

Climate Control All Year    Heating - Cooling

# WCU Whispering Cassette Unit



- + ultra quiet, highly efficient
- + energy-saving
- + individual control
- + air circulation filter for hygiene



WCU Whispering Cassette Unit - innovative, economical and ideal for efficient heat pump system solutions. For heating and cooling, also perfect for retrofitting existing buildings.

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## WCU-MCT

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WATERKOTTE participates in the Eurovent program to certify the performance of fan convectors. The official figures are published in the Eurovent website ([www.eurovent-certification.com](http://www.eurovent-certification.com)).  
Performance testing:

- Total cooling capacity at the following operating conditions:
 

|                     |             |               |
|---------------------|-------------|---------------|
| - Water temperature | +7 °C inlet | +12 °C outlet |
| - Air temperature   | +27 °C DB   | +19 °C WB     |
- Sensible cooling capacity at the following operating conditions:
 

|                     |             |               |
|---------------------|-------------|---------------|
| - Water temperature | +7 °C inlet | +12 °C outlet |
| - Air temperature   | +27 °C DB   | +19 °C WB     |
- Heating capacity (2-pipe system) at the following operating conditions:
 

|                     |                                 |
|---------------------|---------------------------------|
| - Water temperature | +35 °C inlet                    |
| - Air temperature   | +20 °C inlet                    |
| - Water flow rate   | same as during summer operation |

Innovative, attractive design, seven different models, high control flexibility, easy maintenance: The new WCU cassette is the result of technical and design research aimed at achieving a state-of-the-art product in terms of performance, sound level and control flexibility.

The air intake and diffusion grille features an elegant and absolutely innovative appearance, while at the same time providing excellent air flow performance thanks to extensive computer studies and laboratory testing. The standard colour is white RAL 9003; other colours are available upon request.

The first four sizes are designed to fit 600x600 mm suspended ceiling modules, whereas the focus of the larger size models, measuring 800x800 mm, is on silent operation and excellent price-performance ratio.

Each model comes with a register (2-pipe system).

The condensate pump has a max. delivery head of 650 mm and is particularly quiet.

In addition to the conventional systems for temperature and speed control, the following are provided: Automatic change of fan speed, control of several units with a single control unit, installation of the control board of the single units at a remote position, thus allowing trouble-free maintenance. Each unit can also be controlled via remote control. The units can be managed with standard control systems used for automation and monitoring of buildings.

In addition, it is possible to use a completely wireless electronic control system with radio communication. This system offers great advantages in terms of installation flexibility, as well as maximum precision for measuring ambient temperature.



### AIR INTAKE AND DIFFUSION GRILLE

Intake grille, frame and adjustable fins on each side, made of ABS plastic.

*Version HTA* : made of ABS in white colour RAL 9003

*Version HTB* : with intake grille, frame and fins in custom colour

*Version HTC* : with intake grille and fins in custom colour, plus white ABS frame, colour RAL 9003

*Version HTD* : with fins in custom colour, whereas intake grille and frame made of ABS are in white colour RAL 9003

*Version MAD625*: Metal diffuser in colour RAL 9003, dimension 625 x 625 for precision installation in ceiling grid (not available in 800 x 800 version).

### INTERIOR SUPPORT STRUCTURE

Made of galvanised sheet steel with interior thermal insulation (10 mm thick polyethylene foam mat) and condensation barrier on the external panel.

### CONTROL UNIT

It consists of an external housing, containing the electronic control board with easily accessible connection terminals.

### FAN ASSEMBLY

The fan-motor-assembly - suspended from a vibration damper - is very quiet.

The radial fan with single intake has been specifically designed to optimise performance thanks to the use of special-shaped blades which reduce turbulence, increase efficiency and absorb noise

The fans are coupled to a single-stage electric motor whose windings have been especially developed to optimise performance and conserve energy.

The motor is a single phase motor with a voltage of 230 V/50 Hz, class B insulation and integrated Klaxon. The fan speed is changed by means of an autotransformer with 6 different output voltages. By default, the units use 3 preset speeds (see tables on the following pages) that can be changed during system adjustment.

### HEAT EXCHANGER REGISTER

Consisting of copper tubes that are mechanically expanded into the aluminium fins and shaped accordingly. The heat exchanger is not suitable for installation in environments with corrosive atmosphere, which may cause corrosion of aluminium.

### CONDENSATE PAN

Made of high density ABS polystyrene foam with preformed air passages for optimised air flow. Fire resistance class B2 according to DIN 4102.

### FILTER

Regenerable and washable synthetic filter, easily accessible.

### CONDENSATE PUMP

Centrifugal pump with 650 mm delivery head, directly controlled by the electronic board. It is connected to a float switch to control the condensation level and the alarm.

## Technical data

## Operating limits

|                                  |                                       |                                         |
|----------------------------------|---------------------------------------|-----------------------------------------|
| <b>Operation range<br/>Water</b> | operating pressure max. : 8 bar       | Min. temperature water entrance: +5 °C  |
|                                  |                                       | Max. temperature water entrance: +80 °C |
| <b>Air</b>                       | relative humidity: 15 - 75 %          | Min. temperature air entrance: 6 °C     |
|                                  |                                       | Max. temperature air entrance: 40 °C    |
| <b>Voltage</b>                   | 230 V; 50 Hz                          |                                         |
| <b>Installation heigh</b>        | Max. heigh: refer to tabel on page 12 |                                         |

## Operating data for cooling

Speed level: **Min. standard**

Air inlet temperature DB °C: 27.0

Water inlet temperature °C: 7.0

Relative humidity: 50 %

| Cooling | Speed | Water | Water | Water | Air  | Total | Sensib | Lw    | Mot. |
|---------|-------|-------|-------|-------|------|-------|--------|-------|------|
|         |       | Rt °C | l/s   | kPa   | m³/h | W     | W      | dB(A) | Watt |
| WCU 02  | Min.  | 12    | 0.06  | 4.7   | 310  | 1314  | 959    | 33    | 25   |
| WCU 12  | Min.  | 12    | 0.09  | 4.2   | 310  | 1929  | 1316   | 33    | 25   |
| WCU 22  | Min.  | 12    | 0.11  | 4.1   | 320  | 2351  | 1546   | 33    | 25   |
| WCU 32  | Min.  | 12    | 0.15  | 6.7   | 430  | 3073  | 2049   | 41    | 32   |
| WCU 42  | Min.  | 12    | 0.21  | 6.7   | 630  | 4408  | 2971   | 33    | 34   |
| WCU 52  | Min.  | 12    | 0.26  | 10.2  | 710  | 5541  | 3638   | 34    | 42   |
| WCU 62  | Min.  | 12    | 0.26  | 10.2  | 710  | 5541  | 3638   | 34    | 42   |

Speed level: **Avg. standard**

Air inlet temperature DB °C: 27.0

Water inlet temperature °C: 7.0

Relative humidity: 50 %

| Cooling | Speed | Water | Water | Water | Air  | Total | Sensib | Lw    | Mot. |
|---------|-------|-------|-------|-------|------|-------|--------|-------|------|
|         |       | Rt °C | l/s   | kPa   | m³/h | W     | W      | dB(A) | Watt |
| WCU 02  | Med.  | 12    | 0.08  | 7.8   | 420  | 1736  | 1293   | 40    | 32   |
| WCU 12  | Med.  | 12    | 0.12  | 6.5   | 420  | 2453  | 1704   | 40    | 32   |
| WCU 22  | Med.  | 12    | 0.17  | 8.4   | 500  | 3496  | 2349   | 45    | 44   |
| WCU 32  | Med.  | 12    | 0.19  | 11    | 610  | 4060  | 2758   | 49    | 57   |
| WCU 42  | Med.  | 12    | 0.25  | 15.6  | 820  | 5141  | 3501   | 40    | 50   |
| WCU 52  | Med.  | 12    | 0.34  | 15.9  | 970  | 7085  | 4717   | 40    | 63   |
| WCU 62  | Med.  | 12    | 0.42  | 23.6  | 1280 | 8840  | 5974   | 48    | 95   |

Speed level: **Max. standard**

Air inlet temperature DB °C: 27.0

Water inlet temperature °C: 7.0

Relative humidity: 50 %

| Cooling | Speed | Water | Water | Water | Air  | Total | Sensib | Lw    | Mot. |
|---------|-------|-------|-------|-------|------|-------|--------|-------|------|
|         |       | Rt °C | l/s   | kPa   | m³/h | W     | W      | dB(A) | Watt |
| WCU 02  | Max.  | 12    | 0.1   | 11.7  | 610  | 2168  | 1647   | 49    | 57   |
| WCU 12  | Max.  | 12    | 0.13  | 8.4   | 520  | 2814  | 1979   | 45    | 44   |
| WCU 22  | Max.  | 12    | 0.22  | 13.4  | 710  | 4533  | 3106   | 53    | 68   |
| WCU 32  | Max.  | 12    | 0.25  | 17.5  | 880  | 5258  | 3651   | 59    | 90   |
| WCU 42  | Max.  | 12    | 0.31  | 23.5  | 1140 | 6453  | 4470   | 48    | 77   |
| WCU 52  | Max.  | 12    | 0.47  | 29.2  | 1500 | 9947  | 6788   | 53    | 120  |
| WCU 62  | Max.  | 12    | 0.55  | 38.6  | 1820 | 11620 | 8050   | 58    | 170  |

## Operating data for cooling

Speed level: **Min. standard**

Air inlet temperature DB °C: 25.0

Water inlet temperature °C: 7.0

Relative humidity: 50 %

| Cooling | Speed | Water | Water | Water | Air  | Total | Sensib | Lw    | Mot. |
|---------|-------|-------|-------|-------|------|-------|--------|-------|------|
|         |       | Rt °C | l/s   | kPa   | m³/h | W     | W      | dB(A) | Watt |
| WCU 02  | Min.  | 12    | 0.05  | 3     | 310  | 1013  | 843    | 33    | 25   |
| WCU 12  | Min.  | 12    | 0.07  | 2.8   | 310  | 1534  | 1163   | 33    | 25   |
| WCU 22  | Min.  | 12    | 0.09  | 2.8   | 320  | 1899  | 1371   | 33    | 25   |
| WCU 32  | Min.  | 12    | 0.12  | 4.5   | 430  | 2469  | 1815   | 41    | 32   |
| WCU 42  | Min.  | 12    | 0.17  | 7.9   | 630  | 3531  | 2631   | 33    | 34   |
| WCU 52  | Min.  | 12    | 0.21  | 7     | 710  | 4482  | 3229   | 34    | 42   |
| WCU 62  | Min.  | 12    | 0.21  | 7     | 710  | 4482  | 3229   | 34    | 42   |

Speed level: **Avg. standard**

Air inlet temperature DB °C: 25.0

Water inlet temperature °C: 7.0

Relative humidity: 50 %

| Cooling | Speed | Water | Water | Water | Air  | Total | Sensib | Lw    | Mot. |
|---------|-------|-------|-------|-------|------|-------|--------|-------|------|
|         |       | Rt °C | l/s   | kPa   | m³/h | W     | W      | dB(A) | Watt |
| WCU 02  | Med.  | 12    | 0.06  | 4.9   | 420  | 1332  | 1138   | 40    | 32   |
| WCU 12  | Med.  | 12    | 0.09  | 4.3   | 420  | 1941  | 1507   | 40    | 32   |
| WCU 22  | Med.  | 12    | 0.13  | 5.6   | 500  | 2801  | 2081   | 45    | 44   |
| WCU 32  | Med.  | 12    | 0.15  | 7.3   | 610  | 3243  | 2443   | 49    | 57   |
| WCU 42  | Med.  | 12    | 0.2   | 10.4  | 820  | 4107  | 3101   | 40    | 50   |
| WCU 52  | Med.  | 12    | 0.27  | 10.7  | 970  | 5700  | 4179   | 40    | 63   |
| WCU 62  | Med.  | 12    | 0.34  | 15.8  | 1280 | 7078  | 5294   | 48    | 95   |

