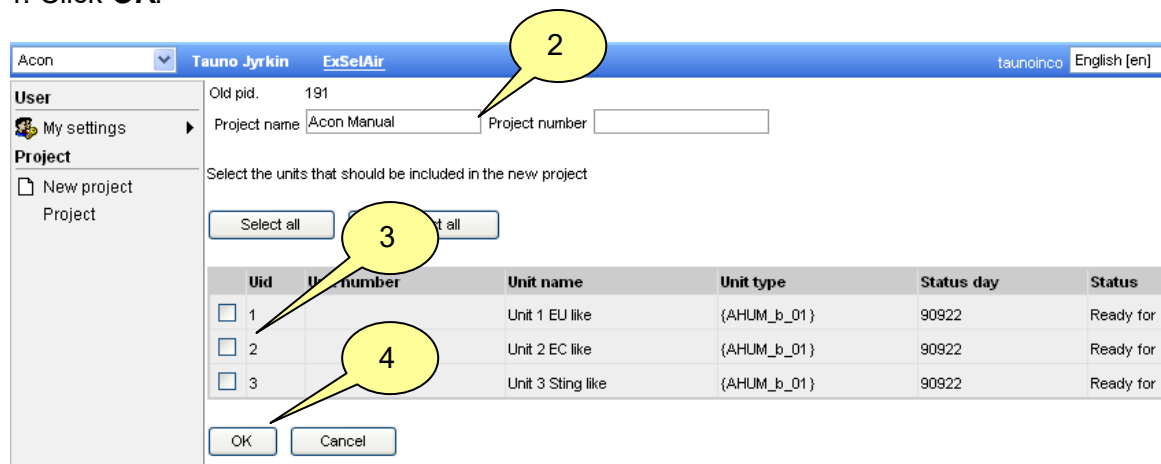
The screenshot shows the Acon software interface for user 'Tauno Jyrkin' and project 'ExSelAir'. The left sidebar contains a 'Project' menu with options like 'New project', 'Project information', and 'Move'. A yellow callout bubble labeled '3' points to the 'Move' option. The main area displays project details such as 'Customer number: FWG SE AVF SOLLENTUNA (1622)'. Below the customer number, there are two radio buttons: 'Sort by number' and 'Sort by name'. A yellow callout bubble labeled '4' points to the 'Move' button.

3.4 Copy project

1. Click **Save as**.

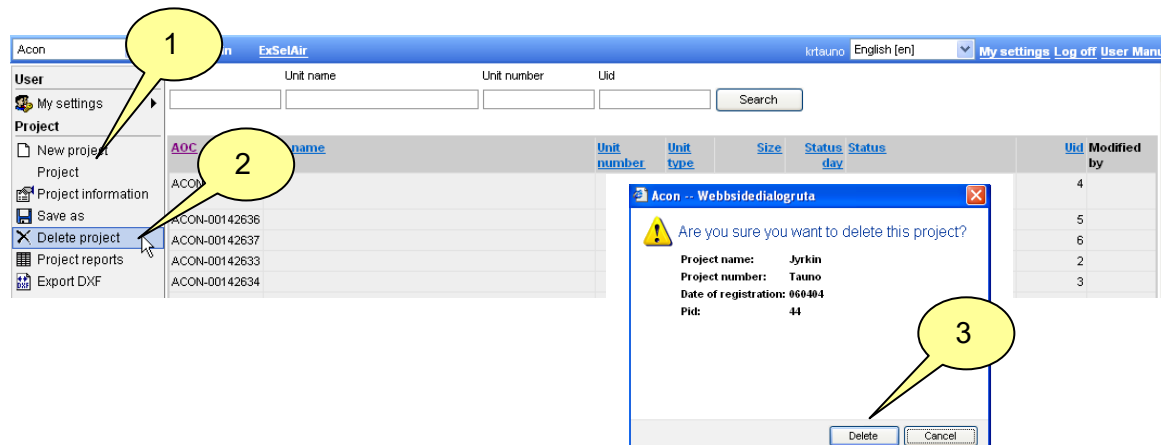


2. Key in a new project name and project number.
3. Mark the units you wish to copy for the new project.
4. Click **OK**.



3.5 Delete project

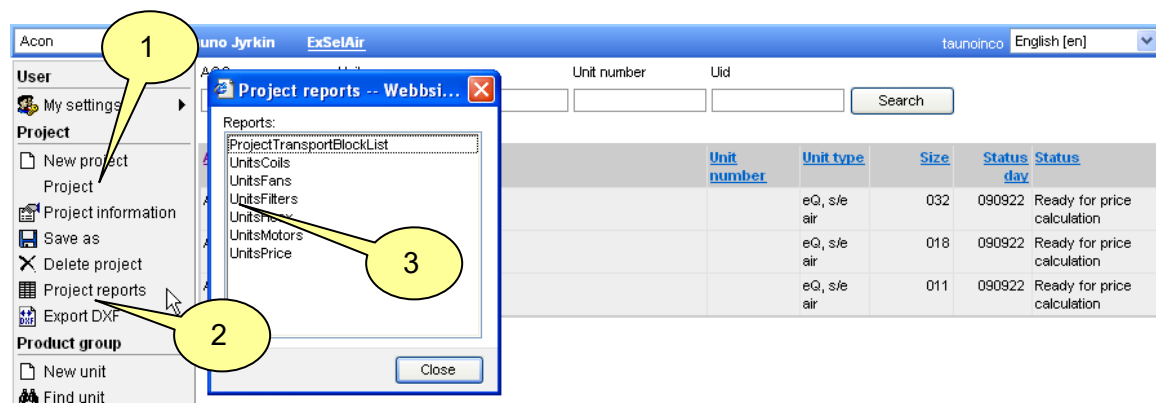
1. Open a project
2. Click **Delete project**.
3. Click **Delete**, will become active after 5 seconds.



3.5 Project reports

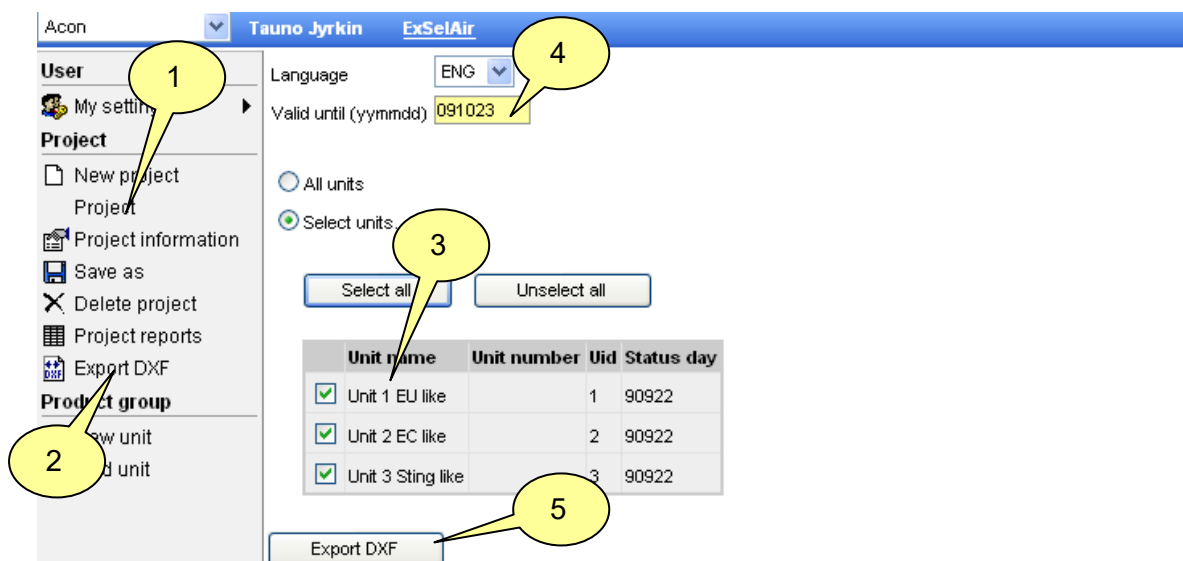
1. Open a project
2. Click **Project reports**.
3. Select project report in the list. Chosen report can be exported to Excel.

Transport dimensions
 Heater/cooler data
 Fan data
 Filter data
 Heat exchanger data
 Motor data
 Price data (if available)



3.5 Export Dxf

1. Open a project.
2. Click **Export DXF** in the menu
3. Select units to export
4. Key in **Valid until** date.
5. Click **Export DXF**



6. You can copy and mail the address to a consultant. The page will be available for the consultant until the valid date registered in 4.
7. Select unit
8. Select view
9. Select block when a unit consists of more than 1 block
- 10 Select Layers
- 11 Use **i-drop** if available in your CAD software
- 12 **Download DWG file** if you have CAD software from Autodesk.
- 13 **Download DXF file** creates a file which can be opened by all CAD software

The screenshot shows the 'Export DXF' web application interface. The browser window title is 'Export DXF - Microsoft Internet Explorer' and the address bar shows the URL: http://acon.flaktwoods.com/WEBAPP/File.Acon.Webapp/acon01/project_cad_export.aspx?q=OvplLaHU4WFBjTzR6T1Fa50QxVzBaUEhTETqTIRYR3VwUnpPK3IPVjZmVUIJd1drWE4zan8BPT0=8&h=0t. The page features a 'Fläkt Woods' logo and a 'Unit' dropdown menu set to 'Unit 1 EU like (1)'. A 'Preview' section displays a technical drawing of a unit. To the right, a 'View' section offers options: 'Inspect inside', 'Real', 'Left hand', 'Right hand', 'Above', 'Below', and '3D'. Below this is a 'Block' dropdown menu set to '1'. The 'Layers' section includes a 'Details' table with checkboxes for 'Unit', 'Functions', 'Symbols', and 'Pipes', and a table of layer names and colors. At the bottom, there are two buttons: 'Download DWG file' and 'Download DXF file'. Numbered callouts (6-13) point to the address bar, unit dropdown, view options, block dropdown, i-drop logo, layers table, and the two download buttons respectively.

| Details | Layer name | Layer colour |
|---|------------|--------------|
| <input checked="" type="checkbox"/> Unit | FLECAD1 | 7 |
| <input checked="" type="checkbox"/> Functions | FLECAD2 | 7 |
| <input checked="" type="checkbox"/> Symbols | FLECAD3 | 7 |
| <input checked="" type="checkbox"/> Pipes | FLECAD4 | 7 |

4. Product group

4.1 New unit

4.1.1 Create a new unit by specifying the unit

1. Click **New unit**.
2. Select and key in input data.
3. Click **Next**.

The screenshot shows the 'New unit' configuration dialog. The sidebar on the left has the following items: User, My settings, Project (New project, Project), Project information (Save as, Delete project, Project reports, Export DXF), and Product group (New unit, Find unit). The 'New unit' option is selected. The main area contains the following fields:

- Unit name:
- Unit number:
- Product range: EQ (dropdown)
- Flow combination: supply and exhaust air (dropdown)
- Location: indoor horizontal (dropdown)
- Supply air flow [m³/sec]:
- Exhaust air flow [m³/sec]:
- Supply air pressure drop [Pa]:
- Extract air pressure drop [Pa]:
- Indoor air pressure drop [Pa]: 0
- Exhaust air pressure drop [Pa]: 0
- Ref. density [kg/m³]: 1.2
- Copy configuration from saved unit
- Copy dimensioning data from saved unit

Buttons at the bottom: Cancel, << Back, Next >>

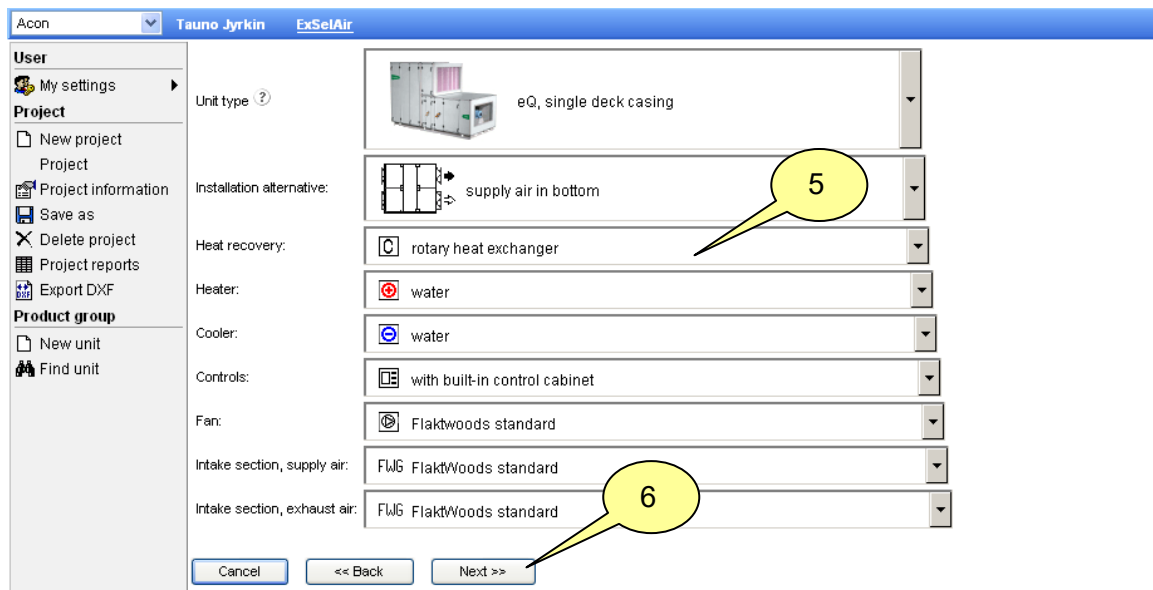
4. Select unit type in the list.

The screenshot shows the 'Unit type' selection list. The list is open, showing the following options:

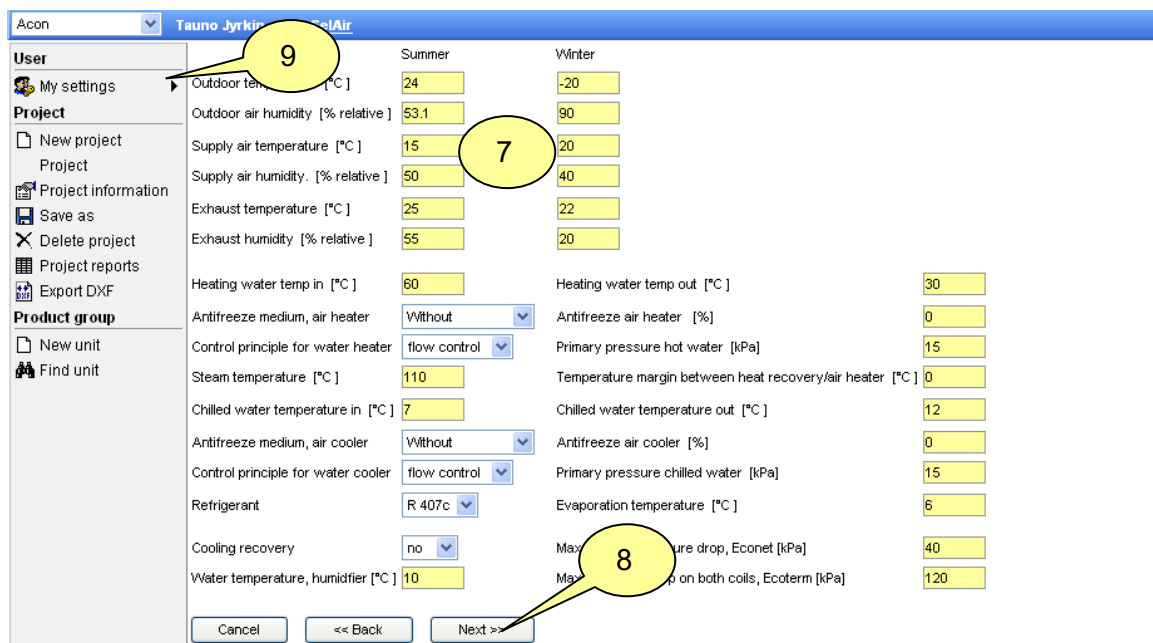
- Select
- Select
- eQ, single deck casing
- eQ, double deck casing
- eQ, double deck casing – duct mounted components

A yellow callout box with the number 4 points to the 'eQ, single deck casing' option.

