# Cassette fan coil
# Climmy Comfort 3

## CONTENTS



Hydronic

CC3

# INTRODUCTION

*Thanks to the particular air handling section,* ***CC3*** *cassette units generate an airflow with a "coanda" effect. The unit is suitable for installation in a suspended ceiling. Air intake is from the bottom while the air supply is parallel to the ceiling, through practical and functional intake and outlet grids.*
*The "coanda" effect creates excellent circulation of the air inside the room.*

*In addition to the traditional AC asynchronous motors are available a innovative electronic motors with extremely low energy consumption, controlled by an inverter board and identified by* ***ECM****.*
*The EC motors allow to decrease electric consumption by more than 50% compared to traditional AC asynchronous motors. They enable to control the air flow continuously and the ambient temperature with precision, with further benefits in terms of very low noise levels thanks to the reduced average working speed.*

*Every unit can be supplied with 1 coil (2 pipe system) and possibly an electric heating element, or with 2 coils (4 pipe system) with one or two rows, for water supply at a low temperature.*
*Fresh air may be mixed with room air.*
*A condensate pump may also be supplied as an accessory.*

*In addition to the conventional temperature and speed control systems, there is also the possibility to control operation of each unit through a single remote control with central supervisor software installed on a PC (Maxinet).*

*With AC asynchronous motor units it is also possible to use the completely wireless electronic control system based on radio communication,* ***FREE****, with great advantages in terms of installation flexibility and maximum precision in measuring room temperature.*

# Main components

## CONSTRUCTIONAL FEATURES OF THE MAIN COMPONENTS

### Casing

Made from galvanized steel with closed cell insulation.

### Diffuser with intake grille

In prepainted metal sheet in RAL 9003 colour with intake grille that can be opened for inspection and maintenance of the air filter.

### Air Filter

Polypropylene cellular fabric regenerating filter.

### Fan Assembly

The fans have aluminium or plastic blades directly keyed on the motor with double aspiration and they are dynamically and statically balanced during manufacture in order to have an extremely quiet operation.

### Electric motor

The motor is wired for single phase and has six speeds, three of which are connected, with capacitor. The motor is fitted on sealed for life bearings and is secured on anti-vibration and self-lubricating mountings. Internal thermal protection with automatic reset, protection IP 20, class B.
The speeds connected in the factory are indicated by “MIN, MED and MAX” in the following tables.

### Heat exchange coil

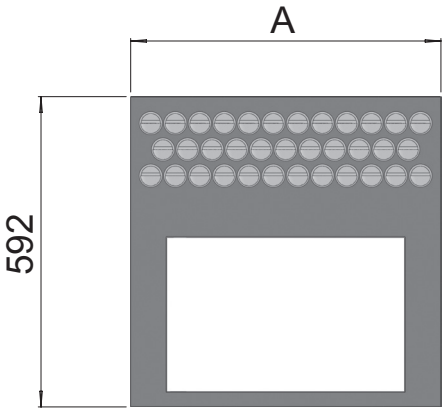
It is manufactured from drawn copper tube and the aluminium fins are mechanically bonded onto the tube by an expansion process. The coil has two 1/2 inch BSP internal connections and 1/8 inch BSP air vent and drain.
The heat exchanger is not suitable for use in corrosive atmosphere or in environments where aluminium may be subject to corrosion. **The connection side cannot be changed on site.**

### Condensate Collection Tray

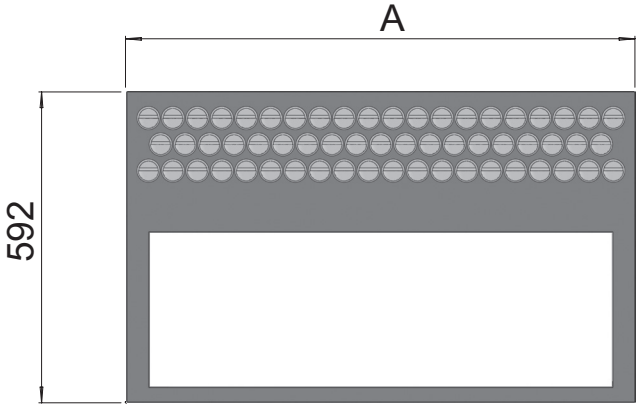
Made from plastic with an “L”-shape fitted on the inner casing.
The outside diameter of the condensate discharge pipe is 15mm.

# Dimensions, Weight, Water content

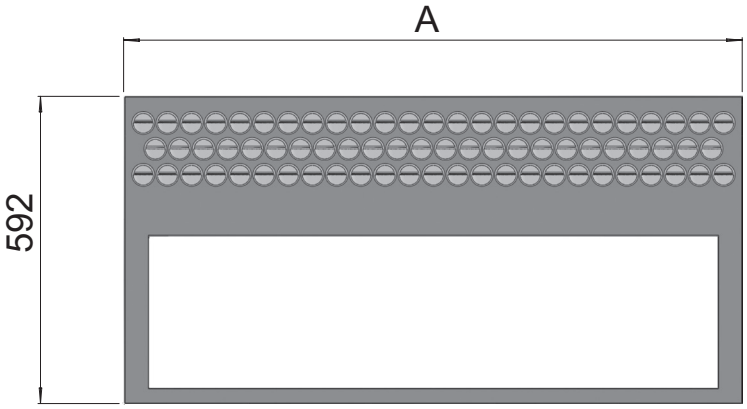
## CC3 Gr 1 - 35 nozzles

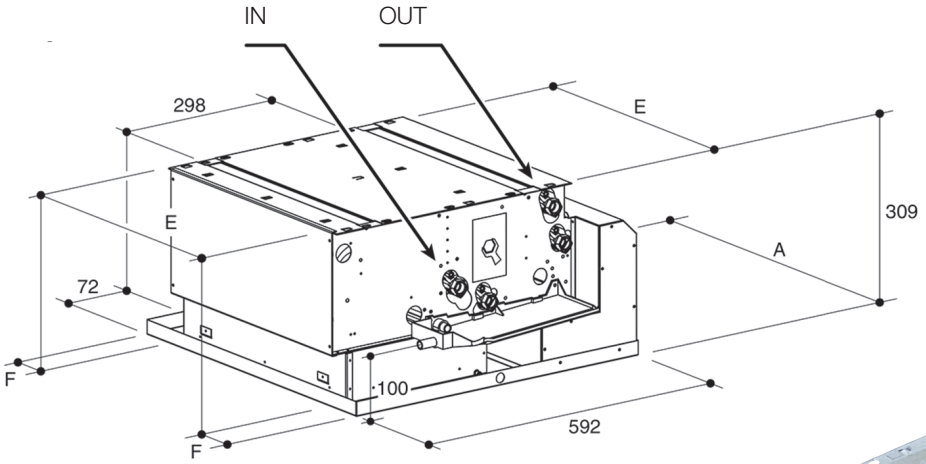


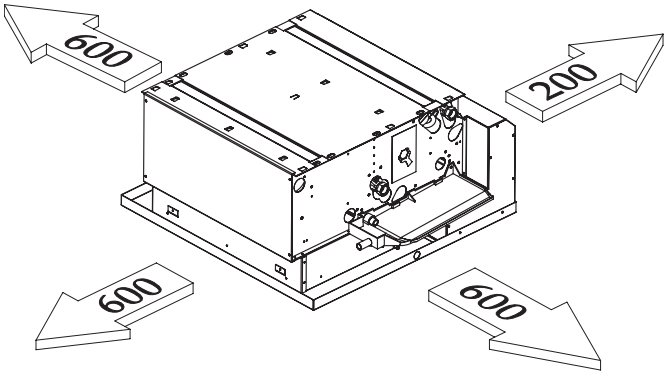

## CC3 Gr 2 - 56 nozzles

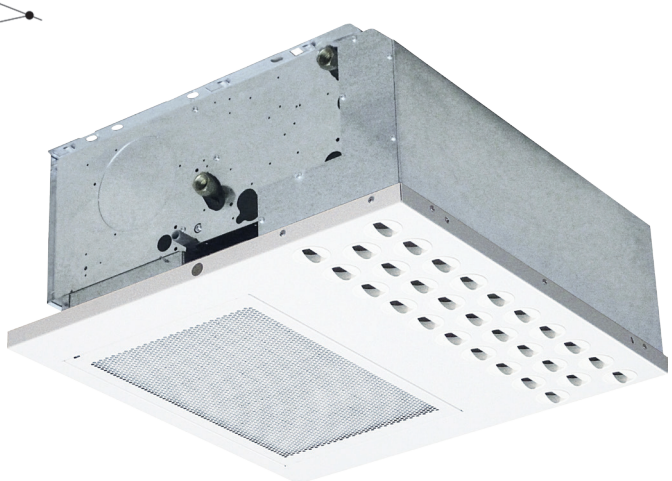



## CC3 Gr 3 - 71 nozzles



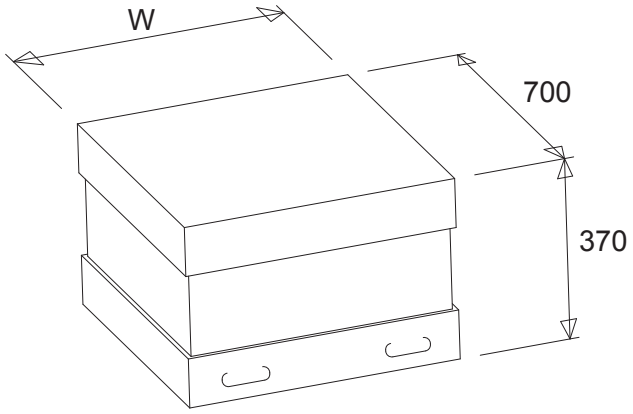



# Dimensions, weight
# Water content

CC3




## DIMENSIONS (mm)

| Model | 1 | 2 | 3 |
|---|---|---|---|
| A | 592 | 970 | 1192 |
| E | 454 | 884 | 1099 |
| F | 78 | 43 | 46,5 |
| W | 750 | 1130 | 1350 |

## WEIGHT (kg)

| | | Weight packed unit | | | Weight unpacked unit | | |
|---|---|---|---|---|---|---|---|
| Model | | 1 | 2 | 3 | 1 | 2 | 3 |
| Rows | 3 | 18 | 34 | 44 | 16 | 33 | 42 |
| | 3+1 | 20 | 40 | 51 | 19 | 38 | 48 |
| | 3+2 | 23 | 46 | 58 | 22 | 43 | 54 |
| | 4 | 20 | 37 | 48 | 18 | 35 | 45 |
| | 4+1 | 23 | 42 | 54 | 21 | 40 | 51 |

## WATER CONTENT (l)

| Model | | 1 | 2 | 3 |
|---|---|---|---|---|
| Rows | 3 | 0,6 | 1,3 | 1,7 |
| | 4 | 0,8 | 1,7 | 2,4 |
| | +1 | 0,2 | 0,4 | 0,5 |
| | +2 | 0,4 | 0,8 | 1,0 |

# Technical features

## *2-pipe units*

The following standard rating conditions are used:

COOLING (summer operation)
Entering air temperature: + 27°C d.b. / + 19°C w.b.
Water temperature: + 7°C E.W.T. / + 12°C L.W.T.

HEATING (winter operation)
Entering air temperature: + 20°C
Water temperature: + 50°C E.W.T.
Water flow rate as for the cooling conditions

| MODEL | | | CC3 1.3-2T | | | | | | CC3 2.3-2T | | | | | | CC3 3.3-2T | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Speed | | | 1 | 2 | 3 | 4 | 5 | 6 | 1 | 2 | 3 | 4 | 5 | 6 | 1 | 2 | 3 | 4 | 5 | 6 |
| | | | MIN | MED | | | MAX | | MIN | MED | | MAX | | | MIN | | MED | MAX | | |
| Air flow | | m³/h | **140** | **180** | 220 | 245 | **280** | 305 | **200** | **240** | 305 | **380** | 470 | 560 | **290** | 360 | **440** | **540** | 620 | 680 |
| Cooling total emission | | kW | **0,88** | **1,06** | 1,26 | 1,35 | **1,50** | 1,60 | **1,37** | **1,62** | 1,97 | **2,37** | 2,81 | 3,23 | **1,97** | 2,37 | **2,84** | **3,34** | 3,75 | 4,05 |
| Cooling sensible emission | | kW | **0,66** | **0,81** | 0,98 | 1,06 | **1,18** | 1,27 | **1,00** | **1,19** | 1,47 | **1,77** | 2,13 | 2,47 | **1,44** | 1,74 | **2,11** | **2,51** | 2,83 | 3,07 |
| Heating | | kW | **1,08** | **1,33** | 1,59 | 1,73 | **1,93** | 2,08 | **1,60** | **1,91** | 2,35 | **2,86** | 3,43 | 3,95 | **2,30** | 2,79 | **3,37** | **4,02** | 4,53 | 4,88 |
| ΔP Cooling | | kPa | **2,4** | **3,3** | 4,5 | 5,1 | **6,1** | 6,8 | **2,9** | **3,9** | 5,5 | **7,6** | 10,3 | 13,1 | **6,4** | 8,8 | **12,1** | **16,2** | 19,8 | 22,7 |
| ΔP Heating | | kPa | **1,8** | **2,6** | 3,5 | 4,0 | **4,9** | 5,6 | **2,3** | **3,1** | 4,5 | **6,3** | 8,4 | 10,8 | **5,2** | 7,3 | **9,8** | **13,4** | 16,3 | 18,6 |
| Fan | | W | **16** | **22** | 32 | 38 | **49** | 66 | **24** | **27** | 34 | **44** | 57 | 71 | **27** | 33 | **42** | **59** | 72 | 84 |
| Sound power | Lw | dB(A) | **35** | **41** | 46 | 49 | **52** | 55 | **33** | **36** | 42 | **48** | 54 | 57 | **35** | 41 | **46** | **52** | 55 | 57 |
| Sound pressure (*) | Lp | dB(A) | **26** | **32** | 37 | 40 | **43** | 46 | **24** | **27** | 33 | **39** | 45 | 48 | **26** | 32 | **37** | **43** | 46 | 48 |

| MODEL | | | CC3 1.4-2T | | | | | | CC3 2.4-2T | | | | | | CC3 3.4-2T | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Speed | | | 1 | 2 | 3 | 4 | 5 | 6 | 1 | 2 | 3 | 4 | 5 | 6 | 1 | 2 | 3 | 4 | 5 | 6 |
| | | | MIN | MED | | | MAX | | MIN | MED | | MAX | | | | MIN | | MED | MAX | |
| Air flow | | m³/h | **140** | **180** | 220 | 245 | **280** | 305 | **200** | **240** | 305 | **380** | 470 | 560 | 290 | **360** | 440 | **540** | **620** | 680 |
| Cooling total emission | | kW | **0,97** | **1,19** | 1,44 | 1,55 | **1,74** | 1,87 | **1,44** | **1,72** | 2,12 | **2,57** | 3,09 | 3,58 | 2,05 | **2,49** | 3,00 | **3,56** | **4,02** | 4,36 |
| Cooling sensible emission | | kW | **0,71** | **0,88** | 1,07 | 1,17 | **1,31** | 1,42 | **1,04** | **1,24** | 1,54 | **1,88** | 2,28 | 2,67 | 1,48 | **1,81** | 2,20 | **2,63** | **2,98** | 3,25 |
| Heating | | kW | **1,14** | **1,42** | 1,72 | 1,88 | **2,10** | 2,27 | **1,69** | **2,03** | 2,54 | **3,12** | 3,79 | 4,44 | 2,38 | **2,90** | 3,51 | **4,20** | **4,77** | 5,20 |
| ΔP Cooling | | kPa | **4,7** | **6,7** | 9,2 | 10,6 | **12,9** | 14,6 | **4,4** | **6,0** | 8,6 | **12,1** | 16,8 | 21,7 | 4,7 | **6,7** | 9,3 | **12,6** | **15,5** | 17,9 |
| ΔP Heating | | kPa | **3,7** | **5,4** | 7,6 | 8,8 | **10,7** | 12,3 | **3,5** | **4,8** | 7,1 | **10,2** | 13,6 | 17,9 | 3,9 | **5,5** | 7,3 | **10,0** | **12,6** | 14,6 |
| Fan | | W | **16** | **22** | 32 | 38 | **49** | 66 | **24** | **27** | 34 | **44** | 57 | 71 | 27 | **33** | 42 | **59** | **72** | 84 |
| Sound power | Lw | dB(A) | **35** | **41** | 46 | 49 | **52** | 55 | **33** | **36** | 42 | **48** | 54 | 57 | 35 | **41** | 46 | **52** | **55** | 57 |
| Sound pressure (*) | Lp | dB(A) | **26** | **32** | 37 | 40 | **43** | 46 | **24** | **27** | 33 | **39** | 45 | 48 | 26 | **32** | 37 | **43** | **46** | 48 |

## *4-pipe units*

The following standard rating conditions are used:

COOLING (summer operation)
Entering air temperature: + 27°C d.b. / + 19°C w.b.
Water temperature: + 7°C E.W.T. / + 12°C L.W.T.

HEATING (winter operation)
Entering air temperature: + 20°C
Water temperature: + 70°C E.W.T. / + 60°C L.W.T.

| MODEL | | | CC3 1.3-4T | | | | | | CC3 2.3-4T | | | | | | CC3 3.3-4T | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Speed | | | 1 | 2 | 3 | 4 | 5 | 6 | 1 | 2 | 3 | 4 | 5 | 6 | 1 | 2 | 3 | 4 | 5 | 6 |
| | | | MIN | MED | | | MAX | | MIN | MED | | MAX | | | MIN | | MED | MAX | | |
| Air flow | | m³/h | **140** | **180** | 220 | 245 | **280** | 305 | **200** | **240** | 305 | **380** | 470 | 560 | **290** | 360 | **440** | **540** | 620 | 680 |
| Cooling total emission | | kW | **0,88** | **1,06** | 1,26 | 1,35 | **1,50** | 1,60 | **1,37** | **1,62** | 1,97 | **2,37** | 2,81 | 3,23 | **1,97** | 2,37 | **2,84** | **3,34** | 3,75 | 4,05 |
| Cooling sensible emission | | kW | **0,66** | **0,81** | 0,98 | 1,06 | **1,18** | 1,27 | **1,00** | **1,19** | 1,47 | **1,77** | 2,13 | 2,47 | **1,44** | 1,74 | **2,11** | **2,51** | 2,83 | 3,07 |
| Heating | | kW | **0,92** | **1,08** | 1,25 | 1,34 | **1,47** | 1,56 | **1,49** | **1,71** | 2,02 | **2,35** | 2,73 | 3,07 | **2,12** | 2,47 | **2,87** | **3,30** | 3,64 | 3,89 |
| ΔP Cooling | | kPa | **2,4** | **3,3** | 4,5 | 5,1 | **6,1** | 6,8 | **2,9** | **3,9** | 5,5 | **7,6** | 10,3 | 13,1 | **6,4** | 8,8 | **12,1** | **16,2** | 19,8 | 22,7 |
| ΔP Heating | | kPa | **1,6** | **2,1** | 2,7 | 3,1 | **3,6** | 4,0 | **0,9** | **1,2** | 1,6 | **2,0** | 2,6 | 3,2 | **2,0** | 2,6 | **3,4** | **4,3** | 5,1 | 5,8 |
| Fan | | W | **16** | **22** | 32 | 38 | **49** | 66 | **24** | **27** | 34 | **44** | 57 | 71 | **27** | 33 | **42** | **59** | 72 | 84 |
| Sound power | Lw | dB(A) | **35** | **41** | 46 | 49 | **52** | 55 | **33** | **36** | 42 | **48** | 54 | 57 | **35** | 41 | **46** | **52** | 55 | 57 |
| Sound pressure (*) | Lp | dB(A) | **26** | **32** | 37 | 40 | **43** | 46 | **24** | **27** | 33 | **39** | 45 | 48 | **26** | 32 | **37** | **43** | 46 | 48 |

**MIN-MED-MAX** = Standard connected speeds.

(*) = The sound pressure levels are 9 dB(A) lower than the sound power levels and apply to the reverberant field of a 100 m³ room and a reverberation time of 0.5 sec.

# Working conditions and Air throw

## WORKING CONDITIONS

Max. entering water temperature..... + 80 °C
MIn. entering water temperature..... + 5 °C
*for entering water temperatures below + 5°C, contact our technical department*
Max. rated pressure .....1000 kPa (10 bars)

### *Installation height (m)*

| MODEL | 1 | 2 | 3 |
|---|---|---|---|
| *Minimum* | 2,6 | 2,6 | 2,6 |
| *Maximum* | 3,2 | 3,2 | 3,5 |

### *Water flow limits for main coil (l/h)*

| | 3 rows | | | 4 rows | | |
|---|---|---|---|---|---|---|
| MODEL | 13 | 23 | 33 | 14 | 24 | 34 |
| *Minimum* | 100 | 150 | 150 | 100 | 150 | 200 |
| *Maximum* | 500 | 1000 | 1500 | 750 | 1000 | 2000 |

### *Water flow limits for additional coil (l/h)*

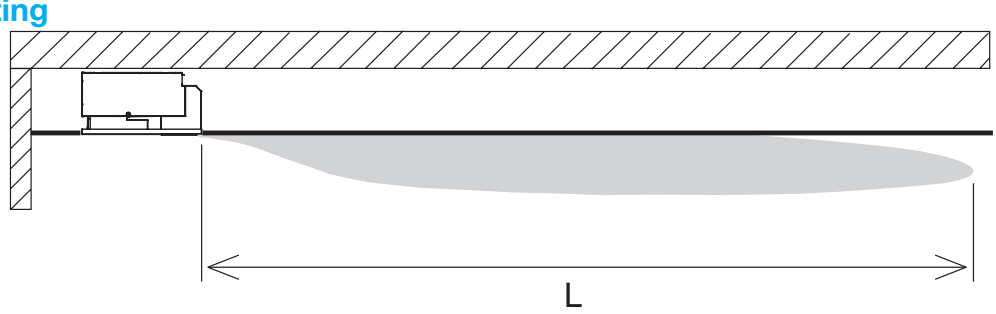
| | 1 row | | | 2 rows | | |
|---|---|---|---|---|---|---|
| MODEL | 1 | 2 | 3 | 1 | 2 | 3 |
| *Minimum* | 50 | 100 | 100 | 50 | 100 | 100 |
| *Maximum* | 250 | 450 | 650 | 250 | 450 | 650 |

### *Motor electrical data (max. absorption)*

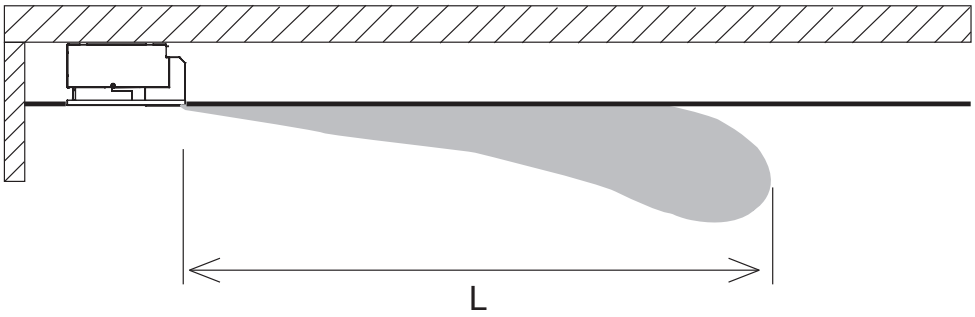
| MODEL | | 1 | 2 | 3 |
|---|---|---|---|---|
| *230/1 50Hz* | *W* | 66 | 71 | 84 |
| | *A* | 0,30 | 0,32 | 0,38 |

## AIR THROW

### C1 - Heating




### C2 - Cooling




| | | CC3 1 | | | | | | CC3 2 | | | | | | CC3 3 | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| MODEL | | 1 | 2 | 3 | 4 | 5 | 6 | 1 | 2 | 3 | 4 | 5 | 6 | 1 | 2 | 3 | 4 | 5 | 6 |
| *Air throw L (m)* | *C1* | 3,8 | 4,5 | 5,8 | 6,3 | 6,8 | 7,2 | 4 | 5 | 6,1 | 7 | 8 | 9 | 4,5 | 5,2 | 6,3 | 7,5 | 8,8 | 9,5 |
| | *C2* | 3 | 3,6 | 4,6 | 5 | 5,4 | 5,7 | 3,2 | 4 | 4,8 | 5,6 | 6,4 | 7,2 | 3,6 | 4,1 | 5 | 6 | 7 | 7,6 |

# Emissions

## Cooling emission of 3 row coil

### Entering air temperature: +27°C - Relative Humidity: 50%

| Model | Speed | | Qv | WT: 7/12 °C | | | | WT: 8/13 °C | | | | WT: 10/15 °C | | | | WT: 12/17 °C | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | Pc | Ps | Qw | Dp(c) | Pc | Ps | Qw | Dp(c) | Pc | Ps | Qw | Dp(c) | Pc | Ps | Qw | Dp(c) |
| | | | m³/h | kW | kW | l/h | kPa | kW | kW | l/h | kPa | kW | kW | l/h | kPa | kW | kW | l/h | kPa |
| CC3 1.3-2T | VI | | 305 | 1,73 | 1,27 | 298 | 7,8 | 1,54 | 1,19 | 265 | 6,3 | 1,14 | 1,04 | 196 | 3,7 | 0,91 | 0,91 | 157 | 2,5 |
| | V | MAX | 280 | 1,62 | 1,18 | 279 | 7,0 | 1,44 | 1,11 | 248 | 5,6 | 1,07 | 0,97 | 184 | 3,3 | 0,85 | 0,85 | 146 | 2,2 |
| | IV | | 245 | 1,46 | 1,06 | 251 | 5,8 | 1,30 | 0,99 | 224 | 4,7 | 0,97 | 0,86 | 167 | 2,8 | 0,76 | 0,76 | 131 | 1,8 |
| | III | | 220 | 1,36 | 0,97 | 234 | 5,1 | 1,21 | 0,92 | 208 | 4,2 | 0,91 | 0,80 | 157 | 2,5 | 0,70 | 0,70 | 120 | 1,5 |
| | II | MED | 180 | 1,14 | 0,81 | 196 | 3,8 | 1,02 | 0,76 | 175 | 3,1 | 0,77 | 0,66 | 132 | 1,8 | 0,59 | 0,59 | 101 | 1,1 |
| | I | MIN | 140 | 0,95 | 0,66 | 163 | 2,7 | 0,85 | 0,62 | 146 | 2,2 | 0,64 | 0,54 | 110 | 1,3 | 0,48 | 0,48 | 83 | 0,8 |
| CC3 2.3-2T | VI | | 560 | 3,47 | 2,46 | 597 | 14,9 | 3,12 | 2,32 | 537 | 12,2 | 2,36 | 2,02 | 406 | 7,4 | 1,78 | 1,78 | 306 | 4,4 |
| | V | | 470 | 3,03 | 2,13 | 521 | 11,7 | 2,72 | 2,00 | 468 | 9,6 | 2,06 | 1,74 | 354 | 5,8 | 1,54 | 1,54 | 265 | 3,4 |
| | IV | MAX | 380 | 2,54 | 1,77 | 437 | 8,6 | 2,29 | 1,66 | 394 | 7,1 | 1,74 | 1,45 | 299 | 4,3 | 1,28 | 1,28 | 220 | 2,5 |
| | III | | 305 | 2,12 | 1,46 | 365 | 6,3 | 1,91 | 1,37 | 329 | 5,2 | 1,46 | 1,19 | 251 | 3,2 | 1,06 | 1,06 | 182 | 1,8 |
| | II | MED | 240 | 1,74 | 1,19 | 299 | 4,4 | 1,57 | 1,12 | 270 | 3,6 | 1,20 | 0,97 | 206 | 2,2 | 0,86 | 0,86 | 148 | 1,2 |
| | I | MIN | 200 | 1,47 | 1,00 | 253 | 3,3 | 1,32 | 0,94 | 227 | 2,7 | 1,02 | 0,81 | 175 | 1,7 | 0,72 | 0,72 | 124 | 0,9 |
| CC3 3.3-2T | VI | | 680 | 4,36 | 3,06 | 750 | 25,8 | 3,91 | 2,88 | 673 | 21,2 | 2,98 | 2,51 | 513 | 13,0 | 2,22 | 2,22 | 382 | 7,6 |
| | V | | 620 | 4,03 | 2,82 | 693 | 22,5 | 3,63 | 2,65 | 624 | 18,6 | 2,77 | 2,31 | 476 | 11,4 | 2,04 | 2,04 | 351 | 6,6 |
| | IV | MAX | 540 | 3,59 | 2,50 | 617 | 18,4 | 3,23 | 2,35 | 556 | 15,2 | 2,47 | 2,05 | 425 | 9,3 | 1,81 | 1,81 | 311 | 5,3 |
| | III | MED | 440 | 3,05 | 2,10 | 525 | 13,8 | 2,75 | 1,98 | 473 | 11,4 | 2,11 | 1,72 | 363 | 7,0 | 1,52 | 1,52 | 261 | 3,9 |
| | II | | 360 | 2,55 | 1,74 | 439 | 10,0 | 2,30 | 1,64 | 396 | 8,3 | 1,77 | 1,42 | 304 | 5,2 | 1,26 | 1,26 | 217 | 2,8 |
| | I | MIN | 290 | 2,11 | 1,44 | 363 | 7,2 | 1,91 | 1,35 | 329 | 6,0 | 1,47 | 1,17 | 253 | 3,7 | 1,04 | 1,04 | 179 | 2,0 |