Speed level: **Max. standard**

Air inlet temperature DB °C: 25.0

Water inlet temperature °C: 7.0

Relative humidity: 50 %

| Cooling | Speed | Water | Water | Water | Air  | Total | Sensib | Lw    | Mot. |
|---------|-------|-------|-------|-------|------|-------|--------|-------|------|
|         |       | Rt °C | l/s   | kPa   | m³/h | W     | W      | dB(A) | Watt |
| WCU 02  | Max.  | 12    | 0.08  | 7.2   | 610  | 1656  | 1451   | 49    | 57   |
| WCU 12  | Max.  | 12    | 0.11  | 5.5   | 520  | 2220  | 1751   | 45    | 44   |
| WCU 22  | Max.  | 12    | 0.17  | 8.9   | 710  | 3612  | 2752   | 53    | 68   |
| WCU 32  | Max.  | 12    | 0.2   | 11.6  | 880  | 4177  | 3237   | 59    | 90   |
| WCU 42  | Max.  | 12    | 0.24  | 15.5  | 1140 | 5132  | 3965   | 48    | 77   |
| WCU 52  | Max.  | 12    | 0.38  | 19.5  | 1500 | 7944  | 6017   | 53    | 120  |
| WCU 62  | Max.  | 12    | 0.44  | 25.6  | 1820 | 9248  | 7142   | 58    | 170  |

## Operating data for cooling

Speed level: **Min. standard**

Air inlet temperature DB °C: 27.0

Water inlet temperature °C: 15.0

Relative humidity: 50 %

| Cooling | Speed | Water<br>Rt °C | Water<br>l/s | Water<br>kPa | Air<br>m³/h | Total<br>W | Sensib<br>W | Lw<br>dB(A) | Mot.<br>Watt |
|---------|-------|----------------|--------------|--------------|-------------|------------|-------------|-------------|--------------|
| WCU 02  | Min.  | 18             | 0.05         | 2.7          | 310         | 595        | 595         | 33          | 25           |
| WCU 12  | Min.  | 18             | 0.07         | 2.3          | 310         | 833        | 833         | 33          | 25           |
| WCU 22  | Min.  | 18             | 0.08         | 2            | 320         | 969        | 969         | 33          | 25           |
| WCU 32  | Min.  | 18             | 0.1          | 3.4          | 430         | 1296       | 1296        | 41          | 32           |
| WCU 42  | Min.  | 18             | 0.15         | 6.1          | 630         | 1875       | 1875        | 33          | 34           |
| WCU 52  | Min.  | 18             | 0.18         | 5            | 710         | 2289       | 949         | 34          | 42           |
| WCU 62  | Min.  | 18             | 0.18         | 5            | 710         | 2289       | 2289        | 34          | 42           |

Speed level: **Avg. standard**

Air inlet temperature DB °C: 27.0

Water inlet temperature °C: 15.0

Relative humidity: 50 %

| Cooling | Speed | Water<br>Rt °C | Water<br>l/s | Water<br>kPa | Air<br>m³/h | Total<br>W | Sensib<br>W | Lw<br>dB(A) | Mot.<br>Watt |
|---------|-------|----------------|--------------|--------------|-------------|------------|-------------|-------------|--------------|
| WCU 02  | Med.  | 18             | 0.06         | 4.8          | 420         | 808        | 808         | 40          | 32           |
| WCU 12  | Med.  | 18             | 0.09         | 3.6          | 420         | 1088       | 1088        | 40          | 32           |
| WCU 22  | Med.  | 18             | 0.12         | 4.3          | 500         | 1481       | 1481        | 45          | 44           |
| WCU 32  | Med.  | 18             | 0.14         | 5.8          | 610         | 1743       | 1743        | 49          | 57           |
| WCU 42  | Med.  | 18             | 0.18         | 8.3          | 820         | 2223       | 2223        | 40          | 50           |
| WCU 52  | Med.  | 18             | 0.24         | 8            | 970         | 2972       | 2972        | 40          | 63           |
| WCU 62  | Med.  | 18             | 0.3          | 12.4         | 1280        | 3785       | 3785        | 48          | 95           |

Speed level: **Max. standard**

Air inlet temperature DB °C: 27.0

Water inlet temperature °C: 15.0

Relative humidity: 50 %

| Cooling | Speed | Water<br>Rt °C | Water<br>l/s | Water<br>kPa | Air<br>m³/h | Total<br>W | Sensib<br>W | Lw<br>dB(A) | Mot.<br>Watt |
|---------|-------|----------------|--------------|--------------|-------------|------------|-------------|-------------|--------------|
| WCU 02  | Max.  | 18             | 0.08         | 7.4          | 610         | 1037       | 1037        | 49          | 57           |
| WCU 12  | Max.  | 18             | 0.1          | 4.7          | 520         | 1254       | 1254        | 45          | 44           |
| WCU 22  | Max.  | 18             | 0.16         | 7.2          | 710         | 1967       | 1967        | 53          | 68           |
| WCU 32  | Max.  | 18             | 0.18         | 9.7          | 880         | 2320       | 2320        | 59          | 90           |
| WCU 42  | Max.  | 18             | 0.22         | 12.8         | 1140        | 2825       | 2825        | 48          | 77           |
| WCU 52  | Max.  | 18             | 0.34         | 15.6         | 1500        | 4312       | 4312        | 53          | 120          |
| WCU 62  | Max.  | 18             | 0.41         | 21.4         | 1820        | 5133       | 5133        | 58          | 170          |

## Operating data for cooling

Speed level: **Min. standard**

Air inlet temperature DB °C: 25.0

Water inlet temperature °C: 15.0

Relative humidity: 50 %

| Cooling | Speed | Water<br>Rt °C | Water<br>l/s | Water<br>kPa | Air<br>m³/h | Total<br>W | Sensib<br>W | Lw<br>dB(A) | Mot.<br>Watt |
|---------|-------|----------------|--------------|--------------|-------------|------------|-------------|-------------|--------------|
| WCU 02  | Min.  | 18             | 0.04         | 1.8          | 310         | 472        | 472         | 33          | 25           |
| WCU 12  | Min.  | 18             | 0.05         | 1.5          | 310         | 675        | 675         | 33          | 25           |
| WCU 22  | Min.  | 18             | 0.06         | 1.4          | 320         | 794        | 794         | 33          | 25           |
| WCU 32  | Min.  | 18             | 0.08         | 2.4          | 430         | 1058       | 1058        | 41          | 32           |
| WCU 42  | Min.  | 18             | 0.12         | 4.2          | 630         | 1526       | 1526        | 33          | 34           |
| WCU 52  | Min.  | 18             | 0.15         | 3.5          | 710         | 1878       | 949         | 34          | 42           |
| WCU 62  | Min.  | 18             | 0.15         | 3.5          | 710         | 1878       | 1878        | 34          | 42           |

Speed level: **Avg. standard**

Air inlet temperature DB °C: 25.0

Water inlet temperature °C: 15.0

Relative humidity: 50 %

| Cooling | Speed | Water<br>Rt °C | Water<br>l/s | Water<br>kPa | Air<br>m³/h | Total<br>W | Sensib<br>W | Lw<br>dB(A) | Mot.<br>Watt |
|---------|-------|----------------|--------------|--------------|-------------|------------|-------------|-------------|--------------|
| WCU 02  | Med.  | 18             | 0.05         | 3.1          | 420         | 639        | 808         | 40          | 32           |
| WCU 12  | Med.  | 18             | 0.07         | 2.5          | 420         | 879        | 879         | 40          | 32           |
| WCU 22  | Med.  | 18             | 0.1          | 3            | 500         | 1206       | 1206        | 45          | 44           |
| WCU 32  | Med.  | 18             | 0.11         | 4            | 610         | 1417       | 1417        | 49          | 57           |
| WCU 42  | Med.  | 18             | 0.14         | 5.7          | 820         | 1805       | 1805        | 40          | 50           |
| WCU 52  | Med.  | 18             | 0.19         | 5.6          | 970         | 2429       | 2429        | 40          | 63           |
| WCU 62  | Med.  | 18             | 0.25         | 8.6          | 1280        | 3083       | 3083        | 48          | 95           |

Speed level: **Max. standard**

Air inlet temperature DB °C: 25.0

Water inlet temperature °C: 15.0

Relative humidity: 50 %

| Cooling | Speed | Water<br>Rt °C | Water<br>l/s | Water<br>kPa | Air<br>m³/h | Total<br>W | Sensib<br>W | Lw<br>dB(A) | Mot.<br>Watt |
|---------|-------|----------------|--------------|--------------|-------------|------------|-------------|-------------|--------------|
| WCU 02  | Max.  | 18             | 0.07         | 4.9          | 610         | 819        | 819         | 49          | 57           |
| WCU 12  | Max.  | 18             | 0.08         | 3.2          | 520         | 1011       | 1011        | 45          | 44           |
| WCU 22  | Max.  | 18             | 0.13         | 4.9          | 710         | 1596       | 1596        | 53          | 68           |
| WCU 32  | Max.  | 18             | 0.15         | 6.6          | 880         | 1878       | 1878        | 59          | 90           |
| WCU 42  | Max.  | 18             | 0.18         | 8.8          | 1140        | 2287       | 2287        | 48          | 77           |
| WCU 52  | Max.  | 18             | 0.28         | 10.8         | 1500        | 3506       | 3506        | 53          | 120          |
| WCU 62  | Max.  | 18             | 0.33         | 14.7         | 1820        | 4164       | 4164        | 58          | 170          |

## Operating data for heating

Speed level: **Min. standard**

Air inlet temperature DB °C: 20.0

Water inlet temperature °C: 35.0

| Heating | Speed | Water<br>Rt °C | Water<br>l/s | Water<br>kPa | Air<br>m³/h | Total<br>W | Lw<br>dB(A) | Mot.<br>Watt |
|---------|-------|----------------|--------------|--------------|-------------|------------|-------------|--------------|
| WCU 02  | Min.  | 30             | 0.03         | 1.3          | 310         | 682        | 33          | 25           |
| WCU 12  | Min.  | 30             | 0.05         | 1.1          | 310         | 1021       | 33          | 25           |
| WCU 22  | Min.  | 30             | 0.06         | 1            | 320         | 1203       | 33          | 25           |
| WCU 32  | Min.  | 30             | 0.08         | 1.7          | 430         | 1603       | 41          | 32           |
| WCU 42  | Min.  | 30             | 0.11         | 2.6          | 630         | 2386       | 33          | 34           |
| WCU 52  | Min.  | 30             | 0.14         | 2.9          | 710         | 2909       | 34          | 42           |
| WCU 62  | Min.  | 30             | 0.14         | 2.9          | 710         | 2909       | 34          | 42           |

