

# HCV 300 - 400 - 500 - 700 & HCC 2

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TAKE CONTROL OF THE INDOOR CLIMATE  
WITH MECHANICAL VENTILATION WITH HEAT RECOVERY



**Dantherm**<sup>®</sup>  
CONTROL YOUR CLIMATE

# VENTILATION WITH HEAT RECOVERY

HIGH EFFICIENCY, LOW POWER CONSUMPTION  
AND LOW-NOISE BALANCED VENTILATION SOLUTIONS

## A good indoor climate

Modern houses are very airtight and need to be thoroughly ventilated every day. Otherwise dust mites and mould can quickly appear and rot set in.

Dantherm residential ventilation units provide demand-controlled ventilation with heat recovery. They supply fresh clean air to the house while extracting stale air and unwanted moisture generated through cooking, washing and bathing. They help create a healthy and comfortable indoor climate and save energy as heat is recovered from the waste air and transferred to the incoming fresh air.

In the wide Dantherm range you will find the ideal ventilation solution for private family houses, social housing, and private sector apartment blocks. For new-build as well as for renovation projects.

## WHY CHOOSE DANTHERM RESIDENTIAL VENTILATION?

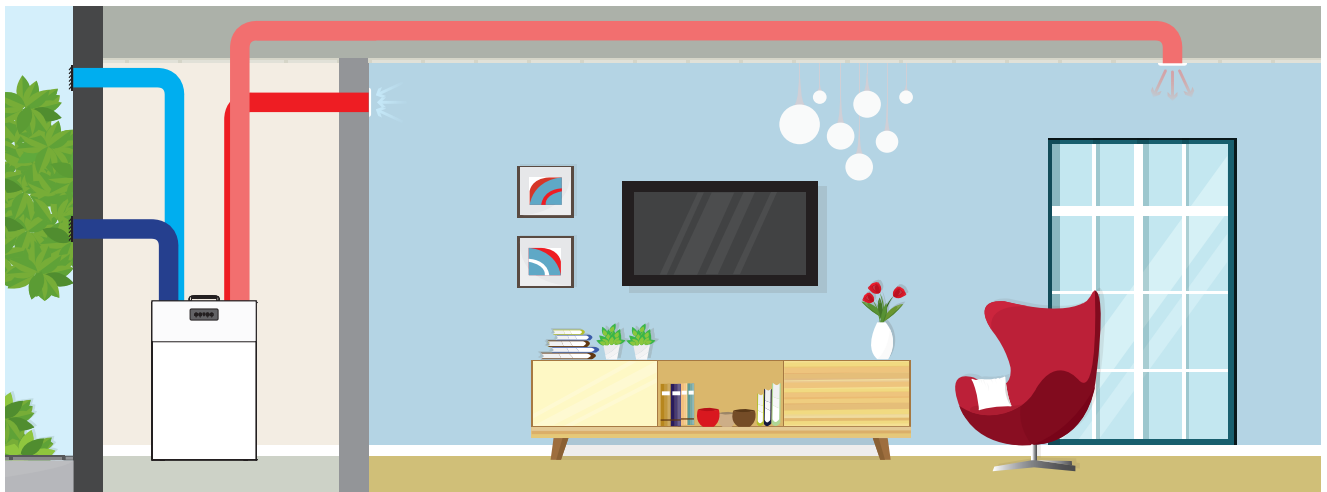
- Danish design and quality since 1958
- Vast experience within residential ventilation
- Energy-efficient solutions
- Units for mounting on walls, ceiling and suspended ceilings
- Versatile unit configuration with L/R switch
- Smartphone app available
- Easy installation and user-friendly operation
- Trained and experienced service team



*Healthy and comfortable indoor climate.*



*Private sector apartment blocks.*



## Highly efficient heat exchangers and fans

Dantherm manufactures highly efficient alu heat exchangers. Lightweight counterflow heat exchangers in aluminium that deliver up to 86% efficiency at a minimal pressure loss. The thermal efficiency of plastic exchangers is up to 96%. The ventilation units come with energy-efficient EC fan motors that help reduce energy consumption.

