

OPERATION AND MAINTENANCE INSTRUCTIONS FOR THE GOLD RX/PX/CX/SD, GENERATION E

Applicable to program version 1.22 and newer versions

GOLD PX



GOLD RX



GOLD CX



GOLD SD



The document was originally written in Swedish.

1. Safety Instructions

All staff concerned must acquaint themselves with these instructions before beginning any work on the unit. Any damages to the unit or parts of it due to improper handling or misuse by the purchaser or the fitter cannot be considered subject to guarantee if these instructions have not been followed correctly.



Warning

Only a qualified electrician or service personnel trained by Swegon shall be permitted to modify the air handling unit in conjunction with electrical installations or the wiring of external functions.

1.1 Safety Isolating Switch/Main Switch

On the size 04/05, 07/08, 11/12, 14/20 and 25/30 GOLD one-piece air handling units with rotary heat exchanger (RX) or plate heat exchanger (PX), the safety isolating switch is externally located on the junction hood.

On the size 35/40, 50/60, 70/80 and 100/120 GOLD one-piece air handling units with rotary heat exchanger (RX), the safety isolating switch is externally located on the centre section of the unit.

On the size 35/40 GOLD one-piece air handling units with coil heat exchangers (CX), the safety isolating switch is located on the left side of the electric equipment cubicle in the centre section of the unit. On the size 50/60, 70/80 and 100/120 air handling units, the safety isolating switch is located in a plastic enclosure in the centre section of the unit.

On the size 04-80 GOLD SD separate supply air and extract air handling units, the safety isolating switch is located on the inspection side by the fan section's inspection door. On the size 100/120 units, the safety isolating switch is located in a plastic enclosure on the inspection side of the air handling unit.

The air handling unit should normally be started and stopped from the hand-held terminal; not by switching the safety isolating switch on and off.

Always switch off the safety isolating switch before servicing the unit if not otherwise specified in the pertinent instructions.

1.2 Risks



Warning

Before carrying out any work, make sure that the power supply to the air handling unit has been switched off.

Risk areas with moving parts

Moving parts are fan impellers, drive pulley for the rotary heat exchanger, if fitted, and by-pass/shut-off damper of the plate heat exchanger, if fitted.

The lockable inspection doors serve as protection from contact with the fans and protection for the heat exchanger. If the ducts are not firmly connected to the fan outlets, the outlets must be firmly fitted with a safety guard (wire mesh screen).



Warning

The inspection doors on the filter/fan sections must not be opened while the air handling unit is in operation. Stop the unit when it is operating normally via the hand-held terminal.

Wait until the fans have stopped rotating before opening the inspection door.

The air pressure inside the filter/fan section is positive, which means that the door can fly open.

Keep the key at a safe spot separate from the air handling unit.

1.3 Safety Guards

The cover of the electrical equipment cubicle, and when applicable the junction hood, serve as safety guards on the size 04/05 and 08 one-piece units with rotary heat exchanger (RX), as well as on all the other variants (PX/CX/SD). On the size 12, 14/20, 25/30, 35/40, 50/60, 70/80 and 100/120 one-piece air handling units with rotary heat exchanger (RX), the lockable door over the electrical equipment cubicle, and if applicable the junction hood, serve as safety guards.

Only a qualified electrician or trained service technicians shall be allowed to remove the safety guards.



Warning

The power supply to the unit shall be isolated by switching off the safety isolating switch before removing the safety guard.

When the air handling unit is operating, the safety guards must always be mounted, all inspection doors must be closed, and the junction hood on the top of the unit must be mounted.

1.4 Glycol



Glycol is used in the GOLD air handling units with coil heat exchangers.



Warning

Never pour glycol down a drain; collect it in a receptacle and leave it at a recycling centre, petrol station, etc. Glycol is highly dangerous to consume and can cause fatal poisoning or damage the kidneys. Contact a doctor! Also avoid breathing glycol vapour in confined spaces. If you get glycol in your eyes, flush them thoroughly with water (for about 5 minutes). If glycol splashes on your skin, wash with soap and water.

2. General

2.1 Handling of air handling units before commissioning

The air handling unit and its duct connections should be protected against wetness and condensation until the unit is commissioned.

2.2 Range of Application

The GOLD units are designed for use in comfort ventilation applications. Depending on the variant selected, GOLD units can be utilised in buildings such as office buildings, schools, day nurseries, public buildings, shops, residential buildings, etc.

GOLD units equipped with plate/coil heat exchangers (PX/CX) and separate supply air and extract air handling units (SD) can also be used for the ventilation of moderately humid buildings; however not where the humidity is continuously high, such as in indoor swimming baths.

The separate GOLD supply air and extract air handling units (SD) are designed for applications in which the supply air and extract air flows need to be completely separated from one another or where, due to limited available space, separate units for supply air and extract air respectively are needed. They can also be used individually if only one of the variants is needed.

In order to fully obtain all the benefits the GOLD system has to offer, it is important to take the special characteristics of the air handling units into account when planning them into the project, installing, commissioning and operating them.

The air handling unit in its basic version should be installed indoors. The TBTA/TBTB accessory should be used if the air handling units are installed outdoors. If the duct accessories are installed outdoors, they must be housed in an insulated casing (type TCxx).



Important!

Always read the safety instructions in Section 1 that explain the risks involved in running the unit and designate who shall be permitted to operate and service the unit, and carefully follow the installation instructions provided in each paragraph.

The product identification plates are located on the inspection side of the air handling unit and on a wall inside the fan section. Refer to the particulars on the product identification plate when you contact Swegon.

2.3 Mechanical Design

The GOLD is available in 9 physical sizes and for 18 airflow ranges.

Its sheet steel exterior is painted in a beige colour, NCS S2005-Y30R. Handles, decorative strips and the upper part of the junction hood are painted dark grey, NCS S 8502-B. The lower part of the junction hood is painted black, NCS S 9000-N. The inner skin material is aluminium-zinc coated sheet steel. Environmental class C4. Panel thickness of 52 mm with intervening insulation consisting of mineral wool.

The size 11-30 GOLD units with plate heat exchanger (PX) or rotary heat exchanger (RX) with air intake from above and the separate size 04-08 supply air and extract air units (SD) as well as

the GOLD RX Top are equipped with pleated, class F7 filters. The units in other variants/sizes have class F7 supply air and extract air filters made of glass fibre.

The type RECOmic rotary heat exchanger is variable speed controlled and has a temperature efficiency of up to 85%.

The plate heat exchangers are as standard equipped with bypass and shut-off dampers for variable and automatic control of the heat exchanger's efficiency on heat recovery.

The coil heat exchangers in the size 35-80 one-piece GOLD CX air handling units are supplied completely mounted from the factory; including mounted pipework package with all the necessary components. The system is normally filled with liquid, vented, commissioned and performance-tested prior to delivery, but can also be ordered in unfilled condition e.g. for housing improvement projects or if the application requires filling with another mixture instead of 30 % ethylene glycol. Pipework packages in unassembled form are available for the size 100/120 GOLD CX one-piece units and for the size 12-120 GOLD SD separate supply air and extract air handling units.

The supply air and extract air fans are of GOLD Wing+ type, an axi-centrifugal fan with backward-curved blades. The fans are direct-driven and have a motor controller for variable speed control.

2.4 Control System

The IQlogic control system is microprocessor-based and is integrated into the air handling unit. It controls and regulates the fans, heat exchanger, temperatures, airflows, in operation times and a large number of internal and external functions as well as alarms.

2.5 Environm. Documentation

For a complete Declaration of Construction Materials, see our home page at www.swegon.com (applicable to Sweden only).

The air handling unit is designed in such a way that it can be dismantled into its natural parts for scrapping. When the unit has ended its useful product life, the services of an accredited recycling company should be utilised for disposal.

The recyclable weight of the GOLD is about 94% of its initial weight.

Swegon AB is associated with the REPA Register, No. 5560778465.

Contact Swegon AB, Phone: +46 (0)512-322 00, if you have any questions regarding the dismantling instructions or the air handling unit's impact on the environment.

2.6 Type of Heat Exchanger

The GOLD one-piece air handling unit is supplied with either a rotary heat exchanger (RX), plate heat exchanger (PX) or coil heat exchangers (CX). A coil heat exchanger is available as an option for the separate supply air and extract air handling units (SD).

If any section, function, etc. deals only with one type of heat exchanger, it is marked with an appropriate symbol as specified below:



Rotary heat exchanger (RX)

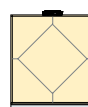


Plate heat exchanger (PX)

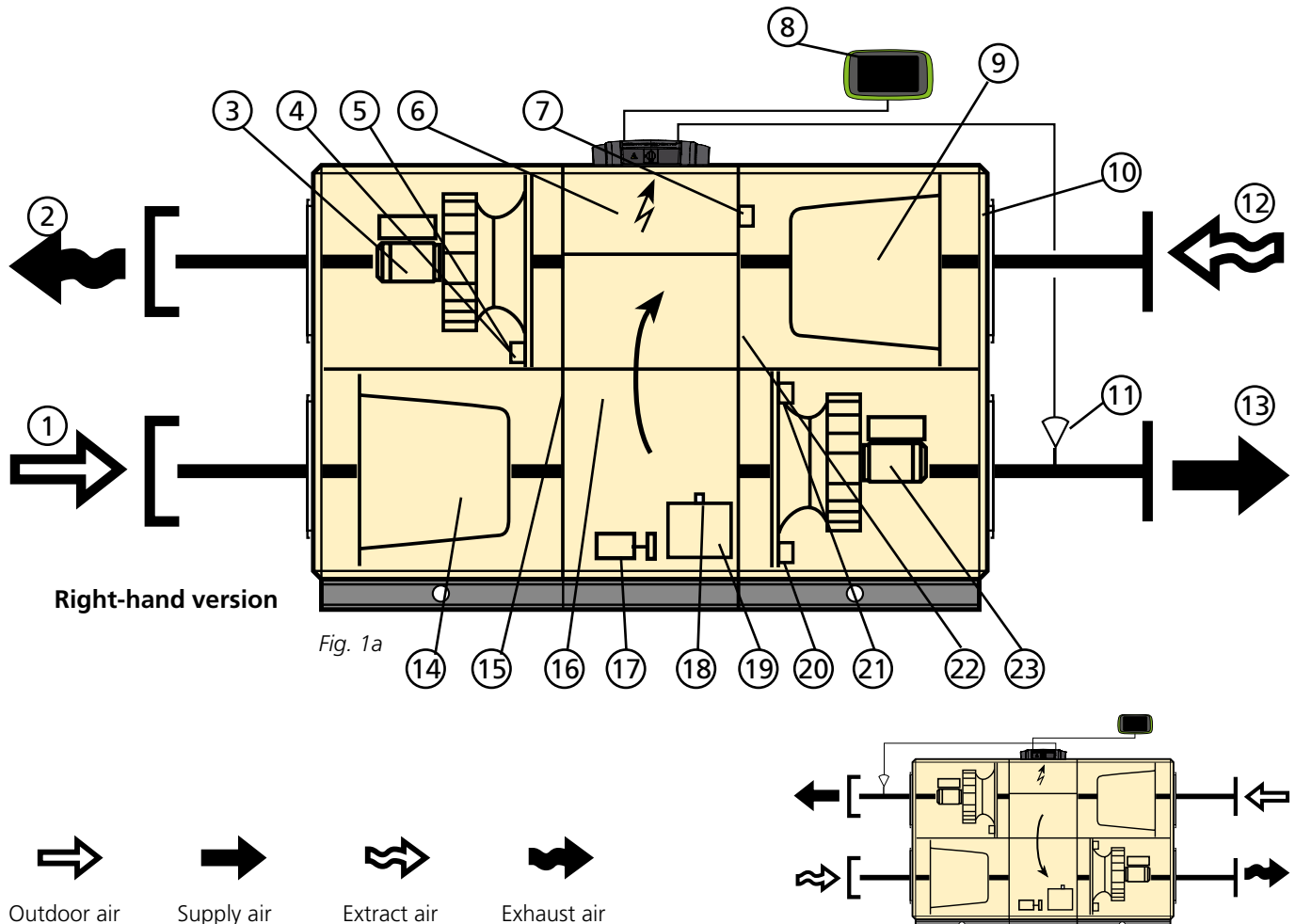


Coil heat exchangers (CX, possibly SD)

2.7 The Components of the Air Handling Units

2.7.1 GOLD RX one-piece air handling unit with rotary heat exchanger

The individual components are each specified below in a simplified and diagrammatical description.



GOLD 04-120: The air handling units can be ordered in the right-hand version as shown in Fig. 1a or in the left-hand version as shown in Fig. 1b.

GOLD 12-120: The air handling unit in Fig. 1a shows Fan Arrangement 1. The unit can also be ordered according to Fan Arrangement 2. The fans and filters are then vertically mirror-inverted.

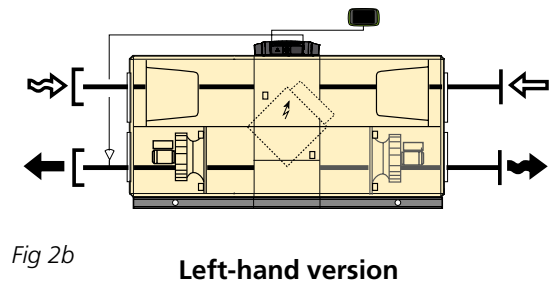
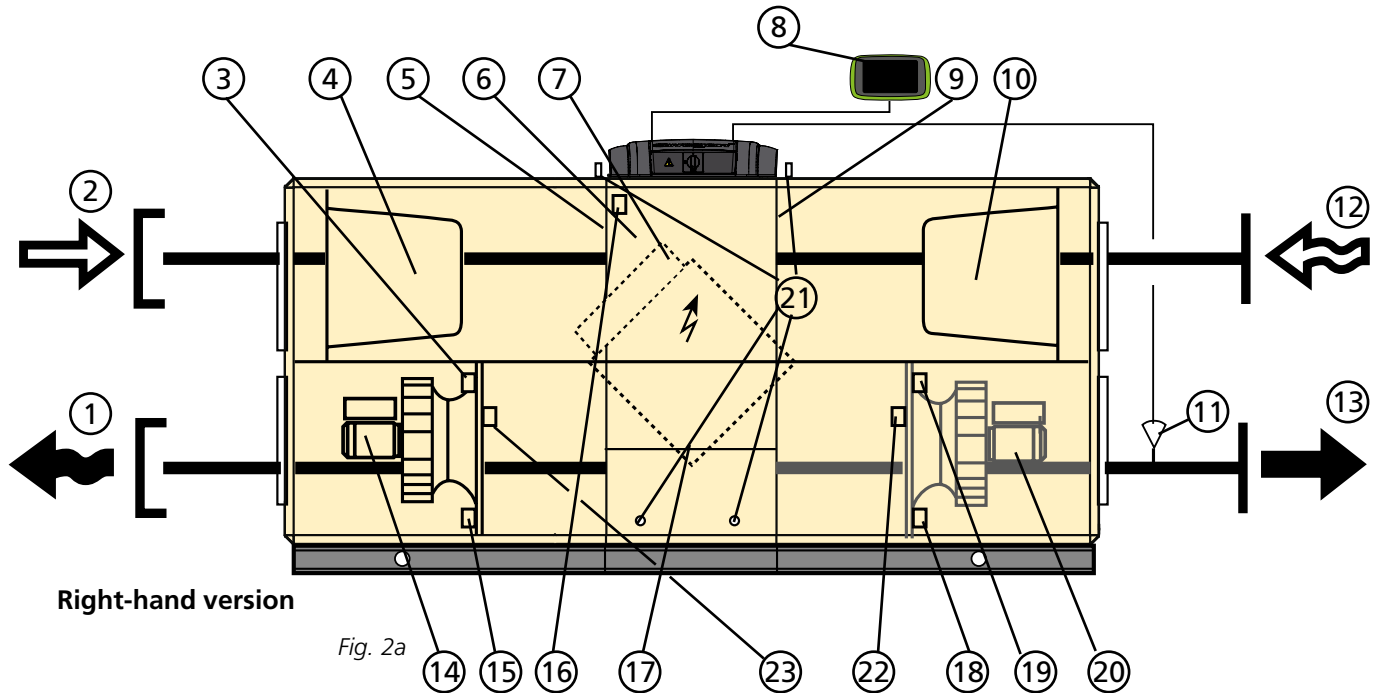
In the left-hand version (Fig. 1b), the components marked with an asterisk change function and designation (the components are named according to whether they are for supply air or extract air).

The arrangement of the components and their designations

- | | | | |
|---|--|----|---|
| 1 | OUTDOOR AIR* (In left-hand version: Extract air) | 7 | Pressure sensor, heat exchanger (Position on function selector switch = B) |
| 2 | EXHAUST AIR* (In left-hand version: Supply air) | 8 | IQnavigator hand-held terminal |
| 3 | Extract air fan* with motor and motor controller | 9 | Extract air filter* |
| 4 | Pressure sensor, extract air fan* (Position on function selector switch = 1) | 10 | Commissioning plate (Left-hand unit version - by left-hand filter section) |
| 5 | Pressure sensor, supply air filter* (Position on function selector switch = 3) | 11 | Temperature sensor, supply air (to be mounted in supply air duct) |
| 6 | Electrical equipm. cubicle with control unit | 12 | EXTRACT AIR* (In left-hand version: Outdoor air) |
| | | 13 | SUPPLY AIR* (In left-hand version: Exhaust air) |
| | | 14 | Supply air filter* |
| | | 15 | Temperature sensor, outdoor air* |
| | | 16 | Heat exchanger |
| | | 17 | Drive motor, heat exchanger |
| | | 18 | Rotation monitor sensor |
| | | 19 | Heat exchanger control unit |
| | | 20 | Pressure sensor, supply air fan* (Position on function selector switch = 2) |
| | | 21 | Pressure sensor, extract air filter* (Position on function selector switch = 4) |
| | | 22 | Temperature sensor, extract air* |
| | | 23 | Supply air fan* with motor and motor controller |

2.7.2 GOLD PX one-piece air handling unit with plate heat exchanger

The individual components are each specified below in a simplified and diagrammatical description.



The air handling units are supplied in the right-hand or left-hand version as shown in Fig. 2a and 2b. In the left-hand version (Fig. 2b), the components marked with an asterisk change function and designation (the components are named according to whether the function is for supply air or extract air.).

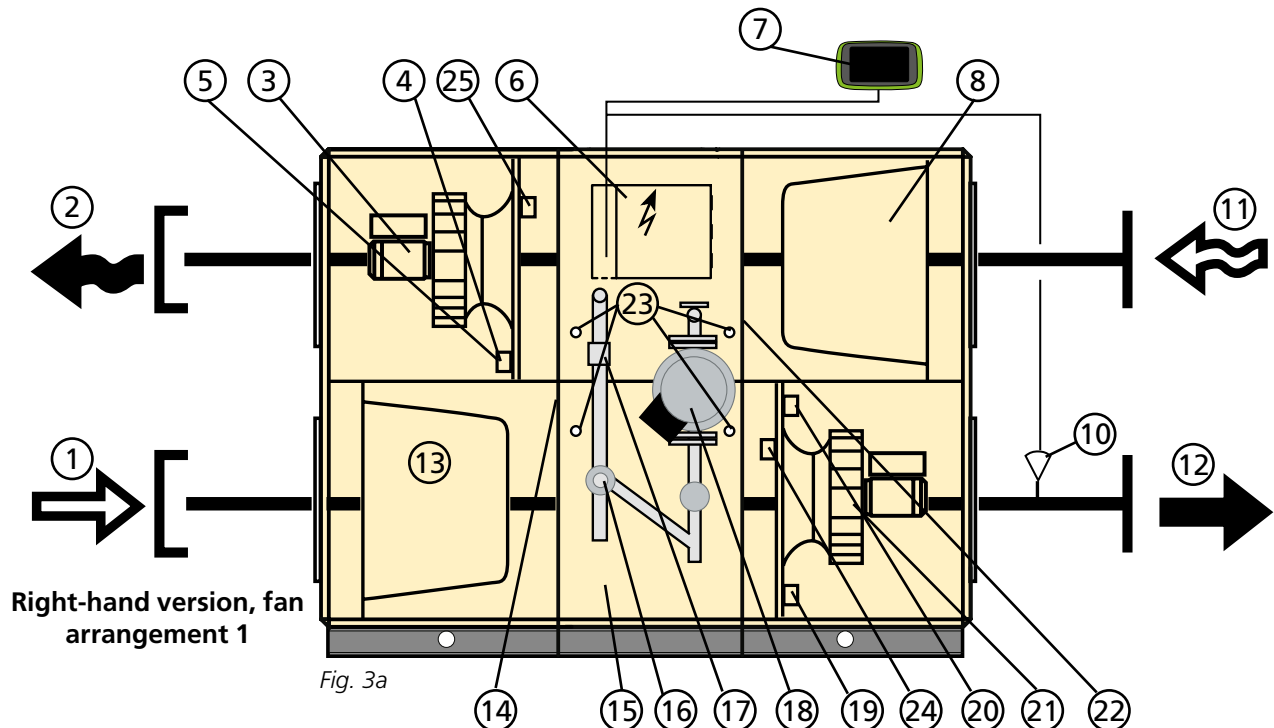
The arrangement of the components and their designations

- 1 EXHAUST AIR* (In left-hand version: Supply air)
- 2 OUTDOOR AIR* (In left-hand version: Extract air)
- 3 Pressure sensor, supply air filter* (Position on function selector switch = 3)
- 4 Supply air filter*
- 5 Temperature sensor, outdoor air*
- 6 Electrical equipm. cubicle with control unit
- 7 Valve actuators, shut-off and bypass dampers
- 8 Hand-held terminal
- 9 Temperature/relative humidity sensor, extract air* (applies to RECOFrost only)
- 10 Extract air filter*
- 11 Temperature sensor, supply air (to be mounted in supply air duct)

- 12 EXTRACT AIR* (In left-hand version: Outdoor air)
- 13 SUPPLY AIR* (In left-hand version: Exhaust air)
- 14 Extract air fan* with motor and motor controller
- 15 Pressure sensor, extract air fan* (Position on function selector switch = 1)
- 16 Extract air/exhaust air pressure sensor (applies only to RECOFrost, function selector switch position = C)
- 17 Plate heat exchanger with bypass and shut-off damper
- 18 Pressure sensor, supply air fan* (Position on function selector switch = 2)
- 19 Pressure sensor, extract air filter* (Position on function selector switch = 4)
- 20 Supply air fan* with motor and motor controller
- 21 Tappings for measuring pressure drop across the heat exchanger.
- 22 Temperature/air density sensor, supply air.
- 23 Temperature/air density sensor, extract air.

2.7.3 GOLD CX one-piece air handling unit with coil heat exchangers

The individual components are each specified below in a simplified and diagrammatical description.



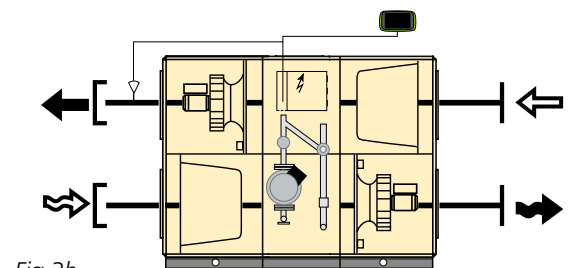
The air handling units can be ordered in the right-hand version as shown in Fig. 3a or in the left-hand version as shown in Fig. 3b.

The air handling unit in Fig. 3a shows Fan Arrangement 1. The unit can also be ordered according to Fan Arrangement 2. The fans and filters are then vertically mirror-inverted.

In the left-hand version (Fig. 3b), the components marked with an asterisk change function and designation (the components are named according to whether the function is for supply air or extract air).

The arrangement of the components and their designations

- 1 OUTDOOR AIR* (In left-hand version: Extract air)
- 2 EXHAUST AIR* (In left-hand version: Supply air)
- 3 Extract air fan* with motor and motor controller
- 4 Pressure sensor, extract air fan* (Position on function selector switch = 1)
- 5 Pressure sensor, supply air filter* (Position on function selector switch = 3)
- 6 Electrical equipm. cubicle with control unit
- 7 Hand-held terminal
- 8 Extract air filter*
- 10 Temperature sensor, supply air (to be mounted in supply air duct)



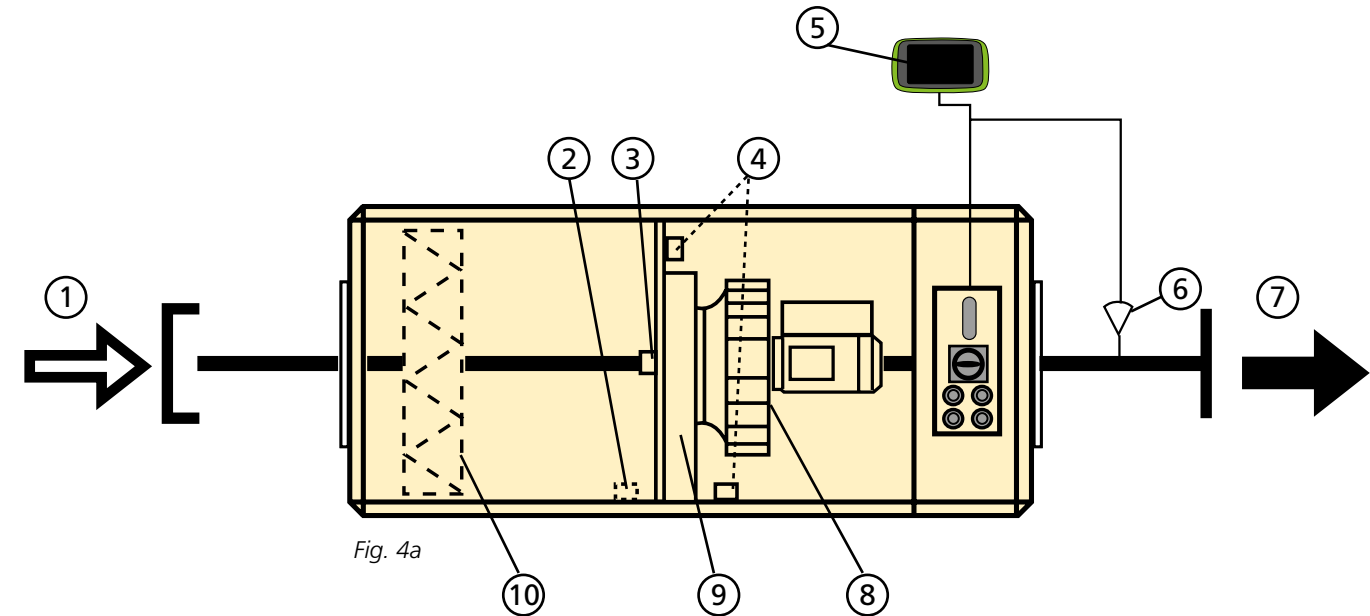
Left-hand version, fan arrangement 1

- 11 EXTRACT AIR* (In left-hand version: Outdoor air)
- 12 SUPPLY AIR* (In left-hand version: Exhaust air)
- 13 Supply air filter*
- 14 Temperature sensor, outdoor air*
- 15 Coil heat exchanger with pipework package
- 16 Valve actuator
- 17 Temperature sensor for freeze protection
- 18 Circulation pump
- 19 Pressure sensor, supply air fan* (Position on function selector switch = 2)
- 20 Pressure sensor, extract air filter* (Position on function selector switch = 4)
- 21 Supply air fan* with motor and motor controller
- 22 Temperature/relative humidity sensor, extract air*
- 23 Tappings for measuring pressure drop across the heat exchanger.
- 24 Temperature/air density sensor, supply air.
- 25 Temperature/air density sensor, extract air.

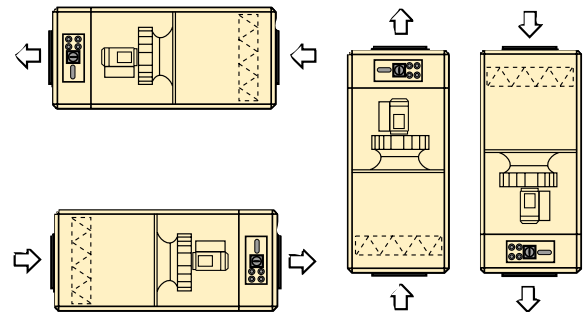
GOLD CX, sizes 100/120: Pipework package including control box are supplied in unmounted condition for floor or wall mounting (accessories).

2.7.4 GOLD SD separate supply air and extract air handling units, sizes 04-08

The individual components are each specified below in a simplified and diagrammatical description.



Outdoor air Supply air



The air handling unit is supplied in the variant as shown in Fig. 4a. This variant can be positioned in several different ways as shown in Fig. 4b.

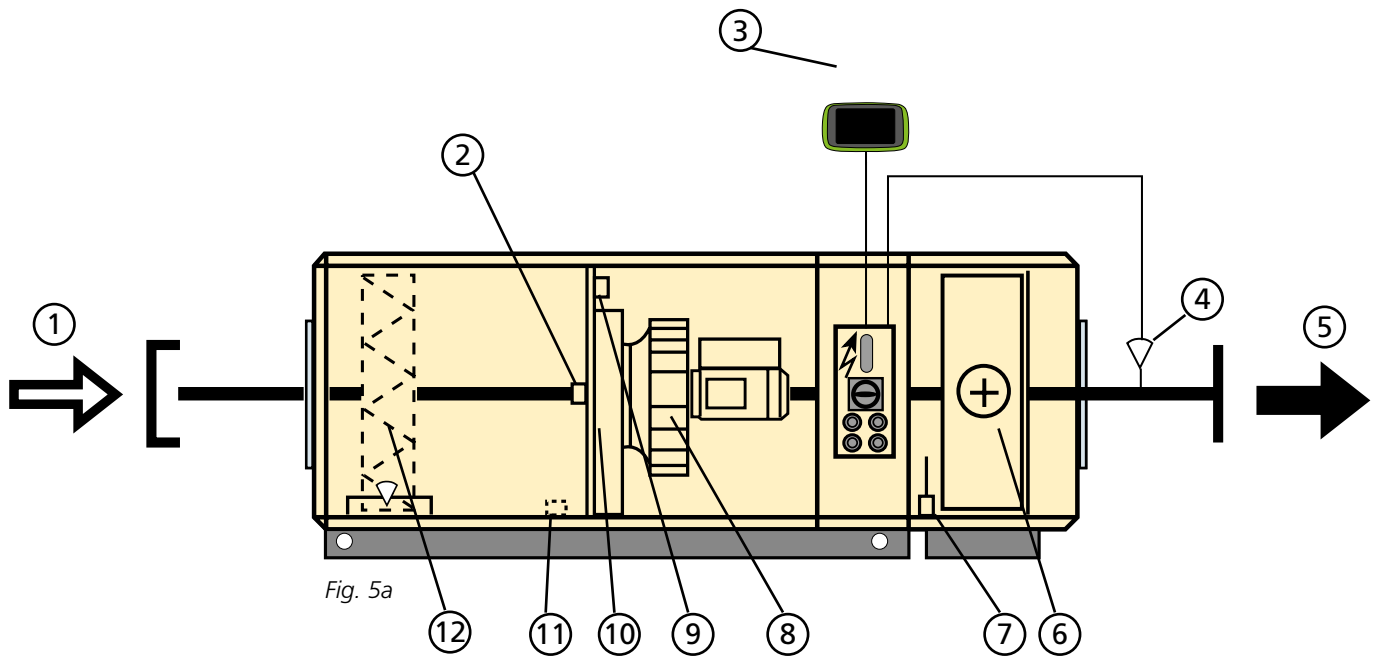
The air handling unit is shown here as a supply air handling unit. If the unit is used as an extract air handling unit, the components marked with an asterisk change function and designation (the components are named according to whether the function is for supply air or extract air).

The arrangement of the components and their designations

- | | | | |
|---|--|----|--|
| 1 | OUTDOOR AIR* | 5 | Hand-held terminal |
| | (In extract air handling units: Extract air) | 6 | Temperature sensor, supply air (to be mounted in supply air duct) |
| 2 | Pressure sensor, supply air filter*, if applicable (Position on function selector switch = 3) (In extract air handling units: Pressure sensor, extract air filter) | | (Not used in extract air handling units) |
| 3 | Temperature sensor, outdoor air/air density sensor, supply air* | 7 | SUPPLY AIR* |
| | (In extract air handling units: Temperature sensor, extract air/air density sensor, exhaust air) | | (In extract air handling units: Exhaust air) |
| 4 | Pressure sensor, supply air fan* (Position on function selector switch = 2) | 8 | Supply air fan* with motor and motor controller (In extract air handling units: Extract air fan with motor and motor controller) |
| | (In extract air handling units: Pressure sensor, extract air fan) | 9 | Electrical equipm. cubicle with control unit |
| | | 10 | Supply air filter, if applicable* (In extract air handling units: Extract air filter) |

2.7.5 GOLD SD separate supply air and extract air handling units, size 11/12

The individual components are each specified below in a simplified and diagrammatical description.



 Outdoor air
  Supply air

The air handling units can be ordered in the right-hand version as shown in Fig. 5a or the left-hand version as shown in Fig. 5b. The air handling units can also consist of filter and fan only or fan only.

The air handling unit is shown here as a supply air handling unit. If the unit is used as an extract air handling unit, the components marked with an asterisk change function and designation (the components are named according to whether the function is for supply air or extract air).

The arrangement of the components and their designations

- | | | |
|----|--|--|
| 1 | OUTDOOR AIR* | |
| | (In extract air units: Extract air) | |
| 2 | Temperature sensor, outdoor air/air density sensor, supply air* | |
| | (In extract air handling units: Temperature sensor, extract air/air density sensor, exhaust air) | |
| 3 | Hand-held terminal | |
| 4 | Temperature sensor, supply air (to be mounted in supply air duct) | |
| | (Not used in extract air handling units) | |
| 5 | SUPPLY AIR* | |
| | (In extract air handling units: Exhaust air) | |
| 6 | Coil heat exchanger, supply air*, if applicable | |
| | (In extract air handling units: Coil heat exchanger, extract air) | |
| 7 | Temperature sensor, outdoor air* | |
| | (Only in units with coil heat exchanger) | |
| | (In extract air handling units: Temperature/relative humidity sensor, extract air) | |
| 8 | Supply air fan* with motor and motor controller | |
| | (In extract air handling units: Extract air fan with motor and motor controller) | |
| 9 | Pressure sensor, supply air fan* (Position on function selector switch = 2) | |
| | (In extract air handling units: Pressure sensor, extract air fan) | |
| 10 | Electrical equipm. cubicle with control unit | |
| 11 | Pressure sensor, supply air filter*, if applicable (Position on function selector switch = 3) (In extract air handling units: Pressure sensor, extract air filter) | |
| 12 | Supply air filter*, if applicable | |
| | (In extract air handling units: Extract air filter) | |

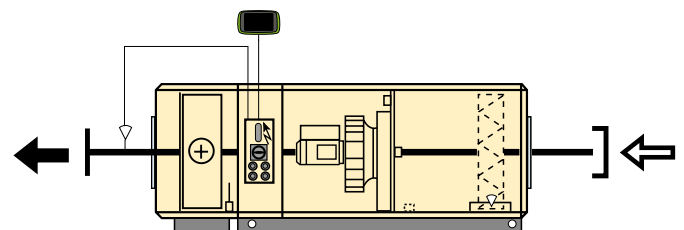


Fig. 5b

2.7.6 GOLD SD separate supply air and extract air handling units, Sizes 14-120, with coil heat exchangers

The individual components are each specified below in a simplified and diagrammatical description.

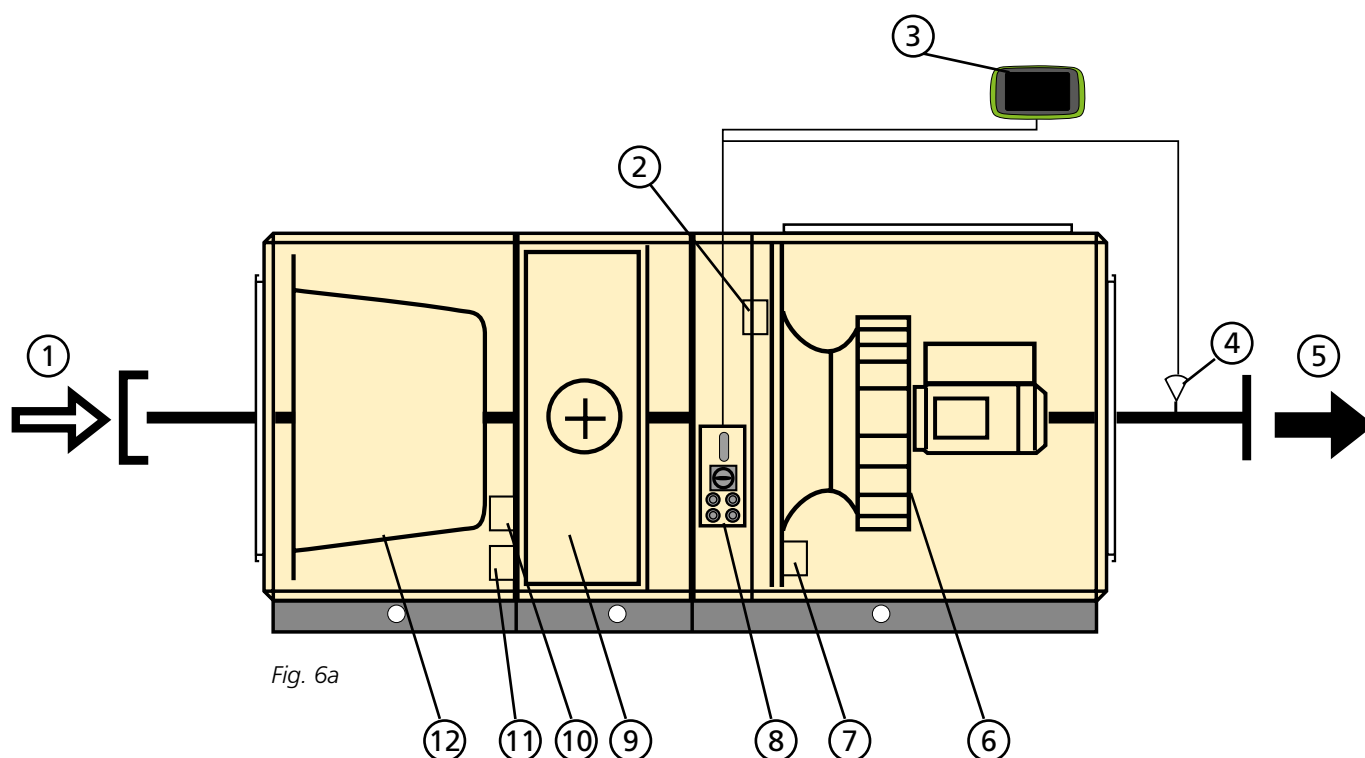


Fig. 6a



The air handling units can be ordered in the right-hand version as shown in Fig. 6a or the left-hand version as shown in Fig. 6b. The air handling units can also consist of filter and fan only or fan only.

The air handling unit is shown here as a supply air handling unit. If the unit is used as an extract air handling unit, the components marked with an asterisk change function and designation (the components are named according to whether the function is for supply air or extract air).