Speed level: **Avg. standard**

Air inlet temperature DB °C: 20.0

Water inlet temperature °C: 35.0

| Heating | Speed | Water<br>Rt °C | Water<br>l/s | Water<br>kPa | Air<br>m³/h | Total<br>W | Lw<br>dB(A) | Mot.<br>Watt |
|---------|-------|----------------|--------------|--------------|-------------|------------|-------------|--------------|
| WCU 02  | Med.  | 30             | 0.04         | 2.2          | 420         | 921        | 40          | 32           |
| WCU 12  | Med.  | 30             | 0.06         | 1.8          | 420         | 1328       | 40          | 32           |
| WCU 22  | Med.  | 30             | 0.09         | 2.2          | 500         | 1825       | 45          | 44           |
| WCU 32  | Med.  | 30             | 0.1          | 2.9          | 610         | 2143       | 49          | 57           |
| WCU 42  | Med.  | 30             | 0.13         | 3.4          | 820         | 2796       | 40          | 50           |
| WCU 52  | Med.  | 30             | 0.18         | 4.6          | 970         | 3771       | 40          | 63           |
| WCU 62  | Med.  | 30             | 0.23         | 7            | 1280        | 4799       | 48          | 95           |

Speed level: **Max. standard**

Air inlet temperature DB °C: 20.0

Water inlet temperature °C: 35.0

| Heating | Speed | Water<br>Rt °C | Water<br>l/s | Water<br>kPa | Air<br>m³/h | Total<br>W | Lw<br>dB(A) | Mot.<br>Watt |
|---------|-------|----------------|--------------|--------------|-------------|------------|-------------|--------------|
| WCU 02  | Max.  | 30             | 0.06         | 3.5          | 610         | 1177       | 49          | 57           |
| WCU 12  | Max.  | 30             | 0.07         | 2.3          | 520         | 1526       | 45          | 44           |
| WCU 22  | Max.  | 30             | 12           | 3.6          | 710         | 2414       | 53          | 68           |
| WCU 32  | Max.  | 30             | 0.14         | 4.8          | 880         | 2838       | 59          | 90           |
| WCU 42  | Max.  | 30             | 0.17         | 5.3          | 1140        | 3586       | 48          | 77           |
| WCU 52  | Max.  | 30             | 0.26         | 8.9          | 1500        | 5466       | 53          | 120          |
| WCU 62  | Max.  | 30             | 0.31         | 12.2         | 1820        | 6506       | 58          | 170          |

## Operating data for heating

Speed level: **Min. standard**

Air inlet temperature DB °C: 22.0

Water inlet temperature °C: 35.0

| Heating | Speed | Water | Water | Water | Air  | Total | Lw    | Mot. |
|---------|-------|-------|-------|-------|------|-------|-------|------|
|         |       | Rt °C | l/s   | kPa   | m³/h | W     | dB(A) | Watt |
| WCU 02  | Min.  | 30    | 0.03  | 0.9   | 310  | 557   | 33    | 25   |
| WCU 12  | Min.  | 30    | 0.04  | 0.8   | 310  | 851   | 33    | 25   |
| WCU 22  | Min.  | 30    | 0.05  | 0.8   | 320  | 1012  | 33    | 25   |
| WCU 32  | Min.  | 30    | 0.06  | 1.3   | 430  | 1344  | 41    | 32   |
| WCU 42  | Min.  | 30    | 0.1   | 1.9   | 630  | 1998  | 33    | 34   |
| WCU 52  | Min.  | 30    | 0.12  | 2.1   | 710  | 2453  | 34    | 42   |
| WCU 62  | Min.  | 30    | 0.12  | 2.1   | 710  | 2453  | 34    | 42   |

Speed level: **Avg. standard**

Air inlet temperature DB °C: 22.0

Water inlet temperature °C: 35.0

| Heating | Speed | Water | Water | Water | Air  | Total | Lw    | Mot. |
|---------|-------|-------|-------|-------|------|-------|-------|------|
|         |       | Rt °C | l/s   | kPa   | m³/h | W     | dB(A) | Watt |
| WCU 02  | Med.  | 30    | 0.04  | 1.5   | 420  | 751   | 40    | 32   |
| WCU 12  | Med.  | 30    | 0.05  | 1.3   | 420  | 1104  | 40    | 32   |
| WCU 22  | Med.  | 30    | 0.07  | 1.6   | 500  | 1528  | 45    | 44   |
| WCU 32  | Med.  | 30    | 0.09  | 2.1   | 610  | 1791  | 49    | 57   |
| WCU 42  | Med.  | 30    | 0.11  | 2.5   | 820  | 2338  | 40    | 50   |
| WCU 52  | Med.  | 30    | 0.15  | 3.3   | 970  | 3170  | 40    | 63   |
| WCU 62  | Med.  | 30    | 0.19  | 5.1   | 1280 | 4023  | 48    | 95   |

Speed level: **Max. standard**

Air inlet temperature DB °C: 22.0

Water inlet temperature °C: 35.0

| Heating | Speed | Water | Water | Water | Air  | Total | Lw    | Mot. |
|---------|-------|-------|-------|-------|------|-------|-------|------|
|         |       | Rt °C | l/s   | kPa   | m³/h | W     | dB(A) | Watt |
| WCU 02  | Max.  | 30    | 0.05  | 2.4   | 610  | 958   | 49    | 57   |
| WCU 12  | Max.  | 30    | 0.06  | 1.6   | 520  | 1267  | 45    | 44   |
| WCU 22  | Max.  | 30    | 0.1   | 2.6   | 710  | 2015  | 53    | 68   |
| WCU 32  | Max.  | 30    | 0.11  | 3.5   | 880  | 2365  | 59    | 90   |
| WCU 42  | Max.  | 30    | 0.14  | 3.8   | 1140 | 2990  | 48    | 77   |
| WCU 52  | Max.  | 30    | 0.22  | 6.4   | 1500 | 4575  | 53    | 120  |
| WCU 62  | Max.  | 30    | 0.26  | 8.8   | 1820 | 5435  | 58    | 170  |

## Operating data for heating

Speed level: **Min. standard**

Air inlet temperature DB °C: 20.0

Water inlet temperature °C: 40.0

| Heating | Speed | Water | Water | Water | Air  | Total | Lw    | Mot. |
|---------|-------|-------|-------|-------|------|-------|-------|------|
|         |       | Rt °C | l/s   | kPa   | m³/h | W     | dB(A) | Watt |
| WCU 02  | Min.  | 35    | 0.05  | 2.5   | 310  | 995   | 33    | 25   |
| WCU 12  | Min.  | 35    | 0.07  | 2     | 310  | 1437  | 33    | 25   |
| WCU 22  | Min.  | 35    | 0.08  | 1.8   | 320  | 1665  | 33    | 25   |
| WCU 32  | Min.  | 35    | 0.11  | 3.1   | 430  | 2229  | 41    | 32   |
| WCU 42  | Min.  | 35    | 0.16  | 4.6   | 630  | 3329  | 33    | 34   |
| WCU 52  | Min.  | 35    | 0.19  | 5     | 710  | 4005  | 34    | 42   |
| WCU 62  | Min.  | 35    | 0.19  | 5     | 710  | 4005  | 34    | 42   |

Speed level: **Avg. standard**

Air inlet temperature DB °C: 20.0

Water inlet temperature °C: 40.0

| Heating | Speed | Water | Water | Water | Air  | Total | Lw    | Mot. |
|---------|-------|-------|-------|-------|------|-------|-------|------|
|         |       | Rt °C | l/s   | kPa   | m³/h | W     | dB(A) | Watt |
| WCU 02  | Med.  | 35    | 0.06  | 4.3   | 420  | 1347  | 40    | 32   |
| WCU 12  | Med.  | 35    | 0.09  | 3.3   | 420  | 1878  | 40    | 32   |
| WCU 22  | Med.  | 35    | 0.12  | 3.9   | 500  | 2548  | 45    | 44   |
| WCU 32  | Med.  | 35    | 0.14  | 5.2   | 610  | 3001  | 49    | 57   |
| WCU 42  | Med.  | 35    | 0.19  | 6.1   | 820  | 3916  | 40    | 50   |
| WCU 52  | Med.  | 35    | 0.25  | 8     | 970  | 5223  | 40    | 63   |
| WCU 62  | Med.  | 35    | 0.32  | 12.5  | 1280 | 6682  | 48    | 95   |

Speed level: **Max. standard**

Air inlet temperature DB °C: 20.0

Water inlet temperature °C: 40.0

| Heating | Speed | Water | Water | Water | Air  | Total | Lw    | Mot. |
|---------|-------|-------|-------|-------|------|-------|-------|------|
|         |       | Rt °C | l/s   | kPa   | m³/h | W     | dB(A) | Watt |
| WCU 02  | Max.  | 35    | 0.08  | 6.8   | 610  | 1725  | 49    | 57   |
| WCU 12  | Max.  | 35    | 0.1   | 4.2   | 520  | 2166  | 45    | 44   |
| WCU 22  | Max.  | 35    | 0.16  | 6.5   | 710  | 3388  | 53    | 68   |
| WCU 32  | Max.  | 35    | 0.19  | 8.8   | 880  | 3997  | 59    | 90   |
| WCU 42  | Max.  | 35    | 0.24  | 9.7   | 1140 | 5046  | 48    | 77   |
| WCU 52  | Max.  | 35    | 0.36  | 15.9  | 1500 | 7633  | 53    | 120  |
| WCU 62  | Max.  | 35    | 0.43  | 21.9  | 1820 | 9120  | 58    | 170  |

## Operating data for heating

Speed level: **Min. standard**

Air inlet temperature DB °C: 22.0

Water inlet temperature °C: 40.0

| Heating | Speed | Water | Water | Water | Air  | Total | Lw    | Mot. |
|---------|-------|-------|-------|-------|------|-------|-------|------|
|         |       | Rt °C | l/s   | kPa   | m³/h | W     | dB(A) | Watt |
| WCU 02  | Min.  | 35    | 0.04  | 2     | 310  | 868   | 33    | 25   |
| WCU 12  | Min.  | 35    | 0.06  | 1.6   | 310  | 1267  | 33    | 25   |
| WCU 22  | Min.  | 35    | 0.07  | 1.5   | 320  | 1474  | 33    | 25   |
| WCU 32  | Min.  | 35    | 0.09  | 2.5   | 430  | 1972  | 41    | 32   |
| WCU 42  | Min.  | 35    | 0.14  | 3.7   | 630  | 2942  | 33    | 34   |
| WCU 52  | Min.  | 35    | 0.17  | 4     | 710  | 3551  | 34    | 42   |
| WCU 62  | Min.  | 35    | 0.17  | 4     | 710  | 3551  | 34    | 42   |

Speed level: **Avg. standard**

Air inlet temperature DB °C: 22.0

Water inlet temperature °C: 40.0

| Heating | Speed | Water | Water | Water | Air  | Total | Lw    | Mot. |
|---------|-------|-------|-------|-------|------|-------|-------|------|
|         |       | Rt °C | l/s   | kPa   | m³/h | W     | dB(A) | Watt |
| WCU 02  | Med.  | 35    | 0.06  | 3.4   | 420  | 1175  | 40    | 32   |
| WCU 12  | Med.  | 35    | 0.08  | 2.6   | 420  | 1654  | 40    | 32   |
| WCU 22  | Med.  | 35    | 0.11  | 3.1   | 500  | 2251  | 45    | 44   |
| WCU 32  | Med.  | 35    | 0.13  | 4.2   | 610  | 2650  | 49    | 57   |
| WCU 42  | Med.  | 35    | 0.16  | 4.9   | 820  | 3458  | 40    | 50   |
| WCU 52  | Med.  | 35    | 0.22  | 6.5   | 970  | 4625  | 40    | 63   |
| WCU 62  | Med.  | 35    | 0.28  | 10    | 1280 | 5908  | 48    | 95   |