## Enthalpy helps in all seasons of the year

Dantherm's enthalpy ventilation units offer a number of unique advantages compared to other types of counterflow heat exchangers. By transferring humidity from the extract air to the supply air, the enthalpy exchanger prevents drying out of the indoor climate during the winter. In the summer, it removes humidity

from the supply air. This way, the enthalpy exchanger maintains an optimal indoor air humidity (40-60%) throughout the year, thereby avoiding drying out and humidity issues. Moreover, the enthalpy exchanger significantly reduces energy consumption because it recovers heat and humidity very efficiently.

## Frost protection

The intelligent control system prevents the heat exchanger from icing up. Frost protection is automatically activated at low outdoor temperatures. In areas where the outdoor temperature is frequently lower than minus 6°C, pre-heating coils are recommended to heat the outdoor air before it enters the heat exchanger.

## Bypass cooling

Dantherm residential ventilation units have an inbuilt automatic bypass

function to obtain 100 % free cooling with outdoor air. The bypass opens and closes automatically depending on the extract air temperature readings. In addition, a manual bypass function can be activated whenever required. It allows the fresh air from outside to move through the unit without passing through the heat exchanger. It is activated with one of the control interfaces, either the built-in control panel, wireless remote control, wired control, the Dantherm App or the Dantherm PC Tool.

## Demand-controlled ventilation with humidity sensor

Ventilation is demand-controlled thanks to integrated humidity sensors which continuously monitor the humidity of the extract air and adjust the fan speed accordingly. This reduces power consumption at times with low ventilation demands.



**HCV 300-400-500-700**



**HCC 2**

### KEY FEATURES HCV 300-400-500-700

- Up to 86% thermal efficiency (HCV 300-500-700)
- Up to 96% thermal efficiency (HCV 400<sub>P1</sub>)
- Up to 95% thermal efficiency and 77% humidity recovery (HCV 400<sub>E1</sub>)
- Aluminium counterflow heat exchanger in aluminium (HCV 300-500-700)
- Plastic (with or without enthalpy) counterflow heat exchanger (HCV 400)
- HCV 400 fits inside a 600 mm kitchen cupboard
- Can be integrated in BMS systems
- Versatile unit configuration with L/R switch
- Demand control with built-in RH sensor
- Energy-efficient EC fans ensure low SFP
- Automatic bypass cooling
- Frost protection of heat exchanger
- Silent operation
- Easy filter change
- Week program control
- Fireplace startup mode
- Extensive range of control options, incl. Dantherm app

### KEY FEATURES HCC 2

- Up to 95% thermal efficiency (HCC 2 PLA)
- Up to 88% thermal efficiency and 77% humidity recovery (HCC 2<sub>E1</sub>)
- Plastic (HCC 2<sub>E1</sub> with enthalpy) counterflow heat exchanger
- Low installation build in height (< 30 cm)
- PHI approved
- Can be integrated in BMS systems
- Versatile unit configuration with L/R switch and wall/ceiling installation
- Demand control with built-in RH sensor
- Energy-efficient EC fans ensure low SFP
- Automatic bypass cooling
- Frost protection of heat exchanger
- Silent operation
- Easy filter change
- Week program control
- Fireplace startup mode
- Extensive range of control options, incl. Dantherm app

### Controller

The embedded main controller continually measures and adjusts all parameters in order to maintain a correct ventilation level with the lowest possible energy consumption. The controller has a number of external connection options, such as: Wired LAN interface for TCP/IP

ModBus connection with Building Management Systems, ModBus over RS485, and two digital inputs for further programming.