The arrangement of the components and their designations

- 1 OUTDOOR AIR*
(In extract air handling units: Extract air)
- 2 Temperature sensor, outdoor air/air density sensor, supply air*
(In extract air handling units: Temperature sensor, extract air/air density sensor, exhaust air)
- 3 Hand-held terminal
- 4 Temperature sensor, supply air (to be mounted in supply air duct)
(Not used in extract air handling units)
- 5 SUPPLY AIR*
(In extract air handling units: Exhaust air)

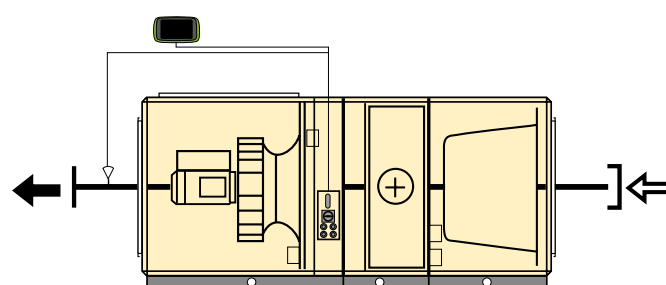


Fig. 6b

- 6 Supply air fan* with motor and motor controller
(In extract air handling units: Extract air fan with motor and motor controller)
- 7 Pressure sensor, supply air fan* (Position on function selector switch = 2)
(In extract air handling units: Pressure sensor, extract air fan)
- 8 Electrical equipm. cubicle with control unit
- 9 Coil heat exchanger, supply air*, if applicable
(In extract air handling units: Coil heat exchanger, extract air)
- 10 Temperature sensor, outdoor air*
(Only in units with coil heat exchanger)
(In extract air handling units: Temperature/relative humidity sensor, extract air)
- 11 Pressure sensor, supply air filter* (Position on function selector switch = 3)
(In extract air units: Pressure sensor, extract air filter)
- 12 Supply air filter*, if applicable
(In extract air handling units: Extract air filter)

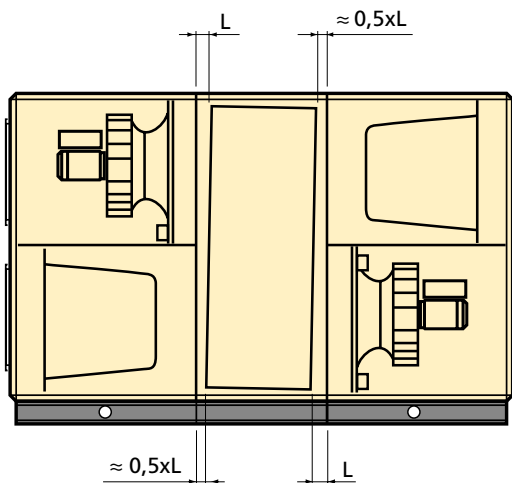
3. Commissioning

3.1 General

Commissioning sequence:

1. Remove the air handling unit's protective plastic foil.
2. Check that there are no foreign objects inside the unit, duct system or functional sections.
3. Check that rotary heat exchanger rotor (only GOLD RX) rotates easily. On sizes 50-120, the rotary heat exchanger must be angled slightly towards the filter, see drawing below.

If the inclination needs adjusting, see special instructions for adjusting the inclination of the rotary heat exchanger (04-80) or the installation instructions for the GOLD (120).



GOLD RX,, sizes 50-120: The illustration shows the factory-pre-set rotor inclination for Fan Arrangement 1. The inclination must always be toward the filter, which means that the inclination for Fan Arrangement 2 is in the other direction.

4. Turn the safety isolating switch to the ON position (I).
5. Select the appropriate language, if you have not already done so. See Section 5.3.7 or 6.4.7.

6. The air handling unit has a factory setting that makes it ready to operate. See Section 11.2 Commissioning Report.

However, in many cases, these settings need to be adjusted to suit the current installation.

If necessary, enter the fan position setting (inspection side), see Section 6.4.10.

Program the timer (switch clock), operating mode, temperatures, airflows and functions according to the procedures in Sections 4-15.

Select whether the airflow unit of measurement shall be l/s, m³/s, m³/h or cfm.

Fill out the Commissioning Record and save it in the document pocket of the air handling unit.

In some cases it might be necessary to adjust the P-band and the I-time if the heating regulation system is oscillating or operates sluggishly. This requires entering a special code. Contact your Swegon representative.

7. Activate, if needed, manual or auto operation (Dashboard) or lock the speed of the fans (AIRFLOW ADJUSTMENT image). Adjust the airflow in the duct system and air terminals as described in Section 3.2.
8. Check and adjust, if required, the pressure balance in the air handling unit as described in Section 3.3.
9. Finish off with a filter calibration as described in Section 6.3.

3.2 Adjusting the Duct System and Air Terminals

In order to prevent the fans from consuming more power than necessary, it is important to keep the pressure drop in the system at the lowest possible level. It is also important that duct systems and air terminals are correctly commissioned to provide the comfort expected.

When commissioning air terminals and the duct systems for the GOLD, it is appropriate to follow the proportionality method.

This means that the ratio between the airflows in branch ducts remains constant even if you change the airflow in the main ducts. The same ratio applies to the air terminals in the installation.

When commissioning the duct system there is provision for locking the speed of the fans in the air handling unit to provide a specific preset flow rate, see Section 5.3.1.3.

3.2.1 Adjustment Sequence

The system should be adjusted in the following order:

1. Adjust of the air terminals in each branch duct.
2. Adjust the branch ducts.
3. Adjust the main ducts.

3.2.2 Adjustment Procedure

1. Set all the air terminals and dampers to the fully open position.
2. Calculate the quotient between the airflow reading and the design airflow of all the air terminals, branch ducts and main ducts. The air terminal in every branch that has the lowest quotient should be fully open. Use this air terminal as an INDEX AIR TERMINAL. The same applies to branch dampers and main dampers.

When you've finished commissioning, one air terminal in every branch, one branch damper and one main damper should consequently be fully open.

3. Start adjusting the main duct that has the highest quotient and the branch duct in the main duct that has the highest quotient. Starting from this point enables you to then "press" the air in front of you toward the sections of the system that have the least air.
 4. Adjust the last air terminal on the duct branch so that it will have the same quotient as the index air terminal. This air terminal becomes the REFERENCE AIR TERMINAL. Often it is the last air device on the branch that has the lowest quotient and this air terminal should be open. In this case, the index air terminal and the reference air terminal will be one and the same.
 5. Throttle the other air terminals in the branch to the same quotient as the reference device.
N.B.! The quotient in the reference terminal will change every time another air terminal is throttled, so in practice the quotient for the reference air terminal can be set slightly higher. The reference device must be measured in between each air terminal throttled.
 6. Go to the branch that had the next highest quotient and adjust the air terminals there, etc.
N.B.! All branch dampers should be fully open until all air terminals have been adjusted.
 7. Throttle the branch damper that had the highest quotient to the same quotient as the branch that had the lowest quotient.
N.B.! Keep in mind that the index damper changes quotient; proceed as described in item 5.
 8. When all branches have been commissioned, throttle the main dampers in the same manner.
- See also Adjustment example below.

Example on how to make an adjustment

– Start adjusting duct branch B, since this one has the highest quotient.

– The last air device, B3, has the lowest quotient and should be fully open.

Adjust the other air devices, B1 and B2, so that these will have the same quotient as air device B3 (see item 5 above).

– Now adjust the air devices in branch duct C. Air device C4 should be fully open; throttle the others to the same quotient.

– Adjust the air devices in branch duct A. The index air device here is air device A3, which means that you first throttle air device A4 (the reference device) to device A3's quotient. Then adjust the others to the same quotient as air device A4.

– Throttle branch damper B to the same quotient as branch damper A, throttle branch damper C to the same quotient as branch damper A.

Check that all dampers have the same quotient.

When commissioning has been completed, 3 air devices and one branch damper should stand fully open to obtain the lowest possible pressure in the system.

$q = 430 \text{ l/s}$

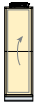
A	A1	A2	A3	A4	
160	30	45	45	40	q_p
152	36	48	35	33	q_m
0,95	1,2	1,06	0,78	0,82	K
B	B1	B2	B3		
105	35	30	40	q_p	
117	43	38	36	q_m	
1,11	1,22	1,26	0,9	K	
C	C1	C2	C3	C4	
165	45	40	40	40	q_p
161	50	43	35	33	q_m
0,97	1,11	1,07	0,87	0,82	K

q_p = design airflow (l/s)

q_m = flow reading (l/s)

$$K (\text{Quotient}) = \frac{q_m}{q_p}$$

3.3 To Adjust the Pressure Balance



Applicable to air handling units with rotary heat exchanger only.

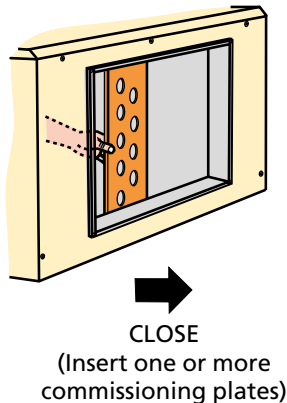
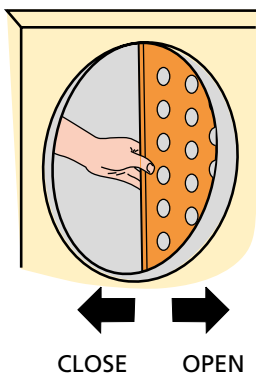
Commissioning plates

GOLD RX

Air intake viewed from the side

Sizes 04 – 12, 1 – 2 plates

Sizes 14 – 120, 1 – 5 plates



CLOSE
(Insert one or more commissioning plates)

OPEN
(Remove commissioning plates)

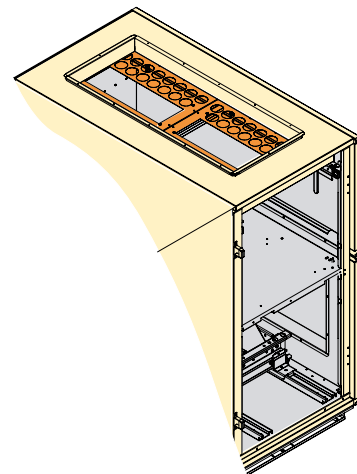
3.3.1 General

There should be a certain degree of negative pressure in the extract air section so that the direction of air leakage through the heat exchanger and the function of the purging sector will be correct. This ensures that extract air will not be transferred to the supply air.

The pressure balance in the unit should be adjusted when the ventilation system has been fully installed and the airflows discharged from all the air diffusers and registers have been adjusted, and when the supply air and extract airflows are as they should be while the air handling unit is operating normally.

Air intake viewed from above

Sizes 14 – 30, 2 plates



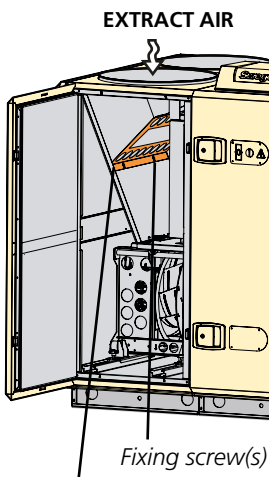
Secure the commissioning plates to the ceiling with self-tapping screws from inside the AHU.

Adjust the pressure balance by blanking off the holes in the commissioning plate using the plastic plugs supplied with it (reach up and insert plastic plug through the rectangular hole in the commissioning plate).

GOLD RX Top

Left-hand version

Sizes 04-12, 1 plate

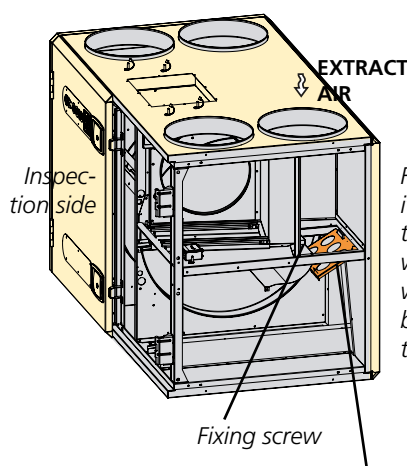


Fixing screw(s)

Adjustment plate

Right-hand version

Sizes 04-08, 1 plate

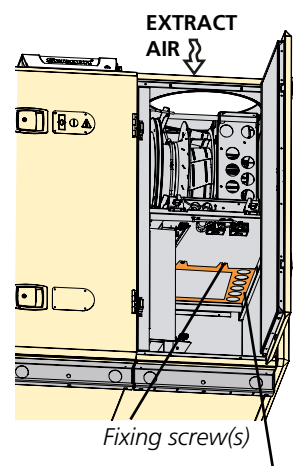


Inspection side

Fixing screw

Commissioning plate
Hook the commissioning plate in the rear edge of the unit to secure it in position. Unfold the commissioning plate at its front edge and lock the commissioning plate in position with the fixing screw.

Size 11/12, 1 plate



Fixing screw(s)

Adjustment plate

Two commissioning plates are supplied together with the GOLD RX Top.

Which commissioning plate is to be mounted is determined by whether the air handling unit is a left-hand or right-hand version unit. Install the correct commissioning plate at the appropriate place inside the unit; scrap the other plate. See illustration above.

Remove the mounting screw(s) and place the commissioning plate in the grooves provided for accommodating it. Refit the mounting screw(s) and tighten it/them. See illustration above.

Adjust the pressure balance by blanking off the holes in the commissioning plate using the plastic plugs supplied with it.

3.3.2. Ensure correct direction of air leakage

The commissioning plates fitted in the extract air inlet are used for adjusting the pressure balance in the unit. The commissioning plates are supplied separately and should be fitted in the unit by the fitter when he connects the extract air ducting to the air handling unit. See the illustrations on the following pages.

Connect a pressure gauge to the pressure measurement tappings of the air handling unit. The unit has four pressure measurement tappings. The two tappings closest to the extract air duct should be used. The blue pressure measurement tapping is used for measuring the negative pressure in the extract air section and the white pressure measurement tapping is used for measuring the negative pressure in the supply air section.

On the size 04-08 units, the pressure measurement tappings are in the electrical equipment cubicle/electrical distribution box and on the size 11-120 units they are inside in the centre section of the unit. When you combine the GOLD RX Top 04-12 with the COOL DX Top, note that the pressure measurement tappings are located inside the centre section of the air handling unit. See illustration to the right.

Note that both pressure measurement tappings are used for measuring negative pressure.

MEASURED VALUES

The negative pressure in the extract air section should be higher or the same as the negative pressure in the supply air section.

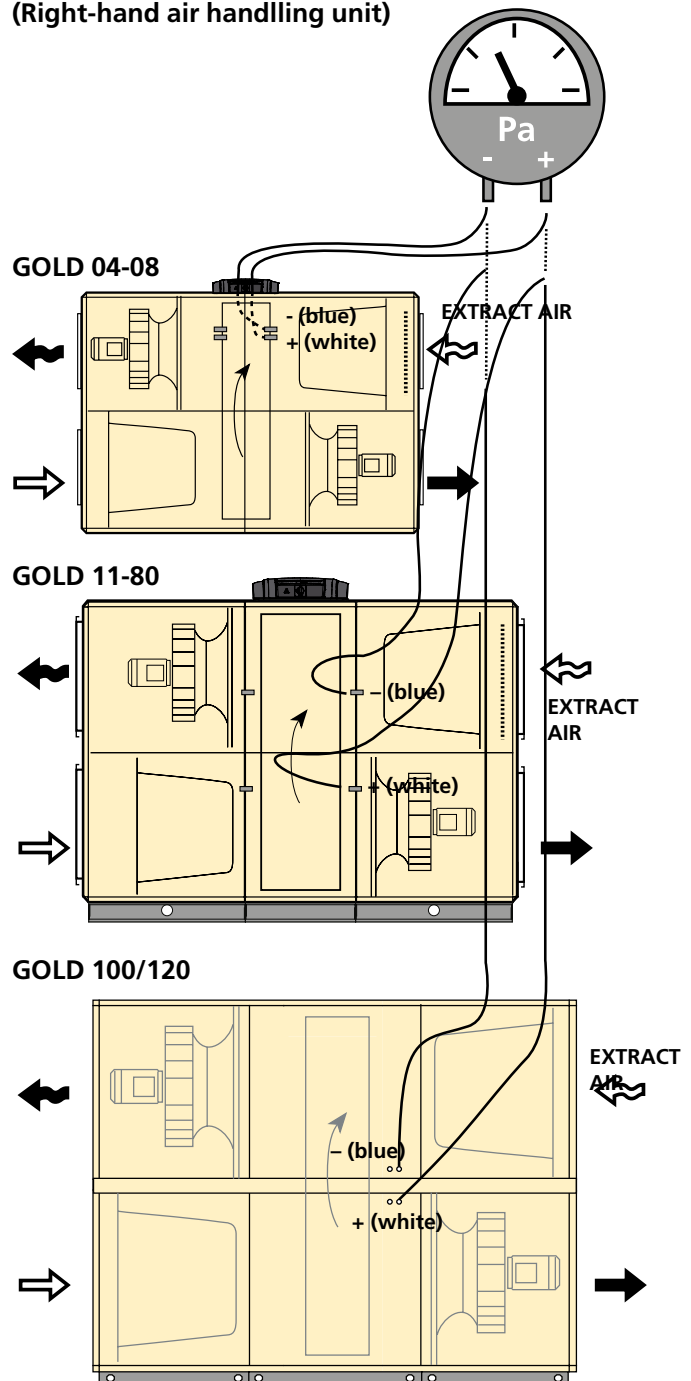
If the negative pressure in the extract air section is the same or up to 20 Pa greater than the negative pressure in the supply air section, then you've finished this adjustment.

Deviations

If the negative pressure in the extract air section is less than that in the supply air section, the damper setting must be adjusted as follows:

1. Stop the air handling unit, open the inspection door to access the extract air filter.
GOLD RX Top/GOLD RX with air intake from above: Blank off an appropriate number of holes in the commissioning plate using the plastic plugs supplied.
GOLD RX with air intake from the side: Slightly push the commissioning plates forward (close them) in the extract air intake.
For full face connection (duct accessory in insulated casing): If the commissioning plate(s) is/are completely closed and the sub-atmospheric pressure in the extract air section is still less than in the supply air section, blank off an appropriate number of holes in the commissioning plate using the plastic plugs supplied.
3. Close the inspection door and restart the unit.
4. Measure the pressures.
Repeat this procedure until the negative pressure in the extract air section is just as high or up to 20 Pa higher than the negative pressure in the supply air section (0–20 Pa).
5. If the negative pressure in the extract air section is higher than 20 Pa compared with the supply air section, although the commissioning plates are completely open, the leakage and purging air flow will be more than necessary, and this will cause the extract air fan to consume more power.

Pressure measurement tappings, direction of air leakage (Right-hand air handling unit)



4. IQnavigator Hand-held Terminal and Image Management

4.1 IQnavigator Hand-held Terminal

4.1.1 General

The hand-held terminal consists of a 7" capacitive touch screen with a 3 metre long cable for connection to the air handling unit's control circuit card by means of a quick-fit connector.

The hand-held terminal is switched on/off with an on/off button located on the top side of the terminal. If the hand-held terminal is not used for 45 minutes, it switches over to the sleep mode.

See the illustrations below for particulars of the connections, buttons and LEDs.

IQnavigator can be used outdoors, but it must be kept at a weatherproof place.

Data:

Operating temperature:	-20 - + 50C
Height from which it can be dropped without damage:	1 metre



On/off button:

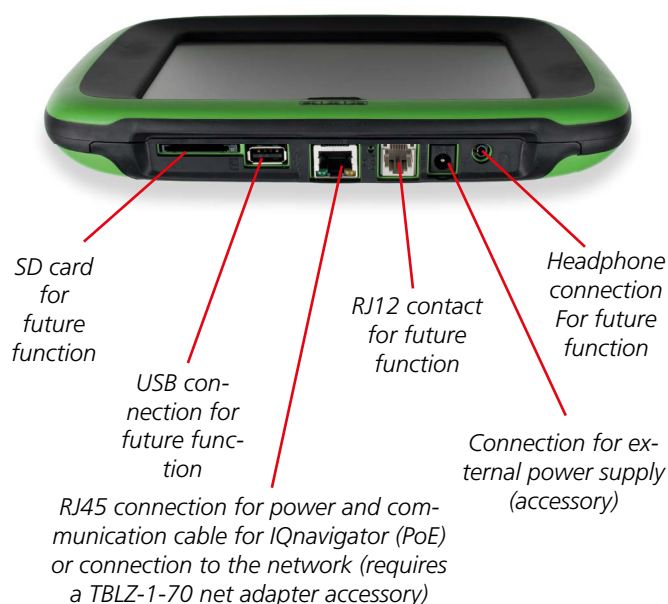
When the touch screen is at rest or is switched off:

Brief press of the On/Off button = touch screen awakens or starts up

When the touch screen is on:

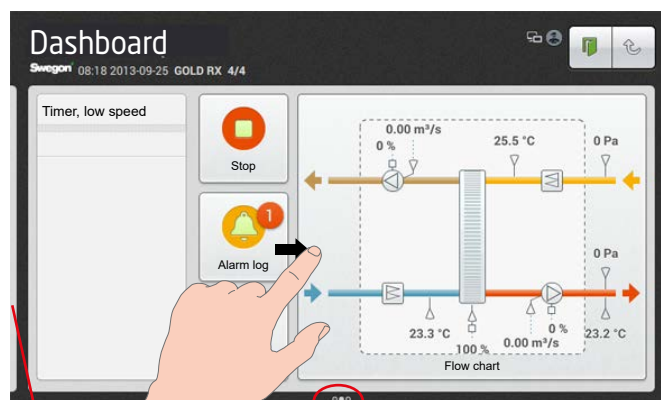
Brief press of the On/Off button = touch screen at rest

Long press of the On/Off button = Question, "Do you want to power off IQnavigator?" is displayed, press OK, touch screen switches off



4.1.2 How to use the micro terminal

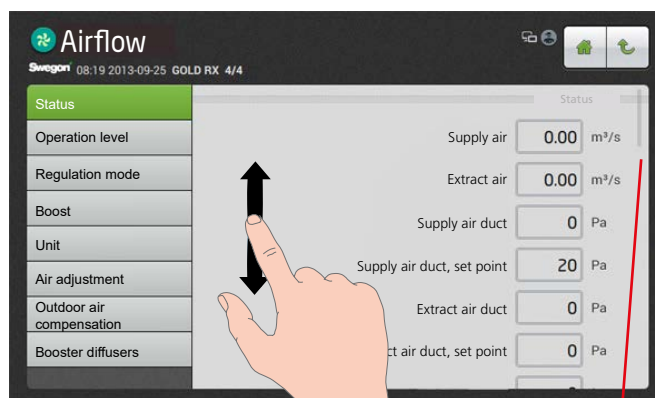
When a light grey surface is displayed to the right and/or to the left on the touch screen and an image indication is displayed at the bottom edge, this indicates that it is possible to navigate to one side or both sides.



Light grey surface

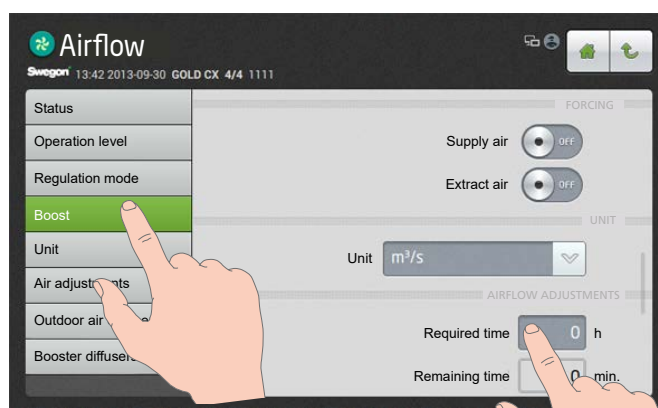
Image indication
(In this case the screen indicates that it is possible to navigate to both sides)

When a scroll bar is displayed on the touch screen, the screen's content can be scrolled upward or downward.

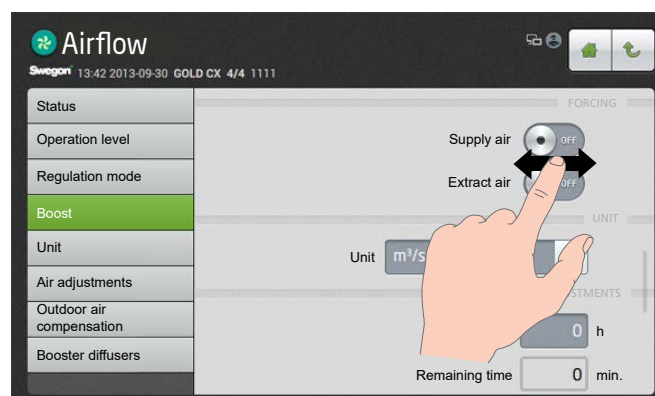


Scroll bar

Press the object you want to open or highlight.



When the On/Off button is displayed on the touch screen, drag or point to it so that it shows the required position.



4.1.3 Buttons

Buttons along the upper edge of the touch screen have the following functions:



Press this button to log out.



Press this button to go one step upward in the image tree.



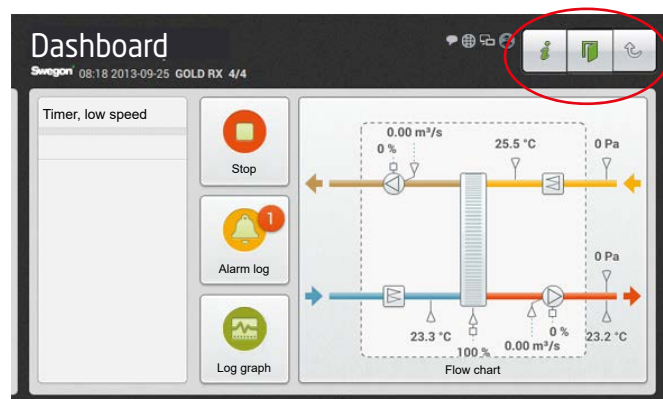
Press this button to close a window and to return to a previously displayed object.



Press this button to return to the dashboard.



Help texts for the current view.



4.1.4 Indicator symbols



Hand-held terminal connected.



The hand-held terminal has no connection.



Not logged on



Logged on user (local)



Logged on installation

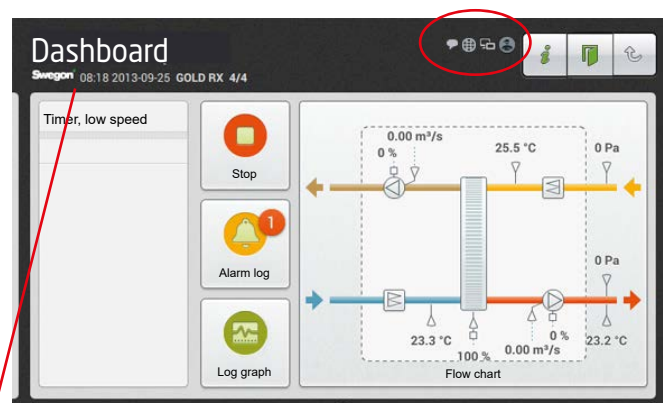


Indicates that the web page is active



Indicates that some communication protocol is activated

The current time/date, type of air handling unit and the name of the plant are displayed along the upper edge of the touch screen. See also Section 6.4.10.1.



4.1.5 Keyboard

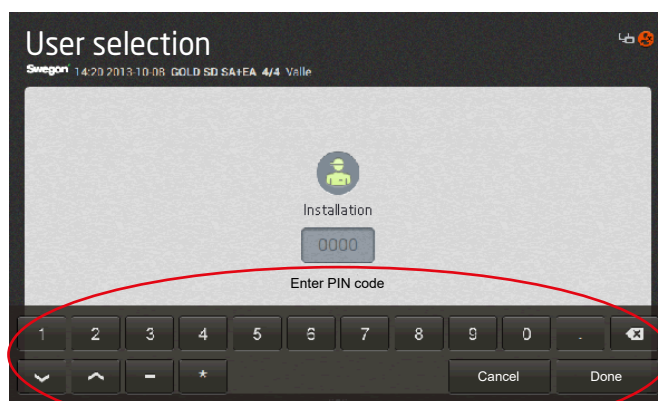
The value that can be changed is highlighted in grey. A keyboard is displayed at the lower edge of the touch screen when you log on and enter settings.

A value you want to change can be highlighted by pressing it on the touch screen.

Then enter the required value and save it by pressing on the Done button.

The function of the buttons:

-  Decimal point
-  Deletes previous character
-  Decreases the highlighted value
-  Increases the highlighted value
-  Minus sign.
Used for writing negative values.
-  Unspecified value.
Used for the time and schedule function.

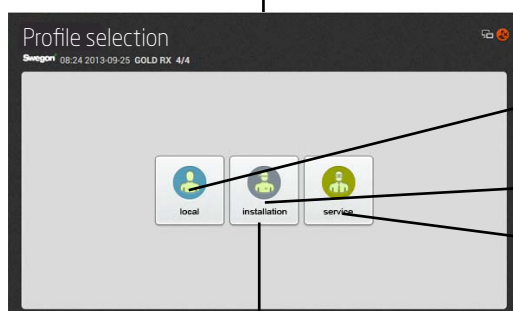
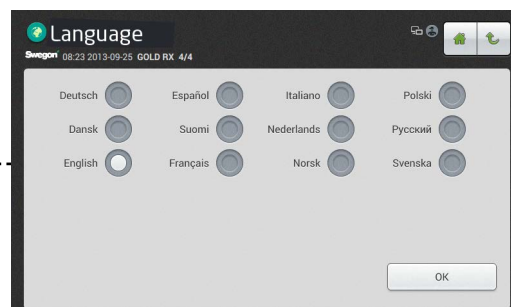


4.2 Image Management

Start-up image



Select required language (displayed when starting for first time). See Section 4.2.1.

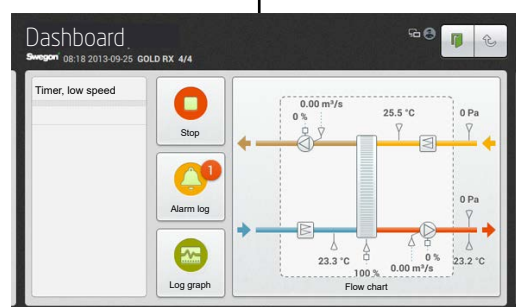


Select the required authorization level.

local (user). See Section 5.
No access code is required.

installation. See Section 6.
Code (=1111) is required for access to this image group

service.
Code and special training are required for access to this image group.



Dashboard. See Section 4.2.2.

N.B.! The appearance of the image varies depending on the type of air handling unit and functions selected.

4.2.1 Selection of language

When the air handling unit starts up for the first time, a language selection image is displayed. Select required language and press OK.

If you want to change to a different language later on – or if you've selected the wrong language – you can change the language under Functions in the hand-held terminal. See Section 5.3.7.



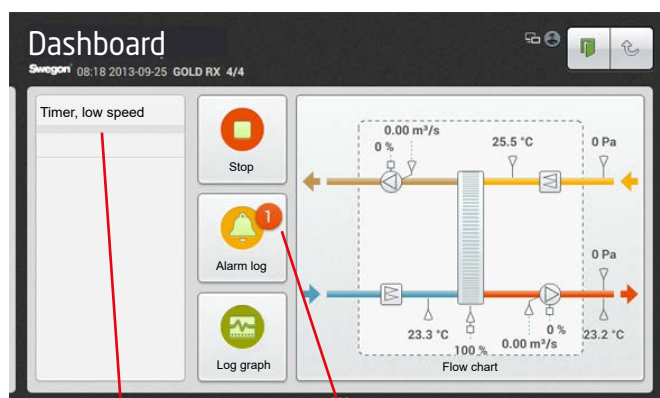
4.2.2 Dashboard

4.2.2.1 General

The dashboard is normally displayed if no other image has been selected.

The touch screen switches to the sleep mode after 45 minutes. To leave the sleep mode, press on the touchscreen's On/Off button.

The content in the flow chart changes depending on the selected type of air handling unit and other functions that affect the relevant operating conditions.



Shows current operation status

Shows number of current alarms

4.2.2.2 To change the operating mode

You can start and stop the air handling unit or change over to manual or automatic operation from the dashboard.



The air handling unit should normally be started and stopped from the hand-held terminal; not by switching the safety isolating switch on and off.

4.2.2.3 Alarm log

Active alarms, pending alarms and alarm history (50 latest) can be viewed under Alarm log. See also Section 8.

4.2.2.4 Log diagram

An SD card must be fitted into the air handling unit's control circuit card (installed from the factory) in order to make this function possible. Does not apply to the real time log.

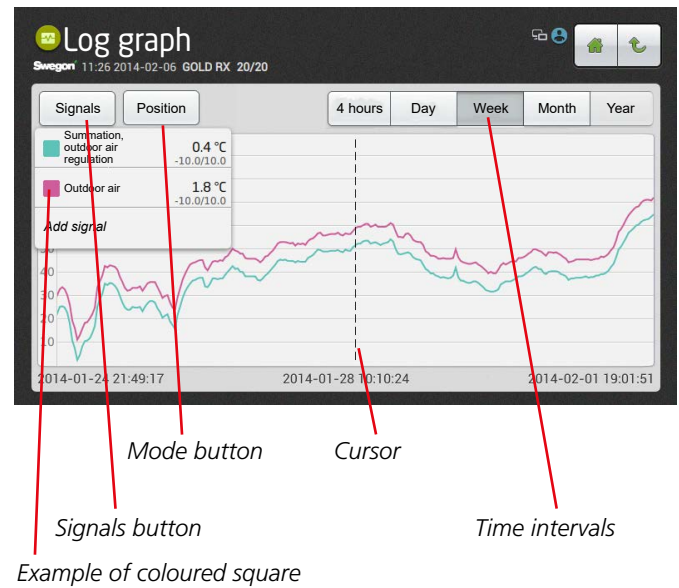
Under "Log diagram", a number of signals can be read in diagram form. Up to four signals can be freely selected and read in the list under the "Signals" button. The log diagram's time interval can be selected as follows: 4 hours, day, week, month or year.

In the list under the "Signals" button, you can also choose to mark one of the signals to display it with a thicker line in the log diagram. This is done by tapping the desired coloured square.

The program automatically adjusts the resolution of the signals. This means that the program adapts the amplitude of the signal to the height of the diagram within the selected time interval.

The Log diagram can be selected in two types: History or Real time, under the "Mode" button.

The cursor of the diagram is fixed and the time line can be moved by scrolling to the right or to the left.



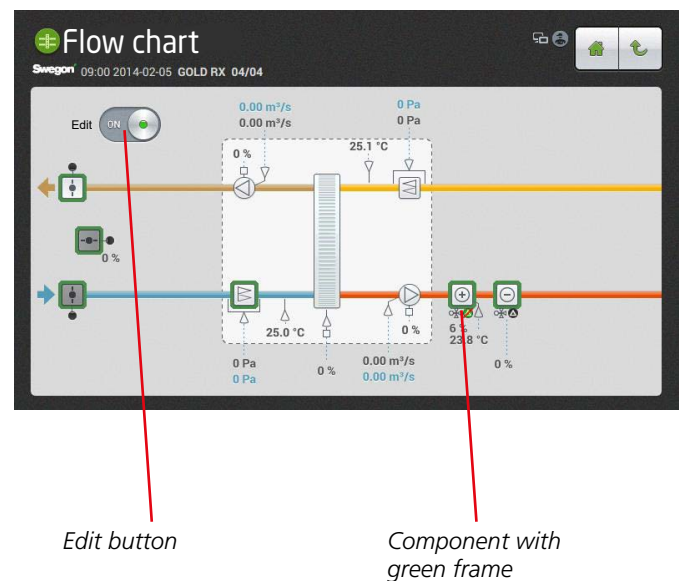
4.2.2.5 Flow chart

The flow chart can be displayed in full screen by tapping the Flow chart heading.

Setting the Edit button to ON makes the flow chart editable.

The positions of all the components marked with a green frame are interchangeable, for example the mutual order between the air heater and the air cooler. Place your finger on the relevant component, drag it to the desired position and lift your finger. The circulation pump of the air heater can be hidden by clicking on the air heater symbol.

The grey-marked components with green frame are inactive. These can be activated by tapping the desired component.



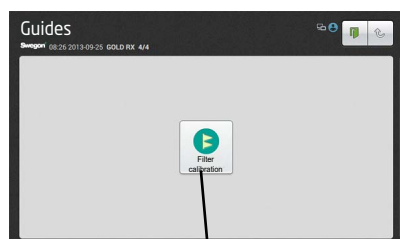
5. User (local)

5.1 Image Management

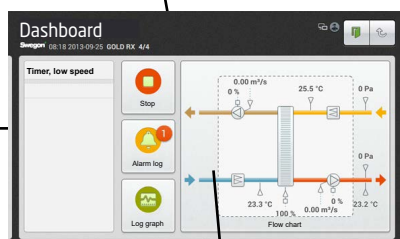
If the touch screen is at rest, press the hand-held terminal's On/Off button.



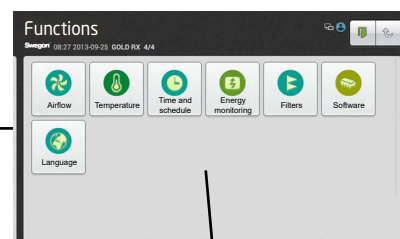
Profile selection. Press on local (user). Does not require entering a code



Filter calibration.
Se avsnitt 5.2



Dashboard.
Se avsnitt 4.2.2



Functions.
See Section 5.3

5.2 Filter Calibration

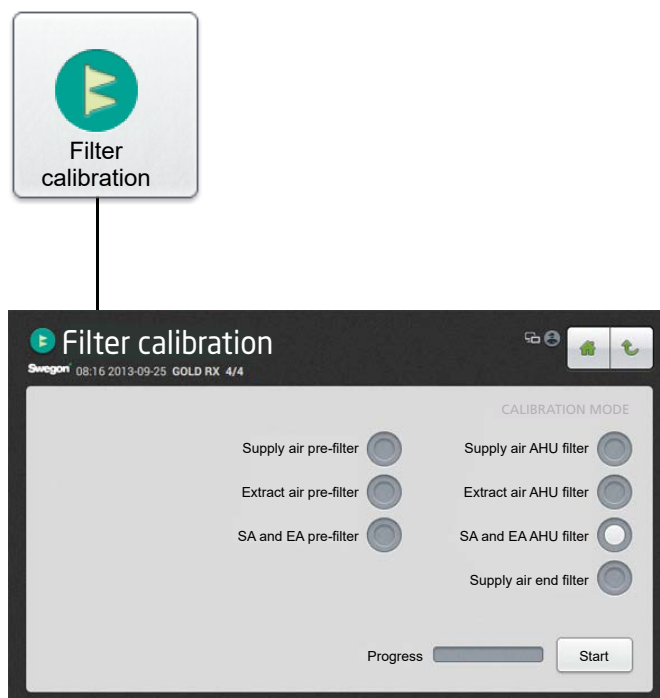
All the filters should be calibrated when the fans are started up for the first time and when the duct system, air terminals and commissioning plates, if required, have been installed and commissioned.

After that every time filters are replaced. Calibration should then be activated for the filter or filters that are new. Relevant filters are the Supply air prefilter, Extract air pre-filter, Supply air AHU filter, Extract air AHU filter, SA and EA AHU filter and Supply air end filter.

When filter calibration is activated, the AHU fans operate at preset max. speed (depending on the functionality selected) for about 3 minutes.

After the filters have been calibrated, a pressure rise of up to 100 Pa is permissible (as the filters arrest impurities) after which an alarm indicating fouled filter is initiated. The alarm limit can be changed under Installation, Functions, Filters.

The filter function must be activated (see Section 6.4.5) in order to make it possible to enable filter calibration and alarm functions of the end filter and pre-filter in GOLD SD supply air and extract air handling units.



5.3 Functions

5.3.1 Airflow

See also Section 6.4.1 in which the functions for airflow described in detail.

5.3.1.1 Status

All the relevant values can be read here. Used for performance checks.

5.3.1.2 Operation level

The functions selected (under Installation) and the min. and max. airflows of each AHU size (see the table below) determine which values can be set.

Values for airflow (l/s, m³/s, m³/h, cfm), pressure (Pa, psi, in.wc) or input signal strength (%) can be preset depending on the function selected.

Low speed

Should always be preset. The value for low speed cannot be higher than the value for high speed. Low speed can be set to 0, which means that the AHU is idle.

High Speed

Should always be preset. The value or pressure for high speed cannot be lower than the value for low speed.

Max. speed

Should always be preset. Used mainly for filter calibration. While filter calibration is in progress, the max. speed setting should be as high as the ventilation system permits without causing any breakdown. Also used for the pressure regulation, forcing, Heating Boost and Cooling Boost functions. The value for max speed cannot be lower than the value for high speed.