### Entering air temperature: +26°C - Relative Humidity: 50%

| Model | Speed | | Qv | WT: 7/12 °C | | | | WT: 8/13 °C | | | | WT: 10/15 °C | | | | WT: 12/17 °C | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | Pc | Ps | Qw | Dp(c) | Pc | Ps | Qw | Dp(c) | Pc | Ps | Qw | Dp(c) | Pc | Ps | Qw | Dp(c) |
| | | | m³/h | kW | kW | l/h | kPa | kW | kW | l/h | kPa | kW | kW | l/h | kPa | kW | kW | l/h | kPa |
| CC3 1.3-2T | VI | | 305 | 1,53 | 1,19 | 263 | 6,3 | 1,34 | 1,12 | 230 | 5,0 | 0,99 | 0,99 | 170 | 2,9 | 0,83 | 0,83 | 143 | 2,1 |
| | V | MAX | 280 | 1,43 | 1,11 | 246 | 5,6 | 1,26 | 1,04 | 217 | 4,4 | 0,92 | 0,92 | 158 | 2,5 | 0,77 | 0,77 | 132 | 1,8 |
| | IV | | 245 | 1,30 | 0,99 | 224 | 4,7 | 1,14 | 0,93 | 196 | 3,7 | 0,80 | 0,80 | 138 | 2,0 | 0,69 | 0,69 | 119 | 1,5 |
| | III | | 220 | 1,21 | 0,92 | 208 | 4,1 | 1,06 | 0,86 | 182 | 3,3 | 0,75 | 0,74 | 129 | 1,7 | 0,64 | 0,64 | 110 | 1,3 |
| | II | MED | 180 | 1,02 | 0,76 | 175 | 3,1 | 0,90 | 0,71 | 155 | 2,4 | 0,63 | 0,61 | 108 | 1,3 | 0,54 | 0,54 | 93 | 1,0 |
| | I | MIN | 140 | 0,84 | 0,62 | 144 | 2,2 | 0,74 | 0,58 | 127 | 1,8 | 0,53 | 0,50 | 91 | 1,0 | 0,44 | 0,44 | 76 | 0,7 |
| CC3 2.3-2T | VI | | 560 | 3,10 | 2,32 | 533 | 12,2 | 2,74 | 2,17 | 471 | 9,7 | 1,96 | 1,87 | 337 | 5,3 | 1,63 | 1,63 | 280 | 3,8 |
| | V | | 470 | 2,70 | 2,00 | 464 | 9,5 | 2,39 | 1,87 | 411 | 7,6 | 1,72 | 1,61 | 296 | 4,2 | 1,40 | 1,40 | 241 | 2,9 |
| | IV | MAX | 380 | 2,27 | 1,67 | 390 | 7,1 | 2,01 | 1,56 | 346 | 5,7 | 1,46 | 1,34 | 251 | 3,2 | 1,18 | 1,18 | 203 | 2,1 |
| | III | | 305 | 1,90 | 1,38 | 327 | 5,1 | 1,68 | 1,29 | 289 | 4,1 | 1,23 | 1,11 | 212 | 2,3 | 0,97 | 0,97 | 167 | 1,5 |
| | II | MED | 240 | 1,55 | 1,12 | 267 | 3,6 | 1,38 | 1,05 | 237 | 2,9 | 1,01 | 0,90 | 174 | 1,7 | 0,79 | 0,79 | 136 | 1,0 |
| | I | MIN | 200 | 1,31 | 0,94 | 225 | 2,7 | 1,17 | 0,88 | 201 | 2,2 | 0,86 | 0,75 | 148 | 1,2 | 0,66 | 0,66 | 114 | 0,8 |
| CC3 3.3-2T | VI | | 680 | 3,89 | 2,89 | 669 | 21,2 | 3,45 | 2,70 | 593 | 17,0 | 2,50 | 2,33 | 430 | 9,5 | 2,03 | 2,03 | 349 | 6,5 |
| | V | | 620 | 3,60 | 2,66 | 619 | 18,5 | 3,20 | 2,49 | 550 | 14,9 | 2,32 | 2,15 | 399 | 8,4 | 1,87 | 1,87 | 322 | 5,6 |
| | IV | MAX | 540 | 3,21 | 2,36 | 552 | 15,1 | 2,85 | 2,21 | 490 | 12,2 | 2,08 | 1,90 | 358 | 6,9 | 1,65 | 1,65 | 284 | 4,5 |
| | III | MED | 440 | 2,73 | 1,98 | 470 | 11,3 | 2,42 | 1,85 | 416 | 9,1 | 1,78 | 1,60 | 306 | 5,2 | 1,40 | 1,40 | 241 | 3,4 |
| | II | | 360 | 2,28 | 1,64 | 392 | 8,3 | 2,03 | 1,54 | 349 | 6,7 | 1,49 | 1,32 | 256 | 3,8 | 1,15 | 1,15 | 198 | 2,4 |
| | I | MIN | 290 | 1,89 | 1,36 | 325 | 6,0 | 1,69 | 1,27 | 291 | 4,8 | 1,24 | 1,09 | 213 | 2,8 | 0,95 | 0,95 | 163 | 1,7 |

### Entering air temperature: +25°C - Relative Humidity: 50%

| Model | Speed | | Qv | WT: 7/12 °C | | | | WT: 8/13 °C | | | | WT: 10/15 °C | | | | WT: 12/17 °C | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | Pc | Ps | Qw | Dp(c) | Pc | Ps | Qw | Dp(c) | Pc | Ps | Qw | Dp(c) | Pc | Ps | Qw | Dp(c) |
| | | | m³/h | kW | kW | l/h | kPa | kW | kW | l/h | kPa | kW | kW | l/h | kPa | kW | kW | l/h | kPa |
| CC3 1.3-2T | VI | | 305 | 1,34 | 1,12 | 230 | 5,0 | 1,15 | 1,04 | 198 | 3,8 | 0,91 | 0,91 | 157 | 2,5 | 0,75 | 0,75 | 129 | 1,7 |
| | V | MAX | 280 | 1,26 | 1,04 | 217 | 4,5 | 1,08 | 0,97 | 186 | 3,4 | 0,85 | 0,85 | 146 | 2,2 | 0,70 | 0,70 | 120 | 1,5 |
| | IV | | 245 | 1,14 | 0,93 | 196 | 3,7 | 0,98 | 0,87 | 169 | 2,9 | 0,76 | 0,76 | 131 | 1,8 | 0,63 | 0,63 | 108 | 1,3 |
| | III | | 220 | 1,06 | 0,86 | 182 | 3,3 | 0,91 | 0,80 | 157 | 2,5 | 0,70 | 0,70 | 120 | 1,6 | 0,58 | 0,58 | 100 | 1,1 |
| | II | MED | 180 | 0,89 | 0,71 | 153 | 2,4 | 0,77 | 0,66 | 132 | 1,9 | 0,59 | 0,59 | 101 | 1,1 | 0,48 | 0,48 | 83 | 0,8 |
| | I | MIN | 140 | 0,74 | 0,58 | 127 | 1,8 | 0,64 | 0,54 | 110 | 1,4 | 0,48 | 0,48 | 83 | 0,8 | 0,40 | 0,40 | 69 | 0,6 |
| CC3 2.3-2T | VI | | 560 | 2,73 | 2,18 | 470 | 9,7 | 2,37 | 2,03 | 408 | 7,5 | 1,79 | 1,79 | 308 | 4,5 | 1,48 | 1,48 | 255 | 3,2 |
| | V | | 470 | 2,38 | 1,88 | 409 | 7,7 | 2,07 | 1,75 | 356 | 5,9 | 1,54 | 1,54 | 265 | 3,5 | 1,27 | 1,27 | 218 | 2,5 |
| | IV | MAX | 380 | 2,01 | 1,56 | 346 | 5,7 | 1,75 | 1,46 | 301 | 4,4 | 1,29 | 1,29 | 222 | 2,5 | 1,07 | 1,07 | 184 | 1,8 |
| | III | | 305 | 1,68 | 1,29 | 289 | 4,1 | 1,46 | 1,20 | 251 | 3,2 | 1,06 | 1,06 | 182 | 1,8 | 0,88 | 0,88 | 151 | 1,3 |
| | II | MED | 240 | 1,38 | 1,05 | 237 | 2,9 | 1,20 | 0,98 | 206 | 2,3 | 0,86 | 0,86 | 148 | 1,2 | 0,71 | 0,71 | 122 | 0,9 |
| | I | MIN | 200 | 1,16 | 0,88 | 200 | 2,2 | 1,02 | 0,82 | 175 | 1,7 | 0,69 | 0,69 | 119 | 0,9 | 0,60 | 0,60 | 103 | 0,7 |
| CC3 3.3-2T | VI | | 680 | 3,44 | 2,71 | 592 | 17,0 | 2,99 | 2,53 | 514 | 13,2 | 2,22 | 2,22 | 382 | 7,7 | 1,84 | 1,84 | 316 | 5,5 |
| | V | | 620 | 3,19 | 2,50 | 549 | 14,9 | 2,78 | 2,33 | 478 | 11,6 | 2,05 | 2,05 | 353 | 6,7 | 1,70 | 1,70 | 292 | 4,7 |
| | IV | MAX | 540 | 2,84 | 2,21 | 488 | 12,2 | 2,48 | 2,06 | 427 | 9,5 | 1,81 | 1,81 | 311 | 5,4 | 1,50 | 1,50 | 258 | 3,8 |
| | III | MED | 440 | 2,41 | 1,86 | 415 | 9,1 | 2,11 | 1,73 | 363 | 7,1 | 1,53 | 1,53 | 263 | 4,0 | 1,27 | 1,27 | 218 | 2,8 |
| | II | | 360 | 2,02 | 1,54 | 347 | 6,7 | 1,77 | 1,43 | 304 | 5,2 | 1,26 | 1,26 | 217 | 2,9 | 1,05 | 1,05 | 181 | 2,0 |
| | I | MIN | 290 | 1,68 | 1,27 | 289 | 4,8 | 1,47 | 1,18 | 253 | 3,8 | 1,01 | 1,00 | 174 | 1,9 | 0,86 | 0,86 | 148 | 1,4 |

### Correction factors for different R.H.

| U.R. | WT: | 7/12°C | 8/13°C | 10/15°C | 12/17°C |
|---|---|---|---|---|---|
| 48% | Pc | 0,95 | 0,94 | 1,00 | 1,00 |
| | Ps | 1,00 | 1,00 | 1,00 | 1,00 |
| 46% | Pc | 0,90 | 0,88 | 1,00 | 1,00 |
| | Ps | 1,00 | 1,00 | 1,00 | 1,00 |

**Legend**

| | | | |
|---|---|---|---|
| WT | = Water temperature | Speed | = Fan speed |
| Pc | = Cooling Total emission | MAX | = High speed |
| Ps | = Cooling Sensible emission | MED | = Medium speed |
| Qw | = Water flow | MIN | = Low speed |
| Dp(c) | = Water side pressure drop | Qv | = Air flow |

# Emissions

## Cooling emission of 4 row coil

### Entering air temperature: +27°C - Relative Humidity: 50%

| Model | Speed | | Qv | WT: 7/12 °C | | | | WT: 8/13 °C | | | | WT: 10/15 °C | | | | WT: 12/17 °C | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | Pc | Ps | Qw | Dp(c) | Pc | Ps | Qw | Dp(c) | Pc | Ps | Qw | Dp(c) | Pc | Ps | Qw | Dp(c) |
| | | | m³/h | kW | kW | l/h | kPa | kW | kW | l/h | kPa | kW | kW | l/h | kPa | kW | kW | l/h | kPa |
| CC3 1.4-2T | VI | | 305 | 2,01 | 1,42 | 346 | 16,7 | 1,80 | 1,33 | 310 | 13,7 | 1,36 | 1,16 | 234 | 8,2 | 1,02 | 1,02 | 175 | 4,9 |
| | V | MAX | 280 | 1,87 | 1,31 | 322 | 14,6 | 1,68 | 1,23 | 289 | 12,0 | 1,27 | 1,07 | 218 | 7,3 | 0,95 | 0,95 | 163 | 4,3 |
| | IV | | 245 | 1,67 | 1,16 | 287 | 12,1 | 1,50 | 1,09 | 258 | 9,9 | 1,14 | 0,95 | 196 | 6,0 | 0,84 | 0,84 | 144 | 3,5 |
| | III | | 220 | 1,54 | 1,07 | 265 | 10,5 | 1,39 | 1,00 | 239 | 8,6 | 1,06 | 0,87 | 182 | 5,3 | 0,77 | 0,77 | 132 | 3,0 |
| | II | MED | 180 | 1,28 | 0,88 | 220 | 7,6 | 1,15 | 0,83 | 198 | 6,2 | 0,88 | 0,72 | 151 | 3,8 | 0,64 | 0,64 | 110 | 2,1 |
| | I | MIN | 140 | 1,05 | 0,71 | 181 | 5,3 | 0,94 | 0,67 | 162 | 4,4 | 0,72 | 0,58 | 124 | 2,7 | 0,52 | 0,52 | 89 | 1,5 |
| CC3 2.4-2T | VI | | 560 | 3,85 | 2,66 | 662 | 24,7 | 3,47 | 2,50 | 597 | 20,4 | 2,65 | 2,18 | 456 | 12,6 | 1,93 | 1,93 | 332 | 7,0 |
| | V | | 470 | 3,32 | 2,28 | 571 | 19,0 | 2,99 | 2,14 | 514 | 15,7 | 2,30 | 1,86 | 396 | 9,7 | 1,65 | 1,65 | 284 | 5,4 |
| | IV | MAX | 380 | 2,76 | 1,88 | 475 | 13,7 | 2,49 | 1,77 | 428 | 11,4 | 1,92 | 1,54 | 330 | 7,1 | 1,36 | 1,36 | 234 | 3,8 |
| | III | | 305 | 2,28 | 1,54 | 392 | 9,8 | 2,06 | 1,45 | 354 | 8,1 | 1,59 | 1,26 | 273 | 5,1 | 1,11 | 1,11 | 191 | 2,7 |
| | II | MED | 240 | 1,84 | 1,24 | 316 | 6,8 | 1,67 | 1,17 | 287 | 5,6 | 1,29 | 1,01 | 222 | 3,5 | 0,85 | 0,85 | 146 | 1,7 |
| | I | MIN | 200 | 1,54 | 1,04 | 265 | 4,9 | 1,40 | 0,97 | 241 | 4,1 | 1,09 | 0,85 | 187 | 2,6 | 0,72 | 0,71 | 124 | 1,2 |
| CC3 3.4-2T | VI | | 680 | 4,69 | 3,24 | 807 | 20,3 | 4,22 | 3,05 | 726 | 16,8 | 3,23 | 2,65 | 556 | 10,4 | 2,34 | 2,34 | 402 | 5,8 |
| | V | MAX | 620 | 4,32 | 2,98 | 743 | 17,6 | 3,89 | 2,80 | 669 | 14,6 | 2,98 | 2,44 | 513 | 9,0 | 2,15 | 2,15 | 370 | 5,0 |
| | IV | MED | 540 | 3,83 | 2,62 | 659 | 14,2 | 3,45 | 2,47 | 593 | 11,8 | 2,65 | 2,15 | 456 | 7,3 | 1,90 | 1,90 | 327 | 4,0 |
| | III | | 440 | 3,22 | 2,19 | 554 | 10,5 | 2,91 | 2,06 | 501 | 8,7 | 2,24 | 1,79 | 385 | 5,4 | 1,59 | 1,59 | 273 | 2,9 |
| | II | MIN | 360 | 2,67 | 1,81 | 459 | 7,5 | 2,41 | 1,70 | 415 | 6,3 | 1,86 | 1,48 | 320 | 3,9 | 1,30 | 1,30 | 224 | 2,1 |
| | I | | 290 | 2,20 | 1,48 | 378 | 5,4 | 1,99 | 1,39 | 342 | 4,5 | 1,54 | 1,21 | 265 | 2,8 | 1,01 | 1,01 | 174 | 1,3 |

### Entering air temperature: +26°C - Relative Humidity: 50%

| Model | Speed | | Qv | WT: 7/12 °C | | | | WT: 8/13 °C | | | | WT: 10/15 °C | | | | WT: 12/17 °C | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | Pc | Ps | Qw | Dp(c) | Pc | Ps | Qw | Dp(c) | Pc | Ps | Qw | Dp(c) | Pc | Ps | Qw | Dp(c) |
| | | | m³/h | kW | kW | l/h | kPa | kW | kW | l/h | kPa | kW | kW | l/h | kPa | kW | kW | l/h | kPa |
| CC3 1.4-2T | VI | | 305 | 1,79 | 1,33 | 308 | 13,6 | 1,58 | 1,25 | 272 | 10,9 | 1,14 | 1,07 | 196 | 6,0 | 0,94 | 0,94 | 162 | 4,2 |
| | V | MAX | 280 | 1,67 | 1,23 | 287 | 12,0 | 1,47 | 1,15 | 253 | 9,6 | 1,06 | 0,99 | 182 | 5,3 | 0,87 | 0,87 | 150 | 3,7 |
| | IV | | 245 | 1,49 | 1,10 | 256 | 9,9 | 1,32 | 1,03 | 227 | 7,9 | 0,96 | 0,88 | 165 | 4,4 | 0,77 | 0,77 | 132 | 3,0 |
| | III | | 220 | 1,38 | 1,01 | 237 | 8,6 | 1,22 | 0,94 | 210 | 6,9 | 0,89 | 0,81 | 153 | 3,9 | 0,71 | 0,71 | 122 | 2,6 |
| | II | MED | 180 | 1,15 | 0,83 | 198 | 6,2 | 1,02 | 0,78 | 175 | 5,0 | 0,74 | 0,67 | 127 | 2,8 | 0,58 | 0,58 | 100 | 1,8 |
| | I | MIN | 140 | 0,94 | 0,67 | 162 | 4,3 | 0,83 | 0,63 | 143 | 3,5 | 0,61 | 0,54 | 105 | 2,0 | 0,47 | 0,47 | 81 | 1,3 |
| CC3 2.4-2T | VI | | 560 | 3,44 | 2,51 | 592 | 20,3 | 3,06 | 2,35 | 526 | 16,3 | 2,24 | 2,02 | 385 | 9,3 | 1,76 | 1,76 | 303 | 6,0 |
| | V | | 470 | 2,97 | 2,15 | 511 | 15,6 | 2,64 | 2,01 | 454 | 12,6 | 1,94 | 1,73 | 334 | 7,2 | 1,51 | 1,51 | 260 | 4,6 |
| | IV | MAX | 380 | 2,47 | 1,77 | 425 | 11,3 | 2,20 | 1,66 | 378 | 9,2 | 1,62 | 1,43 | 279 | 5,3 | 1,25 | 1,25 | 215 | 3,3 |
| | III | | 305 | 2,04 | 1,45 | 351 | 8,1 | 1,82 | 1,36 | 313 | 6,6 | 1,35 | 1,17 | 232 | 3,8 | 1,02 | 1,02 | 175 | 2,3 |
| | II | MED | 240 | 1,65 | 1,17 | 284 | 5,6 | 1,48 | 1,10 | 255 | 4,5 | 1,10 | 0,94 | 189 | 2,6 | 0,82 | 0,82 | 141 | 1,6 |
| | I | MIN | 200 | 1,39 | 0,98 | 239 | 4,1 | 1,24 | 0,91 | 213 | 3,3 | 0,92 | 0,78 | 158 | 2,0 | 0,68 | 0,68 | 117 | 1,1 |
| CC3 3.4-2T | VI | | 680 | 4,19 | 3,06 | 721 | 16,7 | 3,72 | 2,86 | 640 | 13,5 | 2,72 | 2,46 | 468 | 7,7 | 2,15 | 2,15 | 370 | 5,0 |
| | V | MAX | 620 | 3,87 | 2,81 | 666 | 14,5 | 3,43 | 2,63 | 590 | 11,7 | 2,52 | 2,26 | 433 | 6,7 | 1,97 | 1,97 | 339 | 4,3 |
| | IV | MED | 540 | 3,43 | 2,47 | 590 | 11,7 | 3,05 | 2,31 | 525 | 9,5 | 2,24 | 1,99 | 385 | 5,4 | 1,74 | 1,74 | 299 | 3,5 |
| | III | | 440 | 2,88 | 2,07 | 495 | 8,7 | 2,57 | 1,93 | 442 | 7,0 | 1,89 | 1,66 | 325 | 4,0 | 1,45 | 1,45 | 249 | 2,5 |
| | II | MIN | 360 | 2,39 | 1,70 | 411 | 6,2 | 2,13 | 1,59 | 366 | 5,1 | 1,58 | 1,37 | 272 | 2,9 | 1,19 | 1,19 | 205 | 1,8 |
| | I | | 290 | 1,97 | 1,40 | 339 | 4,4 | 1,76 | 1,31 | 303 | 3,6 | 1,31 | 1,12 | 225 | 2,1 | 0,98 | 0,98 | 169 | 1,3 |

### Entering air temperature: +25°C - Relative Humidity: 50%

| Model | Speed | | Qv | WT: 7/12 °C | | | | WT: 8/13 °C | | | | WT: 10/15 °C | | | | WT: 12/17 °C | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | Pc | Ps | Qw | Dp(c) | Pc | Ps | Qw | Dp(c) | Pc | Ps | Qw | Dp(c) | Pc | Ps | Qw | Dp(c) |
| | | | m³/h | kW | kW | l/h | kPa | kW | kW | l/h | kPa | kW | kW | l/h | kPa | kW | kW | l/h | kPa |
| CC3 1.4-2T | VI | | 305 | 1,58 | 1,25 | 272 | 10,9 | 1,37 | 1,16 | 236 | 8,4 | 1,03 | 1,03 | 177 | 5,0 | 0,85 | 0,85 | 146 | 3,5 |
| | V | MAX | 280 | 1,47 | 1,16 | 253 | 9,6 | 1,27 | 1,08 | 218 | 7,4 | 0,95 | 0,95 | 163 | 4,4 | 0,78 | 0,78 | 134 | 3,1 |
| | IV | | 245 | 1,32 | 1,03 | 227 | 7,9 | 1,14 | 0,96 | 196 | 6,1 | 0,84 | 0,84 | 144 | 3,5 | 0,70 | 0,70 | 120 | 2,5 |
| | III | | 220 | 1,22 | 0,94 | 210 | 6,9 | 1,06 | 0,88 | 182 | 5,4 | 0,78 | 0,78 | 134 | 3,1 | 0,64 | 0,64 | 110 | 2,2 |
| | II | MED | 180 | 1,01 | 0,78 | 174 | 5,0 | 0,88 | 0,72 | 151 | 3,9 | 0,64 | 0,64 | 110 | 2,2 | 0,53 | 0,53 | 91 | 1,5 |
| | I | MIN | 140 | 0,83 | 0,63 | 143 | 3,5 | 0,72 | 0,58 | 124 | 2,7 | 0,52 | 0,52 | 89 | 1,5 | 0,43 | 0,43 | 74 | 1,1 |
| CC3 2.4-2T | VI | | 560 | 3,05 | 2,36 | 525 | 16,4 | 2,66 | 2,19 | 458 | 12,8 | 1,93 | 1,93 | 332 | 7,2 | 1,60 | 1,60 | 275 | 5,1 |
| | V | | 470 | 2,63 | 2,02 | 452 | 12,6 | 2,30 | 1,88 | 396 | 9,9 | 1,65 | 1,65 | 284 | 5,5 | 1,37 | 1,37 | 236 | 3,9 |
| | IV | MAX | 380 | 2,19 | 1,66 | 377 | 9,2 | 1,92 | 1,55 | 330 | 7,2 | 1,31 | 1,31 | 225 | 3,6 | 1,14 | 1,14 | 196 | 2,8 |
| | III | | 305 | 1,81 | 1,36 | 311 | 6,6 | 1,59 | 1,27 | 273 | 5,2 | 1,09 | 1,07 | 187 | 2,6 | 0,93 | 0,93 | 160 | 2,0 |
| | II | MED | 240 | 1,47 | 1,10 | 253 | 4,5 | 1,29 | 1,02 | 222 | 3,6 | 0,90 | 0,86 | 155 | 1,9 | 0,75 | 0,75 | 129 | 1,3 |
| | I | MIN | 200 | 1,23 | 0,92 | 212 | 3,3 | 1,08 | 0,85 | 186 | 2,6 | 0,76 | 0,72 | 131 | 1,4 | 0,62 | 0,62 | 107 | 1,0 |
| CC3 3.4-2T | VI | | 680 | 3,71 | 2,87 | 638 | 13,5 | 3,24 | 2,67 | 557 | 10,5 | 2,35 | 2,35 | 404 | 5,9 | 1,95 | 1,95 | 335 | 4,2 |
| | V | MAX | 620 | 3,42 | 2,63 | 588 | 11,7 | 2,99 | 2,45 | 514 | 9,2 | 2,16 | 2,16 | 372 | 5,1 | 1,79 | 1,79 | 308 | 3,6 |
| | IV | MED | 540 | 3,03 | 2,32 | 521 | 9,5 | 2,65 | 2,16 | 456 | 7,4 | 1,91 | 1,91 | 329 | 4,1 | 1,58 | 1,58 | 272 | 2,9 |
| | III | | 440 | 2,56 | 1,94 | 440 | 7,0 | 2,24 | 1,80 | 385 | 5,5 | 1,53 | 1,52 | 263 | 2,8 | 1,32 | 1,32 | 227 | 2,1 |
| | II | MIN | 360 | 2,12 | 1,60 | 365 | 5,0 | 1,86 | 1,49 | 320 | 4,0 | 1,28 | 1,25 | 220 | 2,0 | 1,09 | 1,09 | 187 | 1,5 |
| | I | | 290 | 1,75 | 1,31 | 301 | 3,6 | 1,54 | 1,22 | 265 | 2,8 | 1,07 | 1,03 | 184 | 1,5 | 0,89 | 0,89 | 153 | 1,1 |

### Correction factors for different R.H.

| U.R. | WT: | 7/12°C | 8/13°C | 10/15°C | 12/17°C |
|---|---|---|---|---|---|
| 48% | Pc | 0,95 | 0,94 | 1,00 | 1,00 |
| | Ps | 1,00 | 1,00 | 1,00 | 1,00 |
| 46% | Pc | 0,90 | 0,88 | 1,00 | 1,00 |
| | Ps | 1,00 | 1,00 | 1,00 | 1,00 |

**Legend**

| | | | |
|---|---|---|---|
| WT | = Water temperature | Speed | = Fan speed |
| Pc | = Cooling Total emission | MAX | = High speed |
| Ps | = Cooling Sensible emission | MED | = Medium speed |
| Qw | = Water flow | MIN | = Low speed |
| Dp(c) | = Water side pressure drop | Qv | = Air flow |

