

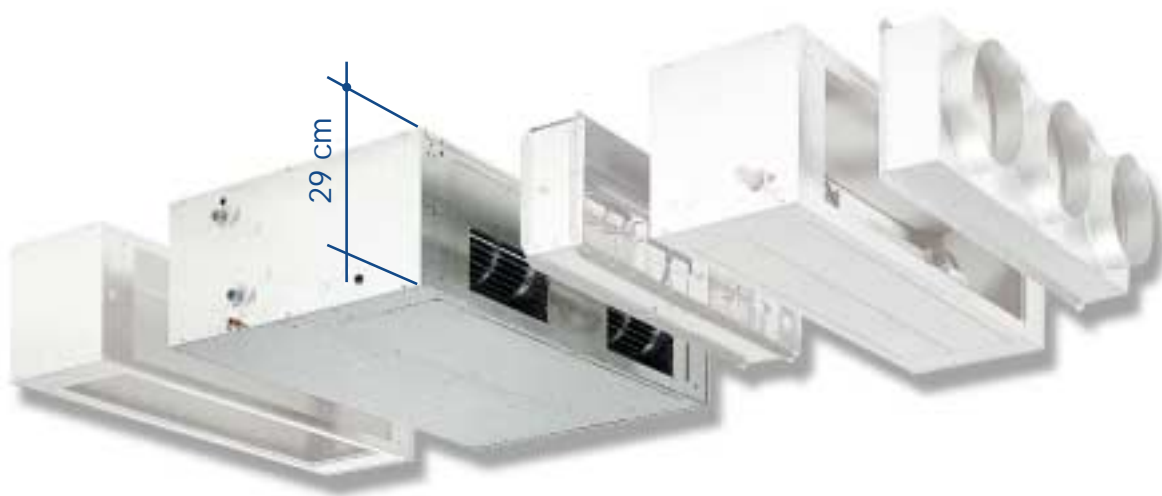
UTNB 011÷017



Unit-System
4,11÷10,5 kW



Ductable air handling terminal units featuring modular sections for horizontal installation.



UTNB

main features

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Intended conditions of use

UTNB units are modular ductable air handling units for horizontal installation. They are intended for rooms in domestic or similar use. The machine is designed for indoor installation.

Features

- Modular air handling terminal units for installation in a suspended ceiling, with ducting or ceiling panelling (29 cm high).
- Heat exchanger: finned coil, in copper pipe with aluminium fins, with reversible RH or LH connections.
- Double-intake centrifugal electric fan featuring a direct coupled 3-speed motor with IP44 protection grade.
- Self-supporting structure made of galvanised sheet steel complete with: thermal and sound insulation, reusable filter (extractable from below), union for connection to the intake duct and condensation collector tray with natural drainage; removable sides, and bottom provided with an opening for rotating/replacing the fans and for access to the electric panel.
- Power supply voltage 230V-1ph-50Hz.
- Electric panel housed in a watertight box, wired with terminals for the incoming power, and numbered terminals for connection to the regulation devices and other system components.

Accessories supplied separately

- KBAB** - Additional water-filled heating coil made of copper pipes and aluminium fins, with reversible RH or LH connections.
- KPAM** - Intake/outlet plenum with knockout outlet with choice of direction.
- KBAE** - Multipower electric coil module, 1.5 - 3 - 4.5 kW (230V-1ph-50Hz) or 4.5 kW (400V-3ph-50Hz), featuring spiral heating element in stainless steel, mounted on a frame by means of insulating supports and complete with safety device to prevent overheating.
- KUMI** - Plenum with steam humidifier (0.8 kW), consisting of a stainless steel water container equipped with a solenoid valve for filling with water, level sensor, armoured heating element and safety overflow discharge. In the case of a water supply with a particularly high content of hard water salts, it is advisable to fit a water softener.
- KBOM** - Module with 3 x Ø200 mm circular outlet spigots.
- KPLA** - Intake ceiling panel complete with reusable filter.
- KPLC** - Blind ceiling panel.
- KPLM** - Outlet ceiling panel complete with grilles in heat-resistant ABS polymer, which can be oriented in two directions.

Switches and controls supplied separately

- KCV2** - Panel with variable speed control, complete with SUMMER/OFF/WINTER switch, with the capability of connecting externally to the minimum temperature thermostat.
- KTCV2** - Control and adjustment panel comprising: three-position fan switch ON/CONTINUOUS/THERMOSTATIC CONTROL; room thermostat; summer/winter selector switch; speed selector switch; auxiliary contacts for control of ON/OFF valves for systems with two pipes, two pipes with electric element, or four pipes, with the capability of connecting externally to the minimum temperature thermostat.

KTCVM - Control and adjustment panel comprising: on/off switch; speed selector switch; room thermostat; outputs (0-10Vdc) for controlling modulating valves in four pipe systems.

KCM - Master electronic control with control panel for manual or automatic regulation of all the functions of the appliance on the basis of the preselected room temperature, complete with container for the electronic board and for possible add-on modules KMV, KMR and KMI.

KCS - Slave electronic control for automatic repeating of the functions dictated by the master electronic control (KCM) in the case of central management of several terminals (up to a maximum of 10), complete with container for the electronic board and for possible add-on modules KMV, KMR and KMI.

KST - Temperature sensor for additional water-filled heating coil, for use in conjunction with electronic control KCM or KCS.

KMV - Valve module for the management of on/off valves in 2 or 4 pipe systems, and for control of startup and shutdown of the corresponding central units (chiller/ heat pump/boiler), for use in conjunction with electronic control KCM or KCS.

KMR - Electric element module, for the management of electric heating elements, for use in conjunction with electronic control KCM or KCS.

KMI - RS 485 serial interface module for communicating with building management systems, centralised control systems and supervision networks, for use in conjunction with electronic control KCM or KCS.

KCH - RS 232 hardware key for connection to supervision systems, for use in conjunction with one or more KMI serial interface modules in the case of centralised management of the terminal units.

KPAU - Humidistat panel for the control of humidifier KUMI.

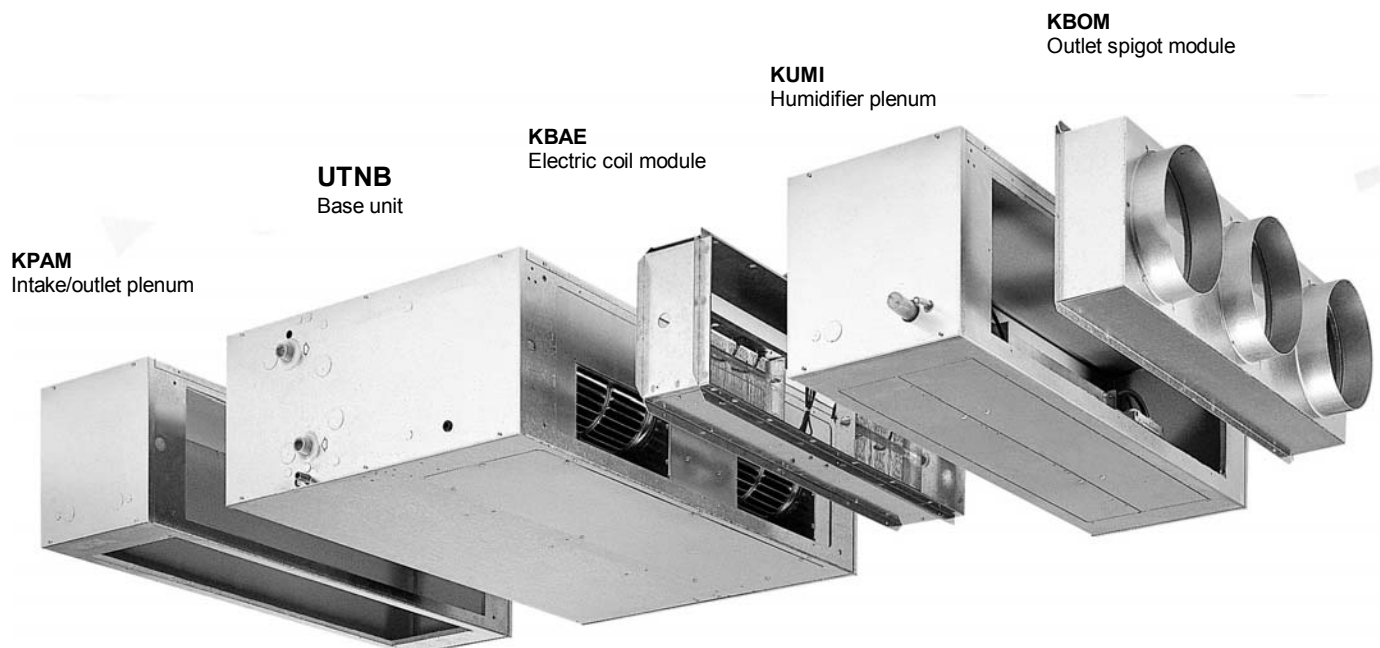


Fig. 1

UTNB installation options

- The UTNB air handling terminal is a machine designed for climate control primarily in rooms used for domestic and commercial purposes. Its distinguishing features are:
 - extremely limited height: only 29 cm;
 - complete range of functions: a true air handling power centre;
 - flexibility and ease of installation;
 - wide range of accessories for sophisticated air handling;
 - quietness in operation.
- The UTNB base unit can be complemented by a series of additional plenums to achieve a large variety of equipment solutions. A large range of accessories, which fit to the plenums, makes their versatility and functionality complete.
- The compatibility of the various sections allows the achievement of as many as 18 different installation options (9 with KPAM intake plenum and 9 without). The various configurations are illustrated in the diagram.

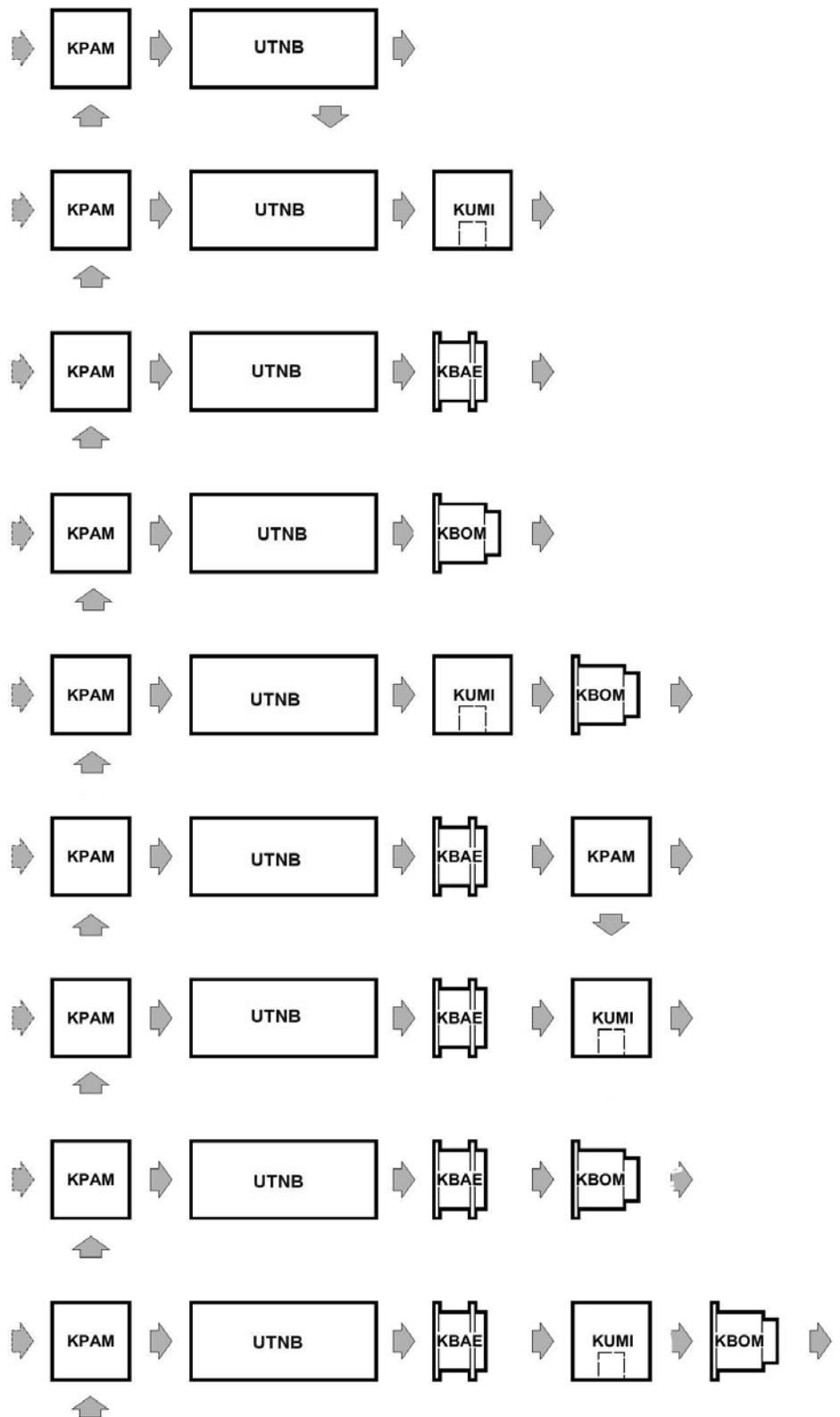


Fig. 2

UTNB

technical characteristics

| MODEL | | UTNB | 011 2R | 011 4R | 011 6R | 014 2R | 014 4R | 014 6R | 017 2R | 017 4R | 017 6R |
|---|---------|-------------------|--------|--------|--------|--------|--------|--------|--------|--------|--------|
| Technical data | | | | | | | | | | | |
| Nominal cooling capacity (total heat) (*) | kW | 4.11 | 6.76 | 7.78 | 4.82 | 8.23 | 9.64 | 5.14 | 8.92 | 10.52 | |
| Nominal cooling capacity (sensible heat) (*) | kW | 3.51 | 5.12 | 5.66 | 4.30 | 6.45 | 7.20 | 4.68 | 7.09 | 7.96 | |
| Water flow (*) | l/h | 706 | 1162 | 1338 | 828 | 1416 | 1658 | 883 | 1533 | 1809 | |
| Pressure drops – water (*) | kPa | 6 | 9 | 8 | 8 | 13 | 12 | 9 | 15 | 14 | |
| Nominal heating capacity (**) | kW | 10.35 | (●) | (●) | 12.66 | 18.83 | (●) | 13.76 | 20.78 | 23.04 | |
| Water flow (**) | l/h | 906 | (●) | (●) | 1108 | 1646 | (●) | 1205 | 1817 | 2014 | |
| Pressure drops – water (**) | kPa | 7 | (●) | (●) | 10 | 14 | (●) | 12 | 17 | 13 | |
| Heating capacity (inlet water temperature 50°C) (***) | kW | 5.92 | 8.75 | 9.58 | 7.17 | 11.02 | 12.27 | 7.76 | 12.12 | 13.59 | |
| Nominal heating capacity of extra coil KBAB (**) | kW | 10.02 | 10.02 | 10.02 | 12.37 | 12.37 | 12.37 | 13.49 | 13.49 | 13.49 | |
| Fans | no. | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | |
| Nominal airflow (▲) at ... speed | maximum | m ³ /h | 1100 | 1100 | 1100 | 1480 | 1480 | 1480 | 1680 | 1680 | 1680 |
| | medium | m ³ /h | 990 | 990 | 990 | 1260 | 1260 | 1260 | 1440 | 1440 | 1440 |
| | minimum | m ³ /h | 850 | 850 | 850 | 1100 | 1100 | 1100 | 1200 | 1200 | 1200 |
| Available static pressure (▲) at ... speed | maximum | Pa | 6 | 3 | 0 | 16 | 4 | 0 | 23 | 7 | 0 |
| Sound pressure level (****) at ... speed | maximum | dB(A) | 41.1 | 41.1 | 41.1 | 46.9 | 46.9 | 46.9 | 49.9 | 49.9 | 49.9 |
| | medium | dB(A) | 40.3 | 40.3 | 40.3 | 43.8 | 43.8 | 43.8 | 46.4 | 46.4 | 46.4 |
| | minimum | dB(A) | 38.3 | 38.3 | 38.3 | 41.1 | 41.1 | 41.1 | 41.3 | 41.3 | 41.3 |
| Coil water capacity | L | 1.3 | 2.5 | 3.8 | 1.3 | 2.5 | 3.8 | 1.3 | 2.5 | 3.8 | |
| Maximum permissible pressure water-side | kPa | 600 | 600 | 600 | 600 | 600 | 600 | 600 | 600 | 600 | |
| Reusable filter axb | mm | 800 x 225 | | | | | | | | | |
| Electrical data | | | | | | | | | | | |
| Motor rated power | W | 300 | 300 | 300 | 300 | 300 | 300 | 300 | 300 | 300 | 300 |
| Maximum power consumption | W | 165 | 165 | 165 | 205 | 205 | 205 | 245 | 245 | 245 | |
| Maximum current draw | A | 0.80 | 0.80 | 0.80 | 0.95 | 0.95 | 0.95 | 1.10 | 1.10 | 1.10 | |
| Electrical power supply | V-ph-Hz | 230 - 1 - 50 | | | | | | | | | |

(*) In the following conditions: room temperature 27°C D.B.; 19°C W.B. (47% R.H.); temperature of inlet water 7°C with Δt 5°C; maximum speed.

(**) In the following conditions: room temperature 20°C; temperature of inlet water 70°C with Δt 10°C; maximum speed.

(***) In the following conditions: room temperature 20°C; temperature of inlet water 50°C, water flow as in cooling mode; maximum speed.

(●) Do not use with water at 70°C. Outputs at different temperatures are given in the output tables on pages 6, 8.

(****) Sound pressure level in dB(A) refers to a reading taken at a distance of 3m from the unobstructed air outlet (with a directionality factor of 2).

(▲) In the following conditions: unit with standard coil and filter. Performance of the fans is quoted on page 11.

UTNB 011 performance

Cooling capacity

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| Twi C | G l/h | Δpw kPa | Tai: 24°C / 47% RH | | | | Tai: 26°C / 47% RH | | | | Tai: 27°C / 47% RH | | | | Tai: 28°C / 47% RH | | | | Tai: 32°C / 47% RH | | | | Tai: 36°C / 47% RH | | | |
|----------|----------|------------|--------------------|----------|----------|---------|--------------------|----------|----------|---------|--------------------|----------|----------|---------|--------------------|----------|----------|---------|--------------------|----------|----------|---------|--------------------|----------|----------|---------|
| | | | QT kW | QS kW | Tau C | RH % | QT kW | QS kW | Tau C | RH % | QT kW | QS kW | Tau C | RH % | QT kW | QS kW | Tau C | RH % | QT kW | QS kW | Tau C | RH % | QT kW | QS kW | Tau C | RH % |
| 5 | 387 | 2 | 3.07 | 3.07 | 15.6 | 80 | 3.40 | 3.23 | 17.1 | 80 | 3.64 | 3.33 | 17.8 | 80 | 3.89 | 3.42 | 18.5 | 80 | 4.92 | 3.77 | 21.4 | 80 | 6.02 | 4.07 | 24.4 | 80 |
| 5 | 706 | 6 | 3.79 | 3.38 | 14.8 | 80 | 4.41 | 3.64 | 16.0 | 80 | 4.73 | 3.75 | 16.6 | 80 | 5.06 | 3.87 | 17.3 | 80 | 6.44 | 4.31 | 19.9 | 80 | 7.95 | 4.69 | 22.7 | 81 |
| 5 | 1436 | 21 | 4.59 | 3.73 | 13.8 | 80 | 5.36 | 4.03 | 14.9 | 80 | 5.75 | 4.18 | 15.5 | 80 | 6.16 | 4.33 | 16.0 | 80 | 7.88 | 4.86 | 18.4 | 81 | 9.77 | 5.34 | 20.8 | 81 |
| 6 | 387 | 2 | 2.92 | 2.92 | 16.0 | 78 | 3.16 | 3.14 | 17.4 | 80 | 3.39 | 3.23 | 18.1 | 80 | 3.64 | 3.33 | 18.8 | 80 | 4.67 | 3.69 | 21.7 | 80 | 5.76 | 3.99 | 24.7 | 80 |
| 6 | 706 | 6 | 3.48 | 3.25 | 15.1 | 80 | 4.10 | 3.51 | 16.3 | 80 | 4.42 | 3.63 | 17.0 | 80 | 4.75 | 3.75 | 17.6 | 80 | 6.12 | 4.20 | 20.2 | 80 | 7.62 | 4.58 | 23.0 | 81 |
| 6 | 1436 | 21 | 4.23 | 3.57 | 14.2 | 80 | 4.99 | 3.88 | 15.3 | 80 | 5.38 | 4.03 | 15.9 | 80 | 5.79 | 4.17 | 16.5 | 80 | 7.50 | 4.71 | 18.8 | 81 | 9.39 | 5.20 | 21.2 | 81 |
| 7 | 387 | 2 | 2.76 | 2.76 | 16.5 | 75 | 3.08 | 3.08 | 17.5 | 79 | 3.15 | 3.14 | 18.3 | 80 | 3.39 | 3.24 | 19.0 | 80 | 4.41 | 3.60 | 21.9 | 80 | 5.50 | 3.91 | 24.9 | 80 |
| 7 | 706 | 6 | 3.17 | 3.13 | 15.5 | 80 | 3.79 | 3.38 | 16.7 | 80 | 4.11 | 3.51 | 17.3 | 80 | 4.43 | 3.63 | 18.0 | 80 | 5.80 | 4.08 | 20.6 | 80 | 7.28 | 4.47 | 23.3 | 80 |
| 7 | 1436 | 21 | 3.86 | 3.41 | 14.7 | 80 | 4.62 | 3.72 | 15.8 | 80 | 5.01 | 3.87 | 16.3 | 80 | 5.41 | 4.02 | 16.9 | 80 | 7.12 | 4.57 | 19.2 | 80 | 9.00 | 5.06 | 21.7 | 81 |
| 8 | 387 | 2 | 2.60 | 2.60 | 16.9 | 73 | 2.92 | 2.92 | 18.0 | 77 | 3.09 | 3.09 | 18.5 | 79 | 3.25 | 3.25 | 19.0 | 81 | 4.15 | 3.51 | 22.1 | 80 | 5.23 | 3.83 | 25.1 | 80 |
| 8 | 706 | 6 | 3.01 | 3.01 | 15.8 | 79 | 3.47 | 3.26 | 17.0 | 80 | 3.79 | 3.38 | 17.7 | 80 | 4.11 | 3.51 | 18.3 | 80 | 5.47 | 3.96 | 20.9 | 80 | 6.95 | 4.36 | 23.6 | 80 |
| 8 | 1436 | 21 | 3.49 | 3.26 | 15.1 | 80 | 4.24 | 3.57 | 16.2 | 80 | 4.63 | 3.72 | 16.7 | 80 | 5.03 | 3.86 | 17.3 | 80 | 6.73 | 4.42 | 19.6 | 80 | 8.60 | 4.92 | 22.0 | 81 |
| 9 | 387 | 2 | 2.45 | 2.45 | 17.3 | 71 | 2.77 | 2.77 | 18.4 | 75 | 2.93 | 2.93 | 18.9 | 77 | 3.09 | 3.09 | 19.4 | 79 | 3.89 | 3.43 | 22.4 | 80 | 4.96 | 3.75 | 25.3 | 80 |
| 9 | 706 | 6 | 2.82 | 2.82 | 16.3 | 76 | 3.15 | 3.13 | 17.4 | 80 | 3.46 | 3.26 | 18.0 | 80 | 3.78 | 3.38 | 18.6 | 80 | 5.13 | 3.85 | 21.2 | 80 | 6.60 | 4.25 | 23.9 | 80 |
| 9 | 1436 | 21 | 3.11 | 3.10 | 15.5 | 80 | 3.86 | 3.41 | 16.6 | 80 | 4.25 | 3.56 | 17.2 | 80 | 4.64 | 3.71 | 17.7 | 80 | 6.33 | 4.27 | 20.0 | 80 | 8.19 | 4.78 | 22.4 | 81 |
| 10 | 387 | 2 | 2.29 | 2.29 | 17.8 | 69 | 2.61 | 2.61 | 18.8 | 73 | 2.77 | 2.77 | 19.4 | 75 | 2.93 | 2.93 | 19.9 | 77 | 3.63 | 3.35 | 22.6 | 80 | 4.69 | 3.68 | 25.6 | 80 |
| 10 | 706 | 6 | 2.64 | 2.64 | 16.8 | 74 | 3.01 | 3.01 | 17.7 | 78 | 3.19 | 3.19 | 18.2 | 81 | 3.45 | 3.26 | 19.0 | 80 | 4.80 | 3.73 | 21.5 | 80 | 6.26 | 4.14 | 24.2 | 80 |
| 10 | 1436 | 21 | 2.92 | 2.92 | 16.0 | 78 | 3.47 | 3.25 | 17.0 | 80 | 3.85 | 3.41 | 17.6 | 80 | 4.25 | 3.56 | 18.1 | 80 | 5.93 | 4.13 | 20.4 | 80 | 7.78 | 4.64 | 22.8 | 81 |