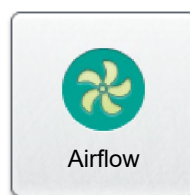
Min./Max. flows

AIRFLOW SIZE	MIN. FLOW FOR AIRFLOW REG., ALL VARIANTS ²		MAX. FLOW, ONE-PIECE AHU ROTARY HEAT EXCH. (RX)		MAX. FLOW, ONE-PIECE AHU PLATE H. EXCH. (PX)		MAX. FLOW, ONE-PIECE AHU COIL H. EXCH. (CX)		MAX. FLOW, SA AND EA AHU'S (SD)		SMALLEST STEP	
	m³/h ¹	m³/s	m³/h	m³/s	m³/h	m³/s	m³/h	m³/s	m³/h	m³/s	m³/h	m³/s
GOLD 04	288	0,08	1620	0,45	1620	0,45			2160	0,6	25	0,01
GOLD 05	288	0,08	2340	0,65	2340	0,65			2880	0,8	25	0,01
GOLD 07	288	0,08	2700	0,75	2700	0,75			2880	0,8	25	0,01
GOLD 08	720	0,20	3600	1,00	3600	1,00			4320	1,2	25	0,01
GOLD 11	720	0,20	3960	1,10	3960	1,10			4320	1,2	25	0,01
GOLD 12	720	0,20	5040	1,40	5040	1,40			6480	1,8	25	0,01
GOLD 14	720	0,20	5940	1,65	5940	1,65			6480	1,8	25	0,01
GOLD 20	1080	0,30	7560	2,10	7560	2,10			10080	2,8	25	0,01
GOLD 25	1080	0,30	9000	2,50	9000	2,50			10080	2,8	25	0,01
GOLD 30	1800	0,50	11520	3,20	11520	3,20			14400	4,0	25	0,01
GOLD 35	1800	0,50	14040	3,90			14040	3,90	14400	4,0	100	0,05
GOLD 40	2700	0,75	14040/18000 ³	3,90/5,00 ³			14040/18000 ³	3,90/5,00 ³	18000/21600 ³	5,0/6,0 ³	100	0,05
GOLD 50	2160	0,6	18000	5,00			18000	5,00	20160	5,6	100	0,05
GOLD 60	3600	1,00	23400	6,50			23400	6,50	28800	8,0	100	0,05
GOLD 70	3600	1,00	27000	7,50			27000	7,50	28800	8,0	100	0,05
GOLD 80	5400	1,50	34200	9,50			34200	9,50	43200	12,0	100	0,05
GOLD 100	5400	1,50	39600	11,0			39600	11,0	43200	12,0	100	0,05
GOLD 120	9000	2,50	50400	14,0			50400	14,0	64800	18,0	100	0,05

1) When adjusting the flow, round off the value to the nearest settable step.

2) If pressure regulation is used, the airflow can be regulated to zero, however this presupposes a certain static pressure drop in the ducting (approx. 50 Pa).

3) Cap. variant 1/cap.variant 2



Status

Operation level

Air adjustment

Min. /Max. speed

Used for the demand control function (the previous section also applies to max. speed). Preset the lowest and highest permissible flows for each fan. This means that the fans will not operate outside these limits, regardless the load.

5.3.1.3 Air adjustment

The speed of the fans can be locked for up to 72 hours. When the function is activated, the speed is locked at the current speed of operation. This is practical when making airflow adjustments in the duct system and air terminals. The desired period is preset, but can be interrupted earlier by selecting Stop or by changing the time setting to 0.

5.3.2 Temperature



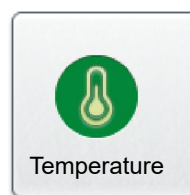
Basic functions can be set under Installation and the values can be read and set under User (local).

Therefore see also Section 6.4.2 in which the functions for temperature are described in detail.

N.B.! If the entry of new temperature settings involve large changes, you should first stop the AHU before you enter the new settings.

Specific temperatures, such as set points, should be specified in °C or °F, whereas displacements, deviations and differentials should be specified in K (Kelvin).

If only GOLD SD supply air handling units are installed, they require an external room sensor for ERS, ORE and extract air regulation.



Status

Settings

5.3.2.1 Status

All the relevant values can be read here. Used for performance checks.

5.3.2.2 Settings

ERS Regulation 1

The control unit regulates the ratio between the supply air and extract air temperature according to a factory-preset curve.

Settings (see also diagram to the right):

Value	Setting range	Factory setting
Extract related supply air-1 step	1 - 4	2
Extract related supply air-1 diff	1-7 K	3 K
Extract related supply air-1 breakpoint	12-26 °C	22 °C
(refers to extract air temperature)		

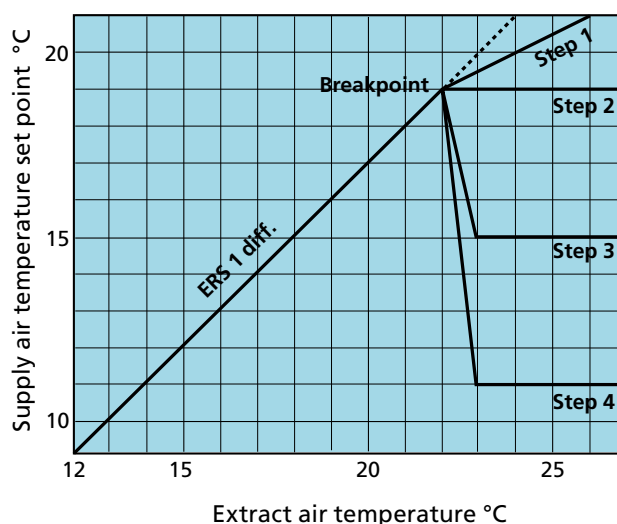
ERS Regulation 2

An individually adjusted curve regulates the ratio between the supply air and the extract air temperature. The curve has four adjustable breakpoints.

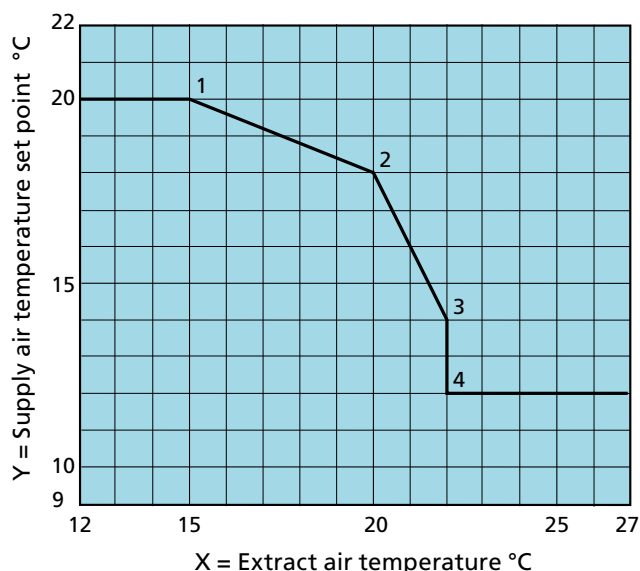
Settings (see also diagram to the right):

Value	Setting range	Factory setting
<i>Extract air temperature</i>		
Extract related supply air-2 X1	10-40 °C	15 °C
Extract related supply air-2 X2	10-40 °C	20 °C
Extract related supply air-2 X3	10-40 °C	22 °C
Extract related supply air-2 X4	10-40 °C	22 °C
<i>Supply air temperature set point</i>		
Extract related supply air-2 Y1	10-40 °C	20 °C
Extract related supply air-2 Y2	10-40 °C	18 °C
Extract related supply air-2 Y3	10-40 °C	14 °C
Extract related supply air-2 Y4	10-40 °C	12 °C

ERS Regulation 1, example



ERS Regulation 2, example



Supply air regulation

Supply air regulation involves maintaining a constant supply air temperature without consideration to the load in the premises.

Settings:

Value	Setting range	Factory setting
Supply air (temp. set point)	0-40 °C	21 °C

Extract air regulation

Extract air regulation involves maintaining a constant temperature in the extract air duct (the premises), by regulating the supply air temperature.

Settings:

Value	Setting range	Factory setting
Extract air (temp. set point)	0-40 °C	21 °C
Supply air, min.	0-30 °C	15 °C
Supply air, max.	8-50 °C	28 °C

ORS regulation

An individually adjusted curve regulates the ratio between the outdoor air and the supply air temperature. The curve has four adjustable breakpoints.

Settings (see also diagram to the right):

Value	Setting range	Factory setting
<i>Outdoor air temperature</i>		
Outdoor related supply air X1	-50 – +50 °C	-20 °C
Outdoor related supply air X2	-50 – +50 °C	-10 °C
Outdoor related supply air X3	-50 – +50 °C	10 °C
Outdoor related supply air X4	-50 – +50 °C	20 °C
<i>Supply air temperature set point</i>		
Outdoor related supply air Y1	10 – 40 °C	21.5 °C
Outdoor related supply air Y2	10 – 40 °C	21.5 °C
Outdoor related supply air Y3	10 – 40 °C	21.5 °C
Outdoor related supply air Y4	10 – 40 °C	21.5 °C

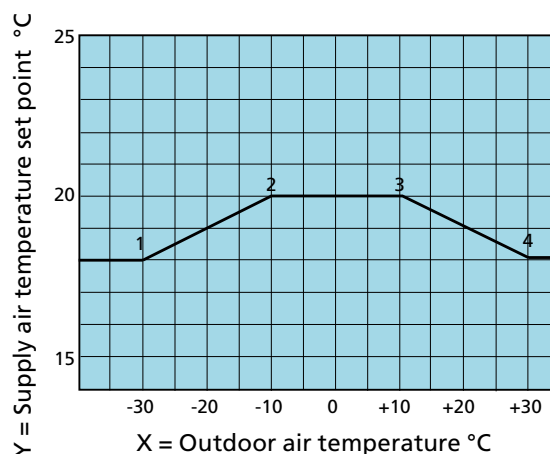
ORE regulation

An individually adjusted curve regulates the ratio between the outdoor air and the extract air temperature. The curve has four adjustable breakpoints.

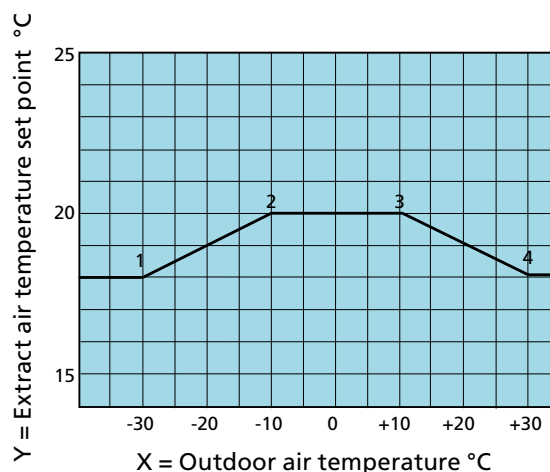
Settings (see also diagram to the right):

Value	Setting range	Factory setting
Supply air, min.	0 – 20 °C	16 °C
Supply air, max.	16 – 50 °C	28 °C
<i>Outdoor air temperature</i>		
Outdoor related extract air X1	-50 – +50 °C	-20 °C
Outdoor related extract air X2	-50 – +50 °C	-10 °C
Outdoor related extract air X3	-50 – +50 °C	10 °C
Outdoor related extract air X4	-50 – +50 °C	20 °C
<i>Extract air temperature set point</i>		
Outdoor related extract air Y1	10 – 40 °C	21.5 °C
Outdoor related extract air Y2	10 – 40 °C	21.5 °C
Outdoor related extract air Y3	10 – 40 °C	21.5 °C
Outdoor related extract air Y4	10 – 40 °C	21.5 °C

ORS regulation, example



ORE regulation, example



5.3.2.3 Regulation mode

The temperature, at which seasonal controlled temperature regulation shall be enabled and disabled respectively, can be preset.

Settings:

Value	Setting range	Factory setting
Seasonal controlled temperature regulation, enabled	-20 – +40 °C	0 °C
Seasonal controlled temperature regulation, disabled	-20 – +40 °C	20 °C

5.3.3 Time and schedule

The built-in timer enables you to control the AHU's operating mode/time. Certain other oversteering functions such as external timer, communication, etc. affect the preset operating modes.

There are five different operating modes:

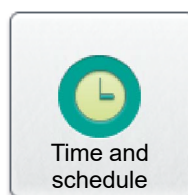
Total stop = The AHU is completely stopped, no internal automatic functions or external control commands can start the AHU. Total stop also oversteers manual operation via the hand-held terminal.

Low speed = The AHU is running at the preset low speed setting.

High speed = The AHU is running at the preset high speed setting.

Normal Stop = The AHU has stopped, however all the internal and external automatic functions oversteer the stop.

Extended Normal Stop = The AHU has stopped, however all the internal and external automatic functions, with exception of Summer night cool, oversteer the stop.



5.3.3.1 Time and date

The current date and time can be set and adjusted if needed. The timer automatically takes leap years into consideration.

The relevant region and city can be selected, summer time/winter time changover will then be managed automatically.

Time source can be set to manual or via SNTP (requires connection to network) and BACnet. The time format and date format can be set.

Time and date

5.3.3.2 Schedule settings

The relevant operating mode can be read under Schedule settings. Here you can also set a preselected operating mode, in which the air handling unit always operates during non-programmed time, under Day schedule and Exceptions schedule. This setting (start and stop date not activated) is used most often and covers the majority of needs.

When the start and stop date is activated, this means that during the preset period (date) preset time applies during the day schedule and the exceptions schedule, and at all other times the AHU runs in the preselected operating mode.

Settings:

Value	Setting range	Factory settings
Preselected operating mode	Total stop/Low speed/High speed/Normal Stop/Extended Normal Stop	Low speed
Start date	Active/Inactive	Inactive
Start date	Year/Month/Day	
Stop date	Active/Inactive	Inactive
Stop date	Year/Month/Day	

Schedule settings

5.3.3.3 Day schedule

Times and days can be set when the air handling unit is to run in the high speed mode, low speed mode or be switched off.

For each day (Monday - Sunday), six different events can be set to occur at a given point in time. Here, it is also possible to set six different events for two exceptions under Ex1 and Ex2. The provisions for these exceptions can then be set under Exceptions schedule, Calendar 1 and Calendar 2.

Note that the preset event will not be carried over to the next 24-hour period. If no event is set from 00.00 hours of the next 24-hour period, the AHU will operate in the pre-selected operating mode preset under Schedule settings.

Settings:

Value	Setting range	Factory settings
Day	Mon/Tues/Wed/Thurs/Fri/Sat/Sun/Ex1/Ex2	
Time	00:00-23:59	00:00
Action	Inactive/Total stop/Low speed/High speed/Normal Stop/ Extended Normal Stop/Ignore	Inactive

Day schedule

5.3.3.4 Exceptions schedule

Possible exceptions (Ex1 and Ex2), previously preset in the day schedule can be set in the Exceptions schedule. Here you can determine on which date or weekday the relevant exception shall apply. If you select Calendar 1 or Calendar 2, which is the most often the case, these can be set according to particulars in the next section.

Settings:

Value	Setting range	Factory settings		
<i>Exceptions schedule 1/2</i>				
Exceptions method	Inactive/Date/Date range/Weekday/Calendar 1/Calendar 2	Calendar 1/2	Weekday Start date	Mon 1-12/Odd/Even/Each Day 1-7/8-14/15-21/22-28/29-31/ Latest 7 days/Each day
<i>Date</i>				
Start date	Year/Month/Day			
Start weekday	Each day/ Monday/Tuesday/ Wednesday/ Thursday/Friday/ Saturday/Sunday	Each day	Start weekday	Each day/ Monday/Tuesday/ Wednesday/ Thursday/Friday/ Saturday/Sunday
<i>Date range</i>				
Start date	Year/Month/Day			
Start weekday	Each day/ Monday/Tuesday/ Wednesday/ Thursday/Friday/ Saturday/Sunday	Each day	Calendar 1 Calendar 2	See next chapter See next chapter
<i>Stop date</i>				
Stop date	Year/Month/Day			
Stop weekday	Each day/ Monday/Tuesday/ Wednesday/ Thursday/Friday/ Saturday/Sunday	Each day		

Exceptions schedule

5.3.3.5 Calendar 1 and 2

The specific days when Exceptions schedule 1 or 2 shall apply can be set in Calendars 1 and 2. On condition that Calendar 1 or 2 is selected, see previous section. In other cases, these settings will have no effect.

There is a total of ten possible settings under each calendar and various functions can be selected for each.

Settings (For Calendar 1 and Calendar 2 respectively):

Value	Setting range	Factory setting
Function 1-10	Inactive/Date/Date range/Weekday	Inactive
<i>Date</i>		
Start date	Year/Month/Day	
Start weekday	Each day/Monday/Tuesday/Wednesday/Thursday/Friday/Saturday/Sunday	Each day
<i>Date range</i>		
Start date	Year/Month/Day	
Stop date	Year/Month/Day	
<i>Weekday</i>		
Start date	Month 1-12/Odd/Even/Each Day 1-7/8-14/15-21/22-28/29-31/Latest 7 days/Each day	
Start weekday	Each day/Monday/Tuesday/Wednesday/Thursday/Friday/Saturday/Sunday	Each day

Calendar 1

Calendar 2

5.3.3.6 Prolonged operation

The control unit inputs for external low speed (terminals 14-15) and external high speed (terminals 16-17) respectively, can be supplemented with prolonged operation. They can be used for overtime running activated by a pushbutton, for example.

The required time in hours and minutes can be set as follows.

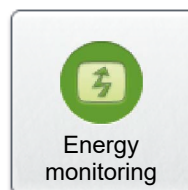
Settings:

Value	Setting range	Factory setting
Ext. low speed	0:00 - 23:59	0:00
Ext. high speed	0:00 - 23:59 (hrs.:min.)	0:00 (hrs.:min.)

Prolonged operation

5.3.4 Energy monitoring

Status of the power consumed by fans and other AHU components can be viewed here. SFP status for the AHU fans and the efficiency on heat transfer of the rotary heat exchanger can also be viewed.

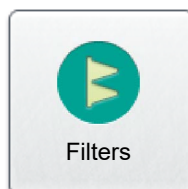


5.3.5 Filters

Basic functions can be set under Installation and the values can be read and set under User (local).

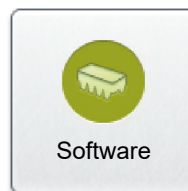
The filter status and the current alarm limit status for filters with activated monitoring can be viewed here. Relevant filters are the Supply air prefilter, Extract air pre-filter, Supply air AHU filter, Extract air AHU filter, SA and EA AHU filter and Supply air end filter.

Filter calibration can be manually activated for each filter. For more detailed information, see Section 5.2.



5.3.6 Software

The relevant program versions for the IQlogic control unit, IQnavigator hand-held terminal and input units on the communication bus can be viewed and updated from the SD circuit card inserted in the IQlogic control unit (this can take a few minutes).

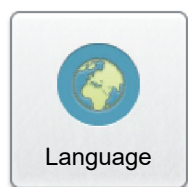


5.3.7 Language

The language desired can be set here. The appropriate language is normally selected the first time the AHU is started up. However, the language setting can be changed at any time.

Settings:

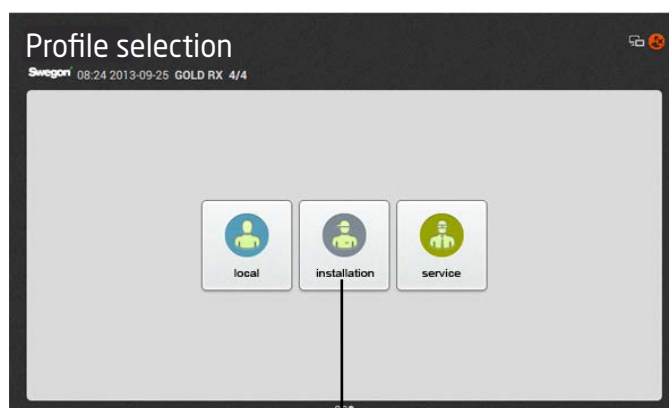
Value	Setting range	Factory setting
Language	Available languages are displayed	English



6. Installation

6.1 Image Management

If the touch screen is at rest, press the hand-held terminal's On/Off button.

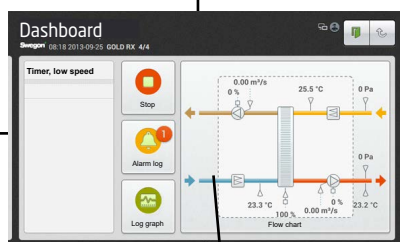


Profile selection.
Press on installation.
Kod=1111.

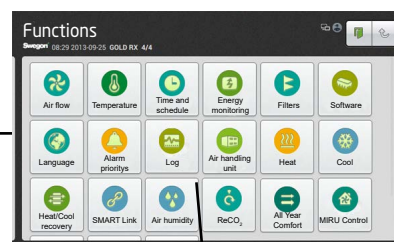


Main setup.
See Section 6.2.

Filter calibration.
See Section 6.3.



Dashboard.
Se avsnitt 4.2.2.



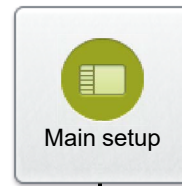
Functions.
See Section 6.4

6.2 Main Setup

Main setup can be selected when installing the AHU and is an aid for configuring and starting up the AHU.

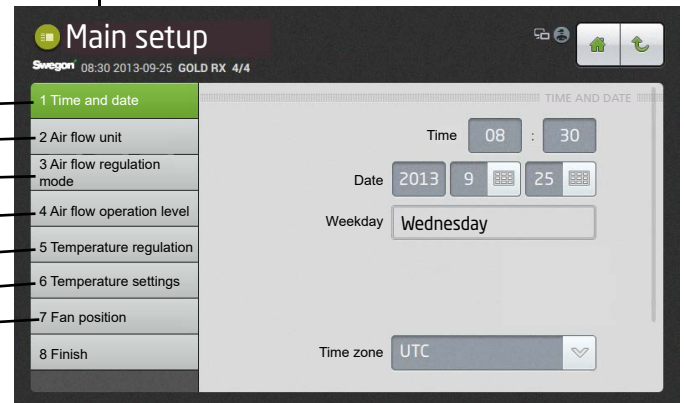
Time and date, air flow unit, airflow regulation mode, airflow operation level, temperature regulation, temperature settings and fan position settings can be entered here.

For more detailed information, see the relevant function below.



Main setup

- See Section 6.4.3.1
- See Sections 6.4.1.6 and 6.4.2.4
- See Section 6.4.1.3
- See Section 6.4.1.2
- See Section 6.4.2.3
- See Section 6.4.2.2
- See Section 6.4.10.1



6.3 Filter Calibration

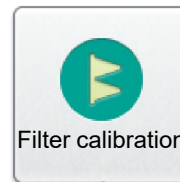
All the filters should be calibrated when the fans are started up for the first time and when the duct system, air terminals and commissioning plates, if required, have been installed and commissioned.

After that every time filters are replaced. Calibration should then be activated for the filter or filters that are new. Relevant filters are the Supply air prefilter, Extract air pre-filter, Supply air AHU filter, Extract air AHU filter, SA and EA AHU filter and Supply air end filter.

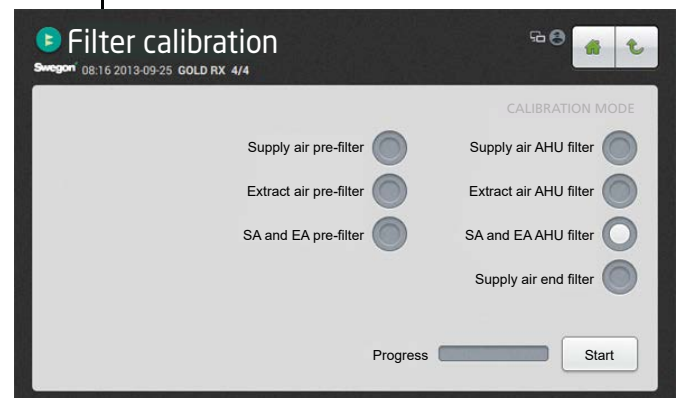
When filter calibration is activated, the air handling unit runs at the preset max. speed (depending on the functionality selected) for about 70 seconds.

After the filters have been calibrated, a pressure rise of up to 100 Pa is permissible (as the filters arrest impurities) after which an alarm indicating fouled filter is initiated. The alarm limit can be changed under Installation, Functions, Filters.

The filter function must be activated (see Section 6.4.5) in order to make it possible to enable filter calibration and alarm functions of the end filter and pre-filter in GOLD SD supply air and extract air handling units.



Filter calibration



6.4 Functions

6.4.1 Airflow

6.4.1.1 Status

All the relevant values can be read here. Used for performance checks.

6.4.1.2 Operation level

The functions selected and the min. and max. airflows of each AHU size (see the table below) determine which values can be set.

Depending on the function selected, flows can be set as follows (l/s, m³/s, m³/h, cfm), pressure (Pa, psi, in.wc) or input signal strength (%).

Low speed

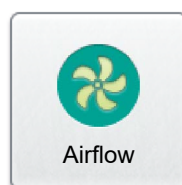
Should always be preset. The value for low speed cannot be higher than the value for high speed. Low speed can be set to 0, which means that the AHU is idle.

High Speed

Should always be preset. The value or pressure for high speed cannot be lower than the value for low speed.

Max. speed

Should always be preset. Used mainly for filter calibration. While filter calibration is in progress, the max. speed setting should be as high as the ventilation system permits without causing any breakdown. Also used for the pressure regulation, boosting, Heating Boost and Cooling Boost functions. The value for max



Status

Operation level

speed cannot be lower than the value for high speed.

Min. /Max. speed

Used for the demand control function (the previous section also applies to max. speed). Preset the lowest and highest permissible flows for each fan. This means that the fans will not operate outside these limits, regardless the load.

Min./Max. flows

AIRFLOW	MIN. FLOW FOR AIRFLOW REG., ALL VARIANTS ²		MAX. FLOW, ONE-PIECE AHU ROTARY HEAT EXCH. (RX)		MAX. FLOW, ONE-PIECE AHU PLATE H. EXCH. (PX)		MAX. FLOW, ONE-PIECE AHU COIL H. EXCH. (CX)		MAX. FLOW, SA AND EA AHU'S (SD)		SMALLEST STEP	
SIZE	m³/h ¹	m³/s	m³/h	m³/s	m³/h	m³/s	m³/h	m³/s	m³/h	m³/s	m³/h	m³/s
GOLD 04	288	0,08	1620	0,45	1620	0,45			2160	0,6	25	0,01
GOLD 05	288	0,08	2340	0,65	2340	0,65			2880	0,8	25	0,01
GOLD 07	288	0,08	2700	0,75	2700	0,75			2880	0,8	25	0,01
GOLD 08	720	0,20	3600	1,00	3600	1,00			4320	1,2	25	0,01
GOLD 11	720	0,20	3960	1,10	3960	1,10			4320	1,2	25	0,01
GOLD 12	720	0,20	5040	1,40	5040	1,40			6480	1,8	25	0,01
GOLD 14	720	0,20	5940	1,65	5940	1,65			6480	1,8	25	0,01
GOLD 20	1080	0,30	7560	2,10	7560	2,10			10080	2,8	25	0,01
GOLD 25	1080	0,30	9000	2,50	9000	2,50			10080	2,8	25	0,01
GOLD 30	1800	0,50	11520	3,20	11520	3,20			14400	4,0	25	0,01
GOLD 35	1800	0,50	14040	3,90			14040	3,90	14400	4,0	100	0,05
GOLD 40	2700	0,75	14040/18000 ³	3,90/5,00 ³			14040/18000 ³	3,90/5,00 ³	18000/21600 ³	5,0/6,0 ³	100	0,05
GOLD 50	2160	0,6	18000	5,00			18000	5,00	20160	5,6	100	0,05
GOLD 60	3600	1,00	23400	6,50			23400	6,50	28800	8,0	100	0,05
GOLD 70	3600	1,00	27000	7,50			27000	7,50	28800	8,0	100	0,05
GOLD 80	5400	1,50	34200	9,50			34200	9,50	43200	12,0	100	0,05
GOLD 100	5400	1,50	39600	11,0			39600	11,0	43200	12,0	100	0,05
GOLD 120	9000	2,50	50400	14,0			50400	14,0	64800	18,0	100	0,05

1) When adjusting the flow, round off the value to the nearest settable step.

2) If pressure regulation is used, the airflow can be regulated to zero, however this presupposes a certain static pressure drop in the ducting (approx. 50 Pa).

3) Cap. variant 1/cap.variant 2

6.4.1.3 Regulation mode

The regulation mode can be selected individually for the supply air or the extract air respectively.

Regulation mode

Airflow

Flow regulation involves operating the air handling unit to keep the preset airflow constant. The speed of the fans is automatically regulated to provide correct airflow even if the filters begin to become clogged, if air diffusers become blocked, etc.

A constant airflow is advantageous, since the airflow is always at the level preset from the beginning.

It should however be noted that everything that increases the pressure drop in the ventilation system, such as the blocking of air devices and dust accumulating in the filters, causes the fans to run at a higher speed. This causes higher power consumption and may also cause discomfort to the occupants such as excessive sound.

Duct pressure

The airflow automatically varies to provide constant pressure in the ducting. This type of regulation is therefore also called VAV Regulation (Variable Air Volume).

Pressure regulation is used when e.g. damper operations increase the air volume in sections of the ventilation system.

The duct pressure is measured by an external in-duct pressure sensor which is connected to the control unit's BUS communication. The set point required (separate for low speed and high speed) is preset in Pa.

The function can be limited so that the fan speed will not exceed the preset max. values.

Demand

The airflow required is regulated in response to 0-10 V input signals from an external sensor, such as a carbon dioxide sensor, connected to control unit terminals 18-19. The required set point is set as a percentage of the input signal or in ppm.

The function can be limited so that the flow will not be higher or lower than the preset max. and min. values respectively.

Slave

The flow is constantly regulated to the same value as the other fan. If one fan is pressure-controlled or demand-controlled, the other one can be controlled as a slave to generate the same airflow.

The performance of the slave fan can be restricted if its maximum flow is set to a lower airflow rate.

It is not possible to control both fans as slaves. If you select one fan to operate as a slave, you lose the option to select the other fan as a slave.

Settings:

Value

Supply air

Settings

Airflow
Duct pressure
Demand

Extract air

Slave
Airflow
Duct pressure
Demand
Slave

6.4.1.4 Optimize

The Optimize function optimises the air handling unit's airflow for the connected WISE system; see separate documentation for the WISE.

The function requires that the duct pressure setting is preset regulation type.

Settings:

Value	Setting range	Factory setting
Optimize	On/Off	Off

Optimize

6.4.1.5 Set point displacement

The airflow is regulated between two flows in response to an 0-10 V DC input signal from an external signal, for example a potentiometer. The TBIQ-3-2 IQlogic+ module accessory is required.

Set point displacement can be used e.g. in assembly halls, where a higher rate of air change is needed under full-load conditions.

The function is activated only when the AHU fans operate at high speed.

On a 0-10 V DC signal, the fans are gradually accelerated from the AHU's high speed setting to its max. speed setting. On a max. input 10 V DC signal, the AHU fans operate at max. speed.

The function must be activated separately for the supply air fan and for the extract air fan.

Settings:

Value	Setting range	Factory setting
Supply air	On/Off	Off
Extract air	On/Off	Off

Set point displacement

6.4.1.6 Unit

The required unit of airflow and unit of pressure can be set.

Settings:

Value	Setting range	Factory settings
Unit of airflow	l/s m ³ /s m ³ /h cfm	m ³ /s
Unit of pressure	Pa psi in.wc	Pa

Unit

6.4.1.7 Air adjustment

The speed of the fans can be locked for up to 72 hours. When the function is activated, the speed is locked at the current speed of operation. This is practical when making airflow adjustments in the duct system and air terminals. The desired period is preset, but can be interrupted earlier by selecting Stop or by changing the time setting to 0.

Air adjustment

6.4.1.8 Outdoor air compensation

Outdoor air compensation of the airflow can be activated if you want to change the airflow for specific outdoor air temperatures. An individually adjusted curve regulates the ratio between the airflow and the outdoor air temperature. The curve has four adjustable breakpoints..

If the function is selected solely for low speed or high speed operation, the curve will regulate only one of these. The airflow for the operating case that has not been selected will then be according to the preset set point for airflow/duct pressure.

In the flow regulation mode, the current set point for airflow is changed. When pressure regulation is selected, the current set point for pressure is changed. The function has no effect if the airflow is demand-controlled.

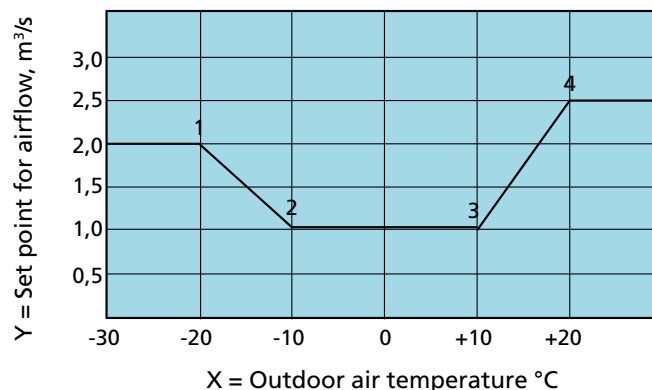
The airflow change is expressed in the preset airflow unit and pressure in Pa.

Settings:

Value	Setting range	Factory setting
Outdoor air compensation mode	Inactive/Low speed/High speed/Low speed and High speed	Inactive
X1, breakpoint, outdoor air temp.	-50 – +50 °C	-20 °C
X2, breakpoint, outdoor air temp.	-50 – +50 °C	-10 °C
X3, breakpoint, outdoor air temp.	-50 – +50 °C	+10 °C
X4, breakpoint, outdoor air temp.	-50 – +50 °C	+20 °C
<i>Supply air, flow</i>		
Y1, breakpoint, supply air	¹⁾	25% of max. airflow for air handling unit
Y2, breakpoint, supply air	¹⁾	25% of max. airflow for air handling unit
Y3, breakpoint, supply air	¹⁾	25% of max. airflow for air handling unit
Y4, breakpoint, supply air	¹⁾	25% of max. airflow for air handling unit
<i>Extract air, flow</i>		
Y1, breakpoint, extract air	¹⁾	25% of max. airflow for air handling unit
Y2, breakpoint, extract air	¹⁾	25% of max. airflow for air handling unit
Y3, breakpoint, extract air	¹⁾	25% of max. airflow for air handling unit
Y4, breakpoint, extract air	¹⁾	25% of max. airflow for air handling unit
<i>Supply air, pressure</i>		
Y1, breakpoint, supply air	20-750 Pa	100 Pa
Y2, breakpoint, supply air	20-750 Pa	100 Pa
Y3, breakpoint, supply air	20-750 Pa	100 Pa
Y4, breakpoint, supply air	20-750 Pa	100 Pa
<i>Extract air, pressure</i>		
Y1, breakpoint, extract air	20-750 Pa	100 Pa
Y2, breakpoint, extract air	20-750 Pa	100 Pa
Y3, breakpoint, extract air	20-750 Pa	100 Pa
Y4, breakpoint, extract air	20-750 Pa	100 Pa

¹⁾ See table for min./max. flows in Section 6.4.1.2

Outdoor air compensation



Example:

Flow regulated air handling unit The same principle can be applied to a pressure regulated AHU, however this will cause a reduction in pressure in Pa.

If the outdoor air temperature is under -20 °C (X1), the flow set point will be a constant 2.0 m³/s (Y1).

If the outdoor air temperature is between -20 °C (X1) and -10 °C (X2), the airflow will decrease from 2.0 m³/s (Y1) to 1.0 m³/s (Y2) as shown in the curve.

If the outdoor air temperature is between -10 °C (X2) and 10 °C (X3), the flow set point will be a constant 1.0 m³/s (Y2 and Y3).

If the outdoor air temperature is between 10 °C (X3) and 20 °C (X4), the airflow will increase from 1.0 m³/s (Y3) to 2.5 m³/s (Y4) as shown in the curve.

If the outdoor air temperature is over 20 °C (X4), the flow set point will be a constant 2.5 m³/s.

6.4.1.9 Booster diffusers

The function for Booster diffusers is used for controlling the air damper inside the air terminal and can be activated for heating or cooling. Heating or cooling is modulated depending on whether the supply air is warmer or colder than the room/extract air. An indicator is displayed if heating or cooling is active.

The IQlogic+ module, TBIQ-3-2, accessory is required.

Booster diffusers

Value	Setting range	Factory setting
Booster diffusers	On/Off	Off

6.4.1.10 Automatic operation

Density-corrected airflow

The density of the air is different at different temperatures. This means that a specific volume of air changes at various air densities. The AHU automatically corrects this, so that correct air volume is always obtained.

The control equipment always displays the corrected airflow.

Pressure balance corrected extract airflow

The extract airflow is corrected by continuously measuring the pressure balance across the rotary heat exchanger. The extract airflow is guaranteed with consideration given to the air purging and leakage air flow.

6.4.2 Temperature

N.B.! If the entry of new temperature settings involve large changes, you should first stop the AHU before you enter the new settings.

Specific temperatures, such as set points, should be specified in °C or °F, whereas displacements, deviations and differentials should be specified in K (Kelvin).

If only GOLD SD supply air handling units are installed, they require an external room sensor for ERS, ORE and extract air regulation.

6.4.2.1 Status

All the relevant values can be read here. Used for performance checks.

6.4.2.2 Settings

ERS Regulation 1

ERS regulation refers to Extract air temperature-Related Supply air temperature regulation. This means that the temperature of the supply air is regulated in relation to the temperature of the extract air.

Under normal circumstances, the supply air temperature is regulated to be a few degrees lower than the extract air temperature. In this way, the heat exchanger will provide optimal performance, and this means excellent operating economy. ERS control is suitable for use when there is surplus heat in the premises generated e.g. by machinery, lighting or people, and the premises have supply air diffusers suitable for discharging air below room temperature.

ERS Regulation 1

The control unit regulates the ratio between the supply air and extract air temperature according to a factory-preset curve.

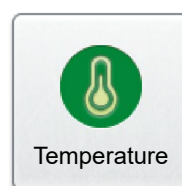
See the diagram to the right.

The step in the curve, breakpoint and differential can be changed.

Settings:

Value	Setting range	Factory setting
Extract related supply air-1 step	1 - 4	2
Extract related supply air-1 diff	1-7 K	3 K
Extract related supply air-1 breakpoint (refers to extract air temperature)	12-26 °C	22 °C

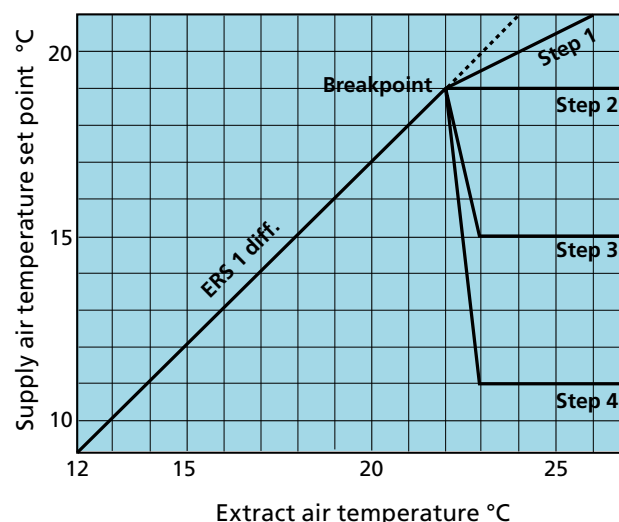
The setting range for breakpoint and deviation are limited by the min. and max. settings.



Status

Settings

ERS Regulation 1



Factory setting means:

If the extract air temperature is below 22 °C (breakpoint), the supply air temperature set point will be automatically regulated to be 3 K (diff.) lower.

If the extract air temperature is above 22 °C, the supply air temperature set point will constantly be 19 °C (step 2).

ERS Regulation 2

Used if the factory preset performance curve in the ERS Control 1 function does not provide the results desired to meet special needs and conditions. Depending on which setting have been entered, the installation of an air heater for reheating may be required.

An individually adjusted curve regulates the ratio between the supply air and the extract air temperature. The curve has four adjustable breakpoints.

See the diagram to the right.