# Emissions

## Heating emission of 3 row coil

***Entering air temperature: +20°C***

| Model | Speed | | Qv | WT: 70/60°C | | | WT: 60/50°C | | | WT: 50/40° | | | WT: 50/45° | | | WT: 45/40° | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | Ph | Qw | Dp(c) | Ph | Qw | Dp(c) | Ph | Qw | Dp(c) | Ph | Qw | Dp(c) | Ph | Qw | Dp(c) |
| | | | m³/h | kW | l/h | kPa | kW | l/h | kPa | kW | l/h | kPa | kW | l/h | kPa | kW | l/h | kPa |
| CC3 1.3-2T | VI | | 305 | 3,54 | 304 | 6,3 | 2,71 | 233 | 4,1 | 1,87 | 161 | 2,2 | 2,16 | 372 | 9,5 | 1,75 | 301 | 6,7 |
| | V | MAX | 280 | 3,29 | 283 | 5,6 | 2,51 | 216 | 3,6 | 1,74 | 150 | 1,9 | 2,01 | 346 | 8,4 | 1,62 | 279 | 5,9 |
| | IV | | 245 | 2,94 | 253 | 4,6 | 2,25 | 194 | 2,9 | 1,56 | 134 | 1,6 | 1,80 | 310 | 6,9 | 1,45 | 249 | 4,8 |
| | III | | 220 | 2,71 | 233 | 4,0 | 2,07 | 178 | 2,5 | 1,44 | 124 | 1,4 | 1,66 | 286 | 6,0 | 1,34 | 230 | 4,2 |
| | II | MED | 180 | 2,26 | 194 | 2,9 | 1,73 | 149 | 1,9 | 1,20 | 103 | 1,0 | 1,38 | 237 | 4,3 | 1,12 | 193 | 3,0 |
| | I | MIN | 140 | 1,84 | 158 | 2,0 | 1,41 | 121 | 1,3 | 0,98 | 84 | 0,7 | 1,12 | 193 | 3,0 | 0,91 | 157 | 2,1 |
| CC3 2.3-2T | VI | | 560 | 6,64 | 571 | 10,7 | 5,10 | 439 | 6,9 | 3,55 | 305 | 3,8 | 4,06 | 698 | 16,1 | 3,29 | 566 | 11,3 |
| | V | | 470 | 5,77 | 496 | 8,3 | 4,43 | 381 | 5,4 | 3,09 | 266 | 3,0 | 3,52 | 605 | 12,5 | 2,86 | 492 | 8,8 |
| | IV | MAX | 380 | 4,79 | 412 | 6,0 | 3,68 | 316 | 3,9 | 2,57 | 221 | 2,1 | 2,93 | 504 | 9,0 | 2,38 | 409 | 6,4 |
| | III | | 305 | 3,95 | 340 | 4,3 | 3,03 | 261 | 2,8 | 2,12 | 182 | 1,5 | 2,41 | 415 | 6,4 | 1,96 | 337 | 4,5 |
| | II | MED | 240 | 3,20 | 275 | 2,9 | 2,46 | 212 | 1,9 | 1,72 | 148 | 1,1 | 1,95 | 335 | 4,4 | 1,59 | 273 | 3,1 |
| | I | MIN | 200 | 2,68 | 230 | 2,2 | 2,07 | 178 | 1,4 | 1,45 | 125 | 0,8 | 1,64 | 282 | 3,3 | 1,33 | 229 | 2,3 |
| CC3 3.3-2T | VI | | 680 | 8,20 | 705 | 18,0 | 6,30 | 542 | 11,7 | 4,40 | 378 | 6,4 | 5,01 | 862 | 27,1 | 4,07 | 700 | 19,1 |
| | V | | 620 | 7,61 | 654 | 15,8 | 5,85 | 503 | 10,3 | 4,09 | 352 | 5,6 | 4,65 | 800 | 23,8 | 3,77 | 648 | 16,8 |
| | IV | MAX | 540 | 6,73 | 579 | 12,7 | 5,18 | 445 | 8,3 | 3,62 | 311 | 4,6 | 4,11 | 707 | 19,2 | 3,34 | 574 | 13,5 |
| | III | MED | 440 | 5,65 | 486 | 9,4 | 4,35 | 374 | 6,1 | 3,04 | 261 | 3,4 | 3,45 | 593 | 14,1 | 2,80 | 482 | 9,9 |
| | II | | 360 | 4,67 | 402 | 6,7 | 3,60 | 310 | 4,4 | 2,52 | 217 | 2,4 | 2,85 | 490 | 10,1 | 2,32 | 399 | 7,1 |
| | I | MIN | 290 | 3,85 | 331 | 4,8 | 2,96 | 255 | 3,1 | 2,08 | 179 | 1,7 | 2,35 | 404 | 7,2 | 1,91 | 329 | 5,1 |

## Heating emission of 4 row coil

***Entering air temperature: +20°C***

| Model | Speed | | Qv | WT: 70/60°C | | | WT: 60/50°C | | | WT: 50/40° | | | WT: 50/45° | | | WT: 45/40° | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | Ph | Qw | Dp(c) | Ph | Qw | Dp(c) | Ph | Qw | Dp(c) | Ph | Qw | Dp(c) | Ph | Qw | Dp(c) |
| | | | m³/h | kW | l/h | kPa | kW | l/h | kPa | kW | l/h | kPa | kW | l/h | kPa | kW | l/h | kPa |
| CC3 1.4-2T | VI | | 305 | 3,80 | 327 | 11,7 | 2,92 | 251 | 7,6 | 2,03 | 175 | 4,2 | 2,32 | 399 | 17,7 | 1,88 | 323 | 12,4 |
| | V | MAX | 280 | 3,52 | 303 | 10,2 | 2,70 | 232 | 6,6 | 1,88 | 162 | 3,6 | 2,15 | 370 | 15,4 | 1,74 | 299 | 10,8 |
| | IV | | 245 | 3,14 | 270 | 8,4 | 2,42 | 208 | 5,5 | 1,69 | 145 | 3,0 | 1,92 | 330 | 12,7 | 1,56 | 268 | 8,9 |
| | III | | 220 | 2,89 | 249 | 7,2 | 2,22 | 191 | 4,7 | 1,55 | 133 | 2,6 | 1,77 | 304 | 10,9 | 1,43 | 246 | 7,7 |
| | II | MED | 180 | 2,37 | 204 | 5,1 | 1,83 | 157 | 3,3 | 1,28 | 110 | 1,8 | 1,45 | 249 | 7,7 | 1,18 | 203 | 5,4 |
| | I | MIN | 140 | 1,92 | 165 | 3,5 | 1,48 | 127 | 2,3 | 1,03 | 89 | 1,3 | 1,17 | 201 | 5,3 | 0,95 | 163 | 3,7 |
| CC3 2.4-2T | VI | | 560 | 7,46 | 642 | 18,2 | 5,75 | 495 | 11,8 | 4,04 | 347 | 6,6 | 4,56 | 784 | 27,3 | 3,71 | 638 | 19,4 |
| | V | | 470 | 6,37 | 548 | 13,8 | 4,92 | 423 | 9,0 | 3,46 | 298 | 5,0 | 3,90 | 671 | 20,7 | 3,17 | 545 | 14,7 |
| | IV | MAX | 380 | 5,22 | 449 | 9,7 | 4,03 | 347 | 6,3 | 2,84 | 244 | 3,5 | 3,19 | 549 | 14,6 | 2,60 | 447 | 10,4 |
| | III | | 305 | 4,25 | 366 | 6,7 | 3,28 | 282 | 4,4 | 2,31 | 199 | 2,5 | 2,60 | 447 | 10,1 | 2,12 | 365 | 7,2 |
| | II | MED | 240 | 3,40 | 292 | 4,5 | 2,63 | 226 | 3,0 | 1,85 | 159 | 1,7 | 2,08 | 358 | 6,9 | 1,69 | 291 | 4,9 |
| | I | MIN | 200 | 2,82 | 243 | 3,3 | 2,18 | 187 | 2,2 | 1,54 | 132 | 1,2 | 1,73 | 298 | 4,9 | 1,41 | 243 | 3,5 |
| CC3 3.4-2T | VI | | 680 | 8,72 | 750 | 13,9 | 6,71 | 577 | 9,1 | 4,70 | 404 | 5,0 | 5,33 | 917 | 20,9 | 4,33 | 745 | 14,8 |
| | V | MAX | 620 | 8,00 | 688 | 12,0 | 6,16 | 530 | 7,8 | 4,31 | 371 | 4,3 | 4,89 | 841 | 18,0 | 3,97 | 683 | 12,7 |
| | IV | MED | 540 | 7,04 | 605 | 9,6 | 5,42 | 466 | 6,2 | 3,80 | 327 | 3,4 | 4,30 | 740 | 14,4 | 3,40 | 585 | 10,2 |
| | III | | 440 | 5,87 | 505 | 6,9 | 4,52 | 389 | 4,5 | 3,18 | 273 | 2,5 | 3,59 | 617 | 10,4 | 2,92 | 502 | 7,4 |
| | II | MIN | 360 | 4,83 | 415 | 4,9 | 3,72 | 320 | 3,2 | 2,62 | 225 | 1,8 | 2,95 | 507 | 7,4 | 2,40 | 413 | 5,3 |
| | I | | 290 | 3,96 | 341 | 3,5 | 3,06 | 263 | 2,3 | 2,15 | 185 | 1,3 | 2,42 | 416 | 5,2 | 1,97 | 339 | 3,7 |

**Legend**

***WT*** = Water temperature
***Ph*** = Emission
***Qw*** = Water flow
***Dp(c)*** = Water side pressure drop
***Speed*** = Fan speed
***MAX*** = High speed
***MED*** = Medium speed
***MIN*** = Low speed
***Qv*** = Air flow

# Emissions

## Heating emission of 1 row additional coil

***Entering air temperature: +20°C***

| Model | Speed | | Qv | WT: 80/70°C | | | WT: 75/65° | | | WT: 70/60° | | | WT: 65/55° | | | WT: 60/50° | | | WT: 55/45° | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | Ph | Qw | Dp(c) | Ph | Qw | Dp(c) | Ph | Qw | Dp(c) | Ph | Qw | Dp(c) | Ph | Qw | Dp(c) | Ph | Qw | Dp(c) |
| | | | $m^3/h$ | kW | l/h | kPa | kW | l/h | kPa | kW | l/h | kPa | kW | l/h | kPa | kW | l/h | kPa | kW | l/h | kPa |
| CC3 1.3-4T 1.4-4T | VI | | 305 | 1,95 | 168 | 5,8 | 1,75 | 151 | 4,9 | 1,56 | 134 | 4,0 | 1,36 | 117 | 3,2 | 1,17 | 101 | 2,5 | 0,97 | 83 | 1,8 |
| | V | MAX | 280 | 1,83 | 157 | 5,2 | 1,65 | 142 | 4,4 | 1,47 | 126 | 3,6 | 1,28 | 110 | 2,9 | 1,10 | 95 | 2,2 | 0,92 | 79 | 1,6 |
| | IV | | 245 | 1,67 | 144 | 4,4 | 1,51 | 130 | 3,7 | 1,34 | 115 | 3,1 | 1,17 | 101 | 2,5 | 1,00 | 86 | 1,9 | 0,84 | 72 | 1,4 |
| | III | | 220 | 1,57 | 135 | 3,9 | 1,41 | 121 | 3,3 | 1,25 | 108 | 2,7 | 1,10 | 95 | 2,2 | 0,94 | 81 | 1,7 | 0,78 | 67 | 1,3 |
| | II | MED | 180 | 1,35 | 116 | 3,0 | 1,22 | 105 | 2,5 | 1,08 | 93 | 2,1 | 0,95 | 82 | 1,7 | 0,81 | 70 | 1,3 | 0,68 | 58 | 1,0 |
| | I | MIN | 140 | 1,15 | 99 | 2,3 | 1,03 | 89 | 1,9 | 0,92 | 79 | 1,6 | 0,81 | 70 | 1,3 | 0,69 | 59 | 1,0 | 0,58 | 50 | 0,7 |
| CC3 2.3-4T 2.4-4T | VI | | 560 | 3,84 | 330 | 4,7 | 3,46 | 298 | 3,9 | 3,07 | 264 | 3,2 | 2,37 | 204 | 1,0 | 2,31 | 199 | 2,0 | 1,93 | 166 | 1,5 |
| | V | | 470 | 3,41 | 293 | 3,8 | 3,07 | 264 | 3,2 | 2,73 | 235 | 2,6 | 2,10 | 181 | 0,8 | 2,05 | 176 | 1,6 | 1,71 | 147 | 1,2 |
| | IV | MAX | 380 | 2,94 | 253 | 2,9 | 2,65 | 228 | 2,5 | 2,35 | 202 | 2,0 | 1,82 | 157 | 0,6 | 1,77 | 152 | 1,3 | 1,48 | 127 | 0,9 |
| | III | | 305 | 2,52 | 217 | 2,2 | 2,27 | 195 | 1,9 | 2,02 | 174 | 1,6 | 1,57 | 135 | 0,5 | 1,52 | 131 | 1,0 | 1,27 | 109 | 0,7 |
| | II | MED | 240 | 2,14 | 184 | 1,7 | 1,93 | 166 | 1,4 | 1,71 | 147 | 1,2 | 1,33 | 114 | 0,4 | 1,29 | 111 | 0,7 | 1,08 | 93 | 0,5 |
| | I | MIN | 200 | 1,86 | 160 | 1,3 | 1,68 | 144 | 1,1 | 1,49 | 128 | 0,9 | 1,16 | 100 | 0,3 | 1,13 | 97 | 0,6 | 0,94 | 81 | 0,4 |
| CC3 3.3-4T | VI | | 680 | 4,84 | 416 | 8,2 | 4,36 | 375 | 7,0 | 3,89 | 335 | 5,8 | 3,41 | 293 | 4,7 | 2,94 | 253 | 3,6 | 2,46 | 212 | 2,7 |
| | V | | 620 | 4,53 | 390 | 7,3 | 4,08 | 351 | 6,2 | 3,64 | 313 | 5,1 | 3,19 | 274 | 4,1 | 2,75 | 237 | 3,2 | 2,31 | 199 | 2,4 |
| | IV | MAX | 540 | 4,10 | 353 | 6,2 | 3,70 | 318 | 5,2 | 3,30 | 284 | 4,3 | 2,89 | 249 | 3,5 | 2,49 | 214 | 2,7 | 2,09 | 180 | 2,0 |
| | III | MED | 440 | 3,57 | 307 | 4,8 | 3,22 | 277 | 4,1 | 2,87 | 247 | 3,4 | 2,52 | 217 | 2,7 | 2,17 | 187 | 2,1 | 1,82 | 157 | 1,6 |
| | II | | 360 | 3,07 | 264 | 3,7 | 2,77 | 238 | 3,1 | 2,47 | 212 | 2,6 | 2,17 | 187 | 2,1 | 1,87 | 161 | 1,6 | 1,57 | 135 | 1,2 |
| | I | MIN | 290 | 2,64 | 227 | 2,8 | 2,38 | 205 | 2,4 | 2,12 | 182 | 2,0 | 1,86 | 160 | 1,6 | 1,61 | 138 | 1,3 | 1,35 | 116 | 0,9 |
| CC3 3.4-4T | VI | | 680 | 4,84 | 416 | 8,2 | 4,36 | 375 | 7,0 | 3,89 | 335 | 5,8 | 3,41 | 293 | 4,7 | 2,94 | 253 | 3,6 | 2,46 | 212 | 2,7 |
| | V | MAX | 620 | 4,53 | 390 | 7,3 | 4,08 | 351 | 6,2 | 3,64 | 313 | 5,1 | 3,19 | 274 | 4,1 | 2,75 | 237 | 3,2 | 2,31 | 199 | 2,4 |
| | IV | MED | 540 | 4,10 | 353 | 6,2 | 3,70 | 318 | 5,2 | 3,30 | 284 | 4,3 | 2,89 | 249 | 3,5 | 2,49 | 214 | 2,7 | 2,09 | 180 | 2,0 |
| | III | | 440 | 3,57 | 307 | 4,8 | 3,22 | 277 | 4,1 | 2,87 | 247 | 3,4 | 2,52 | 217 | 2,7 | 2,17 | 187 | 2,1 | 1,82 | 157 | 1,6 |
| | II | MIN | 360 | 3,07 | 264 | 3,7 | 2,77 | 238 | 3,1 | 2,47 | 212 | 2,6 | 2,17 | 187 | 2,1 | 1,87 | 161 | 1,6 | 1,57 | 135 | 1,2 |
| | I | | 290 | 2,64 | 227 | 2,8 | 2,38 | 205 | 2,4 | 2,12 | 182 | 2,0 | 1,86 | 160 | 1,6 | 1,61 | 138 | 1,3 | 1,35 | 116 | 0,9 |

## Heating emission of 2 row additional coil

***Entering air temperature: +20°C***

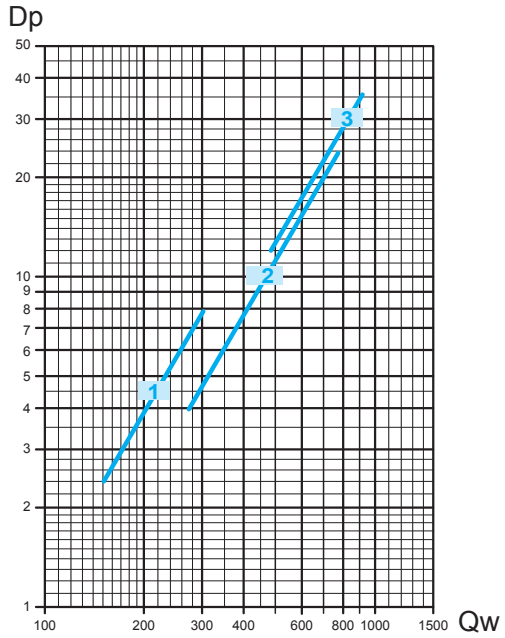
| Model | Speed | | Qv | WT: 65/55°C | | | WT: 60/50° | | | WT: 55/45° | | | WT: 50/40° | | | WT: 45/40° | | | WT: 45/35° | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | Ph | Qw | Dp(c) | Ph | Qw | Dp(c) | Ph | Qw | Dp(c) | Ph | Qw | Dp(c) | Ph | Qw | Dp(c) | Ph | Qw | Dp(c) |
| | | | $m^3/h$ | kW | l/h | kPa | kW | l/h | kPa | kW | l/h | kPa | kW | l/h | kPa | kW | l/h | kPa | kW | l/h | kPa |
| CC3 1.3-4T/ 2R | VI | | 305 | 2,38 | 205 | 15,5 | 2,05 | 176 | 12,2 | 1,73 | 149 | 9,2 | 1,41 | 121 | 6,5 | 1,33 | 229 | 20,0 | 1,09 | 94 | 4,2 |
| | V | MAX | 280 | 2,23 | 192 | 13,8 | 1,92 | 165 | 10,8 | 1,62 | 139 | 8,2 | 1,32 | 114 | 5,8 | 1,25 | 215 | 17,8 | 1,02 | 88 | 3,7 |
| | IV | | 245 | 2,02 | 174 | 11,6 | 1,75 | 151 | 9,1 | 1,47 | 126 | 6,9 | 1,20 | 103 | 4,9 | 1,13 | 194 | 15,0 | 0,92 | 79 | 3,1 |
| | III | | 220 | 1,88 | 162 | 10,3 | 1,63 | 140 | 8,1 | 1,37 | 118 | 6,1 | 1,12 | 96 | 4,3 | 1,05 | 181 | 13,3 | 0,86 | 74 | 2,8 |
| | II | MED | 180 | 1,60 | 138 | 7,7 | 1,38 | 119 | 6,0 | 1,16 | 100 | 4,6 | 0,95 | 82 | 3,2 | 0,89 | 153 | 9,9 | 0,73 | 63 | 2,1 |
| | I | MIN | 140 | 1,35 | 116 | 5,7 | 1,16 | 100 | 4,5 | 0,98 | 84 | 3,4 | 0,80 | 69 | 2,4 | 0,75 | 129 | 7,4 | 0,62 | 53 | 1,6 |
| CC3 2.3-4T/ 2R | VI | | 560 | 4,66 | 401 | 12,7 | 4,03 | 347 | 10,0 | 3,40 | 292 | 7,6 | 2,78 | 239 | 5,4 | 2,61 | 449 | 16,5 | 2,15 | 185 | 3,5 |
| | V | | 470 | 4,08 | 351 | 10,1 | 3,53 | 304 | 8,0 | 2,99 | 257 | 6,0 | 2,44 | 210 | 4,3 | 2,29 | 394 | 13,1 | 1,89 | 163 | 2,8 |
| | IV | MAX | 380 | 3,47 | 298 | 7,6 | 3,00 | 258 | 6,0 | 2,54 | 218 | 4,5 | 2,09 | 180 | 3,3 | 1,96 | 337 | 10,0 | 1,62 | 139 | 2,1 |
| | III | | 305 | 2,95 | 254 | 5,7 | 2,55 | 219 | 4,5 | 2,16 | 186 | 3,4 | 1,77 | 152 | 2,4 | 1,65 | 284 | 7,4 | 1,37 | 118 | 1,6 |
| | II | MED | 240 | 2,43 | 209 | 4,1 | 2,11 | 181 | 3,2 | 1,78 | 153 | 2,4 | 1,46 | 126 | 1,7 | 1,36 | 234 | 5,3 | 1,14 | 98 | 1,1 |
| | I | MIN | 200 | 2,07 | 178 | 3,1 | 1,79 | 154 | 2,4 | 1,52 | 131 | 1,8 | 1,25 | 108 | 1,3 | 1,16 | 200 | 4,0 | 0,97 | 83 | 0,9 |
| CC3 3.3-4T/ 2R | VI | | 680 | 5,83 | 501 | 22,5 | 5,06 | 435 | 17,8 | 4,28 | 368 | 13,5 | 3,50 | 301 | 9,6 | 3,27 | 562 | 29,1 | 2,73 | 235 | 6,3 |
| | V | | 620 | 5,42 | 466 | 19,8 | 4,70 | 404 | 15,6 | 3,98 | 342 | 11,8 | 3,26 | 280 | 8,5 | 3,04 | 523 | 25,6 | 2,54 | 218 | 5,6 |
| | IV | MAX | 540 | 4,86 | 418 | 16,3 | 4,22 | 363 | 12,9 | 3,57 | 307 | 9,8 | 2,92 | 251 | 7,0 | 2,72 | 468 | 21,1 | 2,28 | 196 | 4,6 |
| | III | MED | 440 | 4,20 | 361 | 12,6 | 3,65 | 314 | 10,0 | 3,09 | 266 | 7,6 | 2,53 | 218 | 5,4 | 2,36 | 406 | 16,4 | 1,98 | 170 | 3,6 |
| | II | | 360 | 3,54 | 304 | 9,3 | 3,07 | 264 | 7,4 | 2,60 | 224 | 5,6 | 2,14 | 184 | 4,0 | 1,98 | 341 | 12,1 | 1,67 | 144 | 2,7 |
| | I | MIN | 290 | 2,96 | 255 | 6,8 | 2,57 | 221 | 5,4 | 2,18 | 187 | 4,1 | 1,79 | 154 | 3,0 | 1,66 | 286 | 8,8 | 1,40 | 120 | 1,9 |

**Legend**

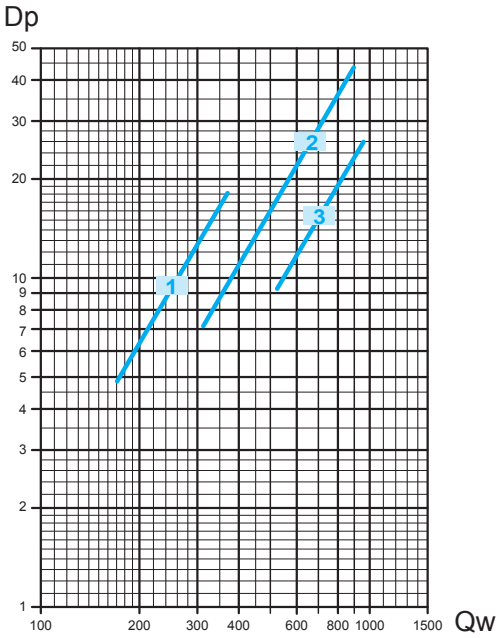
| | | | |
|---|---|---|---|
| ***WT*** | = Water temperature | ***Speed*** | = Fan speed |
| ***Ph*** | = Emission | ***MAX*** | = High speed |
| ***Qw*** | = Water flow | ***MED*** | = Medium speed |
| ***Dp(c)*** | = Water side pressure drop | ***MIN*** | = Low speed |
| | | ***Qv*** | = Air flow |

# Water side pressure drop

### *3 row coil*



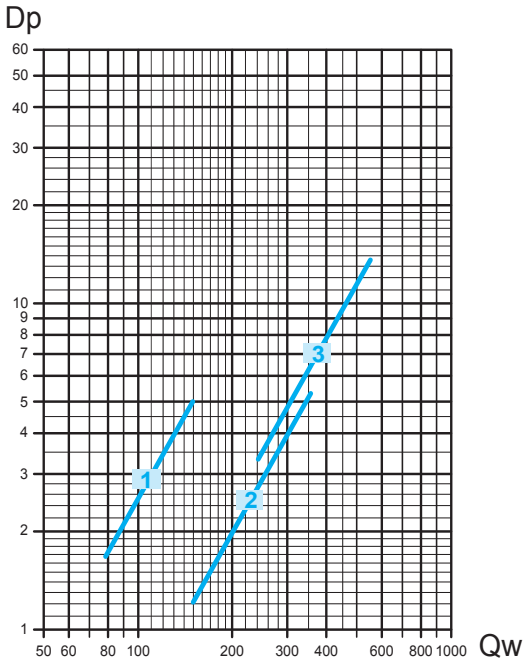

### *4 row coil*



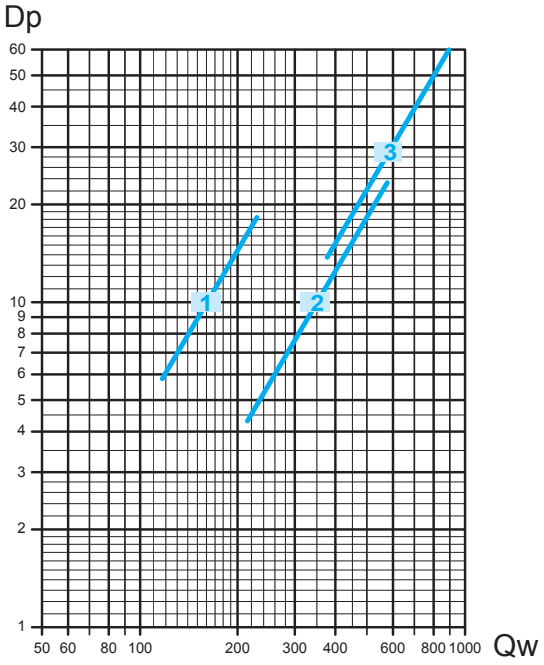

Pressure drop for mean water temperature of 10°C; for different temperatures multiply the pressure drop figure by the K correction factors in the table.

| °C | 20 | 30 | 40 | 50 | 60 | 70 | 80 |
|---|---|---|---|---|---|---|---|
| K | 0,94 | 0,90 | 0,86 | 0,82 | 0,78 | 0,74 | 0,70 |

### *1 row additional coil*




### *2 row additional coil*




Pressure drop for mean water temperature of 65°C; for different temperatures multiply the pressure drop figure by the K correction factors in the table.

| °C | 40 | 50 | 60 | 70 | 80 |
|---|---|---|---|---|---|
| K | 1,14 | 1,08 | 1,02 | 0,96 | 0,90 |

**Legend**

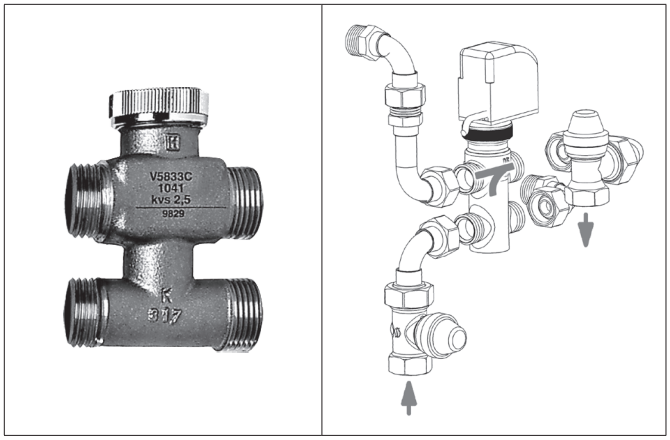
**Qw** = water flow (l/h)

**Dp** = pressure drop (kPa)

# Accessories

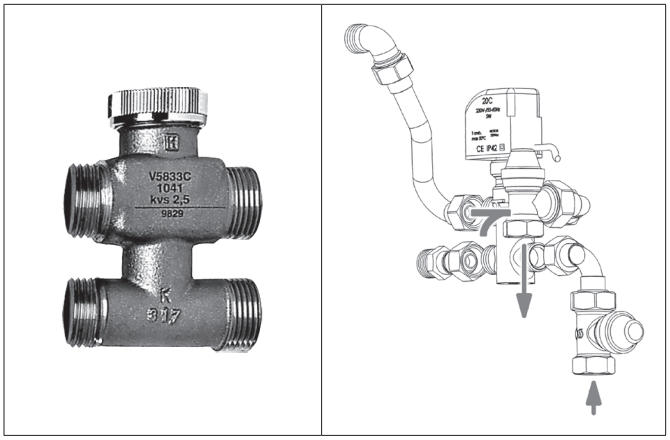
## VBP Main coil 3 way valve

Control valve kit:3 way valve, ON-OFF, with electric motor and mounting kit with micrometric lockshield valve.