5. Select components.
6. Click **Next**.



7. Change the dimensioning data, if you wish.
8. Click **Next**.
9. Did you mark the box *Show dimensioning data* in **My settings, Dimensioning data** when you set the defaults for dimensioning data? If you did not mark it, Acon uses the settings automatically and goes directly to page Size.



9. Choose size by clicking a bar in the chart.

10. Click **Finish**.

11. A dimensioned unit is suggested by Acon

4.1.2 Create a new unit by copying the configuration from a stored unit.

1. Click **New unit**.
2. Select and key in input data.
3. Mark **Copy configuration** from saved unit.
4. Click **Next**.

Acon Tauno Jyrkin ExSelAir

User: Unit name: Unit number:

Product range: EQ

Flow combination: supply and exhaust air

Location: indoor horizontal

Supply air flow [m³/sec]: 2 Exhaust air flow [m³/sec]: 2

Supply air pressure drop [Pa]: 222 Extract air pressure drop [Pa]: 222

Supply air pressure [Pa]: 0 Exhaust air pressure drop [Pa]: 0

Ref. density [kg/m³]: 1.2

Copy configuration from saved unit

Copy dimensioning data from saved unit

Buttons: Cancel, << Back, Next >>

5. Search for the unit you wish to copy by naming the project name, number or ID.
6. Click **Search**.

Acon Tauno Jyrkin ExSelAir

Project name: Project number: Pid: 191

Search

| Project name | Project number | Pid | Unit name | Unit number | Uid | Unit type | Heat recovery |
|--------------|----------------|-----|-----------|-------------|-----|-----------|---------------|
| 1 | | | | | | | |

Buttons: Cancel, << Back, Next >>

7. Select unit by clicking **Copy**.

Acon Tauno Jyrkin ExSelAir taunoinfo

Project name: Project number: Pid: Search

| Project name | Project number | Pid | Unit name | Unit number | Uid | Unit type | Heat recovery |
|--------------|----------------|-----|---------------------|-------------|-------------|--------------------------|---------------|
| Copy | | 191 | Unit 1 EU like | 1 | eQ, s/e air | <input type="checkbox"/> | |
| Copy | Acon Manual | 191 | Unit 1 EU like test | 5 | eQ, s/e air | <input type="checkbox"/> | |
| Copy | Acon Manual | 191 | Unit 2 EC like | 2 | eQ, s/e air | <input type="checkbox"/> | |
| Copy | Acon Manual | 191 | Unit 3 Sting like | 3 | eQ, s/e air | <input type="checkbox"/> | |
| Copy | Acon Manual | 191 | Without controls | 4 | eQ, s/e air | <input type="checkbox"/> | |

Buttons: Cancel, << Back, Next >>

8. Change the dimensioning data, if you wish.
9. Click **Next**.
10. Did you mark the box *Show dimensioning data* in **My settings, Dimensioning data** when you set the defaults for dimensioning data? If you did not mark it, Acon uses the settings automatically and goes directly to page Size.

| Parameter | Summer | Winter | |
|------------------------------------|--------------|--|-----|
| Outdoor temperature [°C] | 24 | -20 | |
| Outdoor air humidity [% relative] | 53.1 | 90 | |
| Supply air temperature [°C] | 15 | 20 | |
| Supply air humidity [% relative] | 50 | 40 | |
| Exhaust temperature [°C] | 25 | 22 | |
| Exhaust humidity [% relative] | 55 | 20 | |
| Heating water temp in [°C] | 60 | 30 | |
| Antifreeze medium, air heater | Without | Antifreeze air heater [%] | 0 |
| Control principle for water heater | flow control | Primary pressure hot water [kPa] | 15 |
| Steam temperature [°C] | 110 | Temperature margin between heat recovery/air heater [°C] | 0 |
| Chilled water temperature in [°C] | 7 | Chilled water temperature out [°C] | 12 |
| Antifreeze medium, air cooler | Without | Antifreeze air cooler [%] | 0 |
| Control principle for water cooler | flow control | Primary pressure chilled water [kPa] | 15 |
| Refrigerant | R 407c | Evaporation temperature [°C] | 6 |
| Cooling recovery | no | Max. pressure drop, Econet [kPa] | 40 |
| Water temperature, humidifier [°C] | 10 | Max. pressure drop on both coils, EcoTerm [kPa] | 120 |

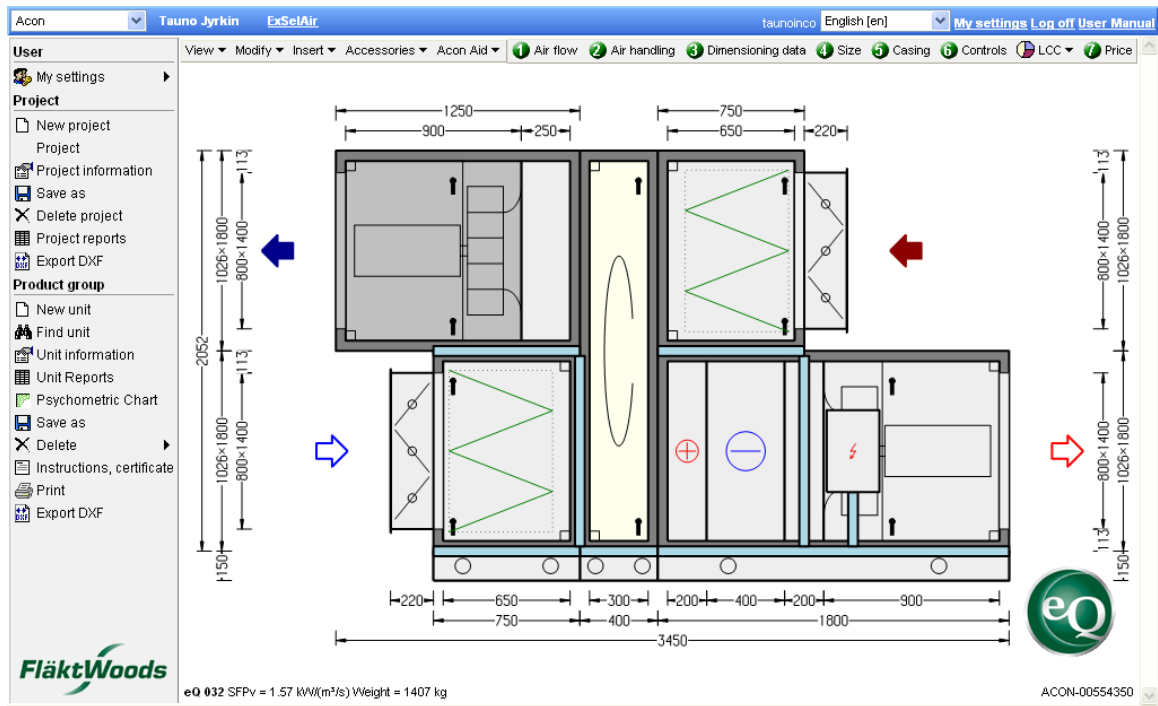
11. Choose size by clicking a bar in the chart.
12. Click **Finish**.

Unit Size: 018 (2.78 m/s)

| Unit Size | Air Flow (m³/s) | Velocity (m/s) |
|-----------|-----------------|----------------|
| 018 | 2.78 | 2.78 |
| 023 | 2.22 | 2.22 |
| 032 | 1.56 | 1.56 |
| 041 | 1.23 | 1.23 |
| 050 | 1.00 | 1.00 |
| 072 | 0.69 | 0.69 |

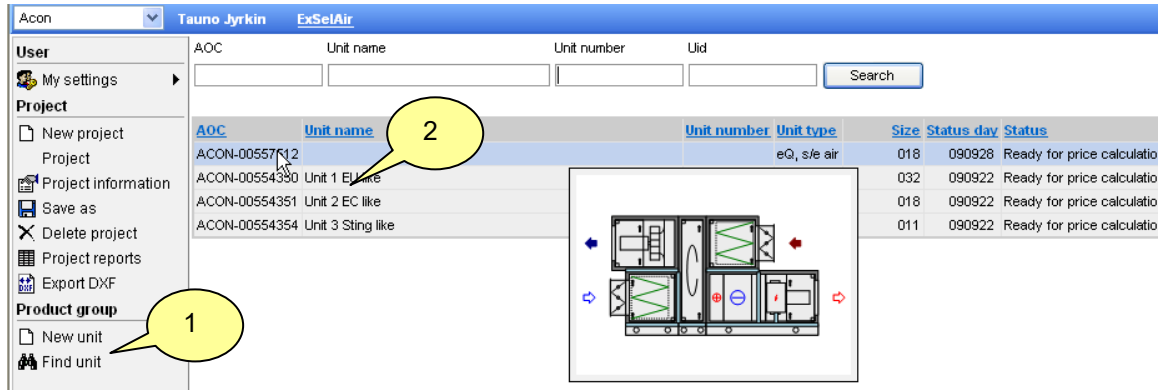
Min. air flow: 0.40 m³/s
 Max air flow: 2.90 m³/s
 Max air velocity: 4.03 m/s

13. A dimensioned unit is suggested by Acon

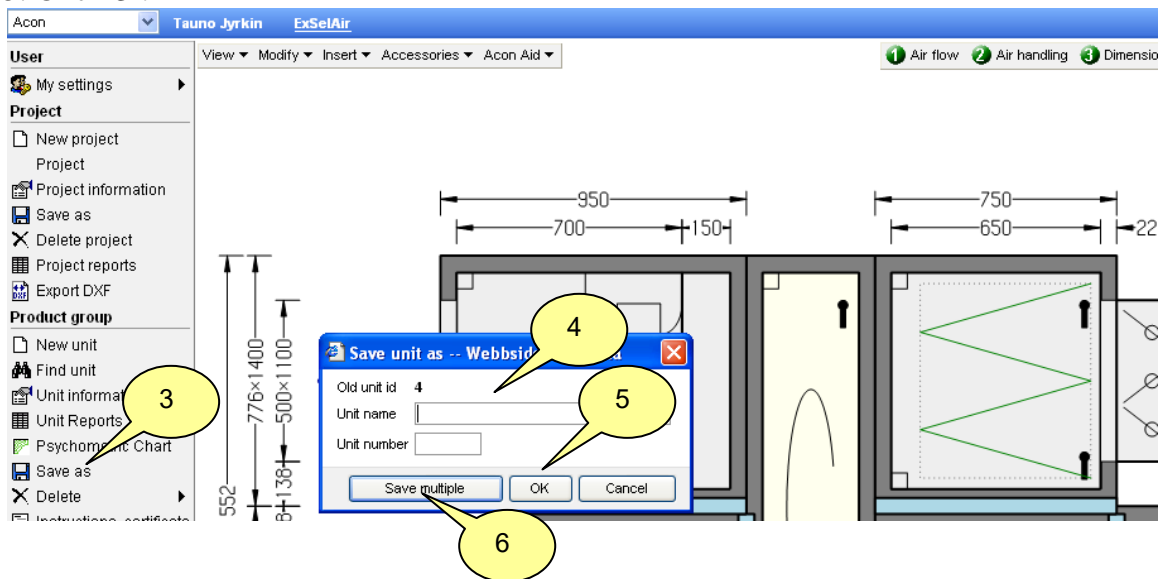


4.1.3 Create a new unit by copying a stored unit

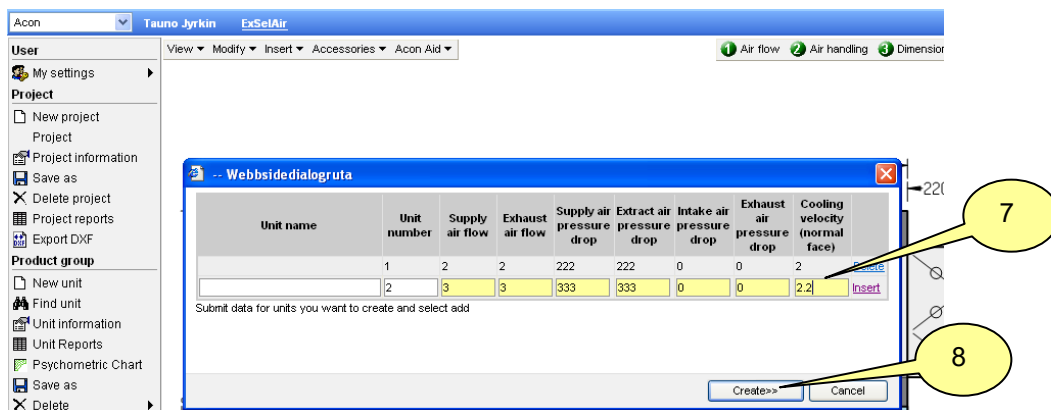
1. Open a project and click **Find Unit**.
2. Open the unit you wish to copy. Click a row.