Settings:

Value	Setting range	Factory setting
<i>Extract air temperature</i>		
Extract related supply air-2 X1	10-40 °C	15 °C
Extract related supply air-2 X2	10-40 °C	20 °C
Extract related supply air-2 X3	10-40 °C	22 °C
Extract related supply air-2 X4	10-40 °C	22 °C
<i>Supply air temperature set point</i>		
Extract related supply air-2 Y1	10-40 °C	20 °C
Extract related supply air-2 Y2	10-40 °C	18 °C
Extract related supply air-2 Y3	10-40 °C	14 °C
Extract related supply air-2 Y4	10-40 °C	12 °C

The set point displacement and Summer night cool functions can also affect the preset temperatures.

Supply air regulation

Supply air regulation involves maintaining a constant supply air temperature without consideration to the load in the premises.

This type of regulation can be used when the load and temperatures of the premises are predictable. In most cases this requires the installation of an air heater for reheating, possibly an air cooler as well.

Settings:

Value	Setting range	Factory setting
Supply air (temp. set point)	0-40 °C	21 °C

Extract air regulation

Extract air control involves maintaining a constant temperature in the extract air duct (the premises), by regulating the supply air temperature.

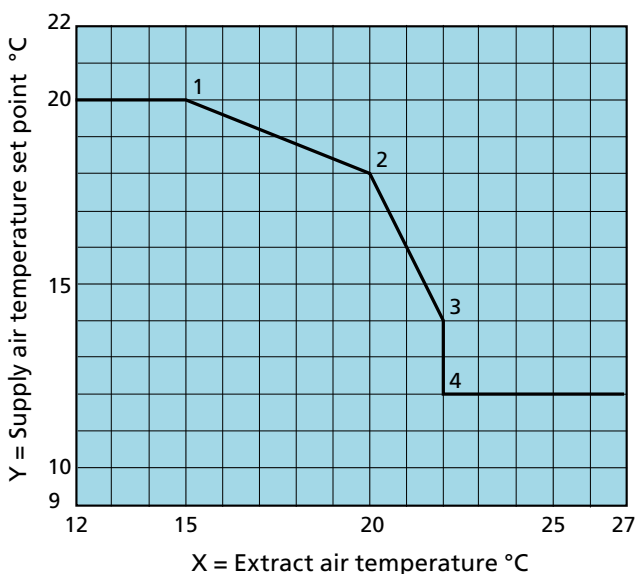
This provides a uniform temperature in the premises regardless of the load and this type of regulation requires the installation of an air heater for reheating; possibly a cooling coil as well.

The extract air temperature is measured by the air handling unit's internal temperature sensor. If this internal temperature sensor does not give an adequate representative extract air temperature reading, an external room temperature sensor can be installed and wired to the control unit's communications BUS (optional COM1-3).

Settings:

Value	Setting range	Factory setting
Extract air (temp. set point)	0-40 °C	21 °C
Supply air, min.	0-30 °C	16 °C
Supply air, max.	8-50 °C	28 °C

ERS Regulation 2



Breakpoints according to factory setting involve the following:

If the extract air temperature is below 15 °C (X1), the supply air temperature set point will constantly be 20 °C (Y1).

If the extract air temperature is between 15 °C (X1) and 20 °C (X2), the supply air temperature set point is regulated from 20 °C (Y1) down to 18 °C (Y2) as shown in the curve.

If the extract air temperature is between 20 °C (X2) and 22 °C (X3), the supply air temperature set point is regulated from 18 °C (Y2) down to 14 °C (Y3) as shown in the curve.

When the extract air temperature is 22 °C (X4), the supply air temperature set point is regulated from 14 °C (Y3) down to 12 °C (Y4).

If the extract air temperature is over 22 °C (X4), the supply air temperature set point will constantly be 12 °C (Y4).

ORS regulation

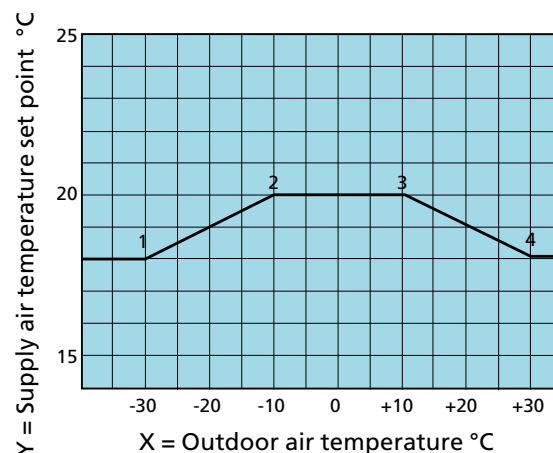
ORS regulation refers to Outdoor air temperature-Related Supply air temperature regulation. This means that the temperature of the supply air is regulated in relation to the temperature of the outdoor air.

An individually adjusted curve regulates the ratio between the supply air and the outdoor air temperature. The curve has four adjustable breakpoints.

Settings (see also diagram to the right):

Value	Setting range	Factory setting
<i>Outdoor air temperature</i>		
Outdoor related supply air X1	-50 – +50 °C	-20 °C
Outdoor related supply air X2	-50 – +50 °C	-10 °C
Outdoor related supply air X3	-50 – +50 °C	10 °C
Outdoor related supply air X4	-50 – +50 °C	20 °C
<i>Supply air temperature set point</i>		
Outdoor related supply air Y1	10 – 40 °C	21.5 °C
Outdoor related supply air Y2	10 – 40 °C	21.5 °C
Outdoor related supply air Y3	10 – 40 °C	21.5 °C
Outdoor related supply air Y4	10 – 40 °C	21,5 °C

ORS regulation



Example:

If the outdoor air temperature is under -30 °C (X1), the supply air temperature set point will constantly be 18 °C (Y1).

If the outdoor air temperature is between -30 °C (X1) and -10 °C (X2), the supply air temperature set point is regulated from 18 °C (Y1) up to 20 °C (Y2) as shown in the curve.

If the outdoor temperature is between -10 °C (X2) and +10 °C (X3) the supply air set point will constantly be 20 °C (Y3).

If the outdoor air temperature is between +10 °C (X3) and +30 °C (X4), the supply air temperature set point is regulated from 20 °C (Y3) down to 18 °C (Y4) as shown in the curve.

If the outdoor air temperature is over 30 °C (X4), the supply air temperature set point will constantly be 18 °C (Y4).

ORE regulation

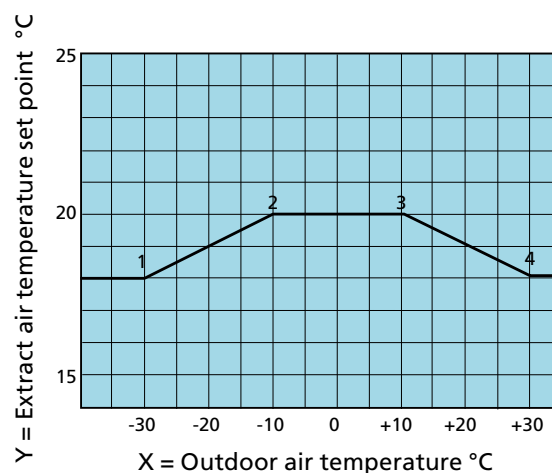
ORE regulation refers to Outdoor air temperature-Related Extract air temperature regulation. This means that the extract air temperature is regulated in relation to the outdoor air temperature.

An individually adjusted curve regulates the ratio between the extract air and the outdoor air temperature. The curve has four adjustable breakpoints.

Settings (see also diagram to the right):

Value	Setting range	Factory setting
Supply air, min.	0 – 20 °C	16 °C
Supply air, max.	16 – 50 °C	28 °C
<i>Outdoor air temperature</i>		
Outdoor related extract air X1	-50 – +50 °C	-20 °C
Outdoor related extract air X2	-50 – +50 °C	-10 °C
Outdoor related extract air X3	-50 – +50 °C	10 °C
Outdoor related extract air X4	-50 – +50 °C	20 °C
<i>Extract air temperature set point</i>		
Outdoor related extract air Y1	10 – 40 °C	21.5 °C
Outdoor related extract air Y2	10 – 40 °C	21,5 °C
Outdoor related extract air Y3	10 – 40 °C	21,5 °C
Outdoor related extract air Y4	10 – 40 °C	21,5 °C

ORE regulation



Example:

If the outdoor air temperature is under -30 °C (X1), the extract air temperature set point will constantly be 18 °C (Y1).

If the outdoor air temperature is between -30 °C (X1) and -10 °C (X2), the extract air temperature set point is regulated from 18 °C (Y1) up to 20 °C (Y2) as shown in the curve.

If the outdoor temperature is between -10 °C (X2) and +10 °C (X3) the extract air set point will constantly be 20 °C (Y3).

If the outdoor air temperature is between +10 °C (X3) and +30 °C (X4), the extract air temperature set point is regulated from 20 °C (Y3) down to 18 °C (Y4) as shown in the curve.

If the outdoor air temperature is over 30 °C (X4), the extract air temperature set point will constantly be 18 °C (Y4).

6.4.2.3 Regulation mode

Select ERS 1, ERS 2, Supply air, Extract air, ORS or ORE temperature regulation.

Seasonal controlled temperature regulation makes it possible to have two different temperature regulation modes that alternate at preset outdoor temperatures.

Seasonal controlled temperature regulation operates with the air handling unit's internal temperature sensor, however for the best performance we recommend external outdoor temperature sensor TBLZ-1-24-3; see separate installation instructions.

Enable seasonal controlled temperature regulation and temperature regulation (ERS 1, ERS 2, Supply air, Extract air, ORS or ORE). Set the temperature at which seasonal controlled temperature regulation shall be enabled and disabled respectively. By setting a span between the different temperatures, unwanted switching operations between the types of regulation can be avoided.

Settings:

Value	Setting range	Factory setting
Temperature control	ERS 1/ERS 2/Supply air/Extract air/ORS/ORE	Supply air
Seasonal controlled temperature regulation	On/Off	Off
Seasonal controlled temperature regulation	ERS 1/ERS 2/Supply air/Extract air/ORS/ORE	Extract air
Seasonal controlled temperature regulation, enabled	-20 – +40 °C	0 °C
Seasonal controlled temperature regulation, disabled	-20 – +40 °C	20 °C

Regulation mode

6.4.2.4 Unit of temperature

The desired unit of temperature can be set.

Settings:

Value	Setting range	Factory settings
Unit	°C/ °F	°C

6.4.2.5 Set point displacement

Used for changing the supply air and extract air temperature set points by means of an external 0-10 VDC signal. For example, the temperature can be increased or decreased at certain times of the day by means of an external timer or potentiometer.

The accessory, IQlogic+ module TBIQ-3-2, is required.

The set point can be influenced by ± 5 °C.

If the AHU is operating in the supply air regulation or ORS regulation mode, the supply air temperature set point is displaced and the AHU is operating in the extract air regulation or ORE regulation mode, the extract air temperature set point is displaced.

When the AHU is operating in the ERS regulation 1 mode, the difference between extract air and supply air is influenced. The difference cannot be less than 0 °C. The difference will decrease as the input signal increases.

If the AHU is operating in the ERS regulation 2 mode, the supply air set point will be displaced.

When the function is activated, the set point is displaced as plotted in the diagram to the right.

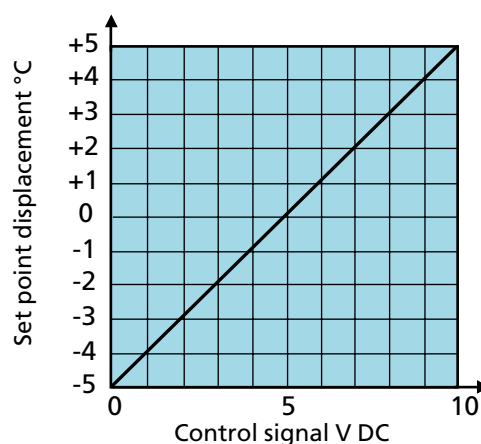
Set point displacement will not affect any possible extra temperature zone (Xzone) which regulates according to its ordinary set point if set point displacement is in operation.

Settings:

Value	Setting range	Factory setting
Set point displacement	On/Off	Off

Unit of temperature

Set point displacement



Set point displacement involves the following:

Control signal 0 V DC: The set point is decreased by 5 °C.

Control signal 5 V DC: No change in set point.

Control signal 10 V DC: The set point increases by 5 °C.

6.4.2.6 Neutral zone

The neutral zone prevents the cooling and heating systems from counteracting each other.

The preset neutral zone is added to the set point for heating and the sum of these provides the set point for cooling.

When extract air regulation is active, the supply air set point is not affected. The neutral zone has no effect if the unit is operating in the ERS regulation mode.

Settings:

Value	Setting range	Factory setting
Supply air, temperature control	0.0 - 10 K	0.5 K
Extract air, temperature control	0.0 - 10 K	0.5 K

Neutral zone

6.4.2.7 External temperature sensors

An extract air duct temperature sensor, TBLZ-1-76, can be connected to the air handling unit's control circuit card. See separate instructions for installation.

Up to four external room temperature and/or outdoor temperature sensors can be wired to the air handling unit's control circuit card. The TBLZ-1-24-2 room temperature sensor or TBLZ-1-24-3 outdoor temperature sensor accessories should be used. See separate installation instructions.

The sensor can be selected to control only intermittent night heat and/or summer night cooling (the AHU is then controlled during the daytime in response to signals from the internal sensor inside the AHU).

Locate the temperature sensors at suitable places to obtain representative readings.

The air handling unit is controlled in response to a computed mean value of the temperature sensors' readings, alternatively in response to signals from the temperature sensor that measures the lowest or highest value.

As an alternative, a temperature reading can be transmitted to the air handling via communication from e.g. a main system.

The same provision is available for room sensors for the Xzone function.

Settings:

Value	Setting range	Factory setting
Extract air duct, temperature sensor	On/Off	Off
Room sensor 1	On/Off	Off
Room sensor 2	On/Off	Off
Room sensor 3	On/Off	Off
Room sensor 4	On/Off	Off
Room sensor function	Medium/min./Max.	Medium
Room temperature from communication	On/Off	Off
Room temperature, for intermittent night heat only	On/Off	Off
Room temperature, for summer night cooling only	On/Off	Off
Outdoor air sensor 1	On/Off	Off
Outdoor air sensor 2	On/Off	Off
Outdoor air sensor 3	On/Off	Off
Outdoor air sensor 4	On/Off	Off
Outdoor air sensor function	Medium/min./Max.	Medium
Outdoor temperature from communication	On/Off	Off

External temperature sensors

6.4.2.8 Regulation sequence

Heating mode

The mutual order for the heating mode regulation sequence can be selected as specified below.

Functions that have not been selected have no effect on the relevant regulation sequence.

Value	Setting range	Factory setting
Heating mode	1/2/3/4/5/6*	1

- * 1 = HX - Extra regulation sequence - ReCO₂ - Reheating - Down regulation of fan
 2 = HX - Extra regulation sequence - Reheating - ReCO₂ - Down regulation of fan
 3 = HX - Reheating - ReCO₂ - Extra regulation sequence - Down regulation of fan
 4 = HX - Reheating - Extra regulation sequence - ReCO₂ - Down regulation of fan
 5 = HX - ReCO₂ - Reheating - Extra regulation sequence - Down regulation of fan
 6 = HX - ReCO₂ - Extra regulation sequence - Reheating - Down regulation of fan

HX (heat exchanger):

The temperature efficiency of the air handling unit's heat exchanger is modulated to provide max. heat recovery.

Extra regulation sequence:

Used in the heating mode for air heater (if required), air recirculation damper, etc.

ReCO₂:

Recirculated air is variably mixed in up to the lowest permissible supply airflow. Assumes inclusion of the TCBR air recirculation section accessory.

Reheating:

Air heater for reheating provides heating capacity.

Down regulation of fan:

Down regulation can be selected for supply air only or supply air and extract air.

Regulation sequence

Cooling mode

The mutual order for the cooling mode regulation sequence can be selected as specified below.

Functions that have not been selected have no effect on the relevant regulation sequence.

Value	Setting range	Factory setting
Cooling mode	1/2/3/4/5/6*	1

- * 1 = HX - Cooling Boost - Extra regulation sequence - ReCO₂ - Cooling
 2 = HX - Cooling Boost - Extra regulation sequence - Cooling - ReCO₂
 3 = HX - Cooling Boost - Cooling - ReCO₂ - Extra regulation sequence
 4 = HX - Cooling Boost - Cooling - Extra regulation sequence - ReCO₂
 5 = HX - ReCO₂ - Cooling Boost - Cooling - Extra regulation sequence
 6 = HX - ReCO₂ - Cooling Boost - Extra regulation sequence - Cooling

HX (heat exchanger):

The temperature efficiency of the air handling unit's heat exchanger is modulated to provide max. cool recovery.

Cooling Boost (Economy):

Involves increasing the supply air and extract air airflows to convey more cooling energy to the premises. The flow increase takes place between the current flow and the preset max. flow.

Extra regulation sequence:

Used in the cooling mode for air cooler (if required), etc.

ReCO₂:

Recirculated air is variably mixed in up to the lowest permissible supply airflow. Assumes inclusion of the TCBR air recirculation section accessory.

Cooling:

Air cooler provides cooling capacity.

6.4.2.9 Min. exhaust air



The min. exhaust air function can be used whenever the exhaust air temperature is not permitted to be below a predetermined value.

Min. exhaust air

The function controls the heat exchanger rotor speed (efficiency) in order to limit the exhaust air temperature to the required value. The function decelerates the heat exchanger rotor speed from the current level, until the exhaust air temperature reaches the preset minimum permissible setting.

Exhaust air regulation requires a separate TBLZ-1-58-aa temperature sensor (accessory) fitted in the AHU's exhaust air.

See separate installation instructions for the TBLZ-1-58-aa Internal temperature sensor.

Settings:

Value	Setting range	Factory setting
Min. exhaust air	On/Off	Off
Min. exhaust air temperature	-40 – + 20,0 °C	5.0 °C

6.4.2.10 Morning Boost

The unit is utilised for heating the premises during a preset period prior to the switch-in time set on the timer.

The function is used if an air recirculation section is installed.

The AHU starts up prematurely and uses the same temperature regulation settings. The airflow / air pressure is adjustable.

When the function starts, the air recirculation damper opens and the supply air fan starts up. The extract air fan and the outdoor air damper remain closed.

Settings:

Value	Setting range	Factory setting
Morning Boost	On/Off	Off
Start time (before the ordinary start time according to the timer)	hour:min.	00:00
Supply air, set point	¹⁾	50% of max. supply air for AHU alt. 100 Pa

¹⁾ The setting range is the same as the AHU's min./max. setting for flow regulation and 10-750 Pa for pressure regulation

Morning Boost

6.4.2.11 Heating Boost

Heating boost (forced heating) means that the air handling unit, operating in the normal flow regulation mode, increases both the supply airflow and the extract airflow in order to carry more heat into the premises.

The fans are permitted to operate in the range between current flow modes or pressure (low speed, high speed) and the preset max speed. See Section 6.4.1.2.

The functions operates only when the AHU is operating in the extract air regulation and ORE regulation mode. If demand control or boost is selected in combination with heating boost, the flow is controlled by the function that transmits the highest output signal to the fans.

A regulated ramp function switches in and gradually increases the airflow when there is a heating load, and the supply air temperature is 3 K (preset at factory) lower than the preset max. supply air temperature.

Settings:

Value	Setting range	Factory setting
Heating Boost	On/Off	Off
Start limit	2-10 K	3 K

Heating Boost

6.4.2.12 Cooling Boost

Cooling Boost (forced cooling) means that the supply air and extract air airflows are increased to convey more cool air to the premises.

The fans are permitted to operate in the range between current flow modes or pressure (low speed, high speed) and the preset max speed. See Section 6.4.1.2.

The function can be selected in five variants as follows:

Comfort

The cooling outputs are activated if there is a cooling load.

A regulated ramp function switches in and gradually increases the airflow when there is a cooling load, and the supply air temperature is 3 K (preset at factory) higher than the preset max. supply air temperature.

Economy

Cooling Boost Economy initially uses a higher airflow to cool the premises, before a start signal is transmitted to chillers.

The function can also operate without the cooling function activated.

In the event of a cooling load, the airflows are slowly increased up to preset maximum flow. When the flows are up to max and if a cooling load is still present, the output contacts for cooling are activated.

The function requires that the outdoor air temperature is at least 2 K lower than the extract air temperature for it to be activated. The normal cooling function is activated if the temperature difference is too small.

Sequence

The Cooling Boost Sequence is used if a chiller is sized for a higher cooling flow than normal flow.

If there is a cooling load, the flow is increased up to the preset max. flow and the cooling function is activated afterwards.

The Cooling Boost Sequence is blocked if no cooling function has been selected.

Comfort and economy

The comfort variant and the economy variant can be combined. The function that has the highest signal (highest setpoint) applies.

Economy and sequence

The economy variant and the sequence variant can be combined. The function that has the highest signal (highest setpoint) applies.

Sequence and comfort

The sequence variant and the comfort variant can be combined. The function that has the highest signal (highest setpoint) applies.

Comfort, economy and sequence

The comfort variant, economy variant and the sequence variant can be combined. The function that has the highest signal (highest setpoint) applies.

Cooling Boost

Settings:

Value	Setting range	Factory setting
Cooling Boost	Inactive Comfort Economy Sequence Comfort and economy Economy and sequence/ Sequence and comfort/ Comfort, economy and sequence	Inactive
Start limit (Comfort)	2-10 K	3 K

6.4.2.13 Intermittent night heat

The AHU is utilized for heating the premises when it is normally stopped by timer.

The function requires that an external room sensor is wired to the control unit's communication BUS (optional COM 1-3) and that the AHU is fitted with an air heater for reheating the air. The function works best if the GOLD is equipped with an air recirculation section and shut-off dampers for the outdoor air and the exhaust air.

When the function is activated, the air handling unit detects when the room temperature drops below the preset start temperature. The unit starts with preset flows and the supply air temperature set point. At the same time, the damper in the air recirculation section opens, if one is installed.

If recirculation is in the Off position, the extract air fan is operating and the damper relay is open. The extract airflow setting can be decreased to the air handling unit's min. flow.

Intermittent night heat does not affect any possible extra temperature zone (Xzone) which regulates according to its ordinary set point if Intermittent night heat is in operation.

Conditions to be met for intermittent night-time heating to start:

- The AHU must be set to normal stop or extended normal stop.
- The room temperature must be lower than the preset start temperature.

Conditions to be met so that Intermittent night heat will stop:

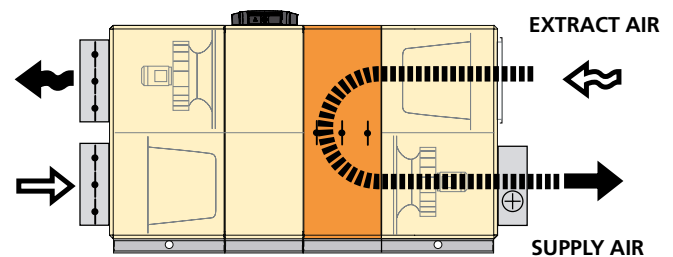
- The air handling unit is running at normal low/high speed or external/manual stop has been activated.
- The room temperature exceeds the preset stop temperature.
- The alarm with preset stop priority trips.
(If needed, the air handling unit fans will continue to operate to cool the electric air heater although other conditions for stop have been met.)

Settings:

Value	Setting range	Factory setting
Intermittent night heat	On/Off	Off
Air recirculation	On/Off	On
Room temperature, start	5 - 25 °C	16 °C
Room temperature, stop	5 - 25 °C	18 °C
Supply air temperature, set point	5 - 50 °C	28 °C
Supply airflow, set point	¹⁾	50% of max. supply air for AHU alt. 100 Pa
Extract air flow, set point	¹⁾	50% of max. supply air for AHU alt. 100 Pa

¹⁾ The setting range is the same as the AHU's min./max. setting for flow regulation and 10-750 Pa for pressure regulation

Intermittent night heat



Intermittent night heat with air recirculation section:

Recirculation in the On position:

When conditions for start are met, outdoor air and exhaust air shut-off dampers remain closed. The damper in the air recirculation section opens. The extract air fan is idle.

The supply air fan operates according to the preset supply airflow and the air heater for reheating operates according to the preset supply air temperature set point, until the conditions for stop are met.

6.4.2.14 Summer night cool

The lower temperature at night is utilised to cool down the building structure. This reduces the cooling load during the first hours of the day. If a cooling unit is installed, it will not need to be operated, thus offering savings. If no cooling unit is installed, a certain cooling effect will still be achieved.

When the function is activated, the AHU fans operate at high speed, with a supply air set point of 10 °C (factory setting) from the preset time until the conditions necessary for stop are satisfied.

If the air handling unit is stopped for a period of time, test starts can be implemented in order to check whether all conditions, except heating demand, for summer night cooling have been met. If the conditions have been met, summer night cooling can be run. The start and stop dates of the period during which the air handling unit will be stopped can be preset.

The set point for flow or pressure on the supply air and extract air can be set. This then means that any outdoor compensation does not affect summer night cooling.

An extra temperature zone (Xzone), if required, obtains the same supply air set point if Summer night cool is in operation.

Conditions that must be met for Summer night cool to start at the preset time:

- The time is between the preset start time and stop time.
- The outdoor air temperature shall be higher than the preset value.
- The extract air temperature shall be higher than the preset value.
- The extract air is at least 2 °C warmer than the outdoor air.
- Heating has not been required between 12.00 and 23.59 hours.*
- The air handling unit shall be running at low speed or be in the normal stop operating mode.
- Intermittent night heat has not been active during the day.

Conditions that must be met for Summer night cool to stop:

- The time is not between the preset start time and stop time.
- The extract air temperature drops below the preset value.
- The outdoor temperature drops below the preset value.
- The extract air is less than 1 °C warmer than the outdoor air.
- The air handling unit is running at normal high speed or external/manual stop has been activated.

The function starts once per preset time period.

Summer night cool

Settings:

Value	Setting range	Factory setting
Summer night cool	On/Off	Off
Start time	00:00-00:00	23:00
Stop time	00:00-00:00	06:00
Outdoor air, start	-5 - +15 °C	10 °C
Extract air, start	17 - 27 °C	22 °C
Extract air, stop	12 - 22 °C	16 °C
Supply air, set point	0 - 20 °C	10 °C
Start, period with stopped air handling unit ¹⁾	01-01 – 01-01 (month – day)	05-01
Stop, period with stopped air handling unit ¹⁾	01-01 – 01-01 (month – day)	10-01
Supply air, set point	Unit's minimum flow - maximum flow ²⁾	50% of maximum air flow for air handling unit
Supply air, set point	20 - 750 Pa	100 Pa
Extract air set point	Unit's minimum flow - maximum flow ²⁾	50% of maximum air flow for air handling unit
Extract air set point	20 - 750 Pa	100 Pa

¹⁾ The condition for heating load can be deselected during the preset period.

²⁾ See section 4.1.2.

6.4.2.15 Down regulation (airflow/pressure)

Down regulation of the supply air flow is the last step in the regulation sequence for heating. The supply air fan or both the supply air and extract air fan can be selected. The extract air fan only cannot be selected.

See also Section 6.4.2.7.

Down regulation can take place to max. of 50% of the preset value, however not lower than the min. flow or 20 Pa.

Settings:

Value	Setting range	Factory setting
Down regulation	Inactive/Supply air/Supply air and extract air	Supply air

Down regulation

6.4.3 Time and schedule

The built-in timer enables you to control the AHU's operating mode/time. Certain other oversteering functions such as external timer, communication, etc. affect the preset operating modes.

There are five different operating modes:

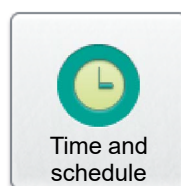
Total stop = The AHU is completely stopped, no internal automatic functions or external control commands can start the AHU.

Normal Stop = The AHU has stopped, however all the internal and external automatic functions oversteer the stop.

Extended Normal Stop = The AHU has stopped, however all the internal and external automatic functions, with exception of Summer night cool, oversteer the stop.

Low speed = The AHU is running at the preset low speed setting.

High speed = The AHU is running at the preset high speed setting.



6.4.3.1 Time and date

The current date and time can be set and adjusted if needed. The timer automatically takes leap years into consideration.

The relevant region and city can be selected, summer time/winter time changover will then be managed automatically.

Time source can be set to manual or via SNTP (requires connection to network) and BACnet. The time format and date format can be set.

Time and date

6.4.3.2 Schedule settings

The relevant operating mode can be read under Schedule settings. Here you can also set a preselected operating mode, in which the air handling unit always operates during non-programmed time, under Day schedule and Exceptions schedule. This setting (start and stop date not activated) is used most often and covers the majority of needs.

When the start and stop date is activated, this means that during the preset period (date) preset time applies during the day schedule and the exceptions schedule, and at all other times the AHU runs in the preselected operating mode.

Settings:

Value	Setting range	Factory settings
Preselected operating mode	Total stop/Low speed/High speed/Normal Stop/Extended Normal Stop	Low speed
Start date	Active/Inactive	Inactive
Start date	Year/Month/Day	
Stop date	Active/Inactive	Inactive
Stop date	Year/Month/Day	

Schedule settings

6.4.3.3 Day schedule

Times and days can be set when the air handling unit is to run in the high speed mode, low speed mode or be switched off.

For each day (Monday - Sunday), six different events can be set to occur at a given point in time. Here, it is also possible to set six different events for two exceptions under Ex1 and Ex2. The provisions for these exceptions can then be set under Exceptions schedule, Calendar 1 and Calendar 2.

Note that the preset event will not be carried over to the next 24-hour period. If no event is set from 00.00 hours of the next 24-hour period, the AHU will operate in the pre-selected operating mode preset under Schedule settings.

Settings:

Value	Setting range	Factory settings
Day	Mon/Tues/Wed/Thurs/Fri/Sat/Sun/Ex1/Ex2	
Time	00:00-23:59	00:00
Action	Inactive/Total stop/Low speed/High speed/Normal Stop/ Extended Normal Stop/Ignore	Inactive

Day schedule

6.4.3.4 Exceptions schedule

Possible exceptions (Ex1 and Ex2), previously preset in the day schedule can be set in the Exceptions schedule. Here you can determine on which date or weekday the relevant exception shall apply. If you select Calendar 1 or Calendar 2, which is the most often the case, these can be set according to particulars in the next section.

Settings:

Value	Setting range	Factory settings		
<i>Exceptions schedule 1/2</i>				
Exceptions method	Inactive/Date/Date range/Weekday/Calendar 1/Calendar 2	Calendar 1/2	Weekday Start date	Mon 1-12/Odd/Even/Each Day 1-7/8-14/15-21/22-28/29-31/Latest 7 days/Each day
<i>Date</i>				
Start date	Year/Month/Day			
Start weekday	Each day/ Monday/Tuesday/ Wednesday/ Thursday/Friday/ Saturday/Sunday	Each day	Start weekday	Each day/ Monday/Tuesday/ Wednesday/ Thursday/Friday/ Saturday/Sunday
<i>Date range</i>				
Start date	Year/Month/Day			
Start weekday	Each day/ Monday/Tuesday/ Wednesday/ Thursday/Friday/ Saturday/Sunday	Each day	Calendar 1 Calendar 2	See next chapter See next chapter
<i>Stop date</i>				
Stop date	Year/Month/Day			
Stop weekday	Each day/ Monday/Tuesday/ Wednesday/ Thursday/Friday/ Saturday/Sunday	Each day		

Exceptions schedule

6.4.3.5 Calendar 1 and 2

The specific days when Exceptions schedule 1 or 2 shall apply can be set in Calendars 1 and 2. On condition that Calendar 1 or 2 is selected, see previous section. In other cases, these settings will have no effect.

There is a total of ten possible settings under each calendar and various functions can be selected for each.

Settings (For Calendar 1 and Calendar 2 respectively):

Value	Setting range	Factory setting
Function 1-10	Inactive/Date/Date range/Weekday	Inactive
<i>Date</i>		
Start date	Year/Month/Day	
Start weekday	Each day/Monday/Tuesday/Wednesday/Thursday/Friday/Saturday/Sunday	Each day
<i>Date range</i>		
Start date	Year/Month/Day	
Stop date	Year/Month/Day	
<i>Weekday</i>		
Start date	Month 1-12/Odd/Even/Each Day 1-7/8-14/15-21/22-28/29-31/Latest 7 days/Each day	
Start weekday	Each day/Monday/Tuesday/Wednesday/Thursday/Friday/Saturday/Sunday	Each day

Calendar 1

Calendar 2

6.4.3.6 Prolonged operation

The control unit inputs for external low speed (terminals 14-15) and external high speed (terminals 16-17) respectively, can be supplemented with Prolonged operation. They can be used for overtime running activated by a pushbutton, for example.

The required time in hours and minutes can be set as follows.

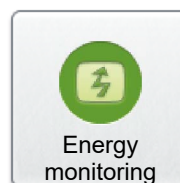
Settings:

Value	Setting range	Factory setting
Ext. low speed	0:00 - 23:59	00:00
Ext. high speed	0:00 - 23:59 (hrs.:min.)	00:00 (hrs.:min.)

Prolonged operation

6.4.4 Energy monitoring

Readings of the power consumed by fans and other AHU components can be viewed here. SFP readings for the AHU fans and the efficiency on heat transfer of the rotary heat exchanger can also be viewed. Accumulated energy consumption can be reset to zero.



6.4.5 Filters

Status

The current filter status and the current alarm limit can be viewed here. Used for performance checks.

Calibration

The filters should be calibrated when the fans are started up for the first time and when the duct system, air terminals and commissioning plates, if required, have been installed and commissioned. After that every time filters are replaced. See also Section 6.3.

Pre-filter/AHU filter (GOLD SD)/End filter

Filter monitoring must be activated for the filter (in addition to the internal filter in the GOLD RX/PX/CX) to be monitored.

Settings:

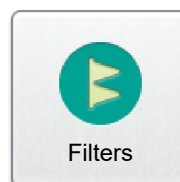
Value	Setting range	Factory setting
Pre-filter	Inactive/Supply air/Extract air/Supply air and extract air	Inactive
AHU filters	Inactive/Supply air/Extract air/Supply air and extract air	Inactive
End filter	On/Off	Off

Alarm limits

Alarm limit for installed filters can be changed.

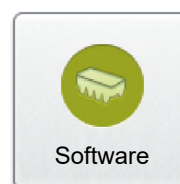
Setting:

Value	Setting range	Factory setting
Installed filters	0-500 Pa	100 Pa



6.4.6 Software

The current program versions for the IQlogic control unit, IQnavigator hand-held terminal and the component units on the communications bus can be viewed and updated from the SD circuit card.

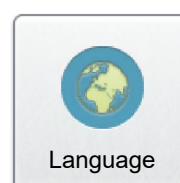


6.4.7 Language

The language desired can be set here. The appropriate language is normally selected the first time the AHU is started up. However, the language setting can be changed at any time.

Settings:

Value	Setting range	Factory setting
Language	Available languages are displayed	English



6.4.8 Alarm settings

6.4.8.1 Fire alarms

Internal fire alarm

The air handling unit's internal temperature sensors serve as fire protection thermostats. An alarm is initiated if the supply air temperature sensor registers more than 70 °C or when the extract air temperature sensor registers more than 50 °C.

If an external Extract air/Room temperature sensor is connected and activated, this works parallel with the extract air temperature sensor of the AHU.

External fire alarm 1 and 2

External fire alarm 1 (Terminals 6-7) and external fire alarm 2 (Terminals 8-9) are used for external fire-control equipment.

Alarm reset

The resetting of internal fire alarms as well as the external fire alarms 1 and 2 can be individually selected to manual or automatic.

After cool

The After cool function for electric air heaters can be individually activated, for internal fire alarms as well as external fire alarms 1 and 2.

Fan operation at fire alarm

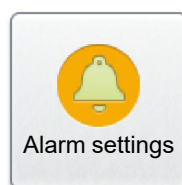
The fans of the air handling unit can be used for evacuating smoke, etc. It is possible to individually select the type of fan operation for each separate fire alarm.

If the AHU is idle, the fans selected start up (10-100%), irrespective of whether stop (all types) is activated.

The AHU's damper relay is energized and the AHU's operation relay is de-energized. The damper that should be open in event of fire, shall be connected to the damper relay (control unit terminals 28-30). The damper that should be closed in event of fire, shall be connected to the operation relay (terminals 26-27 of the control unit, potential-free contact).

Priority

The mutual priority of the internal and the external fire alarms can be set. If automatic is selected, this means that the first input to be activated is given priority.



Fire alarms

Settings:

Value	Setting range	Factory settings
Internal fire alarm	On/Off	Off
Internal fire alarm reset	Manual/Auto	Manual
Internal fire alarm after cool	Active/Inactive	Inactive
External fire alarm 1/2, resetting	Manual/Auto	Manual
External fire alarm 1/2, after cool	Active/Inactive	Inactive
Fan operation on an internal fire alarm	Inactive/Supply air/Extract air/Supply air and extract air	Inactive
Supply air fan on an internal fire alarm	10-100%	100%
Extract air fan on an internal fire alarm	10-100%	100%
Fan operation on external fire alarm 1/2	Inactive/Supply air/Extract air/Supply air and extract air	Inactive
Supply air fan on external fire alarm 1/2	10-100%	100%
Extract air fan on external fire alarm 1/2	10-100%	100%
Order of priority	External fire alarm 1/External fire alarm 2/Internal fire alarm/Automatic	External fire alarm 1

6.4.8.2 External alarms

External alarms can be used for external functions (control unit terminals 10-11 and 12-13).

Typical uses:

- Motor protection for the circulation pump in the heating or cooling circuit.
- Service alarm actuated by smoke detectors.

Set the following: Manual or automatic alarm reset, post-cooling for electric air heater and whether the alarm shall be activated on a closed or open circuit. The alarm can be time delayed.

Settings:

Value	Setting range	Factory setting
External alarm 1 reset	Manual/Auto	Manual
External alarm 1 after cool	Inactive/Active	Active
External alarm 1 input	Closed circuit/ Open circuit	Closed circuit
External alarm 1 delay time	0-600 sec.	10 sec.
External alarm 2 reset	Manual/Auto	Manual
External alarm 2 after cool	Inactive/Active	Active
External alarm 2 input	Closed circuit/ Open circuit	Closed circuit
External alarm 2 delay time	0-600 sec.	10 sec.

External alarms

6.4.8.3 Temperature protection

In the GOLD PX and CX units, the sensor in the inlet of the supply air fan can be used as temperature protection. Alarm priority and whether the AHU shall stop or not in event of an alarm can be set under Alarm priority, see Section 6.4.8.6.

For the GOLD RX unit, it is possible to use a separate sensor and its wiring is routed to the control unit. Select sensor input 4 for supply air = right and select sensor input 3 for supply air = left.

The alarm limit and alarm delay can be set for the sensor.

Settings:

Value	Setting range	Factory settings
Temperature protection	On/Off	Off
Alarm delay	1-900 sec.	30 sec.
Alarm limit	3 – +20°C	7°C

Temperature protection

6.4.8.4 Temperature alarm limits



Changes in the factory-preset alarm limits should only be made if you have special reasons for doing so and you should be aware of the consequences.

Temperature alarm limits

Pre-heating below set point

You can preset how much the temperature downstream of the pre-heater should be permitted to be below the temperature set point before an alarm is initiated.

Supply air below/above set point

You can preset how much the supply air temperature shall be permitted to be below or above the supply air temperature set point before an alarm is initiated. The alarm for supply air above the set point is normally blocked. Used in the cases in which cooling is installed.

Extract air below the alarm limit

Alarm limit for extract air temperature can be set. When the extract air temperature is below the alarm limit, alarm 12:6 is generated.

Outdoor temperature, stop limit

On tripped heat exchanger alarms, alarm numbers: 15:1-15:4, 16:1-16:4, 17:1, 17:4-17:9 (see Section 8.2), the following applies: if the outdoor air temperature is above this stop limit, an alarm only will be initiated and if it is below the stop limit, the AHU will stop and an alarm will be initiated.

Settings:

Value	Setting range	Factory setting
Pre-heat below set point	2 - 15 K	5.0 K
Supply air below set point	2 - 15 K	5.0 K
Supply air above set point	2 - 15 K	7.0 K
Extract air below alarm limit	-8 - +20 °C	12,0 °C
Outdoor temperature limit stop	-40 - +50 °C	5.0 °C

6.4.8.5 Service period

The air handling unit's service period can be set here. The remaining time to alarm can be read. An alarm will be initiated after the time interval has expired. If you reset the alarm in the alarm log, the alarm will trip again after 7 days. Following completed service, the alarm must always be reset in this menu and this will launch a new service interval.