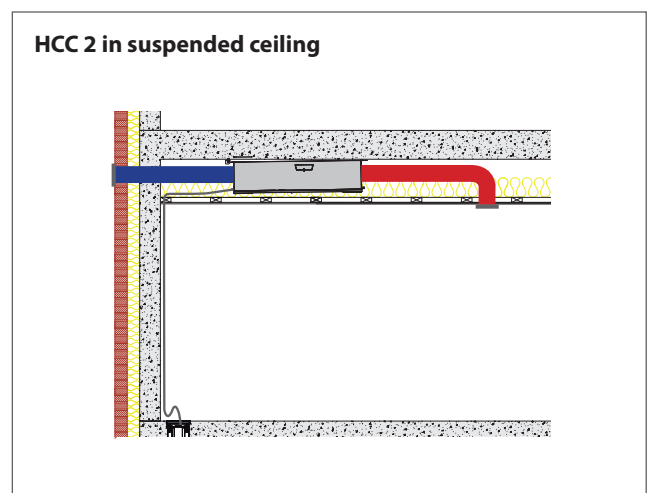
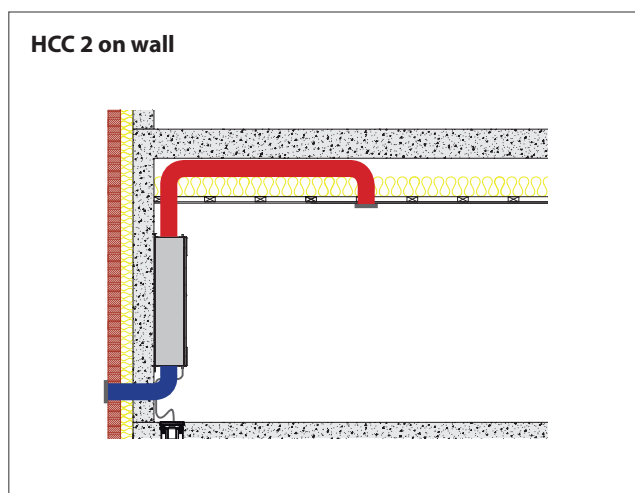
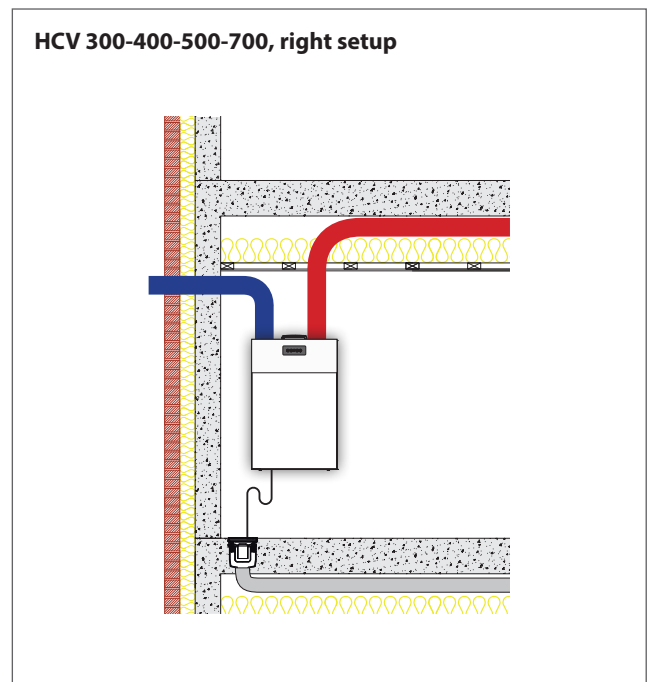
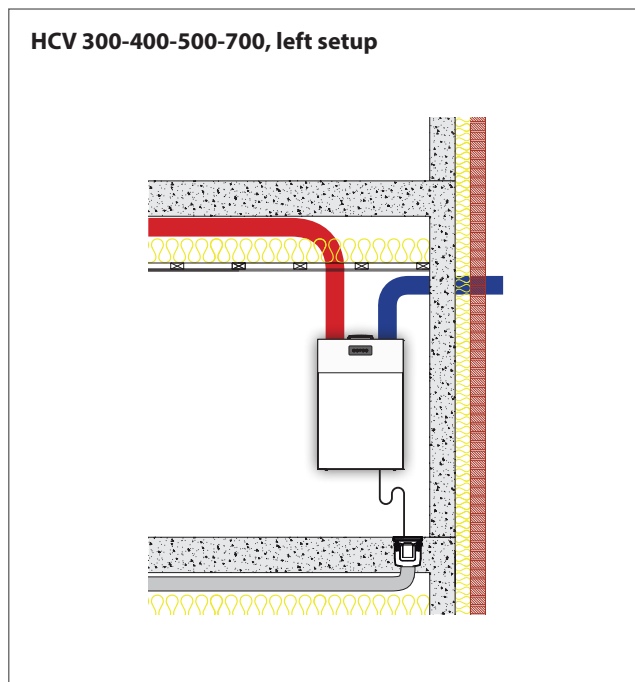
### A versatile range

The Dantherm residential ventilation range is versatile and flexible. It includes ventilation units for ceiling

void installation, wall installation, and installation in a cupboard. An L/R switch function allows them to be electronically swapped from left-hand setup to right-hand setup. With this swap function, all installation demands can be covered with one single ventilation unit.