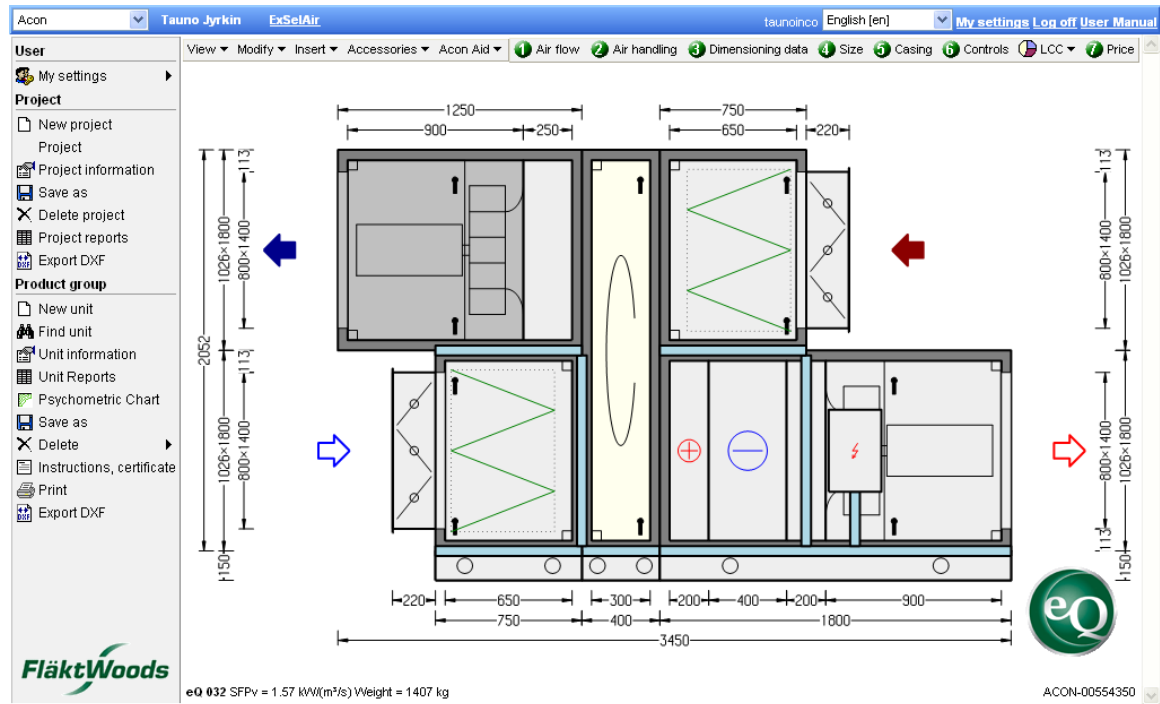
3. Click **Save as** in the menu.
4. Key in the new unit name and number.
5. Click **Ok**



6. Choose **Save multiple** in order to save several units at the same time.
7. Key in data and click **Insert**
8. Click **Create>>**

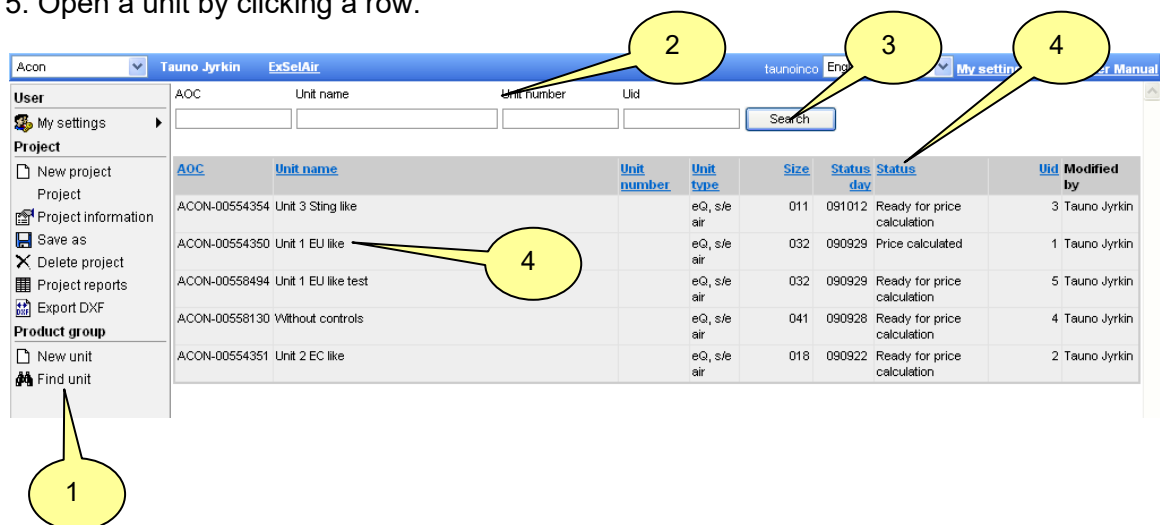


9. A dimensioned unit is suggested by Acon



4.2 Find unit

1. Click Find unit.
2. Narrow your search further by keying in
AOC (Acon Ordering Code)
Unit name
Unit number and/or
Unit ID.
3. Click **Search**.
4. You can sort the projects according to the headings by clicking them.
5. Open a unit by clicking a row.



4.3 Unit information

1. Click **Unit information**, contains sound and input data
2. You can Change Unit name and Unit number. Return to unit picture by click **OK**

Unit information -- Webbsidedialogruta

Unit: 5
 Unit name: Unit 1 EU like test
 Unit number:
 Market segment: E0
 Unit type: e0, s/e air
 Location: indoor horizontal
 Installation alternative: supply air in bottom
 Exhaust air direction: counter-flow
 Controls: with built-in control of cabinet
 SFPv: 1.5
 Weight [kg]: 1438
 Status: Dimensioned
 ACON purchase number:

| | Summer | Winter |
|--|--------|--------|
| Supply air flow [m ³ /sec] | 3 | 3 |
| Supply air pressure drop [Pa] | 100 | 100 |
| Extract air pressure drop [Pa] | 0 | 0 |
| Supply air temperature [°C] | 15 | 20 |
| Supply air temperature calculated [°C] | 15 | 20 |

| Sound power level per octave band | 63 | 125 | 250 | 500 | 1k | 2k | 4k | 8k | LwA |
|-----------------------------------|----|-----|-----|-----|----|----|----|----|-----|
| Fresh air connection | 66 | 73 | 69 | 64 | 58 | 53 | 45 | 42 | 66 |
| Supply air connection | 70 | 79 | 80 | 81 | 78 | 72 | 68 | 66 | 82 |
| Extract connection | 68 | 73 | 75 | 69 | 63 | 60 | 55 | 53 | 71 |
| Exhaust connection | 70 | 77 | 82 | 82 | 79 | 73 | 69 | 67 | 84 |
| To surroundings | 65 | 70 | 66 | 53 | 50 | 48 | 43 | 33 | 60 |
| Tolerance | 6 | 4 | 4 | 4 | 4 | 4 | 4 | 7 | 4 |

4.4 Unit reports

1. Click **Unit reports**
2. Two reports are available. Can be exported to Excel.
 - Unit performance data
 - Product codes and price (if available)

Unit Reports -- Webbside...

Reports:
 UnitCalculation
 ProductPrice

4.5. Psychrometric chart

1. Click *Psychrometric chart*

The screenshot displays the Acon software interface. On the left, a menu lists various options, with 'Psychrometric Chart' highlighted by a yellow circle containing the number '1'. The main window is divided into several sections:

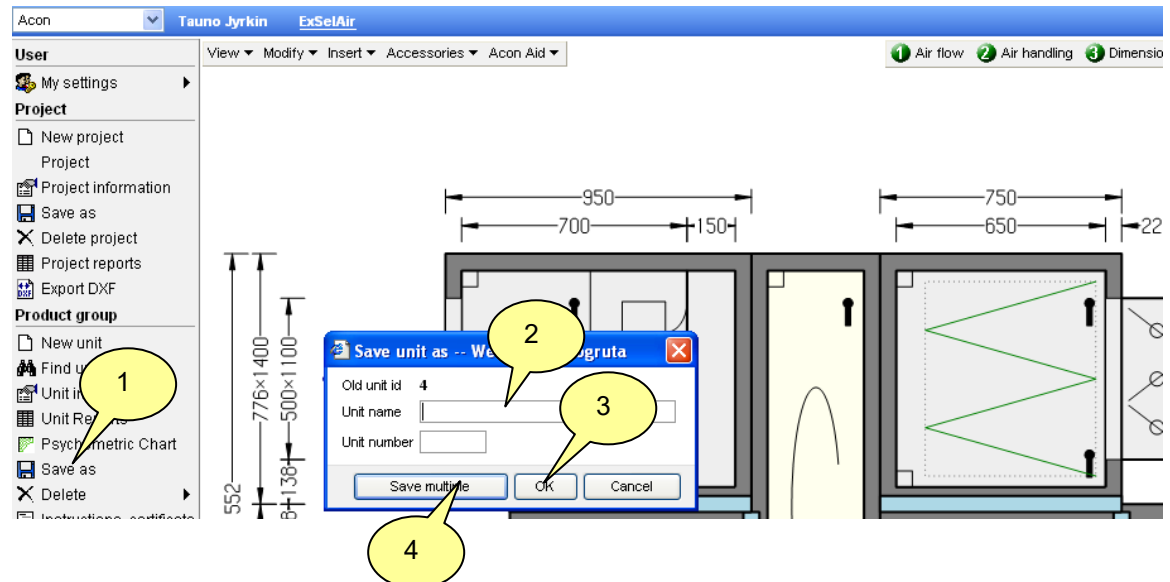
- Diagram type:** Operative case, Air flow, Both.
- Mode:** SUMMER.
- Supply air flow table:**

| Number | Name | Dry bulb temperature (°C) | Relative humidity (%) | Specific humidity (g/kg) | Enthalpy (kJ/kg) | Wet bulb temperature (°C) | Output (kW) | Sensible output (kW) | Water (l/s) |
|--------|---------------------------|---------------------------|-----------------------|--------------------------|------------------|---------------------------|-------------|----------------------|-------------|
| 1 | Outdoor Air | 24.0 | 53.1 | 9.9 | 49.3 | 17.6 | | | |
| 2 | Air cooler for chilled... | 14.3 | 86.8 | 8.8 | 36.6 | 13.0 | -46.7 | -35.8 | 0.00 |
| 3 | Plenum fan Centriflow ... | 15.0 | 82.9 | 8.8 | 37.3 | 13.3 | 2.7 | 2.6 | 0.00 |
| 4 | Supply air | 15.0 | 82.9 | 8.8 | 37.3 | 13.3 | | | |
- Exhaust air flow table:**

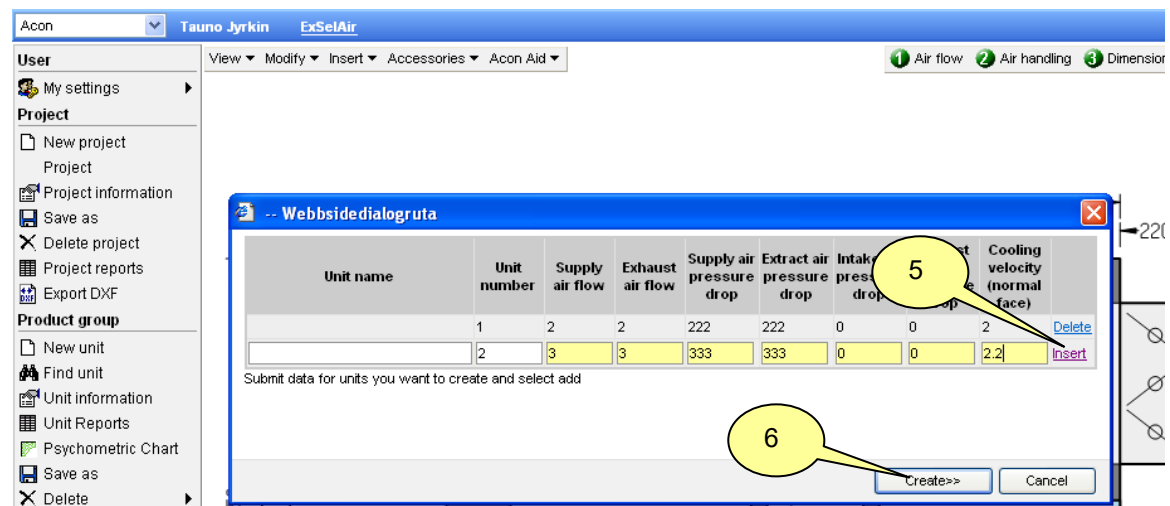
| Number | Name | Dry bulb temperature (°C) | Relative humidity (%) | Specific humidity (g/kg) | Enthalpy (kJ/kg) | Wet bulb temperature (°C) | Output (kW) | Sensible output (kW) | Water (l/s) |
|--------|---------------------------|---------------------------|-----------------------|--------------------------|------------------|---------------------------|-------------|----------------------|-------------|
| 1 | Exhaust air | 25.0 | 55.0 | 10.9 | 52.9 | 18.7 | | | |
| 2 | Plenum fan Centriflow ... | 25.7 | 52.8 | 10.9 | 53.6 | 18.9 | 2.7 | 2.6 | 0.00 |
| 3 | Exhaust air outlet | 25.7 | 52.8 | 10.9 | 53.6 | 18.9 | | | |
- Psychrometric Chart:** A graph showing Dry bulb temperature (°C) on the y-axis (ranging from -15 to 40) and Specific humidity (g/kg) on the x-axis (ranging from 0 to 25). The chart includes a grid of lines for constant wet bulb temperature, constant enthalpy, and constant relative humidity. A blue dot is plotted at approximately 15°C dry bulb temperature and 8.8 g/kg specific humidity. A red arrow points from the 'Supply air' data point in the table to this dot on the chart.
- Unit Diagram:** A schematic of a unit with dimensions: 1800 mm width, 900 mm depth, and 1130 mm height. A red arrow points from the psychrometric chart to the unit, indicating the air condition being supplied.

4.6. Save as

1. Click **Save as** in the menu if you want to create a copy of the unit.
2. Key in the new unit name and number.
3. Click **Ok**

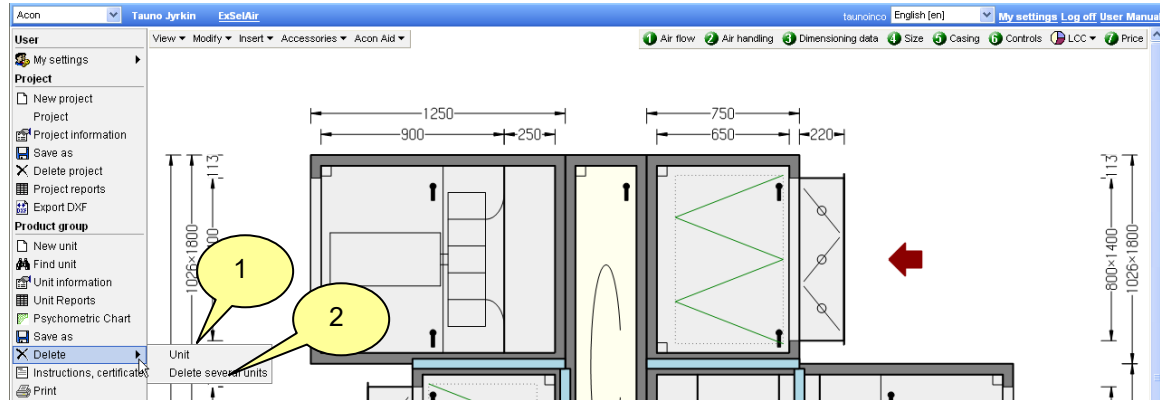


4. Choose **Save multiple** in order to save several units at the same time.
5. Key in data and click **Insert**
6. Click **Create>>**



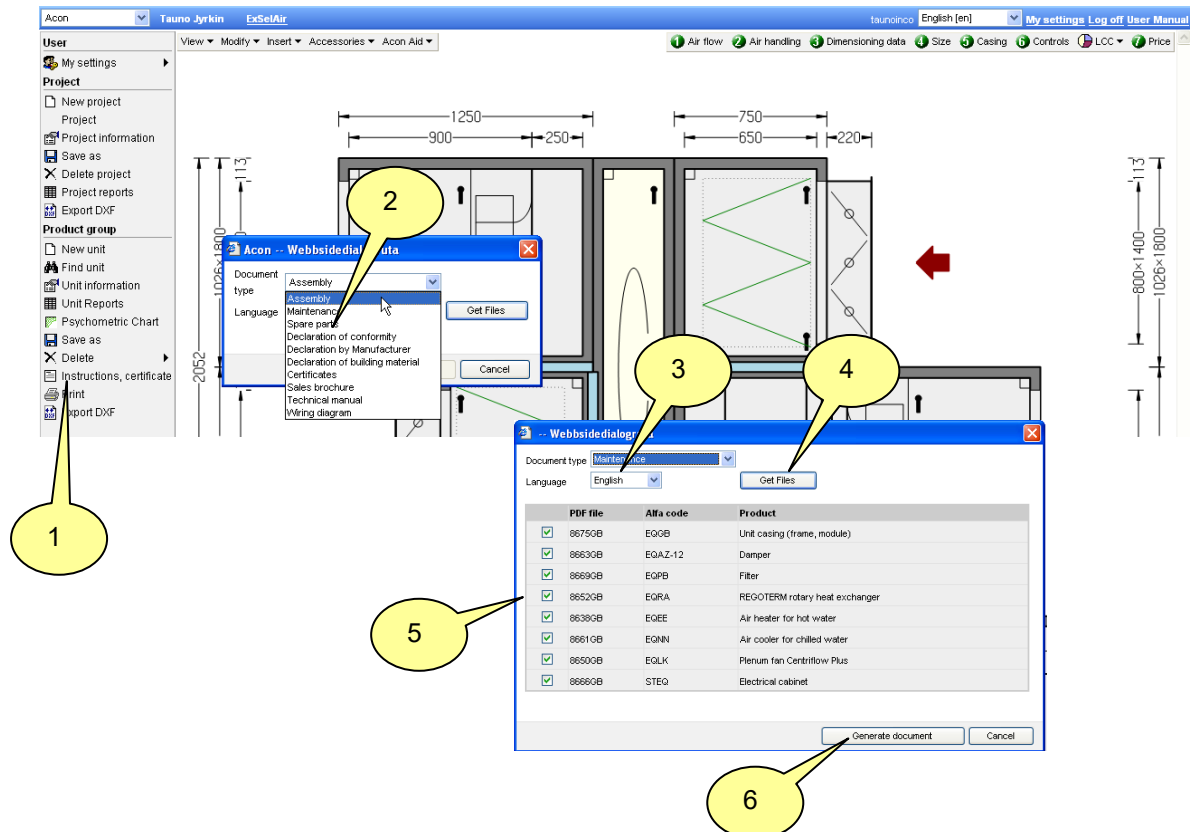
4.7. Delete

1. Click **Delete, Unit** if you want to delete the unit in the project.
2. Click **Delete several units** and mark units in the project you want to delete..