Settings:

Value	Setting range	Factory setting
Service period	0 - 99 months	12 months

Service period

6.4.8.6 Alarm priority



Changes in alarm priority should only be made if you have special reasons for doing so and you should be aware of the consequences. The priority of certain alarms cannot be changed.

Settings:

Value	Setting range
Alarm number	1:1 - 60:10
Active	On/Off
Priority	Info*/A/B
Air handling unit stop	On/Off

** Alarms are indicated as a flashing red LED on the hand-held terminal, no group alarm is forwarded.*

Alarm priority

6.4.9 Log

An SD card must be fitted into the AHU's control card for the log function to work (2 GB SD cards are installed from the factory, 8 GB SD cards can be ordered as accessories).

6.4.9.1 Continuous log

The continuous log can be activated here. The login interval is one minute (1440 logins per 24-hour period). One login file is created for each 24-hour period.

Settings:

Value	Setting range	Factory settings
Log file period	On/Off	On

6.4.9.2 Log sender

The log function has a log sender function which can e-mail the log to an optional e-mail address and/or FTP address.

Settings:

Value	Setting range	Factory setting
Log sender active	On/Off	Off
Live mode	E-mail/FTP/E-mail and FTP	E-mail

Other settings can be entered in the AHU's web page.



6.4.10 Air handling unit

6.4.10.1 Settings



Set the type of air handling unit here. The type of air handling unit is normally preset for the unit supplied; except the GOLD SD extract air unit which must be set here.

N.B.! Do not change the air handling unit setting to a type that differs from the one supplied. If you do so, the air handling unit will not operate satisfactorily.

The air handling unit can be given a specific name (e.g. the unit's serial number). Naming in the hand-held terminal can only be done with digits, however on the web page the naming can also be done with alphabetical characters. The given name is then shown in all the images in the hand-held terminal and web page.

The type of AHU, size of the supply air and extract air fan respectively can be viewed.

GOLD RX/PX/CX

The AHU's fan position 1 (left-hand fan seen from the inspection side, see illustrations) can be read and preset.



N.B.! This changes the function of the fans from supply air to extract air and vice versa. GOLD RX size 04-120/ GOLD RX Top can be changed at the site. The other variants must not be changed from the factory setting.

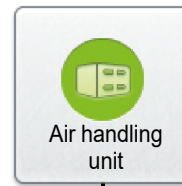
The fan position in the flow chart can be read and should be set according to the AHU's actual configuration.

GOLD SD

The fan position, upper or lower level, can be read and should be set according to the AHU's actual configuration.

Settings:

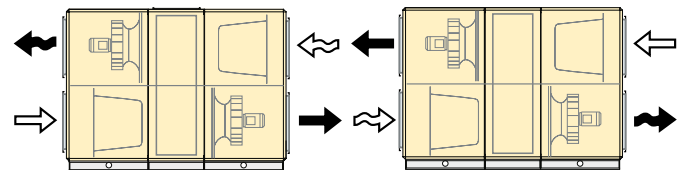
Value	Setting range	Factory setting
Type of air handling unit	GOLD RX/GOLD PX/GOLD CX/ GOLD SD Supply air/GOLD SD Extract air/ GOLD SD Supply air+CX/ GOLD SD Supply air+Extract air/ GOLD SD Supply air+Extract air+CX	Type of air handling unit supplied, except the GOLD SD extract air handling unit
GOLD RX/PX/CX Name	Optional	
Fan position 1	Extract air/ Supply air	Extract air
Flow chart, supply air fan position	Upper level/ Lower level	Lower level
GOLD SD Name	Optional	
Flowchart fan position	Upper level/ Lower level	Lower level



Settings

GOLD RX 04-40

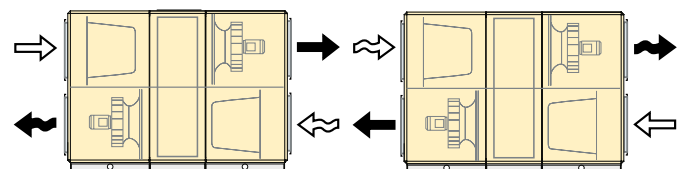
Fan arrangement 1



Fan pos. 1 set as extract air (right-hand inspection side)

Fan pos. 1 set as supply air (left-hand inspection side)

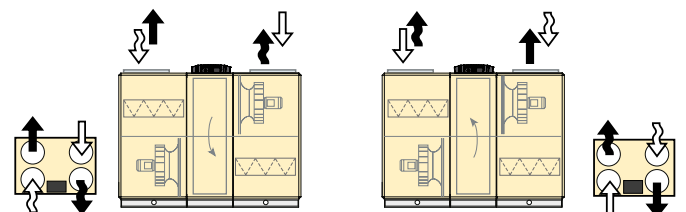
Fan arrangement 2



Fan pos. 1 set as extract air (right-hand inspection side)

Fan pos. 1 set as supply air (left-hand inspection side)

GOLD RX Top



Fan pos. 1 set as supply air (left-hand inspection side)

Fan pos. 1 set as extract air (right-hand inspection side)



6.4.10.2 Fan status

The fan control speed setting can be viewed in percent of max. speed here.

Fan status

6.4.10.3 Operation time

In operation times (in days) can if applicable be viewed for fan controls, heat exchanger/cooling recovery, preheating, extra heating regulation sequence, Xzone heating, AHU reheating, ReCO₂ heating, extra cooling regulation sequence, Xzone cooling, AHU cooling, ReCO₂ cooling, AYC heating water and AYC cooling water.

Operation time

6.4.10.4 VOC/CO₂ sensor

You can select here the operating mode for the VOC sensor and the CO₂ unit. The VOC level can be read. The VOC sensor position in the flow chart can be selected if only monitoring has been selected.

VOC/CO₂ sensor

Settings:

Value	Setting range	Factory setting
VOC sensor mode	Inactive/Monitoring only/Monitoring and regulation	Inactive
CO ₂ unit ¹⁾	%/ppm	% ¹⁾
Flow chart, VOC sensor position	Supply air/Extract air	Supply air

¹⁾ Factory set values: 0% = 500 ppm, 50% = 1000 ppm, 100% = 1500 ppm

6.4.10.5 Automatic functions

Start up sequence

The air handling unit has a start up sequence with a factory-preset time delay between each step as follows:

1. The damper relay is energized and opens the shut-off damper (if installed). The heat exchanger is controlled to max. heat recovery (not the GOLD SD without heat exchanger). The valve for reheating opens to 40% (if installed)

Time delay: 30 seconds.

2. The extract air fan starts in the current operating mode (not for ventilation systems with GOLD SD supply air handling unit only)

Time delay: 60 seconds.

3. The supply air fan starts (not for ventilation systems with GOLD SD extract air handling unit only)

Time delay: 30 seconds.

4. The reheating function is ramped up or down depending on the heating load. Ramp time: 180 seconds. After that the heat exchanger is ramped up or down depending on the heating load. Ramp time: 180 seconds.

The entire start up sequence can be followed in the dashboard image.

The start up sequence prevents the extract air fan from starting up if the shut-off damper is closed. By first starting up the extract air fan and the heat exchanger, you can avoid chilling the premises with supply air on a start up under cold weather conditions.

Zero point calibration

The pressure sensor of the AHU is automatically calibrated. The calibration process takes about 70 seconds after the AHU has stopped (a notification is shown if the AHU has not stopped). The zero point calibration text is displayed in the hand-held terminal. The fans cannot start while calibration is in progress.

6.4.11 Heat

6.4.11.1 Status

All the relevant values can be read here. Used for performance checks.

6.4.11.2 Pre-heat

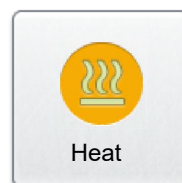
By preheating the outdoor air, it is possible to prevent moisture precipitation in the AHU's outdoor air filter, to reduce the risk of frosting in the heat exchanger and to eliminate the risk that pressure sensors and motor control systems are operating in too low ambient temperature.

Scope for setting Outdoor air temperature related preheat is available.

See also the Pre-heat function guide for more detailed information.

Settings:

Value	Setting range	Factory setting
Pre-heat	On/Off	Off
Pre-heat set point	-40 – +40°C	5°C
Outdoor air temperature related Difference,	On/Off	Off
outdoor air temperature	0 – 25 K	5 K
Preheat, min. limit	-40 – +40 °C	-10 °C
Periodic operation of pump	On/Off	On
Periodic operation of valve	On/Off	On
Periodic operation interval	0-168 hrs.	24 hrs.
Periodic operation period	0-60 min.	3 min.
Alarm input, function	Inactive/Alarm on open contact/ Alarm on closed contact/Contactor function	Inactive



Status

Pre-heat

6.4.11.3 Extra regulation sequences 1 and 2

Used for extra regulation functions controlled by a 0-10 V (10-0 V) signal with ordinary temperature regulation sequence.

The function can be used for utilising existing heating or cooling sources, such as from a chiller. The function can also be used for an extra air heater or air cooler.

It can also be used for controlling dampers for recirculation, if required. In these cases, an inverted 10-0 V output is used.

Recirculation control is used for the TBBD mixing section (GOLD SD only) The 10-0 V inverted output should be in the On position.

The maximum output signal can be limited from 100% down to 0 %.

The output signal of the extra regulation sequence is controlled from the TBIQ-3-2 IQlogic+ module accessory, see separate installation instructions.

When the SMART Link DX function is selected, the extra regulation sequence is automatically activated. The extra regulation sequence cannot then be used for any other functionality. An IQlogic+ module is not required (alarm for missing module is blocked).

The extra regulation sequence makes it possible to control two air heaters at the same time in the following combinations: water - electricity, water - water, electricity - electricity (Season heat, see also Section 6.4.11.7). The air heater for hot water is available without or without frost guard function.

When the output of the first air heater is not sufficient, the second is automatically brought into the sequence.

A start-up sequence, frost guard function, pump control, post-cooling for electric air heater and other functionality are available.

For the start-up sequence, frost guard function, periodic operation and post-cooling, the same settings are used as for regular reheating.

Settings:

Value	Setting range	Factory setting
Extra regulation sequence 1/2	Inactive/Heat/Cool/Heat and cool	Inactive
Inverted output 10-0V	On/Off	Off
Recirculation control	On/Off	Off
Max. output signal	0-100%	100%
Periodic operation of pump	On/Off	On
Periodic operation of valve	On/Off	On
Periodic operation interval	0-168 hrs.	24 hrs.
Periodic operation period	0-60 min.	3 min.
Pump alarm	Inactive/Alarm on open contact/Alarm on closed contact/Contactor function	Inactive

Extra regulation sequence 1/2

6.4.11.4 Reheat

The air heater is equipped with a quick-fit connector for connection to the AHU's control unit which automatically senses the type of air heater in use.

Air heater for hot water

When there is a reheating load, and the function Periodic operation of pump or of pump+valve is selected, the relay output is activated (control unit terminals 20-21) and this starts the circulation pump of the air heater.

If the outdoor temperature is low (colder than +12 °C), the pump output contact is continuously activated. During other times, the pump output contact is activated 3 min./day (factory setting) for periodic operation the circulation pump.

Settings:

Value	Setting range	Factory setting
<i>Air heater for hot water</i>		
Periodic operation of pump	On/Off	On
Periodic operation of valve	On/Off	On
Periodic operation interval	0-168 hrs.	24 hrs.
Periodic operation period	0-60 min.	3 min.

Electric air heater

When there is a reheating load, the relay output is activated (control unit terminals 20-21).

The relay output can be used for indicating or blocking the external function.

Reheat

6.4.11.5 Xzone

The Xzone temperature control function is designed for controlling one extra temperature zone via the ventilation system.

Xzone can be used for all types of air handling units, and both reheating and cooling can be controlled in the extra zone.

See also the Xzone function guide for more detailed information.

Settings:

Value	Setting range	Factory setting
Xzone	On/Off	Off
<i>Air heater for hot water</i>		
Periodic operation of pump	On/Off	On
Periodic operation of valve	On/Off	On
Periodic operation interval	0-168 hrs.	24 hrs.
Periodic operation period	0-60 min.	3 min.
Alarm input, function	Inactive/Alarm on open contact/Alarm on closed contact/Contactor function	Inactive

Xzone

6.4.11.6 Electric air heater

If the electric air heater has been in operation, the air heater is post-cooled for about 3 minutes (factory setting) when stop has been activated.

The text "After cool" appears in the hand-held terminal.

Settings:

Value	Setting range	Factory setting
After cool	1 - 25 min	3 min.

Electric air heater

6.4.11.7 Season Heat

The Season Heat function involves that the extra regulation sequence 1 functions is activated. See Section 6.4.11.3.

When both the standard function for reheating and the extra heating sequence are activated, it is possible to alternate between these via a digital input or communication.

Example: Hot water is only available in the winter. In the summer, any reheating load is backed up by an electric air heater. Change-over can be done manually or via external thermostat, external clock function or the like.

Settings:

Value	Setting range	Factory setting
Season Heat	Inactive/Extra reg. seq. 1 closed contact/Extra reg. seq. 1 open contact/Extra reg. seq. 1 Manual ¹⁾	Inactive
Extra reg. seq. enabled (manual only)	On/Off ²⁾	Off

¹⁾ Extra regulation sequence 1 closed contact = When the contact is closed, only the standard reheating function is active. When the contact is opened a changeover to extra heating regulation sequence occurs.

Extra regulation sequence 1 open contact = When the contact is open, only the standard reheating function is active. When the contact is closed, a changeover to extra heating regulation sequence occurs.

Extra regulation sequence 1 Manual = Changeover is done in the hand-held terminal or on the AHU's web page.

²⁾ Extra regulation sequence in Off position involves that the standard function for reheating is active and in the On position a changeover to extra regulation sequence occurs.

6.4.11.8 Automatic functions

Frost guard function, air heater for water

The frost guard function is always active if the connected air heater for hot water has been supplied by Swegon.

The function activates a heating device that keeps the temperature in the coil at 13 °C while the air handling unit is operating and 25 °C in the coil when the unit is stopped. An alarm is initiated and stops the AHU if the temperature sensor senses a temperature below 7 °C.

Capacity reduction of the electric air heater

Only in combination with Swegon's electric air heater.

A min. permissible air velocity of 2.0 m/s is required for preventing the electric heating elements from becoming overheated when they are generating full heating output.

If the air handling unit supply airflow drops below the value that corresponds to an air velocity of 2.0 m/s across the heat exchanger, the heating output of the air heater will be automatically reduced.

6.4.12 Cool

6.4.12.1 Status

All the relevant values can be read here. Used for performance checks.

6.4.12.2 Extra regulation sequences 1 and 2

Used for extra regulation functions controlled by a 0-10 V (10-0 V) signal with ordinary temperature regulation sequence.

The function can be used for utilizing existing heating or cooling sources, such as from a chiller. The function can also be used for an extra air heater or air cooler.

It can also be used for controlling dampers for recirculation, if required. In these cases, an inverted 10-0 V output is used.

Recirculation control is used for the TBBB mixing section (GOLD SD only) The 10-0 V inverted output should be in the On position.

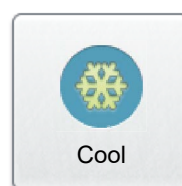
The maximum output signal can be limited from 100% down to 0 %.

The output signal of the extra regulation sequence is controlled from the TBIQ-3-2 IQlogic+ module accessory, see separate installation instructions.

When the SMART Link DX function is selected, the extra regulation sequence is automatically activated. The extra regulation sequence cannot then be used for any other functionality. An IQlogic+ module is not required (alarm for missing module is blocked).

Settings:

Value	Setting range	Factory setting
Extra regulation sequence 1/2	Inactive/Heat/Cool/Heat and cool	Inactive
Output inverse 10-0V	On/Off	Off
Recirculation control	On/Off	Off
Max. output signal	0-100%	100%
Periodic operation of pump	On/Off	On
Periodic operation of valve	On/Off	On
Periodic operation interval	0-168 hrs.	24 hrs.
Periodic operation period	0-60 min.	3 min.
Pump alarm	Inactive/Alarm on open contact/Alarm on closed contact/Contactor function	Inactive



Status

Extra regulation sequence 1/2

6.4.12.3 Cool

The valve actuator of the air cooler for water is equipped with a quick-fit connector for connection to the AHU's control unit which automatically activates the cooling function.

Cool

1-step

Used if cooling in one step is connected. The cooling controller of the AHU regulates the cooling output according to the cooling load, 0-100 %. The cooling relay is energised when the cooling load exceeds 5 % and is de-energised when the cooling load is below 2 %.

2-step

Used when cooling in 2 steps is connected. The cooling controller of the AHU regulates the cooling output according to the cooling load, 0-100 %.

Cooling relay 1 is energised when the cooling load exceeds 5 % and is de-energised when the cooling load is less than 2 %. Cooling relay 2 is energised when the cooling load exceeds 55 % and is de-energised when the cooling load is less than 50 %.

3-step, binary

Used when cooling with two inputs controlled with three binary steps is connected. The cooling controller of the AHU regulates the cooling output according to the cooling load, 0-100 %.

On an increasing cooling load:

Cooling relay 1 is energised when the cooling load is above 5 % and is de-energised when the cooling load is between 40-70 %. Cooling relay 2 is energised when the cooling load is above 40 %. Cooling relay 1 is energised again (together with cooling relay 2) when the cooling load is above 70%.

On a decreasing cooling load:

Cooling relay 1 is deenergised when cooling load is below 60 %, it is energised again when cooling load is below 30 % and is de-energised again when cooling load is below 2 %. Cooling relay 2 is de-energised when cooling load is below 30 %.

Settings:

Value	Setting range	Factory setting
<i>DX air cooler</i>		
Cooling	Inactive/1 step/2 steps/3 steps, binary	Inactive
<i>Air cooler for water</i>		
Periodic operation of pump 1	On/Off	On
Periodic operation of pump 2	On/Off	On
Periodic operation of valve	On/Off	On
Periodic operation interval	0-168 hrs.	24 hrs.
Periodic operation period	0-60 min.	3 min.

6.4.12.4 Xzone

The Xzone temperature control function is designed for controlling one extra temperature zone via the ventilation system.

Xzone can be used for all types of air handling units, and both reheating and cooling can be controlled in the extra zone.

See also the Xzone function guide for more detailed information.

Settings:

Value	Setting range	Factory setting
<i>DX air cooler</i>		
Cooling	Inactive/1 step/2 steps/3 steps, binary	Inactive
<i>Air cooler for water</i>		
Periodic operation of pump 1	On/Off	On
Periodic operation of pump 2	On/Off	On
Periodic operation of valve	On/Off	On
Periodic operation interval	0-168 hrs.	24 hrs.
Periodic operation period	0-60 min.	3 min.
Alarm input 1, function	Inactive/Alarm on open contact/Alarm on closed contact/Contactor function	Inactive
Alarm input 2, function	Inactive/Alarm on open contact/Alarm on closed contact/Contactor function	Inactive

Xzone

6.4.12.5 COOL DX

COOL DX - Economy (without heat exchanger)

Used when the COOL DX chiller is connected. Both cooling relays of the air handling unit operate in parallel with the corresponding relay on the IQlogic+ module in the COOL DX chiller.

COOL DX - Comfort

Used when the COOL DX chiller is connected. The heat exchanger in the AHU operates in sequence with the cooling unit to even out the supply air temperature.

COOL DX Top

Used when the COOL DX Top chiller is connected. Both cooling relays of the air handling unit operate in parallel with the corresponding relay on the IQlogic+ module in the COOL DX chiller.

Settings:

Value	Setting range	Factory setting
COOL DX	Inactive/Economy/Comfort/COOL DX Top	Inactive

COOL DX

6.4.12.6 Delay time

Restart time is computed from when the compressor starts until it is permitted to start again.

Step switch time is the time delay between two steps.

Stop/start time is computed from when the compressor stops until it is permitted to start again.

Settings:

Value	Setting range	Factory setting
Restart time	0-20 min.	5 min.
Step switch time	0-15 min.	5 min.
Stop/start time	0-15 min.	5 min.

Delay time

6.4.12.7 Outdoor air limits

Provision is available for setting an outdoor temperature-related blocking function in 3 steps. If the outdoor temperature is below each step limit, the function of the cooling relays will be blocked. The function is used for preventing the relevant compressors from being switched on and off too many times.

Settings:

Value	Setting range	Factory setting
Step 1	0 - 30°C	15°C
Step 2	0 - 30°C	18°C
Step 3	0 - 30°C	20°C

Outdoor air limits

6.4.12.8 Airflow, limits

Cooling, 0-10 V:

The cooling function is blocked if the supply or extract airflows are lower than the preset limit.

If the airflow limit function is not of immediate interest, both flow limits are set to 0.

Cooling, On/Off:

The current airflow must exceed the preset airflow as a condition for the respective cooling step to be put into operation.

Settings:

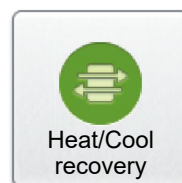
Value	Setting range	Factory settings
<i>Cooling, 0-10 V</i>		
Supply air, 0-10 V	0 - Max. flow	25% of max. airflow for air handling unit
Extract air, 0-10 V	0 - Max. flow	25% of max. airflow for air handling unit
<i>Cooling, On/Off</i>		
Supply air, On/Off, step 1	0 - Max. flow	25% of max. airflow for air handling unit
Extract air, On/Off, step 1	0 - Max. flow	25% of max. airflow for air handling unit
Supply air, On/Off, step 2	0 - Max. flow	50% of max. airflow for air handling unit
Extract air, On/Off, step 2	0 - Max. flow	50% of max. airflow for air handling unit
Supply air, On/Off, step 3	0 - Max. flow	75% of max. airflow for air handling unit
Extract air, On/Off, step 3	0 - Max. flow	75% of max. airflow for air handling unit

Air flow limits

6.4.13 Heat/Cool recovery

6.4.13.1 Status

All the relevant values can be read here. Used for performance checks.



Status

6.4.13.2 Carry over control



If the fans are generating low airflows, the rotary heat exchanger is decelerated to an appropriate speed to ensure a correct purging airflow through the heat exchanger.

Settings:

Value	Setting range	Factory setting
Carry over control	On/Off	Off

Carry over control

6.4.13.3 Efficiency measurement

The efficiency measurement of heat exchangers for RX/PX/CX can be enabled here.

The function requires two extra sensors, TBLZ-2-31-2 (extract air) and TBLZ-2-31-4 (exhaust air) which measure temperature and humidity. See the separate installation instructions.

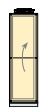
Measured values are specified under the humidity function.

Settings:

Value	Setting range	Factory setting
Efficiency measurement	On/Off	Off

Efficiency measurement

6.4.13.4 Defrost



In environments where the extract air can occasionally be humid, the defrosting function can be activated to protect the heat exchanger from frosting. The function continuously monitors the condition of the heat exchanger rotor to prevent it from becoming clogged due to condensate that has frozen inside the exchanger.

The function requires a separate pressure sensor (preset for heat exchanger defrosting) wired to the control unit inputs for external BUS communication and connected to the AHU pressure measurement tappings. See special installation instruction for the TBLZ-1-23-aa pressure sensor.

The pressure drop across the rotor must then be calibrated to establish a reference pressure drop for monitoring purposes. Calibration is put into effect by setting Calibration to the On position.

When the defrosting function is activated the pressure drop across the heat exchanger is continuously measured and the reading is compared with the calibration reading. If the pressure drop exceeds the preset limit value, a defrosting sequence is implemented in which the rotor speed is gradually ramped down (ramp time max. 4 minutes) to the speed at which the pressure drop across the heat exchanger decreases to half of the preset limit value. The lowest permissible speed of the rotor is 0.5 rpm. During the defrosting process, the warm extract air thaws any possible ice that has formed on surfaces. A delay time of 4 minutes gives the heat exchanger time to dry, before the rotor once again is ramped up (ramp time max. 4 minutes) to its ordinary speed.

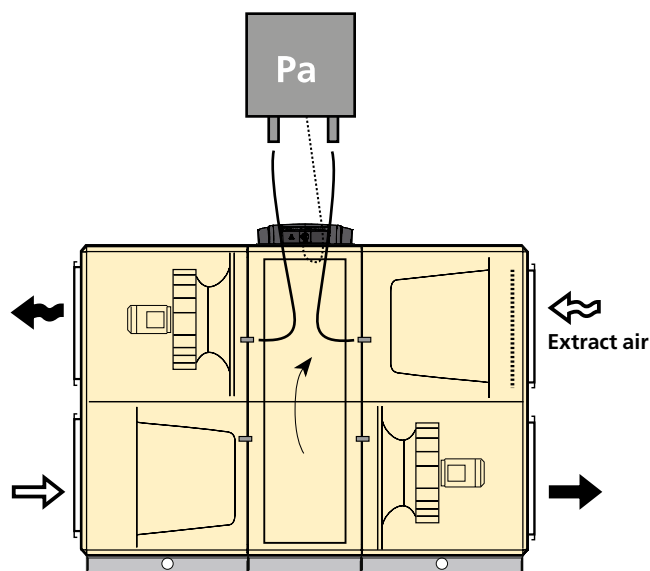
The defrosting operates for a max permissible period of 30 minutes. If the pressure drop has not decreased within that max permissible period after six tries during a 24-hour period, an alarm will be initiated.

Note that the heat exchanger performs less efficiently while defrosting is in progress and that the supply air temperature will also drop downstream of the heat exchanger.

Settings:

Value	Setting range	Factory setting
Defrost	On/Off	Off
Defrost limit value	30 - 100 Pa	50 Pa
Calibration	On/Off	Off

Defrost



Connection principle for the defrosting function with separate pressure sensor.

6.4.13.5 Calibration/Optimization (GOLD PX)



Defrosting, Standard

When the air handling unit is started up or if needed, a calibration should be carried out. When calibration is in progress, the air handling unit's limit values for alarms and defrosting are calculated.

Defrosting, RECOFrost

When the air handling unit is started up or if needed, a calibration should be carried out. When calibration is in progress, the air handling unit's limit values for alarms and defrosting are calculated.

When the air handling unit is started up or if needed, bypass optimization should be carried out. When bypass optimization is in progress, the damper positions of the bypass are optimized.

Calibration and bypass optimization can be activated to occur at the same time or individually. If they are activated individually, whichever one is activated first is of no importance.

Settings:

Value	Setting range	Factory settings
Calibration	On/Off	Off
Bypass optimization (RECOFrost only)	On/Off	Off

6.4.13.6 Automatic functions

GOLD RX (rotary heat exchanger)

Purging function

Purging is an automatic function that prevents the rotary heat exchanger from standing still in the same position for a longer period when no heating is necessary.

Purging operation is activated when the AHU is operating but the heat exchanger rotor is not rotating. The heat exchanger rotor then rotates for 10 seconds every 10 minutes to purge its surfaces clean of impurities.

Calculation of the efficiency

The efficiency is calculated and displayed (0 – 100%).

Calculation of recovered energy

Recovered sensible energy is calculated and the values are displayed (instantaneous and accumulated).

Cooling recovery

Cooling recovery is an automatic function that helps the air handling unit on a cooling load and high outdoor air temperature to utilize the relative "cooling energy" that can be indoors. The heat exchanger rotates at max. speed and in this way recovers the relative cooling energy or chilliness in the extract air.

The conditions for this function to be activated are that there is a cooling demand and that the outdoor temperature is 1 °C higher than the extract air. The function stops when the cooling load ceases to exist or when the outdoor temperature is the same as that of the extract air.

Overtime heat exchanger operation

If the AHU stops, the heat exchanger automatically continues to recover heat for about 1 minute.

It takes a little time for the fans to stop rotating after a stop has been ordered and this prevents the supply air from chilling the premises.

Calibration/Optimization

GOLD CX/SD (coil heat exchanger)

Pump control, coil heat exchanger

The pump of the pipework package starts when heat recovery is needed. If heat recovery is not needed for more than 24 hours, the pump is exercised once a day.

Anti-frost protection

In cold weather, and if the extract air is humid, there is risk of frosting in the coil heat exchanger. The GOLD CX/SD is equipped with anti-frosting protection.

The temperature of the liquid circulated to the extract air coil and the humidity in the extract air are measured.

Taking the humidity into consideration, the control system calculates the lowest permissible temperature without risk of frosting inside the coil. The valve in the pipework package is then regulated to prevent the circulated liquid from dropping below this temperature.

GOLD PX (plate heat exchanger)

In cold weather, and when the extract air is humid, there is risk of frosting in the plate heat exchanger. The GOLD PX is therefore equipped with anti-frost protection.

Anti-frost protection, standard

The pressure drop across the heat exchanger and the outdoor air temperature are measured.

With consideration given to the pressure drop across the heat exchanger and the outdoor air temperature, the control system regulates dampers for bypass and heat exchanger (interlinked) in order to prevent the formation of frost.

RECOFrost anti-frost protection

The pressure drop across the heat exchanger, extract air temperature, moisture content in the extract air and outdoor air temperature are measured.

With consideration given to the pressure drop across the heat exchanger, the extract air temperature, the moisture content in the extract air and the outdoor air temperature, the control system individually regulates dampers for bypass and the heat exchanger for section-by-section defrosting without the formation of frost.

6.4.14 SMART Link

The SMART Link function is intended for use for optimum control of the temperature and operation as well as the reading of alarms and the values for a Swegon chiller/heat pump.

For more information concerning waterborne heat pumps chillers, see the Guide to the SMART Link/AQUA Link Functions.

For more information concerning DX heat pumps/chillers (Celest+ LE), see the Guide to the SMART Link DX (GOLD RX only) Functions.

Settings:



Value	Setting range	Factory setting
Type of unit	Inactive/ Water, heat pump/ Water, chiller/ Water, reversible/ DX, heat pump/ DX, chiller/ DX, reversible	Inactive
<i>Water</i>		
Heated water (set point)	10 - 80°C ¹⁾	40°C
Heated water, diff.	1 - 10 K	3 K
Chilled water (set point)	0 - 20°C ¹⁾	12°C
Chilled water, diff.	1 - 10 K	2 K
Outdoor air limit (not applicable to the chiller)	-50 – +50°C	-20°C
Optimize	On/Off	Off
Optimizing cooling regulation speed	0.01 - 6.00 K/min	0.3 K/min
Optimizing heating regulation speed	0.01 - 6.00 K/min	0.3 K/min
Valve limit, lower	5 - 90%	75
Valve limit, upper	70 - 100%	95
Delay	30 - 3200	60
AQUA Link	On/Off	Off
Pump alarm	Inactive/Alarm on closed contact/ Alarm on open contact/Contact function	Inactive
<i>DX</i>		
Number of connected units (Celest+)	1-4	1
Comfort mode, duration	0-180 min	30 min
Outdoor air limit (not applicable to the chiller)	-50 – +50°C	-20°C
Defrost delay	5 - 900 s	180 s
Dead band supply air temp.	0,0 - 5,0K	0,0K
Stabilization time	60 - 600 s	240 s

¹⁾ Min. and max. limited by preset values in the chiller/heat pump..

6.4.15 Humidity

If the functions Dehumidifying regulation and Humidifying are activated at the same time, Dehumidifying regulation has priority and the possible settings for Humidifying are limited to being the same or lower than the setting for Dehumidifying regulation. There is a delay of 5 minutes between Dehumidifying regulation having stopped and Humidifying starting up (and vice versa).

6.4.15.1 Status

All the relevant values can be read here. Used for performance checks.



Status

6.4.15.2 Humidifying

Evaporative humidification (On/Off)

This function is suitable together with an evaporative humidifier (not Swegon).

The function requires the TBIQ-3-1 IQlogic+ module accessory and one TBLZ-31-2 humidity sensor. See separate installation instructions. Install the humidity sensor in the extract air duct (or in the premises), see drawing.

The humidity in the extract air duct (the premises) is regulated between adjustable start and stop limits.

Steam humidification (0 - 10V)

The function is appropriate for operation together with a steam humidifier (not supplied by Swegon) and is a variable control system via 0-10 V control signal, as well as a contact function which interlocks the humidifier if the air handling unit stops, if Summer night cool is used or if the humidity in the supply air exceeds the set point by more than 10%.

The function requires the TBIQ-3-1 IQlogic Plus module accessory and one TBLZ-31-1 humidity sensor accessories (for supply air regulation) or two TBLZ-31-1/2 humidity sensor accessories (for extract air regulation), see separate installation instructions. Install the humidity sensors in the extract air duct and the supply air duct respectively. See drawing!

The function keeps the humidity level constant in the extract air duct (the premises) by regulating the humidity in the supply air. In order to prevent the humidity in the supply air from being too high, it is restricted to a maximum limit.

Alternatively the humidity in the supply air duct can be kept constant by selecting a regulating humidity sensor in the supply air.

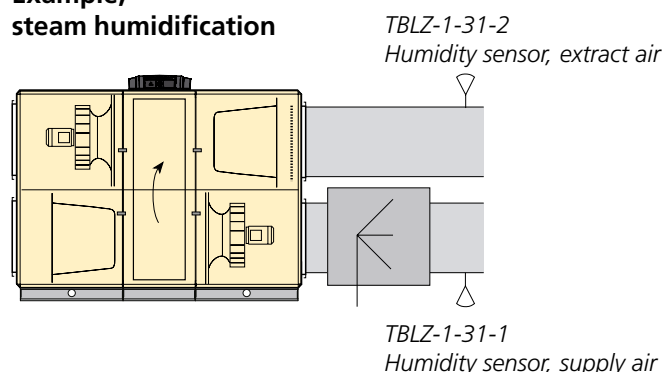
The set point cannot be set higher than the max limit. If the dehumidification function is activated, the max limit cannot be set higher than the set point for dehumidification.

Settings:

Value	Setting range	Factory setting
Humidifying	Inactive/On/Off/0-10V	Inactive
Regulation sensor	Supply air/Extract air	Supply air
Evaporative		
Start	10 - 95%RH	40%RH
Stop	10 - 95%RH	45%RH
Steam		
Set point	10 - 95%RH	30%RH
Max. supply air	10 - 95%RH	80%RH

Humidifying

Example, steam humidification



6.4.15.3 Dehumidifying

The function is intended for dehumidifying the supply air in order to prevent condensation in the supply air duct or in connected air conditioning products.

The dehumidification regulation function controls the humidity in the supply air duct or the extract air duct by means of an air cooler and an air heater for reheating.

The function requires that an air cooler be mounted upstream of the air heater in the supply air duct. See the example to the right.

If control of the humidity in the supply air duct is required, install a TBLZ-1-31-1 humidity sensor in the supply air duct. If control of the humidity in the extract air duct is required, install a TBLZ-1-31-2 humidity sensor in the extract air duct and a TBLZ-1-31-1 humidity sensor in the supply air duct. Connect the sensor to the AHU. See separate installation instructions.

Cooling energy is emitted to condense the moisture in the supply airflow, which then is heated to the desired supply air temperature. This causes a reduction in the moisture content of the supply air.

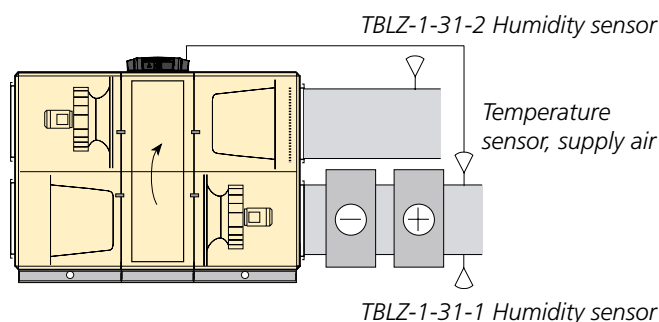
The cooling unit used must be sized so that the temperature of the supply air will be below the dew point, otherwise no condensation will arise and no dehumidification will occur.

Settings:

Value	Setting range	Factory settings
Dehumidification	Inactive/Supply air/Extract air	Inactive
Supply air - relative humidity	10-90%RH	50%RH
Extract air - relative humidity	10-90%RH	50%RH

Dehumidifying

Example: Dehumidification regulation



6.4.15.4 Humidifier alarm

The alarm input can be selected to closed circuit, open circuit or contactor function.

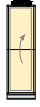
Settings:

Value	Setting range	Factory setting
Alarm input	Inactive/Closed circuit/Open circuit/Contactor function ¹⁾	Inactive

Humidifier alarm

¹⁾ Closed circuit involves closing the circuit in order to initiate an alarm. Open circuit involves opening the circuit in order to initiate an alarm. Contactor function involves the use of an auxiliary contact from a contactor, which controls the humidifier. The aux. contact is connected to the alarm input.

6.4.16 ReCO₂



The ReCO₂ function is designed for ensuring the correct air quality or air temperature, by means of recirculating extract air and minimizing the inflow of outdoor air.

The function can be used in ventilation systems in which recirculated air intermixture is acceptable.

The function presupposes that the outdoor air damper and the damper in the air recirculation section are equipped with modulating damper actuators.

Lower outdoor air and exhaust air flows as well as lower extract air fan speed enable the unit to consume less power. A separate air quality sensor continuously measures the air quality of the ventilation system.

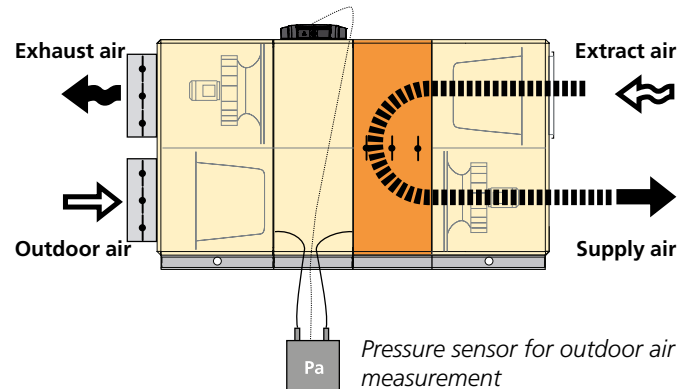
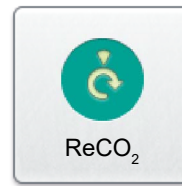
The pressure drop across the rotor must then be calibrated to establish a reference pressure drop for the function. Calibration is put into effect by setting Calibration to the On position.

For more information, see the ReCO₂ function guide.

Settings:

Value	Setting range	Factory setting
<i>Regulation mode</i>		
CO ₂ /VOC, operating mode	Inactive/CO ₂ /VOC / CO ₂ /VOC and air flow boost	Inactive
Temperature mode	Inactive/Heat sequence/Cool sequence/Heat and cool sequence	Inactive
CO ₂ /VOC Set point	0 - 100%	50%
CO ₂ , set point	0 - 10000 ppm	1000 ppm
VOC, set point	0 - 10000 ppm	1500 ppm
Min. outdoor air	¹⁾	25% of max. airflow for air handling unit
Min. exhaust air	¹⁾	25% of max. airflow for air handling unit
Calibration	On/Off	Off
Temperature		
Min. outdoor air	¹⁾	25% of max. airflow for air handling unit
Min. exhaust air	¹⁾	25% of max. airflow for air handling unit
Calibration	On/Off	Off

¹⁾ The setting range is the same as the AHU's min. - max. settings.



Outdoor airflow kept constant by pressure sensor

When the recirculation damper opens the extract air fan speed decreases and vice versa.

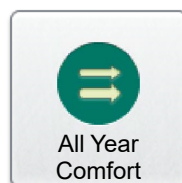
6.4.17 All Year Comfort

The All Year Comfort function controls, via control valves, the supply flow temperature to the comfort modules, cooling beams, perimeter wall units, etc. The water temperature is measured by two strap-on temperature sensors mounted on the water pipe of each circuit.

All Year Comfort has functions for outdoor compensation, room compensation, night compensation, dew point compensation as well as the monitoring and exercising of pumps and valves.

For more information, see the All Year Comfort function guide.