Speed level: **Max. standard**

Air inlet temperature DB °C: 22.0

Water inlet temperature °C: 40.0

| Heating | Speed | Water | Water | Water | Air  | Total | Lw    | Mot. |
|---------|-------|-------|-------|-------|------|-------|-------|------|
|         |       | Rt °C | l/s   | kPa   | m³/h | W     | dB(A) | Watt |
| WCU 02  | Max.  | 35    | 0.07  | 5.3   | 610  | 1504  | 49    | 57   |
| WCU 12  | Max.  | 35    | 0.09  | 3.4   | 520  | 1906  | 45    | 44   |
| WCU 22  | Max.  | 35    | 0.14  | 5.2   | 710  | 2990  | 53    | 68   |
| WCU 32  | Max.  | 35    | 0.17  | 7     | 880  | 3524  | 59    | 90   |
| WCU 42  | Max.  | 35    | 0.21  | 7.7   | 1140 | 4450  | 48    | 77   |
| WCU 52  | Max.  | 35    | 0.32  | 12.7  | 1500 | 6744  | 53    | 120  |
| WCU 62  | Max.  | 35    | 0.38  | 17.5  | 1820 | 8051  | 58    | 170  |

## Operating data for heating

Speed level: **Min. standard**

Air inlet temperature DB °C: 20.0

Water inlet temperature °C: 45.0

| Heating | Speed | Water | Water | Water | Air  | Total | Lw    | Mot. |
|---------|-------|-------|-------|-------|------|-------|-------|------|
|         |       | Rt °C | l/s   | kPa   | m³/h | W     | dB(A) | Watt |
| WCU 02  | Min.  | 40    | 0.06  | 4     | 310  | 1307  | 33    | 25   |
| WCU 12  | Min.  | 40    | 0.09  | 3.1   | 310  | 1850  | 33    | 25   |
| WCU 22  | Min.  | 40    | 0.1   | 2.8   | 320  | 2122  | 33    | 25   |
| WCU 32  | Min.  | 40    | 0.14  | 4.7   | 430  | 2850  | 41    | 32   |
| WCU 42  | Min.  | 40    | 0.2   | 7     | 630  | 4265  | 33    | 34   |
| WCU 52  | Min.  | 40    | 0.24  | 7.5   | 710  | 5088  | 34    | 42   |
| WCU 62  | Min.  | 40    | 0.24  | 7.5   | 710  | 5088  | 34    | 42   |

Speed level: **Avg. standard**

Air inlet temperature DB °C: 20.0

Water inlet temperature °C: 45.0

| Heating | Speed | Water | Water | Water | Air  | Total | Lw    | Mot. |
|---------|-------|-------|-------|-------|------|-------|-------|------|
|         |       | Rt °C | l/s   | kPa   | m³/h | W     | dB(A) | Watt |
| WCU 02  | Med.  | 40    | 0.08  | 7     | 420  | 1773  | 40    | 32   |
| WCU 12  | Med.  | 40    | 0.12  | 5.1   | 420  | 2425  | 40    | 32   |
| WCU 22  | Med.  | 40    | 0.16  | 6     | 500  | 3264  | 45    | 44   |
| WCU 32  | Med.  | 40    | 0.18  | 8.1   | 610  | 3852  | 49    | 57   |
| WCU 42  | Med.  | 40    | 0.24  | 9.4   | 820  | 5028  | 40    | 50   |
| WCU 52  | Med.  | 40    | 0.32  | 12.2  | 970  | 6660  | 40    | 63   |
| WCU 62  | Med.  | 40    | 0.41  | 19.2  | 1280 | 8547  | 48    | 95   |

Speed level: **Max. standard**

Air inlet temperature DB °C: 20.0

Water inlet temperature °C: 45.0

| Heating | Speed | Water | Water | Water | Air  | Total | Lw    | Mot. |
|---------|-------|-------|-------|-------|------|-------|-------|------|
|         |       | Rt °C | l/s   | kPa   | m³/h | W     | dB(A) | Watt |
| WCU 02  | Max.  | 40    | 0.11  | 11    | 610  | 2275  | 49    | 57   |
| WCU 12  | Max.  | 40    | 0.13  | 6.6   | 520  | 2802  | 45    | 44   |
| WCU 22  | Max.  | 40    | 0.21  | 10.1  | 710  | 4356  | 53    | 68   |
| WCU 32  | Max.  | 40    | 0.25  | 13.6  | 880  | 5149  | 59    | 90   |
| WCU 42  | Max.  | 40    | 0.31  | 15    | 1140 | 6497  | 48    | 77   |
| WCU 52  | Max.  | 40    | 0.47  | 24.4  | 1500 | 9780  | 53    | 120  |
| WCU 62  | Max.  | 40    | 0.56  | 33.8  | 1820 | 11713 | 58    | 170  |

## Operating data for heating

Speed level: **Min. standard**

Air inlet temperature DB °C: 22.0

Water inlet temperature °C: 45.0

| Heating | Speed | Water | Water | Water | Air  | Total | Lw    | Mot. |
|---------|-------|-------|-------|-------|------|-------|-------|------|
|         |       | Rt °C | l/s   | kPa   | m³/h | W     | dB(A) | Watt |
| WCU 02  | Min.  | 40    | 0.06  | 3.4   | 310  | 1179  | 33    | 25   |
| WCU 12  | Min.  | 40    | 0.08  | 2.6   | 310  | 1679  | 33    | 25   |
| WCU 22  | Min.  | 40    | 0.09  | 2.3   | 320  | 1930  | 33    | 25   |
| WCU 32  | Min.  | 40    | 0.12  | 3.9   | 430  | 2590  | 41    | 32   |
| WCU 42  | Min.  | 40    | 0.18  | 5.9   | 630  | 3874  | 33    | 34   |
| WCU 52  | Min.  | 40    | 0.22  | 6.4   | 710  | 4631  | 34    | 42   |
| WCU 62  | Min.  | 40    | 0.22  | 6.4   | 710  | 4631  | 34    | 42   |

Speed level: **Avg. standard**

Air inlet temperature DB °C: 22.0

Water inlet temperature °C: 45.0

| Heating | Speed | Water | Water | Water | Air  | Total | Lw    | Mot. |
|---------|-------|-------|-------|-------|------|-------|-------|------|
|         |       | Rt °C | l/s   | kPa   | m³/h | W     | dB(A) | Watt |
| WCU 02  | Med.  | 40    | 0.08  | 5.8   | 420  | 1599  | 40    | 32   |
| WCU 12  | Med.  | 40    | 0.1   | 4.3   | 420  | 2199  | 40    | 32   |
| WCU 22  | Med.  | 40    | 0.14  | 5     | 500  | 2965  | 45    | 44   |
| WCU 32  | Med.  | 40    | 0.17  | 6.8   | 610  | 3498  | 49    | 57   |
| WCU 42  | Med.  | 40    | 0.22  | 7.9   | 820  | 4566  | 40    | 50   |
| WCU 52  | Med.  | 40    | 0.29  | 10.3  | 970  | 6057  | 40    | 63   |
| WCU 62  | Med.  | 40    | 0.37  | 16.1  | 1280 | 7767  | 48    | 95   |

Speed level: **Max. standard**

Air inlet temperature DB °C: 22.0

Water inlet temperature °C: 45.0

| Heating | Speed | Water | Water | Water | Air  | Total | Lw    | Mot. |
|---------|-------|-------|-------|-------|------|-------|-------|------|
|         |       | Rt °C | l/s   | kPa   | m³/h | W     | dB(A) | Watt |
| WCU 02  | Max.  | 40    | 0.1   | 9.1   | 610  | 2051  | 49    | 57   |
| WCU 12  | Max.  | 40    | 0.12  | 5.5   | 520  | 2540  | 45    | 44   |
| WCU 22  | Max.  | 40    | 0.19  | 8.5   | 710  | 3954  | 53    | 68   |
| WCU 32  | Max.  | 40    | 0.22  | 11.4  | 880  | 4672  | 59    | 90   |
| WCU 42  | Max.  | 40    | 0.28  | 12.6  | 1140 | 5897  | 48    | 77   |
| WCU 52  | Max.  | 40    | 0.42  | 20.6  | 1500 | 8885  | 53    | 120  |
| WCU 62  | Max.  | 40    | 0.51  | 28.4  | 1820 | 10635 | 58    | 170  |

## Operating data for heating

Speed level: **Min. standard**

Air inlet temperature DB °C: 20.0

Water inlet temperature °C: 50.0

| Heating | Speed | Water | Water | Water | Air  | Total | Lw    | Mot. |
|---------|-------|-------|-------|-------|------|-------|-------|------|
|         |       | Rt °C | l/s   | kPa   | m³/h | W     | dB(A) | Watt |
| WCU 02  | Min.  | 45    | 0.08  | 5.9   | 310  | 1621  | 33    | 25   |
| WCU 12  | Min.  | 45    | 0.11  | 4.4   | 310  | 2262  | 33    | 25   |
| WCU 22  | Min.  | 45    | 0.12  | 3.9   | 320  | 2577  | 33    | 25   |
| WCU 32  | Min.  | 45    | 0.17  | 6.6   | 430  | 3468  | 41    | 32   |
| WCU 42  | Min.  | 45    | 0.25  | 9.9   | 630  | 5198  | 33    | 34   |
| WCU 52  | Min.  | 45    | 0.29  | 10.5  | 710  | 6166  | 34    | 42   |
| WCU 62  | Min.  | 45    | 0.29  | 10.5  | 710  | 6166  | 34    | 42   |

Speed level: **Avg. standard**

Air inlet temperature DB °C: 20.0

Water inlet temperature °C: 50.0

| Heating | Speed | Water | Water | Water | Air  | Total | Lw    | Mot. |
|---------|-------|-------|-------|-------|------|-------|-------|------|
|         |       | Rt °C | l/s   | kPa   | m³/h | W     | dB(A) | Watt |
| WCU 02  | Med.  | 45    | 0.1   | 10.2  | 420  | 2201  | 40    | 32   |
| WCU 12  | Med.  | 45    | 0.14  | 7.2   | 420  | 2971  | 40    | 32   |
| WCU 22  | Med.  | 45    | 0.19  | 8.4   | 500  | 3978  | 45    | 44   |
| WCU 32  | Med.  | 45    | 0.22  | 11.4  | 610  | 4701  | 49    | 57   |
| WCU 42  | Med.  | 45    | 0.29  | 13.3  | 820  | 6138  | 40    | 50   |
| WCU 52  | Med.  | 45    | 0.39  | 17.1  | 970  | 8091  | 40    | 63   |
| WCU 62  | Med.  | 45    | 0.5   | 26.9  | 1280 | 10404 | 48    | 95   |

Speed level: **Max. standard**

Air inlet temperature DB °C: 20.0

Water inlet temperature °C: 50.0

| Heating | Speed | Water | Water | Water | Air  | Total | Lw    | Mot. |
|---------|-------|-------|-------|-------|------|-------|-------|------|
|         |       | Rt °C | l/s   | kPa   | m³/h | W     | dB(A) | Watt |
| WCU 02  | Max.  | 45    | 0.13  | 16    | 610  | 2826  | 49    | 57   |
| WCU 12  | Max.  | 45    | 0.16  | 9.4   | 520  | 3437  | 45    | 44   |
| WCU 22  | Max.  | 45    | 0.25  | 14.2  | 710  | 5321  | 53    | 68   |
| WCU 32  | Max.  | 45    | 0.3   | 19.3  | 880  | 6299  | 59    | 90   |
| WCU 42  | Max.  | 45    | 0.38  | 21.2  | 1140 | 7946  | 48    | 77   |
| WCU 52  | Max.  | 45    | 0.57  | 34.4  | 1500 | 11920 | 53    | 120  |
| WCU 62  | Max.  | 45    | 0.68  | 47.7  | 1820 | 14298 | 58    | 170  |