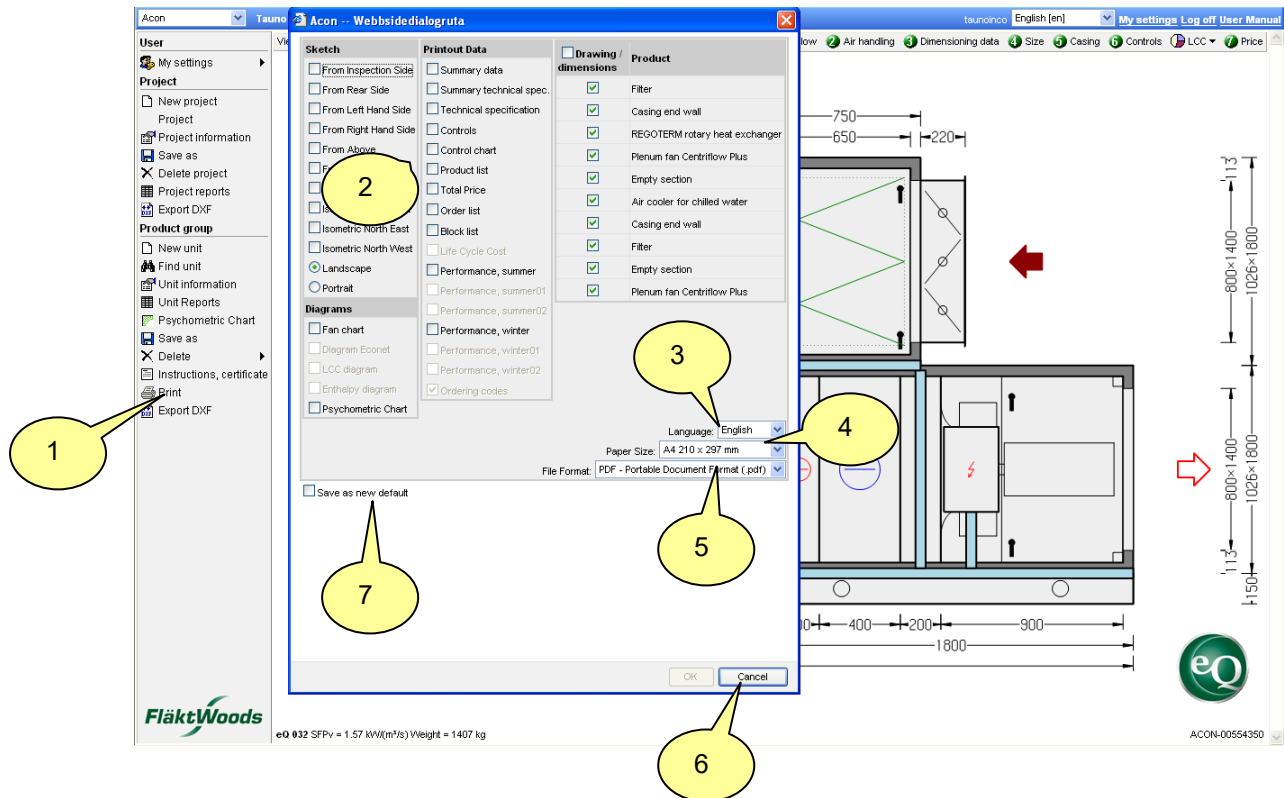
4.8 Instructions, certificate

1. Click **Instructions, certificate**
2. Select Document type
3. Select Language
4. Click **Get files**
5. Mark documents to print out
6. Click **Generate document**



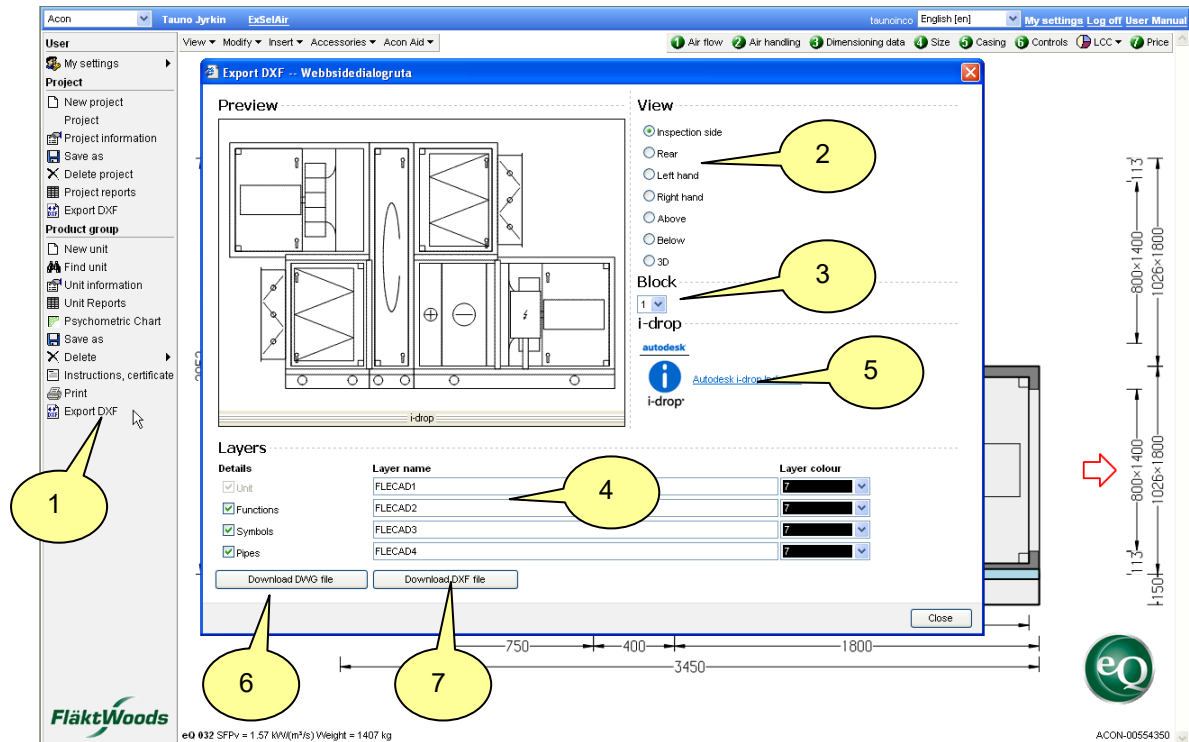
4.9 Print

1. Click **Print**
2. Select documents to print out.
3. Select Language.
4. Select Paper size.
5. Select File format.
6. Click **Ok**
7. Mark **Save as new default** in order to save your selections.



4.10 Export Dxf

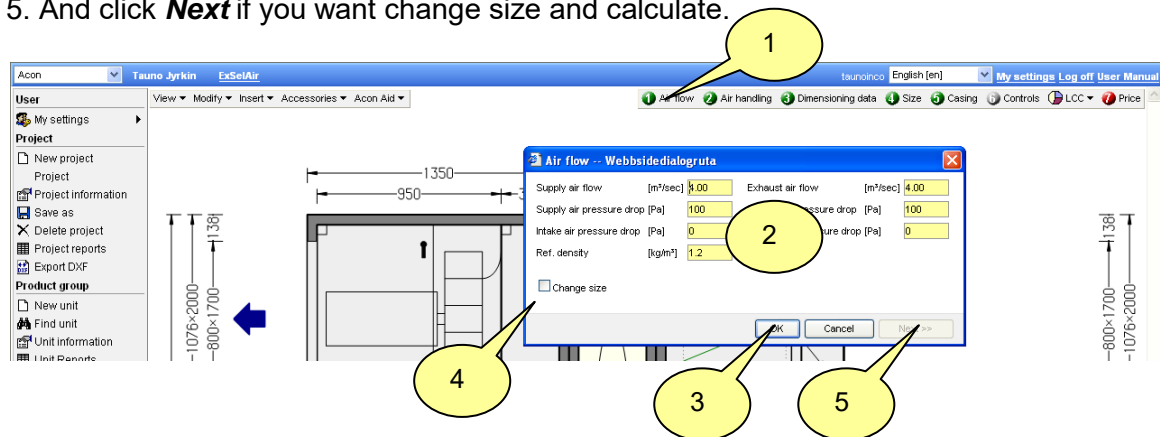
1. Click **Export Dxf**
2. Select view
3. Select block when a unit consists of more than 1 block
4. Select Layers
5. Use **i-drop** if available in your CAD software
6. **Download DWG file** if you have CAD software from Autodesk.
7. **Download DXF file** creates a file which can be opened by all CAD software



5. Modify suggested configuration, right top menu bar

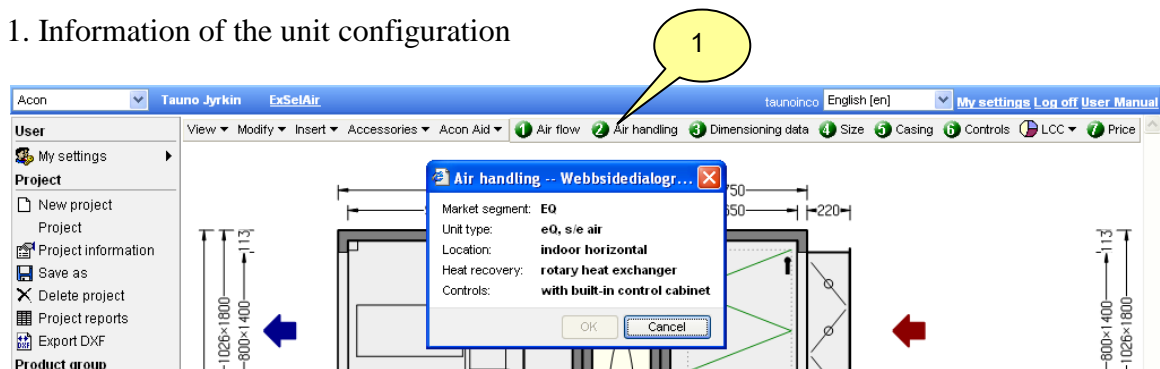
5.1 Change air flow

1. Click **1 Air flow**.
2. Key in your changes
3. Click **Ok** if you want to calculate with new data.
4. Mark **Change size**
5. And click **Next** if you want change size and calculate.



5.2 Air handling

1. Information of the unit configuration



5.3 Change dimensioning data

1. Click **3 Dimensioning data**.
2. Key in your changes.
3. Click **Ok** if you want to calculate with new data.
4. Mark **Change size**
5. And click **Next** if you want change size and then calculate.

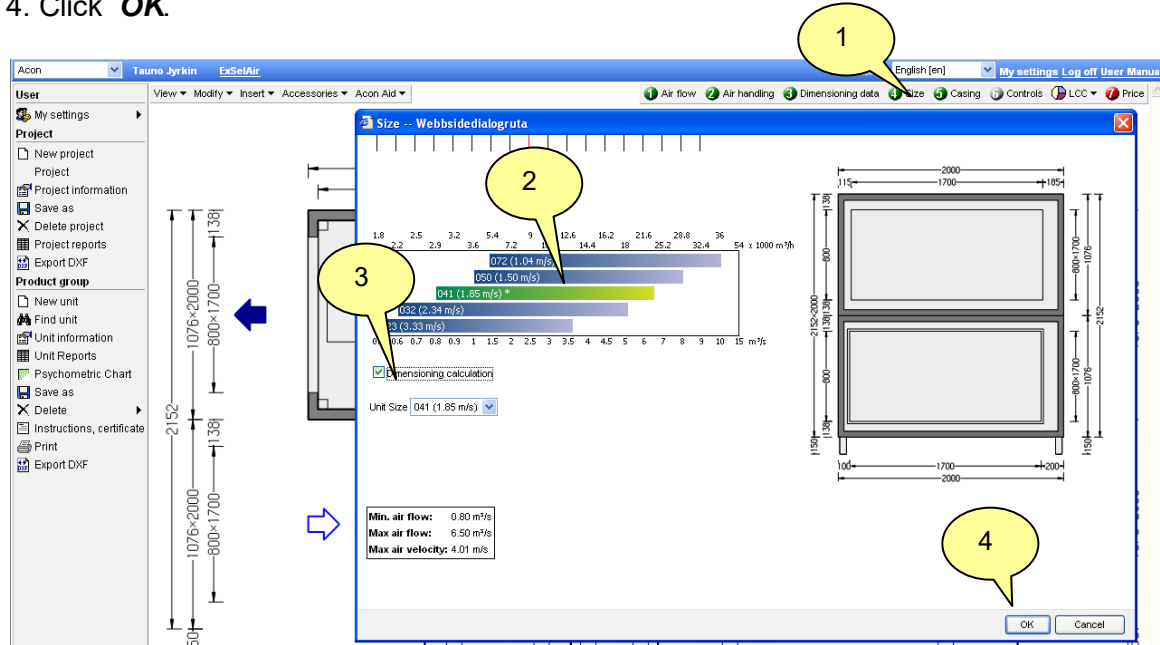
The screenshot shows the Acon software interface with the 'Dimensioning data' dialog box open. The dialog box is titled 'Dimensioning data -- Webbsidialogruta' and contains the following data:

| | Summer | Winter | |
|------------------------------------|--------------|---|-----|
| Outdoor temperature [°C] | 24 | -20 | |
| Outdoor air humidity [% relative] | 53.1 | 80 | |
| Supply air temperature [°C] | 15 | 20 | |
| Supply air humidity [% relative] | 50 | 40 | |
| Exhaust temperature [°C] | 25 | 22 | |
| Exhaust humidity [% relative] | 55 | 20 | |
| Heating water temp in [°C] | 60 | Heating water temp out [°C] | 30 |
| Antifreeze medium, air heater | Without | Antifreeze air heater [%] | 0 |
| Control principle for water heater | flow control | Pressure hot water [kPa] | 15 |
| Steam temperature [°C] | 110 | Margin between heat recovery/air heater [°C] | 0 |
| Chilled water temperature in [°C] | 7 | Temperature out [°C] | 12 |
| Antifreeze medium, air cooler | Without | Antifreeze air cooler [%] | 0 |
| Control principle for water cooler | flow control | Primary pressure chilled water [kPa] | 15 |
| Refrigerant | R 407c | Evaporation temperature [°C] | 6 |
| Cooling recovery | no | Max external pressure drop, Econet [kPa] | 40 |
| Water temperature, humidifier [°C] | 10 | Max: pressure drop on both coils, Ecoterm [kPa] | 120 |

The 'Change size' checkbox is checked. The 'OK' button is highlighted with a yellow circle labeled '3', and the 'Next >>' button is highlighted with a yellow circle labeled '5'. A yellow circle labeled '1' points to the 'Dimensioning data' tab in the software's main menu. A yellow circle labeled '2' points to the 'Heating water temp out' field. A yellow circle labeled '4' points to the 'Change size' checkbox.