UTNB 011 4R

| Twi C | G l/h | Δpw kPa | Tai: 24°C / 47% RH | | | | Tai: 26°C / 47% RH | | | | Tai: 27°C / 47% RH | | | | Tai: 28°C / 47% RH | | | | Tai: 32°C / 47% RH | | | | Tai: 36°C / 47% RH | | | |
|----------|----------|------------|--------------------|----------|----------|---------|--------------------|----------|----------|---------|--------------------|----------|----------|---------|--------------------|----------|----------|---------|--------------------|----------|----------|---------|--------------------|----------|----------|---------|
| | | | QT kW | QS kW | Tau C | RH % | QT kW | QS kW | Tau C | RH % | QT kW | QS kW | Tau C | RH % | QT kW | QS kW | Tau C | RH % | QT kW | QS kW | Tau C | RH % | QT kW | QS kW | Tau C | RH % |
| 5 | 683 | 4 | 5.15 | 4.48 | 11.7 | 94 | 5.99 | 4.82 | 12.7 | 94 | 6.42 | 4.98 | 13.3 | 94 | 6.86 | 5.14 | 13.8 | 94 | 8.71 | 5.71 | 16.0 | 94 | 10.71 | 6.21 | 18.4 | 94 |
| 5 | 1162 | 9 | 6.20 | 4.95 | 10.5 | 94 | 7.23 | 5.35 | 11.3 | 94 | 7.77 | 5.55 | 11.7 | 94 | 8.31 | 5.74 | 12.1 | 94 | 10.63 | 6.47 | 13.9 | 94 | 13.19 | 7.12 | 15.8 | 95 |
| 5 | 2231 | 31 | 7.10 | 5.36 | 9.3 | 94 | 8.29 | 5.83 | 10.0 | 94 | 8.91 | 6.07 | 10.3 | 94 | 9.54 | 6.29 | 10.6 | 94 | 12.26 | 7.16 | 11.9 | 95 | 15.28 | 7.96 | 13.4 | 96 |
| 6 | 683 | 4 | 4.73 | 4.30 | 12.2 | 93 | 5.56 | 4.64 | 13.2 | 94 | 5.99 | 4.80 | 13.7 | 94 | 6.43 | 4.96 | 14.3 | 94 | 8.27 | 5.55 | 16.4 | 94 | 10.26 | 6.05 | 18.8 | 94 |
| 6 | 1162 | 9 | 5.71 | 4.73 | 11.1 | 94 | 6.74 | 5.14 | 11.9 | 94 | 7.27 | 5.33 | 12.3 | 94 | 7.81 | 5.53 | 12.7 | 94 | 10.12 | 6.26 | 14.5 | 94 | 12.66 | 6.91 | 16.4 | 95 |
| 6 | 2231 | 30 | 6.55 | 5.11 | 10.0 | 94 | 7.74 | 5.58 | 10.6 | 94 | 8.35 | 5.81 | 11.0 | 94 | 8.98 | 6.04 | 11.3 | 94 | 11.69 | 6.91 | 12.6 | 95 | 14.71 | 7.72 | 14.1 | 95 |
| 7 | 683 | 4 | 4.31 | 4.13 | 12.7 | 93 | 5.14 | 4.47 | 13.7 | 94 | 5.56 | 4.63 | 14.2 | 94 | 6.00 | 4.79 | 14.7 | 94 | 7.82 | 5.38 | 16.9 | 94 | 9.79 | 5.90 | 19.3 | 94 |
| 7 | 1162 | 9 | 5.21 | 4.51 | 11.7 | 93 | 6.23 | 4.92 | 12.5 | 94 | 6.76 | 5.12 | 12.9 | 94 | 7.30 | 5.32 | 13.3 | 94 | 9.60 | 6.05 | 15.0 | 94 | 12.12 | 6.71 | 16.9 | 94 |
| 7 | 2231 | 30 | 5.99 | 4.85 | 10.7 | 94 | 7.17 | 5.33 | 11.3 | 94 | 7.79 | 5.56 | 11.7 | 94 | 8.42 | 5.79 | 12.0 | 94 | 11.11 | 6.67 | 13.3 | 94 | 14.12 | 7.48 | 14.8 | 95 |
| 8 | 683 | 4 | 4.14 | 4.14 | 12.7 | 96 | 4.70 | 4.29 | 14.2 | 94 | 5.12 | 4.46 | 14.7 | 94 | 5.56 | 4.62 | 15.2 | 94 | 7.37 | 5.22 | 17.4 | 94 | 9.33 | 5.74 | 19.7 | 94 |
| 8 | 1162 | 9 | 4.71 | 4.29 | 12.3 | 94 | 5.72 | 4.71 | 13.1 | 94 | 6.25 | 4.91 | 13.5 | 94 | 6.78 | 5.10 | 13.9 | 94 | 9.06 | 5.85 | 15.6 | 94 | 11.57 | 6.51 | 17.5 | 94 |
| 8 | 2231 | 30 | 5.42 | 4.60 | 11.4 | 94 | 6.60 | 5.08 | 12.0 | 94 | 7.21 | 5.31 | 12.3 | 94 | 7.84 | 5.54 | 12.7 | 94 | 10.52 | 6.42 | 14.0 | 94 | 13.51 | 7.24 | 15.4 | 95 |
| 9 | 683 | 4 | 3.88 | 3.88 | 13.4 | 92 | 4.26 | 4.12 | 14.7 | 94 | 4.68 | 4.29 | 15.2 | 94 | 5.11 | 4.45 | 15.7 | 94 | 6.91 | 5.06 | 17.8 | 94 | 8.86 | 5.59 | 20.1 | 94 |
| 9 | 1162 | 9 | 4.19 | 4.08 | 12.9 | 94 | 5.20 | 4.49 | 13.6 | 94 | 5.72 | 4.69 | 14.0 | 94 | 6.26 | 4.89 | 14.5 | 94 | 8.52 | 5.64 | 16.2 | 94 | 11.02 | 6.31 | 18.1 | 94 |
| 9 | 2231 | 30 | 4.83 | 4.35 | 12.1 | 94 | 6.01 | 4.83 | 12.7 | 94 | 6.62 | 5.06 | 13.0 | 94 | 7.25 | 5.29 | 13.3 | 94 | 9.92 | 6.18 | 14.7 | 94 | 12.90 | 7.00 | 16.1 | 95 |
| 10 | 683 | 3 | 3.63 | 3.63 | 14.1 | 88 | 4.14 | 4.14 | 14.6 | 96 | 4.24 | 4.12 | 15.6 | 94 | 4.66 | 4.29 | 16.1 | 94 | 6.45 | 4.90 | 18.3 | 94 | 8.38 | 5.44 | 20.6 | 94 |
| 10 | 1162 | 9 | 3.94 | 3.94 | 13.2 | 93 | 4.67 | 4.28 | 14.2 | 94 | 5.19 | 4.48 | 14.6 | 94 | 5.72 | 4.68 | 15.0 | 94 | 7.97 | 5.44 | 16.8 | 94 | 10.45 | 6.12 | 18.6 | 94 |
| 10 | 2231 | 30 | 4.24 | 4.10 | 12.8 | 94 | 5.41 | 4.58 | 13.4 | 94 | 6.02 | 4.81 | 13.7 | 94 | 6.64 | 5.05 | 14.0 | 94 | 9.31 | 5.94 | 15.4 | 94 | 12.27 | 6.77 | 16.8 | 95 |

UTNB 011 6R

| Twi C | G l/h | Δpw kPa | Tai: 24°C / 47% RH | | | | Tai: 26°C / 47% RH | | | | Tai: 27°C / 47% RH | | | | Tai: 28°C / 47% RH | | | | Tai: 32°C / 47% RH | | | | Tai: 36°C / 47% RH | | | |
|----------|----------|------------|--------------------|----------|----------|---------|--------------------|----------|----------|---------|--------------------|----------|----------|---------|--------------------|----------|----------|---------|--------------------|----------|----------|---------|--------------------|----------|----------|---------|
| | | | QT kW | QS kW | Tau C | RH % | QT kW | QS kW | Tau C | RH % | QT kW | QS kW | Tau C | RH % | QT kW | QS kW | Tau C | RH % | QT kW | QS kW | Tau C | RH % | QT kW | QS kW | Tau C | RH % |
| 5 | 881 | 4 | 6.29 | 5.09 | 10.1 | 97 | 7.33 | 5.49 | 10.9 | 97 | 7.86 | 5.69 | 11.3 | 97 | 8.40 | 5.88 | 11.7 | 97 | 10.71 | 6.59 | 13.5 | 97 | 13.23 | 7.22 | 15.5 | 97 |
| 5 | 1338 | 8 | 7.12 | 5.47 | 9.1 | 97 | 8.31 | 5.93 | 9.7 | 97 | 8.93 | 6.16 | 10.0 | 97 | 9.56 | 6.38 | 10.3 | 97 | 12.25 | 7.24 | 11.7 | 97 | 15.22 | 8.01 | 13.3 | 98 |
| 5 | 2503 | 25 | 7.94 | 5.86 | 8.0 | 97 | 9.28 | 6.39 | 8.4 | 97 | 9.97 | 6.65 | 8.7 | 97 | 10.68 | 6.91 | 8.9 | 97 | 13.73 | 7.90 | 9.9 | 98 | 17.15 | 8.83 | 10.9 | 98 |
| 6 | 881 | 4 | 5.79 | 4.86 | 10.7 | 97 | 6.82 | 5.27 | 11.5 | 97 | 7.35 | 5.47 | 11.9 | 97 | 7.89 | 5.66 | 12.3 | 97 | 10.18 | 6.38 | 14.1 | 97 | 12.68 | 7.02 | 16.1 | 97 |
| 6 | 1338 | 8 | 6.57 | 5.21 | 9.8 | 97 | 7.75 | 5.68 | 10.4 | 97 | 8.36 | 5.91 | 10.7 | 97 | 8.99 | 6.13 | 11.0 | 97 | 11.66 | 6.99 | 12.4 | 97 | 14.62 | 7.76 | 14.0 | 97 |
| 6 | 2503 | 25 | 7.33 | 5.57 | 8.8 | 97 | 8.67 | 6.10 | 9.2 | 97 | 9.36 | 6.36 | 9.4 | 97 | 10.07 | 6.62 | 9.7 | 97 | 13.11 | 7.62 | 10.6 | 97 | 16.52 | 8.56 | 11.7 | 98 |
| 7 | 881 | 4 | 5.28 | 4.64 | 11.3 | 97 | 6.30 | 5.05 | 12.1 | 97 | 6.83 | 5.25 | 12.5 | 97 | 7.36 | 5.45 | 12.9 | 97 | 9.64 | 6.17 | 14.7 | 97 | 12.12 | 6.81 | 16.7 | 97 |
| 7 | 1338 | 8 | 6.00 | 4.95 | 10.5 | 97 | 7.17 | 5.43 | 11.1 | 97 | 7.78 | 5.66 | 11.4 | 97 | 8.41 | 5.88 | 11.7 | 97 | 11.07 | 6.74 | 13.1 | 97 | 14.01 | 7.52 | 14.6 | 97 |
| 7 | 2503 | 25 | 6.71 | 5.28 | 9.6 | 97 | 8.04 | 5.81 | 10.0 | 97 | 8.73 | 6.07 | 10.2 | 97 | 9.44 | 6.33 | 10.5 | 97 | 12.48 | 7.34 | 11.4 | 97 | 15.87 | 8.28 | 12.5 | 98 |
| 8 | 881 | 4 | 4.76 | 4.42 | 11.9 | 97 | 5.77 | 4.83 | 12.7 | 97 | 6.30 | 5.03 | 13.1 | 97 | 6.83 | 5.23 | 13.5 | 97 | 9.09 | 5.96 | 15.3 | 97 | 11.56 | 6.61 | 17.2 | 97 |
| 8 | 1338 | 8 | 5.42 | 4.70 | 11.2 | 97 | 6.59 | 5.18 | 11.8 | 97 | 7.20 | 5.41 | 12.1 | 97 | 7.82 | 5. | | | | | | | | | | |

UTNB 011 performance

Heating capacity

UTNB 011 2R

| Twi C | G l/h | Δpw kPa | Tai: -5°C | | Tai: 0°C | | Tai: 10°C | | Tai: 15°C | | Tai: 20°C | | Tai: 22°C | |
|----------|----------|------------|-----------|----------|----------|----------|-----------|----------|-----------|----------|-----------|----------|-----------|----------|
| | | | Q kW | Tau C | Q kW | Tau C | Q kW | Tau C | Q kW | Tau C | Q kW | Tau C | Q kW | Tau C |
| 40 | 387 | 2 | 7.90 | 14.5 | 6.99 | 17.6 | 5.19 | 23.5 | 4.30 | 26.4 | 3.42 | 29.2 | 3.07 | 30.3 |
| 40 | 706 | 5 | 9.15 | 17.6 | 8.07 | 20.3 | 5.96 | 25.5 | 4.93 | 28.1 | 3.91 | 30.5 | 3.51 | 31.5 |
| 40 | 1436 | 18 | 10.09 | 19.9 | 8.89 | 22.4 | 6.54 | 27.1 | 5.40 | 29.3 | 4.28 | 31.5 | 3.84 | 32.4 |
| 45 | 387 | 2 | 8.83 | 16.8 | 7.91 | 19.9 | 6.08 | 25.9 | 5.19 | 28.7 | 4.30 | 31.6 | 3.94 | 32.7 |
| 45 | 706 | 5 | 10.21 | 20.2 | 9.12 | 22.9 | 6.98 | 28.2 | 5.94 | 30.7 | 4.91 | 33.2 | 4.50 | 34.2 |
| 45 | 1436 | 18 | 11.25 | 22.8 | 10.03 | 25.2 | 7.66 | 30.0 | 6.50 | 32.2 | 5.37 | 34.5 | 4.92 | 35.3 |
| 50 | 387 | 2 | 9.77 | 19.1 | 8.83 | 22.2 | 6.99 | 28.2 | 6.08 | 31.1 | 5.18 | 34.0 | 4.82 | 35.1 |
| 50 | 706 | 5 | 11.28 | 22.9 | 10.17 | 25.6 | 8.01 | 30.9 | 6.96 | 33.4 | 5.92 | 35.9 | 5.50 | 36.9 |
| 50 | 1436 | 18 | 12.40 | 25.6 | 11.17 | 28.1 | 8.77 | 32.9 | 7.61 | 35.2 | 6.46 | 37.4 | 6.01 | 38.3 |
| 60 | 381 | 2 | 11.60 | 23.6 | 10.64 | 26.8 | 8.77 | 32.8 | 7.84 | 35.8 | 6.93 | 38.7 | 6.57 | 39.8 |
| 60 | 557 | 3 | 12.80 | 26.6 | 11.73 | 29.5 | 9.64 | 35.1 | 8.61 | 37.8 | 7.60 | 40.5 | 7.20 | 41.5 |
| 60 | 906 | 7 | 13.97 | 29.5 | 12.78 | 32.2 | 10.47 | 37.3 | 9.34 | 39.8 | 8.24 | 42.2 | 7.80 | 43.1 |
| 70 | 381 | 2 | 13.48 | 28.3 | 12.51 | 31.5 | 10.60 | 37.6 | 9.66 | 40.6 | 8.72 | 43.5 | 8.36 | 44.7 |
| 70 | 557 | 3 | 14.87 | 31.7 | 13.78 | 34.7 | 11.64 | 40.3 | 10.59 | 43.1 | 9.56 | 45.8 | 9.15 | 46.8 |
| 70 | 906 | 7 | 16.20 | 35.0 | 14.99 | 37.7 | 12.63 | 42.9 | 11.48 | 45.4 | 10.35 | 47.9 | 9.90 | 48.8 |

Twi = Temperature of inlet water
G = Water flow rate
Δpw = Waterside pressure drop
Tai = Temperature of inlet air
Q = Heating capacity
Tau = Temperature of outlet air

Output correction factors

The outputs quoted refer to the following conditions:

| | | |
|---------|-------------------|------|
| Airflow | m ³ /h | 1100 |
|---------|-------------------|------|

To obtain the outputs at other speeds, use the correction factors quoted on the previous page.