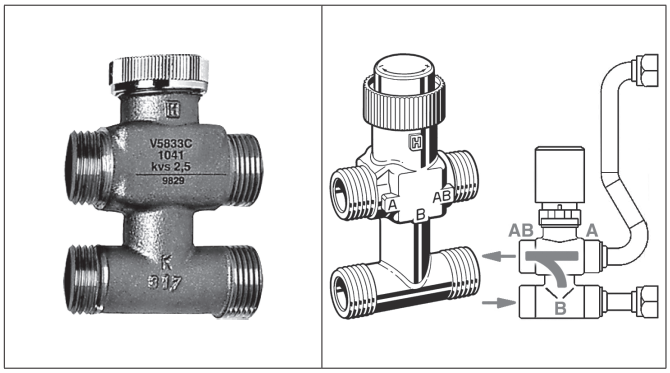

## VBA Additional coil 3 way valve

Control valve kit:3 way valve, ON-OFF, with electric motor and mounting kit with micrometric lockshield valve.



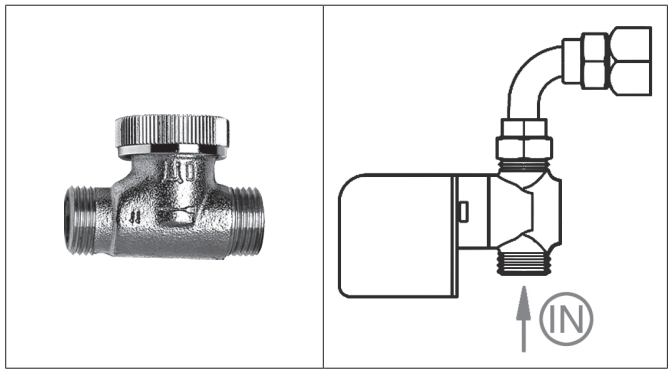

## VS Simplified kit for 3 way valve for main and additional coil

3 way valve, (ON-OFF) with electric motor and mounting kit. Valve with flat connection without micrometric lockshield valve.



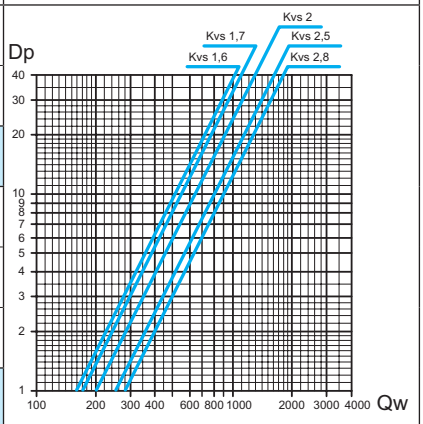

## V2 2 way valve for main and additional coil

Control valve kit: 2 way valve, ON-OFF, with electric motor and mounting kit.




| Valve | type | mod. | Valve | | | Micrometric lockshield valve | | | Code | |
|---|---|---|---|---|---|---|---|---|---|---|
| | | | DN | (Ø) | Kvs | DN | (Ø) | Kvs | Fitted | Not Fitted |
| VBP | Main | 1 - 2 | 15 | 1/2" | 1,6 | 15 | 1/2" | 2 | 9066561H | 9066560H |
| | Main | 3 | 20 | 3/4" | 2,5 | 15 | 1/2" | 2 | 9060471H | 9060474H |
| VBA | Additional | All | 15 | 1/2" | 1,6 | 15 | 1/2" | 2 | 9060472H | 9060475H |
| VS | Main | 1 - 2 | 15 | 1/2" | 1,6 | - | - | - | 9066571H | 9066570H |
| | | 3 | 20 | 3/4" | 2,5 | - | - | - | 9060484H | 9060481H |
| | Additional | All | 15 | 1/2” | 1,6 | - | - | - | 9060483H | 9060480H |
| V2 | Main | 1 - 2 | 15 | 1/2" | 1,7 | - | - | - | 9060476H | 9060478H |
| | | 3 | 20 | 3/4" | 2,8 | - | - | - | 9060477H | 9060479H |
| | Additional | All | 15 | 1/2” | 1,7 | - | - | - | 9060476H | 9060478H |

### Valves pressure drop

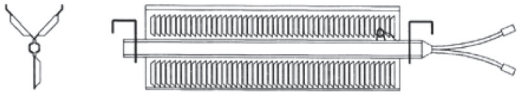



**Legend**
**Qw** = water flow (l/h)
**Dp** = pressure drop (kPa)

# Accessories

## BEL Electric heater

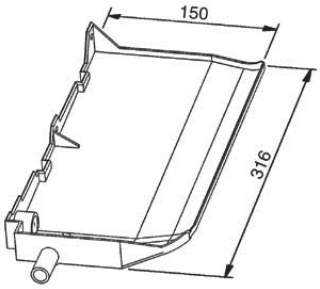
| ID | BEL | | |
|---|---|---|---|
| Size | 1 | 2 | 3 |
| Watt | 550 | 1150 | 1400 |
| Code | 9064031 | 9064032 | 9064033 |



1 PHASE 230V
Electric heater with integral: safety thermostat and relay control.

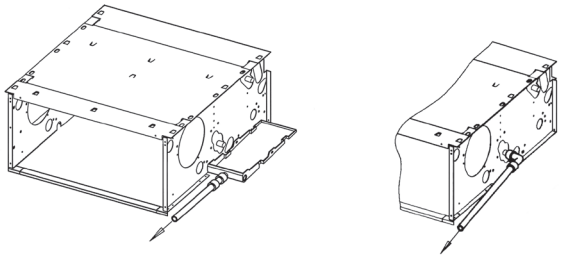
## BSO Extension condensate collection tray to cover valve assembly

| | BSO | |
|---|---|---|
| Connection side | left | right |
| ID | BSO-SX | BSO-DX |
| Code | 6060402 | 6060403 |




## SCR plastic condensate drain pipe with fast connection

| ID | SCR |
|---|---|
| Code | 6060420 |

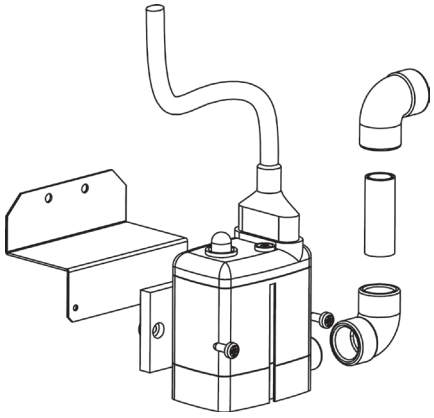


It helps regular drainage of condensate thereby preventing the formation of bends.

## PCC condensate drain pump

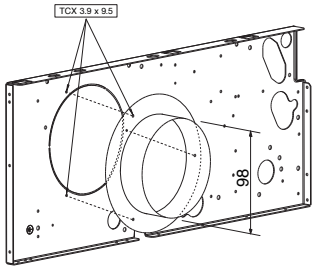
| | Fitted | Not fitted |
|---|---|---|
| ID | PCC-M | PCC-S |
| Code | 9064011 | 9064010 |

| Height for vertical flow (m) | Water flow (l/h) depending on the length of horizontal flow | |
|---|---|---|
| | 5 m | 10 m |
| 1 | 6,8 | 6,3 |
| 2 | 5,5 | 5,0 |
| 3 | 4,2 | 3,8 |
| 4 | 3,0 | 2,6 |

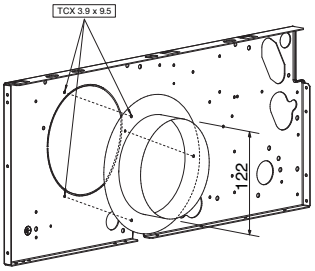


## FRC spigot flange

| ID | FRC 100 |
|---|---|
| Code | 6064191 |




| ID | FRC 120 |
|---|---|
| Code | 6064192 |



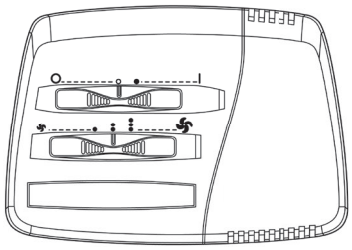
# Control operations

***Electrical diagrams are shown on the installation, use and maintenance manual***

| CONTROL IDENTIFICATION / CONTROL OPERATIONS | ON-OFF switch | ON-OFF switch for electric heater | Manual 3 speed switch | Manual/Automatic 3 speed selection | Summer/Winter switch | Remote centralized Summer/Winter switch or by an automatic change-over fitted on the water pipe | Automatic Summer/Winter switch with neutral zone for 4 pipe installation with 2 valves | Room thermostat for fan control (ON-OFF) | Room thermostat for 1 valve control (2 pipe installation) | Room thermostat for 2 valve control (4 pipe installation) | Simultaneous thermostatic control of the valves and fan | Room thermostat for chilled water valve (SUMMER) and electric heater (WINTER) control (in winter only the heater is working) | Room thermostat for fan and electric heater control | Installation of electronic low temperature CUT-OUT thermostat (TME) | Installation of bimetallic low temperature CUT-OUT thermostat (TMM) | CONTROL CODES |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| T2T | ● | | ● | | ● | | | ● | ● | | ● | | | | | 9060174 |
| TMO-DI | ● | ● | ● | ● | ● | ● | ● | ● | ● | ● | ● | ● | ● | ● | | 9060521 |
| TMO-503-SV2 | ● | | ● | ● | ● | | ● | | ● | ● | ● | | | ● | | 9060172 |
| TMO-503-S | ● | | ● | ● | ● | | | ● | | | | | | ● | | 9060170 |
| TMO-T-AU | ● | | ● | ● | ● | ● | ● | ● | ● | ● | ● | ● | | ● | | 9060520 |
| TMO-T | ● | | ● | | ● | ● | | ● | ● | ● | | ● | | ● | | 9060517 |
| CR-T | ● | | ● | | ● | | | ● | ● | ● | | ● | | | ● | 9066330E |
| MO-3V | ● | | ● | | | | | | | | | | | | ● | 9060516 |

# Wall electronic controls

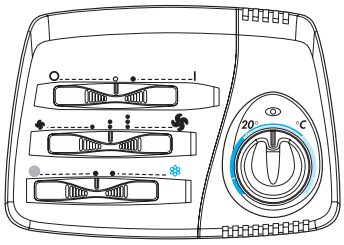
| ID | Code |
|---|---|
| MO-3V | 9060516 |



***Dimensions: 133x93x37 mm***

- ON-OFF switch and speed switch, without thermostatic control.
- It allows to control the low temperature cut-out thermostat (TMM).

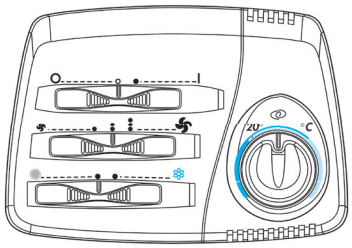
| ID | Code |
|---|---|
| CR-T | 9066330E |



***Dimensions: 133x93x37 mm***

- Manual speed switch.
- Manual Summer/Winter switch.
- Electronic thermostat for fan control (ON-OFF).
- Electronic thermostat for valve(s) control (ON-OFF).
- It allows to control the low temperature cut-out thermostat (TMM).
- It allows to control the chilled water valve (ON-OFF) and the electric heater (BEL) only in case that hot water is not used in winter (otherwise please use TMO-T-IAQ control with on/off switch for the electric heater).

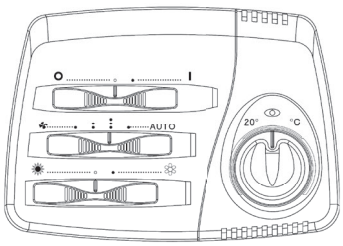
| ID | Code |
|---|---|
| TMO-T | 9060517 |



***Dimensions: 133x93x37 mm***

- Manual speed switch.
- Manual Summer/Winter switch.
- Electronic thermostat for fan control (ON-OFF).
- Electronic thermostat for valve(s) control (ON-OFF).
- It allows to control the low temperature cut-out thermostat (TME).
- It allows to control the chilled water valve (ON-OFF) and the electric heater (BEL) only in case that hot water is not used in winter (otherwise please use TMO-T-IAQ control with on/off switch for the electric heater).
- It allows to install the Summer/Winter switch centralized and remote, or to control it with an automatic change-over fitted on the water pipe (for 2-pipe systems only). The latter case needs the adjustment of the jumper on the control board (see the instruction leaflet supplied with the control).

| ID | Code |
|---|---|
| TMO-T-AU | 9060520 |



***Dimensions: 133x93x37 mm***

- Manual or automatic speed switch.
- Manual Summer/Winter switch.
- Electronic thermostat for fan control (ON-OFF).
- Electronic thermostat for valve(s) control (ON-OFF).
- Simultaneus thermostatic control on the valves and fan (ON-OFF).
- It allows to control the low temperature cut-out thermostat (TME).
- It allows to control the chilled water valve (ON-OFF) and the electric heater (BEL) only in case that hot water is not used in winter (otherwise please use TMO-T-AU-IAQ control with on/off switch for the electric heater).
- It allows to install the Summer/Winter switch centralized and remote, or to control it with an automatic change-over fitted on the water pipe (for 2-pipe systems only). The latter case needs the adjustment of the jumper on the control board (see the instruction leaflet supplied with the control).

***Note:*** *with 4-pipe systems and continuous chilled and hot water supply, it allows the automatic summer/winter change-over in accordance to the room temperature (-1°C = Winter, +1°C = Summer, Dead Zone 2°C).*

# Wall electronic controls

| ID | Code |
|---|---|
| TMO-503-S | 9060170 |

***Dimensions: 118x87x8 mm***

The TMO-503-S control for fan coils without valves, is designed to be installed in a DIN 503 wall box. The control is supplied integral with the external frame, but it is possible to use frames of the most known brand on the market (BTicino, Vimar, AVE, Gewiss).
The highest working electric absorbtion is 200 W; if the fan coil has an higher absorbtion or more units are connected to the same control, the speed switch SEL-S must be installed.

- Manual or automatic speed switch.
- Manual Summer/Winter switch.
- Electronic thermostat for fan control (ON-OFF).
- It allows to control the low temperature cut-out thermostat (included with the control).

| ID | Code |
|---|---|
| TMO-503-SV2 | 9060172 |

***Dimensions: 118x87x8 mm***

The TMO-503-SV2 control for fan coils with valves, is designed to be installed in a DIN 503 wall box. The control is supplied integral with the external frame, but it is possible to use frames of the most known brand on the market (BTicino, Vimar, AVE, Gewiss).
The highest working electric absorbtion is 200 W; if the fan coil has an higher absorbtion or more units are connected to the same control, the speed switch SEL-S must be installed.

- Manual or automatic speed switch.
- Manual Summer/Winter switch.
- Electronic thermostat for valve(s) control (ON-OFF).
- Simultaneus thermostatic control on the valves and fan (ON-OFF)..
- It allows to control the low temperature cut-out thermostat (included with the control).

***Note:*** *with 4-pipe systems and continuous chilled and hot water supply, it allows the automatic summer/winter change-over in accordance to the room temperature (-1°C = Winter, +1°C = Summer, Dead Zone 2°C).*

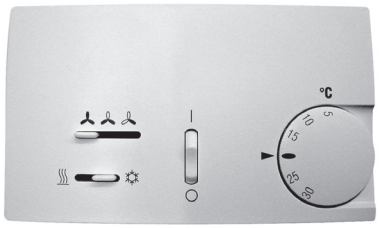
| ID | Code |
|---|---|
| TMO-DI | 9060521 |

***Dimensions on the wall: 133x93x27 mm***
***Dimensions in the DIN 503 box: 133x93x18 mm***

To be installed on the wall or in the DIN 503 box.
- Manual or automatic speed switch.
- Manual or automatic Summer/Winter switch.
- Electronic thermostat for fan control (ON-OFF).
- Electronic thermostat for valve(s) control (ON-OFF).
- Simultaneus thermostatic control on the valves and fan (ON-OFF).
- It allows to control the low temperature cut-out thermostat (TME).
- It allows to control the chilled water valve (ON-OFF) and the electric heater (BEL) only in case that hot water is not used in winter.
- It allows to control the fan and the heating electric resistance.
- It allows to control up to 10 units with SEL-DI speed switch.

***Note:*** *with 4-pipe systems and continuous chilled and hot water supply, it allows the automatic summer/winter change-over in accordance to the room temperature (-1°C = Winter, +1°C = Summer, Dead Zone 2°C).*

| ID | Code |
|---|---|
| T2T | 9060174 |



***Dimensions: 128x75x25 mm***

***2-pipes units only***

- ON-OFF switch.
- 3 speed switch.
- Manual Summer/Winterswitch.
- Electronic thermostat for fan control.
- Thermostatic control on the valve and continuous fan operation.
- Simultaneus thermostatic control on the valves and fan.
- Cannot be used with speed switch (master-slave).

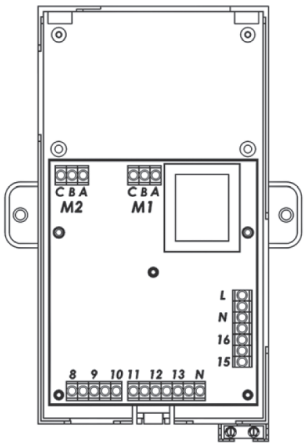
# Speed switches

| ID | Code |
|---|---|
| SEL-S | 9079110 |

- Speed switch (slave).
- It allows to control up to 8 units with only one centralized thermostat using one speed switch for each unit.
- For controls CR-T, TMO-T, TMO-T-AU, TMO-503-S and TMO-503-SV2.


| ID | Code |
|---|---|
| SEL-DI | 9060139 |

- Repeater for TMO-DI
- It allows to control up to 10 units with only one TMO-DI centralized thermostat.



# Electronic control accessories

## TME low temperature cut-out thermostat

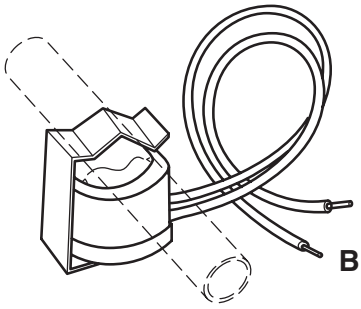
| ID | Code |
|---|---|
| TME | 3021091 |

To be fitted between the coil fins.
When connecting the control, the TME probe cable must be separated from the power supply wires.
To be used with the following controls: TMO-T, TMO-T-AU, TMO-DI.
It stops the fan when the water temperature is lower than 38°C and it starts the fan when is higher than 42°C.

## TMM low temperature cut-out thermostat

| ID | Code |
|---|---|
| TMM | 9053048 |

To be installed in contact with the hot water circuit.
To be used with the following controls only: MO-3V, CR-T.
For units working on heating only.
It stops the fan when the water temperature is lower than 30°C and it starts the fan when is higher than 38°C.

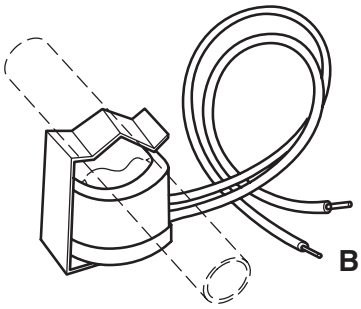



**Legend**
**A** = red
**B** = brown

## Change-Over CH 15-25

| ID | Code |
|---|---|
| CH 15 -25 | 9053049 |

Automatic summer/winter switch to be installed in contact with the water circuit.
For 2-tube installations only (not to be used with 2 way valve).
To be used with the following controls only: TMO-T, TMO-T-AU, TMO-DI.

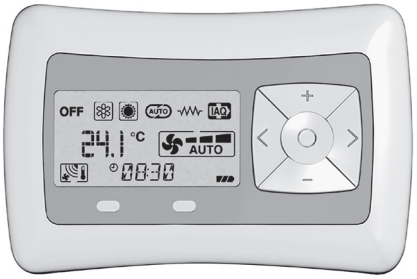



**Legend**
**A** = red
**B** = black

# *Free* Wireless control system

## Free

**Free** is an innovative, **fully wireless** electronic system for use with fan coil units, based on radio communication.
This technology provides installation flexibility and a **more accurate measurement of the room temperature.**




The probe can be moved until the most suitable position is found, without the worry of changes in the environment layout and of its furniture and also without mounting it on a wall. If a new fan coil unit is added, no electrical wiring for the control system is required: just define the control unit and the probe which regulates it. The improved measurement accuracy derives from the possibility to position the probe near the typical location of the user: this enables to keep the temperature exactly at the required value with more energy savings compared with a traditional measurement system.

Transmission is based on communication protocol IEE802.15.4, the most suitable way to transmit a relatively low amount of information with very low consumption and high reliability.

The system has been certified by a leading independent body, officially recognized by the EU authorities and its sale has been authorized in all the EU and EFTA countries.

## Main components

***Free includes 3 main components:***

- **A remote control** which features a button panel and LCD display and can be wall mounted or positioned on a dedicated table support.
  It enables the control of all the operating variables of the fan coil units in different configurations. The control is battery powered.
  The temperature and the operating speed of the fan coil unit are set with two large buttons featuring user friendly graphics.

| Description | ID | Code |
|---|---|---|
| *Remote control* | *Free-Com* | *9060572* |

*Control unit with support*

- **A power unit** to be installed on the fan coil (fan coil interface).
  It controls the fan and the valves of the fan coil. The power unit is connected to the electric supply.
  The power unit receives the information required to control the fan coil both from the remote control and locally, such as the temperature of the coil.

| Description | ID | Code |
|---|---|---|
| *Power unit fitted on the unit* | *Free-Upm* | *9060571* |
| *Power unit not fitted on the unit* | *Free-Ups* | *9060570* |

*Power unit*

- **A room temperature probe**, which can be wall mounted or positioned on a dedicated table support.
  It is a battery powered device, able to measure the air temperature in the spot where it is positioned, generating temperature information which is communicated to the other devices.

| Description | ID | Code |
|---|---|---|
| *Temperature probe* | *Free-Sen* | *9060573* |


*Probe with support*

# *Free* Wireless control system

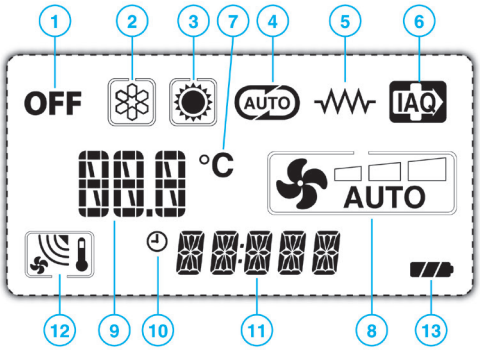
## Main features of the remote control

***The control enables:***

- Fan coil on/off switching
- Fan speed selection (high - medium - low - automatic)
- Summer/winter operation selection
- Valve on/off
- Real time clock setting
- Temperature setting
- Daily switch on/off setting (timer function)
- Enable/disable the timer function
- Activation of the (eventual) electrostatic filter
- Activation of the (eventual) electric resistance

***Main information displayed:***

**1** = On-off status
**2** = Summer operation
**3** = Winter operation
**4** = Automatic season change
**5** = Electric resistance
**6** = Crystall filter
**7** = Room temperature (with decimal accuracy)
**8** = Fan operating speed
**9** = Required/measured temperature
**10** = Timer
**11** = Clock
**12** = Transmission signal
**13** = Battery level




## Main features of the power unit to be installed on the fan coil

The power unit controls the fan and the valves of the fan coil.
The power unit receives the information required to control such units both from the remote control and locally.

***It enables the following main actions:***

- Fan on/off at a set speed
- Fan speed change (fan on/off)
- Water valve/s on/off (1 valve for 2 tube system - 2 valves for 4 tube system)
- Fan speed change operating the water valve/s
- Control of the electric resistance as main heating unit or as integration to the battery supplied with hot water
- Control of the operation of the electrostatic filter (in parallel to the fan)
- Management of the dead zone function for 4-tube systems
- Available functional inputs:
  - Consent for remote on/off
  - Consent for remote Summer/Winter switch (centralized)
  - Consent for the activation of the Energy Saving function with setting change
  - Minimum probe
  - Probe for season change

## Main features of the temperature probe

This device is able to measure the temperature of the air in the spot where it is positioned and to transmit it by means of radio communication to the other devices in the system. It is battery powered and can be freely positioned in the area to be air-conditioned.


***Display:***

- Measured environment temperature
- Transmission signal
- Clock
- Battery status

# Unit with IRC electronic board

| Description | ID | Code |
|---|---|---|
| *Infra-red remote control with electronic board fitted on the unit* | *IRC-M* | *9060175* |
| *Infra-red remote control with electronic board not fitted on the unit* | *IRC-S* | *9060176* |
| *ETN +/-3°C with electronic board fitted on the unit* | *IRC-ETN-M* | *9060166* |
| *ETN +/-3°C with electronic board not fitted on the unit* | *IRC-ETN-S* | *9060167* |

The CC3 cassettes can be supplied with a micro-processor managing system operated by an infra-red remote control with liquid crystall display or by a wall mounted IRC-ETN control.

Integral with the unit is the room temperature probe, the water temperature probe (cut-out thermostat), the infra-red remote control and the electronic board with RS485 communicating connection which can control up to 20 units connected between them. The electronic board is of master/slave mode and the serial communicating connection allows the serial connection; in the master/slave connection of more units, it is recommended o install the infra-red receiver on the master unit.

***IRC controls are not suitable for BEL electric heater.***

The units with IR control are supplied with room temperature probe and water temperature probe (cut-out thermostat).

***The infra-red control features the following functions:***

- Temperature set.
- Fan speed switch with possible automatic speed selection.
- 24 hours on/off program.
- On/off cooling valve control.
- On/off heating valve control.
- Control of the valves only or of the valves and the fan together.
- Valve control of 2 or 4-pipe systems with winter/summer switch on the infra-red control.
- Valve control of 4-pipe systems with automatic heating/cooling mode selection with 2°C dead zone.
- Activating the sensor connected to the T3 contact of the board (non active in the standard configuration), it works like a cut-out thermostat: fitted between the coil fins it stops the fan when the water temperature is lower than 38°C and it starts the fan when the water temperature reaches 42°C.

***The wall mounted control features the following functions:***

- switch the appliance on and off
- set the fan speed
- set the range of temperature settings (default +/- 3 °C, modifiable on site up to +/- 9°C)
- modify the set point determined by the MaxiNet system by a value of +/- X°C.

The Maxinet system can set the operating mode, the set point and all other operating parameters of the unit, as well as display the settings made by the user. The Maxinet system always has priority over the ETN controller. For the correct use of the system, also see the manual for the cassette with remote control and the Maxinet supervision program.

# Unit with IRC electronic board

## IRC electronic board

The electronic board, fitted inside the electrical panel, can manage different control modes so as to best satisfy the requirements of the installation. These modes are selected by suitably positioning the configuration dipswitches, which define the following main functions:

- 2 pipe / 4-pipe system
- Operation without / with remote control
- Continuous ventilation
- Close valve and stop fan in cooling mode (autofan function)
- Close valve and stop fan in heating mode (autofan function)
- Close valve and stop fan in both cooling and heating mode (autofan function)

The autofan function allows the simultaneous on/off control of the water valve and the fan, while at the same time optimising the operation of the unit. When reaching the set point, the controller closes the water valve (valve off) and only 3 minutes later stops the fan, so as to correctly compensate for the valve closing time. To prevent the air probe from measuring an incorrect temperature, when the fan is off the controller runs a number of fan ON cycles to annul the effect of any stratification of the air in the room.

In 2-pipe systems, a water probe can be installed on the supply pipe to the unit upstream of the water valve. Based on the temperature read in this section of the pipe, the device will select either cooling or heating operation.

The electronic board also features a contact for connection to a window switch or remote enabling signal. When the contact is closed, the unit can operate, when the contact is open, the unit stops. The same contact can be used for starting and stopping the unit from an external timer or any other remote switching device.

In addition, a series of units can be switched on or off at the same time, by using a flip-flop switch connected to the terminals present on the board.

Sensors that require a 12 volt power supply, for example occupancy sensors, can be connected to other terminals on the electronic board and then to the on/off contacts. The board is able to power external sensors with a maximum current of 60mA.