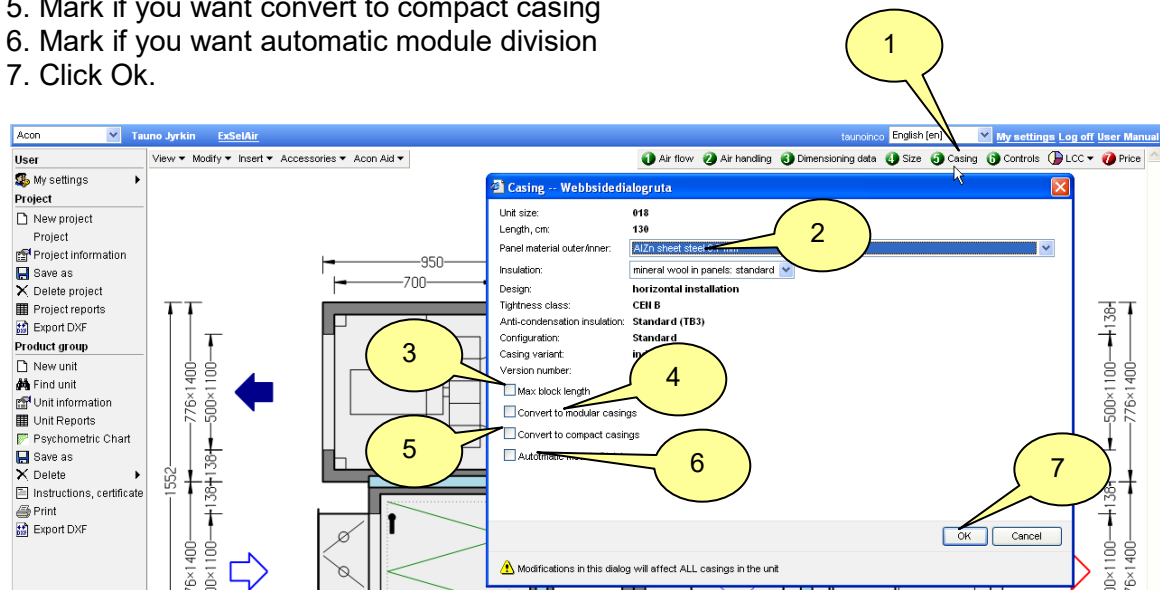
5.4 Change unit size

1. Click **4 Size**.
2. Choose size by clicking a bar in the chart..
3. Mark **Dimensioning calculation** if you want the unit redimensioned.
4. Click **OK**.



5.5 Change the casing

1. Click **5 Casing**.
2. Choose panel material and insulation.
3. Mark if you want set max block length
4. Mark if you want convert to modular casing
5. Mark if you want convert to compact casing
6. Mark if you want automatic module division
7. Click **Ok**.



5.6 Change controls (factory default)

1. Click **6 Controls**.
2. Click **Next**.
3. Go through the steps and make the changes.
4. Click **Ok**.

The screenshot shows the Acon software interface with the 'Webbsidedialogruta' dialog box open. The dialog box is titled 'with built-in control cabinet' and contains the following fields:

- Control panel: Fläkt Woods standard
- Display on control panel: Fläkt Woods standard, character based, 8 lines
- Product code: (empty)

Callout bubbles indicate the following steps:

1. Click **6 Controls** in the top menu bar.
2. Click **Next** in the dialog box.
3. Click **Ok** in the dialog box.
4. Click **Cancel** in the dialog box.

The background shows a technical drawing of the unit with dimensions: 950, 700, 150, 776x1400, 500x1100, 139, 220, 650, 750, 2950, 1000, 150, 776x1400, 500x1100, 139, 150. The Fläkt Woods logo and 'e0 018 SFPv = 2.08 kW(m³/s) Weight = 863 kg' are visible at the bottom left. The 'eQ' logo and 'ACON-0055712' are visible at the bottom right.

5.7 Product codes, workshop lead time and price

1. Click **7 Price** to see product codes, workshop lead time and price.

The screenshot shows the Acon software interface with the 'Price' dialog box open. The dialog box displays a list of components and their prices:

| Component | Code | Price |
|-----------------------------------|--------------------------------|-------|
| 1 Electrical cabinet | STEO-003-10-10-0-3-4-65-5-1-1 | 0 |
| 1 Temperature control | STAZ-01-1-0-0-0-0-0-1-65-1 | 0 |
| 1 Temperature sensor | STAZ-02-10-1-2-5 | 0 |
| 1 Control documentation | STAZ-36-65-1-018-1-1-1-1 | 0 |
| 1 Empty section | EQTC-018-020-0-0-0-0-0-1-1 | 0 |
| 1 Air cooler for chilled water | EQNN-018-04-1-1-06-0-1-1-1 | 0 |
| 1 Coil control | STAZ-16-60-1-0-2-002-5 | 0 |
| 1 Air heater for hot water | EQBE-018-1-01-1-08-1-1-1-1 | 0 |
| 1 Coil control | STAZ-18-60-1-0-1-002-5 | 0 |
| 1 Frost protection sensor | STAZ-11-1-1-1-5 | 0 |
| 1 Unit casing (frameless, module) | EQQA-018-075-11-1-1-2-1-1-1 | 0 |
| 1 Lifting device | EQAZ-02-1-1 | 0 |
| 1 Cable trunk, horizontal | EQAZ-S1-075-1-6-2-0-1 | 0 |
| 1 Casing end wall | EQVA-018-1-1-11-2-1 | 0 |
| 1 Damper | EQAZ-12-110-050-3-1-3-01-2-0-1 | 0 |
| 1 Filter | EQPB-018-07-01-4-1-1-1-0-0-1-2 | 0 |
| 1 Unit casing (frameless, module) | EQQA-018-095-11-1-1-2-1-1-1 | 0 |
| 1 Lifting device | EQAZ-02-1-1 | 0 |
| 1 Cable trunk, horizontal | EQAZ-S1-075-1-6-2-0-1 | 0 |
| 1 Empty section | EQTC-018-015-0-0-0-0-0-2-1 | 0 |
| 1 Plenum fan Centriflow Plus | EQLK-018-2-2-1-1-3-1-2-1-1-2-1 | 0 |
| 1 Frequency converter | STRR-2-4-0050-3-0-2-9-00-1 | 0 |
| 1 Integral motor | APAT-2-00300-30-20 | 0 |
| 1 Motor accessories | APAC1-2-5-0-1-0050-201-4-0-0 | 0 |
| 1 Fan control | STAZ-03-2-4-0-5-8-1-1-2 | 0 |
| 1 Start equipment fan | STAZ-21-1-4-4-050-000-1-2 | 0 |
| 1 Multi cable | STAZ-70-1-015-0-2-0050-2 | 0 |

The 'Price' field is highlighted with a callout bubble 1. The background shows the same technical drawing as in the previous screenshot. The Fläkt Woods logo and 'e0 018 SFPv = 2.08 kW(m³/s) Weight = 863 kg' are visible at the bottom left. The 'eQ' logo and 'ACON-0055712' are visible at the bottom right.

5.8 Calculate Life Cycle Cost

1. Click **LCC**.
2. Select calculation model *Flakt Woods model* or *Simplified Swedish model*.
3. Key in and select input data.
4. Click **Calculate**
5. Result is shown.
6. Click **<<Input value** if you want to calculate with new data.
7. Click **OK** if you want to go back to the unit picture.

The screenshot shows the 'LCC - Webbsidialgruta' dialog box in the Acon software. The dialog box is divided into several sections:

- Life Cycle Cost:** Model set to 'Flakt Woods model'.
- Cooling calculation:** Set to 'To temperature'.
- Climate data:** Location set to 'Sweden', 'Jönköping'.
- Temperatures:** Winter and Summer supply and exhaust air temperatures and moisture levels.
- Operation:** Days per week, hours per day, and air flow percentages.
- Energy cost:** Price per kWh for heating, cooling, and electricity.

At the bottom of the dialog box, there are 'Cancel' and 'Calculate >>' buttons. A yellow callout '1' points to the 'LCC' button in the top toolbar. Callout '2' points to the 'Flakt Woods model' dropdown. Callout '3' points to the 'Sweden' location dropdown. Callout '4' points to the 'Calculate >>' button. Callout '5' points to the 'Comfort operation' graph. Callout '6' points to the '<< Input value' button. Callout '7' points to the 'OK' button.

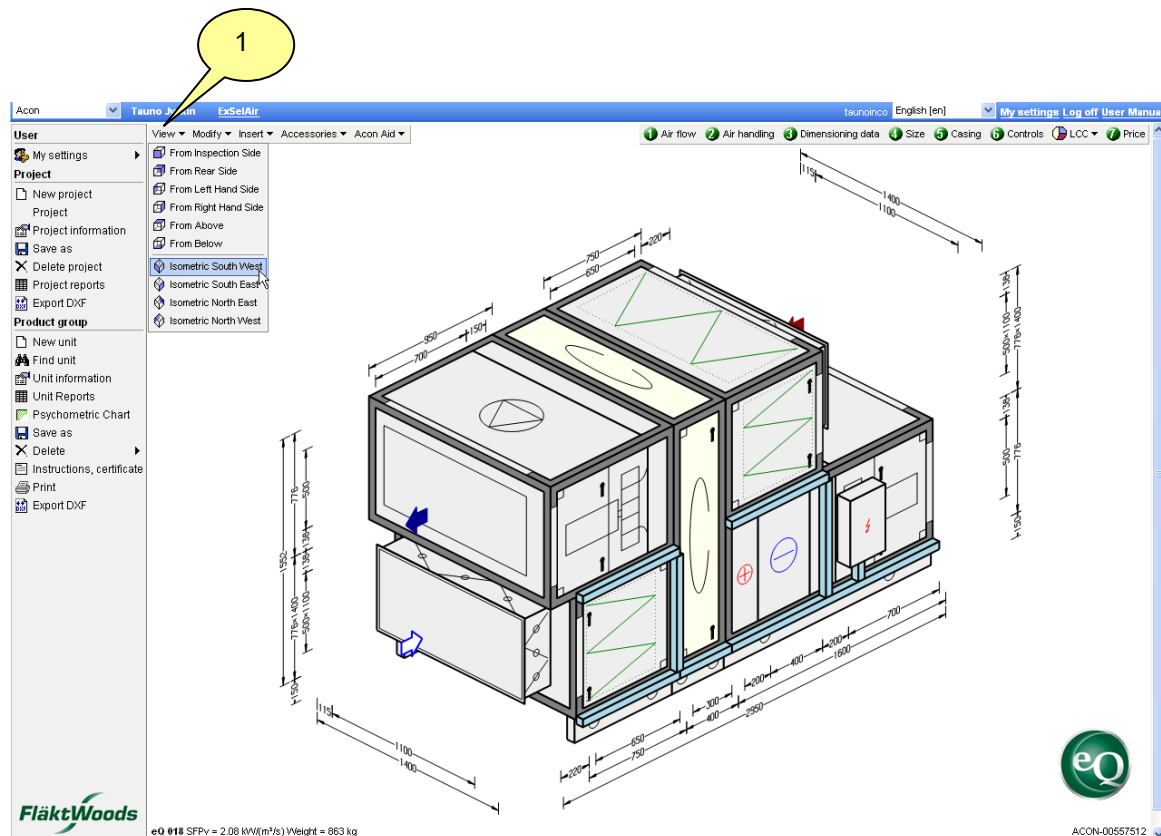
The 'Comfort operation' graph shows Temperature [°C] on the y-axis (ranging from -30 to 30) and time [h] on the x-axis (ranging from 0 to 3129). The graph is divided into colored regions: red for Heating, light red for Heat recovery, blue for Cooling, light blue for Cooling recovery, and a patterned area for Supply air. A yellow callout '5' is placed over the graph.

| Recovery | | | |
|------------------------------|--------|-----|--|
| Heat recovery | 138521 | kWh | |
| Cooling recovery | 0 | kWh | |
| Temp. rise in supply air fan | 7789 | kWh | |
| Energy demand | | | |
| Heating | 28107 | kWh | |
| Cooling | 598 | kWh | |
| Supply air fan | 7929 | kWh | |
| Exhaust fan | 7669 | kWh | |
| Annual net cost | | | |
| Energy , Heating | 11243 | EUR | |
| Energy , Cooling | 359 | EUR | |
| Energy , El. , fans | 7799 | EUR | |
| Total | 19401 | EUR | |
| Life Cycle Cost | | | |
| Tender sum | 0 | EUR | |
| LCC,Heating | 140110 | EUR | |
| LCC,Cooling | 4876 | EUR | |
| LCC , El. , Supply air fan | 58982 | EUR | |
| LCC, El. , Exhaust fan | 57048 | EUR | |
| Evaluation sum | 261016 | EUR | |

6. Modify the configuration, left top menu bar

6.1 View the unit from various views

1. Click **View** and choose point-of-view.

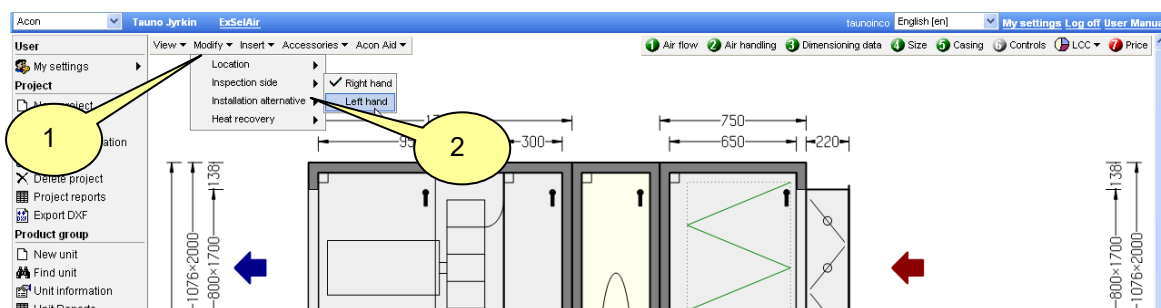


6.2 Modify the unit

1. Click **Modify**.

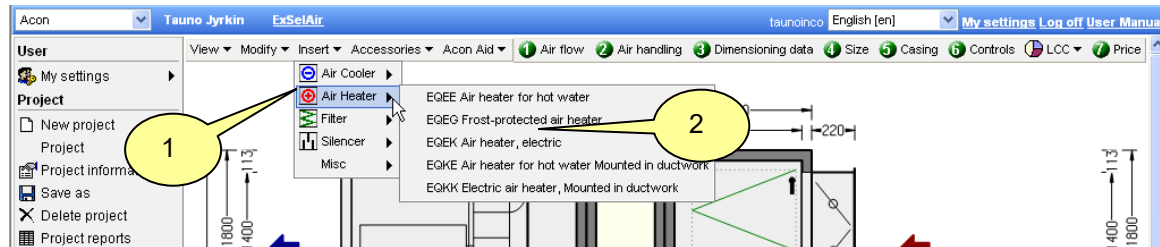
2. You can modify to

- Indoor or outdoor
- Inspection side right or left
- Supply air in bottom or top
- Type of heat recovery
- With or without controls