Values for which the electric motor needs to be checked, because of the high outlet temperature of the air

UTNB 011 4R

| Twi C | G l/h | Δpw kPa | Tai: -5°C | | Tai: 0°C | | Tai: 10°C | | Tai: 15°C | | Tai: 20°C | | Tai: 22°C | |
|----------|----------|------------|-----------|----------|----------|----------|-----------|----------|-----------|----------|-----------|----------|-----------|----------|
| | | | Q kW | Tau C | Q kW | Tau C | Q kW | Tau C | Q kW | Tau C | Q kW | Tau C | Q kW | Tau C |
| 40 | 683 | 3 | 12.66 | 26.3 | 11.15 | 28.0 | 8.21 | 31.4 | 6.78 | 33.0 | 5.37 | 34.5 | 4.82 | 35.1 |
| 40 | 1162 | 8 | 13.80 | 29.1 | 12.13 | 30.5 | 8.90 | 33.2 | 7.33 | 34.4 | 5.80 | 35.6 | 5.20 | 36.1 |
| 40 | 2231 | 26 | 14.62 | 31.1 | 12.83 | 32.3 | 9.38 | 34.4 | 7.72 | 35.5 | 6.10 | 36.4 | 5.46 | 36.8 |
| 45 | 683 | 3 | 14.12 | 29.9 | 12.59 | 31.7 | 9.61 | 35.1 | 8.16 | 36.6 | 6.74 | 38.2 | 6.18 | 38.8 |
| 45 | 1162 | 8 | 15.38 | 33.0 | 13.69 | 34.4 | 10.41 | 37.1 | 8.82 | 38.4 | 7.27 | 39.6 | 6.66 | 40.1 |
| 45 | 2231 | 26 | 16.28 | 35.2 | 14.46 | 36.4 | 10.97 | 38.6 | 9.28 | 39.6 | 7.64 | 40.6 | 7.00 | 41.0 |
| 50 | 683 | 3 | 15.60 | 33.5 | 14.04 | 35.3 | 11.02 | 38.7 | 9.56 | 40.3 | 8.11 | 41.9 | 7.55 | 42.5 |
| 50 | 1162 | 8 | 16.97 | 36.9 | 15.25 | 38.4 | 11.92 | 41.1 | 10.32 | 42.3 | 8.75 | 43.6 | 8.13 | 44.0 |
| 50 | 2231 | 25 | 17.94 | 39.3 | 16.10 | 40.5 | 12.56 | 42.7 | 10.85 | 43.8 | 9.19 | 44.8 | 8.53 | 45.1 |
| 60 | 576 | 2 | 17.86 | 39.1 | 16.34 | 41.1 | 13.38 | 44.9 | 11.93 | 46.6 | 10.52 | 48.3 | 9.95 | 49.0 |
| 60 | 819 | 4 | 19.19 | 42.4 | 17.53 | 44.1 | 14.31 | 47.3 | 12.74 | 48.8 | 11.21 | 50.2 | 10.61 | 50.8 |
| 60 | 1298 | 9 | 20.40 | 45.4 | 18.60 | 46.8 | 15.14 | 49.5 | 13.47 | 50.7 | 11.84 | 51.9 | 11.19 | 52.4 |
| 70 | 576 | 2 | 20.73 | 46.2 | 19.17 | 48.2 | 16.14 | 52.1 | 14.67 | 53.9 | 13.21 | 55.6 | 12.64 | 56.3 |
| 70 | 819 | 4 | 22.25 | 50.0 | 20.55 | 51.7 | 17.25 | 55.0 | 15.65 | 56.5 | 14.08 | 57.9 | 13.46 | 58.5 |
| 70 | 1298 | 9 | 23.63 | 53.4 | 21.79 | 54.8 | 18.24 | 57.5 | 16.52 | 58.8 | 14.85 | 60.0 | 14.19 | 60.5 |

UTNB 011 6R

| Twi C | G l/h | Δpw kPa | Tai: -5°C | | Tai: 0°C | | Tai: 10°C | | Tai: 15°C | | Tai: 20°C | | Tai: 22°C | |
|----------|----------|------------|-----------|----------|----------|----------|-----------|----------|-----------|----------|-----------|----------|-----------|----------|
| | | | Q kW | Tau C | Q kW | Tau C | Q kW | Tau C | Q kW | Tau C | Q kW | Tau C | Q kW | Tau C |
| 40 | 881 | 3 | 14.50 | 30.8 | 12.75 | 32.1 | 9.35 | 34.4 | 7.70 | 35.4 | 6.09 | 36.4 | 5.46 | 36.8 |
| 40 | 1338 | 7 | 15.26 | 32.7 | 13.39 | 33.7 | 9.79 | 35.5 | 8.05 | 36.4 | 6.36 | 37.2 | 5.70 | 37.5 |
| 40 | 2503 | 22 | 15.91 | 34.3 | 13.95 | 35.1 | 10.17 | 36.5 | 8.36 | 37.2 | 6.60 | 37.8 | 5.91 | 38.0 |
| 45 | 881 | 3 | 16.17 | 34.9 | 14.38 | 36.2 | 10.93 | 38.5 | 9.27 | 39.6 | 7.64 | 40.6 | 6.99 | 41.0 |
| 45 | 1338 | 7 | 16.99 | 37.0 | 15.10 | 38.0 | 11.44 | 39.8 | 9.69 | 40.7 | 7.97 | 41.5 | 7.30 | 41.8 |
| 45 | 2503 | 21 | 17.71 | 38.8 | 15.71 | 39.5 | 11.88 | 41.0 | 10.05 | 41.6 | 8.26 | 42.3 | 7.56 | 42.5 |
| 50 | 881 | 3 | 17.84 | 39.1 | 16.03 | 40.3 | 12.53 | 42.7 | 10.84 | 43.7 | 9.19 | 44.8 | 8.54 | 45.2 |
| 50 | 1338 | 7 | 18.74 | 41.3 | 16.81 | 42.3 | 13.11 | 44.2 | 11.32 | 45.0 | 9.58 | 45.8 | 8.90 | 46.1 |
| 50 | 2503 | 21 | 19.51 | 43.2 | 17.48 | 44.0 | 13.60 | 45.4 | 11.74 | 46.1 | 9.93 | 46.7 | 9.21 | 47.0 |
| 60 | 641 | 2 | 20.02 | 44.4 | 18.29 | 46.0 | 14.93 | 48.9 | 13.31 | 50.3 | 11.71 | 51.6 | 11.08 | 52.0 |
| 60 | 900 | 3 | 21.25 | 47.5 | 19.38 | 48.8 | 15.78 | 51.1 | 14.04 | 52.2 | 12.33 | 53.2 | 11.66 | 53.6 |
| 60 | 1409 | 7 | 22.32 | 50.1 | 20.33 | 51.2 | 16.51 | 53.0 | 14.67 | 53.9 | 12.87 | 54.7 | 12.17 | 55.0 |
| 70 | 641 | 2 | 23.22 | 52.3 | 21.44 | 53.9 | 18.01 | 56.9 | 16.34 | 58.3 | 14.70 | 59.6 | 14.06 | 60.1 |
| 70 | 900 | 3 | 24.62 | 55.8 | 22.71 | 57.1 | 19.01 | 59.5 | 17.22 | 60.6 | 15.47 | 61.7 | 14.79 | 62.1 |
| 70 | 1409 | 7 | 25.84 | 58.8 | 23.80 | 59.9 | 19.87 | 61.8 | 17.98 | 62.6 | 16.14 | 63.5 | 15.41 | 63.8 |

Additional coil KBAB 011

| Twi C | G l/h | Δpw kPa | Tai: -5°C | | Tai: 0°C | | Tai: 10°C | | Tai: 15°C | | Tai: 20°C | | Tai: 22°C | |
|----------|----------|------------|-----------|----------|----------|----------|-----------|----------|-----------|----------|-----------|----------|-----------|----------|
| | | | Q kW | Tau C | Q kW | Tau C | Q kW | Tau C | Q kW | Tau C | Q kW | Tau C | Q kW | Tau C |
| 50 | 369 | 2 | 9.43 | 19.4 | 8.52 | 22.5 | 6.74 | 28.4 | 5.87 | 31.3 | 5.00 | 34.1 | 4.65 | 35.2 |
| 50 | 539 | 3 | 10.42 | 22.0 | 9.40 | 24.8 | 7.42 | 30.2 | 6.44 | 32.9 | 5.48 | 35.5 | 5.10 | 36.5 |
| 50 | 877 | 7 | 11.38 | 24.4 | 10.26 | 27.0 | 8.06 | 32.0 | 7.00 | 34.4 | 5.95 | 36.8 | 5.53 | 37.7 |
| 60 | 369 | 2 | 11.24 | 24.1 | 10.32 | 27.2 | 8.50 | 33.2 | 7.60 | 36.1 | 6.72 | 39.0 | 6.37 | 40.1 |
| 60 | 539 | 3 | 12.41 | 27.1 | 11.37 | 30.0 | 9.34 | 35.5 | 8.34 | 38.2 | 7.36 | 40.8 | 6.97 | 41.8 |
| 60 | 877 | 7 | 13.53 | 30.0 | 12.38 | 32.6 | 10.14 | 37.7 | 9.05 | 40.1 | 7.97 | 42.5 | 7.55 | 43.4 |
| 70 | 369 | 1 | 13.07 | 28.8 | 12.13 | 32.0 | 10.27 | 38.0 | 9.36 | 41.0 | 8.46 | 43.9 | 8.10 | 45.0 |
| 70 | 539 | 3 | 14.41 | 32.3 | 13.35 | 35.2 | 11.28 | 40.8 | 10.26 | 43.5 | 9.26 | 46.1 | 8.86 | 47.2 |
| 70 | 877 | 7 | 15.70 | 35.6 | 14.52 | 38.3 | 12.23 | 43.4 | 11.12 | 45.9 | 10.02 | 48.3 | 9.58 | 49.2 |

UTNB 014 performance

Cooling capacity

UTNB 014 2R

| Twi C | G l/h | Δpw kPa | Tai: 24°C / 47% RH | | | | Tai: 26°C / 47% RH | | | | Tai: 27°C / 47% RH | | | | Tai: 28°C / 47% RH | | | | Tai: 32°C / 47% RH | | | | Tai: 36°C / 47% RH | | | |
|----------|----------|------------|--------------------|----------|----------|---------|--------------------|----------|----------|---------|--------------------|----------|----------|---------|--------------------|----------|----------|---------|--------------------|----------|----------|---------|--------------------|----------|----------|---------|
| | | | QT kW | QS kW | Tau C | RH % | QT kW | QS kW | Tau C | RH % | QT kW | QS kW | Tau C | RH % | QT kW | QS kW | Tau C | RH % | QT kW | QS kW | Tau C | RH % | QT kW | QS kW | Tau C | RH % |
| 5 | 488 | 3 | 3.76 | 3.76 | 16.4 | 76 | 4.12 | 4.02 | 17.8 | 77 | 4.42 | 4.14 | 18.5 | 77 | 4.71 | 4.26 | 19.2 | 77 | 5.95 | 4.69 | 22.2 | 78 | 7.28 | 5.06 | 25.3 | 78 |
| 5 | 828 | 8 | 4.45 | 4.14 | 15.6 | 77 | 5.18 | 4.44 | 16.9 | 77 | 5.55 | 4.59 | 17.6 | 77 | 5.93 | 4.72 | 18.3 | 77 | 7.54 | 5.24 | 21.1 | 78 | 9.27 | 5.68 | 24.0 | 78 |
| 5 | 1701 | 29 | 5.45 | 4.57 | 14.7 | 77 | 6.35 | 4.93 | 15.9 | 77 | 6.82 | 5.10 | 16.5 | 78 | 7.30 | 5.27 | 17.2 | 78 | 9.31 | 5.90 | 19.7 | 78 | 11.51 | 6.45 | 22.4 | 79 |
| 6 | 488 | 3 | 3.57 | 3.57 | 16.7 | 74 | 3.97 | 3.97 | 17.9 | 78 | 4.12 | 4.03 | 18.7 | 77 | 4.41 | 4.15 | 19.5 | 77 | 5.65 | 4.59 | 22.4 | 78 | 6.97 | 4.96 | 25.5 | 78 |
| 6 | 828 | 8 | 4.09 | 3.99 | 15.9 | 77 | 4.82 | 4.29 | 17.2 | 77 | 5.19 | 4.44 | 17.9 | 77 | 5.57 | 4.58 | 18.6 | 77 | 7.16 | 5.10 | 21.4 | 78 | 8.89 | 5.56 | 24.3 | 78 |
| 6 | 1701 | 29 | 5.02 | 4.38 | 15.1 | 77 | 5.92 | 4.75 | 16.3 | 77 | 6.38 | 4.92 | 16.9 | 77 | 6.86 | 5.09 | 17.5 | 77 | 8.86 | 5.73 | 20.1 | 78 | 11.05 | 6.29 | 22.7 | 78 |
| 7 | 488 | 3 | 3.38 | 3.38 | 17.1 | 72 | 3.78 | 3.78 | 18.3 | 76 | 3.97 | 3.97 | 18.9 | 77 | 4.10 | 4.04 | 19.7 | 77 | 5.34 | 4.48 | 22.7 | 78 | 6.65 | 4.87 | 25.7 | 78 |
| 7 | 828 | 8 | 3.86 | 3.86 | 16.2 | 77 | 4.45 | 4.15 | 17.5 | 77 | 4.82 | 4.30 | 18.2 | 77 | 5.19 | 4.44 | 18.9 | 77 | 6.78 | 4.97 | 21.6 | 78 | 8.50 | 5.43 | 24.5 | 78 |
| 7 | 1701 | 29 | 4.58 | 4.20 | 15.5 | 77 | 5.48 | 4.56 | 16.7 | 77 | 5.94 | 4.74 | 17.3 | 77 | 6.41 | 4.91 | 17.9 | 77 | 8.41 | 5.56 | 20.4 | 78 | 10.59 | 6.13 | 23.1 | 78 |
| 8 | 488 | 3 | 3.19 | 3.19 | 17.5 | 70 | 3.58 | 3.58 | 18.7 | 74 | 3.78 | 3.78 | 19.2 | 76 | 3.98 | 3.98 | 19.8 | 77 | 5.02 | 4.38 | 22.9 | 78 | 6.33 | 4.77 | 25.9 | 78 |
| 8 | 828 | 8 | 3.64 | 3.64 | 16.6 | 75 | 4.07 | 4.00 | 17.8 | 77 | 4.44 | 4.15 | 18.5 | 77 | 4.82 | 4.30 | 19.2 | 77 | 6.39 | 4.84 | 21.9 | 78 | 8.10 | 5.31 | 24.8 | 78 |
| 8 | 1701 | 28 | 4.14 | 4.01 | 15.9 | 77 | 5.03 | 4.38 | 17.0 | 77 | 5.48 | 4.56 | 17.7 | 77 | 5.95 | 4.73 | 18.3 | 77 | 7.94 | 5.39 | 20.8 | 78 | 10.12 | 5.96 | 23.4 | 78 |
| 9 | 488 | 3 | 3.00 | 3.00 | 17.9 | 69 | 3.39 | 3.39 | 19.1 | 72 | 3.59 | 3.59 | 19.6 | 74 | 3.79 | 3.79 | 20.2 | 76 | 4.71 | 4.28 | 23.1 | 78 | 6.01 | 4.68 | 26.1 | 78 |
| 9 | 828 | 8 | 3.41 | 3.41 | 17.1 | 73 | 3.86 | 3.86 | 18.1 | 77 | 4.06 | 4.01 | 18.8 | 77 | 4.43 | 4.16 | 19.4 | 77 | 6.00 | 4.71 | 22.2 | 78 | 7.70 | 5.18 | 25.1 | 78 |
| 9 | 1701 | 28 | 3.81 | 3.81 | 16.3 | 76 | 4.57 | 4.20 | 17.4 | 77 | 5.03 | 4.38 | 18.0 | 77 | 5.49 | 4.55 | 18.6 | 77 | 7.47 | 5.22 | 21.1 | 78 | 9.63 | 5.80 | 23.8 | 78 |
| 10 | 488 | 3 | 2.80 | 2.80 | 18.3 | 67 | 3.20 | 3.20 | 19.5 | 70 | 3.40 | 3.40 | 20.0 | 72 | 3.59 | 3.59 | 20.6 | 74 | 4.39 | 4.18 | 23.3 | 78 | 5.68 | 4.58 | 26.3 | 78 |
| 10 | 828 | 8 | 3.19 | 3.19 | 17.5 | 71 | 3.64 | 3.64 | 18.6 | 74 | 3.86 | 3.86 | 19.1 | 76 | 4.05 | 4.02 | 19.7 | 77 | 5.61 | 4.57 | 22.5 | 78 | 7.29 | 5.06 | 25.3 | 78 |
| 10 | 1701 | 28 | 3.56 | 3.56 | 16.8 | 74 | 4.10 | 4.02 | 17.8 | 77 | 4.56 | 4.20 | 18.4 | 77 | 5.02 | 4.38 | 19.0 | 77 | 6.99 | 5.05 | 21.5 | 78 | 9.15 | 5.64 | 24.1 | 78 |

UTNB 014 4R

| Twi C | G l/h | Δpw kPa | Tai: 24°C / 47% RH | | | | Tai: 26°C / 47% RH | | | | Tai: 27°C / 47% RH | | | | Tai: 28°C / 47% RH | | | | Tai: 32°C / 47% RH | | | | Tai: 36°C / 47% RH | | | |
|----------|----------|------------|--------------------|----------|----------|---------|--------------------|----------|----------|---------|--------------------|----------|----------|---------|--------------------|----------|----------|---------|--------------------|----------|----------|---------|--------------------|----------|----------|---------|
| | | | QT kW | QS kW | Tau C | RH % | QT kW | QS kW | Tau C | RH % | QT kW | QS kW | Tau C | RH % | QT kW | QS kW | Tau C | RH % | QT kW | QS kW | Tau C | RH % | QT kW | QS kW | Tau C | RH % |
| 5 | 820 | 5 | 6.20 | 5.63 | 12.6 | 92 | 7.20 | 6.04 | 13.6 | 92 | 7.71 | 6.23 | 14.2 | 92 | 8.24 | 6.42 | 14.8 | 92 | 10.44 | 7.12 | 17.2 | 92 | 12.81 | 7.71 | 19.7 | 92 |
| 5 | 1416 | 13 | 7.58 | 6.23 | 11.3 | 92 | 8.83 | 6.73 | 12.2 | 92 | 9.47 | 6.97 | 12.7 | 92 | 10.13 | 7.20 | 13.2 | 92 | 12.94 | 8.07 | 15.2 | 92 | 16.01 | 8.84 | 17.4 | 93 |
| 5 | 2751 | 45 | 8.77 | 6.78 | 10.2 | 92 | 10.24 | 7.36 | 11.0 | 92 | 11.00 | 7.64 | 11.3 | 92 | 11.78 | 7.91 | 11.7 | 92 | 15.11 | 8.96 | 13.3 | 93 | 18.80 | 9.92 | 15.1 | 94 |
| 6 | 820 | 5 | 5.69 | 5.42 | 13.0 | 92 | 6.69 | 5.83 | 14.1 | 92 | 7.20 | 6.03 | 14.6 | 92 | 7.72 | 6.22 | 15.2 | 92 | 9.91 | 6.93 | 17.6 | 92 | 12.26 | 7.53 | 20.1 | 92 |
| 6 | 1416 | 13 | 6.97 | 5.97 | 11.9 | 92 | 8.22 | 6.46 | 12.8 | 92 | 8.86 | 6.71 | 13.2 | 92 | 9.52 | 6.94 | 13.7 | 92 | 12.30 | 7.82 | 15.7 | 92 | 15.35 | 8.60 | 17.9 | 93 |
| 6 | 2751 | 44 | 8.09 | 6.46 | 10.9 | 92 | 9.55 | 7.04 | 11.6 | 92 | 10.31 | 7.33 | 12.0 | 92 | 11.09 | 7.60 | 12.4 | 92 | 14.40 | 8.66 | 13.9 | 93 | 18.07 | 9.63 | 15.7 | 93 |
| 7 | 820 | 5 | 5.45 | 5.45 | 12.9 | 95 | 6.17 | 5.63 | 14.5 | 92 | 6.68 | 5.82 | 15.0 | 92 | 7.19 | 6.02 | 15.6 | 92 | 9.37 | 6.73 | 18.0 | 92 | 11.71 | 7.35 | 20.5 | 92 |
| 7 | 1416 | 13 | 6.36 | 5.70 | 12.4 | 92 | 7.60 | 6.20 | 13.3 | 92 | 8.23 | 6.45 | 13.8 | 92 | 8.89 | 6.69 | 14.2 | 92 | 11.66 | 7.57 | 16.2 | 92 | 14.69 | 8.36 | 18.4 | 93 |
| 7 | 2751 | 44 | 7.39 | 6.15 | 11.5 | 92 | 8.85 | 6.73 | 12.2 | 92 | 9.60 | 7.02 | 12.6 | 92 | 10.38 | 7.30 | 13.0 | 92 | 13.68 | 8.37 | 14.6 | 93 | 17.33 | 9.34 | 16.3 | 93 |
| 8 | 820 | 5 | 5.14 | 5.14 | 13.6 | 91 | 5.65 | 5.42 | 14.9 | 92 | 6.15 | 5.62 | 15.5 | 92 | 6.66 | 5.82 | 16.0 | 92 | 8.82 | 6.55 | 18.4 | 92 | 11.15 | 7.17 | 20.9 | 92 |
| 8 | 1416 | 13 | 5.73 | 5.44 | 13.0 | 92 | 6.97 | 5.95 | 13.8 | 92 | 7.60 | 6.19 | 14.3 | 92 | 8.25 | 6.43 | 14.8 | 92 | 11.01 | 7.33 | 16.7 | 92 | 14.02 | 8.13 | 18.9 | 92 |
| 8 | 2751 | 44 | 6.68 | 5.84 | 12.1 | 92 | 8.13 | 6.43 | 12.9 | 92 | 8.88 | 6.71 | 13.2 | 92 | 9.65 | 7.00 | 13.6 | 92 | 12.94 | 8.07 | 15.2 | 92 | 16.58 | 9.05 | 16.9 | 93 |
| 9 | 820 | 5 | 4.82 | 4.82 | 14.2 | 87 | 5.45 | 5.45 | 14.8 | 94 | 5.62 | 5.42 | 15.9 | 92 | 6.13 | 5.62 | 16.4 | 92 | 8.27 | 6.36 | 18.8 | 92 | 10.58 | 6.99 | 21.2 | 92 |
| 9 | 1416 | 13 | 5.31 | 5.31 | 13.2 | 93 | 6.33 | 5.69 | 14.4 | 92 | 6.96 | 5.94 | 14.8 | 92 | 7.61 | 6.18 | 15.3 | 92 | 10.34 | 7.08 | 17.2 | 92 | 13.34 | 7.89 | 19.3 | 92 |
| 9 | 2751 | 44 | 5.96 | 5.53 | 12.8 | 92 | 7.40 | 6.12 | 13.5 | 92 | 8.15 | 6.41 | 13.8 | 92 | 8.92 | 6.70 | 14.2 | 92 | 12.19 | 7.78 | 15.8 | 92 | 15.81 | 8.77 | 17.5 | 93 |
| 10 | 820 | 5 | 4.51 | 4.51 | 14.8 | 84 | 5.14 | 5.14 | 15.5 | 90 | 5.45 | 5.45 | 15.8 | 94 | 5.59 | 5.42 | 16.8 | 92 | 7.72 | 6.16 | 19.2 | 92 | 10.01 | 6.82 | 21.6 | 92 |
| 10 | 1416 | 13 | 4.96 | 4.96 | 13.9 | 89 | 5.68 | 5.43 | 14.9 | 92 | 6.31 | 5.68 | 15.3 | 92 | 6.95 | 5.92 | 15.8 | 92 | 9.67 | 6.84 | 17.7 | 92 | 12.65 | 7.66 | 19.8 | 92 |
| 10 | 2751 | 44 | 5.30 | 5.30 | 13.2 | 93 | 6.66 | 5.82 | 14.1 | 92 | 7.40 | 6.11 | 14.5 | 92 | 8.17 | 6.39 | 14.8 | 92 | 11.42 | 7.48 | 16.4 | 92 | 15.03 | 8.48 | 18.1 | 93 |