## Operating data for heating

Speed level: **Min. standard**

Air inlet temperature DB °C: 22.0

Water inlet temperature °C: 50.0

| Heating | Speed | Water | Water | Water | Air  | Total | Lw    | Mot. |
|---------|-------|-------|-------|-------|------|-------|-------|------|
|         |       | Rt °C | l/s   | kPa   | m³/h | W     | dB(A) | Watt |
| WCU 02  | Min.  | 45    | 0.07  | 5     | 310  | 1491  | 33    | 25   |
| WCU 12  | Min.  | 45    | 0.1   | 3.8   | 310  | 2089  | 33    | 25   |
| WCU 22  | Min.  | 45    | 0.11  | 3.3   | 320  | 2383  | 33    | 25   |
| WCU 32  | Min.  | 45    | 0.15  | 5.7   | 430  | 3206  | 41    | 32   |
| WCU 42  | Min.  | 45    | 0.23  | 8.6   | 630  | 4803  | 33    | 34   |
| WCU 52  | Min.  | 45    | 0.27  | 9.1   | 710  | 5704  | 34    | 42   |
| WCU 62  | Min.  | 45    | 0.27  | 9.1   | 710  | 5704  | 34    | 42   |

Speed level: **Avg. standard**

Air inlet temperature DB °C: 22.0

Water inlet temperature °C: 50.0

| Heating | Speed | Water | Water | Water | Air  | Total | Lw    | Mot. |
|---------|-------|-------|-------|-------|------|-------|-------|------|
|         |       | Rt °C | l/s   | kPa   | m³/h | W     | dB(A) | Watt |
| WCU 02  | Med.  | 45    | 0.1   | 8.8   | 420  | 2024  | 40    | 32   |
| WCU 12  | Med.  | 45    | 0.13  | 6.3   | 420  | 2742  | 40    | 32   |
| WCU 22  | Med.  | 45    | 0.18  | 7.3   | 500  | 3675  | 45    | 44   |
| WCU 32  | Med.  | 45    | 0.21  | 9.9   | 610  | 4343  | 49    | 57   |
| WCU 42  | Med.  | 45    | 0.27  | 11.5  | 820  | 5670  | 40    | 50   |
| WCU 52  | Med.  | 45    | 0.36  | 14.9  | 970  | 7480  | 40    | 63   |
| WCU 62  | Med.  | 45    | 0.46  | 23.4  | 1280 | 9615  | 48    | 95   |

Speed level: **Max. standard**

Air inlet temperature DB °C: 22.0

Water inlet temperature °C: 50.0

| Heating | Speed | Water | Water | Water | Air  | Total | Lw    | Mot. |
|---------|-------|-------|-------|-------|------|-------|-------|------|
|         |       | Rt °C | l/s   | kPa   | m³/h | W     | dB(A) | Watt |
| WCU 02  | Max.  | 45    | 0.12  | 13.7  | 610  | 2599  | 49    | 57   |
| WCU 12  | Max.  | 45    | 0.15  | 8.2   | 520  | 3172  | 45    | 44   |
| WCU 22  | Max.  | 45    | 0.23  | 12.3  | 710  | 4915  | 53    | 68   |
| WCU 32  | Max.  | 45    | 0.28  | 16.7  | 880  | 5817  | 59    | 90   |
| WCU 42  | Max.  | 45    | 0.35  | 18.4  | 1140 | 7339  | 48    | 77   |
| WCU 52  | Max.  | 45    | 0.53  | 29.8  | 1500 | 11014 | 53    | 120  |
| WCU 62  | Max.  | 45    | 0.63  | 41.4  | 1820 | 13207 | 58    | 170  |

## Operating data for heating

Speed level: **Min. standard**

Air inlet temperature DB °C: 20.0

Water inlet temperature °C: 55.0

| Heating | Speed | Water | Water | Water | Air  | Total | Lw    | Mot. |
|---------|-------|-------|-------|-------|------|-------|-------|------|
|         |       | Rt °C | l/s   | kPa   | m³/h | W     | dB(A) | Watt |
| WCU 02  | Min.  | 50    | 0.09  | 8     | 310  | 1935  | 33    | 25   |
| WCU 12  | Min.  | 50    | 0.13  | 5.9   | 310  | 2674  | 33    | 25   |
| WCU 22  | Min.  | 50    | 0.14  | 5.1   | 320  | 3031  | 33    | 25   |
| WCU 32  | Min.  | 50    | 0.19  | 8.7   | 430  | 4086  | 41    | 32   |
| WCU 42  | Min.  | 50    | 0.29  | 13.1  | 630  | 6129  | 33    | 34   |
| WCU 52  | Min.  | 50    | 0.35  | 13.8  | 710  | 7241  | 34    | 42   |
| WCU 62  | Min.  | 50    | 0.35  | 13.8  | 710  | 7241  | 34    | 42   |

Speed level: **Avg. standard**

Air inlet temperature DB °C: 20.0

Water inlet temperature °C: 55.0

| Heating | Speed | Water | Water | Water | Air  | Total | Lw    | Mot. |
|---------|-------|-------|-------|-------|------|-------|-------|------|
|         |       | Rt °C | l/s   | kPa   | m³/h | W     | dB(A) | Watt |
| WCU 02  | Med.  | 50    | 0.13  | 13.8  | 420  | 2629  | 40    | 32   |
| WCU 12  | Med.  | 50    | 0.17  | 9.7   | 420  | 3516  | 40    | 32   |
| WCU 22  | Med.  | 50    | 0.22  | 11.2  | 500  | 4690  | 45    | 44   |
| WCU 32  | Med.  | 50    | 0.26  | 15.1  | 610  | 5549  | 49    | 57   |
| WCU 42  | Med.  | 50    | 0.35  | 17.7  | 820  | 7246  | 40    | 50   |
| WCU 52  | Med.  | 50    | 0.45  | 22.6  | 970  | 9518  | 40    | 63   |
| WCU 62  | Med.  | 50    | 0.58  | 35.7  | 1280 | 12258 | 48    | 95   |

Speed level: **Max. standard**

Air inlet temperature DB °C: 20.0

Water inlet temperature °C: 55.0

| Heating | Speed | Water | Water | Water | Air  | Total | Lw    | Mot. |
|---------|-------|-------|-------|-------|------|-------|-------|------|
|         |       | Rt °C | l/s   | kPa   | m³/h | W     | dB(A) | Watt |
| WCU 02  | Max.  | 50    | 0.16  | 21.7  | 610  | 3378  | 49    | 57   |
| WCU 12  | Max.  | 50    | 0.19  | 12.6  | 520  | 4073  | 45    | 44   |
| WCU 22  | Max.  | 50    | 0.3   | 18.9  | 710  | 6285  | 53    | 68   |
| WCU 32  | Max.  | 50    | 0.36  | 25.7  | 880  | 7448  | 59    | 90   |
| WCU 42  | Max.  | 50    | 0.45  | 28.3  | 1140 | 9394  | 48    | 77   |
| WCU 52  | Max.  | 50    | 0.67  | 45.6  | 1500 | 14056 | 53    | 120  |
| WCU 62  | Max.  | 50    | 0.8   | 63.4  | 1820 | 16879 | 58    | 170  |

## Operating data for heating

Speed level: **Min. standard**

Air inlet temperature DB °C: 22.0

Water inlet temperature °C: 55.0

| Heating | Speed | Water | Water | Water | Air  | Total | Lw    | Mot. |
|---------|-------|-------|-------|-------|------|-------|-------|------|
|         |       | Rt °C | l/s   | kPa   | m³/h | W     | dB(A) | Watt |
| WCU 02  | Min.  | 50    | 0.09  | 7     | 310  | 1804  | 33    | 25   |
| WCU 12  | Min.  | 50    | 0.12  | 5.2   | 310  | 2498  | 33    | 25   |
| WCU 22  | Min.  | 50    | 0.14  | 4.5   | 320  | 2834  | 33    | 25   |
| WCU 32  | Min.  | 50    | 0.18  | 7.7   | 430  | 3820  | 41    | 32   |
| WCU 42  | Min.  | 50    | 0.27  | 11.6  | 630  | 5729  | 33    | 34   |
| WCU 52  | Min.  | 50    | 0.32  | 12.3  | 710  | 6773  | 34    | 42   |
| WCU 62  | Min.  | 50    | 0.32  | 12.3  | 710  | 6773  | 34    | 42   |

Speed level: **Avg. standard**

Air inlet temperature DB °C: 22.0

Water inlet temperature °C: 55.0

| Heating | Speed | Water | Water | Water | Air  | Total | Lw    | Mot. |
|---------|-------|-------|-------|-------|------|-------|-------|------|
|         |       | Rt °C | l/s   | kPa   | m³/h | W     | dB(A) | Watt |
| WCU 02  | Med.  | 50    | 0.12  | 12.2  | 420  | 2451  | 40    | 32   |
| WCU 12  | Med.  | 50    | 0.16  | 8.6   | 420  | 3285  | 40    | 32   |
| WCU 22  | Med.  | 50    | 0.21  | 9.9   | 500  | 4384  | 45    | 44   |
| WCU 32  | Med.  | 50    | 0.25  | 13.4  | 610  | 5186  | 49    | 57   |
| WCU 42  | Med.  | 50    | 0.32  | 15.7  | 820  | 6773  | 40    | 50   |
| WCU 52  | Med.  | 50    | 0.42  | 20    | 970  | 8900  | 40    | 63   |
| WCU 62  | Med.  | 50    | 0.55  | 31.6  | 1280 | 11459 | 48    | 95   |