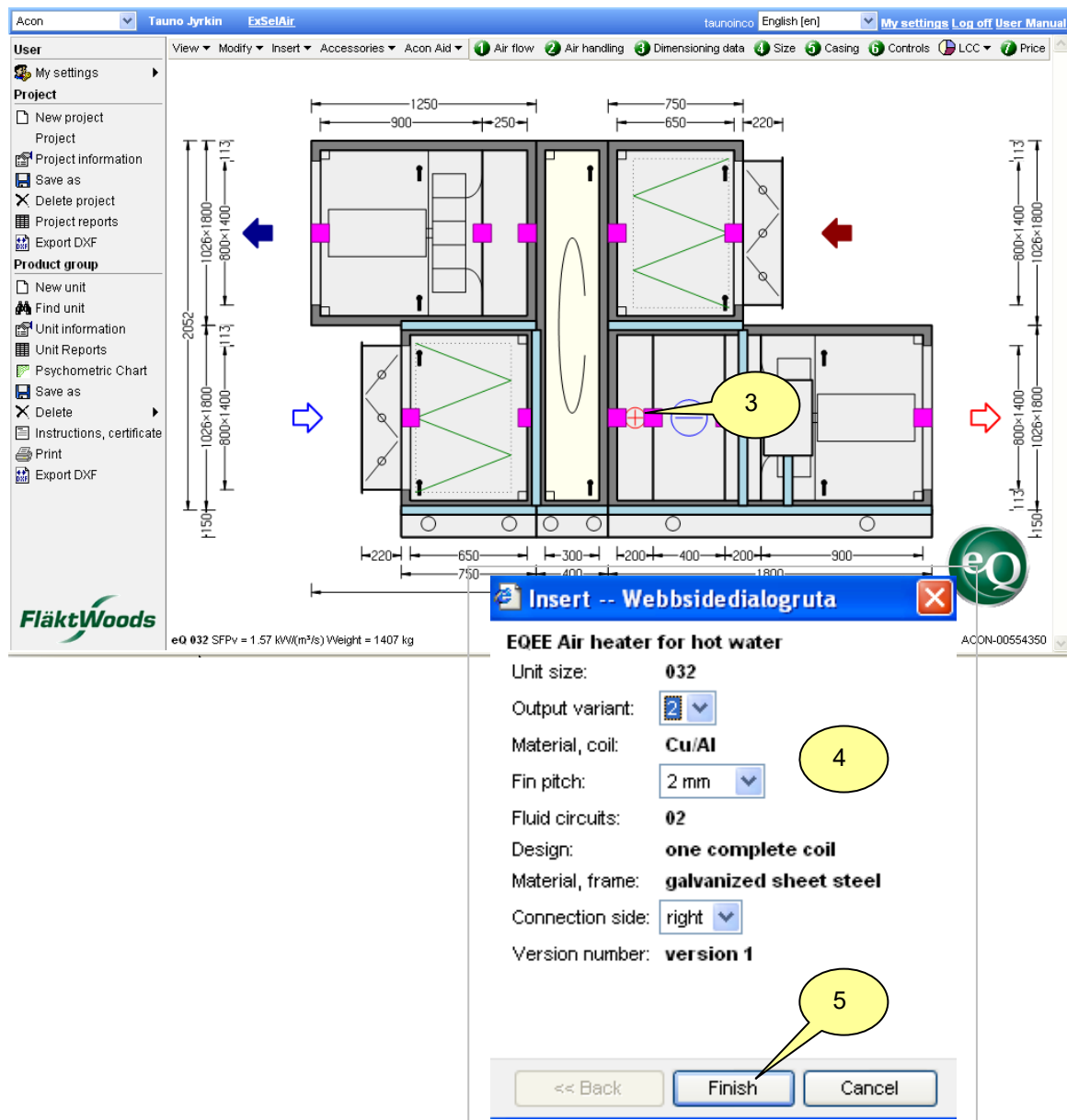


6.3. Insert a component

1. Click insert in the menu.
2. Click a component to insert.



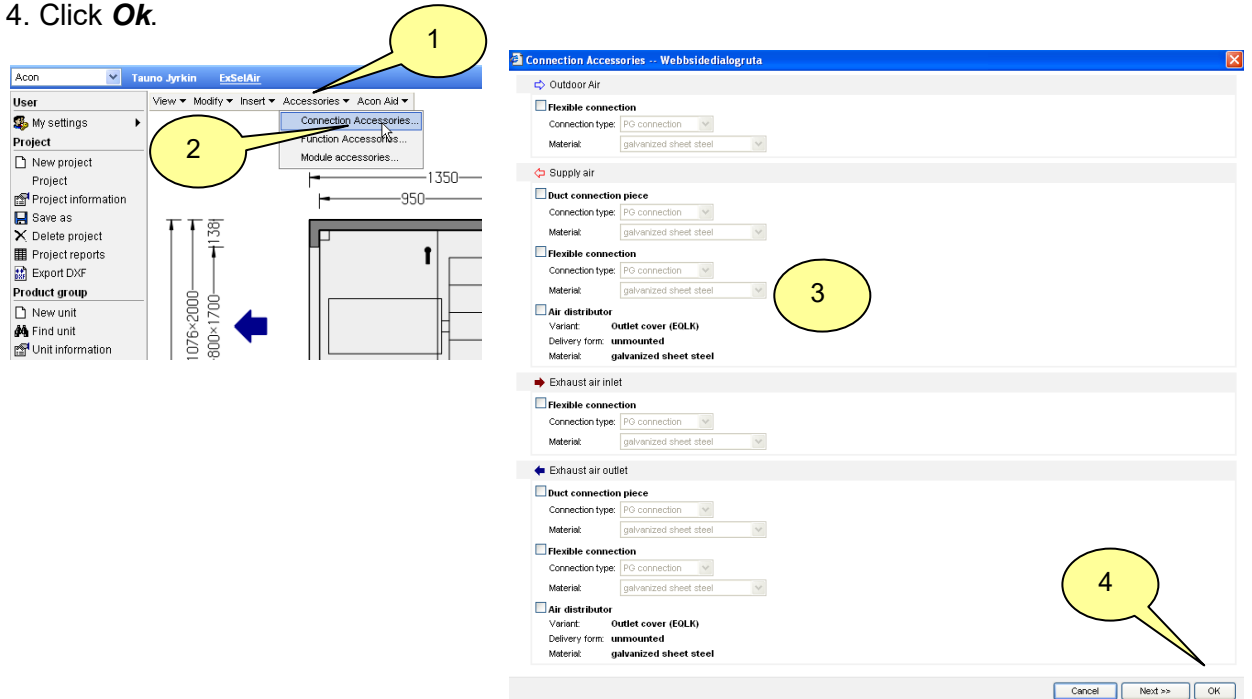
3. Click position where the component is to be inserted.
4. Select component properties.
5. Click finish



6.4. Choose / change accessories

You can select all accessories for the unit in this menu.

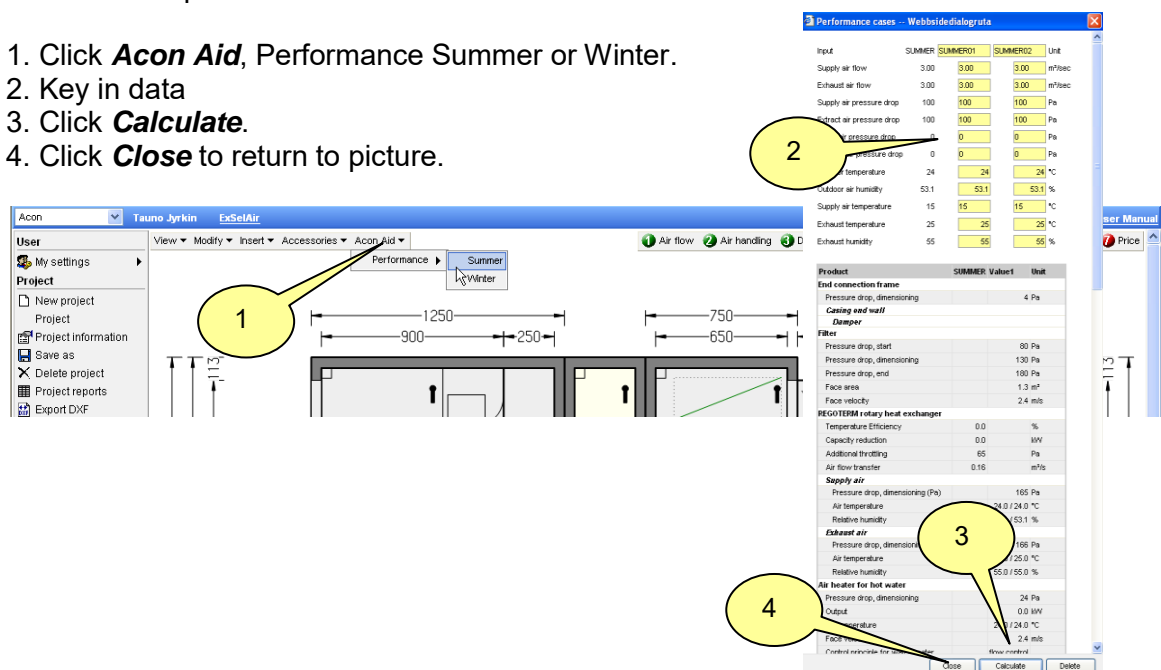
1. Click **Accessories** in the menu.
2. Select type of accessories, connection, function or module
3. Mark the accessories you wish to add.
4. Click **Ok**.



6.4 Calculate unit performance

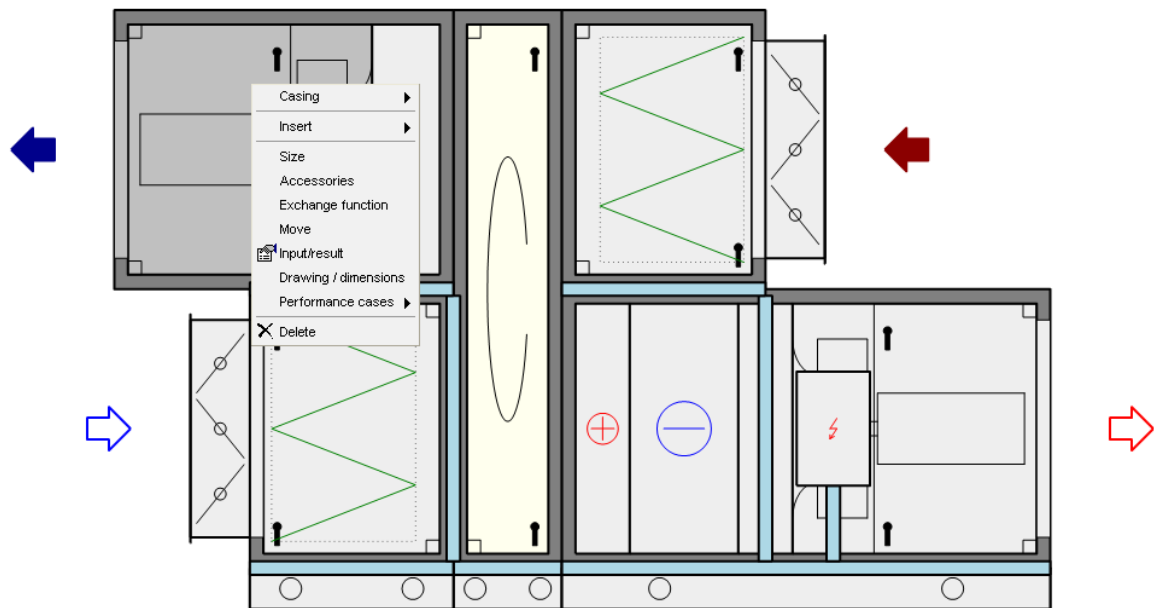
Acon provides the facility to make up to two additional performance calculations on the selected unit. No component is changed but performance input data such as airflow, pressure and temperatures can be altered in order to be able to see performance at part load for example.

1. Click **Acon Aid**, Performance Summer or Winter.
2. Key in data
3. Click **Calculate**.
4. Click **Close** to return to picture.



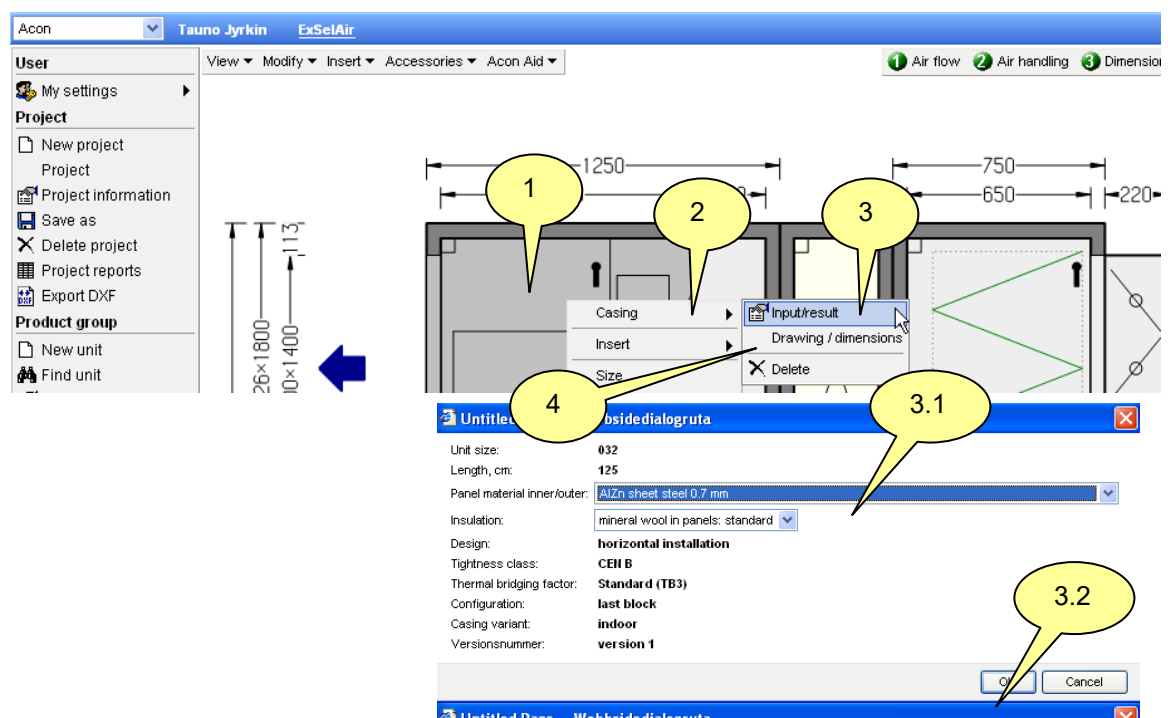
7. Functions when you click the picture

By clicking a component you can view result, change, add or delete components.