UTNB 014 6R

| Twi C | G l/h | Δpw kPa | Tai: 24°C / 47% RH | | | | Tai: 26°C / 47% RH | | | | Tai: 27°C / 47% RH | | | | Tai: 28°C / 47% RH | | | | Tai: 32°C / 47% RH | | | | Tai: 36°C / 47% RH | | | |
|----------|----------|------------|--------------------|----------|----------|---------|--------------------|----------|----------|---------|--------------------|----------|----------|---------|--------------------|----------|----------|---------|--------------------|----------|----------|---------|--------------------|----------|----------|---------|
| | | | QT kW | QS kW | Tau C | RH % | QT kW | QS kW | Tau C | RH % | QT kW | QS kW | Tau C | RH % | QT kW | QS kW | Tau C | RH % | QT kW | QS kW | Tau C | RH % | QT kW | QS kW | Tau C | RH % |
| 5 | 990 | 5 | 7.46 | 6.34 | 11.1 | 95 | 8.68 | 6.83 | 12.0 | 95 | 9.30 | 7.06 | 12.5 | 95 | 9.94 | 7.28 | 13.0 | 95 | 12.62 | 8.11 | 15.1 | 96 | 15.53 | 8.83 | 17.4 | 96 |
| 5 | 1658 | 12 | 8.85 | 6.96 | 9.9 | 95 | 10.32 | 7.54 | 10.6 | 95 | 11.08 | 7.82 | 11.0 | 96 | 11.86 | 8.10 | 11.3 | 96 | 15.16 | 9.13 | 13.0 | 96 | 18.81 | 10.06 | 14.8 | 96 |
| 5 | 3141 | 38 | 9.99 | 7.49 | 8.8 | 95 | 11.66 | 8.16 | 9.3 | 96 | 12.54 | 8.48 | 9.6 | 96 | 13.43 | 8.80 | 9.9 | 96 | 17.25 | 10.03 | 11.1 | 96 | 21.51 | 11.17 | 12.4 | 97 |
| 6 | 990 | 5 | 6.86 | 6.08 | 11.6 | 95 | 8.06 | 6.57 | 12.6 | 95 | 8.69 | 6.80 | 13.1 | 95 | 9.32 | 7.03 | 13.5 | 95 | 11.98 | 7.87 | 15.6 | 96 | 14.87 | 8.59 | 17.9 | 96 |
| 6 | 1658 | 12 | 8.15 | 6.65 | 10.5 | 95 | 9.61 | 7.23 | 11.2 | 95 | 10.37 | 7.51 | 11.6 | 95 | 11.14 | 7.78 | 12.0 | 96 | 14.43 | 8.83 | 13.6 | 96 | 18.06 | 9.76 | 15.4 | 96 |
| 6 | 3141 | 38 | 9.22 | 7.13 | 9.5 | 95 | 10.89 | 7.80 | 10.1 | 96 | 11.76 | 8.12 | 10.3 | 96 | 12.65 | 8.45 | 10.6 | 96 | 16.46 | 9.68 | 11.8 | 96 | 20.70 | 10.82 | 13.2 | 97 |
| 7 | 990 | 5 | 6.25 | 5.82 | 12.2 | 95 | 7.44 | 6.31 | 13.1 | 95 | 8.06 | 6.55 | 13.6 | 95 | 8.69 | 6.78 | 14.1 | 95 | 11.34 | 7.63 | 16.1 | 96 | 14.21 | 8.36 | 18.4 | 96 |
| 7 | 1658 | 12 | 7.44 | 6.33 | 11.1 | 95 | 8.89 | 6.91 | 11.9 | 95 | 9.64 | 7.20 | 12.2 | 95 | 10.41 | 7.48 | 12.6 | 96 | 13.69 | 8.53 | 14.2 | 96 | 17.29 | 9.47 | 16.0 | 96 |
| 7 | 3141 | 38 | 8.43 | 6.78 | 10.2 | 95 | 10.10 | 7.44 | 10.8 | 95 | 10.96 | 7.77 | 11.1 | 96 | 11.85 | 8.09 | 11.4 | 96 | 15.64 | 9.33 | 12.6 | 96 | 19.87 | 10.48 | 13.9 | 97 |
| 8 | 990 | 5 | 5.63 | 5.56 | 12.7 | 95 | 6.82 | 6.06 | 13.6 | 95 | 7.43 | 6.29 | 14.1 | 95 | 8.06 | 6.53 | 14.6 | 95 | 10.69 | 7.39 | 16.6 | 96 | 13.53 | 8.14 | 18.8 | 96 |
| 8 | 1658 | 12 | 6.71 | 6.02 | 11.8 | 95 | 8.16 | 6.61 | 12 | | | | | | | | | | | | | | | | | |

UTNB 014 performance

Heating capacity

UTNB 014 2R

| Twi C | G l/h | Δpw kPa | Tai: -5°C | | Tai: 0°C | | Tai: 10°C | | Tai: 15°C | | Tai: 20°C | | Tai: 22°C | |
|----------|----------|------------|-----------|----------|----------|----------|-----------|----------|-----------|----------|-----------|----------|-----------|----------|
| | | | Q kW | Tau C | Q kW | Tau C | Q kW | Tau C | Q kW | Tau C | Q kW | Tau C | Q kW | Tau C |
| 40 | 488 | 3 | 9.67 | 12.8 | 8.56 | 16.0 | 6.36 | 22.3 | 5.27 | 25.4 | 4.19 | 28.4 | 3.77 | 29.6 |
| 40 | 828 | 7 | 11.04 | 15.3 | 9.75 | 18.2 | 7.21 | 24.0 | 5.97 | 26.8 | 4.74 | 29.5 | 4.26 | 30.6 |
| 40 | 1701 | 25 | 12.29 | 17.6 | 10.83 | 20.3 | 7.99 | 25.5 | 6.60 | 28.0 | 5.23 | 30.5 | 4.69 | 31.5 |
| 45 | 488 | 3 | 10.81 | 14.9 | 9.68 | 18.1 | 7.46 | 24.4 | 6.36 | 27.5 | 5.27 | 30.6 | 4.84 | 31.8 |
| 45 | 828 | 7 | 12.33 | 17.6 | 11.02 | 20.6 | 8.45 | 26.4 | 7.19 | 29.2 | 5.95 | 31.9 | 5.46 | 33.0 |
| 45 | 1701 | 24 | 13.70 | 20.2 | 12.22 | 22.9 | 9.35 | 28.1 | 7.94 | 30.6 | 6.56 | 33.1 | 6.02 | 34.1 |
| 50 | 488 | 3 | 11.96 | 17.0 | 10.82 | 20.2 | 8.56 | 26.6 | 7.45 | 29.7 | 6.35 | 32.7 | 5.92 | 33.9 |
| 50 | 828 | 7 | 13.62 | 20.0 | 12.29 | 23.0 | 9.70 | 28.8 | 8.42 | 31.6 | 7.17 | 34.4 | 6.67 | 35.5 |
| 50 | 1701 | 24 | 15.11 | 22.8 | 13.62 | 25.5 | 10.71 | 30.7 | 9.29 | 33.3 | 7.90 | 35.8 | 7.34 | 36.8 |
| 60 | 462 | 2 | 14.03 | 20.8 | 12.88 | 24.1 | 10.62 | 30.6 | 9.51 | 33.7 | 8.41 | 36.8 | 7.97 | 38.1 |
| 60 | 679 | 4 | 15.56 | 23.6 | 14.26 | 26.7 | 11.73 | 32.7 | 10.49 | 35.7 | 9.26 | 38.5 | 8.77 | 39.7 |
| 60 | 1108 | 11 | 17.03 | 26.3 | 15.60 | 29.2 | 12.79 | 34.8 | 11.42 | 37.5 | 10.07 | 40.2 | 9.54 | 41.2 |
| 70 | 462 | 2 | 16.32 | 25.0 | 15.15 | 28.3 | 12.84 | 34.9 | 11.71 | 38.1 | 10.58 | 41.2 | 10.14 | 42.4 |
| 70 | 679 | 4 | 18.07 | 28.2 | 16.75 | 31.3 | 14.17 | 37.4 | 12.90 | 40.4 | 11.65 | 43.3 | 11.15 | 44.5 |
| 70 | 1108 | 10 | 19.77 | 31.3 | 18.30 | 34.2 | 15.44 | 39.9 | 14.04 | 42.7 | 12.66 | 45.4 | 12.11 | 46.4 |

Twi = Temperature of inlet water

G = Water flow rate

Δpw = Waterside pressure drop

Tai = Temperature of inlet air

Q = Heating capacity

Tau = Temperature of outlet air

Output correction factors

The outputs quoted refer to the following conditions:

| | | |
|---------|-------------------|------|
| Airflow | m ³ /h | 1480 |
|---------|-------------------|------|

To obtain the outputs at other speeds, use the correction factors quoted on the previous page.

Values for which the electric motor needs to be checked, because of the high outlet temperature of the air

UTNB 014 4R

| Twi C | G l/h | Δpw kPa | Tai: -5°C | | Tai: 0°C | | Tai: 10°C | | Tai: 15°C | | Tai: 20°C | | Tai: 22°C | |
|----------|----------|------------|-----------|----------|----------|----------|-----------|----------|-----------|----------|-----------|----------|-----------|----------|
| | | | Q kW | Tau C | Q kW | Tau C | Q kW | Tau C | Q kW | Tau C | Q kW | Tau C | Q kW | Tau C |
| 40 | 820 | 4 | 15.68 | 23.8 | 13.82 | 25.8 | 10.20 | 29.7 | 8.43 | 31.6 | 6.69 | 33.4 | 6.00 | 34.1 |
| 40 | 1416 | 12 | 17.31 | 26.8 | 15.23 | 28.5 | 11.19 | 31.7 | 9.23 | 33.2 | 7.31 | 34.6 | 6.55 | 35.2 |
| 40 | 2751 | 38 | 18.49 | 29.0 | 16.24 | 30.4 | 11.90 | 33.0 | 9.80 | 34.3 | 7.75 | 35.5 | 6.94 | 36.0 |
| 45 | 820 | 4 | 17.50 | 27.1 | 15.62 | 29.2 | 11.94 | 33.1 | 10.15 | 35.0 | 8.39 | 36.8 | 7.69 | 37.5 |
| 45 | 1416 | 11 | 19.30 | 30.4 | 17.19 | 32.1 | 13.09 | 35.4 | 11.10 | 36.9 | 9.16 | 38.3 | 8.39 | 38.9 |
| 45 | 2751 | 38 | 20.60 | 32.8 | 18.31 | 34.2 | 13.91 | 36.9 | 11.78 | 38.2 | 9.71 | 39.4 | 8.89 | 39.9 |
| 50 | 820 | 4 | 19.33 | 30.5 | 17.42 | 32.6 | 13.70 | 36.5 | 11.89 | 38.4 | 10.10 | 40.2 | 9.40 | 40.9 |
| 50 | 1416 | 11 | 21.30 | 34.1 | 19.15 | 35.8 | 15.00 | 39.1 | 12.99 | 40.6 | 11.02 | 42.1 | 10.24 | 42.6 |
| 50 | 2751 | 37 | 22.71 | 36.7 | 20.39 | 38.1 | 15.93 | 40.8 | 13.77 | 42.1 | 11.67 | 43.4 | 10.84 | 43.9 |
| 60 | 723 | 3 | 22.31 | 36.0 | 20.43 | 38.2 | 16.75 | 42.4 | 14.95 | 44.5 | 13.18 | 46.4 | 12.49 | 47.2 |
| 60 | 1034 | 6 | 24.11 | 39.3 | 22.04 | 41.2 | 18.02 | 44.9 | 16.06 | 46.6 | 14.14 | 48.3 | 13.38 | 49.0 |
| 60 | 1646 | 14 | 25.77 | 42.3 | 23.52 | 44.0 | 19.17 | 47.1 | 17.06 | 48.6 | 15.00 | 50.1 | 14.19 | 50.6 |
| 70 | 723 | 3 | 25.91 | 42.6 | 23.98 | 44.8 | 20.22 | 49.2 | 18.38 | 51.2 | 16.57 | 53.2 | 15.86 | 54.0 |
| 70 | 1034 | 6 | 27.97 | 46.4 | 25.85 | 48.3 | 21.73 | 52.1 | 19.72 | 53.9 | 17.76 | 55.6 | 16.98 | 56.2 |
| 70 | 1646 | 14 | 29.86 | 49.8 | 27.56 | 51.5 | 23.10 | 54.7 | 20.94 | 56.3 | 18.83 | 57.7 | 18.00 | 58.3 |

UTNB 014 6R

| Twi C | G l/h | Δpw kPa | Tai: -5°C | | Tai: 0°C | | Tai: 10°C | | Tai: 15°C | | Tai: 20°C | | Tai: 22°C | |
|----------|----------|------------|-----------|----------|----------|----------|-----------|----------|-----------|----------|-----------|----------|-----------|----------|
| | | | Q kW | Tau C | Q kW | Tau C | Q kW | Tau C | Q kW | Tau C | Q kW | Tau C | Q kW | Tau C |
| 40 | 990 | 4 | 18.03 | 28.1 | 15.86 | 29.7 | 11.66 | 32.6 | 9.62 | 34.0 | 7.62 | 35.3 | 6.83 | 35.8 |
| 40 | 1658 | 10 | 19.44 | 30.7 | 17.07 | 31.9 | 12.50 | 34.2 | 10.30 | 35.3 | 8.14 | 36.3 | 7.30 | 36.7 |
| 40 | 3141 | 33 | 20.44 | 32.5 | 17.92 | 33.5 | 13.09 | 35.4 | 10.77 | 36.2 | 8.51 | 37.0 | 7.62 | 37.4 |
| 45 | 990 | 4 | 20.11 | 31.9 | 17.91 | 33.5 | 13.65 | 36.4 | 11.59 | 37.8 | 9.56 | 39.1 | 8.76 | 39.7 |
| 45 | 1658 | 10 | 21.66 | 34.8 | 19.26 | 36.0 | 14.62 | 38.3 | 12.39 | 39.4 | 10.20 | 40.4 | 9.34 | 40.8 |
| 45 | 3141 | 32 | 22.75 | 36.8 | 20.20 | 37.8 | 15.30 | 39.6 | 12.94 | 40.5 | 10.65 | 41.3 | 9.75 | 41.7 |
| 50 | 990 | 4 | 22.19 | 35.7 | 19.97 | 37.3 | 15.65 | 40.3 | 13.56 | 41.7 | 11.50 | 43.0 | 10.69 | 43.6 |
| 50 | 1658 | 10 | 23.89 | 38.9 | 21.45 | 40.1 | 16.75 | 42.4 | 14.48 | 43.5 | 12.27 | 44.6 | 11.40 | 45.0 |
| 50 | 3141 | 32 | 25.07 | 41.0 | 22.48 | 42.0 | 17.51 | 43.9 | 15.13 | 44.8 | 12.80 | 45.6 | 11.89 | 46.0 |
| 60 | 814 | 3 | 25.34 | 41.5 | 23.17 | 43.3 | 18.95 | 46.7 | 16.89 | 48.3 | 14.87 | 49.8 | 14.08 | 50.4 |
| 60 | 1151 | 5 | 27.06 | 44.7 | 24.70 | 46.2 | 20.14 | 49.0 | 17.93 | 50.3 | 15.77 | 51.6 | 14.91 | 52.1 |
| 60 | 1813 | 11 | 28.60 | 47.5 | 26.07 | 48.7 | 21.19 | 51.0 | 18.84 | 52.1 | 16.55 | 53.1 | 15.65 | 53.5 |
| 70 | 814 | 3 | 29.40 | 49.0 | 27.17 | 50.8 | 22.85 | 54.3 | 20.75 | 55.9 | 18.68 | 57.4 | 17.87 | 58.0 |
| 70 | 1151 | 5 | 31.37 | 52.6 | 28.95 | 54.1 | 24.27 | 57.0 | 22.00 | 58.3 | 19.79 | 59.6 | 18.91 | 60.1 |
| 70 | 1813 | 11 | 33.12 | 55.8 | 30.52 | 57.1 | 25.51 | 59.4 | 23.10 | 60.5 | 20.75 | 61.6 | 19.83 | 62.0 |

Additional coil KBAB 014

| Twi C | G l/h | Δpw kPa | Tai: -5°C | | Tai: 0°C | | Tai: 10°C | | Tai: 15°C | | Tai: 20°C | | Tai: 22°C | |
|----------|----------|------------|-----------|----------|----------|----------|-----------|----------|-----------|----------|-----------|----------|-----------|----------|
| | | | Q kW | Tau C | Q kW | Tau C | Q kW | Tau C | Q kW | Tau C | Q kW | Tau C | Q kW | Tau C |
| 50 | 452 | 2 | 11.51 | 16.9 | 10.41 | 20.1 | 8.24 | 26.5 | 7.18 | 29.6 | 6.12 | 32.7 | 5.70 | 33.9 |
| 50 | 664 | 4 | 12.77 | 19.3 | 11.54 | 22.3 | 9.11 | 28.3 | 7.92 | 31.1 | 6.74 | 34.0 | 6.28 | 35.1 |
| 50 | 1083 | 11 | 14.00 | 21.6 | 12.63 | 24.4 | 9.94 | 29.9 | 8.63 | 32.6 | 7.34 | 35.2 | 6.83 | 36.3 |
| 60 | 452 | 2 | 13.73 | 21.1 | 12.61 | 24.4 | 10.39 | 30.8 | 9.30 | 34.0 | 8.23 | 37.1 | 7.80 | 38.3 |
| 60 | 664 | 4 | 15.22 | 23.9 | 13.95 | 27.0 | 11.47 | 33.0 | 10.25 | 35.9 | 9.05 | 38.8 | 8.58 | 39.9 |
| 60 | 1083 | 10 | 16.65 | 26.6 | 15.25 | 29.5 | 12.51 | 35.1 | 11.17 | 37.8 | 9.85 | 40.4 | 9.32 | 41.5 |
| 70 | 452 | 2 | 15.97 | 25.3 | 14.82 | 28.7 | 12.56 | 35.2 | 11.45 | 38.4 | 10.35 | 41.5 | 9.92 | 42.7 |
| 70 | 664 | 4 | 17.68 | 28.6 | 16.39 | 31.7 | 13.85 | 37.8 | 12.61 | 40.7 | 11.39 | 43.6 | 10.90 | 44.7 |
| 70 | 1083 | 10 | 19.32 | 31.7 | 17.89 | 34.6 | 15.09 | 40.2 | 13.72 | 43.0 | 12.37 | 45.6 | 11.84 | 46.7 |

UTNB 017 performance

Cooling capacity

UTNB 017 2R

| Twi C | G l/h | Δpw kPa | Tai: 24°C / 47% RH | | | | Tai: 26°C / 47% RH | | | | Tai: 27°C / 47% RH | | | | Tai: 28°C / 47% RH | | | | Tai: 32°C / 47% RH | | | | Tai: 36°C / 47% RH | | | |
|----------|----------|------------|--------------------|----------|----------|---------|--------------------|----------|----------|---------|--------------------|----------|----------|---------|--------------------|----------|----------|---------|--------------------|----------|----------|---------|--------------------|----------|----------|---------|
| | | | QT kW | QS kW | Tau C | RH % | QT kW | QS kW | Tau C | RH % | QT kW | QS kW | Tau C | RH % | QT kW | QS kW | Tau C | RH % | QT kW | QS kW | Tau C | RH % | QT kW | QS kW | Tau C | RH % |
| 5 | 528 | 3 | 4.07 | 4.07 | 16.7 | 74 | 4.42 | 4.40 | 18.1 | 76 | 4.74 | 4.53 | 18.8 | 76 | 5.05 | 4.65 | 19.6 | 76 | 6.38 | 5.12 | 22.6 | 77 | 7.80 | 5.52 | 25.8 | 77 |
| 5 | 883 | 9 | 4.76 | 4.51 | 15.9 | 76 | 5.53 | 4.83 | 17.3 | 76 | 5.92 | 4.98 | 18.0 | 76 | 6.33 | 5.13 | 18.7 | 76 | 8.03 | 5.68 | 21.6 | 77 | 9.87 | 6.16 | 24.6 | 77 |
| 5 | 1822 | 33 | 5.85 | 4.97 | 15.1 | 76 | 6.81 | 5.36 | 16.4 | 76 | 7.31 | 5.54 | 17.0 | 76 | 7.81 | 5.72 | 17.6 | 77 | 9.96 | 6.39 | 20.3 | 77 | 12.29 | 6.98 | 23.0 | 77 |
| 6 | 528 | 3 | 3.87 | 3.87 | 17.1 | 72 | 4.29 | 4.29 | 18.3 | 76 | 4.42 | 4.41 | 19.0 | 76 | 4.73 | 4.53 | 19.8 | 76 | 6.05 | 5.01 | 22.8 | 77 | 7.47 | 5.42 | 25.9 | 77 |
| 6 | 883 | 9 | 4.37 | 4.35 | 16.2 | 76 | 5.14 | 4.67 | 17.6 | 76 | 5.53 | 4.83 | 18.3 | 76 | 5.94 | 4.98 | 19.0 | 76 | 7.63 | 5.54 | 21.8 | 77 | 9.46 | 6.03 | 24.8 | 77 |
| 6 | 1822 | 33 | 5.38 | 4.77 | 15.5 | 76 | 6.34 | 5.16 | 16.7 | 76 | 6.84 | 5.35 | 17.3 | 76 | 7.34 | 5.53 | 18.0 | 76 | 9.48 | 6.21 | 20.6 | 77 | 11.80 | 6.81 | 23.4 | 77 |
| 7 | 528 | 3 | 3.66 | 3.66 | 17.4 | 71 | 4.09 | 4.09 | 18.6 | 74 | 4.30 | 4.30 | 19.2 | 76 | 4.51 | 4.51 | 19.8 | 77 | 5.72 | 4.90 | 23.0 | 77 | 7.12 | 5.32 | 26.1 | 77 |
| 7 | 883 | 9 | 4.17 | 4.17 | 16.5 | 75 | 4.74 | 4.52 | 17.9 | 76 | 5.14 | 4.68 | 18.5 | 76 | 5.54 | 4.83 | 19.2 | 76 | 7.22 | 5.40 | 22.1 | 77 | 9.04 | 5.90 | 25.0 | 77 |
| 7 | 1822 | 32 | 4.91 | 4.57 | 15.8 | 76 | 5.87 | 4.97 | 17.1 | 76 | 6.36 | 5.16 | 17.7 | 76 | 6.86 | 5.34 | 18.3 | 76 | 8.99 | 6.03 | 20.9 | 77 | 11.31 | 6.63 | 23.7 | 77 |
| 8 | 528 | 3 | 3.45 | 3.45 | 17.8 | 69 | 3.88 | 3.88 | 19.0 | 72 | 4.09 | 4.09 | 19.6 | 74 | 4.31 | 4.31 | 20.2 | 76 | 5.38 | 4.79 | 23.2 | 77 | 6.78 | 5.22 | 26.3 | 77 |
| 8 | 883 | 9 | 3.93 | 3.93 | 17.0 | 73 | 4.42 | 4.42 | 18.0 | 77 | 4.74 | 4.53 | 18.8 | 76 | 5.13 | 4.68 | 19.5 | 76 | 6.81 | 5.26 | 22.3 | 77 | 8.62 | 5.77 | 25.3 | 77 |
| 8 | 1822 | 32 | 4.43 | 4.37 | 16.2 | 76 | 5.38 | 4.77 | 17.4 | 76 | 5.87 | 4.96 | 18.0 | 76 | 6.37 | 5.15 | 18.7 | 76 | 8.49 | 5.85 | 21.3 | 77 | 10.80 | 6.46 | 24.0 | 77 |
| 9 | 528 | 3 | 3.24 | 3.24 | 18.2 | 68 | 3.67 | 3.67 | 19.4 | 71 | 3.89 | 3.89 | 20.0 | 72 | 4.10 | 4.10 | 20.6 | 74 | 5.05 | 4.68 | 23.4 | 77 | 6.43 | 5.11 | 26.5 | 77 |
| 9 | 883 | 9 | 3.69 | 3.69 | 17.4 | 71 | 4.18 | 4.18 | 18.5 | 75 | 4.42 | 4.42 | 19.0 | 77 | 4.73 | 4.53 | 19.8 | 76 | 6.39 | 5.12 | 22.6 | 77 | 8.19 | 5.63 | 25.5 | 77 |
| 9 | 1822 | 32 | 4.14 | 4.14 | 16.6 | 75 | 4.89 | 4.58 | 17.8 | 76 | 5.38 | 4.77 | 18.4 | 76 | 5.88 | 4.96 | 19.0 | 76 | 7.99 | 5.67 | 21.6 | 77 | 10.29 | 6.30 | 24.3 | 77 |
| 10 | 528 | 3 | 3.03 | 3.03 | 18.6 | 66 | 3.46 | 3.46 | 19.8 | 69 | 3.68 | 3.68 | 20.4 | 71 | 3.89 | 3.89 | 20.9 | 72 | 4.71 | 4.58 | 23.6 | 77 | 6.08 | 5.02 | 26.7 | 77 |
| 10 | 883 | 9 | 3.45 | 3.45 | 17.8 | 69 | 3.94 | 3.94 | 18.9 | 73 | 4.18 | 4.18 | 19.4 | 75 | 4.42 | 4.42 | 20.0 | 77 | 5.97 | 4.98 | 22.9 | 77 | 7.76 | 5.50 | 25.8 | 77 |
| 10 | 1822 | 32 | 3.87 | 3.87 | 17.1 | 72 | 4.39 | 4.38 | 18.1 | 76 | 4.88 | 4.58 | 18.7 | 76 | 5.38 | 4.77 | 19.4 | 76 | 7.48 | 5.49 | 21.9 | 77 | 9.76 | 6.13 | 24.6 | 77 |