Speed level: **Max. standard**

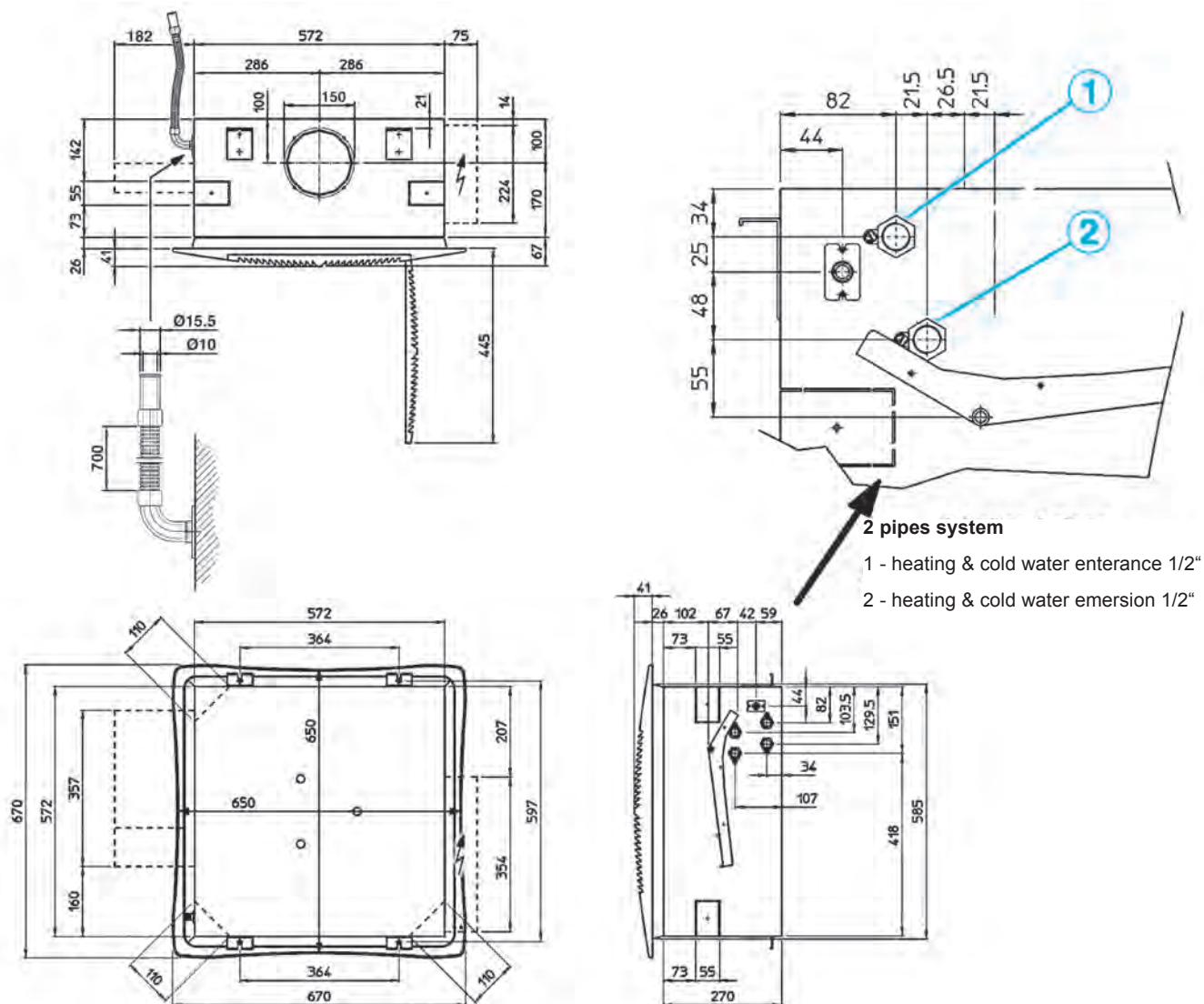
Air inlet temperature DB °C: 22.0

Water inlet temperature °C: 55.0

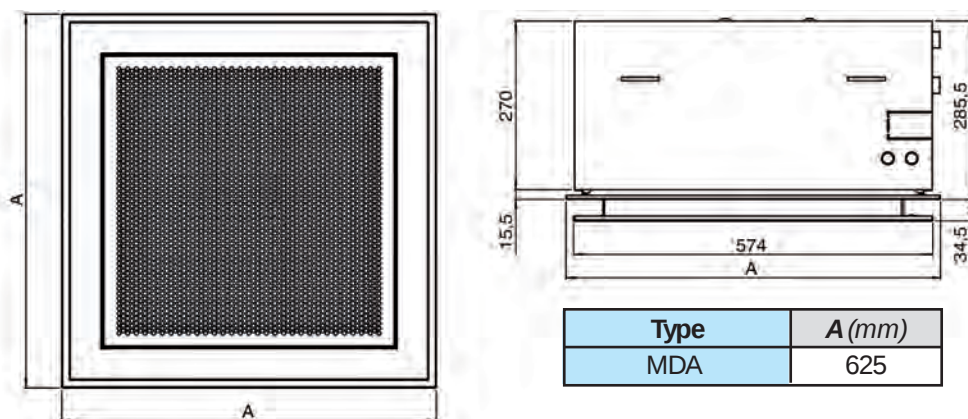
| Heating | Speed | Water | Water | Water | Air  | Total | Lw    | Mot. |
|---------|-------|-------|-------|-------|------|-------|-------|------|
|         |       | Rt °C | l/s   | kPa   | m³/h | W     | dB(A) | Watt |
| WCU 02  | Max.  | 50    | 0.15  | 19.1  | 610  | 3149  | 49    | 57   |
| WCU 12  | Max.  | 50    | 0.18  | 11.2  | 520  | 3805  | 45    | 44   |
| WCU 22  | Max.  | 50    | 0.28  | 16.8  | 710  | 5874  | 53    | 68   |
| WCU 32  | Max.  | 50    | 0.33  | 22.7  | 880  | 6959  | 59    | 90   |
| WCU 42  | Max.  | 50    | 0.42  | 25    | 1140 | 8779  | 48    | 77   |
| WCU 52  | Max.  | 50    | 0.63  | 40.4  | 1500 | 13138 | 53    | 120  |
| WCU 62  | Max.  | 50    | 0.75  | 56.2  | 1820 | 15775 | 58    | 170  |

## Dimensions and weights

WCU 02 / WCU 12 / WCU 22 / WCU 32 (Version 600 x 600)

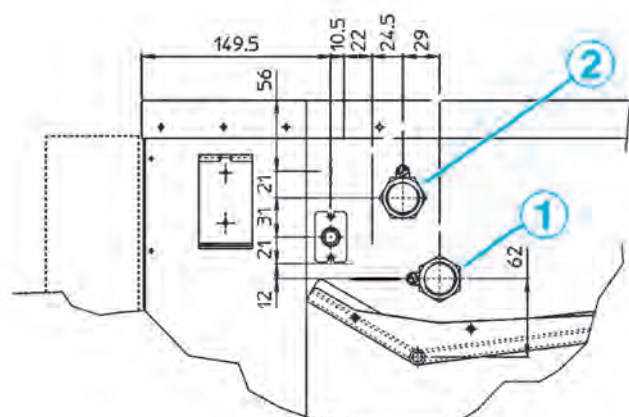


### MDA 625 METALL DIFFUSER

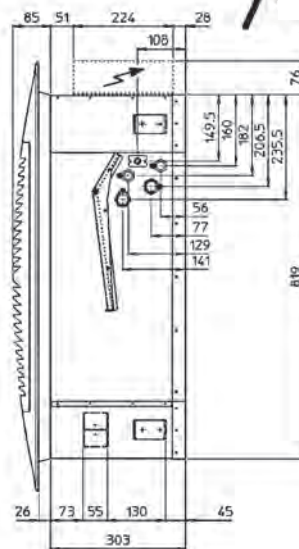
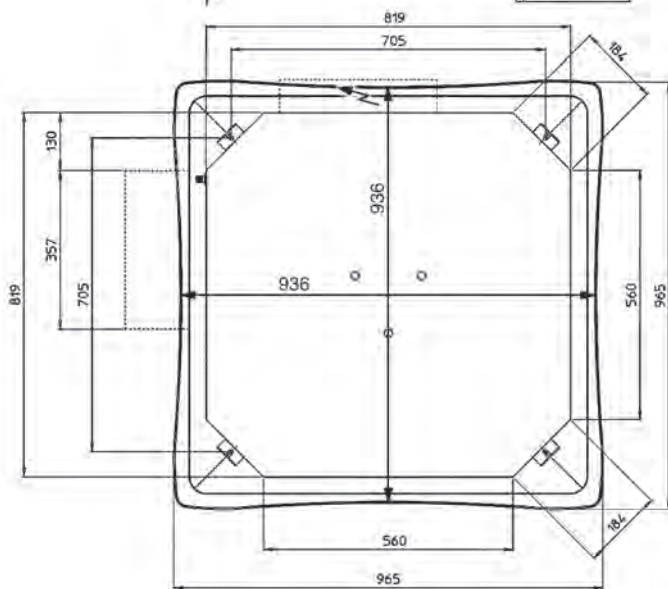


| Type       | Type                 |                      | Cover                |                      | Packing dimensions |     |     |     |
|------------|----------------------|----------------------|----------------------|----------------------|--------------------|-----|-----|-----|
|            | Weight incl. packing | Weight excl. packing | Weight incl. packing | Weight excl. packing | A                  | B   | C   | D   |
|            | kg                   | kg                   | kg                   | kg                   | mm                 |     |     |     |
| SK 02 - 12 | 28                   | 22                   | 6                    | 3                    | 790                | 350 | 750 | 150 |
| SK 22      | 30                   | 24                   |                      |                      |                    |     |     |     |
| SK 32      |                      |                      |                      |                      |                    |     |     |     |

Technical drawing of a rectangular metal enclosure. The main body has a width of 819 and a height of 175. The front panel features a central circular opening with a diameter of 180 and a distance of 120 from the top edge. The enclosure is mounted on a base with a wavy line indicating a vibration-dampening feature. A cable with a diameter of 180 is connected to the top left. A detail view shows a mounting bracket with a height of 700 and a cable with a diameter of 15.5 and a hole diameter of 10. The drawing includes various dimension lines and labels for mounting points.



2 - heating & cold water emersion 1/2"



A diagram of a three-layer cake. The top layer is a square with side length  $A$ . The height of the entire cake is labeled  $B$ . The cake is shown in a perspective view, with the front face showing the three layers and the side face showing the height  $B$ .

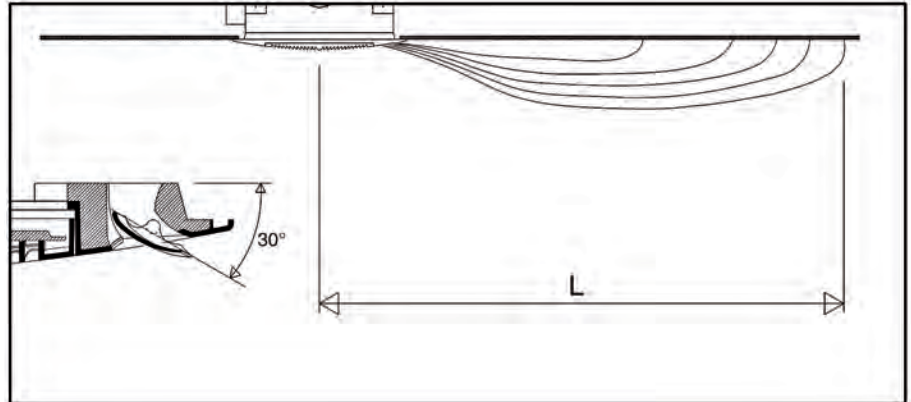
A 3D perspective diagram of a rectangular block. The top horizontal edges are labeled with the letter 'C', indicating the length and width. The vertical edge on the right side is labeled with the letter 'h', indicating the height.

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The throw distance indicated in the table is only a reference value, since it is subject to significant variation depending on size of room where the unit is installed and arrangement of furniture.

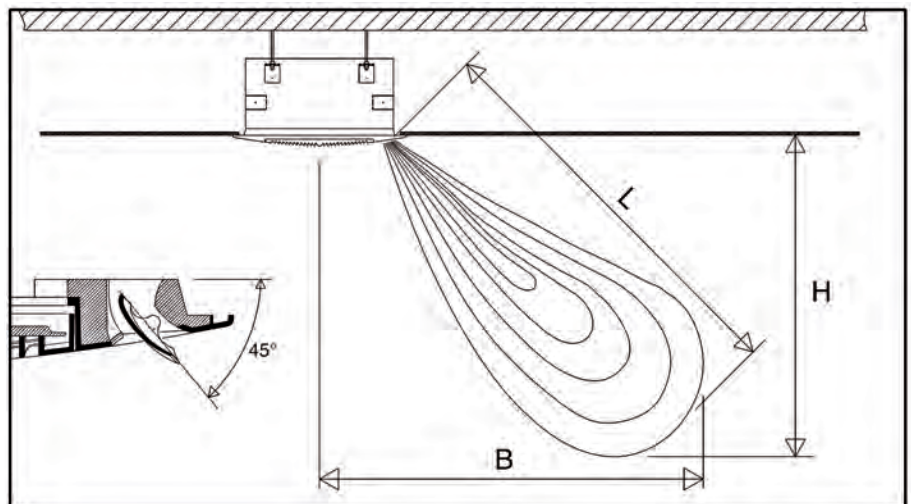
The effective throw distance  $L$  refers to the distance between the unit and the point at which the air reaches a speed of 0,2 m/s. A fin with a  $30^\circ$  slant (as recommended for the cooling phase) creates a so-called “Coanda effect”, as shown in the diagram, whereas a  $45^\circ$  slant (as recommended for the heating phase) results in a downward throw as shown in the second diagram.