***IRC* ELECTRONIC BOARD**

# Unit with IRC electronic board

A group of CC3 units with IRC electronic board can be connected via a serial link and can consequently be managed at the same time by just one infra-red remote control or IRC-ETN wall mounted control. Using the special jumper present on the board, one unit must be configured as the master, and all the others as slaves. It is clear that the remote control must be pointed at the receiver on the master unit. To avoid problems, it is recommended to install and connect the receiver only on the master unit.

## With infra-red remote control

***One control for each unit***

***One control for more units (20 units max.)***

***(Maximum total length of the connection cable = 800 m)***

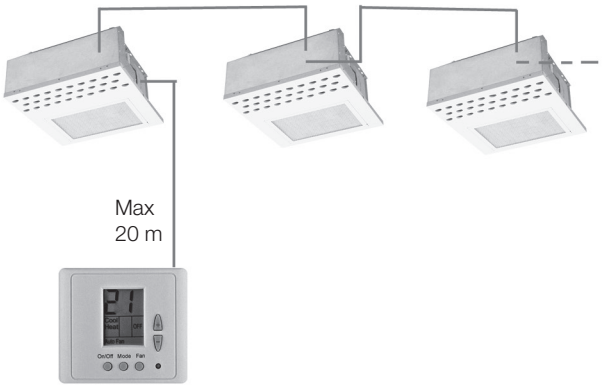
## IRC control with ETN

***One control for each unit***

***(Maximum length of the connection cable = 20 m)***


***One control for more units (20 units max.)***

***(Maximum total length of the connection cable = 800 m)***




## T2 Change-Over for infra-red remote control (accessory)

| ID | Code |
|---|---|
| T2 | 9079103 |

Suitable for units with infra-red remote control only.
The NTC sensor, if connected to the T2 contact of the board, works like a change-over: fitted in contact to the supplypipe it controls automatically the winter/summer switch in accordance to the water temperature.

# ECM Version

# One Way Cassette Fan Coil with EC Brushless Electronic Motor and Inverter Board

## CONSTRUCTIONAL FEATURES OF THE MAIN COMPONENTS

### Casing

Made from galvanized steel with closed cell insulation.

### Diffuser with intake grille

In prepainted metal sheet in RAL 9003 colour with intake grille that can be opened for inspection and maintenance of the air filter.

### Air Filter

Polypropylene cellular fabric regenerating filter.

### Fan Assembly

The fans have aluminium or plastic blades directly keyed on the motor with double aspiration and they are dynamically and statically balanced during manufacture in order to have an extremely quiet operation.

### Electronic motor

Three phase permanent magnet brushless electronic motor that is controlled with current reconstructed according to a BLAC sinusoidal wave. The inverter board that controls the motor operation is powered by 230 Volt, single-phase and, with a switching system, it generates a three-phase frequency modulated, wave form power supply. The electric power supply required for the machine is therefore single-phase with voltage of 230-240V and frequency of 50-60Hz.

### Heat exchange coil

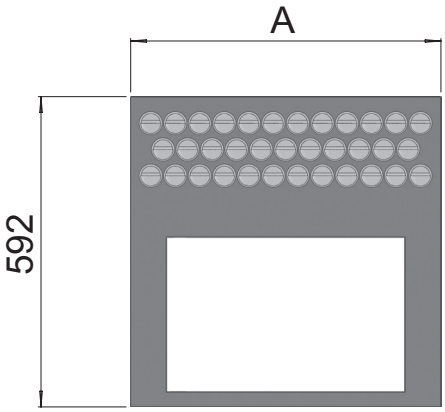
It is manufactured from drawn copper tube and the aluminium fins are mechanically bonded onto the tube by an expansion process. The coil has two 1/2 inch BSP internal connections and 1/8 inch BSP air vent and drain.
The heat exchanger is not suitable for use in corrosive atmosphere or in environments where aluminium may be subject to corrosion. **The connection side cannot be changed on site.**

### Condensate Collection Tray

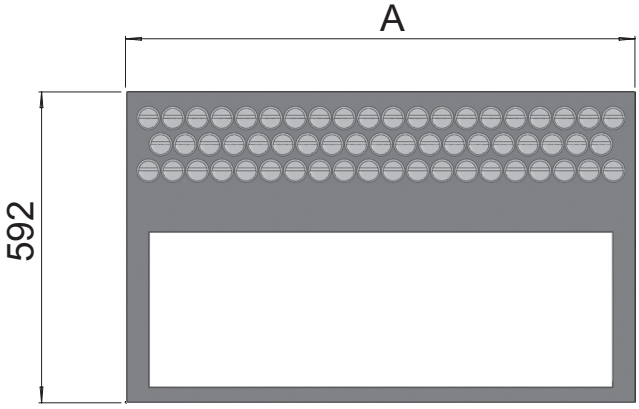
Made from plastic with an “L”-shape fitted on the inner casing.
The outside diameter of the condensate discharge pipe is 15mm.

# Dimensions, Weight, Water content

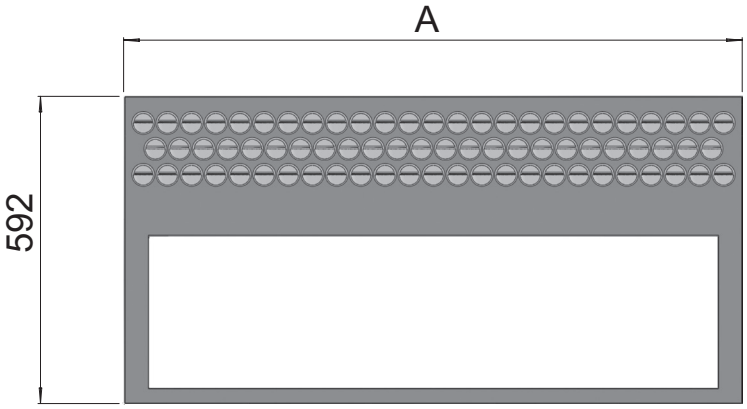
## CC3 Gr 1 - 35 nozzles

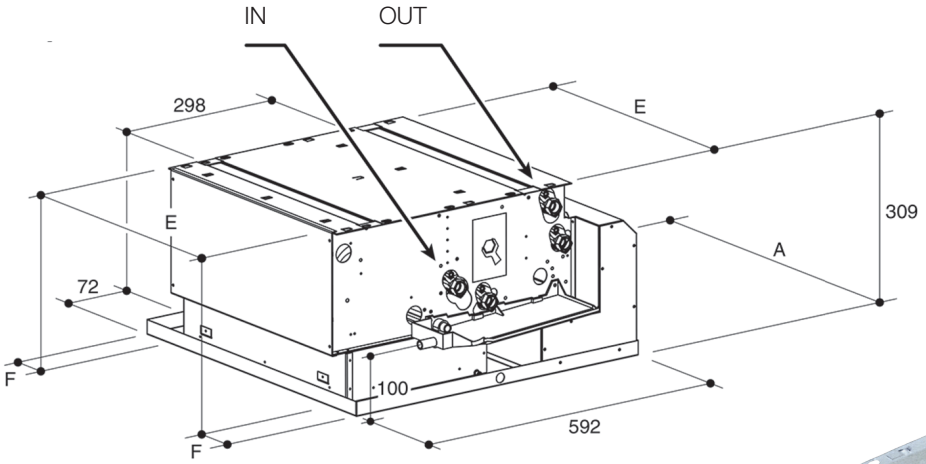


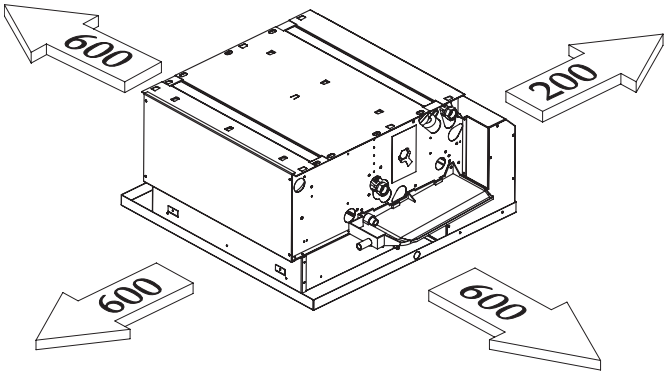

## CC3 Gr 2 - 56 nozzles

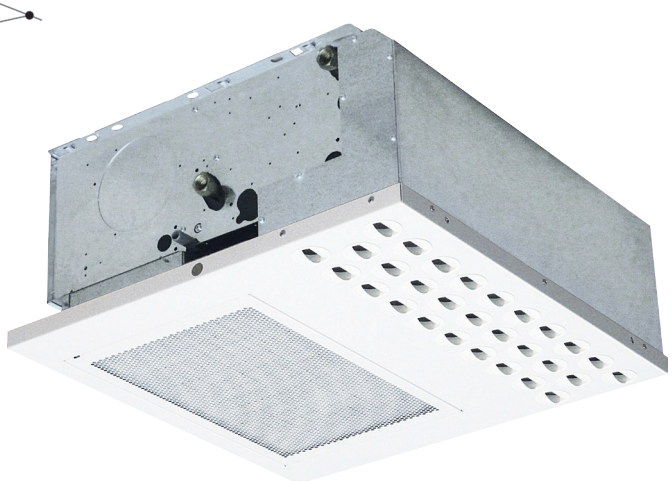



## CC3 Gr 3 - 71 nozzles

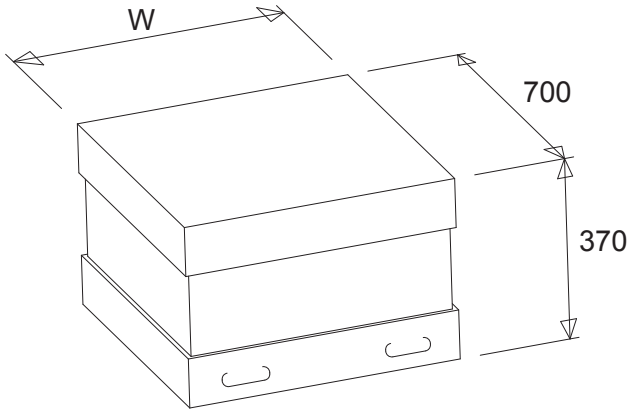


# Dimensions, weight
# Water content




## DIMENSIONS (mm)

| Model | 1 | 2 | 3 |
|---|---|---|---|
| A | 592 | 970 | 1192 |
| E | 454 | 884 | 1099 |
| F | 78 | 43 | 46,5 |
| W | 750 | 1130 | 1350 |

## WEIGHT (kg)

| | | Weight packed unit | | | Weight unpacked unit | | |
|---|---|---|---|---|---|---|---|
| Model | | 1 | 2 | 3 | 1 | 2 | 3 |
| Rows | 3 | 18 | 34 | 44 | 16 | 33 | 42 |
| | 3+1 | 20 | 40 | 51 | 19 | 38 | 48 |
| | 3+2 | 23 | 46 | 58 | 22 | 43 | 54 |
| | 4 | 20 | 37 | 48 | 18 | 35 | 45 |
| | 4+1 | 23 | 42 | 54 | 21 | 40 | 51 |

## WATER CONTENT (l)

| Model | | 1 | 2 | 3 |
|---|---|---|---|---|
| Rows | 3 | 0,6 | 1,3 | 1,7 |
| | 4 | 0,8 | 1,7 | 2,4 |
| | +1 | 0,2 | 0,4 | 0,5 |
| | +2 | 0,4 | 0,8 | 1,0 |

# Technical features

## 2-pipe units

The following standard rating conditions are used:

COOLING (summer operation)
Entering air temperature: + 27°C d.b. / + 19°C w.b.
Water temperature: + 7°C E.W.T. / + 12°C L.W.T.

HEATING (winter operation)
Entering air temperature: + 20°C
Water temperature: + 50°C E.W.T.
Water flow rate as for the cooling conditions

| MODEL | | | CC3-ECM 1.3-2T | | | | | CC3-ECM 2.3-2T | | | | | CC3-ECM 3.3-2T | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Speed | | | 1 | 3 | 5 | 7,5 | 10 | 1 | 3 | 5 | 7,5 | 10 | 1 | 3 | 5 | 7,5 | 10 |
| | | | MIN | | MED | | MAX | MIN | | MED | | MAX | MIN | | MED | | MAX |
| Air flow | | m³/h | **130** | 165 | **205** | 250 | **295** | **215** | 295 | **370** | 450 | **540** | **275** | 345 | **430** | 525 | **620** |
| Cooling total emission | | kW | **0,82** | 1,00 | **1,18** | 1,37 | **1,56** | **1,46** | 1,92 | **2,31** | 2,74 | **3,16** | **1,87** | 2,31 | **2,78** | 3,28 | **3,75** |
| Cooling sensible emission | | kW | **0,62** | 0,76 | **0,91** | 1,07 | **1,24** | **1,07** | 1,42 | **1,73** | 2,07 | **2,41** | **1,37** | 1,70 | **2,06** | 2,45 | **2,83** |
| Heating | | kW | **1,02** | 1,25 | **1,50** | 1,75 | **2,02** | **1,72** | 2,28 | **2,79** | 3,33 | **3,85** | **2,19** | 2,72 | **3,30** | 3,93 | **4,54** |
| ΔP Cooling | | kPa | **2,1** | 3,0 | **4,0** | 5,2 | **6,5** | **3,2** | 5,2 | **7,3** | 9,8 | **12,6** | **5,8** | 8,4 | **11,7** | 15,7 | **19,8** |
| ΔP Heating | | kPa | **1,7** | 2,4 | **3,3** | 4,3 | **5,3** | **2,6** | 4,2 | **6,0** | 8,0 | **10,4** | **4,7** | 6,9 | **9,4** | 12,9 | **16,6** |
| Fan | | W | **8** | 11 | **14** | 21 | **29** | **8** | 11 | **16** | 24 | **37** | **10** | 13 | **19** | 29 | **42** |
| Sound power | Lw | dB(A) | **35** | 41 | **46** | 51 | **55** | **34** | 40 | **46** | 52 | **56** | **36** | 42 | **48** | 54 | **58** |
| Sound pressure (*) | Lp | dB(A) | **26** | 32 | **37** | 42 | **46** | **25** | 31 | **37** | 43 | **47** | **27** | 33 | **39** | 45 | **49** |

| MODEL | | | CC3-ECM 1.4-2T | | | | | CC3-ECM 2.4-2T | | | | | CC3-ECM 3.4-2T | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Speed | | | 1 | 3 | 5 | 7,5 | 10 | 1 | 3 | 5 | 7,5 | 10 | 1 | 3 | 5 | 7,5 | 10 |
| | | | MIN | | MED | | MAX | MIN | | MED | | MAX | MIN | | MED | | MAX |
| Air flow | | m³/h | **130** | 165 | **205** | 250 | **295** | **215** | 295 | **370** | 450 | **540** | **275** | 345 | **430** | 525 | **620** |
| Cooling total emission | | kW | **0,91** | 1,12 | **1,34** | 1,58 | **1,81** | **1,55** | 2,06 | **2,51** | 3,00 | **3,50** | **1,95** | 2,42 | **2,94** | 3,49 | **4,02** |
| Cooling sensible emission | | kW | **0,66** | 0,82 | **0,99** | 1,18 | **1,38** | **1,11** | 1,49 | **1,84** | 2,21 | **2,60** | **1,41** | 1,76 | **2,15** | 2,57 | **2,98** |
| Heating | | kW | **1,07** | 1,32 | **1,60** | 1,90 | **2,20** | **1,82** | 2,46 | **3,03** | 3,68 | **4,32** | **2,25** | 2,82 | **3,44** | 4,12 | **4,78** |
| ΔP Cooling | | kPa | **4,1** | 5,9 | **8,1** | 10,9 | **13,9** | **5,0** | 8,2 | **11,6** | 15,9 | **20,8** | **4,3** | 6,4 | **8,9** | 12,1 | **15,5** |
| ΔP Heating | | kPa | **3,3** | 4,8 | **6,6** | 9,0 | **11,6** | **4,1** | 6,7 | **9,4** | 13,2 | **17,1** | **3,5** | 5,2 | **7,4** | 10,0 | **13,0** |
| Fan | | W | **8** | 11 | **14** | 21 | **29** | **8** | 11 | **16** | 24 | **37** | **10** | 13 | **19** | 29 | **42** |
| Sound power | Lw | dB(A) | **35** | 41 | **46** | 51 | **55** | **34** | 40 | **46** | 52 | **56** | **36** | 42 | **48** | 54 | **58** |
| Sound pressure (*) | Lp | dB(A) | **26** | 32 | **37** | 42 | **46** | **25** | 31 | **37** | 43 | **47** | **27** | 33 | **39** | 45 | **49** |

## 4-pipe units

The following standard rating conditions are used:

COOLING (summer operation)
Entering air temperature: + 27°C d.b. / + 19°C w.b.
Water temperature: + 7°C E.W.T. / + 12°C L.W.T.

HEATING (winter operation)
Entering air temperature: + 20°C
Water temperature: + 70°C E.W.T. / + 60°C L.W.T.

| MODEL | | | CC3-ECM 1.3-4T | | | | | CC3-ECM 2.3-4T | | | | | CC3-ECM 3.3-4T | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Speed | | | 1 | 3 | 5 | 7,5 | 10 | 1 | 3 | 5 | 7,5 | 10 | 1 | 3 | 5 | 7,5 | 10 |
| | | | MIN | | MED | | MAX | MIN | | MED | | MAX | MIN | | MED | | MAX |
| Air flow | | m³/h | **130** | 165 | **205** | 250 | **295** | **215** | 295 | **370** | 450 | **540** | **275** | 345 | **430** | 525 | **620** |
| Cooling total emission | | kW | **0,82** | 1,00 | **1,18** | 1,37 | **1,56** | **1,46** | 1,92 | **2,31** | 2,74 | **3,16** | **1,87** | 2,31 | **2,78** | 3,28 | **3,75** |
| Cooling sensible emission | | kW | **0,62** | 0,76 | **0,91** | 1,07 | **1,24** | **1,07** | 1,42 | **1,73** | 2,07 | **2,41** | **1,37** | 1,70 | **2,06** | 2,45 | **2,83** |
| Heating | | kW | **0,87** | 1,03 | **1,18** | 1,35 | **1,52** | **1,58** | 1,97 | **2,31** | 2,66 | **3,01** | **2,04** | 2,42 | **2,82** | 3,24 | **3,64** |
| ΔP Cooling | | kPa | **2,1** | 3,0 | **4,0** | 5,2 | **6,5** | **3,2** | 5,2 | **7,3** | 9,8 | **12,6** | **5,8** | 8,4 | **11,7** | 15,7 | **19,8** |
| ΔP Heating | | kPa | **1,4** | 1,9 | **2,5** | 3,1 | **3,8** | **1,0** | 1,5 | **2,0** | 2,5 | **3,1** | **1,8** | 2,5 | **3,3** | 4,2 | **5,1** |
| Fan | | W | **8** | 11 | **14** | 21 | **29** | **8** | 11 | **16** | 24 | **37** | **10** | 13 | **19** | 29 | **42** |
| Sound power | Lw | dB(A) | **35** | 41 | **46** | 51 | **55** | **34** | 40 | **46** | 52 | **56** | **36** | 42 | **48** | 54 | **58** |
| Sound pressure (*) | Lp | dB(A) | **26** | 32 | **37** | 42 | **46** | **25** | 31 | **37** | 43 | **47** | **27** | 33 | **39** | 45 | **49** |

(*) = The sound pressure levels are 9 dB(A) lower than the sound power levels and apply to the reverberant field of a 100 m³ room and a reverberation time of 0.5 sec.

# Working conditions and Air throw

## WORKING CONDITIONS

Max. entering water temperature..... + 80 °C
MIn. entering water temperature..... + 5 °C
*for entering water temperatures below + 5°C, contact our technical department*
Max. rated pressure .....1000 kPa (10 bars)

### *Installation height (m)*

| MODEL | 1 | 2 | 3 |
|---|---|---|---|
| *Minimum* | 2,6 | 2,6 | 2,6 |
| *Maximum* | 3,2 | 3,2 | 3,5 |

### *Water flow limits for main coil (l/h)*

| | *3 rows* | | | *4 rows* | | |
|---|---|---|---|---|---|---|
| MODEL | 13 | 23 | 33 | 14 | 24 | 34 |
| *Minimum* | 100 | 150 | 150 | 100 | 150 | 200 |
| *Maximum* | 500 | 1000 | 1500 | 750 | 1000 | 2000 |

### *Water flow limits for additional coil (l/h)*

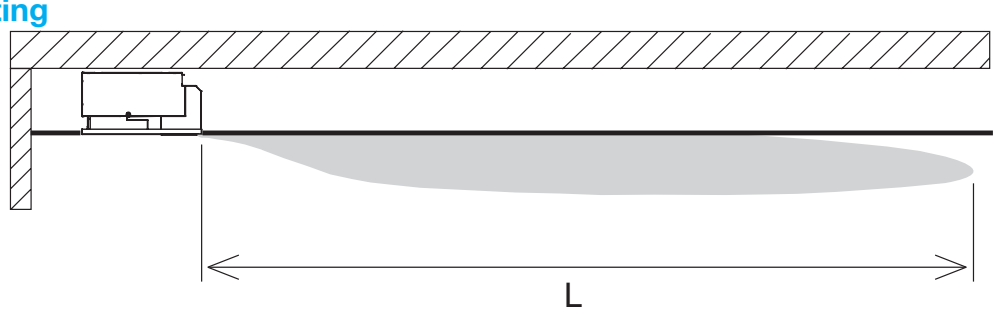
| | *1 row* | | | *2 rows* | | |
|---|---|---|---|---|---|---|
| MODEL | 1 | 2 | 3 | 1 | 2 | 3 |
| *Minimum* | 50 | 100 | 100 | 50 | 100 | 100 |
| *Maximum* | 250 | 450 | 650 | 250 | 450 | 650 |

### *Motor electrical data (max. absorption)*

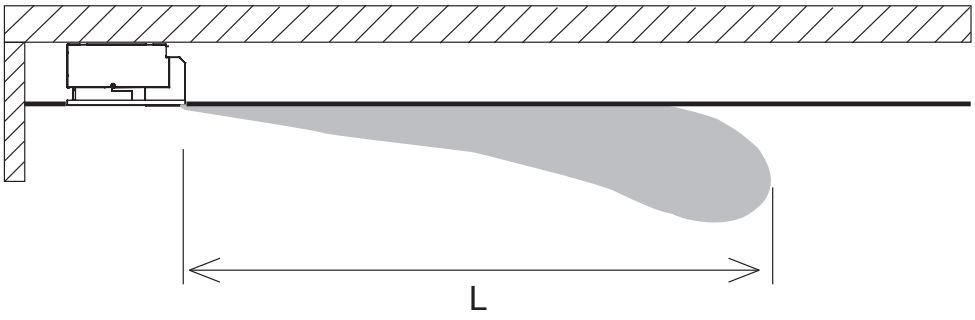
| MODEL | | 1 | 2 | 3 |
|---|---|---|---|---|
| *230/1 50Hz* | *W* | 29 | 37 | 42 |

## AIR THROW

### C1 - Heating




### C2 - Cooling




| | | *CC3-ECM 1* | | | | | | *CC3-ECM 2* | | | | | | *CC3-ECM 3* | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| MODEL | | 1 | 2 | 3 | 4 | 5 | 6 | 1 | 2 | 3 | 4 | 5 | 6 | 1 | 2 | 3 | 4 | 5 | 6 |
| *Air throw L (m)* | *C1* | 3,8 | 4,5 | 5,8 | 6,3 | 6,8 | 7,2 | 4 | 5 | 6,1 | 7 | 8 | 9 | 4,5 | 5,2 | 6,3 | 7,5 | 8,8 | 9,5 |
| | *C2* | 3 | 3,6 | 4,6 | 5 | 5,4 | 5,7 | 3,2 | 4 | 4,8 | 5,6 | 6,4 | 7,2 | 3,6 | 4,1 | 5 | 6 | 7 | 7,6 |

# Emissions

## Cooling emission of 3 row coil

### Entering air temperature: +27°C - Relative Humidity: 50%

| Model | Vdc | Qv | WT: 7/12 °C | | | | WT: 8/13 °C | | | | WT: 10/15 °C | | | | WT: 12/17 °C | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | Pc | Ps | Qw | Dp(c) | Pc | Ps | Qw | Dp(c) | Pc | Ps | Qw | Dp(c) | Pc | Ps | Qw | Dp(c) |
| | | m³/h | kW | kW | l/h | kPa | kW | kW | l/h | kPa | kW | kW | l/h | kPa | kW | kW | l/h | kPa |
| CC3-ECM 1.3-2T | 10 | 295 | 1,69 | 1,23 | 291 | 7,5 | 1,50 | 1,16 | 258 | 6,1 | 1,11 | 1,01 | 191 | 3,5 | 0,89 | 0,89 | 153 | 2,3 |
| | 7,5 | 250 | 1,48 | 1,07 | 255 | 6,0 | 1,32 | 1,01 | 227 | 4,8 | 0,98 | 0,88 | 169 | 2,8 | 0,77 | 0,77 | 132 | 1,8 |
| | 5 | 205 | 1,27 | 0,91 | 218 | 4,6 | 1,14 | 0,85 | 196 | 3,7 | 0,85 | 0,74 | 146 | 2,2 | 0,65 | 0,65 | 112 | 1,4 |
| | 3 | 165 | 1,08 | 0,76 | 186 | 3,4 | 0,97 | 0,71 | 167 | 2,8 | 0,72 | 0,62 | 124 | 1,7 | 0,55 | 0,55 | 95 | 1,0 |
| | 1 | 130 | 0,89 | 0,62 | 153 | 2,4 | 0,80 | 0,58 | 138 | 2,0 | 0,60 | 0,51 | 103 | 1,2 | 0,45 | 0,45 | 77 | 0,7 |
| CC3-ECM 2.3-2T | 10 | 540 | 3,40 | 2,41 | 585 | 14,3 | 3,05 | 2,26 | 525 | 11,7 | 2,31 | 1,97 | 397 | 7,1 | 1,74 | 1,74 | 299 | 4,3 |
| | 7,5 | 450 | 2,94 | 2,06 | 506 | 11,1 | 2,64 | 1,94 | 454 | 9,1 | 2,01 | 1,69 | 346 | 5,5 | 1,49 | 1,49 | 256 | 3,2 |
| | 5 | 370 | 2,49 | 1,73 | 428 | 8,3 | 2,23 | 1,62 | 384 | 6,8 | 1,70 | 1,41 | 292 | 4,2 | 1,25 | 1,25 | 215 | 2,4 |
| | 3 | 295 | 2,06 | 1,42 | 354 | 5,9 | 1,85 | 1,33 | 318 | 4,9 | 1,42 | 1,16 | 244 | 3,0 | 1,03 | 1,03 | 177 | 1,7 |
| | 1 | 215 | 1,57 | 1,07 | 270 | 3,7 | 1,42 | 1,01 | 244 | 3,0 | 1,09 | 0,87 | 187 | 1,9 | 0,77 | 0,77 | 132 | 1,0 |
| CC3-ECM 3.3-2T | 10 | 620 | 4,03 | 2,82 | 693 | 22,5 | 3,63 | 2,65 | 624 | 18,6 | 2,77 | 2,31 | 476 | 11,4 | 2,04 | 2,04 | 351 | 6,6 |
| | 7,5 | 525 | 3,53 | 2,45 | 607 | 17,8 | 3,17 | 2,30 | 545 | 14,7 | 2,43 | 2,01 | 418 | 9,0 | 1,77 | 1,77 | 304 | 5,1 |
| | 5 | 430 | 2,99 | 2,06 | 514 | 13,3 | 2,69 | 1,93 | 463 | 11,0 | 2,06 | 1,68 | 354 | 6,8 | 1,49 | 1,49 | 256 | 3,8 |
| | 3 | 345 | 2,48 | 1,70 | 427 | 9,6 | 2,24 | 1,59 | 385 | 7,9 | 1,72 | 1,39 | 296 | 4,9 | 1,23 | 1,23 | 212 | 2,7 |
| | 1 | 275 | 2,01 | 1,37 | 346 | 6,6 | 1,82 | 1,28 | 313 | 5,5 | 1,40 | 1,12 | 241 | 3,4 | 0,98 | 0,98 | 169 | 1,8 |