UTNB 017 4R

| Twi C | G l/h | Δpw kPa | Tai: 24°C / 47% RH | | | | Tai: 26°C / 47% RH | | | | Tai: 27°C / 47% RH | | | | Tai: 28°C / 47% RH | | | | Tai: 32°C / 47% RH | | | | Tai: 36°C / 47% RH | | | |
|----------|----------|------------|--------------------|----------|----------|---------|--------------------|----------|----------|---------|--------------------|----------|----------|---------|--------------------|----------|----------|---------|--------------------|----------|----------|---------|--------------------|----------|----------|---------|
| | | | QT kW | QS kW | Tau C | RH % | QT kW | QS kW | Tau C | RH % | QT kW | QS kW | Tau C | RH % | QT kW | QS kW | Tau C | RH % | QT kW | QS kW | Tau C | RH % | QT kW | QS kW | Tau C | RH % |
| 5 | 883 | 6 | 6.68 | 6.20 | 12.9 | 91 | 7.76 | 6.64 | 14.0 | 91 | 8.31 | 6.85 | 14.6 | 91 | 8.87 | 7.05 | 15.2 | 91 | 11.23 | 7.81 | 17.7 | 91 | 13.78 | 8.45 | 20.3 | 91 |
| 5 | 1533 | 15 | 8.21 | 6.86 | 11.7 | 91 | 9.57 | 7.39 | 12.7 | 91 | 10.26 | 7.65 | 13.2 | 91 | 10.98 | 7.91 | 13.7 | 91 | 14.00 | 8.85 | 15.8 | 92 | 17.30 | 9.67 | 18.0 | 92 |
| 5 | 2996 | 52 | 9.56 | 7.47 | 10.6 | 91 | 11.16 | 8.09 | 11.4 | 91 | 11.98 | 8.40 | 11.8 | 91 | 12.83 | 8.70 | 12.2 | 91 | 16.44 | 9.84 | 13.9 | 92 | 20.43 | 10.86 | 15.8 | 93 |
| 6 | 883 | 6 | 6.13 | 5.97 | 13.3 | 91 | 7.20 | 6.42 | 14.4 | 91 | 7.75 | 6.63 | 15.0 | 91 | 8.31 | 6.84 | 15.6 | 91 | 10.66 | 7.60 | 18.0 | 91 | 13.18 | 8.26 | 20.6 | 91 |
| 6 | 1533 | 15 | 7.56 | 6.57 | 12.2 | 91 | 8.90 | 7.11 | 13.2 | 91 | 9.60 | 7.37 | 13.7 | 91 | 10.31 | 7.63 | 14.2 | 91 | 13.31 | 8.58 | 16.3 | 91 | 16.59 | 9.42 | 18.5 | 92 |
| 6 | 2996 | 52 | 8.81 | 7.13 | 11.2 | 91 | 10.40 | 7.76 | 12.0 | 91 | 11.23 | 8.07 | 12.4 | 91 | 12.07 | 8.37 | 12.8 | 91 | 15.66 | 9.51 | 14.5 | 92 | 19.64 | 10.55 | 16.4 | 92 |
| 7 | 883 | 6 | 5.96 | 5.96 | 13.3 | 92 | 6.64 | 6.20 | 14.8 | 91 | 7.19 | 6.41 | 15.4 | 91 | 7.75 | 6.62 | 16.0 | 91 | 10.08 | 7.40 | 18.4 | 91 | 12.58 | 8.07 | 21.0 | 91 |
| 7 | 1533 | 15 | 6.89 | 6.29 | 12.7 | 91 | 8.23 | 6.83 | 13.7 | 91 | 8.92 | 7.09 | 14.2 | 91 | 9.62 | 7.35 | 14.7 | 91 | 12.61 | 8.31 | 16.7 | 91 | 15.88 | 9.16 | 19.0 | 92 |
| 7 | 2996 | 52 | 8.05 | 6.79 | 11.9 | 91 | 9.63 | 7.43 | 12.6 | 91 | 10.45 | 7.73 | 13.0 | 91 | 11.30 | 8.04 | 13.4 | 91 | 14.87 | 9.19 | 15.1 | 92 | 18.83 | 10.24 | 17.0 | 92 |
| 8 | 883 | 6 | 5.62 | 5.62 | 13.9 | 89 | 6.08 | 5.97 | 15.2 | 91 | 6.62 | 6.20 | 15.8 | 91 | 7.17 | 6.41 | 16.4 | 91 | 9.49 | 7.19 | 18.8 | 91 | 11.98 | 7.87 | 21.4 | 91 |
| 8 | 1533 | 15 | 6.21 | 6.00 | 13.3 | 91 | 7.54 | 6.55 | 14.2 | 91 | 8.23 | 6.82 | 14.7 | 91 | 8.93 | 7.08 | 15.2 | 91 | 11.90 | 8.05 | 17.2 | 91 | 15.15 | 8.91 | 19.4 | 92 |
| 8 | 2996 | 51 | 7.28 | 6.45 | 12.5 | 91 | 8.85 | 7.09 | 13.2 | 91 | 9.67 | 7.40 | 13.6 | 91 | 10.51 | 7.71 | 14.0 | 91 | 14.07 | 8.87 | 15.7 | 92 | 18.01 | 9.93 | 17.6 | 92 |
| 9 | 883 | 6 | 5.27 | 5.27 | 14.6 | 85 | 5.96 | 5.96 | 15.3 | 92 | 6.05 | 5.98 | 16.2 | 91 | 6.60 | 6.19 | 16.8 | 91 | 8.90 | 6.99 | 19.2 | 91 | 11.37 | 7.69 | 21.7 | 91 |
| 9 | 1533 | 15 | 5.84 | 5.84 | 13.6 | 91 | 6.85 | 6.28 | 14.7 | 91 | 7.53 | 6.54 | 15.2 | 91 | 8.23 | 6.81 | 15.7 | 91 | 11.18 | 7.79 | 17.7 | 91 | 14.41 | 8.66 | 19.9 | 92 |
| 9 | 2996 | 51 | 6.48 | 6.11 | 13.1 | 91 | 8.05 | 6.76 | 13.8 | 91 | 8.87 | 7.08 | 14.2 | 91 | 9.70 | 7.38 | 14.6 | 91 | 13.25 | 8.56 | 16.3 | 91 | 17.17 | 9.62 | 18.1 | 92 |
| 10 | 883 | 6 | 4.93 | 4.93 | 15.2 | 82 | 5.62 | 5.62 | 15.9 | 88 | 5.96 | 5.96 | 16.2 | 91 | 6.01 | 5.98 | 17.2 | 91 | 8.30 | 6.79 | 19.5 | 91 | 10.76 | 7.50 | 22.1 | 91 |
| 10 | 1533 | 15 | 5.45 | 5.45 | 14.2 | 87 | 6.14 | 6.00 | 15.2 | 91 | 6.82 | 6.27 | 15.7 | 91 | 7.52 | 6.54 | 16.1 | 91 | 10.46 | 7.53 | 18.2 | 91 | 13.66 | 8.41 | 20.4 | 91 |
| 10 | 2996 | 51 | 5.85 | 5.85 | 13.5 | 91 | 7.24 | 6.43 | 14.4 | 91 | 8.05 | 6.75 | 14.8 | 91 | 8.88 | 7.06 | 15.2 | 91 | 12.41 | 8.24 | 16.9 | 91 | 16.31 | 9.32 | 18.7 | 92 |

UTNB 017 6R

| Twi C | G l/h | Δpw kPa | Tai: 24°C / 47% RH | | | | Tai: 26°C / 47% RH | | | | Tai: 27°C / 47% RH | | | | Tai: 28°C / 47% RH | | | | Tai: 32°C / 47% RH | | | | Tai: 36°C / 47% RH | | | |
|----------|----------|------------|--------------------|----------|----------|---------|--------------------|----------|----------|---------|--------------------|----------|----------|---------|--------------------|----------|----------|---------|--------------------|----------|----------|---------|--------------------|----------|----------|---------|
| | | | QT kW | QS kW | Tau C | RH % | QT kW | QS kW | Tau C | RH % | QT kW | QS kW | Tau C | RH % | QT kW | QS kW | Tau C | RH % | QT kW | QS kW | Tau C | RH % | QT kW | QS kW | Tau C | RH % |
| 5 | 1073 | 5 | 8.10 | 7.01 | 11.5 | 95 | 9.41 | 7.53 | 12.4 | 95 | 10.09 | 7.78 | 12.9 | 95 | 10.78 | 8.03 | 13.4 | 95 | 13.68 | 8.93 | 15.6 | 95 | 16.81 | 9.70 | 18.0 | 95 |
| 5 | 1809 | 14 | 9.66 | 7.70 | 10.2 | 95 | 11.26 | 8.33 | 11.0 | 95 | 12.09 | 8.63 | 11.4 | 95 | 12.94 | 8.93 | 11.8 | 95 | 16.54 | 10.06 | 13.5 | 95 | 20.50 | 11.05 | 15.5 | 96 |
| 5 | 3447 | 45 | 10.97 | 8.31 | 9.1 | 95 | 12.81 | 9.03 | 9.7 | 95 | 13.76 | 9.39 | 10.0 | 95 | 14.74 | 9.74 | 10.3 | 95 | 18.93 | 11.07 | 11.7 | 96 | 23.58 | 12.30 | 13.1 | 96 |
| 6 | 1073 | 5 | 7.44 | 6.72 | 12.0 | 95 | 8.75 | 7.25 | 12.9 | 95 | 9.42 | 7.51 | 13.4 | 95 | 10.10 | 7.75 | 13.9 | 95 | 12.98 | 8.67 | 16.1 | 95 | 16.10 | 9.45 | 18.4 | 95 |
| 6 | 1809 | 14 | 8.90 | 7.36 | 10.8 | 95 | 10.49 | 7.99 | 11.6 | 95 | 11.31 | 8.30 | 12.0 | 95 | 12.16 | 8.60 | 12.4 | 95 | 15.74 | 9.73 | 14.1 | 95 | 19.67 | 10.74 | 16.0 | 96 |
| 6 | 3447 | 45 | 10.12 | 7.91 | 9.8 | 95 | 11.95 | 8.64 | 10.4 | 95 | 12.91 | 8.99 | 10.7 | 95 | 13.88 | 9.35 | 11.1 | 95 | 18.05 | 10.69 | 12.4 | 96 | 22.68 | 11.93 | 13.8 | 96 |
| 7 | 1073 | 5 | 6.78 | 6.44 | 12.5 | 95 | 8.07 | 6.97 | 13.4 | 95 | 8.74 | 7.23 | 13.9 | 95 | 9.42 | 7.48 | 14.4 | 95 | 12.28 | 8.41 | 16.6 | 95 | 15.37 | 9.20 | 18.9 | 95 |
| 7 | 1809 | 14 | 8.12 | 7.01 | 11.4 | 95 | 9.70 | 7.65 | 12.2 | 95 | 10.52 | 7.96 | 12.6 | 95 | 11.36 | 8.26 | 13.0 | 95 | 14.92 | 9.40 | 14.7 | 95 | 18.83 | 10.43 | 16.6 | 96 |
| 7 | 3447 | 45 | 9.25 | 7.51 | 10.6 | 95 | 11.08 | 8.25 | 11.1 | 95 | 12.03 | 8.60 | 11.5 | 95 | 13.00 | 8.96 | 11.8 | 95 | 17.15 | 10.31 | 13.1 | 95 | 21.77 | 11.55 | 14.5 | 96 |
| 8 | 1073 | 5 | 6.49 | 6.49 | 12.4 | 98 | 7.39 | 6.70 | 13.9 | 95 | 8.05 | 6.96 | 14.4 | 95 | 8.73 | 7.21 | 14.9 | 95 | 11.57 | 8.15 | 17.0 | 95 | 14.64 | 8.96 | 19.3 | 95 |
| 8 | 1809 | 14 | 7.33 | 6.68 | 12.0 | | | | | | | | | | | | | | | | | | | | | |

UTNB 017 performance

Heating capacity

UTNB 017 2R

| Twi C | G l/h | Δpw kPa | Tai: -5°C | | Tai: 0°C | | Tai: 10°C | | Tai: 15°C | | Tai: 20°C | | Tai: 22°C | |
|----------|----------|------------|-----------|----------|----------|----------|-----------|----------|-----------|----------|--------------|----------|-----------|----------|
| | | | Q kW | Tau C | Q kW | Tau C | Q kW | Tau C | Q kW | Tau C | Q kW | Tau C | Q kW | Tau C |
| 40 | 582 | 4 | 10.78 | 12.4 | 9.53 | 15.7 | 7.08 | 22.1 | 5.87 | 25.2 | 4.67 | 28.2 | 4.19 | 29.4 |
| 40 | 883 | 8 | 11.94 | 14.3 | 10.54 | 17.4 | 7.80 | 23.3 | 6.46 | 26.2 | 5.13 | 29.1 | 4.61 | 30.2 |
| 40 | 1822 | 28 | 13.33 | 16.6 | 11.75 | 19.4 | 8.67 | 24.8 | 7.17 | 27.4 | 5.69 | 30.0 | 5.10 | 31.1 |
| 45 | 582 | 4 | 12.04 | 14.5 | 10.78 | 17.8 | 8.30 | 24.2 | 7.08 | 27.3 | 5.86 | 30.3 | 5.38 | 31.6 |
| 45 | 883 | 8 | 13.33 | 16.6 | 11.91 | 19.6 | 9.14 | 25.6 | 7.78 | 28.5 | 6.44 | 31.4 | 5.91 | 32.5 |
| 45 | 1822 | 28 | 14.86 | 19.0 | 13.27 | 21.9 | 10.15 | 27.3 | 8.63 | 30.0 | 7.13 | 32.6 | 6.54 | 33.6 |
| 50 | 582 | 4 | 13.32 | 16.5 | 12.04 | 19.8 | 9.53 | 26.3 | 8.29 | 29.4 | 7.07 | 32.5 | 6.58 | 33.7 |
| 50 | 883 | 7 | 14.72 | 18.8 | 13.29 | 21.9 | 10.49 | 27.9 | 9.12 | 30.8 | 7.76 | 33.7 | 7.22 | 34.8 |
| 50 | 1822 | 27 | 16.40 | 21.5 | 14.78 | 24.4 | 11.63 | 29.8 | 10.09 | 32.5 | 8.58 | 35.1 | 7.98 | 36.2 |
| 60 | 501 | 3 | 15.19 | 19.6 | 13.95 | 23.0 | 11.51 | 29.6 | 10.30 | 32.9 | 9.11 | 36.1 | 8.64 | 37.3 |
| 60 | 737 | 5 | 16.87 | 22.3 | 15.47 | 25.5 | 12.73 | 31.7 | 11.38 | 34.8 | 10.05 | 37.7 | 9.52 | 38.9 |
| 60 | 1205 | 12 | 18.50 | 24.9 | 16.94 | 27.9 | 13.90 | 33.7 | 12.42 | 36.6 | 10.95 | 39.3 | 10.37 | 40.4 |
| 70 | 501 | 3 | 17.66 | 23.6 | 16.40 | 27.0 | 13.91 | 33.7 | 12.69 | 37.0 | 11.47 | 40.2 | 10.99 | 41.5 |
| 70 | 737 | 5 | 19.59 | 26.7 | 18.17 | 29.9 | 15.37 | 36.2 | 14.00 | 39.3 | 12.64 | 42.3 | 12.10 | 43.5 |
| 70 | 1205 | 12 | 21.46 | 29.7 | 19.88 | 32.7 | 16.78 | 38.6 | 15.26 | 41.5 | 13.76 | 44.3 | 13.17 | 45.4 |

Twi = Temperature of inlet water

G = Water flow rate

Δpw = Waterside pressure drop

Tai = Temperature of inlet air

Q = Heating capacity

Tau = Temperature of outlet air

Output correction factors

The outputs quoted refer to the following conditions:

| | | |
|---------|-------------------|-------------|
| Airflow | m ³ /h | 1680 |
|---------|-------------------|-------------|

To obtain the outputs at other speeds, use the correction factors quoted on the previous page.