Settings:



Value	Setting range	Factory setting			
Function	Inactive/Cooling water/Heating water/ Cooling water and heating water	Inactive	<i>Heated water</i> Heated water ¹⁾	10 - 80°C	30°C
			Outdoor temp compensation	On/Off	Off
			Outdoor temp X1	-40 - +40°C	-20°C
			Outdoor temp X2	-40 - +40°C	0°C
			Outdoor temp X3	-40 - +40°C	5°C
			Outdoor temp X4	-40 - +40°C	15°C
<i>Chilled water</i> Chilled water ¹⁾	5 - 30°C	14°C	Heated water temp Y1	10 - 80°C	40°C
Outdoor temp compensation	On/Off	Off	Heated water temp Y2	10 - 80°C	30°C
Outdoor temp X1	-40 - +40°C	10°C	Heated water temperature Y3	10 - 80°C	20°C
Outdoor temp X2	-40 - +40°C	20°C	Heated water temp Y4	10 - 80°C	15°C
Outdoor temp X3	-40 - +40°C	25°C	Outdoor temp for pump start	-40 - +40°C	15°C
Outdoor temp X4	-40 - +40°C	30°C	Outdoor temp for pump stop	-40 - +40°C	18°C
Chilled water temp Y1	5 - 30°C	22°C	Room temp compensation	On/Off	Off
Chilled water temp Y2	5 - 30°C	18°C	Room temp. set point	0 - 40°C	21°C
Chilled water temp Y3	5 - 30°C	14°C	Room temp. P-band	1 - 10 K	5 K
Chilled water temp Y4	5 - 30°C	12°C	Room comp. night block	On/Off	Off
Outdoor temp for pump start	-40 - +40°C	10°C	Night compensation	On/Off	Off
Outdoor temp for pump stop	-40 - +40°C	7°C	Night reduction	0 - -10 K	-2 K
Room temp compensation	On/Off	Off	Time channel 1/2 start of night	00:00 - 23:59	00:00
Room temp. set point	0 - 40°C	21°C	Time channel 1/2 end of night	00:00 - 23:59	00:00
Room temp. P-band	1 - 10 K	5 K	Time channel 1/2 period	Inactive/ Monday/ Tuesday/ Wednesday/ Thursday/Friday/ Saturday/Sunday Mon - Fri/Mon - Sun/ Sat - Sun	Inactive/ Monday/ Tuesday/ Wednesday/ Thursday/Friday/ Saturday/Sunday Mon - Fri/Mon - Sun/ Sat - Sun
Room comp. night block	On/Off	Off			
Night compensation	On/Off	Off	Air flow compensation	On/Off	Off
Night reduction	0 - 10 K	2 K	Periodic operation pump	On/Off	On
Time channel 1/2 start of night	00:00 - 23:59	00:00	Periodic operation valve exercising	On/Off	Off
Time channel 1/2 end of night	00:00 - 23:59	00:00	Periodic operation interval	0-168 hrs.	24 hrs.
Time channel 1/2 period	Inactive/ Monday/ Tuesday/ Wednesday/ Thursday/Friday/ Saturday/Sunday Mon - Fri/Mon - Sun/ Sat - Sun	Inactive	Periodic operation period	0-60 min.	3 min.
			Pump alarm	Inactive/Alarm on closed con- tact/Alarm on open contact/ Contactor func- tion	Inactive/ on closed con- tact/Alarm on open contact/ Contactor func- tion
Dew point compensation	On/Off	Off			
Air flow compensation	On/Off	Off	Valve alarm	On/Off	Off
Periodic operation pump	On/Off	On			
Periodic operation valve exercising	On/Off	Off			
Periodic operation interval	0-168 hrs.	24 hrs.			
Periodic operation period	0-60 min.	3 min.			
Pump alarm	Inactive/Alarm on closed con- tact/Alarm on open contact/ Contactor func- tion	Inactive			
Valve alarm	On/Off	Off			

¹⁾ Omitted if the outdoor temperature compensation is selected.

6.4.18 MIRU Control

Up to ten power roof ventilators with MIRU Control equipment can be connected to one GOLD air handling unit by means of bus communication.

If one or several power roof ventilator(s) is/are stopped via the control panel on the corresponding MIRU Control, the power roof ventilator(s) cannot be started via the GOLD unit hand-held terminal.

The settings in the hand-held micro terminal of the GOLD unit override the settings in the MIRU Control's control panel.

It is possible in the hand-held micro terminal to select whether the power roof ventilator should be controlled in parallel with the GOLD unit, and whether it should follow the low-speed/high-speed operating modes of the air handling unit.

The balanced ventilation function can be used if the power roof ventilators are used for variable flow. It is then possible to select which power roof ventilator(s) is/are to be included in the function.

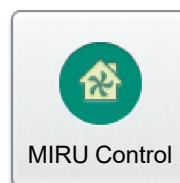
In the case of balanced extract air, all the airflows of the activated power roof ventilators are added together. The extract airflow in the GOLD unit is decreased by the corresponding volume. In this way the supply airflow will be the same as the total extract airflow and balanced ventilation will be achieved inside the building.

In the case of balanced supply air, all the airflows of the activated power roof ventilators are added together. The supply airflow in the GOLD unit is increased by the corresponding volume. In this way the supply airflow will be the same as the total extract airflow and balanced ventilation will be achieved inside the building.

The function presupposes that pressure sensors for flow measurement and possible pressure regulation are connected to MIRO Control.

All the time channels available in MIRU Control can be set separately for each connected power roof ventilator via the GOLD unit hand-held micro terminal. For a description of the function, see the separate Guide to the MIRU Control Functions.

Depending on the function selected in MIRU Control, it is possible to set the desired set point for pressure or flow, low speed and high speed, in the GOLD unit hand-held micro terminal. For a description of the function, see the separate Guide to the MIRU Control Functions.

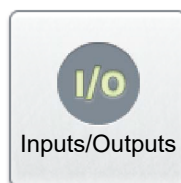


Settings:

Value	Setting range	Factory setting
Fan numbers 1 – 10, function	Inactive/Parallel start/Parallel low speed/high speed/Parallel start and low speed/high speed	Inactive
Fan numbers 1 – 10, balance function	Inactive/Supply air/Extract air	Inactive
Fans 1 – 10 low speed	0 – 750 Pa	100
Fans 1 – 10 low speed	¹⁾ m3/s	0
Fans 1 – 10 high speed	0 – 750 Pa	200
Fans 1 – 10 high speed	¹⁾ m3/s	0
Fans 1 – 10, channel 1 – 4 action	Inactive Low speed, Mon., Low speed Tue., low speed Wed., etc. Low speed, Mon. – Fri. Low speed, Sat. – Sun. Low speed, Mon. – Sun. High speed Mon., High speed Tue., High speed Wed., etc. High speed, Mon. – Fri. High speed, Sat. – Sun. High speed, Mon. – Sun.	Inactive
Start time	00:00-00:00	00:00
Stop time	00:00-00:00	00:00

6.4.19 Inputs/Outputs

Can for example be used if the air handling unit will be controlled/monitored via microprocessor substation or a PLC system. External operation module 3/6 requires the TBIQ-3-2 IQlogic+ module accessory; external communication module A/B/C requires the TBIQ-3-1 accessory. See separate installation instructions.



Settings:

Value	Setting range	Factory setting
<i>External operation module 3/6</i>		
Digital output 1/2 mode	Inactive/Air handling unit in operation/Air handling unit in auto operation/ Air handling unit in manual operation/Air handling unit in low speed operation/Air handling unit in high speed operation/A alarm/B alarm/Damper relay/Heat exchanger/Heat exchanger defrost/Reheat/ Reheating power reduction/ Heating Boost/Morning Boost/ Intermittent night heat/Air-flow down regulation/Extra reg. sequence 1/2 heat/Extra reg. sequence 1/2 cool/Cooling/Cooling Boost/Summer night cool/ Supply air fan in operation/Extract air fan in operation/Internal fire alarm tripped/External fire alarm 1/ External fire alarm 2/External fire alarm 1 or 2/Any fire alarm/External fire alarm 1 with priority/External fire alarm 2 with priority/Internal fire alarm tripped with priority/ Preheating	Inactive
Digital input 1/2	Inactive/Alarm reset/Stop AYC heated water/Stop AYC chilled water	Inactive
Analogue output 1	Indicates present supply airflow, from 0 to air handling unit's max. speed (%)	
Analogue output 2	Indicates present extract airflow, from 0 to air handling unit's max. speed (%)	
Analogue input 1/2*	Inactive/Set point displacement/Set point displacement, supply air/Set point displacement, extract air	Inactive
<i>External communication module A/B/C</i>		
External communication module A/B/C	On/Off	Off
Temperature sensor no. 1	On/Off	Off
Temperature sensor no. 2	On/Off	Off

* If analogue inputs 1 and 2 are both selected for setpoint displacement, only analogue input 1 will be used.

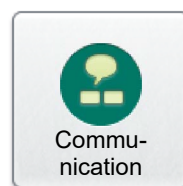
6.4.20 Communication



The potential for communication and monitoring is integrated as standard into the AHU. The AHU is ready to be connected via EIA-485. For connection and wiring to the AHU, see Section 10.5 Wiring to terminals.

Communication can also be established via Ethernet without software other than an ordinary web browser such as Internet Explorer.

Further information about interfaces, protocols and configuration is available at www.swegon.se (com).



External Port B

6.4.20.1 External Port B

For communication with network. Specify protocol and settings for Ethernet.

Settings:

Value	Setting range	Factory setting
DHCP	On/Off	Off
IP address		10.200.1.1
(static or dynamic)		
Net mask		255.255.255.0
Default GATEWAY		0.0.0.0
Primary DNS		0.0.0.0
Secondary DNS		0.0.0.0
MAC address		Not adjustable

6.4.20.2 Wireless LAN

The AHU's control unit is, as standard, equipped with Wi-Fi function and can be connected to e.g. a wireless hand-held terminal (accessory), portable computer or smart phone.

The password can, via the hand-held terminal, be changed to an optional combination of digits. The password and the SSID can also be entered in alphabetical form on the AHU's web page.

To connect to a portable computer or smart phone, note the settings on SSID, password and IP address. Activate Wi-Fi in the portable computer or smart phone and search for the wireless network (with the same name as the SSID). Connect by entering the password.

Open your web browser and update the page. The web browser will then automatically connect to the control circuit card. To log on, write your user name (local or installation), and enter the password (local = 0000, installation = 1111, factory setting).

Settings:

Value	Setting range	Factory setting
Wireless LAN	On/Off	Off
SSID	Optional	GOLD
Password (WPA2-PSK)	¹⁾	123456789
IP address	Not adjustable	192.168.234.1
Net mask	Not adjustable	255.255.255.0
MAC address	Not adjustable	Not adjustable
Channel (frequency band)	5 - 11	5

¹⁾ Certain smart phones require at least six characters.

Wireless LAN

6.4.20.3 E-mail

You can select whether the AHU shall handle outgoing e-mail here.

The settings can be entered on the AHU web page. See separate instructions.

There is a button for test transmission.

Settings:

Value	Setting range	Factory setting
SMTP server	External/Internal	External
SMTP server	Optional address	
SMTP port number		25
SMTP username	Optional, to be entered on the web page	
SMTP password	Optional, to be entered on the web page	
Encryption	On/Off	Off
E-mail sender	Optional, to be entered on the web page	
E-mail reply path	Optional, to be entered on the web page	

E-mail

6.4.20.4 EIA-485

Specify protocol and settings for EIA-485.

Settings:

Value	Setting range	Factory setting
Protocol	Inactive/Modbus/EXoline/Metasys N2 Open/LON	Modbus
Baud rate	4800/9600/19200/38400	9600
Parity	None/Even/Odd	None
Stopbits	1/2	2
Modbus ID/	1 - 247	1
Metasys ID/PLA		
ELA	1-255	1
Shortest feedback delay	0 - 100 ms	0 ms

EIA-485

6.4.20.5 Modbus TCP

Specify settings for Modbus TCP.

Settings:

Value	Factory setting
Port number	502
Approved client IP address	0.0.0.0
Approved client netmask	0.0.0.0

Modbus TCP

6.4.20.6 BACnet IP

Enter the BACnet IP settings.

Settings:

Value	Factory setting
Network number Ext. B	0
Internal network number A	0
Device ID	0
Port number	47808

BACnet IP

6.4.20.7 EXOline TCP

EXOline can be activated and enter the port number.

Settings:

Value	Setting range	Factory setting
Port number		26486
PLA	1 - 247	1
ELA	1-255	1

EXOline TCP

6.4.20.8 Operation level communication

It is possible to change the operation level communication here.

Settings:

Value	Setting range	Factory setting
Operation level communication	Inactive/Total stop/Low speed/High speed/Normal stop/ Extended normal stop	Inactive

Operation level communication

6.4.21 Base setting

Used for saving, loading and restoring the settings.

Date and time for the latest saved backup copy can be viewed.

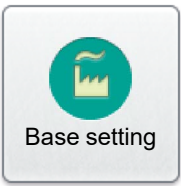
The AHU's settings/communication settings are saved/loaded to/from the control unit's internal memory or external SD circuit card that can be inserted into the control unit.

The AHU settings involve all settings except communication settings.

Communication settings involve all settings (except AHU settings).

Settings:

Value	Alternative
<i>Air handling settings</i>	
Export air handling settings	Export to local backup/Export to SD card
Import air handling settings	Import from local backup/Import from SD card
<i>Communication settings</i>	
Export communication settings	Export to local backup/Export to SD card
Import communication settings	Import from local backup/Import from SD card

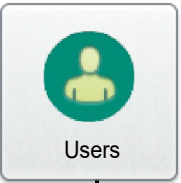


6.4.22. Users

The requirements for password can be activated here under User level (local). The password is always 0000.

Settings:

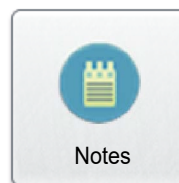
Value	Setting range	Factory setting
Requirements for user password	On/Off	Off



IQnavigator user

6.4.23 Notes

Notes can be read here. Notes can only be written on the AHU's web page.



6.4.24 Manual test



NB! Manual test running can cause indoor comfort problems. There is also risk of overloading the system. The responsibility for discomfort and overload rests totally on the person who activates the function.

When you enter manual test, you must select a safe mode or live mode. Safe mode involves stopping the AHU and being able to run each installed function separately or together. In the safe mode the heat exchanger is oversteered in relation to the fan speed. Live mode involves permitting the AHU to continue to operate in the normal operating mode and installed functions can be influenced manually. In this live mode the heat exchanger is not oversteered in relation to the fan speed.

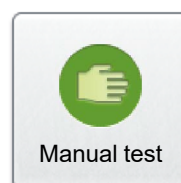
Manual test operation can take place for testing the inputs and outputs, fans and heat exchanger, etc.

Used for installation or troubleshooting to test that wired connections and functions operate correctly.

Certain alarms, functions and normal control modes will be blocked while manual testing is in progress.

On a return to the other image groups, the controller resumes normal operation and all settings for manual testing will be terminated.

Each image indicates which functions can be test run.



6.4.25 IQnavigator (hand-held terminal)

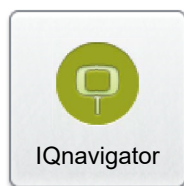
6.4.25.1 Connect to IQlogic

The method of connection between the IQnavigator and IQlogic can be selected here.

Can be selected as direct (standard cable), DHCP or static IP (requires connection to network), and direct/wireless (requires the IQnavigator hand-held terminal with WLAN TBLZ-1-71-2 accessory. See separate instructions).

Settings:

Value	Setting range	Factory setting
Connect to IQlogic	Direct/DHCP/Static IP/ Direct/Wireless	Direct
IQnavigator IP address	Optional	
IQnavigator Netmask	Optional	
Pre-selected	Optional	
IQnavigator gateway		
IQlogic IP address	Optional	



Connect to IQlogic

6.4.25.2 Backlight brightness

The hand-held terminal can be set to four different backlight brightness settings.

Settings:

Value	Setting range	Factory setting
Brightness mode	Auto adjust/Low/ Medium/High	Auto adjust

Brightness mode

6.4.25.3 Acoustics

Button sound effects on the hand-held terminal can be activated and the volume can be set in five steps.

Settings:

Value	Setting range	Factory settings
Button sound effects	On/Off	Off
Volume	1-5	3

Acoustics

7. Maintenance



Warning

Before carrying out any work, make sure that the power supply to the air handling unit has been switched off.

7.1 Filter Change

Filters made of glass fibre should be replaced, and if a pre-filter made of woven aluminium is fitted, it should be washed, when the corresponding filter alarm has been activated.

Order new filters from Swegon or your nearest Swegon representative. Specify the size of the GOLD unit, whether the replacement concerns one or two directions of airflow and if you are replacing standard filters and/or possibly a pre-filter.

7.1.1 Removing filters

It is advisable to clean inside the filter space while the filters are removed.

Standard filters:

Pull out the handles (A) to free the filters from the filter holder. Withdraw the filters.

Pre-filters, if required, in the AHU:

Withdraw the filters.

7.1.2 Installing new filters

Standard filter:

Insert the filters into the filter holder. At the same time, stretch the filter bags, so that they will not become caught, damaged or folded.

Insert the filters as far as possible into the unit and press them lightly against the filter frames, so that they fit tightly.

Push in the handles (A) to clamp the filters in position in the filter holder.

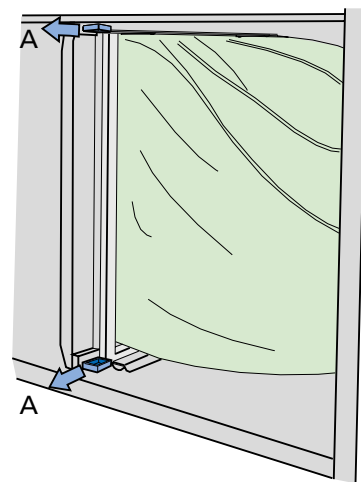
Close the inspection doors.

Calibrate the filters as described in Section 6.3.

Possible pre-filters in the AHU:

Insert the filters as far as possible into the unit and press them lightly against the filter frames, so that they fit tightly.

Calibrate the filters as described in Section 6.3.



7.2 Cleaning and Inspection

7.2.1 General

Clean the interior of the air handling unit if needed. Inspection of the air handling unit should be performed when you change filters or at least twice a year.

7.2.2 Filter spaces

The most appropriate time to clean the unit is when you change the filters.

7.2.3 Heat exchangers

Check at least twice a year whether cleaning is necessary. Cleaning can be done from the filter space.

Rotary heat exchanger

The heat exchanger should above all be cleaned by vacuum cleaning with a soft nozzle to prevent damage to the air passages in the rotor.

Turn the rotor by hand to reach all surfaces. If the heat exchanger is substantially fouled, its surfaces can be blown clean with compressed air.

If needed, the heat exchanger can be withdrawn from the unit casing and washed with degreasing solvent. Only service personnel trained by Swegon shall be permitted to wash it in this way.

Vinyl-coated fabric seal

Lift up the fabric seal and inspect its underside. Clean if needed by brushing or vacuum cleaning.

If the fabric seal is worn or substantially fouled, it should be replaced. Do not lubricate it!

Drive belt tension

Replace the drive belt if it feels loose or worn and slightly slips if it meets resistance. Contact service personnel trained by Swegon.

Plate heat exchangers

Always clean against the regular direction of airflow.

Cleaning must only be done by blowing with compressed air, vacuum cleaning with a soft nozzle or wet cleaning with water and/or solvent. Before you begin cleaning, cover adjacent functional sections to protect them.

If cleaning solvent is used, do not use solvent that will corrode aluminium or copper. Swegon's cleaning agent is recommended. This cleaning agent is sold by Swegon Service.

Inspect the drain to make sure that it isn't clogged. The by-pass and shut-off dampers do not require maintenance.

Coil heat exchangers

Make sure that the coils are purged of air. If a droplet eliminator is fitted, remove it and flush it clean with water.

Always clean against the regular direction of airflow.

Cleaning must only be done by blowing with compressed air, vacuum cleaning with a soft nozzle or wet cleaning with water and/or solvent. Before you begin cleaning, cover adjacent functional sections to protect them.

If cleaning solvent is used, do not use solvent that will corrode aluminium or copper. Swegon's cleaning agent is recommended. This cleaning agent is sold by Swegon Service.

While cleaning, check whether venting is necessary, check the content of glycol in the water and the condition of the coil for leakage. Also check that the drain is not clogged.

7.2.4 Fans and fan spaces

Inspect and, if needed, clean the fan impellers to remove dirt deposits.

Check the impeller to make sure that it is not out of balance.

Vacuum clean the fan motor or brush its surfaces. It can also be cleaned by carefully wiping it with a damp cloth and with dishwashing detergent.

Clean the fan space, if needed.

7.3 General inspection and functionality check

A general inspection and functionality check should be performed whenever you change filters or at least once a year.

Parts subject to wear such as fan bearings, seals, drive belts, etc. should be checked and be replaced if necessary.

Compare the air handling unit's values with the commissioning report. Remedial measures should be taken to correct any possible inconsistencies.

8. Alarms and Troubleshooting

8.1 General

Alarms are displayed by a flashing red LED in the hand-held terminal.

When the LED flashes, go in under Alarm log in the dashboard. See Section 4.2.2.3.

Active alarms, pending alarms and alarm history (50 latest) can be viewed under Alarm log.

For resetting alarms, you can select individual alarms or all the alarms.

The reset time can also be viewed under History.

A fault can be traced by examining the function or functional component indicated in the alarm text.

If the fault cannot be immediately remedied:

Consider whether the air handling unit can continue to operate until the fault has been remedied. Choose to block the alarm and/or to change it from stop to operation. See Section 6.4.8.6.

8.1.1 A and B alarms

A alarms send an indication to the output for alarm relay A (IQlogic module*).

B alarms send an indication to the output for alarm relay B (IQlogic module*).

Alarms can be forwarded with different priority via these relays.

8.1.2 Resetting the alarm

Alarms with manual resetting can be reset from the hand-held terminal. Select reset in the alarm log.

Alarms that reset themselves automatically will do so as soon as the fault has been remedied.

Alarms can also be reset via a communication network (not applicable to frost guard alarm).

8.1.3 Changing alarm settings

See Section 6.4.8.6.

8.2 Alarm Descriptions with Factory Settings

Alarm No.	Alarm text Function	Priority	Stop	Delay	Resetting
		0 = Blocked	0 = In operat.	s = second	0 = manual
		A = A alarm	1 = Stop	m = minute	1 = automatic
		B = B alarm		h=hour	
Alarm group 1: Fire alarm					
1:1	EXTERNAL FIRE ALARM NO. 1 TRIPPED For the fire protection function connected to terminals 6-7.	A ¹⁾	1	3 s	0
1:2	EXTERNAL FIRE ALARM NO. 2 TRIPPED For the fire protection function connected to terminals 8-9.	A ¹⁾	1	3 s	0
1:3	INTERNAL FIRE ALARM TRIPPED The air handling unit's supply air sensor measures more than 70 °C and/or its extract air temperature sensor measures more than 50 °C. The function must be activated manually.	A ¹⁾	1	3 s	0
Alarm group 2: External alarm					
2:1	EXTERNAL ALARM NO. 1 TRIPPED External alarm, connected to control unit terminals 10-11, has tripped..	A	1 ³⁾	1 s ²⁾	0
2:2	EXTERNAL ALARM NO. 2 TRIPPED External alarm, connected to control unit terminals 12-13, has tripped..	B	0 ³⁾	1 s ²⁾	0
Alarm group 3: Pre-heating					
3:1	PRE-HEAT, I/O MODULE NO. 9 COMMUNICATION ERROR The air handling unit's control unit cannot establish correct communication with I/O module No. 9 for pre-heating.	A	0 ³⁾	10 s	1
3:2	PRE-HEAT, OVERHEATING PROTECTION FOR ELECTRIC AIR HEATER TRIPPED The overheating protection, electric air heater, has tripped.	A ¹⁾	0 ³⁾	10 s	0
3:3	PRE-HEAT, FROST GUARD TRIPPED Frost guard temperature sensor measures temperature less than preset alarm limit. Factory setting: 7 °C.	A ¹⁾	1	5 s	0
3:4	PRE-HEAT, FROST GUARD TEMPERATURE SENSOR DEFECTIVE Frost guard temperature sensor is defective or is not connected.	A ¹⁾	1	3 s	1
3:5	PRE-HEAT, TEMPERATURE SENSOR DEFECTIVE Sensor is defective or is not connected.	A	0 ³⁾	3 s	1
3:6	PRE-HEAT, VALVE MONITORING TRIPPED Valve actuator, air heater for water is defective.	A	0 ³⁾	10 m	0
3:7	PRE-HEAT, TEMPERATURE BELOW SET POINT ALARM LIMIT Temperature is below preset set point longer than 20 minutes.	A	0 ³⁾	20 m	0
3:8	PRE-HEAT, ALARM INPUT TRIPPED Alarm input pre-heat has tripped.	A	0	20 s	0
Alarm group 4: Extra regulation sequence					
4:1	EXTRA REGULATION SEQUENCE 1, I/O-MODULE No E COMMUNICATION ERROR The air handling unit's control unit cannot establish correct communication with I/O module No. E for extra regulation sequence.	A	0 ³⁾	10 s	1
4:2	EXTRA REGULATION SEQUENCE 1, OVERHEATING PROTECTION FOR ELECTRIC AIR HEATER TRIPPED Overheating protection, electric air heater, has tripped.	A ¹⁾	0 ³⁾	10 s	0

Alarm No.	Alarm text Function	Priority	Stop	Delay	Resetting
		0 = Blocked	0 = In operat.	s = second	0 = manual
		A = A alarm	1 = Stop	m = minute	1 = automatic
		B = B alarm		h=hour	
4:3	EXTRA REGULATION SEQUENCE 1, FROST GUARD TRIPPED Frost guard temperature sensor measures temperature less than preset alarm limit. Factory setting: 7 °C.	A ¹⁾	1	5 s	0
4:4	EXTRA REGULATION SEQUENCE 1, FROST GUARD TEMPERATURE SENSOR DEFECTIVE Frost guard temperature sensor is defective or is not connected.	A ¹⁾	1	3 s	1
4:5	EXTRA REGULATION SEQUENCE 1, VALVE MONITORING TRIPPED Valve actuator, air heater for water, is defective.	B	0 ³⁾	10 m	0
4:6	EXTRA REGULATION SEQUENCE 1, ALARM INPUT TRIPPED Alarm input extra regulation sequence has tripped.	A	0	20 s	0
4:7	EXTRA REGULATION SEQUENCE 1, TEMPERATURE PROTECTION VIA COMMUNICATION, COMMUNICATION ERROR The air handling unit's control unit is not receiving any temperature reading via the external communication interface within the preset time limit.	B	0	5 m	1
4:9	EXTRA REGULATION SEQUENCE 2, I/O-MODULE No F COMMUNICATION ERROR The air handling unit's control unit cannot establish correct communication with I/O module No. E for extra regulation sequence.	A	0 ³⁾	10 s	1
4:10	EXTRA REGULATION SEQUENCE 2, OVERHEATING PROTECTION FOR ELECTRIC AIR HEATER TRIPPED Overheating protection, electric air heater, has tripped.	A ¹⁾	0 ³⁾	10 s	0
4:11	EXTRA REGULATION SEQUENCE 2, FROST GUARD TRIPPED Frost guard temperature sensor measures temperature less than preset alarm limit. Factory setting: 7 °C.	A ¹⁾	1	5 s	0
4:12	EXTRA REGULATION SEQUENCE 2, FROST GUARD TEMPERATURE SENSOR DEFECTIVE Frost guard temperature sensor is defective or is not connected.	A ¹⁾	1	3 s	1
4:13	EXTRA REGULATION SEQUENCE 2, VALVE MONITORING TRIPPED Valve actuator, air heater for water, is defective.	B	0 ³⁾	10 m	0
4:14	EXTRA REGULATION SEQUENCE 2, ALARM INPUT TRIPPED Alarm input extra regulation sequence has tripped.	A	0	20 s	0
Alarm group 5: Reheating					
5:1	REHEAT, OVERHEATING PROTECTION FOR ELECTRIC AIR HEATER TRIPPED The overheating protection, electric air heater, has tripped.	A ¹⁾	0 ³⁾	10 s	0
5:2	REHEAT, FROST GUARD TRIPPED Frost guard temperature sensor measures temperature less than preset alarm limit. Factory setting: 7 °C.	A ¹⁾	1	5 s	0
5:3	REHEAT, FROST GUARD TEMPERATURE SENSOR DEFECTIVE Frost guard temperature sensor is defective or is not connected.	A ¹⁾	1	3 s	1
5:4	REHEAT, VALVE MONITORING TRIPPED Valve actuator, air heater for water is defective.	B	0 ³⁾	10 m	0

Alarm No.	Alarm text Function	Priority	Stop	Delay	Resetting
		0 = Blocked	0 = In operat.	s = second	0 = manual
		A = A alarm	1 = Stop	m = minute	1 = automatic
		B = B alarm		h=hour	
Alarm group 6: Xzone I/O-module no. A					
6:1	Xzone, I/O-MODULE NO. A COMMUNICATION ERROR The air handling unit's control unit cannot establish correct communication with I/O module No. A for Xzone.	A	0 ³⁾	10 s	1
6:2	Xzone, OVERHEATING PROTECTION FOR ELECTRIC AIR HEATER TRIPPED The overheating protection, electric air heater, has tripped.	A ¹⁾	0 ³⁾	10 s	0
6:3	Xzone, FROST GUARD TRIPPED Frost guard temperature sensor measures temperature less than preset alarm limit. Factory setting: 7 °C.	A ¹⁾	1	5 s	0
6:4	Xzone, FROST GUARD TEMPERATURE SENSOR DEFECTIVE Frost guard temperature sensor is defective or is not connected.	A ¹⁾	1	3 s	1
6:5	Xzone, SUPPLY AIR TEMPERATURE SENSOR DEFECTIVE Supply air sensor is defective or is not connected.	A	1 ³⁾	3 s	1
6:6	Xzone, HEATING VALVE MONITORING TRIPPED Valve actuator, air heater for water is defective.	B	0 ³⁾	10 m	0
6:7	Xzone, SUPPLY AIR TEMPERATURE BELOW SET POINT ALARM LIMIT The supply air temperature is below the preset set point (ERS and Supply air regulation) or Min SA temp (Extract air regulation) longer than 20 minutes.	A	0 ³⁾	20 m	0
6:8	Xzone, SUPPLY AIR TEMPERATURE ABOVE SET POINT ALARM LIMIT The supply air temperature is above the preset set point (ERS and Supply air regulation) or Max. SA temp (Extract air regulation) longer than 20 minutes.	B	0 ³⁾	20 m	0
6:9	Xzone, HEAT, ALARM INPUT TRIPPED Alarm input Xzone heat has tripped.	A	0	20 s	0
Alarm group 7: Xzone I/O-module no. B					
7:1	Xzone, I/O-MODULE NO. B COMMUNICATION ERROR The air handling unit's control unit cannot establish correct communication with I/O module No. B for Xzone.	A	0 ³⁾	10 s	1
7:2	Xzone, EXTRACT AIR TEMPERATURE SENSOR DEFECTIVE Extract air sensor is defective or is not connected.	A	1 ³⁾	3 s	1
7:3	Xzone, COOLING VALVE MONITORING TRIPPED Valve actuator, air cooler for water is defective.	B	0 ³⁾	10 m	0
7:4	Xzone, EXTRACT AIR TEMPERATURE SENSOR BELOW SET POINT ALARM LIMIT The extract air temperature is below preset alarm limit for more than 20 minutes.	A	0 ³⁾	20 m	0
7:5	Xzone, COOL, ALARM INPUT 1 TRIPPED Alarm input 1 Xzone cool has tripped.	A	0	20 s	0
7:6	Xzone, COOL, ALARM INPUT 2 TRIPPED Alarm input 2 Xzone cool has tripped.	A	0	20 s	0
Alarm group 8: Cooling					
8:5	COOLING, VALVE MONITORING TRIPPED Valve actuator, air cooler, is defective.	B	0 ³⁾	10 s	0
Alarm group 9: Spare					

Alarm No.	Alarm text Function	Priority	Stop	Delay	Resetting
		0 = Blocked	0 = In operat.	s = second	0 = manual
		A = A alarm	1 = Stop	m = minute	1 = automatic
		B = B alarm		h=hour	
Alarm group 10: AHU, internal temperature sensor					
10:1	SUPPLY AIR TEMPERATURE SENSOR DEFECTIVE Supply air sensor is defective or is not connected.	A	1 ³⁾	3 s	1
10:2	SUPPLY AIR TEMPERATURE SENSOR FOR DENSITY COMPEN- SATION DEFECTIVE Supply air sensor in the supply air fan intake cannot establish correct communication or shows an incorrect value.	B	0 ³⁾	3 s	1
10:3	EXTRACT AIR TEMPERATURE SENSOR DEFECTIVE Extract air sensor is defective or is not connected.	A	1 ³⁾	3 s	1
10:4	EXTRACT AIR TEMPERATURE SENSOR FOR DENSITY COM- PENSATION DEFECTIVE (GOLD RX/PX/CX) Temperature sensor in extract air fan intake cannot establish correct communication or shows incorrect value. GOLD RX Exhaust air regulation has been selected, but the tempera- ture sensor in the exhaust air is defective or is not con- nected.	B	0 ³⁾	3 s	1
10:5	EXTRACT AIR TEMPERATURE SENSOR FOR HEAT EXCHANG- ER DEFROSTING DEFECTIVE Temperature sensor, for heat exchanger defrosting is defec- tive.	A	1 ³⁾	10 s	1
10:6	EXTRACT AIR TEMPERATURE SENSOR FOR DENSITY COM- PENSATION IN SD AHU DEFECTIVE Temperature sensor in extract air fan intake cannot establish correct communication or shows incorrect value.	A	1 ³⁾	10 s	1
10:7	EXTRACT AIR DUCT TEMPERATURE SENSOR DEFECTIVE The temperature sensor in the extract air duct is defective or is not connected.	A	1 ³⁾	10 s	1
10:10	OUTDOOR AIR TEMPERATURE SENSOR DEFECTIVE (GOLD SD) Outdoor temperature sensor is defective or is not connected.	B	0 ³⁾	3 s	1
Alarm group 11: External temperature sensors					
11:1	ROOM TEMPERATURE SENSOR NO. 1 DEFECTIVE Room temperature sensor 1 is defective or is not connected.	B	0 ³⁾	10 s	1
11:2	ROOM TEMPERATURE SENSOR NO. 2 DEFECTIVE Room temperature sensor 2 is defective or is not connected.	B	0 ³⁾	10 s	1
11:3	ROOM TEMPERATURE SENSOR NO. 3 DEFECTIVE Room temperature sensor 3 is defective or is not connected.	B	0 ³⁾	10 s	1
11:4	ROOM TEMPERATURE SENSOR NO. 4 DEFECTIVE Room temperature sensor 4 is defective or is not connected.	B	0 ³⁾	10 s	1
11:5	Xzone, ROOM TEMPERATURE SENSOR NO. 5 DEFECTIVE Xzone room temperature sensor 5 is defective or is not con- nected.	B	0 ³⁾	10 s	1
11:6	Xzone, ROOM TEMPERATURE SENSOR NO. 6 DEFECTIVE Xzone room temperature sensor 6 is defective or is not con- nected.	B	0 ³⁾	10 s	1
11:7	Xzone, ROOM TEMPERATURE SENSOR NO. 7 DEFECTIVE Xzone room temperature sensor 7 is defective or is not con- nected.	B	0 ³⁾	10 s	1
11:8	Xzone, ROOM TEMPERATURE SENSOR NO. 8 DEFECTIVE Xzone room temperature sensor 8 is defective or is not con- nected.	B	0 ³⁾	10 s	1

Alarm No.	Alarm text Function	Priority	Stop	Delay	Resetting
		0 = Blocked	0 = In operat.	s = second	0 = manual
		A = A alarm	1 = Stop	m = minute	1 = automatic
		B = B alarm		h=hour	
11:9	OUTDOOR TEMPERATURE SENSOR NO. A DEFECTIVE Outdoor temperature sensor A is defective or is not connected.	B	0 ³⁾	10 s	1
11:10	OUTDOOR TEMPERATURE SENSOR NO. B DEFECTIVE Outdoor temperature sensor B is defective or is not connected.	B	0 ³⁾	10 s	1
11:11	OUTDOOR TEMPERATURE SENSOR NO. C DEFECTIVE Outdoor temperature sensor C is defective or is not connected.	B	0 ³⁾	10 s	1
11:12	OUTDOOR TEMPERATURE SENSOR NO. D DEFECTIVE Outdoor temperature sensor D is defective or is not connected.	B	0 ³⁾	10 s	1
11:13	ROOM TEMPERATURE VIA COMMUNICATION, COMMUNICATION ERROR The air handling unit's control unit is not receiving any temperature reading via the external communication interface within the preset time limit.	B	0 ³⁾	5 m ²⁾	1
11:14	Xzone, ROOM TEMPERATURE VIA COMMUNICATION, COMMUNICATION ERROR The air handling unit's control unit is not receiving any temperature reading via the external communication interface within the preset time limit.	B	0 ³⁾	5 m ²⁾	1
11:15	OUTDOOR TEMPERATURE VIA COMMUNICATION, COMMUNICATION ERROR The air handling unit's control unit is not receiving any temperature reading via the external communication interface within the preset time limit.	B	0 ³⁾	5 m ²⁾	1

Alarm group 12: AHU, temperature diff.