## On fins with a $30^\circ$ slant



| Type           |   | SK02-12 |     |     | SK22 |     |     | SK32 |     |     | SK42 |     |     | SK52 |     |     | SK62 |     |     |
|----------------|---|---------|-----|-----|------|-----|-----|------|-----|-----|------|-----|-----|------|-----|-----|------|-----|-----|
| Speed          |   | 1       | 2   | 3   | 1    | 2   | 3   | 1    | 2   | 3   | 1    | 2   | 3   | 1    | 2   | 3   | 1    | 2   | 3   |
| Throw distance | m | 3.0     | 3.5 | 3.8 | 3.0  | 3.8 | 4.5 | 3.5  | 4.2 | 5.0 | 3.2  | 3.7 | 4.3 | 3.4  | 4.0 | 5.0 | 3.4  | 4.6 | 5.5 |

## On fins with a $45^\circ$ slant

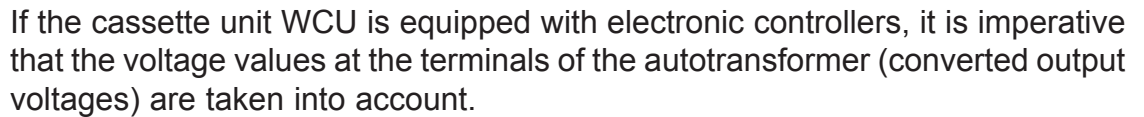


| Type           |   | SK02-12 |     |     | SK22 |     |     | SK32 |     |     | SK42 |     |     | SK52 |     |     | SK62 |     |     |
|----------------|---|---------|-----|-----|------|-----|-----|------|-----|-----|------|-----|-----|------|-----|-----|------|-----|-----|
| Speed          |   | 1       | 2   | 3   | 1    | 2   | 3   | 1    | 2   | 3   | 1    | 2   | 3   | 1    | 2   | 3   | 1    | 2   | 3   |
| Throw distance | m | 3.3     | 3.9 | 4.2 | 3.3  | 4.2 | 4.8 | 3.9  | 4.5 | 5.2 | 3.5  | 4.1 | 4.8 | 3.8  | 4.6 | 5.4 | 3.8  | 5.1 | 5.8 |
| High           | m | 2.2     | 2.6 | 2.8 | 2.2  | 2.8 | 3.2 | 2.6  | 3.0 | 3.4 | 2.2  | 2.6 | 3.0 | 2.4  | 2.8 | 3.4 | 2.4  | 3.1 | 3.6 |
| Distance B     | m | 2.5     | 2.9 | 3.1 | 2.5  | 3.1 | 3.6 | 2.9  | 3.4 | 3.9 | 2.7  | 3.2 | 3.8 | 3.0  | 3.6 | 4.2 | 3.0  | 4.0 | 4.6 |

## NOTE:

In winter operation (heating) attention must be paid to rooms with very low floor temperature (for example below  $5^\circ\text{C}$ ).

In this case the floor can cool the lower layer of air to such an extent as to prevent the uniform diffusion of hot air from the unit, thus reducing the figures shown in the table.

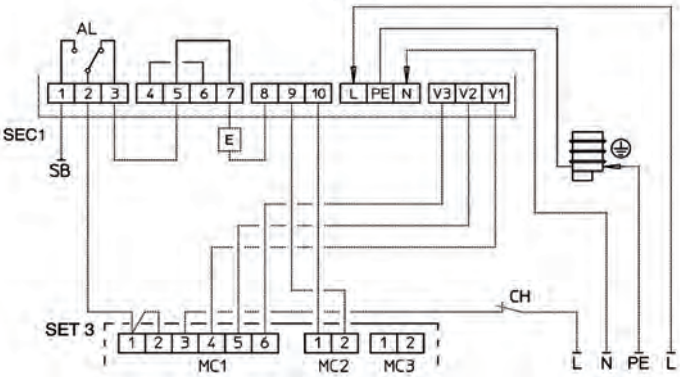
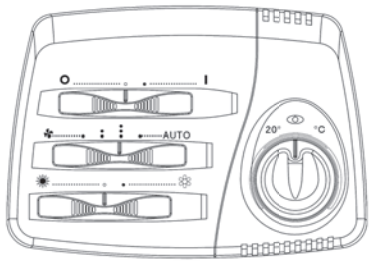


**SEC1** = Electronic control board WCU  
**SET1** = Electronic control board MO-3V  
**SB** = Block signal  
**AL** = Condensate alarm

**Electronic controls**

1 Valve

| Identification | Code   |
|----------------|--------|
| TMO - T - AU   | Z17859 |



**LEGEND**

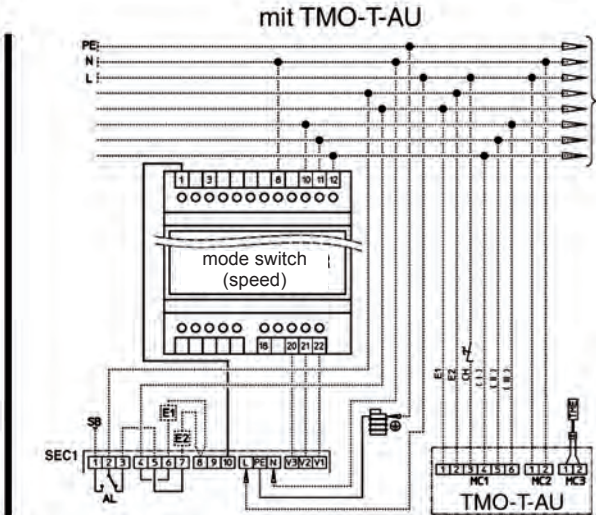
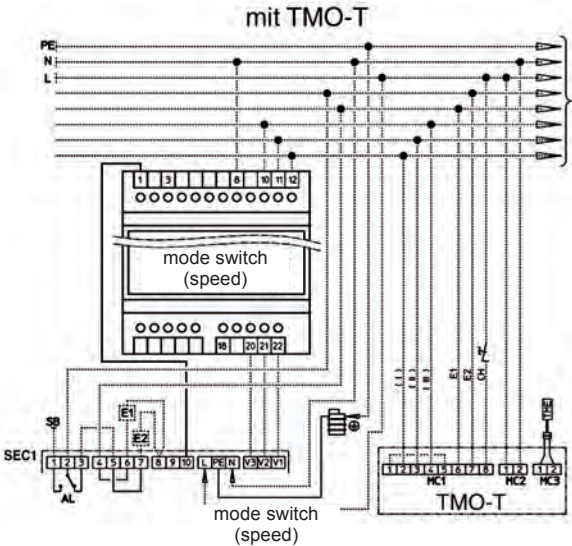
- SEC1** = Electronic control board WCU
- SET3** = Electronic control board TMO-T-AU
- CH** = Central remote seasonal changeover
- SB** = Block signal
- E** = Water valves (2-pipe system)
- E1** = Hot water valve
- E2** = Cold water valve
- AL** = Condensate alarm

Same characteristics as model TMO-T, only difference being:

- Manual or automatic switching between the 3 fan speeds.
- Temperature control (ON-OFF) of fan.
- Temperature control (ON-OFF) of water valve.
- Temperature control (ON-OFF) of fan and simultaneously of water valve.
- Possible changeover of seasonal cycle (SUMMER – WINTER) via an external electrical phase signal (central).

| Identification | Code   |
|----------------|--------|
| SEL - S        | Z18047 |

- Selection switch for speed.
- Allows simultaneous control of several (max. 8) cassettes via signal from only one TMO-T or one TMO-T-AU.
- Selection switch for TMO-T and TMO-T-AU.



## Unit with infrared remote control

All WCU cassette units are available with a microprocessor system for control and monitoring, complete with infrared remote control and liquid crystal display.

Each unit is equipped with an air temperature sensor, water temperature sensor (thermostat for minimum temperature), infrared remote control and a special electronic board with communication port RS485, which can control from one to 20 units that are connected in parallel via a simple twisted pair cable. The electronic board is a master/slave version, and the serial communication port allows a series connection. When using the master/slave connection for several units, an infrared receiver should be installed on the master unit.



### Control unit functions:

- Setting of desired temperature.
- Switching of fan speed with optional automatic function.
- On/off programming for 24 hours.
- On/off monitoring of water valve in cooling mode.
- On/off monitoring of water valve in heating mode.
- Thermostat control of valves or combination of valves and fan.
- Valve control on 2-pipe systems with summer/winter changeover via remote control.



The electronic board inside the unit is designed to perform the different control modes so as to satisfy the various installation requirements. These modes are selected by setting the dip switches - which can be used to define the following functions - according to configuration:

- **2-pipe system:**

*Dip switch No. 1 = **ON/OFF***

- Function **with / without** remote control:

*Dip switch No. 3 = **ON/OFF***

- Continuous fan operation:

*Dip switch No. 4 = **ON***

- Close valve and stop fan in cooling mode (autofan function):

*Dip switch No. 4 = **OFF**      No. 5 = **ON**      No. 6 = **OFF***

- Close valve and stop fan in heating mode (autofan function):

*Dip switch No. 4 = **OFF**      No. 5 = **OFF**      No. 6 = **OFF***

- Close valve and stop fan in cooling as well as heating mode (autofan function):

*Dip switch No. 4 = **OFF**      No. 5 = **ON**      No. 6 = **ON***

The autofan function allows the simultaneous ON/OFF control of the water valve and the fan, optimising the unit function as well. When the set point is reached, the control closes the water valve (valve OFF) and stops the fan after 3 minutes, thus correctly compensating the valve closing time. To prevent the air temperature sensor from an incorrect temperature measurement, the control performs fan ON cycles while the fan is off, thus cancelling any possible stratification effect of the room air.