Values for which the electric motor needs to be checked, because of the high outlet temperature of the air

UTNB 017 4R

| Twi C | G l/h | Δpw kPa | Tai: -5°C | | Tai: 0°C | | Tai: 10°C | | Tai: 15°C | | Tai: 20°C | | Tai: 22°C | |
|----------|----------|------------|-----------|----------|----------|----------|-----------|----------|-----------|----------|--------------|----------|-----------|----------|
| | | | Q kW | Tau C | Q kW | Tau C | Q kW | Tau C | Q kW | Tau C | Q kW | Tau C | Q kW | Tau C |
| 40 | 883 | 5 | 17.12 | 22.7 | 15.10 | 24.9 | 11.15 | 29.0 | 9.22 | 31.0 | 7.31 | 32.9 | 6.56 | 33.7 |
| 40 | 1533 | 13 | 19.01 | 25.7 | 16.72 | 27.5 | 12.29 | 31.0 | 10.14 | 32.6 | 8.03 | 34.2 | 7.20 | 34.8 |
| 40 | 2996 | 45 | 20.38 | 28.0 | 17.91 | 29.5 | 13.12 | 32.4 | 10.81 | 33.8 | 8.55 | 35.1 | 7.66 | 35.6 |
| 45 | 883 | 5 | 19.11 | 25.9 | 17.06 | 28.1 | 13.06 | 32.3 | 11.10 | 34.3 | 9.18 | 36.2 | 8.42 | 36.9 |
| 45 | 1533 | 13 | 21.19 | 29.3 | 18.88 | 31.1 | 14.39 | 34.6 | 12.21 | 36.2 | 10.07 | 37.8 | 9.23 | 38.4 |
| 45 | 2996 | 44 | 22.70 | 31.7 | 20.19 | 33.3 | 15.35 | 36.2 | 13.00 | 37.6 | 10.72 | 38.9 | 9.81 | 39.4 |
| 50 | 883 | 5 | 21.11 | 29.1 | 19.03 | 31.4 | 14.98 | 35.6 | 13.00 | 37.6 | 11.06 | 39.5 | 10.28 | 40.3 |
| 50 | 1533 | 13 | 23.38 | 32.8 | 21.04 | 34.7 | 16.49 | 38.1 | 14.29 | 39.8 | 12.12 | 41.4 | 11.27 | 42.0 |
| 50 | 2996 | 43 | 25.03 | 35.5 | 22.49 | 37.0 | 17.57 | 40.0 | 15.20 | 41.4 | 12.88 | 42.7 | 11.97 | 43.3 |
| 60 | 794 | 4 | 24.47 | 34.6 | 22.41 | 36.9 | 18.39 | 41.4 | 16.42 | 43.5 | 14.48 | 45.6 | 13.71 | 46.4 |
| 60 | 1138 | 7 | 26.50 | 37.9 | 24.23 | 39.9 | 19.82 | 43.8 | 17.67 | 45.7 | 15.56 | 47.5 | 14.73 | 48.2 |
| 60 | 1817 | 17 | 28.39 | 40.9 | 25.92 | 42.7 | 21.14 | 46.1 | 18.82 | 47.7 | 16.56 | 49.2 | 15.66 | 49.8 |
| 70 | 794 | 4 | 28.42 | 41.0 | 26.31 | 43.3 | 22.20 | 47.9 | 20.18 | 50.0 | 18.20 | 52.1 | 17.42 | 52.9 |
| 70 | 1138 | 7 | 30.75 | 44.7 | 28.43 | 46.8 | 23.91 | 50.8 | 21.71 | 52.7 | 19.55 | 54.5 | 18.70 | 55.2 |
| 70 | 1817 | 17 | 32.90 | 48.2 | 30.37 | 50.0 | 25.47 | 53.5 | 23.10 | 55.1 | 20.78 | 56.7 | 19.87 | 57.3 |

UTNB 017 6R

| Twi C | G l/h | Δpw kPa | Tai: -5°C | | Tai: 0°C | | Tai: 10°C | | Tai: 15°C | | Tai: 20°C | | Tai: 22°C | |
|----------|----------|------------|-----------|----------|----------|----------|-----------|----------|-----------|----------|--------------|----------|-----------|----------|
| | | | Q kW | Tau C | Q kW | Tau C | Q kW | Tau C | Q kW | Tau C | Q kW | Tau C | Q kW | Tau C |
| 40 | 1073 | 5 | 19.82 | 27.1 | 17.45 | 28.7 | 12.84 | 31.9 | 10.60 | 33.4 | 8.40 | 34.8 | 7.53 | 35.4 |
| 40 | 1809 | 12 | 21.49 | 29.8 | 18.88 | 31.1 | 13.84 | 33.6 | 11.40 | 34.8 | 9.02 | 35.9 | 8.08 | 36.3 |
| 40 | 3447 | 39 | 22.67 | 31.7 | 19.89 | 32.8 | 14.54 | 34.8 | 11.96 | 35.8 | 9.45 | 36.7 | 8.47 | 37.0 |
| 45 | 1073 | 5 | 22.11 | 30.8 | 19.71 | 32.5 | 15.04 | 35.7 | 12.76 | 37.2 | 10.54 | 38.6 | 9.66 | 39.1 |
| 45 | 1809 | 12 | 23.95 | 33.7 | 21.30 | 35.1 | 16.19 | 37.6 | 13.72 | 38.8 | 11.30 | 39.9 | 10.35 | 40.4 |
| 45 | 3447 | 38 | 25.24 | 35.8 | 22.42 | 36.9 | 16.99 | 39.0 | 14.38 | 40.0 | 11.84 | 40.9 | 10.84 | 41.2 |
| 50 | 1073 | 5 | 24.41 | 34.5 | 21.97 | 36.2 | 17.24 | 39.4 | 14.94 | 40.9 | 12.68 | 42.4 | 11.79 | 42.9 |
| 50 | 1809 | 12 | 26.41 | 37.7 | 23.72 | 39.1 | 18.54 | 41.6 | 16.04 | 42.8 | 13.59 | 44.0 | 12.63 | 44.4 |
| 50 | 3447 | 37 | 27.82 | 40.0 | 24.95 | 41.1 | 19.45 | 43.2 | 16.81 | 44.2 | 14.23 | 45.1 | 13.21 | 45.5 |
| 60 | 800 | 3 | 27.14 | 38.9 | 24.84 | 40.9 | 20.35 | 44.7 | 18.16 | 46.5 | 16.01 | 48.2 | 15.16 | 48.9 |
| 60 | 1275 | 6 | 29.92 | 43.4 | 27.33 | 45.0 | 22.29 | 48.0 | 19.85 | 49.5 | 17.46 | 50.8 | 16.52 | 51.3 |
| 60 | 2014 | 14 | 31.70 | 46.3 | 28.90 | 47.6 | 23.51 | 50.1 | 20.91 | 51.3 | 18.37 | 52.4 | 17.37 | 52.9 |
| 70 | 800 | 3 | 31.50 | 45.9 | 29.14 | 48.0 | 24.55 | 51.9 | 22.31 | 53.7 | 20.11 | 55.5 | 19.24 | 56.2 |
| 70 | 1275 | 6 | 34.69 | 51.1 | 32.03 | 52.8 | 26.86 | 55.8 | 24.37 | 57.3 | 21.92 | 58.7 | 20.95 | 59.2 |
| 70 | 2014 | 13 | 36.71 | 54.4 | 33.85 | 55.8 | 28.31 | 58.3 | 25.65 | 59.5 | 23.04 | 60.7 | 22.02 | 61.1 |

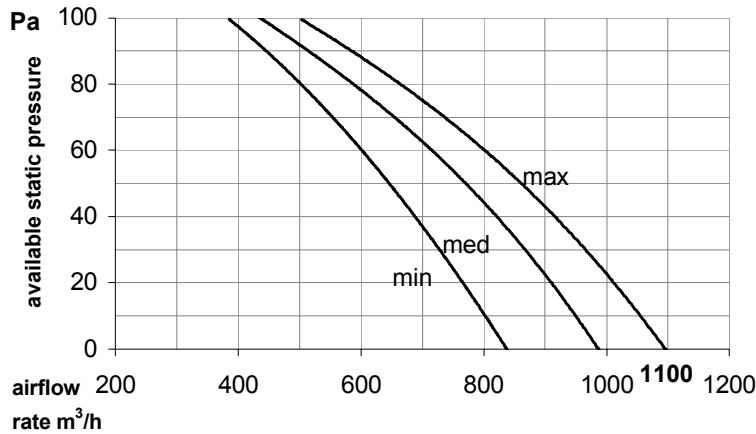
Additional coil KBAB 017

| Twi C | G l/h | Δpw kPa | Tai: -5°C | | Tai: 0°C | | Tai: 10°C | | Tai: 15°C | | Tai: 20°C | | Tai: 22°C | |
|----------|----------|------------|-----------|----------|----------|----------|-----------|----------|-----------|----------|--------------|----------|-----------|----------|
| | | | Q kW | Tau C | Q kW | Tau C | Q kW | Tau C | Q kW | Tau C | Q kW | Tau C | Q kW | Tau C |
| 50 | 491 | 3 | 12.49 | 15.8 | 11.30 | 19.2 | 8.95 | 25.7 | 7.80 | 28.9 | 6.65 | 32.1 | 6.19 | 33.3 |
| 50 | 723 | 5 | 13.89 | 18.2 | 12.55 | 21.3 | 9.91 | 27.4 | 8.62 | 30.4 | 7.34 | 33.3 | 6.83 | 34.5 |
| 50 | 1181 | 12 | 15.25 | 20.4 | 13.76 | 23.4 | 10.84 | 29.1 | 9.41 | 31.8 | 8.01 | 34.6 | 7.45 | 35.6 |
| 60 | 491 | 3 | 14.90 | 19.8 | 13.69 | 23.2 | 11.29 | 29.9 | 10.11 | 33.1 | 8.94 | 36.3 | 8.47 | 37.5 |
| 60 | 723 | 5 | 16.55 | 22.6 | 15.18 | 25.8 | 12.48 | 32.0 | 11.16 | 35.0 | 9.86 | 37.9 | 9.34 | 39.1 |
| 60 | 1181 | 12 | 18.14 | 25.2 | 16.61 | 28.2 | 13.63 | 34.0 | 12.17 | 36.8 | 10.74 | 39.5 | 10.17 | 40.6 |
| 70 | 491 | 2 | 17.33 | 23.9 | 16.09 | 27.3 | 13.65 | 34.0 | 12.44 | 37.3 | 11.25 | 40.5 | 10.78 | 41.7 |
| 70 | 723 | 5 | 19.22 | 27.0 | 17.82 | 30.3 | 15.08 | 36.5 | 13.73 | 39.6 | 12.40 | 42.5 | 11.87 | 43.7 |
| 70 | 1181 | 12 | 21.05 | 30.1 | 19.49 | 33.1 | 16.45 | 38.9 | 14.96 | 41.8 | 13.49 | 44.5 | 12.91 | 45.6 |

UTNB performance

Available static pressure

UTNB 011 6R



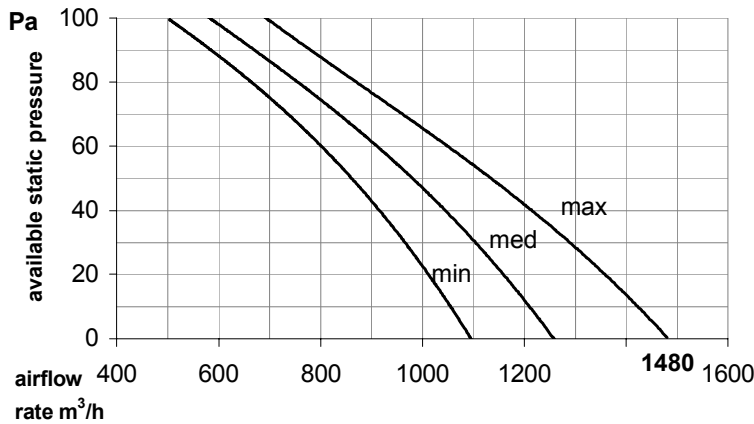
Variation in available static pressure for UTNB 011 2R, UTNB 011 4R

- The curves give the available static pressure for UTNB 011 6R with standard filter.
- For other models, add the values quoted in the table:

| UTNB 011 | Airflow m ³ /h | 800 | 900 | 1000 | 1100 |
|----------|---------------------------|-----|-----|------|------|
| 2R | Δpu Pa | 3 | 4 | 5 | 6 |
| 4R | | 2 | 2 | 3 | 3 |
| 6R | | 0 | 0 | 0 | 0 |

Δpu = variation in available static pressure

UTNB 014 6R



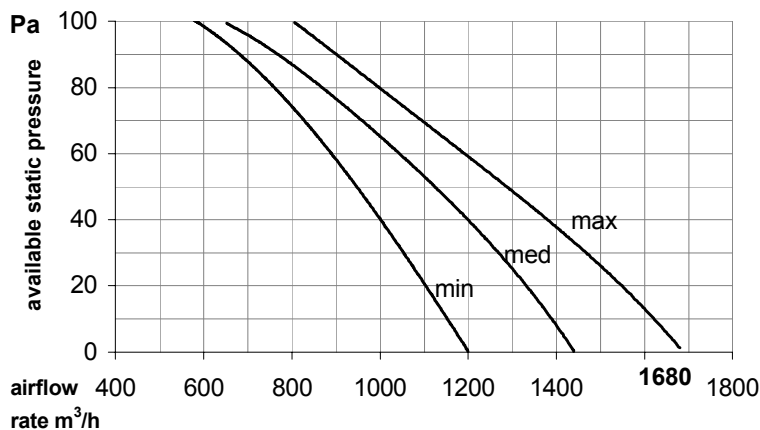
Variation in available static pressure for UTNB 014 2R, UTNB 014 4R

- The curves give the available static pressure for UTNB 014 6R with standard filter.
- For other models, add the values quoted in the table:

| UTNB 014 | Airflow m ³ /h | 900 | 1000 | 1100 | 1200 | 1300 | 1400 | 1480 |
|----------|---------------------------|-----|------|------|------|------|------|------|
| 2R | Δpu Pa | 6 | 7 | 9 | 10 | 12 | 14 | 16 |
| 4R | | 2 | 2 | 2 | 3 | 3 | 4 | 4 |
| 6R | | 0 | 0 | 0 | 0 | 0 | 0 | 0 |

Δpu = variation in available static pressure

UTNB 017 6R



Variation in available static pressure for UTNB 017 2R, UTNB 017 4R

- The curves give the available static pressure for UTNB 017 6R with standard filter.
- For other models, add the values quoted in the table:

| UTNB 017 | Airflow m ³ /h | 1000 | 1100 | 1200 | 1300 | 1400 | 1500 | 1600 | 1680 |
|----------|---------------------------|------|------|------|------|------|------|------|------|
| 2R | Δpu Pa | 8 | 10 | 12 | 14 | 16 | 18 | 21 | 23 |
| 4R | | 2 | 3 | 3 | 4 | 5 | 5 | 6 | 7 |
| 6R | | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |

Δpu = variation in available static pressure

Example of calculation:

UTNB 017 4R + KBAB 017

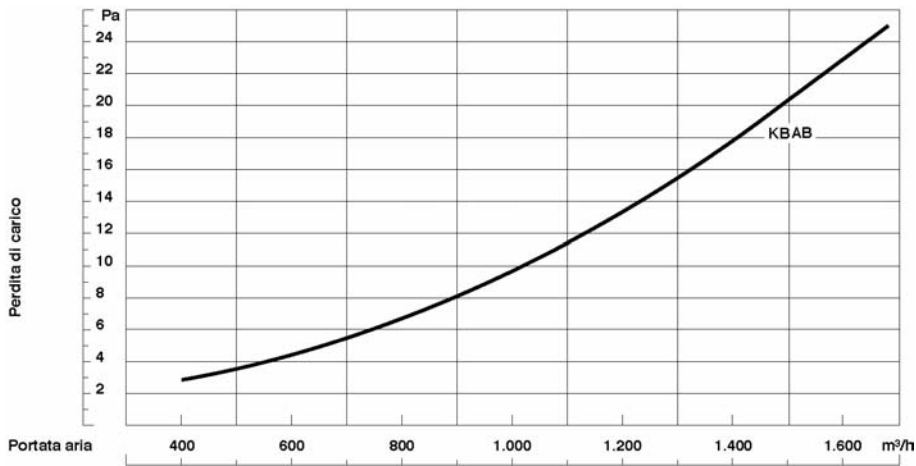
- 4-row cooling coil + additional heating coil
- Airflow required: 1300 m³/h
- Available static pressure required: 50 Pa
- From the UTNB 017 6R graph, we find that at an airflow of 1300 m³/h at maximum speed, there is an available static pressure of 50 Pa.

- From the table alongside, we find the following corrective values which correspond to an airflow of 1300 m³/h:
 - Δp UTNB 017 BA 4R: +4 Pa ;
- The residual available static pressure is therefore:
 - 50 + (4) = 54 Pa

UTNB performance

Pressure drops

KBAB – ADDITIONAL HEATING COIL

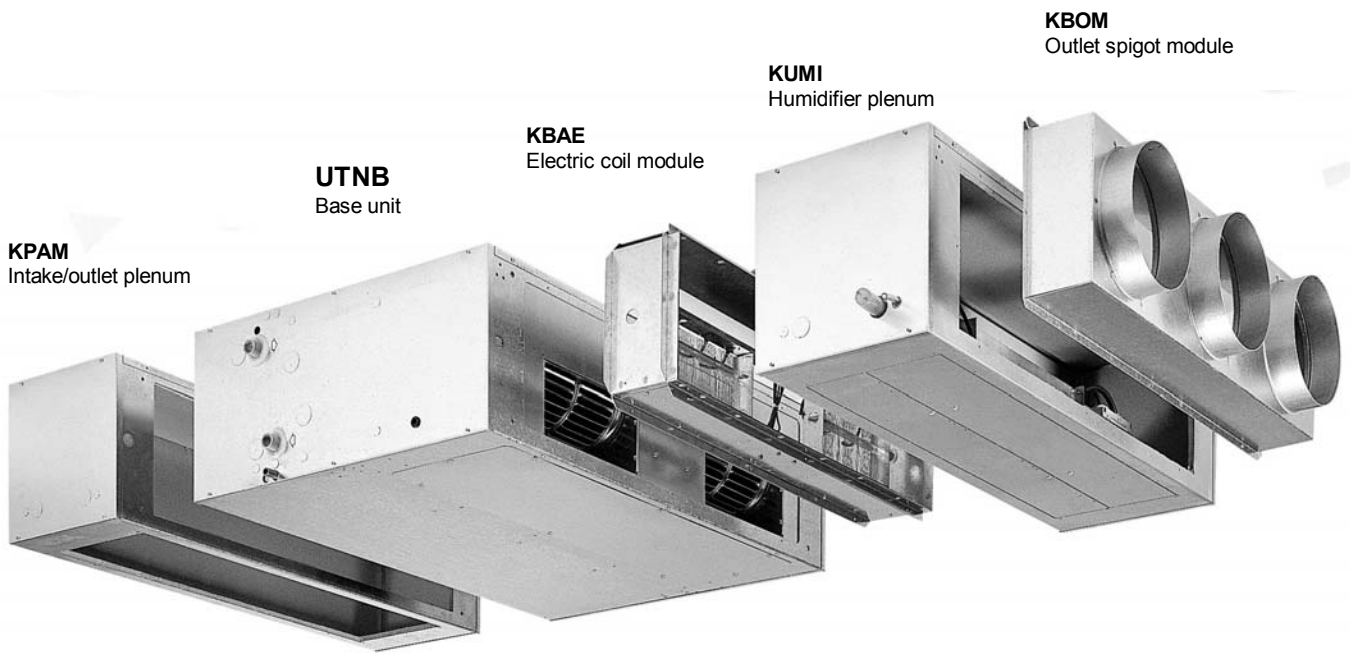
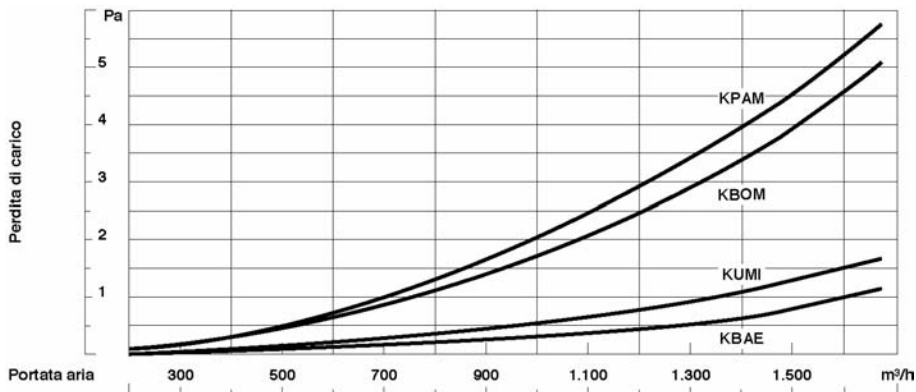


KPAM – INTAKE/OUTLET PLENUM

KBAE – ELECTRIC COIL MODULE

KUMI – HUMIDIFIER PLENUM

KBOM – OUTLET SPIGOT MODULE



UTNB base unit installation

UTNB – BASE UNIT

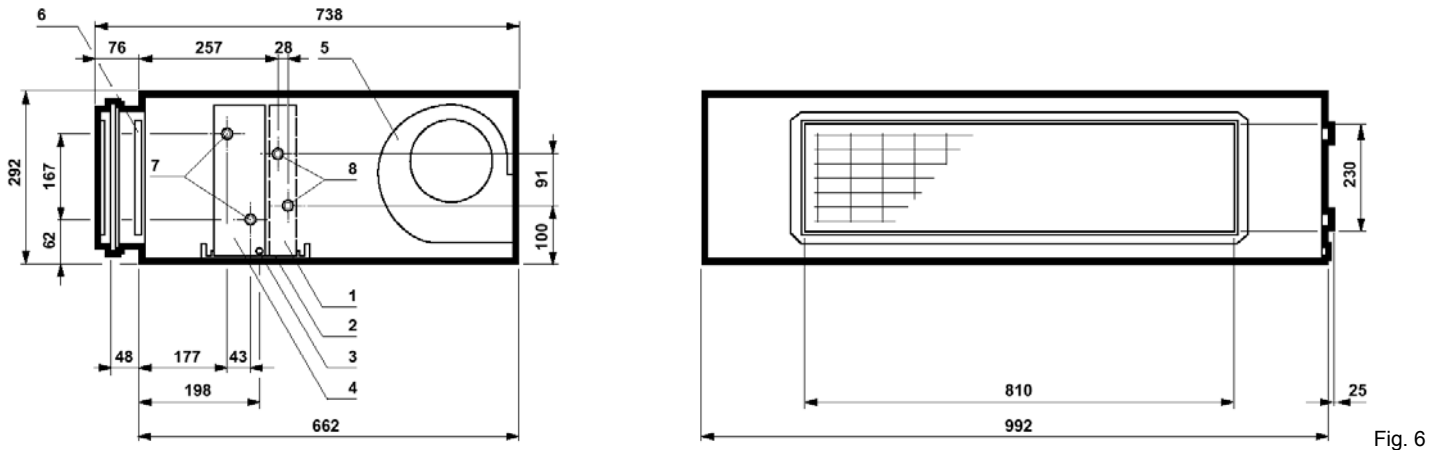


Fig. 6

- The UTNB base unit includes a filter, water-filled heat-exchange coil and fan. It can be complemented by an additional water-filled heating coil (accessory KBAB).
- The unit is supplied as standard with coil connections on the right (looking in the direction of water flow). It is possible however to turn the coil round, so that the connections are on the left.

The unit is mainly designed for installation in suspended ceilings or service areas, and is therefore made for installing in a horizontal position and is set up for distributing air by ducting. It is however possible to rotate the fan so as to direct the airflow downwards.

- The reusable filter in acrylic fibre can be extracted from below.
- The condensation collector tray has natural drainage, and allows room for housing both the standard coil and the additional heating coil.
- Provision is made on the intake side for connection to ducting.
- The minimum size of the aperture for connecting to outlet ducting is 810 x 230 mm.