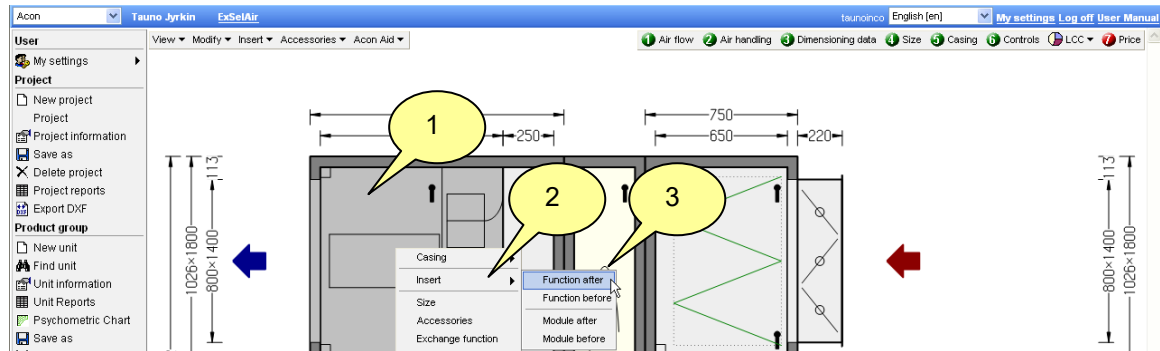
7.1 Change clicked components casing

1. Click a component
2. Click **Casing**
3. Click **Input/result**
 - 3.1. Panel material and insulation can be changed for the component
 - 3.2. Click **OK**
4. Click Drawing/dimensions to view available drawings