### Entering air temperature: +26°C - Relative Humidity: 50%

| Model | Vdc | Qv | WT: 7/12 °C | | | | WT: 8/13 °C | | | | WT: 10/15 °C | | | | WT: 12/17 °C | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | Pc | Ps | Qw | Dp(c) | Pc | Ps | Qw | Dp(c) | Pc | Ps | Qw | Dp(c) | Pc | Ps | Qw | Dp(c) |
| | | m³/h | kW | kW | l/h | kPa | kW | kW | l/h | kPa | kW | kW | l/h | kPa | kW | kW | l/h | kPa |
| CC3-ECM 1.3-2T | 10 | 295 | 1,49 | 1,16 | 256 | 6,0 | 1,31 | 1,09 | 225 | 4,8 | 0,97 | 0,97 | 167 | 2,8 | 0,81 | 0,81 | 139 | 2,0 |
| | 7,5 | 250 | 1,31 | 1,01 | 225 | 4,8 | 1,15 | 0,94 | 198 | 3,8 | 0,84 | 0,84 | 144 | 2,1 | 0,70 | 0,70 | 120 | 1,5 |
| | 5 | 205 | 1,13 | 0,85 | 194 | 3,7 | 0,99 | 0,80 | 170 | 2,9 | 0,70 | 0,69 | 120 | 1,6 | 0,60 | 0,60 | 103 | 1,2 |
| | 3 | 165 | 0,96 | 0,72 | 165 | 2,8 | 0,85 | 0,67 | 146 | 2,2 | 0,60 | 0,57 | 103 | 1,2 | 0,50 | 0,50 | 86 | 0,9 |
| | 1 | 130 | 0,79 | 0,58 | 136 | 2,0 | 0,70 | 0,55 | 120 | 1,6 | 0,50 | 0,47 | 86 | 0,9 | 0,41 | 0,41 | 71 | 0,6 |
| CC3-ECM 2.3-2T | 10 | 540 | 3,03 | 2,27 | 521 | 11,7 | 2,68 | 2,12 | 461 | 9,3 | 1,92 | 1,83 | 330 | 5,1 | 1,59 | 1,59 | 273 | 3,6 |
| | 7,5 | 450 | 2,63 | 1,95 | 452 | 9,1 | 2,32 | 1,82 | 399 | 7,3 | 1,68 | 1,57 | 289 | 4,1 | 1,36 | 1,36 | 234 | 2,8 |
| | 5 | 370 | 2,22 | 1,63 | 382 | 6,8 | 1,97 | 1,52 | 339 | 5,4 | 1,43 | 1,31 | 246 | 3,1 | 1,15 | 1,15 | 198 | 2,0 |
| | 3 | 295 | 1,84 | 1,34 | 316 | 4,9 | 1,63 | 1,25 | 280 | 3,9 | 1,19 | 1,07 | 205 | 2,2 | 0,94 | 0,94 | 162 | 1,4 |
| | 1 | 215 | 1,41 | 1,01 | 243 | 3,0 | 1,25 | 0,94 | 215 | 2,4 | 0,92 | 0,81 | 158 | 1,4 | 0,71 | 0,71 | 122 | 0,9 |
| CC3-ECM 3.3-2T | 10 | 620 | 3,60 | 2,66 | 619 | 18,5 | 3,20 | 2,49 | 550 | 14,9 | 2,32 | 2,15 | 399 | 8,4 | 1,87 | 1,87 | 322 | 5,6 |
| | 7,5 | 525 | 3,15 | 2,31 | 542 | 14,6 | 2,80 | 2,16 | 482 | 11,8 | 2,04 | 1,86 | 351 | 6,7 | 1,62 | 1,62 | 279 | 4,4 |
| | 5 | 430 | 2,67 | 1,94 | 459 | 10,9 | 2,38 | 1,81 | 409 | 8,8 | 1,74 | 1,56 | 299 | 5,0 | 1,37 | 1,37 | 236 | 3,2 |
| | 3 | 345 | 2,22 | 1,60 | 382 | 7,9 | 1,98 | 1,50 | 341 | 6,4 | 1,45 | 1,29 | 249 | 3,7 | 1,12 | 1,12 | 193 | 2,3 |
| | 1 | 275 | 1,80 | 1,29 | 310 | 5,5 | 1,61 | 1,20 | 277 | 4,4 | 1,19 | 1,03 | 205 | 2,6 | 0,90 | 0,90 | 155 | 1,6 |

### Entering air temperature: +25°C - Relative Humidity: 50%

| Model | Vdc | Qv | WT: 7/12 °C | | | | WT: 8/13 °C | | | | WT: 10/15 °C | | | | WT: 12/17 °C | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | Pc | Ps | Qw | Dp(c) | Pc | Ps | Qw | Dp(c) | Pc | Ps | Qw | Dp(c) | Pc | Ps | Qw | Dp(c) |
| | | m³/h | kW | kW | l/h | kPa | kW | kW | l/h | kPa | kW | kW | l/h | kPa | kW | kW | l/h | kPa |
| CC3-ECM 1.3-2T | 10 | 295 | 1,31 | 1,09 | 225 | 4,8 | 1,12 | 1,01 | 193 | 3,6 | 0,89 | 0,89 | 153 | 2,4 | 0,73 | 0,73 | 126 | 1,7 |
| | 7,5 | 250 | 1,15 | 0,94 | 198 | 3,8 | 0,99 | 0,88 | 170 | 2,9 | 0,77 | 0,77 | 132 | 1,9 | 0,63 | 0,63 | 108 | 1,3 |
| | 5 | 205 | 0,99 | 0,80 | 170 | 2,9 | 0,85 | 0,74 | 146 | 2,2 | 0,65 | 0,65 | 112 | 1,4 | 0,54 | 0,54 | 93 | 1,0 |
| | 3 | 165 | 0,84 | 0,67 | 144 | 2,2 | 0,73 | 0,62 | 126 | 1,7 | 0,55 | 0,55 | 95 | 1,0 | 0,46 | 0,46 | 79 | 0,7 |
| | 1 | 130 | 0,70 | 0,55 | 120 | 1,6 | 0,60 | 0,51 | 103 | 1,2 | 0,45 | 0,45 | 77 | 0,7 | 0,37 | 0,37 | 64 | 0,5 |
| CC3-ECM 2.3-2T | 10 | 540 | 2,67 | 2,13 | 459 | 9,4 | 2,32 | 1,98 | 399 | 7,2 | 1,74 | 1,74 | 299 | 4,3 | 1,44 | 1,44 | 248 | 3,1 |
| | 7,5 | 450 | 2,32 | 1,82 | 399 | 7,3 | 2,01 | 1,70 | 346 | 5,7 | 1,49 | 1,49 | 256 | 3,3 | 1,24 | 1,24 | 213 | 2,3 |
| | 5 | 370 | 1,96 | 1,53 | 337 | 5,4 | 1,71 | 1,42 | 294 | 4,2 | 1,26 | 1,26 | 217 | 2,4 | 1,04 | 1,04 | 179 | 1,7 |
| | 3 | 295 | 1,63 | 1,25 | 280 | 3,9 | 1,42 | 1,17 | 244 | 3,1 | 1,03 | 1,03 | 177 | 1,7 | 0,85 | 0,85 | 146 | 1,2 |
| | 1 | 215 | 1,24 | 0,95 | 213 | 2,4 | 1,09 | 0,88 | 187 | 1,9 | 0,77 | 0,77 | 132 | 1,0 | 0,64 | 0,64 | 110 | 0,7 |
| CC3-ECM 3.3-2T | 10 | 620 | 3,19 | 2,50 | 549 | 14,9 | 2,78 | 2,33 | 478 | 11,6 | 2,05 | 2,05 | 353 | 6,7 | 1,70 | 1,70 | 292 | 4,7 |
| | 7,5 | 525 | 2,79 | 2,16 | 480 | 11,8 | 2,43 | 2,02 | 418 | 9,2 | 1,77 | 1,77 | 304 | 5,2 | 1,47 | 1,47 | 253 | 3,7 |
| | 5 | 430 | 2,37 | 1,82 | 408 | 8,8 | 2,07 | 1,69 | 356 | 6,9 | 1,50 | 1,50 | 258 | 3,9 | 1,24 | 1,24 | 213 | 2,7 |
| | 3 | 345 | 1,97 | 1,50 | 339 | 6,4 | 1,72 | 1,39 | 296 | 5,0 | 1,23 | 1,23 | 212 | 2,7 | 1,02 | 1,02 | 175 | 1,9 |
| | 1 | 275 | 1,60 | 1,21 | 275 | 4,4 | 1,40 | 1,12 | 241 | 3,5 | 0,96 | 0,95 | 165 | 1,8 | 0,82 | 0,82 | 141 | 1,3 |

### Correction factors for different R.H.

| U.R. | WT: | 7/12°C | 8/13°C | 10/15°C | 12/17°C |
|---|---|---|---|---|---|
| 48% | Pc | 0,95 | 0,94 | 1,00 | 1,00 |
| | Ps | 1,00 | 1,00 | 1,00 | 1,00 |
| 46% | Pc | 0,90 | 0,88 | 1,00 | 1,00 |
| | Ps | 1,00 | 1,00 | 1,00 | 1,00 |

**Legend**

- **WT** = Water temperature
- **Vdc** = Inverter power
- **Qv** = Air flow
- **Dp(c)** = Water side pressure drop
- **Pc** = Cooling Total emission
- **Qw** = Water flow
- **Ps** = Cooling Sensible emission

# Emissions

## Cooling emission of 4 row coil

### Entering air temperature: +27°C - Relative Humidity: 50%

| Model | Vdc | Qv | WT: 7/12 °C | | | | WT: 8/13 °C | | | | WT: 10/15 °C | | | | WT: 12/17 °C | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | Pc | Ps | Qw | Dp(c) | Pc | Ps | Qw | Dp(c) | Pc | Ps | Qw | Dp(c) | Pc | Ps | Qw | Dp(c) |
| | | m³/h | kW | kW | l/h | kPa | kW | kW | l/h | kPa | kW | kW | l/h | kPa | kW | kW | l/h | kPa |
| CC3-ECM 1.4-2T | 10 | 295 | 1,95 | 1,37 | 335 | 15,9 | 1,75 | 1,29 | 301 | 13,0 | 1,33 | 1,12 | 229 | 7,8 | 0,99 | 0,99 | 170 | 4,7 |
| | 7,5 | 250 | 1,70 | 1,18 | 292 | 12,4 | 1,52 | 1,11 | 261 | 10,2 | 1,16 | 0,97 | 200 | 6,2 | 0,85 | 0,85 | 146 | 3,6 |
| | 5 | 205 | 1,44 | 0,99 | 248 | 9,2 | 1,29 | 0,93 | 222 | 7,6 | 0,98 | 0,81 | 169 | 4,6 | 0,72 | 0,72 | 124 | 2,6 |
| | 3 | 165 | 1,20 | 0,82 | 206 | 6,8 | 1,08 | 0,77 | 186 | 5,6 | 0,83 | 0,67 | 143 | 3,4 | 0,60 | 0,60 | 103 | 1,9 |
| | 1 | 130 | 0,98 | 0,66 | 169 | 4,7 | 0,88 | 0,62 | 151 | 3,9 | 0,68 | 0,54 | 117 | 2,4 | 0,48 | 0,48 | 83 | 1,3 |
| CC3-ECM 2.4-2T | 10 | 540 | 3,76 | 2,60 | 647 | 23,6 | 3,38 | 2,44 | 581 | 19,5 | 2,59 | 2,12 | 445 | 12,1 | 1,88 | 1,88 | 323 | 6,7 |
| | 7,5 | 450 | 3,22 | 2,21 | 554 | 18,0 | 2,90 | 2,08 | 499 | 14,9 | 2,23 | 1,81 | 384 | 9,3 | 1,60 | 1,60 | 275 | 5,1 |
| | 5 | 370 | 2,69 | 1,83 | 463 | 13,2 | 2,43 | 1,72 | 418 | 10,9 | 1,87 | 1,50 | 322 | 6,8 | 1,33 | 1,33 | 229 | 3,7 |
| | 3 | 295 | 2,21 | 1,49 | 380 | 9,3 | 1,99 | 1,40 | 342 | 7,7 | 1,54 | 1,22 | 265 | 4,8 | 1,08 | 1,08 | 186 | 2,5 |
| | 1 | 215 | 1,66 | 1,12 | 286 | 5,6 | 1,50 | 1,05 | 258 | 4,7 | 1,16 | 0,91 | 200 | 2,9 | 0,77 | 0,76 | 132 | 1,4 |
| CC3-ECM 3.4-2T | 10 | 620 | 4,32 | 2,98 | 743 | 17,6 | 3,89 | 2,80 | 669 | 14,6 | 2,98 | 2,44 | 513 | 9,0 | 2,15 | 2,15 | 370 | 5,0 |
| | 7,5 | 525 | 3,75 | 2,57 | 645 | 13,7 | 3,38 | 2,41 | 581 | 11,4 | 2,60 | 2,10 | 447 | 7,1 | 1,86 | 1,86 | 320 | 3,9 |
| | 5 | 430 | 3,15 | 2,15 | 542 | 10,1 | 2,85 | 2,02 | 490 | 8,4 | 2,19 | 1,75 | 377 | 5,2 | 1,55 | 1,55 | 267 | 2,8 |
| | 3 | 345 | 2,60 | 1,76 | 447 | 7,2 | 2,35 | 1,65 | 404 | 6,0 | 1,81 | 1,44 | 311 | 3,7 | 1,27 | 1,27 | 218 | 2,0 |
| | 1 | 275 | 2,09 | 1,41 | 359 | 4,9 | 1,89 | 1,32 | 325 | 4,1 | 1,46 | 1,15 | 251 | 2,6 | 0,97 | 0,96 | 167 | 1,2 |

### Entering air temperature: +26°C - Relative Humidity: 50%

| Model | Vdc | Qv | WT: 7/12 °C | | | | WT: 8/13 °C | | | | WT: 10/15 °C | | | | WT: 12/17 °C | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | Pc | Ps | Qw | Dp(c) | Pc | Ps | Qw | Dp(c) | Pc | Ps | Qw | Dp(c) | Pc | Ps | Qw | Dp(c) |
| | | m³/h | kW | kW | l/h | kPa | kW | kW | l/h | kPa | kW | kW | l/h | kPa | kW | kW | l/h | kPa |
| CC3-ECM 1.4-2T | 10 | 295 | 1,74 | 1,29 | 299 | 13,0 | 1,54 | 1,21 | 265 | 10,3 | 1,11 | 1,04 | 191 | 5,7 | 0,91 | 0,91 | 157 | 4,0 |
| | 7,5 | 250 | 1,51 | 1,11 | 260 | 10,1 | 1,34 | 1,04 | 230 | 8,1 | 0,97 | 0,89 | 167 | 4,5 | 0,78 | 0,78 | 134 | 3,1 |
| | 5 | 205 | 1,28 | 0,93 | 220 | 7,6 | 1,14 | 0,87 | 196 | 6,1 | 0,83 | 0,75 | 143 | 3,4 | 0,66 | 0,66 | 114 | 2,2 |
| | 3 | 165 | 1,08 | 0,78 | 186 | 5,5 | 0,95 | 0,73 | 163 | 4,5 | 0,70 | 0,62 | 120 | 2,5 | 0,55 | 0,55 | 95 | 1,6 |
| | 1 | 130 | 0,87 | 0,63 | 150 | 3,8 | 0,78 | 0,58 | 134 | 3,1 | 0,57 | 0,50 | 98 | 1,8 | 0,44 | 0,44 | 76 | 1,1 |
| CC3-ECM 2.4-2T | 10 | 540 | 3,36 | 2,45 | 578 | 19,4 | 2,99 | 2,29 | 514 | 15,7 | 2,19 | 1,97 | 377 | 8,9 | 1,72 | 1,72 | 296 | 5,8 |
| | 7,5 | 450 | 2,88 | 2,08 | 495 | 14,9 | 2,57 | 1,95 | 442 | 12,0 | 1,89 | 1,68 | 325 | 6,9 | 1,46 | 1,46 | 251 | 4,3 |
| | 5 | 370 | 2,41 | 1,73 | 415 | 10,8 | 2,15 | 1,62 | 370 | 8,8 | 1,58 | 1,39 | 272 | 5,1 | 1,22 | 1,22 | 210 | 3,1 |
| | 3 | 295 | 1,98 | 1,41 | 341 | 7,6 | 1,76 | 1,32 | 303 | 6,2 | 1,31 | 1,13 | 225 | 3,6 | 0,99 | 0,99 | 170 | 2,2 |
| | 1 | 215 | 1,49 | 1,05 | 256 | 4,6 | 1,33 | 0,98 | 229 | 3,8 | 0,99 | 0,84 | 170 | 2,2 | 0,74 | 0,74 | 127 | 1,3 |
| CC3-ECM 3.4-2T | 10 | 620 | 3,87 | 2,81 | 666 | 14,5 | 3,43 | 2,63 | 590 | 11,7 | 2,52 | 2,26 | 433 | 6,7 | 1,97 | 1,97 | 339 | 4,3 |
| | 7,5 | 525 | 3,36 | 2,42 | 578 | 11,3 | 2,99 | 2,26 | 514 | 9,1 | 2,19 | 1,95 | 377 | 5,2 | 1,71 | 1,71 | 294 | 3,3 |
| | 5 | 430 | 2,82 | 2,02 | 485 | 8,3 | 2,52 | 1,89 | 433 | 6,8 | 1,85 | 1,62 | 318 | 3,9 | 1,42 | 1,42 | 244 | 2,4 |
| | 3 | 345 | 2,33 | 1,66 | 401 | 5,9 | 2,08 | 1,55 | 358 | 4,8 | 1,54 | 1,33 | 265 | 2,8 | 1,16 | 1,16 | 200 | 1,7 |
| | 1 | 275 | 1,87 | 1,33 | 322 | 4,1 | 1,67 | 1,24 | 287 | 3,3 | 1,24 | 1,06 | 213 | 1,9 | 0,93 | 0,93 | 160 | 1,1 |

### Entering air temperature: +25°C - Relative Humidity: 50%

| Model | Vdc | Qv | WT: 7/12 °C | | | | WT: 8/13 °C | | | | WT: 10/15 °C | | | | WT: 12/17 °C | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | Pc | Ps | Qw | Dp(c) | Pc | Ps | Qw | Dp(c) | Pc | Ps | Qw | Dp(c) | Pc | Ps | Qw | Dp(c) |
| | | m³/h | kW | kW | l/h | kPa | kW | kW | l/h | kPa | kW | kW | l/h | kPa | kW | kW | l/h | kPa |
| CC3-ECM 1.4-2T | 10 | 295 | 1,54 | 1,21 | 265 | 10,4 | 1,33 | 1,13 | 229 | 8,0 | 1,00 | 1,00 | 172 | 4,7 | 0,82 | 0,82 | 141 | 3,4 |
| | 7,5 | 250 | 1,34 | 1,04 | 230 | 8,1 | 1,16 | 0,97 | 200 | 6,3 | 0,86 | 0,86 | 148 | 3,6 | 0,71 | 0,71 | 122 | 2,6 |
| | 5 | 205 | 1,13 | 0,88 | 194 | 6,1 | 0,99 | 0,81 | 170 | 4,7 | 0,72 | 0,72 | 124 | 2,7 | 0,60 | 0,60 | 103 | 1,9 |
| | 3 | 165 | 0,95 | 0,73 | 163 | 4,5 | 0,83 | 0,68 | 143 | 3,5 | 0,60 | 0,60 | 103 | 1,9 | 0,50 | 0,50 | 86 | 1,4 |
| | 1 | 130 | 0,77 | 0,59 | 132 | 3,1 | 0,68 | 0,54 | 117 | 2,4 | 0,46 | 0,46 | 79 | 1,2 | 0,40 | 0,40 | 69 | 0,9 |
| CC3-ECM 2.4-2T | 10 | 540 | 2,98 | 2,30 | 513 | 15,7 | 2,60 | 2,14 | 447 | 12,3 | 1,88 | 1,88 | 323 | 6,9 | 1,56 | 1,56 | 268 | 4,9 |
| | 7,5 | 450 | 2,56 | 1,95 | 440 | 12,0 | 2,23 | 1,82 | 384 | 9,4 | 1,60 | 1,60 | 275 | 5,2 | 1,33 | 1,33 | 229 | 3,7 |
| | 5 | 370 | 2,14 | 1,62 | 368 | 8,8 | 1,87 | 1,51 | 322 | 6,9 | 1,28 | 1,27 | 220 | 3,5 | 1,11 | 1,11 | 191 | 2,7 |
| | 3 | 295 | 1,76 | 1,32 | 303 | 6,2 | 1,54 | 1,23 | 265 | 4,9 | 1,06 | 1,04 | 182 | 2,5 | 0,90 | 0,90 | 155 | 1,8 |
| | 1 | 215 | 1,32 | 0,99 | 227 | 3,8 | 1,16 | 0,92 | 200 | 3,0 | 0,81 | 0,77 | 139 | 1,6 | 0,67 | 0,67 | 115 | 1,1 |
| CC3-ECM 3.4-2T | 10 | 620 | 3,42 | 2,63 | 588 | 11,7 | 2,99 | 2,45 | 514 | 9,2 | 2,16 | 2,16 | 372 | 5,1 | 1,79 | 1,79 | 308 | 3,6 |
| | 7,5 | 525 | 2,97 | 2,27 | 511 | 9,1 | 2,60 | 2,11 | 447 | 7,2 | 1,87 | 1,87 | 322 | 4,0 | 1,55 | 1,55 | 267 | 2,8 |
| | 5 | 430 | 2,50 | 1,90 | 430 | 6,8 | 2,19 | 1,77 | 377 | 5,3 | 1,50 | 1,49 | 258 | 2,7 | 1,29 | 1,29 | 222 | 2,0 |
| | 3 | 345 | 2,07 | 1,55 | 356 | 4,8 | 1,81 | 1,45 | 311 | 3,8 | 1,25 | 1,22 | 215 | 1,9 | 1,06 | 1,06 | 182 | 1,4 |
| | 1 | 275 | 1,66 | 1,24 | 286 | 3,3 | 1,46 | 1,16 | 251 | 2,6 | 1,02 | 0,98 | 175 | 1,4 | 0,84 | 0,84 | 144 | 1,0 |

### Correction factors for different R.H.

| U.R. | WT: | 7/12°C | 8/13°C | 10/15°C | 12/17°C |
|---|---|---|---|---|---|
| 48% | Pc | 0,95 | 0,94 | 1,00 | 1,00 |
| | Ps | 1,00 | 1,00 | 1,00 | 1,00 |
| 46% | Pc | 0,90 | 0,88 | 1,00 | 1,00 |
| | Ps | 1,00 | 1,00 | 1,00 | 1,00 |

**Legend**

- **WT** = Water temperature
- **Vdc** = Inverter power
- **Qv** = Air flow
- **Dp(c)** = Water side pressure drop
- **Pc** = Cooling Total emission
- **Qw** = Water flow
- **Ps** = Cooling Sensible emission

# Emissions

## Heating emission of 3 row coil

***Entering air temperature: +20°C***

| Model | Vdc | Qv | WT: 70/60°C | | | WT: 60/50°C | | | WT: 50/40° | | | WT: 50/45° | | | WT: 45/40° | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | Ph | Qw | Dp(c) | Ph | Qw | Dp(c) | Ph | Qw | Dp(c) | Ph | Qw | Dp(c) | Ph | Qw | Dp(c) |
| | | $m^3/h$ | kW | l/h | kPa | kW | l/h | kPa | kW | l/h | kPa | kW | l/h | kPa | kW | l/h | kPa |
| CC3-ECM 1.3-2T | 10 | 295 | 3,44 | 296 | 6,0 | 2,63 | 226 | 3,9 | 1,82 | 313 | 2,1 | 2,10 | 361 | 9,1 | 1,70 | 292 | 6,4 |
| | 7,5 | 250 | 2,98 | 256 | 4,7 | 2,28 | 196 | 3,0 | 1,58 | 272 | 1,6 | 1,82 | 313 | 7,0 | 1,47 | 253 | 4,9 |
| | 5 | 205 | 2,54 | 218 | 3,5 | 1,94 | 167 | 2,3 | 1,35 | 232 | 1,2 | 1,55 | 267 | 5,3 | 1,26 | 217 | 3,7 |
| | 3 | 165 | 2,12 | 182 | 2,6 | 1,62 | 139 | 1,7 | 1,13 | 194 | 0,9 | 1,30 | 224 | 3,9 | 1,05 | 181 | 2,7 |
| | 1 | 130 | 1,72 | 148 | 1,8 | 1,32 | 114 | 1,1 | 0,92 | 158 | 0,6 | 1,05 | 181 | 2,7 | 0,85 | 146 | 1,9 |
| CC3-ECM 2.3-2T | 10 | 540 | 6,49 | 558 | 10,2 | 4,98 | 428 | 6,6 | 3,47 | 597 | 3,6 | 3,96 | 681 | 15,4 | 3,21 | 552 | 10,9 |
| | 7,5 | 450 | 5,60 | 482 | 7,9 | 4,30 | 370 | 5,1 | 3,00 | 516 | 2,8 | 3,42 | 588 | 11,9 | 2,78 | 478 | 8,4 |
| | 5 | 370 | 4,67 | 402 | 5,8 | 3,59 | 309 | 3,7 | 2,51 | 432 | 2,1 | 2,85 | 490 | 8,6 | 2,32 | 399 | 6,1 |
| | 3 | 295 | 3,82 | 329 | 4,0 | 2,94 | 253 | 2,6 | 2,06 | 354 | 1,4 | 2,34 | 402 | 6,1 | 1,90 | 327 | 4,3 |
| | 1 | 215 | 2,88 | 248 | 2,4 | 2,22 | 191 | 1,6 | 1,55 | 267 | 0,9 | 1,76 | 303 | 3,7 | 1,43 | 246 | 2,6 |
| CC3-ECM 3.3-2T | 10 | 620 | 7,61 | 654 | 15,8 | 5,85 | 503 | 10,3 | 4,09 | 703 | 5,6 | 4,65 | 800 | 23,8 | 3,77 | 648 | 16,8 |
| | 7,5 | 525 | 6,59 | 567 | 12,3 | 5,07 | 436 | 8,0 | 3,55 | 611 | 4,4 | 4,03 | 693 | 18,5 | 3,27 | 562 | 13,0 |
| | 5 | 430 | 5,53 | 476 | 9,0 | 4,25 | 366 | 5,9 | 2,98 | 513 | 3,2 | 3,38 | 581 | 13,5 | 2,74 | 471 | 9,6 |
| | 3 | 345 | 4,54 | 390 | 6,4 | 3,50 | 301 | 4,2 | 2,45 | 421 | 2,3 | 2,78 | 478 | 9,6 | 2,26 | 389 | 6,8 |
| | 1 | 275 | 3,65 | 314 | 4,3 | 2,82 | 243 | 2,8 | 1,98 | 341 | 1,6 | 2,23 | 384 | 6,5 | 1,82 | 313 | 4,6 |