12:1	SUPPLY AIR TEMPERATURE BELOW SET POINT ALARM LIMIT The supply air temperature is lower than the preset set point (ERS, ORS, ORE and Supply air regulation) or has deviated from the supply air controller's current set point (Extract air regulation) longer than 20 minutes.	A	1 ³⁾	20 m	0
12:2	SUPPLY AIR TEMPERATURE ABOVE SET POINT ALARM LIMIT The supply air temperature is above the preset set point (ERS, ORS, ORE and Supply air regulation) or has deviated from the supply air controller's current set point (Extract air regulation) longer than 20 minutes.	B	0 ³⁾	20 m	0
12:6	EXTRACT AIR TEMPERATURE BELOW ALARM LIMIT The extract air temperature is below preset alarm limit for more than 20 minutes.	A	1 ³⁾	20 m	0
12:11	TEMPERATURE PROTECTION BELOW ALARM LIMIT The temperature protection reading is below preset alarm limit.	A	1 ³⁾	30 s ²⁾	0
12:13	HEAT EXCHANGER EFFICIENCY BELOW ALARM LIMIT The heat exchanger's efficiency is below the preset alarm limit for more than 2 minutes.	B	0 ³⁾	2 hrs.	0

Alarm group 13: Humidity/VOC

13:1	HUMIDIFICATION, I/O MODULE NO. 4 COMMUNICATION ERROR The air handling unit's control unit cannot establish correct communication with I/O module No. 4 for humidity.	B	0 ³⁾	10 s	1
13:2	SUPPLY AIR HUMIDITY SENSOR DEFECTIVE The humidity sensor in the supply air duct is defective or is not connected.	A	0 ³⁾	10 s	1

Alarm No.	Alarm text Function	Priority	Stop	Delay	Resetting
		0 = Blocked	0 = In operat.	s = second	0 = manual
		A = A alarm	1 = Stop	m = minute	1 = automatic
		B = B alarm		h=hour	
13:3	EXTRACT AIR HUMIDITY SENSOR DEFECTIVE The humidity sensor in the extract air duct is defective or is not connected.	A	0 ³⁾	10 s	1
13:4	EXHAUST AIR HUMIDITY SENSOR DEFECTIVE The humidity sensor in the exhaust air duct is defective or is not connected.	A	0 ³⁾	10 sec.	1
13:9	HUMIDIFIER, ALARM OUTPUT TRIPPED The humidifier has tripped alarm output.	A	0 ³⁾	10 s	0
13:11	VOC SENSOR COMMUNICATION ERROR The air handling unit's control unit cannot establish correct communication with the VOC sensor.	B	0 ³⁾	20 m	1
13:12	VOC SENSOR, INTERNAL COMMUNICATION ERROR The air handling unit's control unit cannot achieve correct communication with the VOC sensor.	B	0 ³⁾	60 s	1
13:13	VOC SENSOR, INTERNAL ERROR VOC sensor defective.	B	0 ³⁾	60 s	1
13:14	VOC SENSOR, LEVEL BELOW/ABOVE SET POINT ALARM LIMIT The VOC sensor has read a level below or above the set point alarm limit for more than 60 seconds.	B	0 ³⁾	60 s	1

Alarm group 14: Spare

Alarm group 15: Plate heat exchanger

15:1	PLATE HEAT EXCHANGER, I/O-MODULE NO. 2 COMMUNICATION ERROR The air handling unit's control unit cannot establish correct communication with I/O module No. 2 for plate heat exchanger.	A	1 ³⁾⁴⁾	10 s	1
15:2	PLATE HEAT EXCHANGER, TEMPERATURE SENSOR NO. 1 DEFECTIVE Temperature sensor 1 for frost guard in heat exchanger cube is defective or is not connected.	A	1 ³⁾⁴⁾	3 s	1
15:3	PLATE HEAT EXCHANGER, TEMPERATURE SENSOR NO. 2 DEFECTIVE Temperature sensor 2 for frost guard in heat exchanger cube is defective or is not connected.	A	1 ³⁾⁴⁾	3 s	1
15:4	PLATE HEAT EXCHANGER, DAMPER MONITORING TRIPPED Damper actuator for plate heat exchanger is defective.	A	0 ³⁾⁴⁾	10 m	0
15:7	PLATE HEAT EXCHANGER, I/O-MODULE NO. 3 COMMUNICATION ERROR The air handling unit's control unit cannot establish correct communication with I/O module No. 3 for the plate heat exchanger.	A	1 ³⁾⁴⁾	10 s	1
15:8	PLATE HEAT EXCHANGER, BYPASS DAMPER MONITORING TRIPPED The bypass damper monitoring function of the plate heat exchanger has tripped.	A	0 ³⁾⁴⁾	10 m	0
15:9	PLATE HEAT EXCHANGER, DAMPER NO. 1 MONITORING TRIPPED The section damper 1 monitoring function of the plate heat exchanger has tripped.	A	0 ³⁾⁴⁾	10 m	0
15:10	PLATE HEAT EXCHANGER, DAMPER NO. 2 MONITORING TRIPPED The section damper 2 monitoring function of the plate heat exchanger has tripped.	A	0 ³⁾⁴⁾	10 m	0

Alarm No.	Alarm text Function	Priority	Stop	Delay	Resetting
		0 = Blocked	0 = In operat.	s = second	0 = manual
		A = A alarm	1 = Stop	m = minute	1 = automatic
		B = B alarm		h=hour	
15:11	PLATE HEAT EXCHANGER, I/O-MODULE NO. 3 COMMUNICATION ERROR The air handling unit's control unit cannot establish correct communication with I/O module No. 3 for the plate heat exchanger.	A	1 ^{3/4)}	10 s	1
15:12	PLATE HEAT EXCHANGER, BYPASS DAMPER MONITORING TRIPPED The bypass damper monitoring function of the plate heat exchanger has tripped.	A	0 ^{3/4)}	10 m	0
15:13	PLATE HEAT EXCHANGER, COUNTER-FLOW, DEFROSTING PRESSURE OVER ALARM LIMIT There has been a continuous need for full defrosting for 2 hours.	B	1 ^{3/4)}	2 h	0
15:14	PLATE HEAT EXCHANGER, DEFROSTING SENSOR NO. C COMMUNICATION ERROR The air handling unit's control unit cannot establish correct communication with defrosting sensor C for the heat exchanger.	B	0	10 m	1
15:15	PLATE HEAT EXCHANGER, DEFROSTING PRESSURE OVER ALARM LIMIT The need for defrosting has been over 95% continuously for 144 minutes.	B	1	2.4 h	0
Alarm group 16: Coil heat exchangers					
16:1	COIL HEAT EXCHANGER, I/O-MODULE NO. 1 COMMUNICATION ERROR The air handling unit's control unit cannot establish correct communication with I/O module No. 1 for coil heat exchanger.	A	1 ^{3/4)}	10 s	1
16:2	COIL HEAT EXCHANGER, TEMPERATURE SENSOR DEFECTIVE The temperature sensor on the coil heat exchanger's pipework package for the frost guard is defective or is not connected.	A	1 ^{3/4)}	3 s	1
16:3	COIL HEAT EXCHANGER, VALVE MONITORING TRIPPED Valve actuator of the coil heat exchanger is defective.	A	0 ^{3/4)}	10 m	0
16:4	COIL HEAT EXCHANGER, PUMP MONITORING TRIPPED No in-service indication from the pump is obtained.	A	1 ^{3/4)}	20 s	0
16:5	COIL HEAT EXCHANGER, I/O-MODULE NO. C COMMUNICATION ERROR The air handling unit's control unit cannot establish correct communication with I/O module No. C for coil heat exchanger.	A	0	10 s	1
16:6	COIL HEAT EXCHANGER, PRESSURE SENSOR DEFECTIVE Pressure sensor for the coil heat exchanger is defective or is not connected.	A	0	10 m	1
16:7	COIL HEAT EXCHANGER, LOW PRESSURE IN FLUID CIRCUIT Excessively low pressure in coil heat exchanger's fluid circuit.	A	0	5 m	0
Alarm group 17: Rotary heat exchanger					
17:1	ROTARY HEAT EXCHANGER, MOTOR CONTROLLER COMMUNICATION ERROR The air handling unit's control unit cannot establish correct communication with the heat exchanger motor controller.	A	1 ^{3/4)}	10 s	1

Alarm No.	Alarm text Function	Priority	Stop	Delay	Resetting
		0 = Blocked	0 = In operat.	s = second	0 = manual
		A = A alarm	1 = Stop	m = minute	1 = automatic
		B = B alarm		h=hour	
17:2	ROTARY HEAT EXCHANGER, DEFROSTING PRESSURE SENSOR NO. 7 COMMUNICATION ERROR The air handling unit's control unit cannot establish correct communication with the heat exchanger pressure sensor no. 7. Applicable to the defrosting function only.	B	0 ³⁾	10 s	1
17:3	ROTARY HEAT EXCHANGER, DEFROSTING PRESSURE OVER ALARM LIMIT The need for defrosting has been over 95% continuously for 144 minutes.	B	1 ^{3/4)}	2,4 h	0
17:4	ROTARY HEAT EXCHANGER, ROTATION DETECTOR TRIPPED No impulses from the rotation detector are registered with the heat exchanger controller.	A ¹⁾	1 ^{3/4)}	3 s	0
17:5	ROTARY HEAT EXCHANGER, MOTOR CONTROLLER OVER-CURRENT Heat exchanger motor controller has registered excessively high current supplier to the drive motor.	A ¹⁾	1 ^{3/4)}	3 s	0
17:6	ROTARY HEAT EXCHANGER, MOTOR CONTROLLER UNDER-VOLTAGE Low feed voltage is supplied to the rotary heat exchanger's motor controller.	A ¹⁾	1 ^{3/4)}	3 s	0
17:7	ROTARY HEAT EXCHANGER, MOTOR CONTROLLER OVER-VOLTAGE High feed voltage is supplied to the rotary heat exchanger's motor controller.	A ¹⁾	1 ^{3/4)}	3 s	0
17:8	ROTARY HEAT EXCHANGER, MOTOR CONTROLLER EXCESS TEMPERATURE High temperature (90°C) inside the heat exchanger's motor controller.	A ¹⁾	1 ^{3/4)}	3 s	0
17:9	ROTARY HEAT EXCHANGER, MOTOR CONTROLLER START UP ERROR Drive motor does not rotate during start up.	A ¹⁾	1 ^{3/4)}	3 s	0
Alarm group 18: AYC					
18:1	AYC, I/O MODULE No. 7 COMMUNICATION ERROR The air handling unit's control unit cannot establish correct communication with I/O module No. 7 for AYC.	A	0 ³⁾	10 s	1
18:2	AYC HEATING, TEMPERATURE SENSOR DEFECTIVE Heating temperature sensor is defective or is not connected.	A	0 ³⁾	3 s	1
18:3	AYC HEATING, VALVE MONITORING TRIPPED The heated water valve actuator is defective.	B	0 ³⁾	10 m	0
18:4	AYC HEATING, PUMP MONITORING TRIPPED The heated water pump is defective.	A	0 ³⁾	20 s	0
18:5	AYC HEATING, TEMPERATURE BELOW SET POINT LIMIT Heating water temperature is below preset set point longer than 30 minutes.	A	0 ³⁾	30 m	0
18:6	AYC HEATING, TEMPERATURE ABOVE SET POINT ALARM LIMIT ⁵⁾ Heating water temperature exceeds preset set point longer than 30 minutes.	B	0 ³⁾	30 m	0
18:9	AYC COOLING, TEMPERATURE SENSOR DEFECTIVE Temperature sensor for the AYC function (All Year Comfort) cooling is defective or is not connected.	A	0 ³⁾	3 s	1
18:10	AYC COOLING, VALVE MONITORING TRIPPED The chilled water valve actuator is defective.	B	0 ³⁾	10 m	0

Alarm No.	Alarm text Function	Priority	Stop	Delay	Resetting
		0 = Blocked	0 = In operat.	s = second	0 = manual
		A = A alarm	1 = Stop	m = minute	1 = automatic
		B = B alarm		h=hour	
18:11	AYC COOLING, PUMP MONITORING TRIPPED The chilled water pump is defective.	A	0 ³⁾	20 s	0
18:12	AYC COOLING, TEMPERATURE BELOW SET POINT ALARM LIMIT Heating water temperature is below preset set point longer than 30 minutes.	A	0 ³⁾	30 m	0
18:13	AYC COOLING, TEMPERATURE ABOVE SET POINT ALARM LIMIT ⁵⁾ Cooling water temperature exceeds preset set point longer than 30 minutes.	B	0 ³⁾	30 m	0
Alarm group 19-20: Spare					
Alarm group 21: COOL DX					
21:1	COOL DX, I/O MODULE NO. 2 COMMUNICATION ERROR The AHU control unit cannot establish correct communication with I/O module No. 2 for the COOL DX.	B	0 ³⁾	10 s	1
21:2	COOL DX, COMPRESSOR NO. 1 LOW PRESSURE SENSOR DEFECTIVE Low pressure sensor is defective or is not connected.	A ¹⁾	0 ³⁾	5 s	1
21:3	COOL DX, COMPRESSOR NO. 1 LOW PRESSURE BELOW ALARM LIMIT The low pressure sensor measures lower pressure than preset alarm limit pressure.	A ¹⁾	0 ³⁾	5 s	0
21:4	COOL DX, COMPRESSOR NO. 1 HIGH PRESSURE SENSOR DEFECTIVE High pressure sensor is defective or is not connected.	A ¹⁾	0 ³⁾	5 s	1
21:5	COOL DX, COMPRESSOR NO. 1 HIGH PRESSURE ABOVE ALARM LIMIT The high pressure sensor measures higher pressure than preset alarm limit pressure.	A ¹⁾	0 ³⁾	3 s	0
21:6	COOL DX, COMPRESSOR NO. 1 MONITORING TRIPPED Monitoring of compressor is defective.	A	0 ³⁾	20 s	0
21:7	COOL DX, COMPRESSOR NO. 1 RESTART ERROR Compressor will not restart.	A	0 ³⁾	10 s	0
21:8	COOL DX, COMPRESSOR NO. 2 LOW PRESSURE SENSOR DEFECTIVE Low pressure sensor is defective or is not connected.	A ¹⁾	0 ³⁾	5 s	1
21:9	COOL DX, COMPRESSOR NO. 2 LOW PRESSURE BELOW ALARM LIMIT The low pressure sensor measures lower pressure than preset alarm limit pressure.	A ¹⁾	0 ³⁾	5 s	0
21:10	COOL DX, COMPRESSOR NO. 2 HIGH PRESSURE SENSOR DEFECTIVE High pressure sensor is defective or is not connected.	A ¹⁾	0 ³⁾	5 s	1
21:11	COOL DX, COMPRESSOR NO. 2 HIGH PRESSURE ABOVE ALARM LIMIT The high pressure sensor measures higher pressure than preset alarm limit pressure.	A ¹⁾	0 ³⁾	3 s	0
21:12	COOL DX, COMPRESSOR NO. 2 MONITORING TRIPPED Monitoring of compressor is defective.	A	0 ³⁾	20 s	0
21:13	COOL DX, COMPRESSOR NO. 2 RESTART ERROR Compressor will not restart.	A	0 ³⁾	10 s	0

Alarm No.	Alarm text Function	Priority	Stop	Delay	Resetting
		0 = Blocked	0 = In operat.	s = second	0 = manual
		A = A alarm	1 = Stop	m = minute	1 = automatic
		B = B alarm		h=hour	
21:14	COOL DX, OUTDOOR AIR TEMPERATURE SENSOR DEFECTIVE Outdoor air temperature sensor is defective or is not connected.	B	0 ³⁾	3 s	1
21:15	COOL DX, PHASE SEQUENCE MONITOR ERROR Phase sequence protection for feed voltage to COOL DX has tripped.	A	0 ³⁾	5 s	0
Alarm group 22: Spare					
Alarm group 23: SMART Link					
23:1	SMART Link, COMMUNICATION ERROR The air handling unit's control unit cannot establish correct communication with the chiller/heat pump.	A	0 ³⁾	30 s	1
23:2	SMART Link, ALARM LEVEL 1 TRIPPED Chiller/heat pump has tripped, group alarm level 1.	B	0 ³⁾	30 s	0
23:3	SMART Link, ALARM LEVEL 2 TRIPPED Chiller/heat pump has tripped, group alarm level 2.	B	0 ³⁾	30 s	0
23:4	SMART Link, ALARM LEVEL 3 TRIPPED Chiller/heat pump has tripped, group alarm level 3.	B	0 ³⁾	30 s	0
23:10	AQUA Link, I/O MODULE NO. 5 COMMUNICATION ERROR The air handling unit's control unit cannot establish correct communication with I/O module no. 5, AQUA Link	B	0 ³⁾	10 s	1
23:11	AQUA Link, PUMP MONITORING TRIPPED Pump to AQUA Link is defective.	B	0 ³⁾	10 s	0
Alarm group 24: SMART Link DX					
24:1	SMART Link, no. 1 communication error The air handling unit's control unit cannot establish correct communication with the chiller/heat pump 1.	A	0 ³⁾	30 s	1
24:2	SMART Link, no. 1 alarm tripped Chiller 1 defective.	A	0 ³⁾	30 s	1
24:4	SMART Link, no. 2 communication error The air handling unit's control unit cannot establish correct communication with the chiller/heat pump 2.	A	0 ³⁾	30 s	1
24:5	SMART Link, no. 2 alarm tripped Chiller 2 defective.	A	0 ³⁾	30 s	1
24:7	SMART Link, no. 3 communication error The air handling unit's control unit cannot establish correct communication with the chiller/heat pump 3.	A	0 ³⁾	30 s	1
24:8	SMART Link, no. 3 alarm tripped Chiller 3 defective.	A	0 ³⁾	30 s	1
24:10	SMART Link, no. 4 communication error The air handling unit's control unit cannot establish correct communication with the chiller/heat pump 4.	A	0 ³⁾	30 s	1
24:11	SMART Link, no. 4 alarm tripped Chiller 4 defective.	A	0 ³⁾	30 s	1
Alarm group 24-25: Spare					
Alarm group 26: Pre-filter					
26:1	PRE-FILTER, SUPPLY AIR PRESSURE SENSOR NO. 8 COMMUNICATION ERROR The air handling unit's control unit cannot establish correct communication with the sensor of the supply air pre-filter.	B	0 ³⁾	10 s	1
26:2	PRE-FILTER, SUPPLY AIR FOULED The pressure across the supply air pre-filter exceeds the preset alarm limit for more than 10 minutes.	B	0 ³⁾	10 m	0

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		0 = Blocked	0 = In operat.	s = second	0 = manual
		A = A alarm	1 = Stop	m = minute	1 = automatic
		B = B alarm		h=hour	
26:7	PRE-FILTER, EXTRACT AIR PRESSURE SENSOR NO. 9 COMMUNICATION ERROR The air handling unit's control unit cannot establish correct communication with the sensor of the extract air pre-filter.	B	0 ³⁾	10 s	1
26:8	PRE-FILTER, EXTRACT AIR FOULED The pressure across the extract air pre-filter exceeds the preset alarm limit for more than 10 minutes.	B	0 ³⁾	10 m	0
Alarm group 27: AHU, internal filters					
27:1	AHU FILTER, SUPPLY AIR PRESSURE SENSOR NO. 3/4 COMMUNICATION ERROR The air handling unit's control unit cannot establish correct communication with the sensor of the AHU supply air filter.	B	0 ³⁾	10 s	1
27:2	AHU FILTER, SUPPLY AIR FOULED The pressure across the AHU supply air filter has exceeded the preset alarm limit for more than 10 minutes.	B	0 ³⁾	10 m	0
27:7	AHU FILTER, EXTRACT AIR PRESSURE SENSOR NO. 3/4 COMMUNICATION ERROR The air handling unit's control unit cannot establish correct communication with the sensor of the AHU extract air filter.	B	0 ³⁾	10 s	1
27:8	AHU FILTER, EXTRACT AIR FOULED The pressure across the AHU extract air filter has exceeded the preset alarm limit for more than 10 minutes.	B	0 ³⁾	10 m	0
Alarm group 28: Final filter					
28:1	END FILTER, SUPPLY AIR PRESSURE SENSOR NO. A COMMUNICATION ERROR The air handling unit's control unit cannot establish correct communication with the sensor of the supply air end filter.	B	0 ³⁾	10 s	1
28:2	END FILTER, SUPPLY AIR, FOULED The pressure across the supply air end filter has exceeded the preset alarm limit for more than 10 minutes.	B	0 ³⁾	10 m	0
Alarm group 29: Spare					
Alarm group 30: Flow measurement					
30:1	AIRFLOW MEASUREMENT, SUPPLY AIR PRESSURE SENSOR NO. 1/2 COMMUNICATION ERROR The air handling unit's control unit cannot establish correct communication with the flow pressure sensor in the supply air.	A	1 ³⁾	10 s	1
30:2	AIRFLOW MEASUREMENT, SUPPLY AIRFLOW BELOW SET POINT ALARM LIMIT The supply airflow has gone below its set point by more than 10%, during a longer period than 20 minutes.	B	0 ³⁾	20 m	0
30:3	AIRFLOW MEASUREMENT, SUPPLY AIRFLOW ABOVE SET POINT ALARM LIMIT The supply airflow has exceeded its set point by more than 10%, during a longer period than 20 minutes.	B	0 ³⁾	20 m	0
30:6	AIRFLOW MEASUREMENT, EXTRACT AIR PRESSURE SENSOR NO. 1/2 COMMUNICATION ERROR The air handling unit's control unit cannot establish correct communication with the flow pressure sensor in the extract air.	A	1 ³⁾	10 s	1
30:7	AIRFLOW MEASUREMENT, EXTRACT AIRFLOW BELOW SET POINT ALARM LIMIT The extract airflow has gone below its set point by more than 10%, during a longer period than 20 minutes.	B	0 ³⁾	20 m	0

Alarm No.	Alarm text Function	Priority	Stop	Delay	Resetting
		0 = Blocked	0 = In operat.	s = second	0 = manual
		A = A alarm	1 = Stop	m = minute	1 = automatic
		B = B alarm		h=hour	
30:8	AIRFLOW MEASUREMENT, EXTRACT AIRFLOW ABOVE SET POINT ALARM LIMIT The extract airflow has exceeded its set point by more than 10%, during a longer period than 20 minutes.	B	0 ³⁾	20 m	0
30:11	AIRFLOW MEASUREMENT, PURGING PRESSURE SENSOR NO. B COMMUNICATION ERROR The air handling unit's control unit cannot establish correct communication with the sensor of the rotary heat exchanger purging sector.	B	0 ³⁾	10 s	1
Alarm group 31: Pressure regulation					
31:1	PRESSURE REGULATION, SUPPLY AIR PRESSURE SENSOR NO. 5 COMMUNICATION ERROR The air handling unit's control unit cannot establish correct communication with the duct pressure sensor in the supply air. Applies only to pressure regulation of the supply air.	A	1 ³⁾	10 s	1
31:2	PRESSURE REGULATION, SUPPLY AIR PRESSURE BELOW SET POINT ALARM LIMIT The duct pressure has gone below its set point by more than 10%, during a longer period than 20 minutes (if pressure sensors are connected).	B	0 ³⁾	20 m	0
31:3	PRESSURE REGULATION, SUPPLY AIR PRESSURE ABOVE SET POINT ALARM LIMIT The supply air duct pressure has exceeded its set point by more than 10%, during a longer period than 20 minutes (if pressure sensors are connected).	B	0 ³⁾	20 m	0
31:6	PRESSURE REGULATION, EXTRACT AIR PRESSURE SENSOR NO. 6 COMMUNICATION ERROR The air handling unit's control unit cannot establish correct communication with the duct pressure sensor in the extract air. Applies only to pressure regulation of the extract air.	A	1 ³⁾	10 s	1
31:7	PRESSURE REGULATION, EXTRACT AIR PRESSURE BELOW SET POINT ALARM LIMIT The extract air duct pressure has gone below its set point by more than 10%, during a longer period than 20 minutes (if pressure sensors are connected).	B	0 ³⁾	20 m	0
31:8	PRESSURE REGULATION, EXTRACT AIR PRESSURE ABOVE SET POINT ALARM LIMIT The extract air duct pressure has exceeded its set point by more than 10%, during a longer period than 20 minutes (if pressure sensors are connected).	B	0 ³⁾	20 m	0
Alarm group 32: ReCO₂/Intermittent night heating					
32:1	ReCO ₂ , I/O MODULE NO. 0 COMMUNICATION ERROR The air handling unit's control unit cannot establish correct communication with I/O module no. 0.	A	0 ³⁾	10 s	1
32:2	ReCO ₂ , PRESSURE SENSOR NO. 0 COMMUNICATION ERROR The air handling unit's control unit cannot establish correct communication with the pressure sensor.	A	0 ³⁾	10 s	1
32:3	ReCO ₂ /INTERMITTENT NIGHT HEATING, RECIRCULATED AIR DAMPER MONITORING TRIPPED The damper actuator does not move to the right position. The position-confirming output signal from the damper is not the same as the input control signal.	B	0 ³⁾	10 m	0

Alarm No.	Alarm text Function	Priority	Stop	Delay	Resetting
		0 = Blocked	0 = In operat.	s = second	0 = manual
		A = A alarm	1 = Stop	m = minute	1 = automatic
		B = B alarm		h=hour	
32:4	ReCO ₂ , OUTDOOR AIR DAMPER MONITORING TRIPPED The damper actuator does not move to the right position. The position-confirming output signal from the damper is not the same as the input control signal.	B	0 ³⁾	10 m	0
Alarm group 33: Service					
33:1	PERIOD BETWEEN SERVICING PAST ALARM LIMIT The preset service period has expired. If the alarm is RESET via the hand-held terminal, the alarm will be initiated again after 7 days. A new service period can be set and reset under ALARM SETTINGS.	B	0 ³⁾	5 s ²⁾	0
33:15	LOCK FUNCTION TRIPPED Contact Swegon or their representative.	—	—	—	0 ⁶⁾
Alarm group 34: External controls					
34:1	EXTERNAL CONTROL, I/O MODULE NO. 3 COMMUNICATION ERROR The air handling unit's control unit cannot establish correct communication with I/O module No. 3 for external control.	B	0 ³⁾	10 s	1
34:2	EXTERNAL CONTROL, I/O MODULE NO. 6 COMMUNICATION ERROR The air handling unit's control unit cannot establish correct communication with I/O module No. 6 for external control.	B	0 ³⁾	10 s	1
Alarm group 35: Booster diffusers					
35:1	BOOSTER AIR TERMINALS, I/O MODULE NO. 8 COMMUNICATION ERROR The air handling unit's control unit cannot establish correct communication with I/O module No. 8 for Booster diffusers.	B	0 ³⁾	10 s	1
Alarm group 36: External communication, I/O-modules					
36:1	EXTERNAL COMMUNICATION, I/O MODULE NO. A COMMUNICATION ERROR The air handling unit's control unit cannot establish correct communication with I/O module No. A.	B	0 ³⁾	10 s	1
36:2	EXTERNAL COMMUNICATION, I/O MODULE NO. A TEMPERATURE SENSOR NO. 1 DEFECTIVE I/O-module A, temperature sensor 1, is defective or is not connected.	B	0 ³⁾	3 s	1
36:3	EXTERNAL COMMUNICATION, I/O MODULE NO. A TEMPERATURE SENSOR NO. 2 DEFECTIVE I/O-module A, temperature sensor 2, is defective or is not connected.	B	0 ³⁾	3 s	1
36:6	EXTERNAL COMMUNICATION, I/O MODULE NO. B COMMUNICATION ERROR The air handling unit's control unit cannot establish correct communication with I/O module No. B.	B	0 ³⁾	10 s	1
36:7	EXTERNAL COMMUNICATION, I/O MODULE NO. B TEMPERATURE SENSOR NO. 1 DEFECTIVE I/O-module B, temperature sensor 1, is defective or is not connected.	B	0 ³⁾	3 s	1
36:8	EXTERNAL COMMUNICATION, I/O MODULE NO. B TEMPERATURE SENSOR NO. 2 DEFECTIVE I/O-module B, temperature sensor 2, is defective or is not connected.	B	0 ³⁾	3 s	1

Alarm No.	Alarm text Function	Priority	Stop	Delay	Resetting
		0 = Blocked	0 = In operat.	s = second	0 = manual
		A = A alarm	1 = Stop	m = minute	1 = automatic
		B = B alarm		h=hour	
36:11	EXTERNAL COMMUNICATION, I/O MODULE NO. C COMMUNICATION ERROR The air handling unit's control unit cannot establish correct communication with I/O module No. C.	B	0 ³⁾	10 s	1
36:12	EXTERNAL COMMUNICATION, I/O MODULE NO. C TEMPERATURE SENSOR NO. 1 DEFECTIVE I/O-module C, temperature sensor 1, is defective or is not connected.	B	0 ³⁾	3 s	1
36:13	EXTERNAL COMMUNICATION, I/O MODULE NO. C TEMPERATURE SENSOR NO. 2 DEFECTIVE I/O-module C, temperature sensor 2, is defective or is not connected.	B	0 ³⁾	3 s	1
Alarm group 37: Spare					
Alarm group 38-47: MIRU Control 1-10 ⁷⁾					
38-47:1	MIRU Control NO. 1-10 COMMUNICATION ERROR The air handling unit's control unit cannot establish correct communication with MIRU Control.	A	0 ³⁾	10 s	1
38-47:2	MIRU Control NO. 1-10 MOTOR CONTROL ALARM TRIPPED The MIRU Control motor controller has tripped.	A	0 ³⁾	5 s	1
38-47:3	MIRU Control NO. 1-10 MOTOR CONTROL COMMUNICATION ERROR MIRU Control unit cannot establish correct communication with the power roof ventilator's motor controller.	A	0 ³⁾	5 s	1
38-47:4	MIRU Control NO. 1-10 FLOW MEASUREMENT PRESSURE SENSOR NO. 0 COMMUNICATION ERROR MIRU Control unit cannot establish correct communication with the power roof ventilator's flow measurement pressure sensor.	A	0 ³⁾	5 s	1
38-47:5	MIRU Control NO. 1-10 PRESSURE REGULATION SENSOR NO. 1 COMMUNICATION ERROR MIRU Control unit cannot establish correct communication with the power roof ventilator's duct pressure sensor.	A	0 ³⁾	5 s	1
38-47:6	MIRU Control NO. 1-10 TEMPERATURE SENSOR DEFECTIVE The MIRU Control temperature sensor is defective or is not connected.	B	0 ³⁾	5 s	1
38-47:7	MIRU Control NO. 1-10 FLOW/PRESSURE DEVIATION FROM THE SET POINT ALARM LIMIT The airflow/pressure has continuously exceeded or been below its set point by more than 20%.	B	0 ³⁾	5 s	1
Alarm group 49-54: Supply air fan no. 1A-3B ⁸⁾					
49-54:1	SUPPLY AIR FAN 1-3/A-B COMMUNICATION ERROR The air handling unit's control unit cannot establish correct communication with the supply air fan motor controller.	A	1 ³⁾	10 s	1
49-54:2	SUPPLY AIR FAN 1-3/A-B MOTOR CONTROLLER OVERCURRENT High current supplied to motor	A ¹⁾	1 ³⁾	10 s	0
49-54:3	SUPPLY AIR FAN 1-3/A-B MOTOR CONTROLLER UNDERVOLTAGE Voltage below the normal level is supplied.	A ¹⁾	1 ³⁾	10 s	0
49-54:4	SUPPLY AIR FAN 1-3/A-B MOTOR CONTROLLER OVERVOLTAGE Excessively high voltage is supplied.	A ¹⁾	1 ³⁾	10 s	0
49-54:5	SUPPLY AIR FAN 1-3/A-B MOTOR CONTROLLER EXCESS TEMPERATURE High internal temperature.	A ¹⁾	1 ³⁾	10 s	0

Alarm No.	Alarm text Function	Priority	Stop	Delay	Resetting
		0 = Blocked	0 = In operat.	s = second	0 = manual
		A = A alarm	1 = Stop	m = minute	1 = automatic
		B = B alarm		h=hour	
49-54:6	SUPPLY AIR FAN 1-3/A-B MOTOR CONTROL START UP ERROR Supply air fan does not rotate on a start up, rotates in wrong direction or rotates at excessively high speed.	A ¹⁾	1 ³⁾	10 s	0
49-54:7	SUPPLY AIR FAN 1-3/A-B MOTOR CONTROLLER UNEVEN PHASE VOLTAGE High voltage difference between the phases (3-phase, 400 V), which causes rippling.	A ¹⁾	1 ³⁾	10 s	1
49-54:8	SUPPLY AIR FAN 1-3/A-B MOTOR CONTROLLER PHASE FAILURE Phase failure in motor controller.	A ¹⁾	1 ³⁾	10 s	1
49-54:9	SUPPLY AIR FAN 1-3/A-B MOTOR CONTROLLER MEMORY ERROR Internal memory error in motor controller.	A ¹⁾	1 ³⁾	10 s	1
49-54:10	SUPPLY AIR FAN 1-3/A-B MOTOR CONTROLLER CURRENT LIMITATION Current/Voltage limitation in motor controller.	B	0 ³⁾	60 s	1
49-51:11	SUPPLY AIR FAN 1A-3A MOTOR CONTROLLER INTERNAL COMMUNICATION ERROR Internal communication error in motor controller.	A	1 ³⁾	10 s	1

Alarm group 55-60: Extract air fan no. 1A-3B ⁹⁾

55-60:1	EXTRACT AIR FAN 1-3/A-B COMMUNICATION ERROR The air handling unit's control unit cannot establish correct communication with the extract air fan motor controller.	A	1 ³⁾	10 s	1
55-60:2	EXTRACT AIR FAN 1-3/A-B MOTOR CONTROLLER OVERCURRENT High current supplied to motor	A ¹⁾	1 ³⁾	3 s	0
55-60:3	EXTRACT AIR FAN 1-3/A-B MOTOR CONTROLLER UNDERVOLTAGE Voltage below the normal level is supplied.	A ¹⁾	1 ³⁾	3 s	0
55-60:4	EXTRACT AIR FAN 1-3/A-B MOTOR CONTROLLER OVERCURRENT Excessively high voltage is supplied.	A ¹⁾	1 ³⁾	3 s	0
55-60:5	EXTRACT AIR FAN 1-3/A-B MOTOR CONTROLLER EXCESS TEMPERATURE High internal temperature.	A ¹⁾	1 ³⁾	3 s	0
55-60:6	EXTRACT AIR FAN 1-3/A-B MOTOR CONTROLLER START UP ERROR Extract air fan does not rotate on a start up, rotates in wrong direction or rotates at excessively high speed.	A ¹⁾	1 ³⁾	3 s	0
55-60:7	EXTRACT AIR FAN 1-3/A-B MOTOR CONTROLLER UNEVEN PHASE VOLTAGE High voltage difference between the phases (3-phase, 400 V), which causes rippling.	A ¹⁾	1 ³⁾	5 s	1
55-60:8	EXTRACT AIR FAN 1-3/A-B MOTOR CONTROLLER PHASE FAILURE Phase failure in motor controller.	A ¹⁾	1 ³⁾	5 s	1
55-60:9	EXTRACT AIR FAN 1-3/A-B MOTOR CONTROLLER MEMORY ERROR Internal memory error in motor controller.	A ¹⁾	1 ³⁾	5 s	1

Alarm No.	Alarm text Function	Priority	Stop	Delay	Resetting
		0 = Blocked	0 = In operat.	s = second	0 = manual
		A = A alarm	1 = Stop	m = minute	1 = automatic
		B = B alarm		h=hour	
55-60:10	EXTRACT AIR FAN 1-3/A-B MOTOR CONTROLLER CURRENT LIMITATION Current/Voltage limitation in motor controller.	B	0 ³⁾	60 s	1
55-57:11	EXTRACT AIR FAN 1A-3A MOTOR CONTROLLER INTERNAL COMMUNICATION ERROR Internal communication error in motor controller.	A	1 ³⁾	5 s	1
Alarm group 61: Supply air fan, I/O module					
61:1	SUPPLY AIR FAN NO. 1A I/O MODULE COMMUNICATION ERROR The air handling unit's control unit cannot establish correct communication with supply air fan no. 1A I/O module.	A	1 ³⁾	10 s	1
61:6	SUPPLY AIR FAN NO. 2A I/O MODULE COMMUNICATION ERROR The air handling unit's control unit cannot establish correct communication with supply air fan no. 2A I/O module.	A	1 ³⁾	10 s	1
61:11	SUPPLY AIR FAN NO. 3A I/O MODULE COMMUNICATION ERROR The air handling unit's control unit cannot establish correct communication with supply air fan no. 3A I/O module.	A	1 ³⁾	10 s	1
Alarm group 62: Extract air fan, I/O module					
62:1	EXTRACT AIR FAN NO. 1A I/O MODULE COMMUNICATION ERROR The air handling unit's control unit cannot establish correct communication with extract air fan no. 1A I/O module.	A	1 ³⁾	10 s	1
62:6	EXTRACT AIR FAN NO. 2A I/O MODULE COMMUNICATION ERROR The air handling unit's control unit cannot establish correct communication with extract air fan no. 2A I/O module.	A	1 ³⁾	10 s	1
62:11	EXTRACT AIR FAN NO. 3A I/O MODULE COMMUNICATION ERROR The air handling unit's control unit cannot establish correct communication with extract air fan no. 3A I/O module.	A	1 ³⁾	10 s	1

¹⁾ Cannot be blocked.

²⁾ The delay is adjustable.

³⁾ Adjustable.

⁴⁾ Stops the AHU if the temperature is below the adjustable limit.

⁵⁾ Inactive as factory setting.

⁶⁾ Contact Swegon or their representative.

⁷⁾ Alarm group 38 = MIRU Control 1. Alarm group 39 = MIRU Control 2. Alarm group 40 = MIRU Control 3. Alarm group 41 = MIRU Control 4. Alarm group 42 = MIRU Control 5. Alarm group 43 = MIRU Control 6. Alarm group 44 = MIRU Control 7. Alarm group 45 = MIRU Control 8. Alarm group 46 = MIRU Control 9. Alarm group 47 = MIRU Control 10.

⁸⁾ Alarm group 49 = Supply air fan 1A. Alarm group 50 = Supply air fan 2A. Alarm group 51 = Supply air fan 3A. Alarm group 52 = Supply air fan 1B. Alarm group 53 = Supply air fan 2B. Alarm group 54 = Supply air fan 3B.

⁹⁾ Alarm group 55 = Extrat air fan 1A. Alarm group 56 = Extrat air fan 2A. Alarm group 57 = Extrat air fan 3A. Alarm group 58 = Extrat air fan 1B. Alarm group 59 = Extrat air fan 2B. Alarm group 60 = Extrat air fan 3B.

9. Information Messages

Information messages are displayed in the hand-held terminal. Information messages are displayed only when the terminal is in the Dashboard image.

Information messages provide information e.g. about necessary settings that have not been entered or unfavourable operating conditions. The information message is indicated by a blue circle in the alarm log button on the instrument panel.

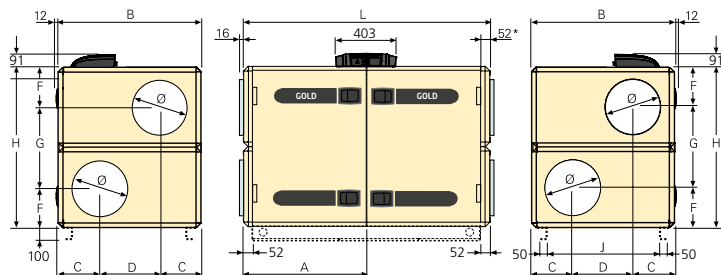
Message No.	Message text
97:12	PLATE HEAT EXCHANGER, BYPASS OPTIMIZATION NOT PERFORMED Bypass optimization of plate heat exchanger cannot be performed.
97:13	PLATE HEAT EXCHANGER, BYPASS OPTIMIZATION FAILURE Bypass optimization of the plate heat exchanger has been performed, but the readings are not satisfactory.
97:14	PLATE HEAT EXCHANGER DEFROSTING CALIBRATION NOT PERFORMED Defrosting calibration of the plate heat exchanger cannot be performed.
97:15	PLATE HEAT EXCHANGER DEFROSTING CALIBRATION FAILURE Defrosting calibration of the plate heat exchanger has been performed, but the readings are not satisfactory.
98:1	SUPPLY AIR PRE-FILTER CALIBRATION NOT PERFORMED Pre-filter calibration, supply air, not performed after first start. Recurrent at 30 minute intervals. The message is not received after completed filter calibration.
98:2	SUPPLY AIR PRE-FILTER CALIBRATION FAILURE Pre-filter calibration failure, supply air. Recurrent at 5 second intervals.
98:3	EXTRACT AIR PRE-FILTER CALIBRATION NOT PERFORMED Pre-filter calibration, extract air, not performed after first start. Recurrent at 30 minute intervals. The message is not received after completed filter calibration.
98:4	EXTRACT AIR PRE-FILTER CALIBRATION FAILURE Pre-filter calibration failure, extract air. Recurrent at 5 second intervals.
98:5	SUPPLY AIR AHU FILTER CALIBRATION NOT PERFORMED supply air AHU filter calibration, supply air, not performed after first start. Recurrent at 30 minute intervals. The message is not received after completed filter calibration.
98:6	SUPPLY AIR AHU FILTER CALIBRATION FAILURE AHU filter calibration failure, supply air. Recurrent at 5 second intervals.
98:7	EXTRACT AIR AHU FILTER CALIBRATION NOT PERFORMED AHU filter calibration, extract air, not performed after first start. Recurrent at 30 minute intervals. The message is not received after completed filter calibration.
98:8	EXTRACT AIR AHU FILTER CALIBRATION FAILURE AHU filter calibration failure, extract air. Recurrent at 5 second intervals.
98:9	SUPPLY AIR END FILTER CALIBRATION NOT PERFORMED End filter calibration, supply air, not performed after first start. Recurrent at 30 minute intervals. The message is not received after completed filter calibration.
98:10	SUPPLY AIR END FILTER CALIBRATION FAILURE End filter calibration failure, supply air. Recurrent at 5 second intervals.
98:11	ROTARY HEAT EXCHANGER DEFROSTING CALIBRATION NOT PERFORMED Defrost calibration, rotary heat exchanger, not performed after function was activated for first time. Recurrent at 30 minute intervals. The message is not received after completed heat exchanger calibration.
98:12	ROTARY HEAT EXCHANGER DEFROSTING CALIBRATION FAILURE Defrost calibration failure, rotary heat exchanger. Recurrent at 5 second intervals.
98:13	ReCO ₂ CALIBRATION NOT PERFORMED ReCO ₂ calibration not performed after function was activated for first time. Recurrent at 30 minute intervals. Message is not received after completed ReCO ₂ calibration.
98:14	ReCO ₂ CALIBRATION FAILURE ReCO ₂ calibration failure. Recurrent at 5 second intervals.