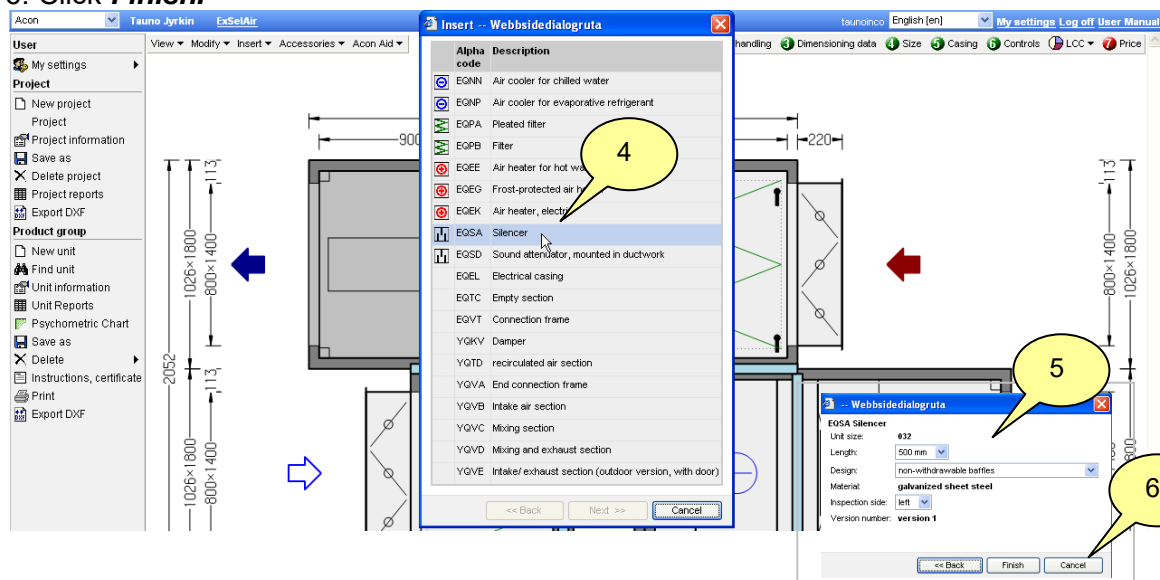


7.2 Insert component

1. Click a component
2. Click **Insert**
3. Select Function after or Function before

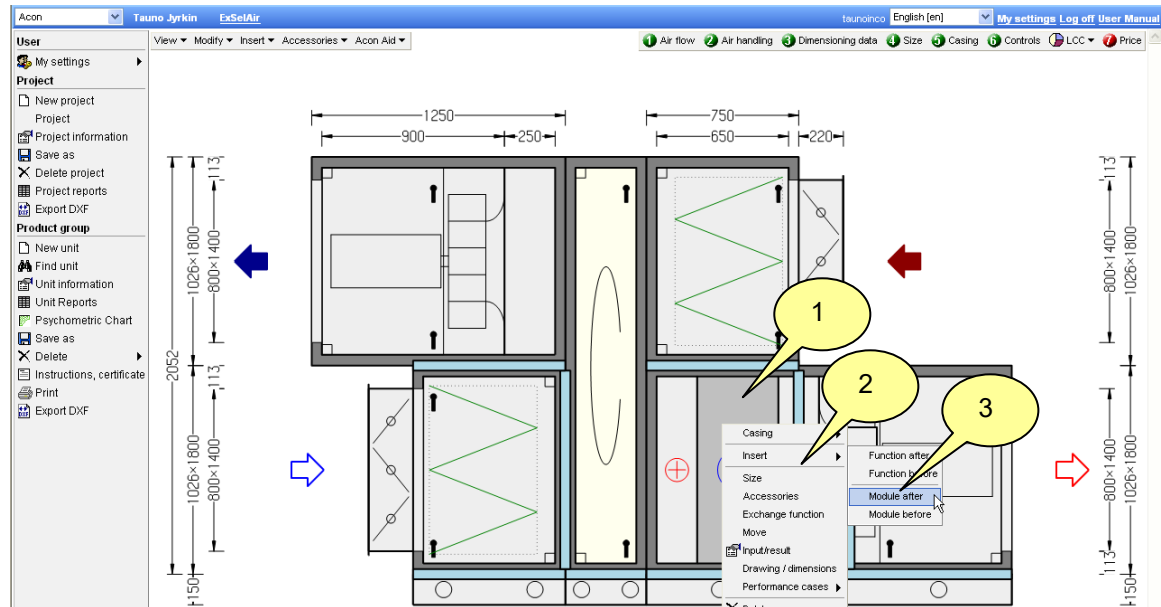


4. Select component.
5. Select properties.
6. Click **Finish**.



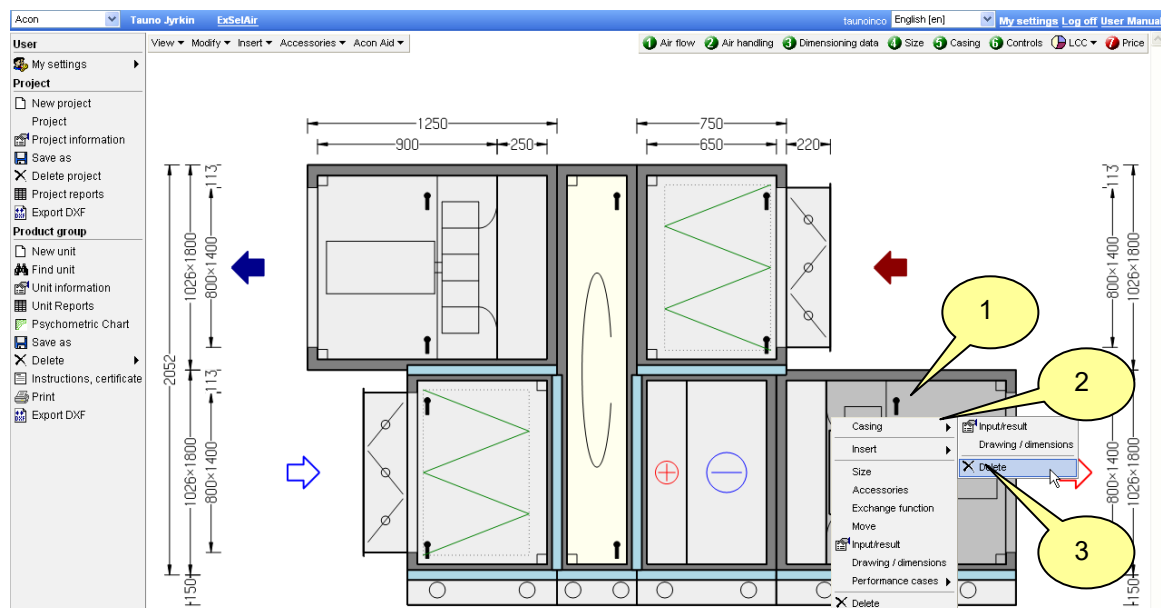
7.3 Insert module

1. Click a component, in this case the water cooler.
2. Click **Insert**
3. Choose Module after or Module before.



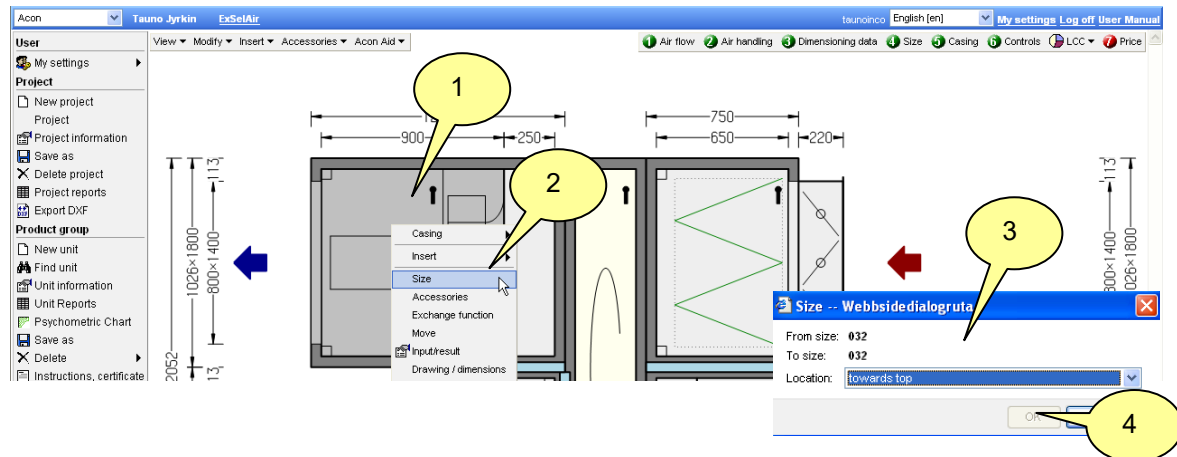
7.4 Delete module

1. Click a component (not the first in the supply air flow direction)
2. Click **Casing**
3. Click **Delete**



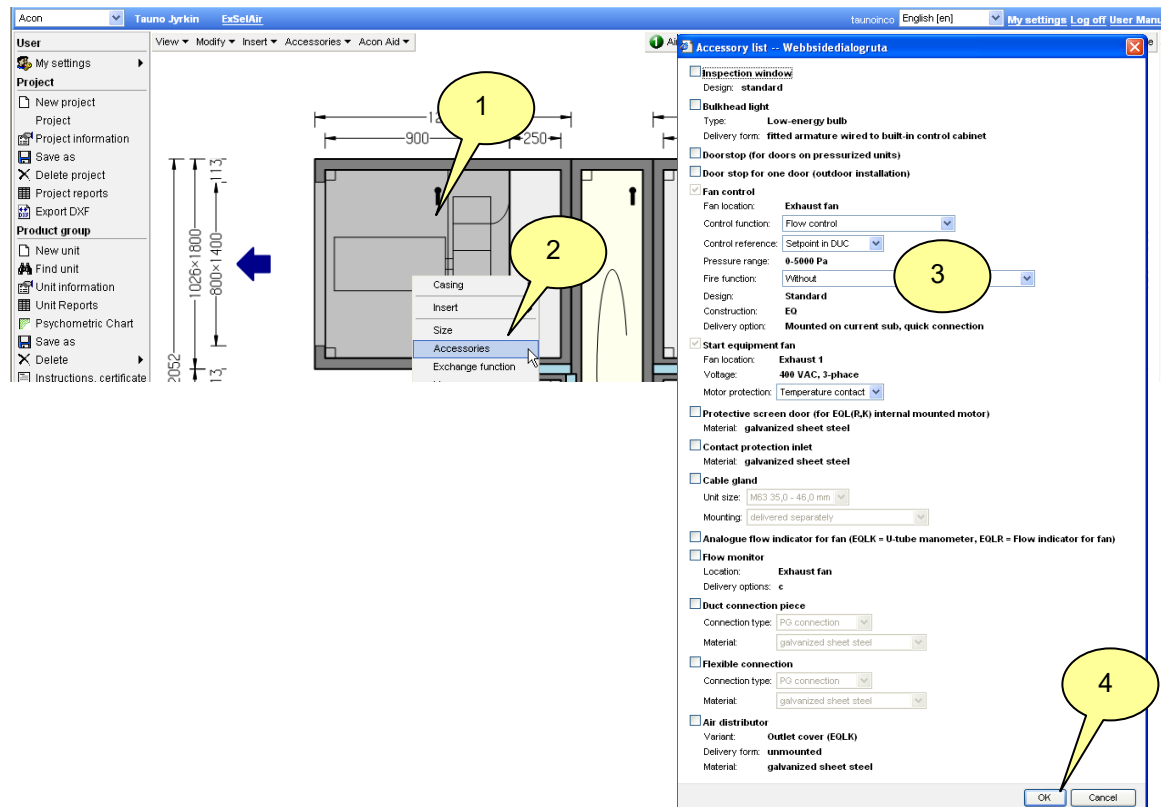
7.5 Change a components size

1. Click a component.
2. Click **Size**.
3. Select size.
4. Click **Ok**.



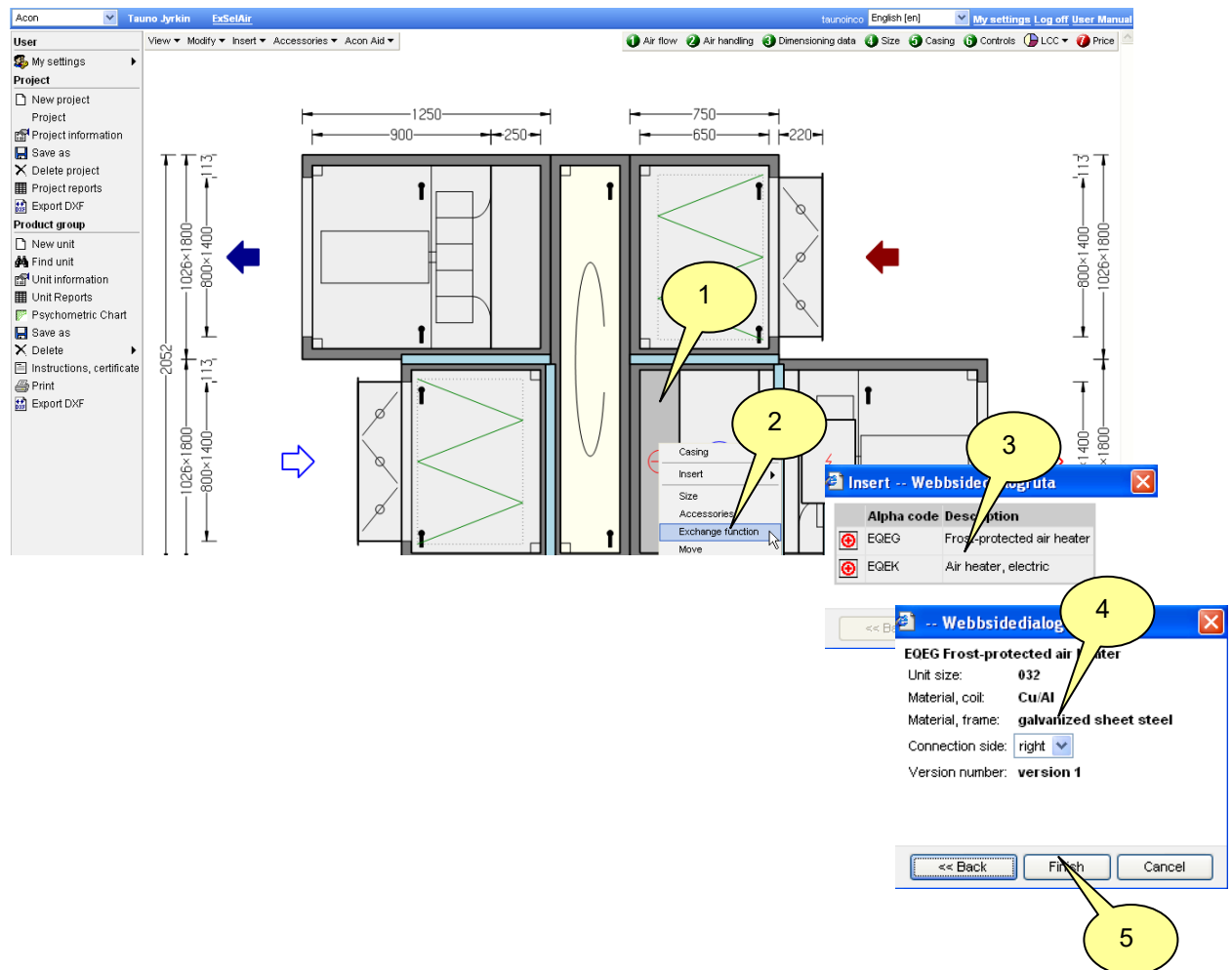
7.6 Choose, change or view accessories

1. Click a component.
2. Click **Accessories**.
3. Mark the accessories you want to add.
4. Click **Ok**.



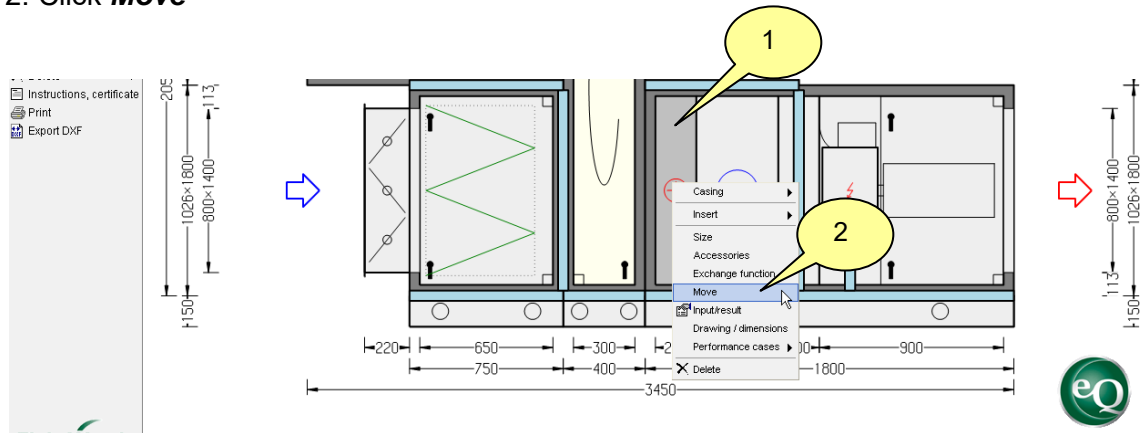
7.7 Exchange function

1. Click the component you wish to exchange (in this case air heater for hot water).
2. Click **Exchange function**.
3. Click a new component.
4. Select properties.
5. Click **Finish**.

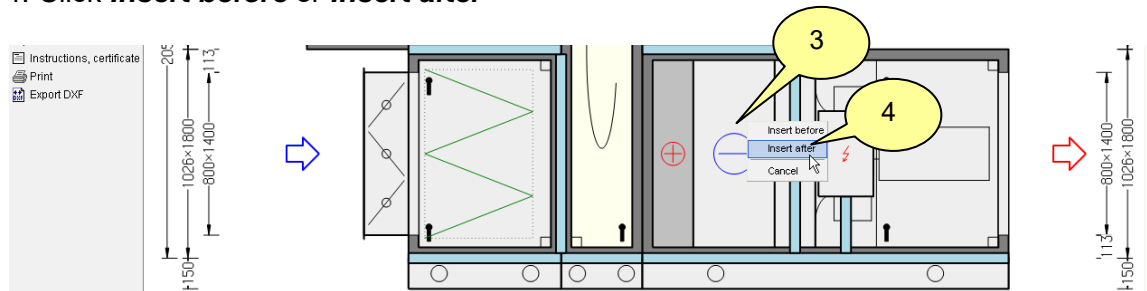


7.8 Move component

1. Click the component you wish to move (in this case Air heater for hot water).
2. Click **Move**

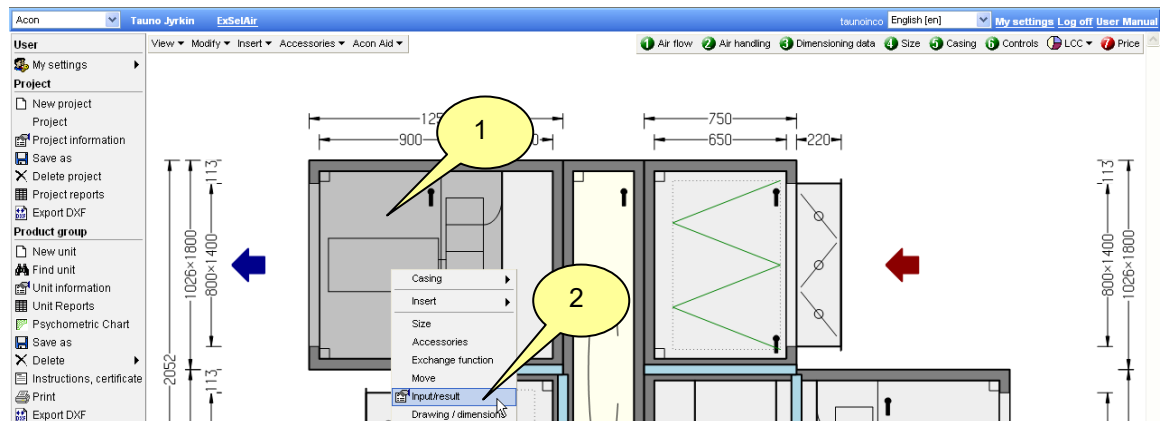


3. Click component you want to move to (in this case Air cooler for chilled water)
4. Click **Insert before** or **Insert after**



7.9 Choose, view or change a components input/result

1. Click a component (in this case the exhaust fan).
2. Click **Input/result**.



3. Change size (plug fan), click a row.

4. Exchange to centrifugal fan
5. Fan input, mark **View fan input** and scroll down
6. Motor, frequency converter and accessories , mark **View accessories** and scroll down
7. Click Apply and check the calculation with new input.
8. Click OK, return to unit picture.

Plenum fan Centriflow Plus

| | |
|------------------------------|----------|
| Speed | 1188 rpm |
| Fan efficiency | 76.4 % |
| Total efficiency | 65.7 % |
| Pressure rise, dimensioning | 490 Pa |
| Fan shaft power at dim. data | 2.01 kW |
| Grid Power | 2.33 kW |
| Temperature rise | 0.6 °C |

SFP Calculation

| | |
|-----------------------------|--------------|
| Specific fan power | 0.69 kW/m³/s |
| Grid power according to SFP | 2.06 kW |
| Pressure rise | 432 Pa |
| Speed | 1134 rpm |

Integral motor

| | |
|------------------------|----------|
| Efficiency | 88.4 % |
| Speed | 1440 rpm |
| Motor output | 4.0 kW |
| Electric current | 8.0 A |
| Number of Poles | 4 |
| Output margin, minimum | 10 % |

Frequency converter

| | |
|------------------------------------|----------|
| Efficiency | 97.4 % |
| Operating frequency | 41.0 Hz |
| Max frequency at frequency control | 51.3 Hz |
| Max speed at frequency control | 1467 rpm |

Motor accessories

| Impeller type | Fan size | Speed Max | Total pressure rise | Efficiency | Fan shaft power at dim. data | Motor output | Number of Poles | Lw total | Temperature rise |
|---------------|----------|-----------|---------------------|------------|------------------------------|--------------|-----------------|----------|------------------|
| K | 2 | 1134 | 493 | 70.4 | 2.19 | 3.00 | 4 | 88 | 0.7 |
| K | 3 | 1134 | 482 | 76.3 | 1.98 | 4.00 | 4 | 84 | 0.6 |

Exchange function

View fan input View accessories

Unit size: 0.5

Fan size: 3

with integral motor

Equipment: normal + pressure tapping for air flow measurement

Anti-vibration mountings: rubber

Casing length: standard motor 1

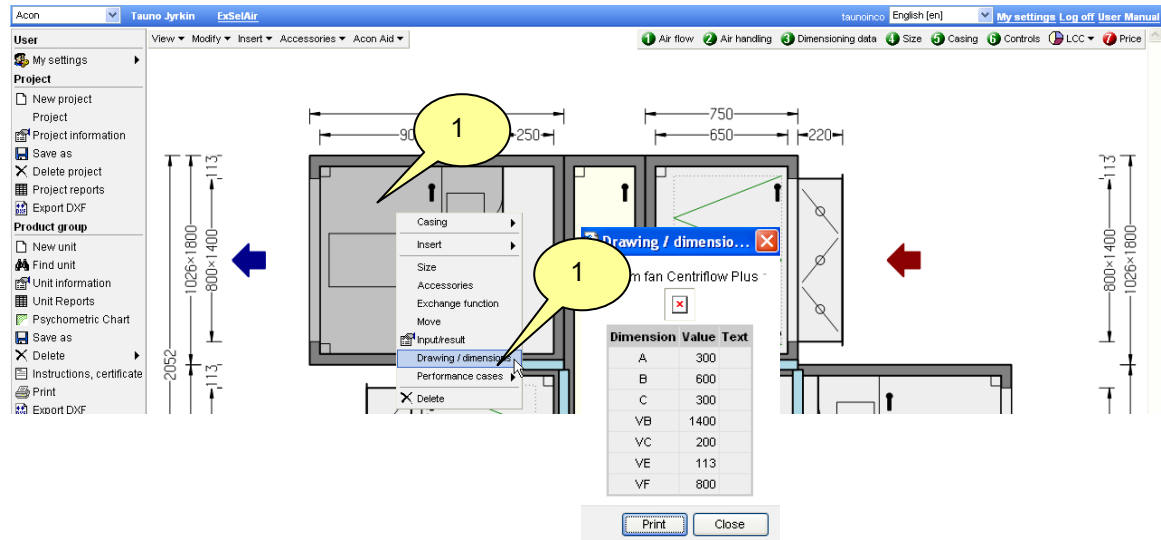
Impeller type: standard

Position inside the casing: exhaust air

OK Cancel Apply

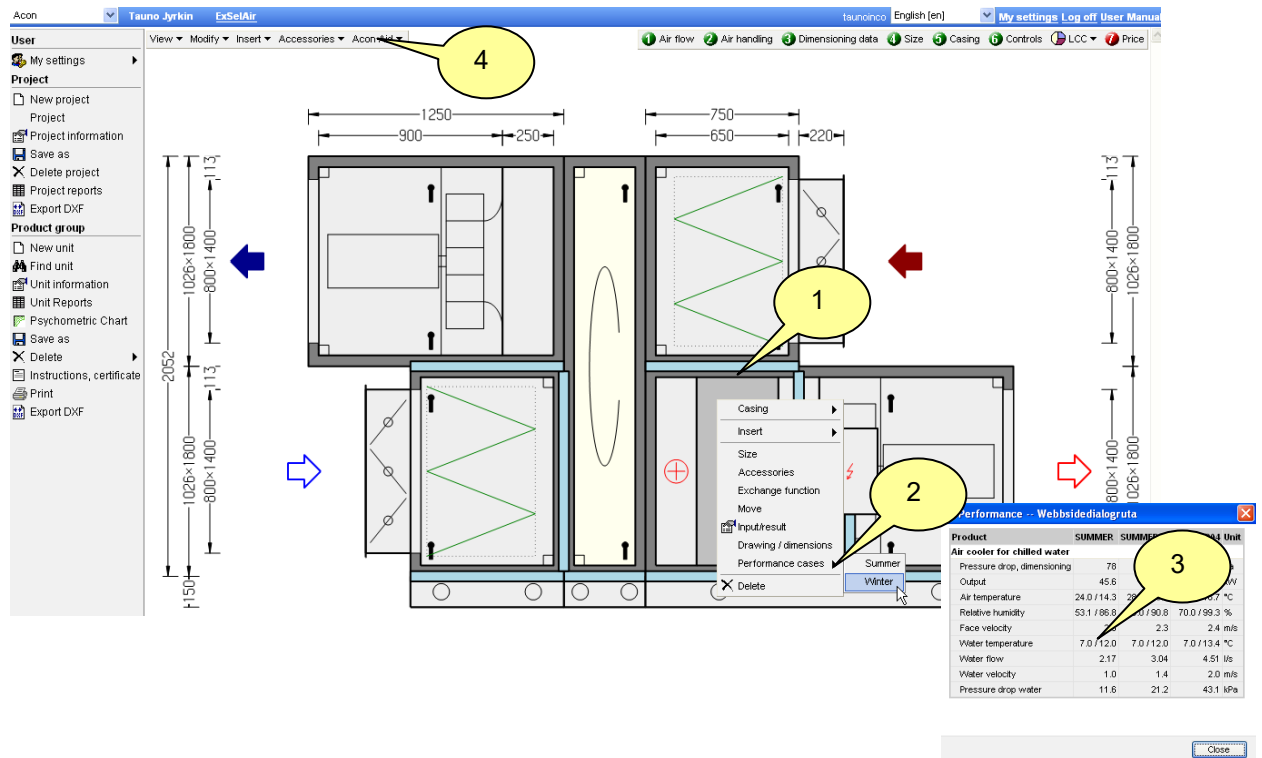
7.10 View a components drawing/dimensions

1. Click a component.
2. Click **Drawing/dimensions**
3. Click **Print** for a printout.



7.11 View performance case (summer and winter)

1. Click a component.
2. Click **Performance cases, Summer or Winter**.
3. If performance simulations have been done in 4. **Acon Aid** then these results are also presented for each component.



7.12 Delete a unit component

1. Click the component you wish to delete.
2. Click **Delete**.