## Heating emission of 4 row coil

***Entering air temperature: +20°C***

| Model | Vdc | Qv | WT: 70/60°C | | | WT: 60/50°C | | | WT: 50/40° | | | WT: 50/45° | | | WT: 45/40° | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | Ph | Qw | Dp(c) | Ph | Qw | Dp(c) | Ph | Qw | Dp(c) | Ph | Qw | Dp(c) | Ph | Qw | Dp(c) |
| | | $m^3/h$ | kW | l/h | kPa | kW | l/h | kPa | kW | l/h | kPa | kW | l/h | kPa | kW | l/h | kPa |
| CC3-ECM 1.4-2T | 10 | 295 | 3,69 | 317 | 11,1 | 2,83 | 243 | 7,2 | 1,97 | 339 | 3,9 | 2,25 | 387 | 16,7 | 1,83 | 315 | 11,8 |
| | 7,5 | 250 | 3,19 | 274 | 8,6 | 2,45 | 211 | 5,6 | 1,71 | 294 | 3,1 | 1,95 | 335 | 13,0 | 1,58 | 272 | 9,2 |
| | 5 | 205 | 2,68 | 230 | 6,3 | 2,06 | 177 | 4,1 | 1,44 | 248 | 2,3 | 1,64 | 282 | 9,5 | 1,33 | 229 | 6,7 |
| | 3 | 165 | 2,22 | 191 | 4,5 | 1,71 | 147 | 3,0 | 1,19 | 205 | 1,6 | 1,36 | 234 | 6,8 | 1,10 | 189 | 4,8 |
| | 1 | 130 | 1,78 | 153 | 3,1 | 1,37 | 118 | 2,0 | 0,96 | 165 | 1,1 | 1,09 | 187 | 4,7 | 0,89 | 153 | 3,3 |
| CC3-ECM 2.4-2T | 10 | 540 | 7,27 | 625 | 17,3 | 5,60 | 482 | 11,3 | 3,93 | 676 | 6,3 | 4,44 | 764 | 26,1 | 3,62 | 623 | 18,5 |
| | 7,5 | 450 | 6,17 | 531 | 13,0 | 4,76 | 409 | 8,5 | 3,35 | 576 | 4,7 | 3,77 | 648 | 19,6 | 3,07 | 528 | 13,9 |
| | 5 | 370 | 5,08 | 437 | 9,2 | 3,93 | 338 | 6,0 | 2,76 | 475 | 3,4 | 3,11 | 535 | 13,9 | 2,53 | 435 | 9,9 |
| | 3 | 295 | 4,11 | 353 | 6,3 | 3,17 | 273 | 4,2 | 2,24 | 385 | 2,3 | 2,51 | 432 | 9,6 | 2,05 | 353 | 6,8 |
| | 1 | 215 | 3,04 | 261 | 3,7 | 2,35 | 202 | 2,5 | 1,66 | 286 | 1,4 | 1,86 | 320 | 5,6 | 1,52 | 261 | 4,0 |
| CC3-ECM 3.4-2T | 10 | 620 | 8,00 | 688 | 12,0 | 6,16 | 530 | 7,8 | 4,31 | 741 | 4,3 | 4,89 | 841 | 18,0 | 3,97 | 683 | 12,7 |
| | 7,5 | 525 | 6,89 | 593 | 9,2 | 5,30 | 456 | 6,0 | 3,72 | 640 | 3,3 | 4,21 | 724 | 13,8 | 3,42 | 588 | 9,8 |
| | 5 | 430 | 5,74 | 494 | 6,7 | 4,43 | 381 | 4,4 | 3,11 | 535 | 2,4 | 3,51 | 604 | 10,0 | 2,85 | 490 | 7,1 |
| | 3 | 345 | 4,70 | 404 | 4,7 | 3,62 | 311 | 3,1 | 2,55 | 439 | 1,7 | 2,87 | 494 | 7,1 | 2,34 | 402 | 5,0 |
| | 1 | 275 | 3,75 | 323 | 3,2 | 2,90 | 249 | 2,1 | 2,04 | 351 | 1,2 | 2,30 | 396 | 4,8 | 1,87 | 322 | 3,4 |

**Legend**

***WT*** = Water temperature
***Vdc*** = Inverter power
***Qv*** = Air flow
***Ph*** = Emission
***Qw*** = Water flow
***Dp(c)*** = Water side pressure drop

# Emissions

## Heating emission of 1 row additional coil

***Entering air temperature: +20°C***

| Model | Vdc | Qv | WT: 80/70°C | | | WT: 75/65° | | | WT: 70/60° | | | WT: 65/55° | | | WT: 60/50° | | | WT: 55/45° | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | Ph | Qw | Dp(c) | Ph | Qw | Dp(c) | Ph | Qw | Dp(c) | Ph | Qw | Dp(c) | Ph | Qw | Dp(c) | Ph | Qw | Dp(c) |
| | | $m^3/h$ | kW | l/h | kPa | kW | l/h | kPa | kW | l/h | kPa | kW | l/h | kPa | kW | l/h | kPa | kW | l/h | kPa |
| CC3-ECM 1.3-4T 1.4-4T | 10 | 295 | 1,90 | 163 | 5,5 | 1,71 | 147 | 4,7 | 1,52 | 131 | 3,8 | 1,33 | 114 | 3,1 | 1,14 | 98 | 2,4 | 0,95 | 82 | 1,8 |
| | 7,5 | 250 | 1,69 | 145 | 4,5 | 1,52 | 131 | 3,8 | 1,35 | 116 | 3,1 | 1,18 | 101 | 2,5 | 1,02 | 88 | 1,9 | 0,85 | 73 | 1,4 |
| | 5 | 205 | 1,48 | 127 | 3,5 | 1,33 | 114 | 3,0 | 1,18 | 101 | 2,5 | 1,04 | 89 | 2,0 | 0,89 | 77 | 1,5 | 0,74 | 64 | 1,1 |
| | 3 | 165 | 1,28 | 110 | 2,8 | 1,16 | 100 | 2,3 | 1,03 | 89 | 1,9 | 0,90 | 77 | 1,5 | 0,77 | 66 | 1,2 | 0,64 | 55 | 0,9 |
| | 1 | 130 | 1,09 | 94 | 2,1 | 0,98 | 84 | 1,7 | 0,87 | 75 | 1,4 | 0,76 | 65 | 1,2 | 0,66 | 57 | 0,9 | 0,55 | 47 | 0,7 |
| CC3-ECM 2.3-4T 2.4-4T | 10 | 540 | 3,77 | 324 | 4,5 | 3,39 | 292 | 3,8 | 3,01 | 259 | 3,1 | 2,64 | 227 | 2,5 | 2,26 | 194 | 2,0 | 1,89 | 163 | 1,4 |
| | 7,5 | 450 | 3,33 | 286 | 3,6 | 2,99 | 257 | 3,1 | 2,66 | 229 | 2,5 | 2,33 | 200 | 2,0 | 2,00 | 172 | 1,6 | 1,67 | 144 | 1,2 |
| | 5 | 370 | 2,88 | 248 | 2,8 | 2,59 | 223 | 2,4 | 2,31 | 199 | 2,0 | 2,02 | 174 | 1,6 | 1,74 | 150 | 1,2 | 1,45 | 125 | 0,9 |
| | 3 | 295 | 2,46 | 212 | 2,1 | 2,22 | 191 | 1,8 | 1,97 | 169 | 1,5 | 1,73 | 149 | 1,2 | 1,49 | 128 | 0,9 | 1,24 | 107 | 0,7 |
| | 1 | 215 | 1,97 | 169 | 1,4 | 1,77 | 152 | 1,2 | 1,58 | 136 | 1,0 | 1,38 | 119 | 0,8 | 1,19 | 102 | 0,6 | 1,00 | 86 | 0,5 |
| CC3-ECM 3.3-4T 3.4-4T | 10 | 620 | 4,53 | 390 | 7,3 | 4,08 | 351 | 6,2 | 3,64 | 313 | 5,1 | 3,19 | 274 | 4,1 | 2,75 | 237 | 3,2 | 2,31 | 199 | 2,4 |
| | 7,5 | 525 | 4,04 | 347 | 6,0 | 3,64 | 313 | 5,1 | 3,24 | 279 | 4,2 | 2,85 | 245 | 3,4 | 2,45 | 211 | 2,6 | 2,06 | 177 | 2,0 |
| | 5 | 430 | 3,51 | 302 | 4,7 | 3,17 | 273 | 4,0 | 2,82 | 243 | 3,3 | 2,48 | 213 | 2,7 | 2,14 | 184 | 2,1 | 1,79 | 154 | 1,5 |
| | 3 | 345 | 3,01 | 259 | 3,6 | 2,71 | 233 | 3,0 | 2,42 | 208 | 2,5 | 2,12 | 182 | 2,0 | 1,83 | 157 | 1,6 | 1,54 | 132 | 1,2 |
| | 1 | 275 | 2,53 | 218 | 2,6 | 2,28 | 196 | 2,2 | 2,04 | 175 | 1,8 | 1,79 | 154 | 1,5 | 1,54 | 132 | 1,2 | 1,30 | 112 | 0,9 |

## Heating emission of 2 row additional coil

***Entering air temperature: +20°C***

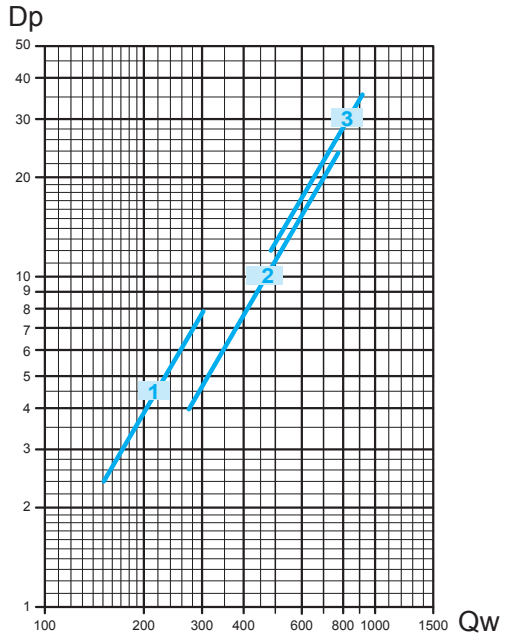
| Model | Vdc | Qv | WT: 65/55°C | | | WT: 60/50° | | | WT: 55/45° | | | WT: 50/40° | | | WT: 45/40° | | | WT: 45/35° | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | Ph | Qw | Dp(c) | Ph | Qw | Dp(c) | Ph | Qw | Dp(c) | Ph | Qw | Dp(c) | Ph | Qw | Dp(c) | Ph | Qw | Dp(c) |
| | | $m^3/h$ | kW | l/h | kPa | kW | l/h | kPa | kW | l/h | kPa | kW | l/h | kPa | kW | l/h | kPa | kW | l/h | kPa |
| CC3-ECM 1.3-4T/2R | 10 | 295 | 2,32 | 200 | 14,8 | 2,00 | 172 | 11,6 | 1,69 | 145 | 8,8 | 1,37 | 118 | 6,2 | 1,30 | 224 | 19,2 | 1,06 | 91 | 4,0 |
| | 7,5 | 250 | 2,04 | 175 | 11,9 | 1,77 | 152 | 9,3 | 1,49 | 128 | 7,0 | 1,21 | 104 | 5,0 | 1,14 | 196 | 15,4 | 0,94 | 81 | 3,2 |
| | 5 | 205 | 1,77 | 152 | 9,2 | 1,53 | 132 | 7,2 | 1,29 | 111 | 5,4 | 1,05 | 90 | 3,9 | 0,99 | 170 | 11,9 | 0,81 | 70 | 2,5 |
| | 3 | 165 | 1,51 | 130 | 6,9 | 1,30 | 112 | 5,5 | 1,10 | 95 | 4,1 | 0,90 | 77 | 2,9 | 0,84 | 144 | 9,0 | 0,69 | 59 | 1,9 |
| | 1 | 130 | 1,26 | 108 | 5,1 | 1,09 | 94 | 4,0 | 0,92 | 79 | 3,0 | 0,75 | 65 | 2,2 | 0,71 | 122 | 6,6 | 0,58 | 50 | 1,4 |
| CC3-ECM 2.3-4T/2R | 10 | 540 | 4,56 | 392 | 12,3 | 3,94 | 339 | 9,7 | 3,33 | 286 | 7,3 | 2,72 | 234 | 5,2 | 2,55 | 439 | 15,9 | 2,11 | 181 | 3,4 |
| | 7,5 | 450 | 3,98 | 342 | 9,6 | 3,44 | 296 | 7,6 | 2,91 | 250 | 5,7 | 2,38 | 205 | 4,1 | 2,23 | 384 | 12,5 | 1,84 | 158 | 2,7 |
| | 5 | 370 | 3,42 | 294 | 7,4 | 2,97 | 255 | 5,8 | 2,51 | 216 | 4,4 | 2,05 | 176 | 3,2 | 1,92 | 330 | 9,6 | 1,59 | 137 | 2,1 |
| | 3 | 295 | 2,86 | 246 | 5,4 | 2,48 | 213 | 4,3 | 2,10 | 181 | 3,2 | 1,72 | 148 | 2,3 | 1,60 | 275 | 7,0 | 1,33 | 114 | 1,5 |
| | 1 | 215 | 2,21 | 190 | 3,4 | 1,91 | 164 | 2,7 | 1,62 | 139 | 2,1 | 1,33 | 114 | 1,5 | 1,24 | 213 | 4,4 | 1,03 | 89 | 1,0 |
| CC3-ECM 3.3-4T/2R | 10 | 620 | 5,42 | 466 | 19,8 | 4,70 | 404 | 15,6 | 3,98 | 342 | 11,8 | 3,26 | 280 | 8,5 | 3,04 | 523 | 25,6 | 2,54 | 218 | 5,6 |
| | 7,5 | 525 | 4,77 | 410 | 15,8 | 4,14 | 356 | 12,5 | 3,51 | 302 | 9,5 | 2,87 | 247 | 6,8 | 2,67 | 459 | 20,5 | 2,24 | 193 | 4,5 |
| | 5 | 430 | 4,12 | 354 | 12,2 | 3,58 | 308 | 9,7 | 3,03 | 261 | 7,3 | 2,49 | 214 | 5,3 | 2,31 | 397 | 15,8 | 1,94 | 167 | 3,5 |
| | 3 | 345 | 3,45 | 297 | 8,9 | 3,00 | 258 | 7,1 | 2,54 | 218 | 5,4 | 2,08 | 179 | 3,9 | 1,93 | 332 | 11,6 | 1,63 | 140 | 2,5 |
| | 1 | 275 | 2,82 | 243 | 6,3 | 2,45 | 211 | 5,0 | 2,08 | 179 | 3,8 | 1,71 | 147 | 2,7 | 1,58 | 272 | 8,1 | 1,33 | 114 | 1,8 |

**Legend**

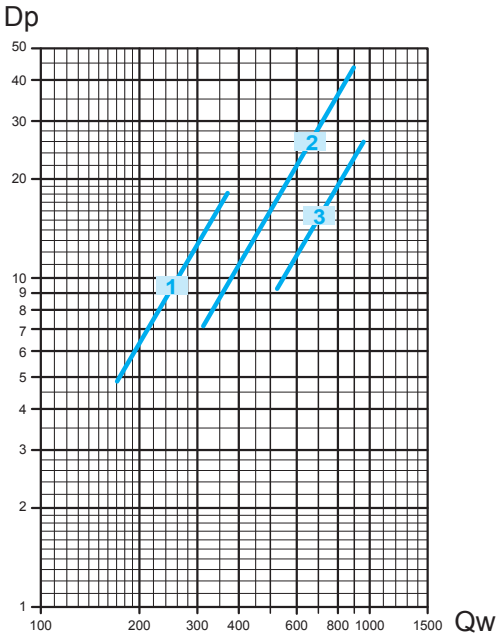
| | | | |
|---|---|---|---|
| ***WT*** | = Water temperature | ***Ph*** | = Emission |
| ***Vdc*** | = Inverter power | ***Qw*** | = Water flow |
| ***Qv*** | = Air flow | ***Dp(c)*** | = Water side pressure drop |

# Water side pressure drop

### *3 row coil*



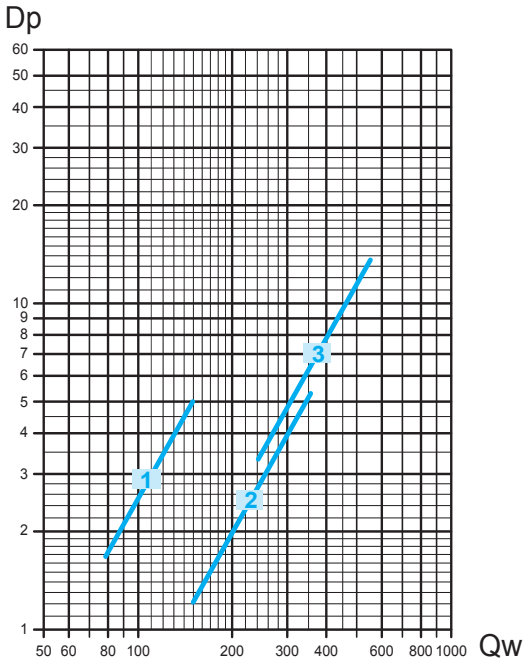

### *4 row coil*



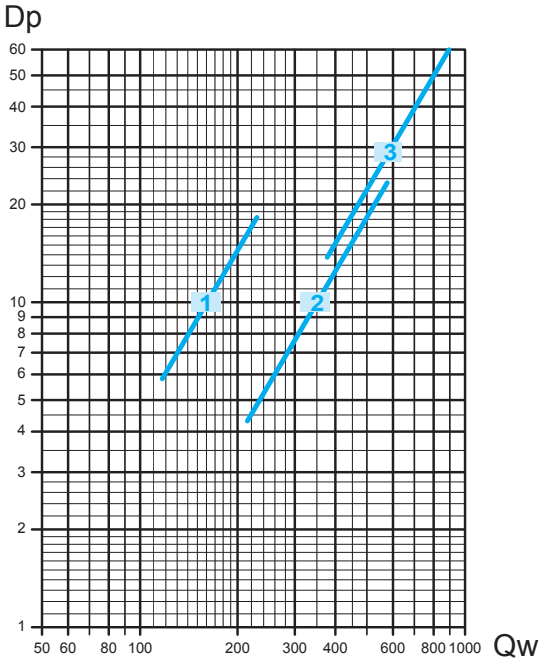

Pressure drop for mean water temperature of 10°C; for different temperatures multiply the pressure drop figure by the K correction factors in the table.

| °C | 20 | 30 | 40 | 50 | 60 | 70 | 80 |
|---|---|---|---|---|---|---|---|
| K | 0,94 | 0,90 | 0,86 | 0,82 | 0,78 | 0,74 | 0,70 |

### *1 row additional coil*




### *2 row additional coil*




Pressure drop for mean water temperature of 65°C; for different temperatures multiply the pressure drop figure by the K correction factors in the table.

| °C | 40 | 50 | 60 | 70 | 80 |
|---|---|---|---|---|---|
| K | 1,14 | 1,08 | 1,02 | 0,96 | 0,90 |

**Legend**

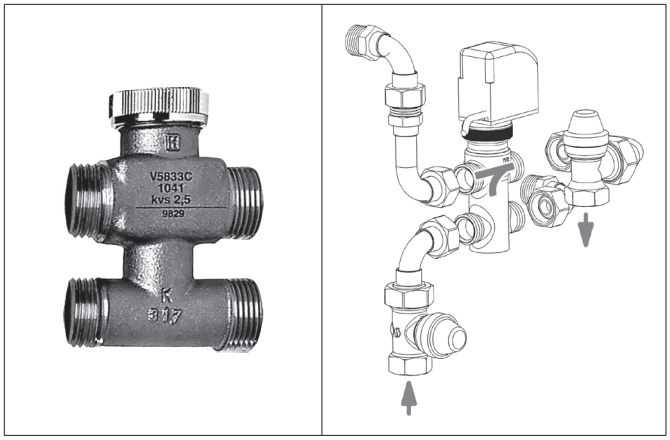
**Qw** = water flow (l/h)

**Dp** = pressure drop (kPa)

# Accessories

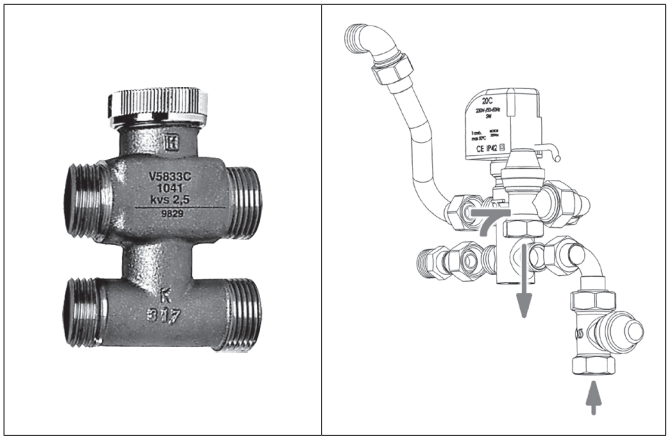
## VBP Main coil 3 way valve

Control valve kit:3 way valve, ON-OFF, with electric motor and mounting kit with micrometric lockshield valve.



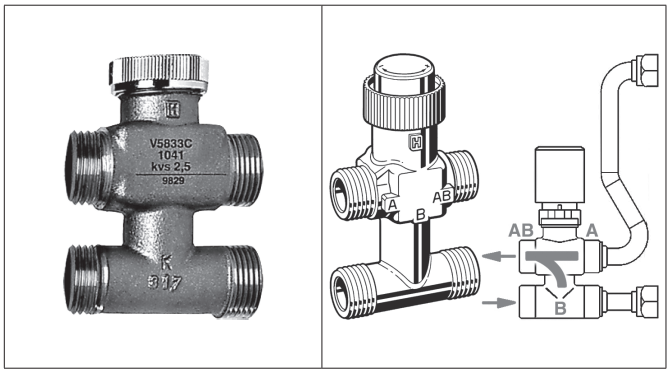

## VBA Additional coil 3 way valve

Control valve kit:3 way valve, ON-OFF, with electric motor and mounting kit with micrometric lockshield valve.



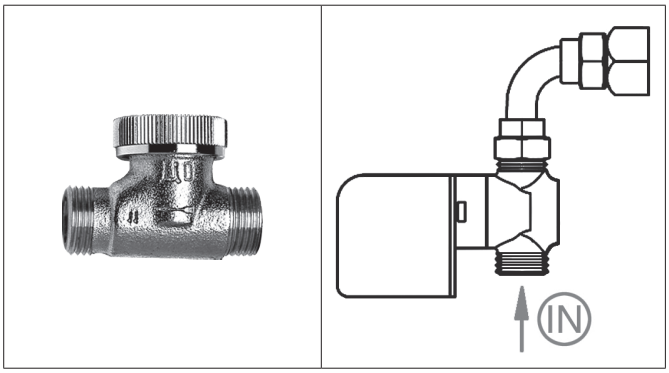

## VS Simplified kit for 3 way valve for main and additional coil

3 way valve, (ON-OFF) with electric motor and mounting kit. Valve with flat connection without micrometric lockshield valve.



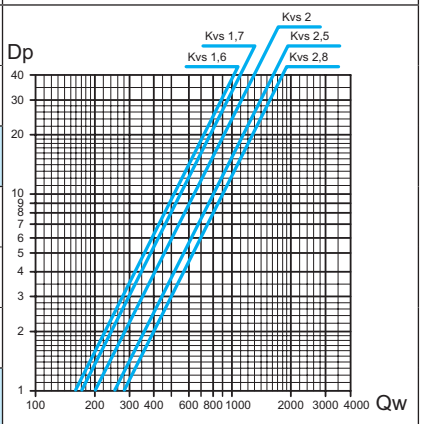

## V2 2 way valve for main and additional coil

Control valve kit: 2 way valve, ON-OFF, with electric motor and mounting kit.




| Valve | type | mod. | Valve | | | Micrometric lockshield valve | | | Code | |
|---|---|---|---|---|---|---|---|---|---|---|
| | | | DN | (Ø) | Kvs | DN | (Ø) | Kvs | Fitted | Not Fitted |
| VBP | Main | 1 - 2 | 15 | 1/2" | 1,6 | 15 | 1/2" | 2 | 9066561H | 9066560H |
| | Main | 3 | 20 | 3/4" | 2,5 | 15 | 1/2" | 2 | 9060471H | 9060474H |
| VBA | Additional | All | 15 | 1/2" | 1,6 | 15 | 1/2" | 2 | 9060472H | 9060475H |
| VS | Main | 1 - 2 | 15 | 1/2" | 1,6 | - | - | - | 9066571H | 9066570H |
| | | 3 | 20 | 3/4" | 2,5 | - | - | - | 9060484H | 9060481H |
| | Additional | All | 15 | 1/2” | 1,6 | - | - | - | 9060483H | 9060480H |
| V2 | Main | 1 - 2 | 15 | 1/2" | 1,7 | - | - | - | 9060476H | 9060478H |
| | | 3 | 20 | 3/4" | 2,8 | - | - | - | 9060477H | 9060479H |
| | Additional | All | 15 | 1/2” | 1,7 | - | - | - | 9060476H | 9060478H |

**Valves pressure drop**

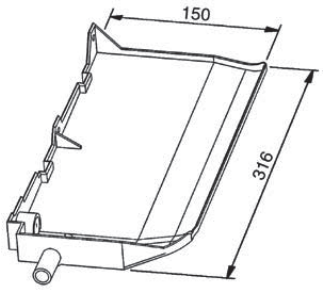



**Legend**
**Qw** = water flow (l/h)
**Dp** = pressure drop (kPa)

# Accessories

## BSO Extension condensate collection tray to cover valve assembly

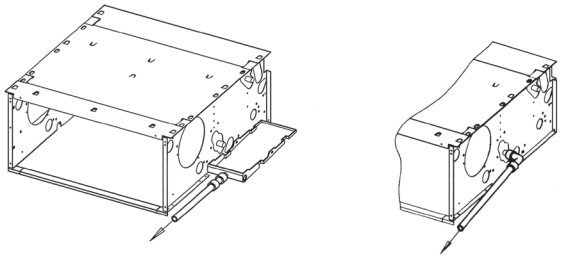
| | BSO | |
|---|---|---|
| Connection side | left | right |
| ID | BSO-SX | BSO-DX |
| Code | 6060402 | 6060403 |




## SCR plastic condensate drain pipe with fast connection

| ID | SCR |
|---|---|
| Code | 6060420 |

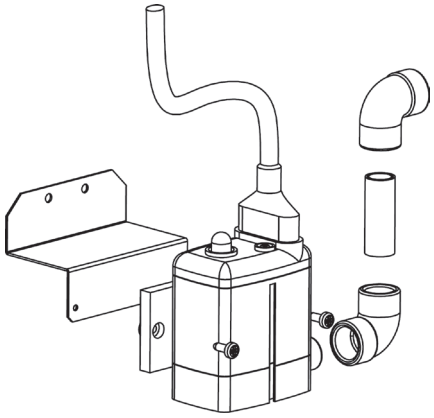
It helps regular drainage of condensate thereby preventing the formation of bends.



## PCC condensate drain pump

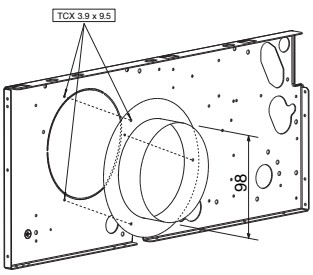
| | Fitted | Not fitted |
|---|---|---|
| ID | PCC-M | PCC-S |
| Code | 9064011 | 9064010 |

| Height for vertical flow (m) | Water flow (l/h) depending on the length of horizontal flow | |
|---|---|---|
| | 5 m | 10 m |
| 1 | 6,8 | 6,3 |
| 2 | 5,5 | 5,0 |
| 3 | 4,2 | 3,8 |
| 4 | 3,0 | 2,6 |

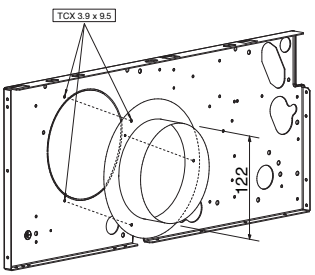


## FRC spigot flange

| ID | FRC 100 |
|---|---|
| Code | 6064191 |




| ID | FRC 120 |
|---|---|
| Code | 6064192 |

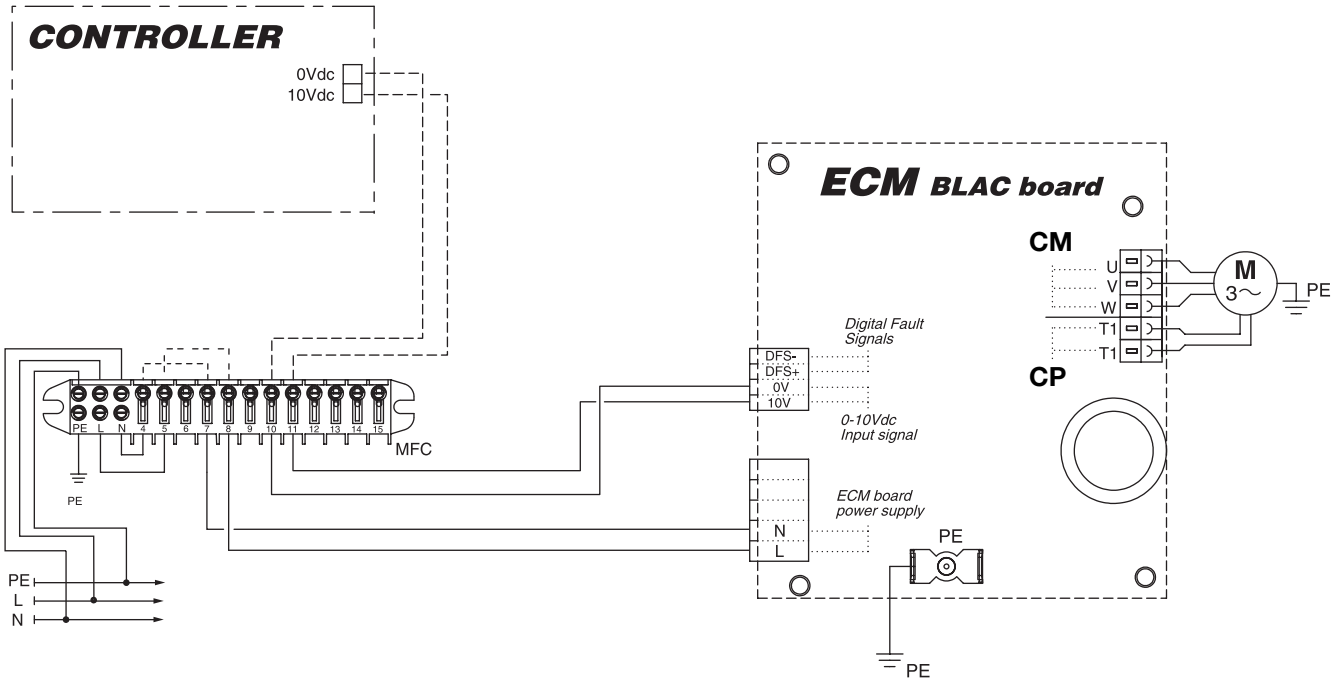


# CC3–ECM configuration

For this fan coil configuration, the 1-10 Vdc signal, which controls the inverter, must be supplied by a controller with the following signal specifications:

- Impedance < 100 Ω;
- Maximum speed 10 Vdc;
- Fan OFF with V < 0,9 Vdc.
- Signal 0,3 / 13 V.