### Here are some configuration examples:

Left-hand/right-hand installation and wall/ceiling void installation.



### Week programs

Dantherm residential ventilation units offer 10 predefined week programs where the fan speed will increase or decrease according to a weekly schedule. One additional week program can be customised to specific user demands using the Dantherm PC Tool.

### Easy access to filters

Supply and extract air openings are fitted with G4 filters. F7 pollen filters are available as optional accessory. The filters can easily be accessed and changed. Filter replacement warnings are shown on the control panel.



*Filter change*



*Control panel*

### ACCESSORIES

- Dantherm App
- Wireless remote control (HRC 3)
- Wired control (HCP 10)
- Dantherm PC Tool
- VOC air quality sensor
- Hygrostat
- CO2 sensor
- Electric heating coil for installation in the unit cabinet (except HCC 2)
- Electric pre-heating coils for installation in supply air duct (only HCC 2)
- HAC 2 accessory control



*HCC2 mounted in ceiling void.*



**HCV 400  
MOUNTED IN CUPBOARD**

# ADDITIONAL CONTROL OPTIONS

## WITH A SIMPLE CONTROL PANEL, DANTHERM APP OR AN ADVANCED WIRELESS REMOTE CONTROL

### Control options

The Dantherm HCV units come with a built-in control panel with demand-controlled operation and integrated humidity sensor as standard. The RH sensor is used to adjust the airflow in accordance with the activity level of the home. This way it will keep the humidity level as comfortable as possible all the time.

The HCC 2 residential ventilation unit is designed for hidden installation, therefore the basic unit comes without built-in control panel.

From the control panel, the user can select between manual, demand or

week program operation. Moreover, the user can select automatic or manual bypass, activate fireplace mode, check alarms and filter status etc. In addition to the built-in control panel, Dantherm offers the following additional control options.

### Wireless remote control HRC 3

A wireless remote control with display is available as an optional accessory. Using the wireless remote control, end users and installers can access to various functions such as demand control, manual operation, week program operation, away operation, night operation, fireplace operation etc.

### Wired control HCP 10

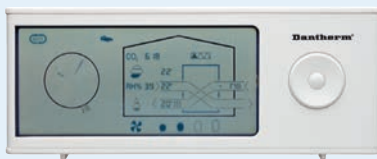
The HCP 10 wired control panel allows users to select manual, demand or week program operation. Moreover, they can select automatic or manual bypass, activate fireplace mode, check alarms and filter status etc. The HCP 10 is very useful for the HCC 2 ventilation unit since this product has no user interface on the unit.

### Dantherm App

The Dantherm app, which is available for iOS and Android via the App store and Google play, offers a user-friendly and intuitive way to control the residential ventilation unit. The app is connected to the wifi router of the house.

### Wireless remote control HRC 3

*(Optional accessory for all models)*



- Demand control operation
- Manual operation
- Week program operation
- Away operation
- Night operation
- Manual bypass
- Fireplace mode
- Settings menu

### Wired control panel HCP 10

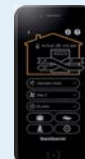
*(Optional accessory for all models)*



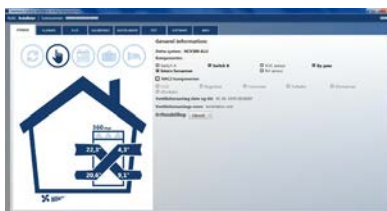
- Demand control operation
- Manual operation
- Week program operation
- Manual bypass cooling
- Summer cooling
- Fireplace mode
- Alarms

### Dantherm App

*(Optional accessory for all models)*



- Demand control operation
- Manual operation
- Week program operation
- Night operation
- Manual bypass cooling
- Summer cooling
- Fireplace mode
- Alarms
- Settings menu










PC Tool

### Dantherm PC Tool (HPT 1)

The Dantherm PC Tool has an installer menu which enables installers to calibrate the unit, connect extra accessories, adjust various user settings, read and reset alarms, if any. In addition, the user menu offers user access to read and adjust various settings, such as week programs, set points, alarms and historical data about temperatures and air quality.