1. Additional heating coil (accessory)
2. Condensation collector tray
3. Condensation drain connection
4. Standard coil
5. Fan
6. Reusable filter
7. Connections for standard coil
8. Connections for additional heating coil

- The unit is provided with male-threaded hydraulic connections.

| MODEL | Connection size |
|-------------------------|-----------------|
| UTNB standard coil | 3/4 G (M) |
| UTNB additional coil | 1/2 G (M) |
| UTNB condensation drain | Ø 16 mm |

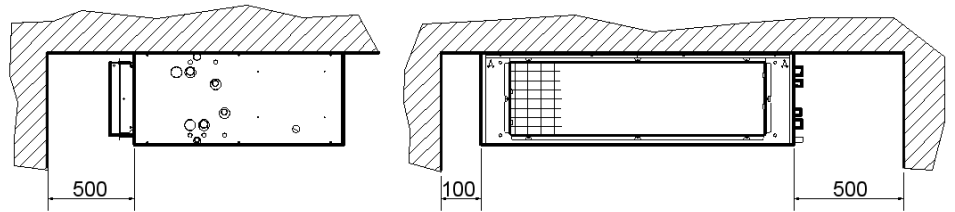


Fig. 7

- Movement of the unit should be performed with care, in order to avoid damage to the external structure and to the internal mechanical and electrical components.
- The unit should be positioned horizontally in the ceiling, using the brackets and bolts supplied, and observing the minimum clearance distances recommended in the diagram, bearing in mind the need for access to the water and electrical connections.

| BASE UNIT Weight | UTNB | |
|------------------|------|----|
| UTNB 011 2R | kg | 38 |
| UTNB 011 4R | kg | 42 |
| UTNB 011 6R | kg | 46 |
| UTNB 014 2R | kg | 38 |
| UTNB 014 4R | kg | 42 |
| UTNB 014 6R | kg | 46 |
| UTNB 017 2R | kg | 40 |
| UTNB 017 4R | kg | 44 |
| UTNB 017 6R | kg | 48 |

| BASE UNIT Dimensions | UTNB | |
|----------------------|------|-----|
| W | mm | 992 |
| H | mm | 292 |
| D | mm | 738 |

UTNB accessories installation

KPAM – INTAKE/OUTLET PLENUM

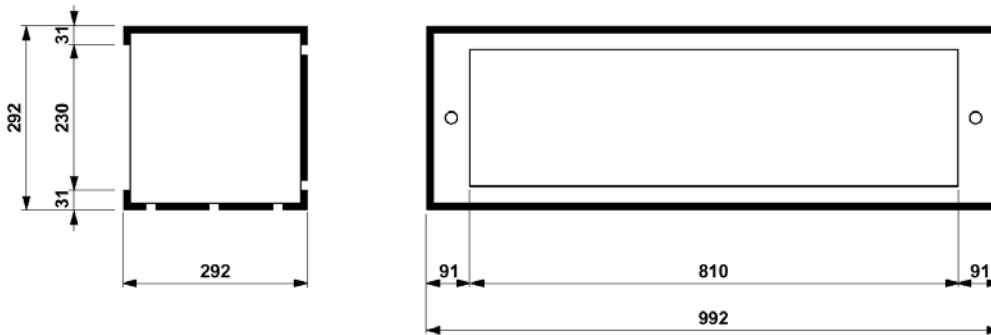


Fig. 8

- The KPAM section has the functions of intake and outlet plenum.
- When used on the intake side, it is installed upstream of the UTNB base unit, and can take in air in a vertical direction, directly from the room or from the service area in which the unit is installed. Acting as an intake plenum, it also enables outside air to be mixed with recirculated air; in this way, the knockout panels in its sides increase its flexibility in use, allowing a choice of direction of entry for the air.

- When used on the outlet side, the plenum is installed downstream of the UTNB base unit to divert the airflow downwards, or to distribute part of the air into a duct and part directly into the room.
- When the KPAM section acts as an intake plenum, it must be fixed to the filter holder frame on the UTNB base unit. In the event that the filter and its supporting framework are removed, the module can be fixed directly to the loadbearing structure of the UTNB base unit (Fig. 13, page 15).

| ACCESSORY MODULES | | KPAM |
|-------------------|----|------|
| Weight | kg | 12 |
| W | mm | 992 |
| H | mm | 292 |
| D | mm | 292 |

KUMI – HUMIDIFIER PLENUM

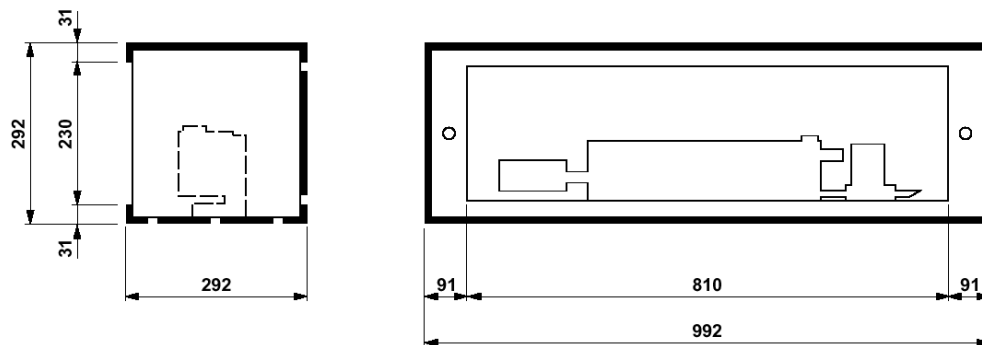


Fig. 9

- The function of the KUMI humidifier plenum is to supply humidity to the air in the room by the introduction of steam.
- The humidifier consists of a water container made of AISI 304 stainless steel; it is equipped
 - with a solenoid valve for filling it with water, a level sensor, an armoured heating element and a safety overflow discharge.
- The power consumption of the humidifier is 800 W with a 230V-1ph-50Hz power supply. The humidifier produces about 1.2 kg/h of steam.

- The increase in absolute humidity is 0.9 g per kg of air for models with an airflow of 1100 m³/h, 0.7 g per kg of air for models with an airflow of 1480 m³/h, and 0.6 g per kg of air for models with an airflow of 1680 m³/h at maximum speed.
- The KUMI plenum is fitted downstream of the UTNB base unit, and is controlled by the KPAU humidistat panel (accessory). The humidistat panel allows regulation of the ambient humidity to the desired setting by acting directly on the humidifier.

| ACCESSORY MODULES | | KUMI |
|-------------------|----|------|
| Weight | kg | 16 |
| W | mm | 992 |
| H | mm | 292 |
| D | mm | 292 |

N.B.:

In the case of a water supply with a particularly high content of hard water salts, it is advisable to fit a water softener.

UTNB accessories installation

KBAE – ELECTRIC COIL MODULE

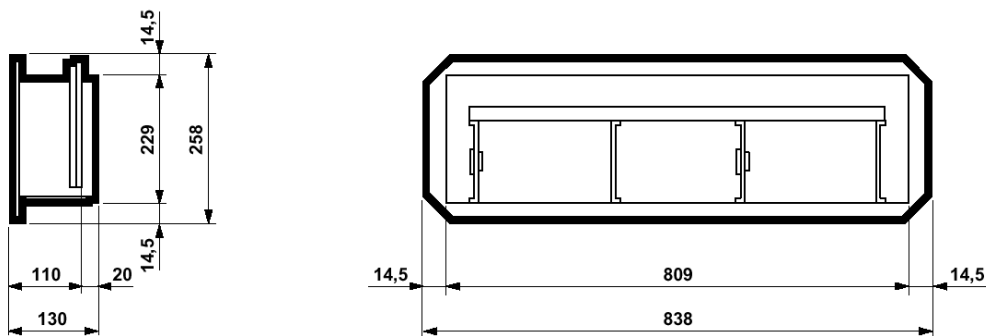


Fig. 10

- The KBAE electric coil module is fitted with a standard multipower heating element of 1.5 - 3 - 4.5 kW according to the type of connection, with a 230V-1ph-50Hz supply voltage. It is also possible to obtain a power of 4.5 kW with a 400V-3ph-50Hz supply voltage.

- The spiral heating element is made of stainless steel. It is mounted on a frame by means of insulated supports and comes complete with a safety device to protect against overheating. An electric sensor cuts off the power supply when the fan is not running.
- The KBAE module is fitted downstream of the UTNB base unit so as to locate the heating element in the outlet airflow.

| ACCESSORY MODULES | | KBAE |
|-------------------|----|------|
| Weight | kg | 5 |
| W | mm | 838 |
| H | mm | 258 |
| D | mm | 130 |

KBOM – OUTLET SPIGOT MODULE

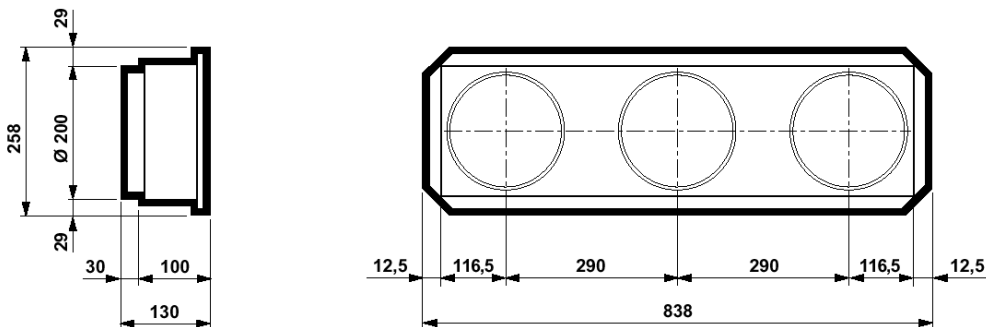


Fig. 11

- The KBOM outlet spigot module channels the outlet air into three circular ducts of diameter Ø200 mm.

- It can be fitted directly downstream of the UTNB base unit, after the KBAE electric coil, or after the KUMI humidifier plenum.

| ACCESSORY MODULES | | KBOM |
|-------------------|----|------|
| Weight | kg | 3 |
| W | mm | 838 |
| H | mm | 258 |
| D | mm | 130 |

KBAB – ADDITIONAL HEATING COIL

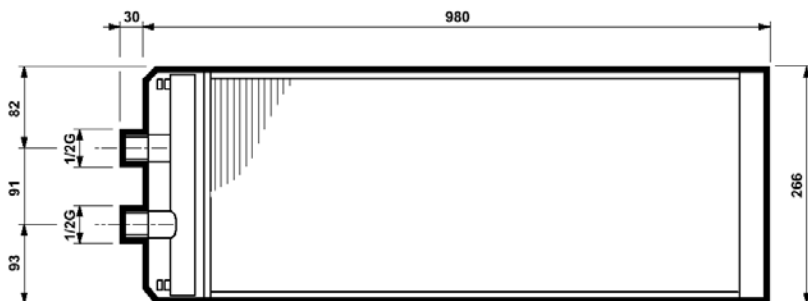


Fig. 12

- KBAB is an additional heating coil filled with water for use in four-pipe systems; it can also be used as a summer post-heating coil.
- The location of the coil is the responsibility of the user; it is intended to go downstream of the standard coil, within the area of the condensation collection tray (fig 6. page 12).

- The coil must be fitted before the installation of the UTNB base unit, by removing the top panel of the unit itself, and the side panel on the connection side, which is provided with suitable knockouts to allow the pipes and the air bleed valve to come out.

| ACCESSORY MODULES | | KBAB |
|-------------------|----|------|
| Weight | kg | 4 |
| W | mm | 980 |
| H | mm | 266 |
| D | mm | - |

UTNB accessories installation

KPLA – INTAKE CEILING PANEL
KPLC – BLIND CEILING PANEL
KPLM – OUTLET CEILING PANEL

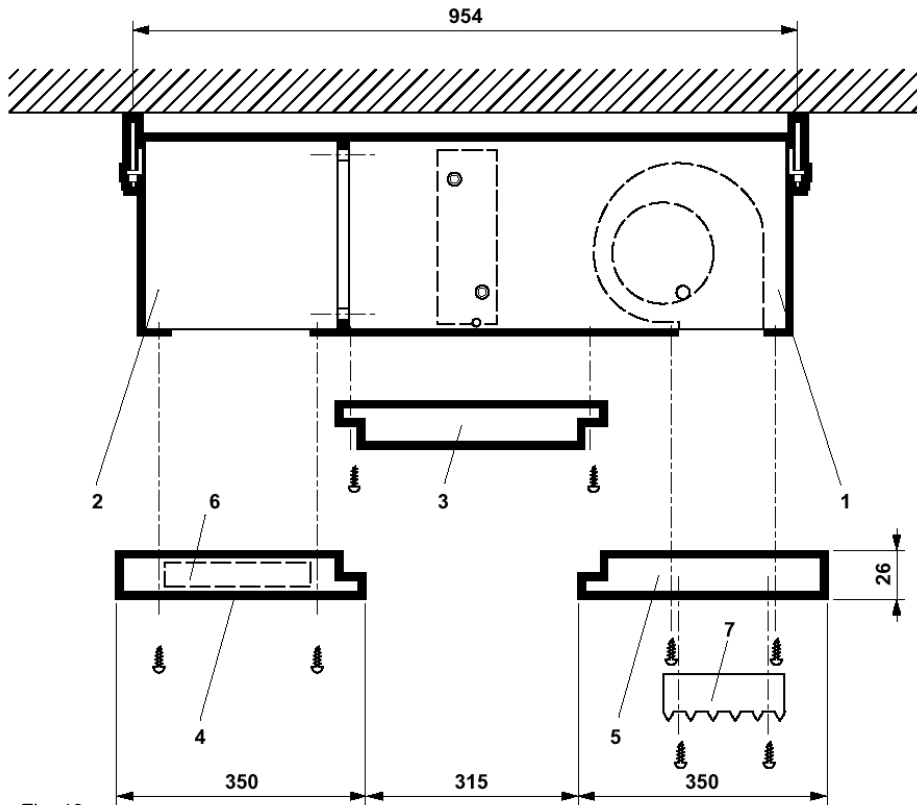


Fig. 13

1. UTNB - base unit
2. KPAM - intake plenum
3. KPLC - blind ceiling panel
4. KPLA - intake ceiling panel
5. KPLM - outlet ceiling panel
6. Intake grille with filter
7. Outlet grille

N.B.:

Width of KPLA – KPLC – KPLM: 1,200 mm.

- By connecting the KPAM intake plenum to the UTNB base unit (remove the filter and its support and position the fan so it is facing downwards), it is possible to obtain a unit that intakes and delivers air directly from and to the room. To go with such a unit, which must be fitted in the ceiling cavity, a range of cosmetic panels is available (accessories KPLA, KPLC and KPLM).

- Accessories KPLA, KPLC and KPLM are white facing panels which are supplied in separate packaging and which can be ordered individually.

- Accessory KPLA intake ceiling panel comes complete with a metallic grille and is to be fixed to the KPAM intake plenum using the screws provided. It is also supplied with a reusable filter made of open-cell reticulated polyurethane foam, which can be replaced by simply removing the support grille. Accessory KPLA can be used individually if the unit intakes air from the room and delivers the air into a duct (Fig. 14). If the room air is mixed with outdoor air, it is advisable to filter the air just once on the inlet to the coil, by keeping the filter on the UTNB base unit and removing the filter on the KPLA module.

- The solid KPLC accessory panel is a panel which is fastened, using the special screws in the packing, to the centre of the UTNB base unit. The KPLC can not be used alongside other solid panels of the same type acting as stoppers if the unit is equipped with various accessory modules. The KPLC can be used only with the KPLA and the KPLM.

- The KPLM outlet ceiling panel comes complete with grilles made of heat-resistant ABS polymer. The grilles can be oriented in two directions and is to be fixed to the UTNB base unit near the fan delivery outlet (using the screws provided). KPLM can be used individually if the appliance takes air from a duct and delivers into the room, even if the KUMI plenum with humidifier is used.

UTNB with KPLA
intake ceiling panel and
KBOM outlet spigots



Fig. 14

UTNB switches and controls

KCV2



KCV2 Panel with variable speed control, complete with SUMMER/OFF/WINTER switch, with the capability of connecting externally to the minimum temperature thermostat.
W x H x D = 145 x 82 x 36 mm

KTCV2:



KTCV2 Control and adjustment panel comprising: three-position fan switch ON/CONTINUOUS/THERMOSTATIC CONTROL; room thermostat; summer/winter selector switch; speed selector switch; auxiliary contacts for control of ON/OFF valves for systems with two pipes, two pipes with electric element, or four pipes, with the capability of connecting externally to the minimum temperature thermostat.
W x H x D = 145 x 82 x 36 mm

KTCVM



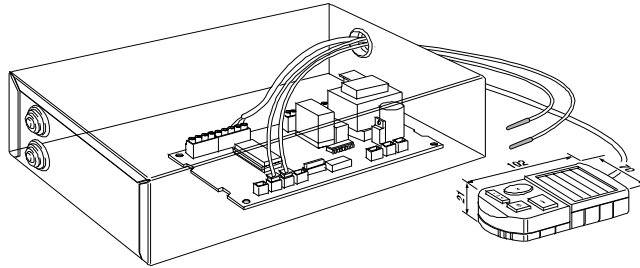
KTCV2 – Control and adjustment panel comprising: ON/OFF switch; speed selector switch; room thermostat; outputs (0-10Vdc) for controlling modulating valves in four pipe systems.
W x H x D = 145 x 82 x 36 mm

KPAU:



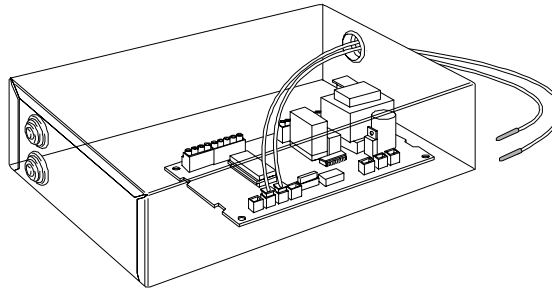
Humidistat panel for the control of humidifier KUMI.
W x H x D = 71 x 71 x 30 mm

KCM



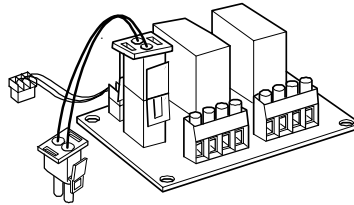
KCM – Master electronic control with control panel for manual or automatic regulation of all the functions of the appliance on the basis of the preselected room temperature, complete with container for the electronic board and for possible add-on modules KMV, KMR and KMI.

KCS



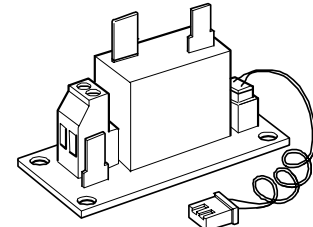
KCS Slave electronic control for automatic repeating of the functions dictated by the master electronic control (KCM) in the case of central management of several terminals (up to a maximum of 10), complete with container for the electronic board and for possible add-on modules KMV, KMR and KMI.

KMV



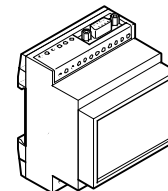
KMV Valve module for the management of ON/OFF valves in 2 or 4 pipe systems, and for control of startup and shutdown of the corresponding central units (chiller/ heat pump/boiler), for use in conjunction with electronic control KCM or KCS

KMR



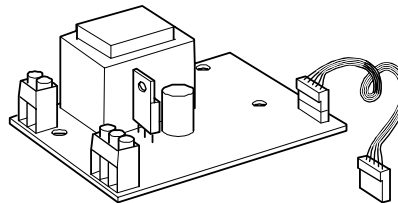
KMR – Electric element module, for the management of electric heating elements, for use in conjunction with electronic control KCM or KCS.

KCH



KCH RS 232 hardware key for connection to supervision systems, for use in conjunction with one or more KMI serial interface modules in the case of centralised management of the terminal units.

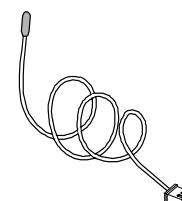
KMI



KMI – RS 485 serial interface module for communicating with building management systems, centralised control systems and supervision networks, for use in conjunction with electronic control KCM or KCS.

KST

KST – Temperature sensor for additional water-filled heating coil, for use in conjunction with electronic control KCM or KCS.



UTNB switches and controls

KCM - MASTER ELECTRONIC CONTROL

Control panel

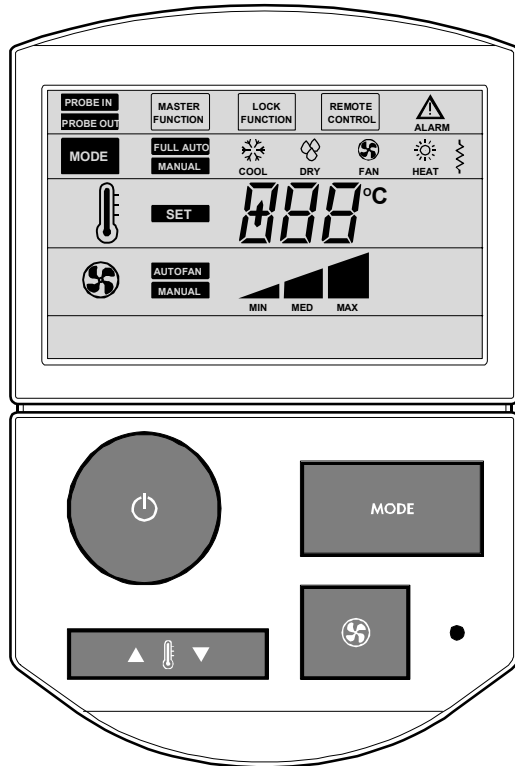


Fig. 15

Automatic operation FULL AUTO

Produces automatic operation in **COOL**, **DRY**, **HEAT**, **HEAT + HEATING ELEMENT** modes (in the latter mode if the heating element and the corresponding KMR control module are installed) on the basis of a series of pre-programmed set points, in response to the temperature reported in the room and the coil inlet water temperature. The fan functions automatically (**AUFAN**) according to the difference between the temperature set point and the room temperature reading.