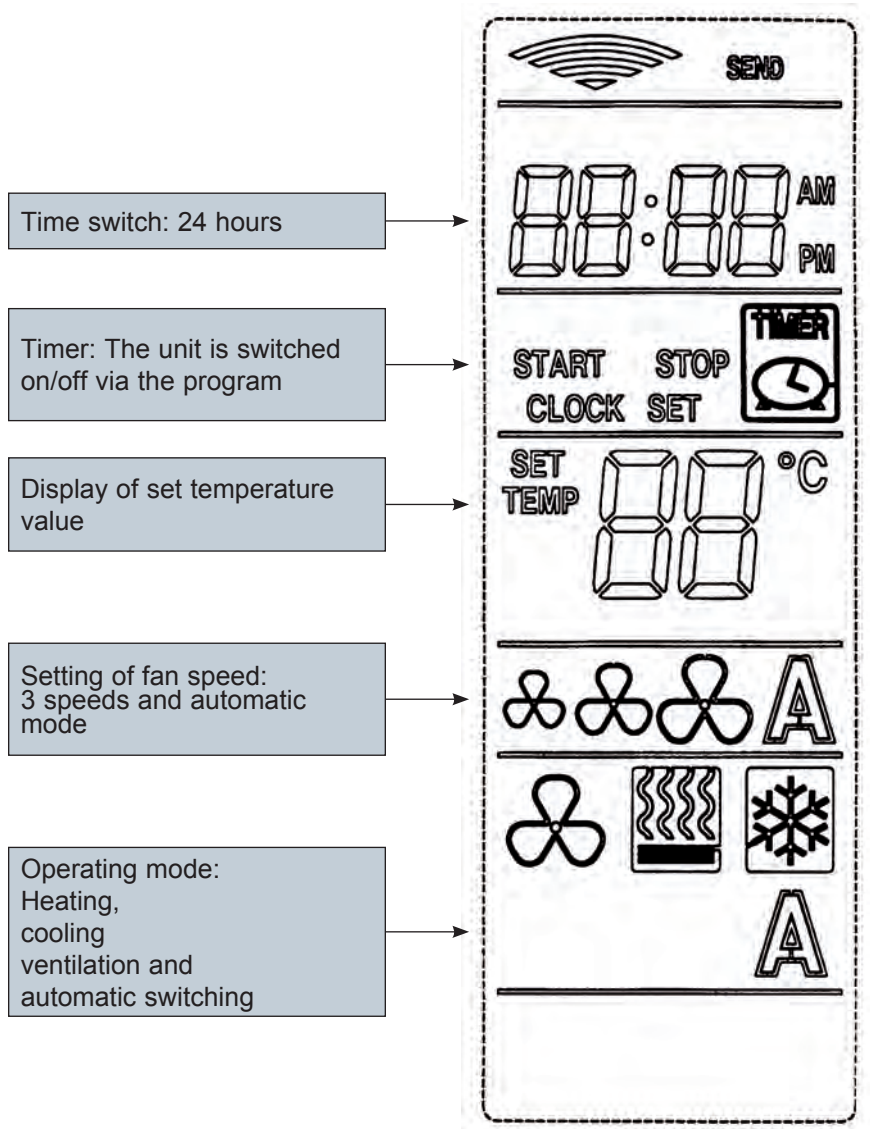
The autofan function can only be activated in cooling mode, heating mode or in both modes.

The electronic board is equipped with a contact for the connection to a window switch or a remote release. When the contact is closed, the unit is in operation; when the contact is open, the unit is off. The same contact can be used for switching on and switching off with a timer or any other external switch.

In addition, one or several units can be simultaneously switched on/off via a flip-flop by connecting to the terminals of the board.

Sensors that require a voltage of 12 V, for instance motion detectors, can be connected to other terminals of the electronic board and consequently to the on/off contacts. The board is able to supply external sensors for a maximum power input of 60 mA.

### Main remote control functions



#### Timer function:

Allows programming of a switching on and switching off process in the course of 24 hours.

#### Set point display:

Allows display of the set temperature value.

#### Fan speed setting:

Allows setting of one of the three operating fan speeds of the unit, or setting of automatic operation. In this case, the fan speed is automatically changed, depending on measured room temperature and set point. The temperature delta for switching from one speed to the other is 0,7 °C.

#### Operating mode:

allows setting of the desired operating mode, i.e. ventilation, cooling, heating or automatic seasonal changeover.

## Introduction

The WCU-MCT version has been designed for rooms without suspended ceiling for mechanical or electrical installations.

The enclosure is perfectly flush with the outlet grille, which draws air in and blows it out again without changing the fascinating design that defines the WCU series.

The WCU-MCT series includes 7 models. Due to the various options of controlling air distribution, the installation height can be up to 5 m.

The use of WCU-MCT housings does not require any technical changes, only the following points must be observed:

- WCU-MCT only possible for 2-pipe systems.

The WCU-MCT housing is delivered in separate packaging. However, the WCU unit may only be assembled after all electrical installations have been performed.

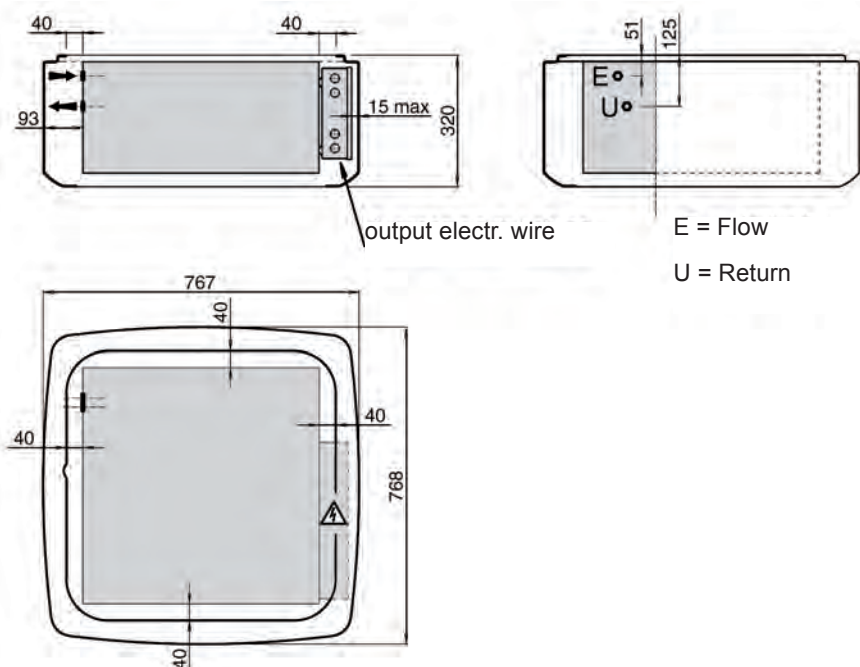


## Size and weight

### WCU-MCT 02-32

Item no.: Z18050

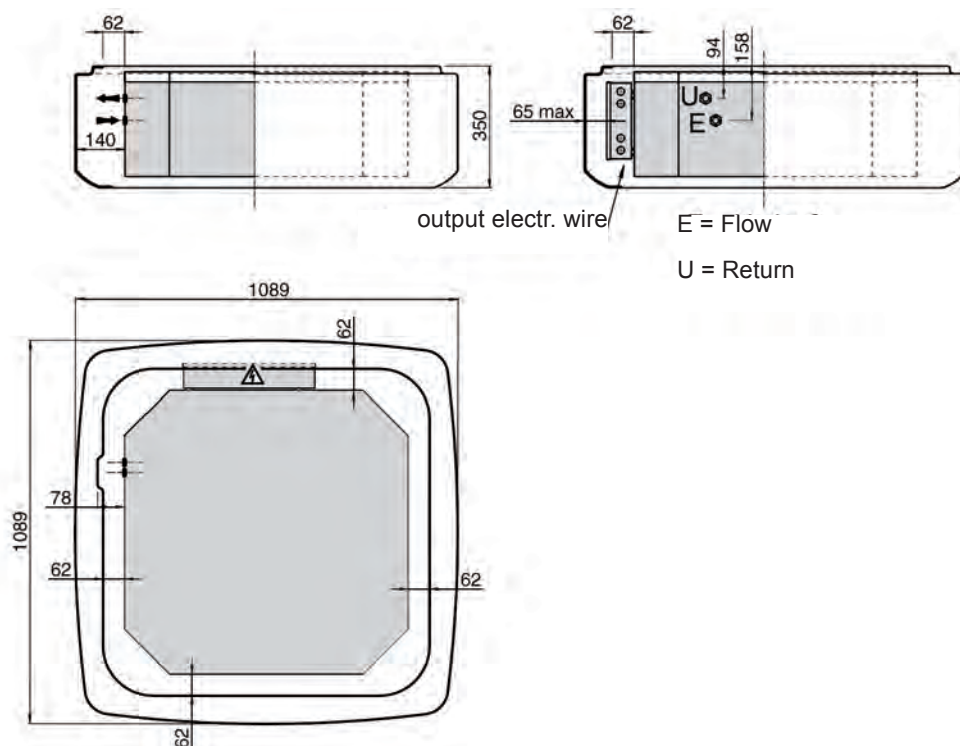
Weight 5 kg (7.5 kg with packaging)



### WCU-MCT 42-62

Item no.: Z18051

Weight 10.5 kg (13.5 kg with packaging)



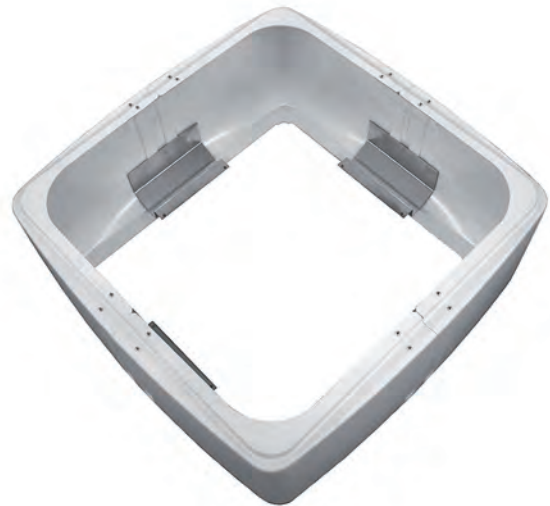
**Attention:** The electrical and hydraulic connections must be put in place from above and not be connected with the housing.

## Assembly instructions



WCU-MCT 02-32

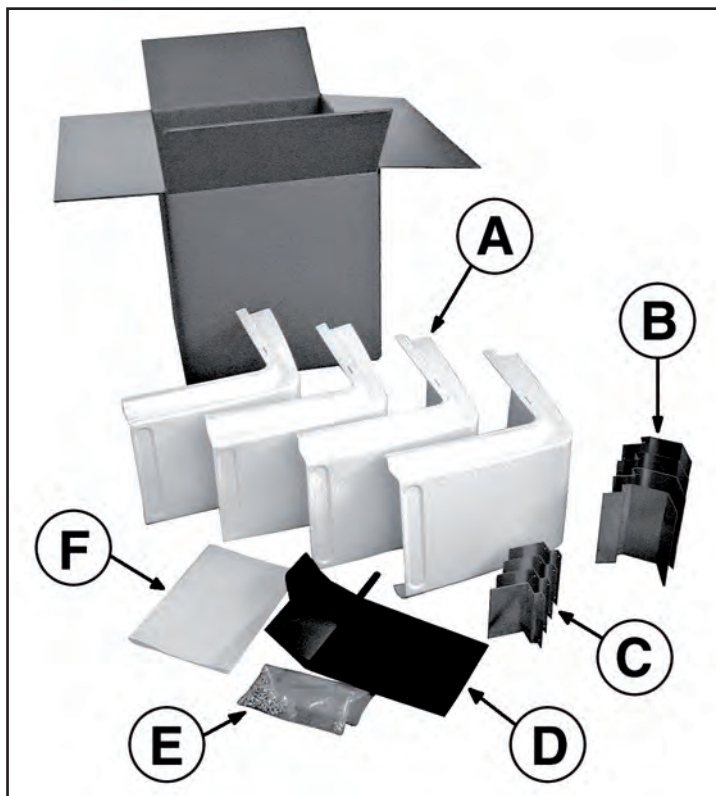
WCU-MCT 42-62



## Packaging content

Packaging content:

- A** – 4 “Corner covers”
- B** – 4 bottom brackets
- C** – 4 top brackets
- D** – Condensate pan
- E** – Screw kit
- F** – Operating manual



The descriptions and illustrations contained in this brochure are non-binding. Subject to the essential features of the models described and illustrated, WATERKOTTE reserves the right to make any changes that it considers necessary for improvement or for design or commercial purposes without notice and without obligation to update this brochure.

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