# PRODUCT SELECTOR

MODEL	HCV 300	HCV 400 (P1)	HCV 400 (E1)	HCV 500	HCV 700	HCC 2 PLA	HCC 2 (E1)
							
Installation	Wall	Cupboard/wall	Cupboard/wall	Wall	Wall	Wall/ceiling void	Wall/ceiling void
Energy class	A	A/A+*	A/A+*	A/A+*	A/A+*	A/A+*	A/A+*
Operating range (min/max @ 100Pa)	50-180	50-240	50-240	80-300	80-450	50-180	50-180
Max. floor area (m <sup>2</sup> )**	150	240	240	260	450	170	170
WxHxD (mm)	600x1000x430	540x1050x549	540x1050x549	700x1050x605	700x1050x750	600x279x1122	600x279x1122
Weight (kg)	36,0	39,0	40,0	49,5	70,0	34,0	34,0
Duct connection (mm)	ø125	ø160	ø160	ø160	ø200	ø125	ø125
Heat exchanger	Alu	Plastic	Plastic (Enthalpy)	Alu	Alu	Plastic	Plastic (Enthalpy)
G4 filter	✓	✓	✓	✓	✓	✓	✓
F7 pollen filter	+	+	+	+	+	+	+
PHI certificate	÷	÷	÷	÷	÷	✓	✓
Demand control (RH)	✓	✓	✓	✓	✓	✓	✓
Automatic bypass cooling	✓	✓	✓	✓	✓	✓	✓
Summer cooling	✓	✓	✓	✓	✓	✓	✓
Frost protection of heat exchanger	✓	✓	✓	✓	✓	✓	✓
Week programs	✓	✓	✓	✓	✓	+	+
Night mode	+	+	+	+	+	+	+
Holiday mode	+	+	+	+	+	+	+
Fireplace mode	✓	✓	✓	✓	✓	+	+
Filter alarm	✓	✓	✓	✓	✓	✓	✓
Connection of fire/smoke alarm system	✓	✓	✓	✓	✓	✓	✓
Connection to geothermal collector	+	+	+	+	+	+	+
MODBUS connection (TCP/IP)	✓	✓	✓	✓	✓	✓	✓
Right/left hand switching	✓	✓	✓	✓	✓	✓	✓
Wireless remote control HRC 3	+	+	+	+	+	+	+
Wired control panel HCP 10	+	+	+	+	+	+	+
Dantherm app	+	+	+	+	+	+	+
Preheater	+ inside unit	+ inside unit	+ inside unit	+ inside unit	+ inside unit	+ outside unit	+ outside unit
After heater (EL or H <sup>2</sup> O)	+	+	+	+	+	+	+
VOC sensor	+	+	+	+	+	+	+
CO2 sensor	+	+	+	+	+	+	+
Dantherm PC Tool	+	+	+	+	+	+	+

\*A+ can be obtained with optional accessory kit

\*\*Depending on local legislation

✓ included    + optional    ÷ not available

  Performance

  Functionalities

  Accessories

# ABOUT THE DANTHERM GROUP

## Control your climate

The Dantherm Group is a leading provider of climate control products and solutions. The group companies have more than 60 years of experience in designing and manufacturing high-quality and energy-efficient equipment for heating, cooling, drying and ventilation for a wide range of mobile and fixed applications.

Every year, Dantherm Group uses significant resources on product development to stay in the forefront and is constantly adapting the products to changing market demands and legislation.

The Dantherm Group has a number of strong brands with well-established market positions in the mobile, pool, commercial/industrial and residential markets.

Dantherm Group customers benefit from our comprehensive knowledge base and the experience and expertise that we have gained from more than three million climate control products and solutions sold worldwide.

## Global reach

The Dantherm Group is headquartered in Skive, Denmark and has companies in Norway, Sweden, United Kingdom, Germany, France, Switzerland, Italy, Spain, Poland, Russia, China and United Arab Emirates and a global distribution network.

In 2016 the Dantherm Group was acquired by the Swedish equity fund Procuritas Capital Investors V LP – a strong owner with the ambition to continue the development and growth of the company.

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 **MASTER**<sup>®</sup>  
CLIMATE SOLUTIONS

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