Manual operation MANUAL

- **COOL, HEAT, HEAT + HEATING ELEMENT** modes (in the latter mode if the heating element and the corresponding KMR control module are installed). In these operating modes it is possible to program the desired setting by selecting the working set point and the fan operating mode (MIN - MED - MAX) or on the basis of the difference between the set temperature and the room temperature reading.

- **DRY** :
In this operating mode, it is possible to program the desired setting by selecting the working set point. The fan functions in automatic mode (**AUFAN**). An ON/OFF valve on the water circuit (controlled by the corresponding KMV module) functions according to predetermined open/close cycles.

- **FAN** :
In this operating mode, the fan is the only resource used. The fan speed can be set manually (**MANUAL**) or automatically (**AUFAN**).

Advanced functions:

- **HOT START**:
Ventilation is shut down when the inlet hot water temperature to the coil falls below certain pre-programmed values linked to the fan speed.

- **TOO COOL**:
Ventilation is shut down when the inlet cold water to the coil exceeds a pre-programmed value.

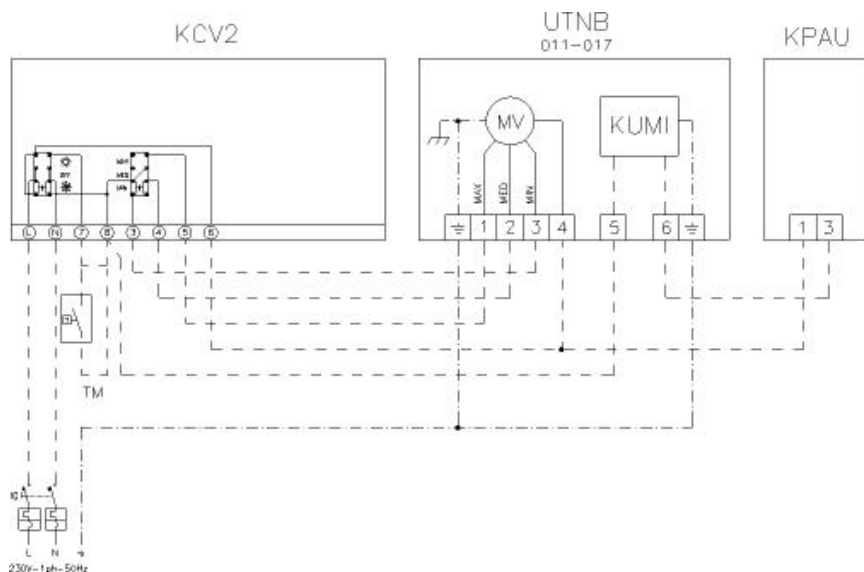
- **LOCK FUNCTION**:
Only the following modes function: **COOL**, **HEAT**, **HEAT + HEATING ELEMENT** (in the latter mode if the heating element and the corresponding KMR control module are installed) with working set points pre-programmable and variable within a predefined range, allowing restricted control of the appliance in the case of centrally managed applications. The fan only functions in manual mode (**MANUAL** MIN- MED- MAX).

- **REMOTE CONTROL**:
Allows the appliance to be switched on or off by means of a remote control switch (such as a timer).

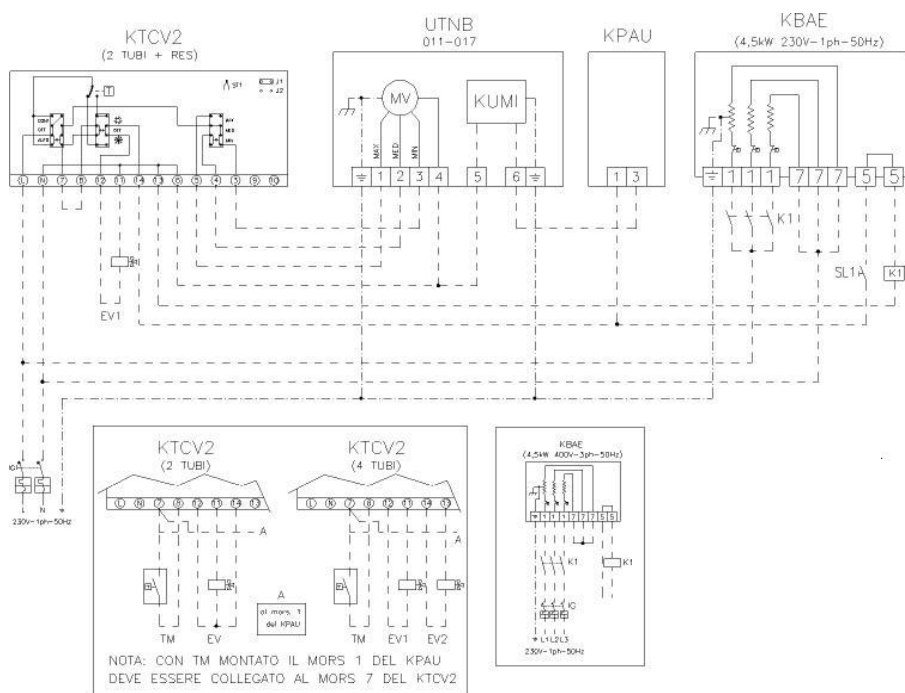
- **EXTERNAL SAFETY DEVICE**:
The appliance is shut down when an external safety device is triggered (such as a sensor).

UTNB switches and controls electrical connections

UTNB + KCV2 + KPAU



UTNB + KTCV2 + KPAU + KBAE



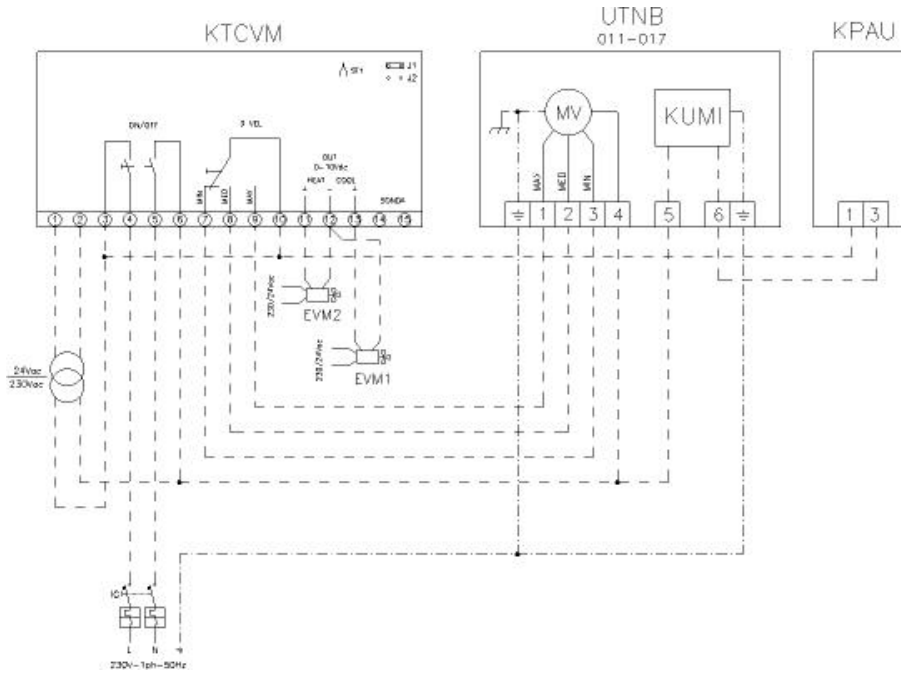
○ The unit must be connected to the power supply by a skilled technician and in compliance with the standards in force in the country where the unit is installed. RHOSS shall not be held liable for damage to persons or property caused by incorrect electrical connection. Always install a general automatic switch in a protected area near the appliance with a characteristic delayed curve, with sufficient capacity and breaking power. The contacts should open to a minimum distance of 3 mm. The unit must be earthed by law and to safeguard the user while the appliance is running.

- UTNB** = Base unit
- KCV2** = Control panel
- KTCV2** = Control panel
- KUMI** = Humidifier
- KPAU** = Humidistat panel
- KBAE** = Electric coil module
- IG** = Main switch
- TM** = Minimum temperature thermostat
- MV** = Fan motor
- EV** = Summer-winter solenoid valve
- EV1** = Summer solenoid valve
- EV2** = Winter solenoid valve
- ST1** = Air temperature sensor
- K1** = Heating element contactor
- L** = Phase
- N** = Neutral
- : Connection to be set up by the user

- N.B.**
- Jumper J1 closed – ST1 indoor air sensor
 - Jumper J2 closed – ST1 outdoor air sensor
 - If KBAE is fitted, do not fit TM.
 - With KBAE connected to a 230 V single-phase power supply it is possible to obtain powers of 1.5, 3 and 4.5 kW.

UTNB switches and controls electrical connections

UTNB + KTCVM + KPAU



○ The unit must be connected to the power supply by a skilled technician and in compliance with the standards in force in the country where the unit is installed. RHOSS shall not be held liable for damage to persons or property caused by incorrect electrical connection. Always install a general automatic switch in a protected area near the appliance with a characteristic delayed curve, with sufficient capacity and breaking power. The contacts should open to a minimum distance of 3 mm. The unit must be earthed by law and to safeguard the user while the appliance is running.

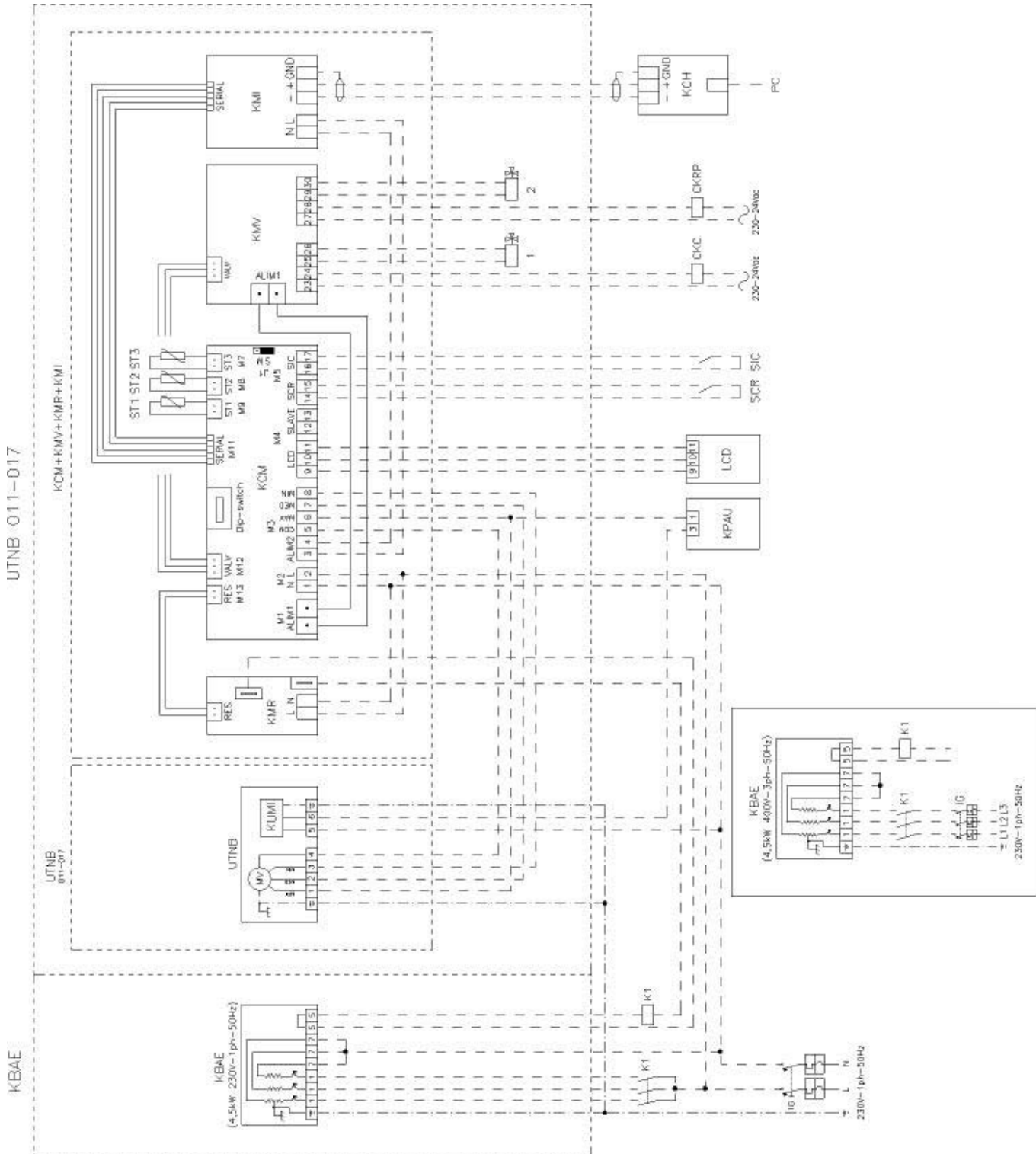
UTNB = Base unit
KTCVM = Control panel
KUMI = Humidifier
KPAU = Humidistat panel
IG = Main switch
MV = Fan motor
EVM1 = Summer modulating solenoid valve
EVM2 = Winter modulating solenoid valve
ST1 = Air temperature sensor
K1 = Heating element contactor
L = Phase
N = Neutral
---: Connection to be set up by the user

N.B.

- Jumper J1 closed – ST1 indoor air sensor
- Jumper J2 closed – ST1 outdoor air sensor
- If KBAE is fitted, do not fit TM.
- With KBAE connected to a 230 V single-phase power supply it is possible to obtain powers of 1.5, 3 and 4.5 kW.

UTNB switches and controls electrical connections

UTNB + KCM + KMV + KMR + KMI + KCH + KBAE + KUMI + KPAU



UTNB = Base unit
KCM = Master electronic control
KMV = Valve module
KMR = Heating element module
KMI = RS 485 serial interface module
KUMI = Humidifier module
KBAE = Electric coil module
KPAU = Humidistat panel
KCH = RS 232 hardware key
MV = Fan motor
LCD = Control panel

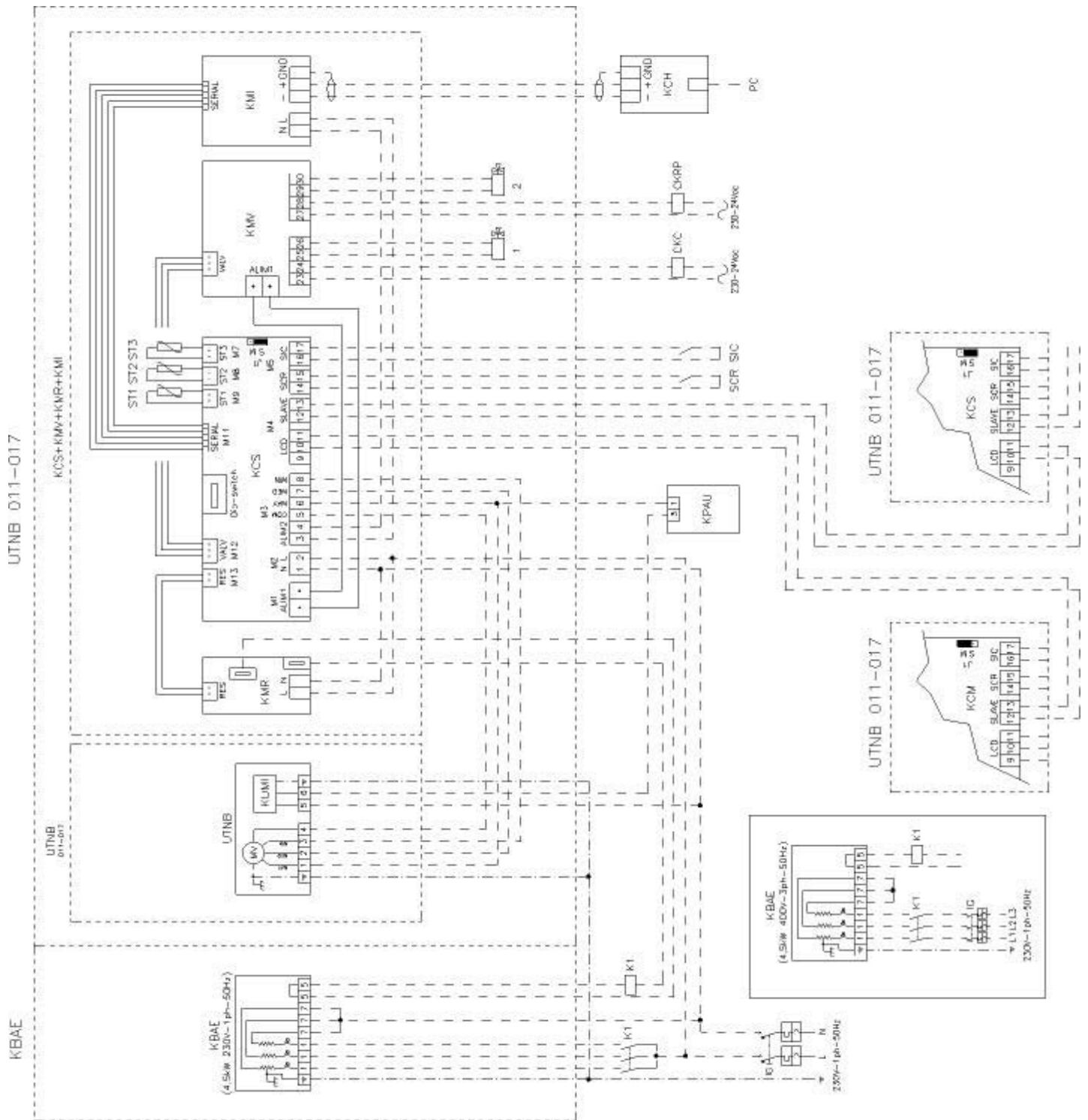
CKC = Boiler contactor control
CKRP = Chiller/heat pump contactor control
1 = Hot valve
2 = Hot/cold valve
K1 = Heating element contactor
IG = Main switch
L = Phase
N = Neutral
PC = Personal computer
SCR = Remote control selector

SIC = External safety device
ST1 = Air temperature sensor
ST2/ST3 = Water temperature sensor
 ----: Connection to be set up by the user

N.B.
 • KUMI enabled at maximum speed only.
 • With KBAE connected to a 230 V single-phase power supply it is possible to obtain powers of 1.5, 3 and 4.5 kW.

UTNB switches and controls electrical connections

UTNB +KCM + KCS + KMV + KMR + KMI + KCH + KBAE + KUMI + KPAU



UTNB switches and controls electrical connections

UTNB +KCM + KCS + KMV + KMR + KMI + KCH + KBAE + KUMI + KPAU

UTNB = Base unit
KCM = Master electronic control
KCS = Slave electronic control
KMV = Valve module
KMR = Heating element module
KMI = RS 485 serial interface module
KUMI = Humidifier module
KBAE = Electric coil module
KPAU = Humidistat panel
KCH = RS 232 hardware key
MV = Fan motor
LCD = Control panel
CKC = Boiler contactor control
CKRP = Chiller/heat pump contactor control
1 = Hot valve
2 = Hot/cold valve
K1 = Heating element contactor
IG = Main switch
L = Phase
N = Neutral
PC = Personal computer
SCR = Remote control selector
SIC = External safety device
ST1 = Air temperature sensor
ST2/ST3 = Water temperature sensor
---: Connection to be set up by the user

N.B.

- KUMI enabled at maximum speed only.
With KBAE connected to a 230 V single-phase power supply it is possible to obtain the following powers: 1.5, 3 and 4.5 kW.

○ The unit must be connected to the power supply by a skilled technician and in compliance with the standards in force in the country where the unit is installed. RHOSS shall not be held liable for damage to persons or property caused by incorrect electrical connection. Always install a general automatic switch in a protected area near the appliance with a characteristic delayed curve, with sufficient capacity and breaking power. The contacts should open to a minimum distance of 3 mm. The unit must be earthed by law and to safeguard the user while the appliance is running.

UTNB 011 ÷ 017

Windy range

RHOSS s.p.a.

Via Oltre Ferrovia, 32 - 33033 Codroipo (UD) - Italy
tel. +39 0432 911611 - fax +39 0432 911600
rhoss@rhoss.it - www.rhoss.it - www.rhoss.com

IRSAP-RHOSS Clima Integral S.L.

C/ Leonardo da Vinci, 4 - Pol. Ind. Cami Ral
08850 Gavà (Barcelona) - Spain
telf. +34 93 6334733 - fax +34 93 6334734
rhoss@irsap-rhoss.com - www.rhoss.es

Ir Group S.A.S.

7 rue du Pont à Lunettes - 69390 Vourles - France
tel. +33 (0)4 72318631 - fax +33 (0)4 72318632
irsaprhoss@irgroup.fr

RHOSS Deutschland GmbH

Hölzlestraße 23, D-72336 Balingen, OT Engstlatt - Germany
tel. +49 (0)7433 260270 - fax +49 (0)7433 260270
info@rhoss.de - www.rhoss.de

Sedi commerciali Italia: / Italy branch offices:

Area Nord-Est: 33033 Codroipo (UD) - Via Oltre Ferrovia, 32
tel. +39 0432 911611 - fax +39 0432 911600

Area Nord-Ovest: 20041 Agrate Brianza (MI)
Centro Colleoni - Palazzo Taurus, 1
tel. +39 039 6898394 - fax +39 039 6898395

Area Nord-Ovest - Uffici di Firenze:

50127 Firenze - Via F. Baracca, 148/R
tel. +39 055 4360492 - fax +39 055 413035

Area Centro-Sud: 00199 Roma - Viale Somalia, 148
tel. +39 06 8600699-707 - fax +39 06 8600747

Area Sud - Filiale di Napoli:

80143 Napoli - Via G. Porzio - Centro Direzionale - Isola G8
tel. +39 081 7879121 - fax +39 081 7879135

Area Sud - Uffici di Bari:

70124 Bari - Via Lucarelli, 60/N
tel. +39 080 5013644 - fax +39 080 5021159



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