## CC3–ECM electric wiring diagram

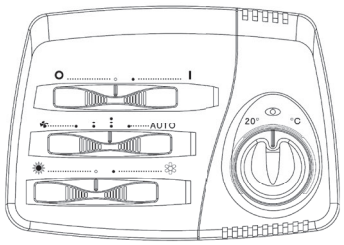



**Legend**

| | |
|---|---|
| **CONTROLLER** | = Controller |
| **ECM BLAC BOARD** | = Inverter circuit board |
| **M** | = Electronic motor |
| **CM** | = Motor fan connection |
| **CP** | = Motor fan thermal protection connection |

# Wall electronic controls and Accessories

| ID | Code |
|---|---|
| CR-T-ECM | 9066342E |




***Dimensioni: 133x93x37 mm***

***The control must always be connected with UPM-ECM power unit (fitted on the unit) or with UPS-ECM power unit (not fitted on the unit).***

- It allows to control up to 16 units (one power unit for each unit).
- ON-OFF switch.
- Manual 3 speed switch or automatic continuous speed control.
- Manual Summer/Winter switch.
- Continuous speed control based on the difference between ambient temperature and Set temperature (speed switch in Auto position).
- Electronic room thermostat for fan or valves control (ON-OFF).
- Simultaneus thermostatic control of the valves and fan.
- It allows to control the low temperature cut-out thermostat (NTC).
- It allows to control the summer/winter cycle with a centralized and remote switch or with an automatic change-over fitted on the water pipe (for 2-tube installations only).

***Note: with 4-pipe systems and continuous chilled and hot water supply, it allows the automatic summer/winter change-over in accordance to the room temperature (-1°C = Winter, +1°C = Summer, Dead Zone 2°C).***

| Description | ID | Code |
|---|---|---|
| Power unit for CR-T-ECM remote control (fitted on the unit) | UPM-ECM | 9066341 |
| Power unit for CR-T-ECM remote control (not fitted on the unit) | UPS-ECM | 9066340 |

***Control power absorption: 1,5 VA***

Power unit to be installed on the fan coil (fan coil interface).
It controls the fan and the valves of the fan coil.
The power unit is connected to the electric supply.
The power unit receives the information required from the control.

## NTC low temperature cut-out thermostat

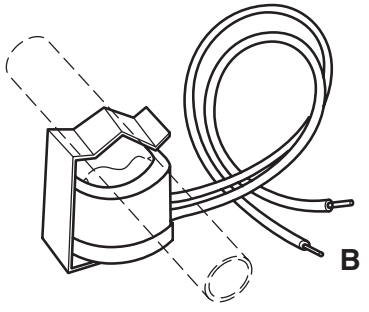
| ID | Code |
|---|---|
| NTC | 3021090 |

To be fitted between the coil fins; when connecting the control, the NTC probe cable must be separated from the power supply wires.
To be used with the following controls: CR-T-ECM
It stops the fan when the water temperature is lower than 28°C and it starts the fan when is higher than 33°C.

## Change-Over CH 15-25

| ID | Code |
|---|---|
| CH 15 -25 | 9053049 |

Automatic summer/winter switch to be installed in contact with the water circuit.
For 2-tube installations only (not to be used with 2 way valve).
To be used with the following controls: CR-T-ECM.




**Legend**
**A** = red
**B** = black

# Unit with IR-ECM electronic board

| Description | ID | Code |
|---|---|---|
| *Control board fitted on the unit* | *IR-ECM-M* | *9066326* |
| *Control board not fitted on the unit* | *IR-ECM-S* | *9066325* |

This version is supplied integral with the IR–ECM electronic board that supplies the 1-10V signal to the inverter board, in accordance to the instructions received by the infra-red remote control with receiver (RT03/ECM identification) or by the wall mounted control (ETN/ECM identification).
The units can be controlled as stand-alone, master/slave or in serial connection.
With the dip switches on the IR–ECM electronic board, it is possible to choose the following working modes:

- 2 pipe / 4 pipe system:
  *dip switch N.ro 1 = ON / OFF*

- Continuous ventilation:
  *dip switch N.ro 4 = ON*

- Close valve and stop fan in cooling mode (autofan function):
  *dip swicth N.ro 4 = OFF N.ro 5 = ON N.ro 6 = OFF*

- Close valve and stop fan in heating mode (autofan function):
  *dip swicth N.ro 4 = OFF N.ro 5 = OFF N.ro 6 = OFF*

- Close valve and stop fan in both cooling and heating mode (autofan function):
  *dip swicth N.ro 4 = OFF N.ro 5 = ON N.ro 6 = ON*

The autofan function allows the simultaneous ON/OFF control of the water valve and the fan, while at the same time optimising the operation of the unit. When reaching the set point, the controller closes the water valve (valve OFF) and only 3 minutes later stops the fan, so as to correctly compensate for the valve closing time. The autofan function can be activated in cooling only mode, in heating only mode or in both operating modes.

In two pipe systems, a water probe (T2 accessory) can be installed on the supply pipe to the unit upstream of the water valve. Based on the temperature read in this section of the pipe, the device will select either cooling or heating operation.

The electronic board also features a contact for connection to a window switch or remote enabling signal. When the contact is closed, the unit can operate, when the contact is open, the unit stops. The same contact can be used for starting and stopping the unit from an external timer or any other remote switching device.

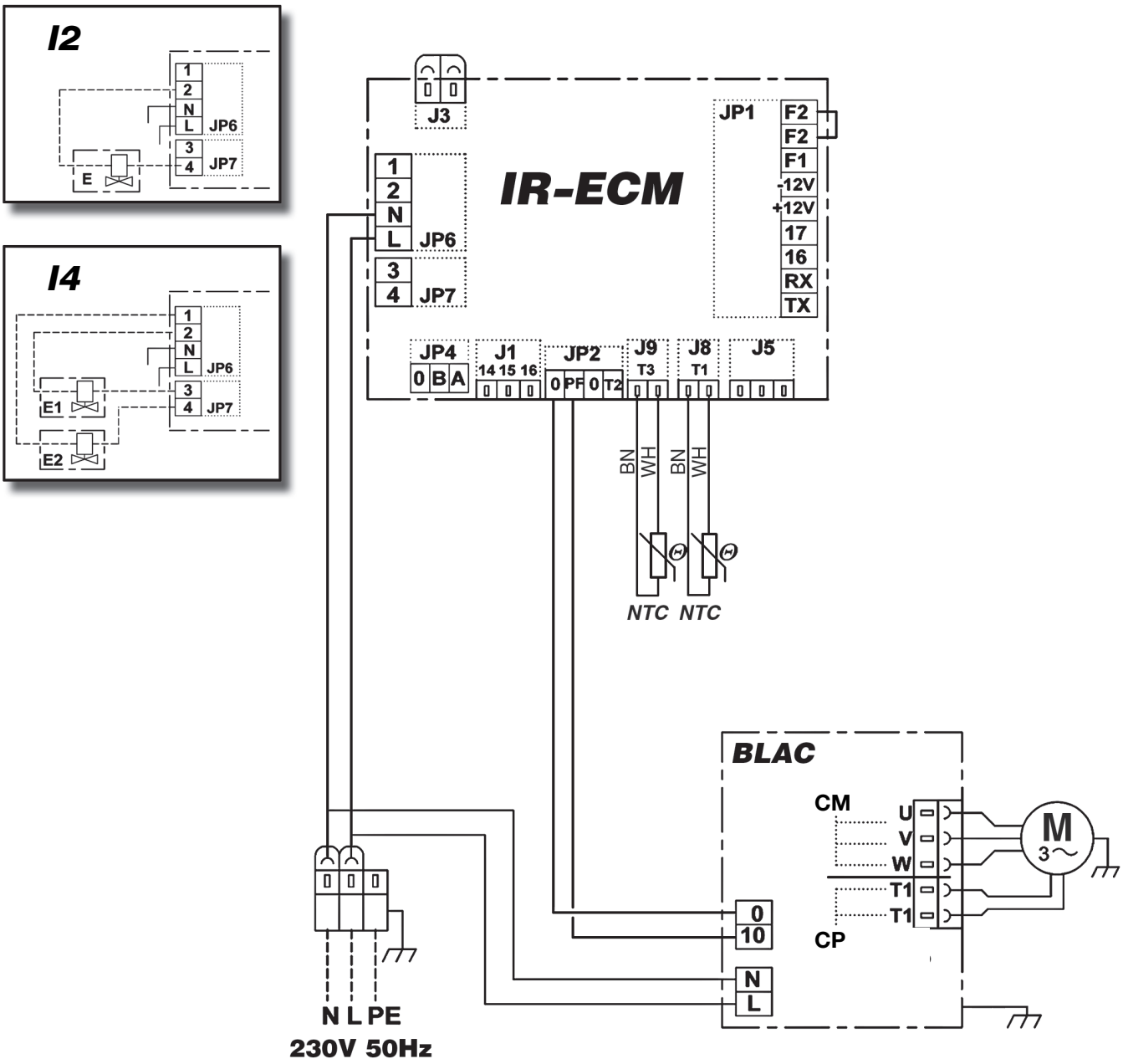
In addition, a series of units can be switched ON or OFF at the same time, by using a flip-flop switch connected to the terminals present on the board (F1 – 12V).

Sensors that require a 12 Volt power supply, for example occupancy sensors, can be connected to other terminals on the electronic board and then to the ON/OFF contacts. The board is able to power external sensors with a maximum current of 60 mA.

*Board power absorption: 2,5 VA*

# Unit with IR-ECM electronic board

## CC3–ECM electric wiring diagram with IR–ECM electronic board




| Legend | | | |
|---|---|---|---|
| **I2** | = 2-pipe units | **CP** | = Motor fan thermal protection connection |
| **I4** | = 4-pipe units | **E** | = Hot and cold water valve (2-pipe units) |
| **IR-ECM** | = Electronic control board | **E1** | = Hot water valve (4-pipe units) |
| **BLAC** | = Inverter circuit board | **E2** | = Cold water valve (4-pipe units) |
| **M** | = Electronic motor | **T3** | = Low temperature cut-out thermostat |
| **CM** | = Motor fan connection | **T1** | = Air intake temperature probe |

# CC3-ECM

## Unit with IR-ECM electronic board

| Description | ID | Code |
|---|---|---|
| *Infra-red remote control with receiver to be used only with IR–ECM electronic board, with not fitted receiver* | *RT03/ECM-S* | *9066327* |
| *Wall mounted control to be used only with IR–ECM electronic board* | *ETN/ECM* | *3021232* |

The CC3 cassettes can be supplied with a micro-processor managing system operated by an infra-red remote control with liquid crystall display or by a wall mounted ETN/ECM control.

Integral with the unit is the room temperature probe, the water temperature probe (cut-out thermostat), the infra-red remote control and the electronic board with RS485 communicating connection which can control up to 20 units connected between them. The electronic board is of master/slave mode and the serial communicating connection allows the serial connection; in the master/slave connection of more units, it is recommended o install the infra-red receiver on the master unit.

The units with IR control are supplied with room temperature probe and water temperature probe (cut-out thermostat).

***The infra-red control features the following functions:***

- Temperature set.
- Fan speed switch with possible automatic speed selection.
- 24 hours on/off program.
- On/off cooling valve control.
- On/off heating valve control.
- Control of the valves only or of the valves and the fan together.
- Valve control of 2 or 4-pipe systems with winter/summer switch on the infra-red control.
- Valve control of 4-pipe systems with automatic heating/cooling mode selection with 2°C dead zone.
- Activating the sensor connected to the T3 contact of the board (non active in the standard configuration), it works like a cut-out thermostat: fitted between the coil fins it stops the fan when the water temperature is lower than 38°C and it starts the fan when the water temperature reaches 42°C.

***The wall mounted control features the following functions:***

- switch the appliance on and off
- set the fan speed
- set the range of temperature settings (default +/- 3 °C, modifiable on site up to +/- 9°C)
- modify the set point determined by the MaxiNet system by a value of +/- X°C.

The Maxinet system can set the operating mode, the set point and all other operating parameters of the unit, as well as display the settings made by the user. The Maxinet system always has priority over the ETN controller. For the correct use of the system, also see the manual for the cassette with remote control and the Maxinet supervision program.

# Unit with IR-ECM electronic board

## IR-ECM electronic board

The electronic board, fitted inside the electrical panel, can manage different control modes so as to best satisfy the requirements of the installation. These modes are selected by suitably positioning the configuration dipswitches, which define the following main functions:

- 2 pipe / 4-pipe system
- Operation without / with remote control
- Continuous ventilation
- Close valve and stop fan in cooling mode (autofan function)
- Close valve and stop fan in heating mode (autofan function)
- Close valve and stop fan in both cooling and heating mode (autofan function)

The autofan function allows the simultaneous on/off control of the water valve and the fan, while at the same time optimising the operation of the unit. When reaching the set point, the controller closes the water valve (valve off) and only 3 minutes later stops the fan, so as to correctly compensate for the valve closing time. To prevent the air probe from measuring an incorrect temperature, when the fan is off the controller runs a number of fan ON cycles to annul the effect of any stratification of the air in the room.

In 2-pipe systems, a water probe can be installed on the supply pipe to the unit upstream of the water valve. Based on the temperature read in this section of the pipe, the device will select either cooling or heating operation.

The electronic board also features a contact for connection to a window switch or remote enabling signal. When the contact is closed, the unit can operate, when the contact is open, the unit stops. The same contact can be used for starting and stopping the unit from an external timer or any other remote switching device.

In addition, a series of units can be switched on or off at the same time, by using a flip-flop switch connected to the terminals present on the board.

Sensors that require a 12 volt power supply, for example occupancy sensors, can be connected to other terminals on the electronic board and then to the on/off contacts. The board is able to power external sensors with a maximum current of 60mA.

***IR-ECM* ELECTRONIC BOARD**

# Unit with IR-ECM electronic board

A group of CC3 units with IR-ECM electronic board can be connected via a serial link and can consequently be managed at the same time by just one infra-red remote control or ETN-ECM wall mounted control. Using the special jumper present on the board, one unit must be configured as the master, and all the others as slaves. It is clear that the remote control must be pointed at the receiver on the master unit. To avoid problems, it is recommended to install and connect the receiver only on the master unit.

## With infra-red remote control

***One control for each unit***

***One control for more units (20 units max.)***

***(Maximum total length of the connection cable = 800 m)***

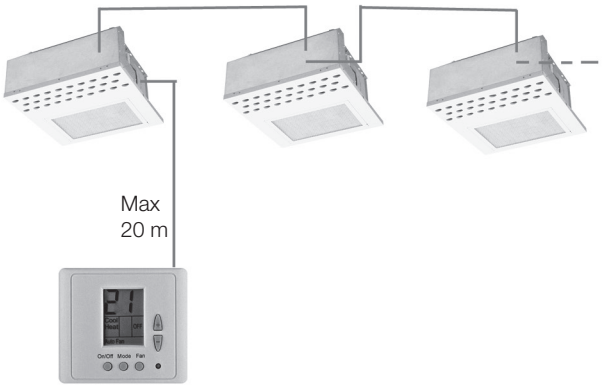
## With ETN-ECM wall mounted control

***One control for each unit***

***(Maximum length of the connection cable = 20 m)***


***One control for more units (20 units max.)***

***(Maximum total length of the connection cable = 800 m)***




## T2 Change-Over for infra-red remote control (accessory)

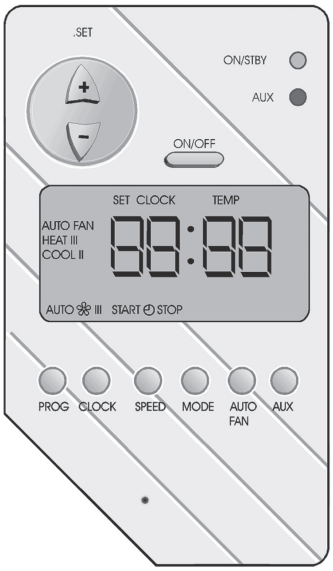
| ID | Code |
|---|---|
| T2 | 9079103 |

Suitable for units with infra-red remote control only.
The NTC sensor, if connected to the T2 contact of the board, works like a change-over: fitted in contact to the supplypipe it controls automatically the winter/summer switch in accordance to the water temperature.

# Unit with IRC electronic board

## Multifunction control

| ID | Code |
|---|---|
| PCR - DI | 9079102 |




A group of CC3 cassette units with infra-red remote control microprocessor can be connected via a serial link and can consequently be managed at the same time by just one infra-red remote control. Using the special jumper present on the board, one unit must be configured as the master, and all the others as slaves. It is clear that the remote control must be pointed at the receiver on the master unit. To avoid problems, it is recommended to install and connect the receiver only on the master unit.

Another option available for the serial communication between the units is the possibility to connect up to 60 CC3 cassette units in series (the maximum length of the connection cable must not exceed 800 m) and manage them with just one wall mounted intelligent PCR-DI controller. The wall mounted controller can be used to set the operating mode for each individual unit connected, display the operating conditions of each individual unit, and set the on/off time sets for each day of the week. If more than 60 units need to be connected, two or more wall mounted intelligent controllers must be used.
Each wall mounted controller only manages the units it is connected to.

The PCR-DI control is used to manage a series of cassettes, up to a maximum of 60 units, from one single control point. The PCR-DI control communicates via a serial line with all the units connected, with the possibility of controlling them all together or individually. In fact, the unique address of each individual cassette means that all the units can be called at the same time, or the individual unit called, to perform the following functions:

- display the current operating mode, the fan speed, the set point
- display the room temperature measured on the individual unit
- turn all the units on and off at the same time or alternatively each unit individually
- change the operating mode (fan only, heating, cooling, automatic changeover)
- change the set point

Each function can then be sent to all the units connected, or alternatively to each individual unit.
Different set points or operating modes can be set for each individual unit.

The PCR-DI panel can also be used for the time management of the units over the week.
Two on times and two off times can be set on the units for each day of the week.

The weekly programming mode can be stopped at any time, returning to the manual setting and then weekly programming mode can subsequently be started again.

# Maxinet management system for a network of fan coils

CC3
CC3-ECM

## Maxinet program for managing a network of IR hydronic terminals

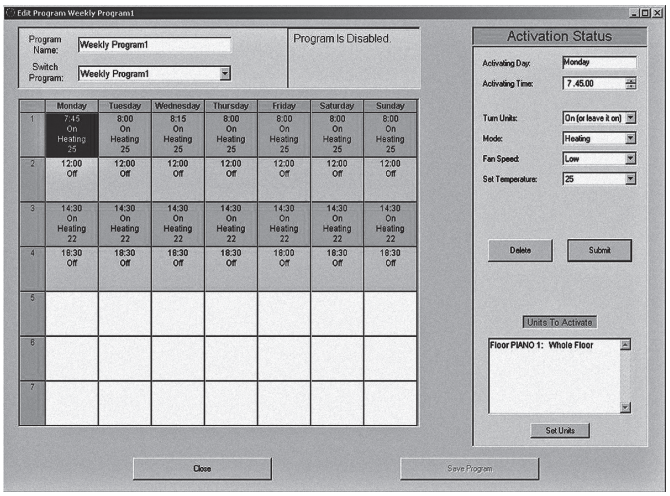
Maxinet is a centralised control system for networks of IR hydronic terminals, based on software that runs on Windows XP professional Service Pack 2.
The Maxinet software offers a practical and economical solution for managing the terminals, with the simple click of the mouse. The main characteristics include simplicity of use, an extremely complete and functional weekly program, and the possibility to access the historical operating data for each individual appliance connected.


The program exploits all the potential of our appliances with remote controls, representing an addition to the latter.

The Maxinet program is a control tool that can be used as a replacement for the remote control, or in parallel, however with the possibility of setting the priority, that is, the settings made using Maxinet can have priority over those made using the remote control.

The program can be used to:

- create uniform logical blocks (groups of units on individual floors, in offices or rooms).
- save weekly programs configured for different types of operation (summer, winter, mid seasons, closing periods etc.); these can then be recalled and activated with a simple click of the mouse.
  Weekly on/off cycles can be set for individual units or groups of units.
- set the operating conditions for each individual unit or groups of units (operating mode, fan speed, temperature setting).
- set the set point limits for each individual unit or groups of units.
- switch each individual unit or groups of units on or off.



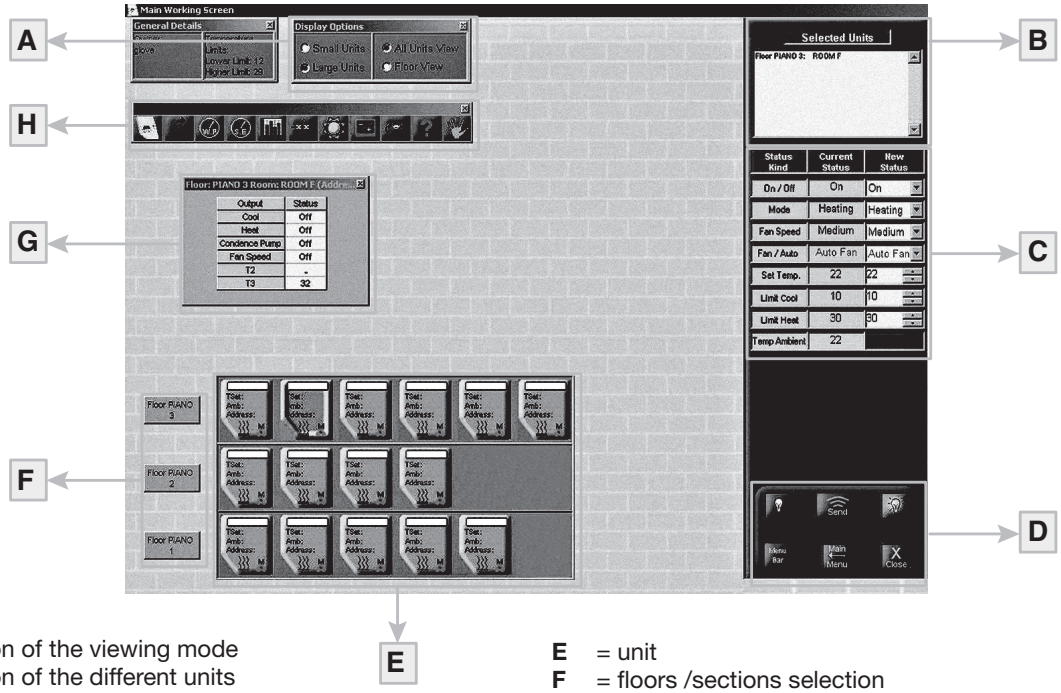

The “Weekly Program” can be used to set the unit operating parameters for each day of the week.
Up to 20 different weekly programs can be set.

Time bands are available for each day of the week. The time and the type of operation to be performed by the unit can be set for each band. The time and the operating parameters can then be displayed before being sent to the unit and implemented.

One especially useful function of the weekly program is to have the program to carry out timed checking routines to identify whether the operating mode or temperature setting have been modified on the terminals, for example using the local remote control. If activated, the routine will reset all the unit operating parameters to the values set in the weekly program.

# Maxinet management system for a network of fan coils

CC3
CC3-ECM




**Legend**

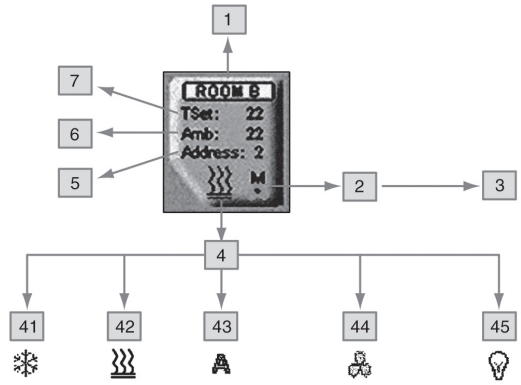
**A** = selection of the viewing mode
**B** = selection of the different units
**C** = control parameters
**D** = controls
**E** = unit
**F** = floors /sections selection
**G** = working mode of every unit
**H** = main menu

The main program screen can display and interact with the entire network of units. An individual unit, a group of units or the entire network can be called so as to make modifications to the operating mode and the set point. The user can then check the operating status of each individual unit, read the room temperature, the coil temperature and the operating status of the condensate drain pump or any alarms.

**Legend**

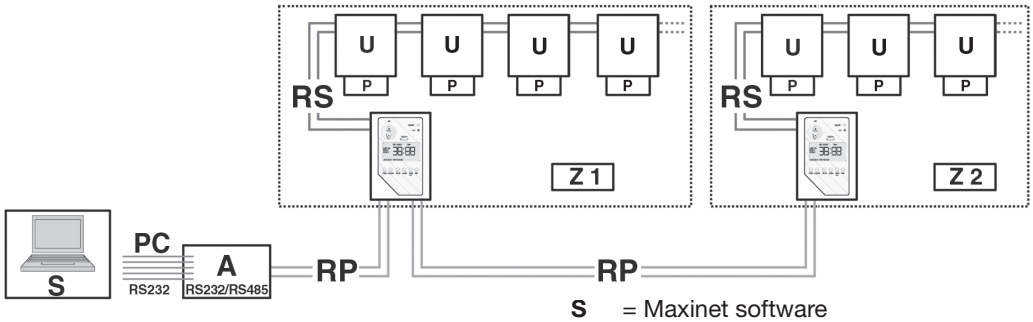
**1** = room (name/number)
**2** = fan
**3** = auto fan
**4** = mode
- **41** = cooling
- **42** = heating
- **43** = auto
- **44** = fan only
- **45** = off

**5** = address
**6** = temperature
**7** = set




## PC Maxinet Software

Connection of a CC3 cassette network of more than 60 units.

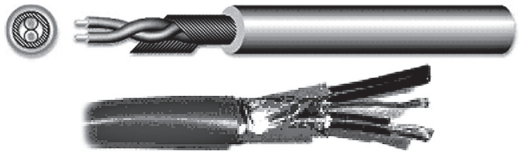



**Legend**

**U** = CC3 unit
**P** = panel
**Z1** = zone 1
**Z 2** = zone 2
**S** = Maxinet software
**A** = adaptor
**RP** = main network
**RS** = secondary network
**PC** = PC connector

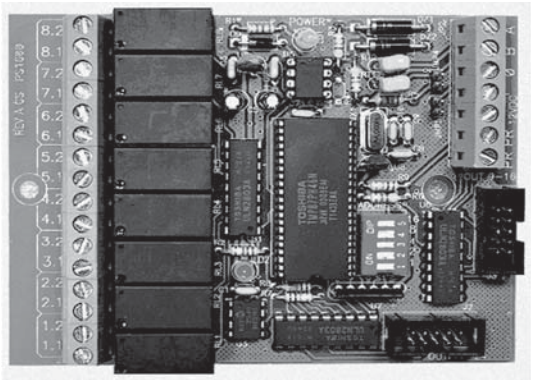
## RS 485 serial connection cable

Shielded cable to be used:
Belden 9841, RS-485, 1x2x24 AWG SFTP, 120 Ohm



# MaxiNet Accessories

| ID | Code |
|---|---|
| S08R | 9079105 |



In addition to the air-conditioning units, MaxiNet can also work with general output cards. Each card contains 8 outputs which can be connected to “On / Off” devices.
The contact of each relay may therefore be used by connecting it in series with the coil of the remote on/off switches of the motor of a pump, a chiller or a boiler, or with the coils of the remote switches controlling “lights”, air extractor fans, opening and closing of doors and electrically-driven devices such as gates or shutters.
The Out-Put card can be connected in a Maxinet network and controlled by the software. Up to 10 cards can used.