Alarm No.	Alarm text Function
98:15	ReCO ₂ WRONG SETTING Pressure regulation, slave control or wrong type of AHU is selected. Recurrent at 5 second intervals.
99:1	E-MAIL ERROR Error when sending e-mail. The message is received after ten tries.
99:5	FTP ERROR Error when sending to ftp. The message is received after ten tries.
99:7	SD SHORT MEMORY SOON FULL The SD card's memory is soon full. The oldest log data will soon be deleted.
99:8	SD SHORT MEMORY FULL The SD card's memory is full. The oldest log data is being deleted.
99:14	INTERNAL SERIAL MEMORY ERROR CPEX1 Internal serial memory error CPEX1
99:15	CLOCK CIRCUIT DEFECTIVE Circuit for the clock is defective

10. Technical Data

10.1 Dimensions, GOLD RX one-piece air handling unit with rotary heat exchanger

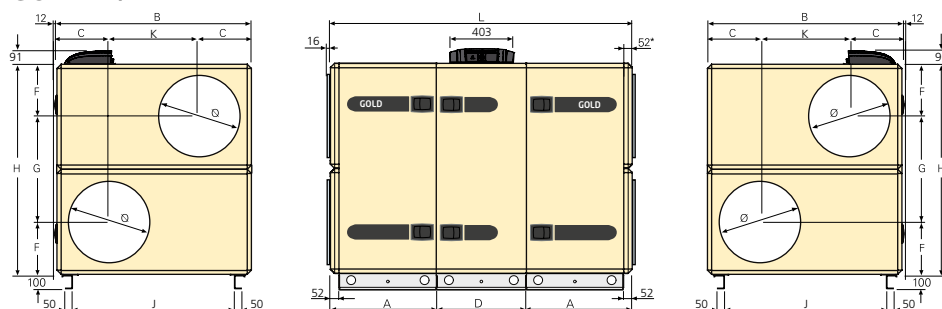
GOLD 04/05, 07/08



* The air handling unit is supplied without end connection panel if a duct accessory housed in an insulated casing will be connected.

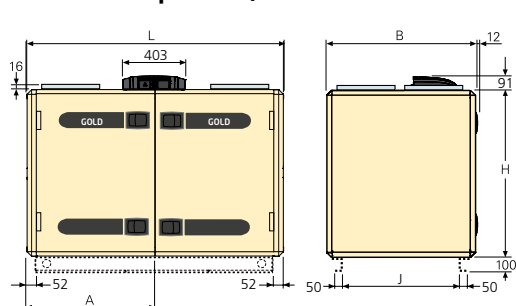
Base beams are optional.

GOLD 11/12

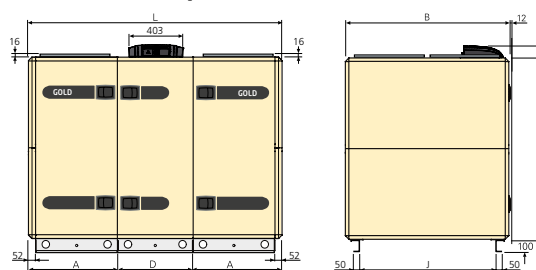


* The air handling unit is supplied without end connection panel if a duct accessory housed in an insulated casing will be connected.

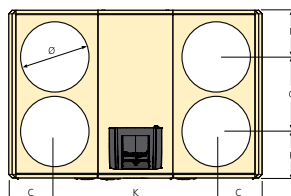
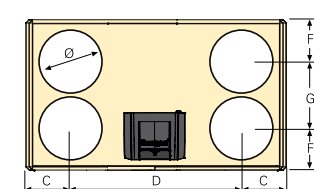
GOLD RX Top 04/05, 07/08



GOLD Top 11/12

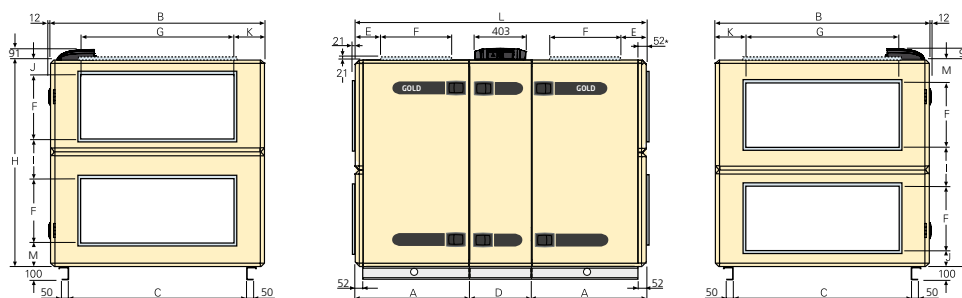


Base beams are optional.



Size	A	B	C	D	F	G	H	J	K	L	Ø	Weight, kg
04/05	750	825	240	345	230	460	920	561	—	1500	315	214-243
Top 04/05	750	825	233,5	1033	237,5	350	920	561	—	1500	315	247
07	800	995	277,5	440	271	543	1085	730	—	1600	400	262-301
Top 07	800	995	276	1048	280	435	1085	730	—	1600	400	306
08	800	995	277,5	440	271	543	1085	730	—	1600	400	270-309
Top 08	800	995	276	1048	280	435	1085	730	—	1600	400	310
11	655	1199	324	550	324	647	1295	935	551	1860	500	444-496
Top 11	655	1199	332	550	333	533	1295	935	1196	1860	500	488
12	655	1199	324	550	324	647	1295	935	551	1860	500	466-518
Top 12	655	1199	332	550	333	533	1295	935	1196	1860	500	504

GOLD 14/20, 25/30

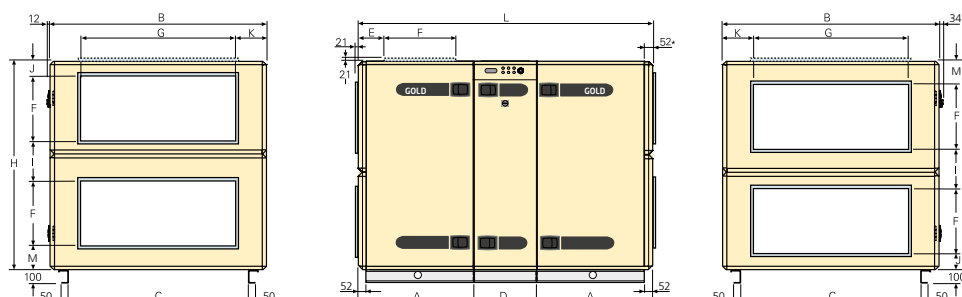


* The air handling unit is supplied without end connection panel if a duct accessory housed in an insulated casing will be connected.

The dimension print shows the connection configuration for fan arrangement 1.

For fan arrangement 2 the connections are mirror-inverted.

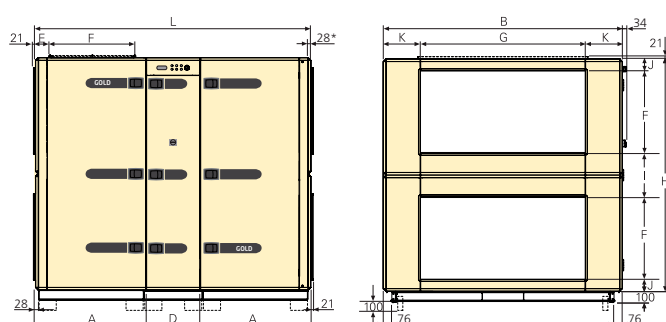
GOLD 35/40



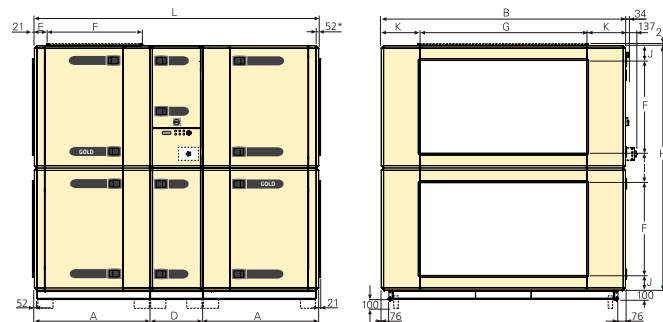
* The air handling unit is supplied without end connection panel if a duct accessory housed in an insulated casing will be connected.

The dimension print shows the connection configuration for fan arrangement 1. For fan arrangement 2 the connections are mirror-inverted.

GOLD 50/60



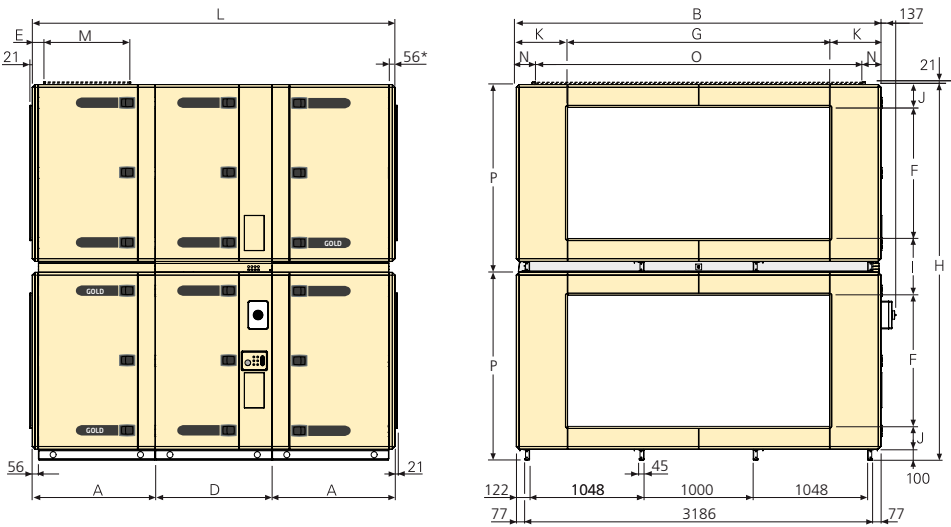
GOLD 70/80



* The air handling unit is supplied without end connection panel if a duct accessory housed in an insulated casing will be connected.

Size	A	B	C	D	E	F	G	H	I	J	K	L	M	Weight, kg
14	765	1400	1136	550	208	400	1000	1395	298	109	200	2080	188	521-589
20	765	1400	1136	550	208	400	1000	1395	298	109	200	2080	188	557-625
25	835	1600	1336	550	193	500	1200	1595	298	94	200	2220	203	666-746
30	835	1600	1336	550	193	500	1200	1595	298	94	200	2220	203	708-786
35	948	1990	1726	550	200	600	1400	1985	392	153	295	2446	240	956-1070
40	948	1990	1726	550	200	600	1400	1985	392	153	295	2446	240	1006-1120
50	1050	2318	—	570	150	800	1600	2253	423	115	360	2670	—	1294-1418
60	1050	2318	—	570	150	800	1600	2253	423	115	360	2670	—	1374-1498
70	1275	2637	—	570	164	1000	1800	2640	319	161	419	3120	—	2059-2211
80	1275	2637	—	570	164	1000	1800	2640	319	161	419	3120	—	2159-2435

GOLD 100/120



* The air handling unit is supplied without end connection panel if a duct accessory housed in an insulated casing will be connected.

Size	A	B	D	E	F	G	H	I	J	K	L	M	N	O	P	Weight, kg
100	1126	3340	1070	191	1200	2400	3440	520	210	470	3322	800	170	2500	1720	3540-3900
120	1126	3340	1070	191	1200	2400	3440	520	210	470	3322	800	170	2500	1720	3746-4168

GOLD 04/05, 07/08

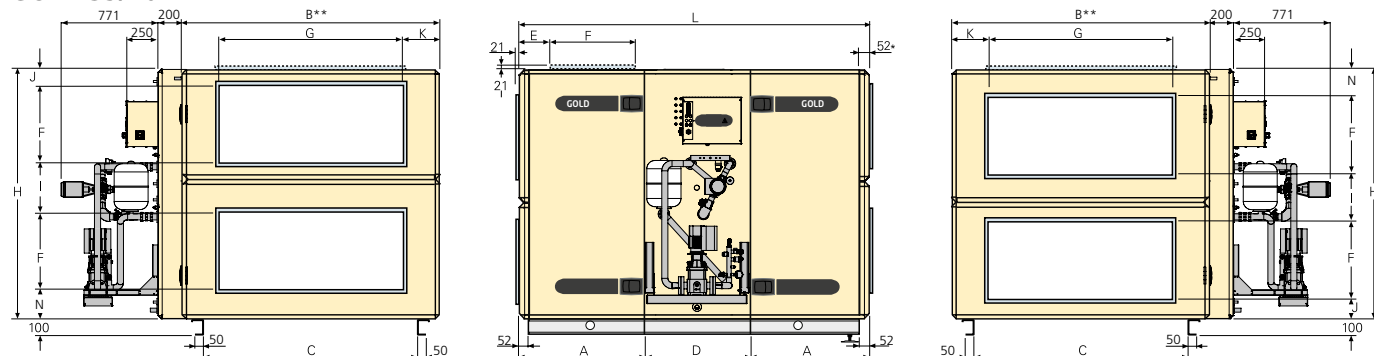
* The air handling unit is supplied without end connection panel if a duct accessory housed in an insulated casing will be connected.

* The air handling unit is supplied without end connection panel if a duct accessory housed in an insulated casing will be connected.

* The air handling unit is supplied without end connection panel if a duct accessory housed in an insulated casing will be connected.

10.3 Dimensions, GOLD CX one-piece air handling unit with coil heat exchangers

GOLD 35/40

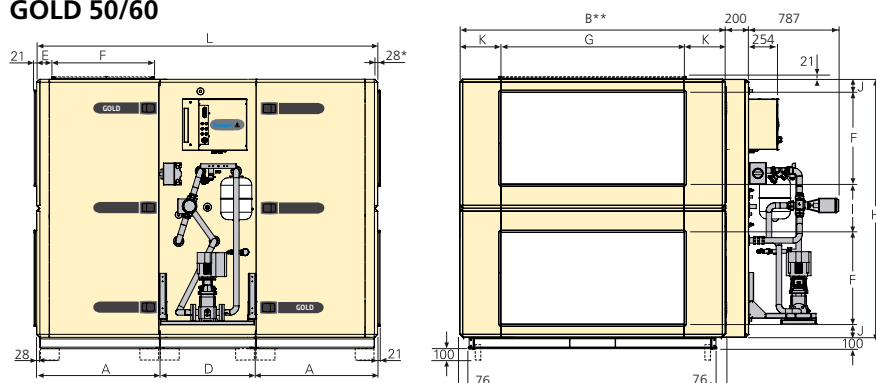


* The air handling unit is supplied without end connection panel if a duct accessory housed in an insulated casing will be connected.

** Width of centre section's casing = $B + 200$ mm.

The dimension print shows the connections for Fan Arrangement 1. If the unit has Fan Arrangement 2, the connections are mirror inverted.

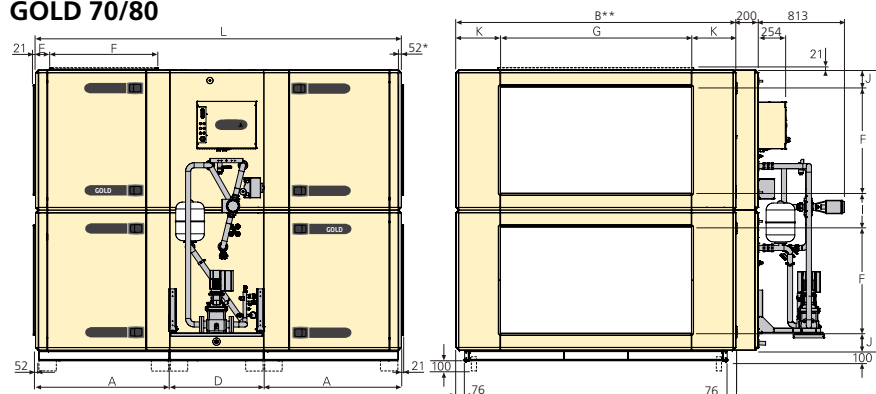
GOLD 50/60



* The air handling unit is supplied without end connection panel if a duct accessory housed in an insulated casing will be connected.

** Width of centre section's casing = $B + 200$ mm.

GOLD 70/80

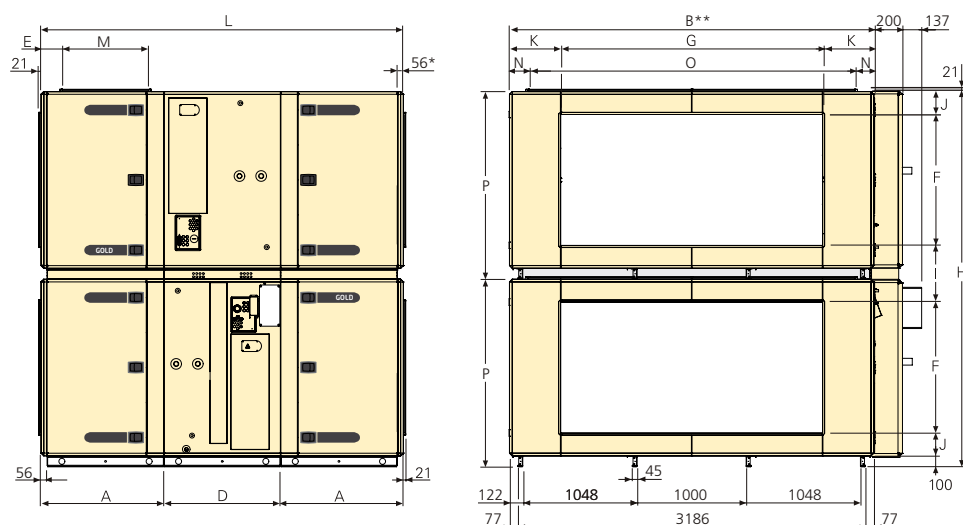


* The air handling unit is supplied without end connection panel if a duct accessory housed in an insulated casing will be connected.

** Width of centre section's casing = $B + 200$ mm.

Size	A	B	C	D	E	F	G	H	I	J	K	L	N	Weight, kg
35	948	1990	1726	824	200	600	1400	1985	392	153	295	2719	240	1635-1749
40	948	1990	1726	824	200	600	1400	1985	392	153	295	2719	240	1685-1799
50	1050	2318	—	856	150	800	1600	2253	423	115	360	2956	—	2170-2294
60	1050	2318	—	856	150	800	1600	2253	423	115	360	2956	—	2250-2374
70	1275	2637	—	904	164	1000	1800	2640	319	161	419	3454	—	3156-3308
80	1275	2637	—	904	164	1000	1800	2640	319	161	419	3454	—	3256-3532

GOLD 100/120



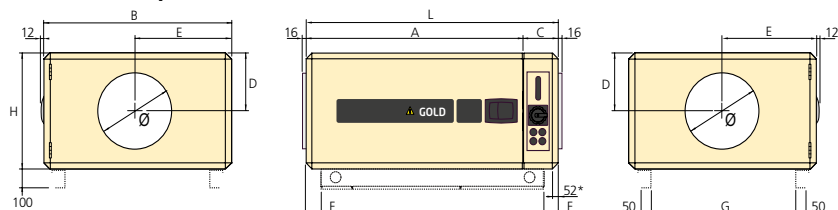
* The air handling unit is supplied without end connection panel if a duct accessory housed in an insulated casing will be connected.

** Width of centre section's casing = $B + 200$ mm.

Size	A	B	D	E	F	G	H	I	J	K	L	N	O	P	Weight, kg
100	1126	3340	1144	191	1200	2400	3440	520	210	470	3396	170	2500	1720	4374-4734
120	1126	3340	1144	191	1200	2400	3440	520	210	470	3396	170	2500	1720	4580-5002

10.4 Dimensions, separate GOLD SD supply air and extract air handling units

GOLD 04/05, 07/08

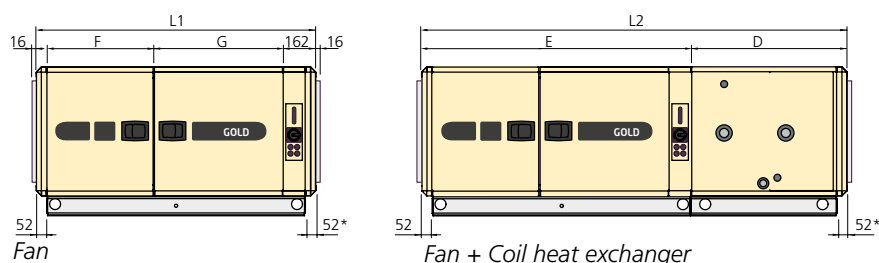


* If a duct accessory housed in an insulated casing will be connected, the air handling unit is supplied with an end connection panel designed for connection to the duct accessory.

Base beams are optional.

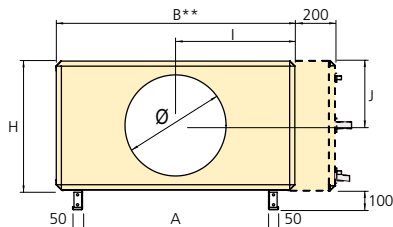
Size	L	B	H	A	C	D	E	F	G	Ø	Weight, kg
04/05	1099	825	490	937	162	245	412,5	102	561	315	105-119
07	1174	995	575	1012	162	287,5	497,5	73	730	400	113-133
08	1174	995	575	1012	162	287,5	497,5	73	730	400	117-137

GOLD 11/12



* The air handling unit is supplied without end connection panel if a duct accessory housed in an insulated casing will be connected.

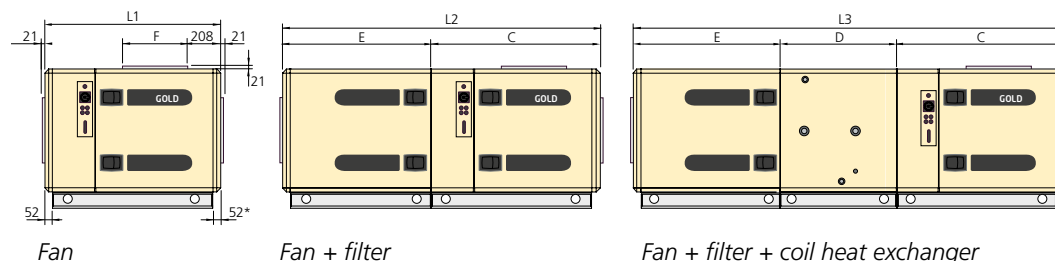
** Width of coil heat exchanger (if required) = $B + 200$ mm.



Size	Weight, kg fan + filter	Weight, kg fan + filter + coil
11	150-176	321-347
12	161-187	332-358

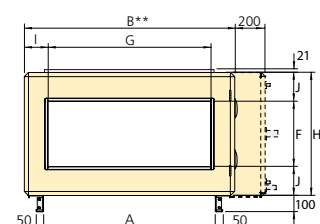
Size	L1	L2	B	H	A	D	E	F	G	I	J	Ø
11/12	1404	2092	1199	648	935	740	1352	540	650	599,5	324	500

GOLD 14/20



* The air handling unit is supplied without end connection panel if a duct accessory housed in an insulated casing will be connected.

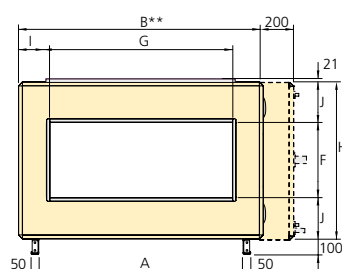
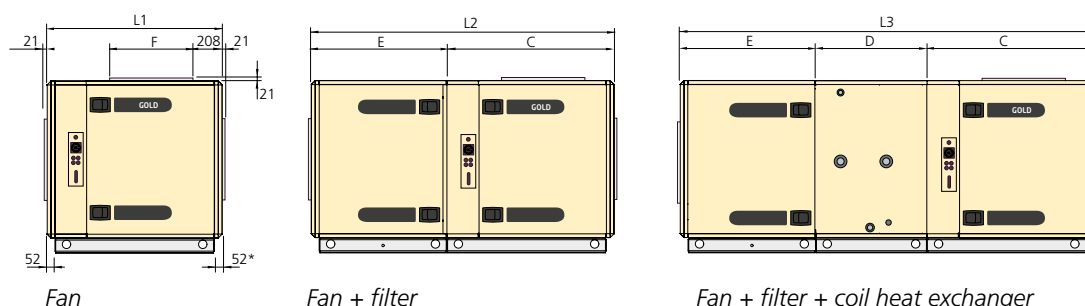
** Width of coil heat exchanger (if required) = $B + 200$ mm



Size	Weight, kg fan	Weight, kg fan + filter	Weight, kg fan + filter + coil
14	169-188	254-292	480-518
20	187-206	272-310	498-536

Size	L1	L2	L3	B	H	A	C	D	E	F	G	I	J
14/20	1040	1875	2615	1400	806	1136	988	740	887	400	1000	200	203

GOLD 25/30, 35/40



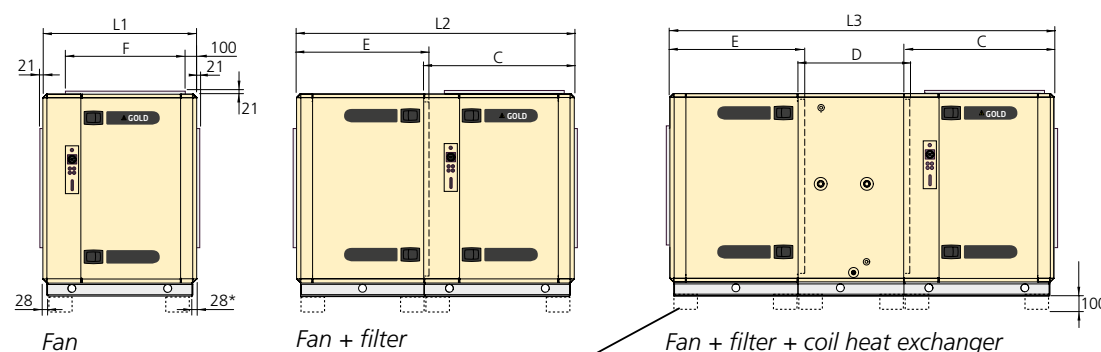
* If a duct accessory housed in an insulated casing will be connected, the air handling unit is supplied with an end connection panel designed for connection to the duct accessory.

** Width of coil heat exchanger (if required) = B + 200 mm

Size	Weight, kg fan	Weight, kg fan + filter	Weight, kg fan + filter + coil
25	241-267	330-382	626-678
30	261-287	350-402	646-698
35	316-350	418-486	793-861
40	341-375	443-511	818-886

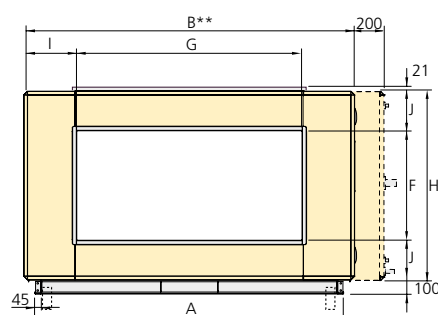
Size	L1	L2	L3	B	H	A	C	D	E	F	G	I	J
25/30	1145	1980	2720	1600	1026	1336	1093	740	887	500	1200	200	263
35/40	1145	1980	2720	1990	1126	1726	1093	740	887	600	1400	295	263

GOLD 50/60



* If a duct accessory housed in an insulated casing will be connected, the air handling unit is supplied with an end connection panel designed for connection to the duct accessory.

** Width of coil heat exchanger (if required) = B + 200 mm

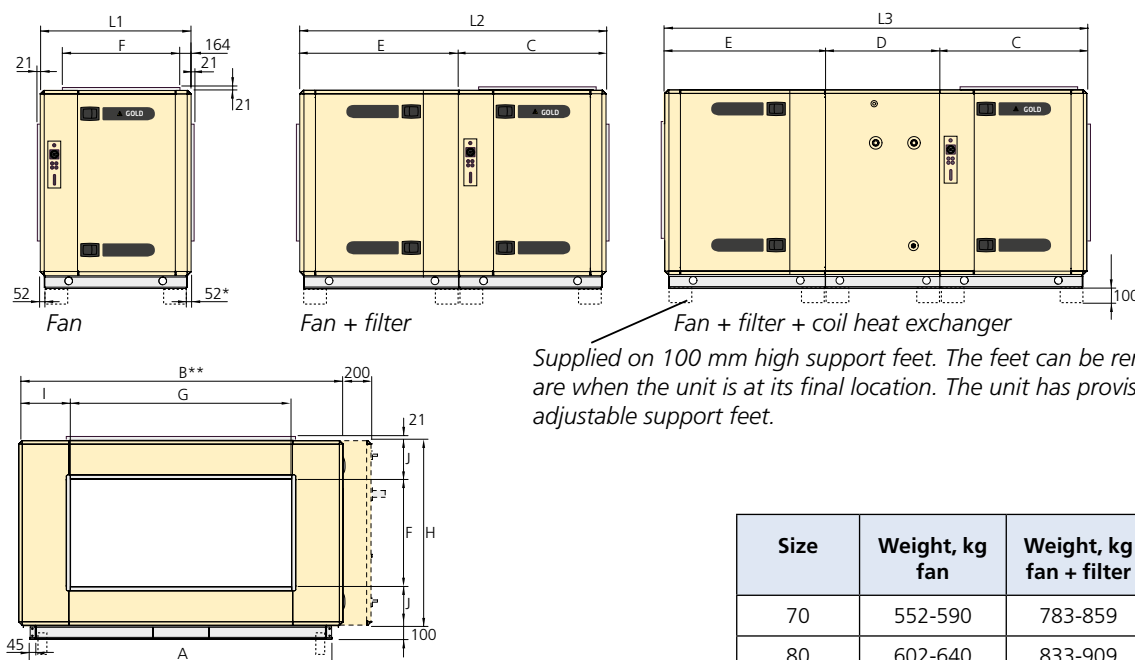


Supplied on 100 mm high support feet. The feet can be removed or kept as they are when the unit is at its final location. The unit has provision for mounting adjustable support feet.

Size	Weight, kg fan	Weight, kg fan + filter	Weight, kg fan + filter + coil
50	379-410	558-620	1093-1155
60	419-450	589-660	1133-1195

Size	L1	L2	L3	A	B	H	C	D	E	F	G	I	J
50/60	1078	1947	2687	2166	2318	1320	1050	762	919	800	1600	359	260

GOLD 70/80

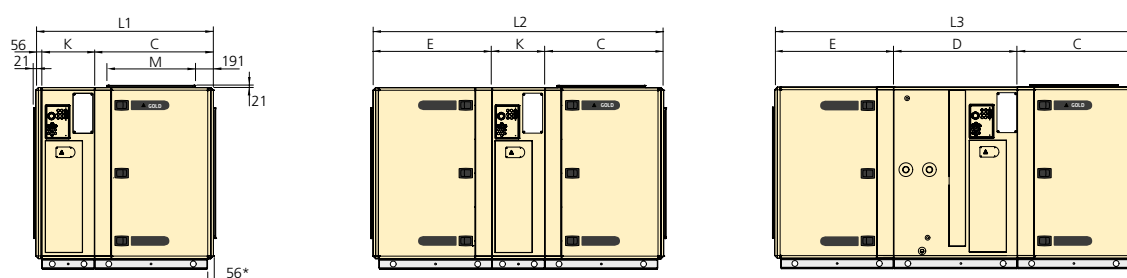


* The air handling unit is supplied without end connection panel if a duct accessory housed in an insulated casing will be connected.
 ** Width of coil heat exchanger (if required) = B + 200 mm.

Size	Weight, kg fan	Weight, kg fan + filter	Weight, kg fan + filter + coil
70	552-590	783-859	1563-1639
80	602-640	833-909	1613-1689

Size	L1	L2	L3	A	B	H	C	D	E	F	G	I	J
70/80	1327	2550	3452	2485	2637	1320	1275	902	1275	1000	1800	419	160

GOLD 100/120



Section for power conn. + fan Filter + section for power conn. + fan Filter + coil heat exchanger + fan

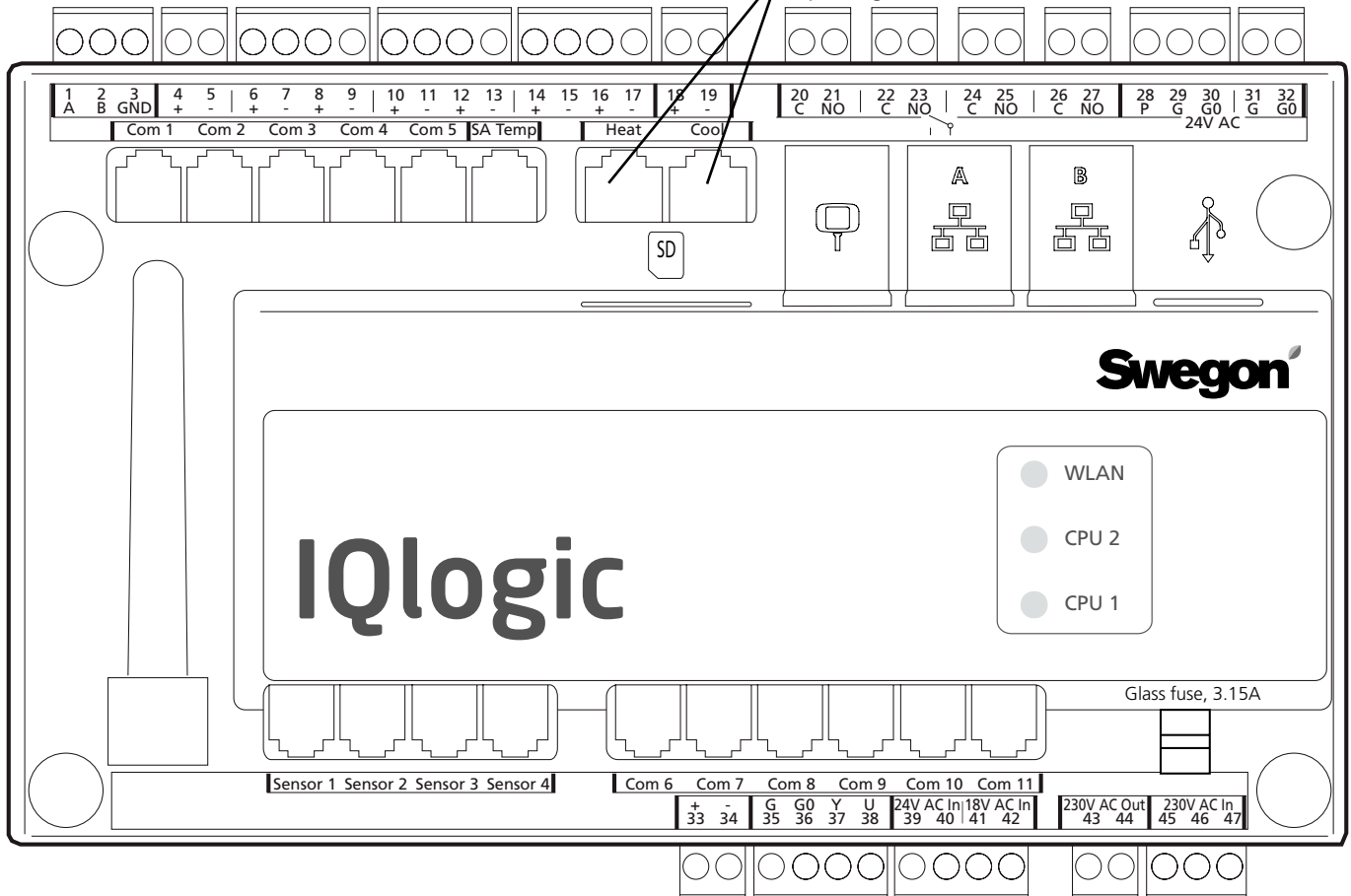
* The air handling unit is supplied without end connection panel if a duct accessory housed in an insulated casing will be connected.
 ** Width of coil heat exchanger (if required) = B + 200 mm

Size	Weight, kg section for power connection + fan	Weight, kg filter + section for power conn. + fan	Weight, kg filter + coil + fan
100	899-1079	1428-1608	2187-2367
120	1002-1213	1531-1742	2290-2501

Size	L1	L2	L3	B	H	C	D	E	F	G	I	J	K	M	N	O
100/120	1682	2752	3396	3340	1620	1126	1144	1126	1200	2400	470	210	500	800	170	2500

10.5 Connection to wiring terminals

The max. permissible load on the corresponding connection is 16 VA.



Digital inputs, terminals 4-17, are of extra-low voltage type. Analogue input, terminals 18-19 have an input impedance of 66 k Ω . 230 VAC control voltage is on external terminals 101 (L) and 102 (N).

Wiring terminal	Function	Remarks
1,2,3	Connections for EIA -485	1= Communication connection A/RT+, 2= Communication connection B/RT-, 3= GND/COM.
4,5	External stop	Stops the air handling unit by opening the circuit. On delivery, this function is fitted with a jumper. If the connection is interrupted, the air handling unit will stop.
6,7	External fire/smoke function 1	External fire and smoke function. On delivery, this function is fitted with a jumper. If the connection is interrupted, the function will trip and initiate an alarm.
8,9	External fire/smoke function 2	External fire and smoke function. On delivery, this function is fitted with a jumper. If the connection is interrupted, the function will trip and initiate an alarm.
10,11	External alarm 1	External contact function. Optional: Normally open/normally closed.
12,13	External alarm 2	External contact function. Optional: Normally open/normally closed.
14,15	External low speed	External contact function. Oversteers the timer from stop to low speed operation.
16,17	External high speed	External contact function. Oversteers the timer from stop or low speed to high speed operation.
18,19	Demand control	Input for 0-10 VDC. The input signal influences the supply air/extract airflow set point if the unit is operating in the demand control mode. For connection of a sensor, for example CO ₂ , CO and VOC
20,21	Circulation pump, heating circuit	Independent contact, max. 5 A/AC1, 2 A/AC3, 250 VAC. Closes on a heating load.
22,23	Circulation pump, cooling circuit or cooling on/off, 1-step operation	Independent contact, max. 5 A/AC1, 2 A/AC3, 250 VAC. Closes on a cooling load.
24,25	Cooling, on/off, 2-step operation	Independent contact, max. 5 A/AC1, 2 A/AC3, 250 VAC. Closes on a cooling load.
26,27	In-operation indication	Independent contact, max. 5 A/AC1, 2 A/AC3, 250 VAC. Closes when the unit is operating.
28,29,30	Damper control	24 VAC. 28= Controlled 24 VAC (G), 29= 24 VAC (G), 30= 24 VAC (G0).
31,32	Control voltage ¹⁾	24 VAC control voltage. Terminals 31-32 are loaded with a total of 16 VA. Opened by means of the safety isolating switch.
33,34	Reference voltage	Output for constant 10 VDC. Max. permissible load: 8 mA.
35,36,37,38	Control, recirculation damper	The recirculation damper can be loaded with max. 2 mA at 10 VDC. 35= 24 V AC (G), 36= 24 V AC (G0), 37= 0-10 V DC control signal, 38= 0-10 VDC feedback signal.

The max permissible common load on terminals 31-32, outputs for Heat/Cool and damper output (terminals 28-30) is max 32 VA (SD) eller 50 VA (RX/PX/CX).

¹⁾ GOLD 100/120: If more than 16 VA is required, use wiring terminals 201 (G) and 202 (G0). Terminals 201-202 can be loaded with a total of max. 48 VA.

10.6 Electrical data

10.6.1 Air handling unit

MIN. POWER SUPPLY, ONE-PIECE GOLD UNIT WITH ROTARY (RX),
PLATE (PX) OR COIL (CX) HEAT EXCHANGER.

GOLD 04:

1-phase, 3-wire, 230 V -10/+15%, 50 Hz, 10 AT or
3-phase, 5-wire, 400 V -10/+15%, 50 Hz, 10 AT

GOLD 05, capacity variant 1:

1-phase, 3-wire, 230 V -10/+15%, 50 Hz, 10 AT or
3-phase, 5-wire, 400 V -10/+15%, 50 Hz, 10 AT

GOLD 05, capacity variant 2:

1-phase, 3-wire, 230 V -10/+15%, 50 Hz, 16 AT or
3-phase, 5-wire, 400 V -10/+15%, 50 Hz, 10 AT

GOLD 07, capacity variant 1:

1-phase, 3-wire, 230 V -10/+15%, 50 Hz, 10 AT or
3-phase, 5-wire, 400 V -10/+15%, 50 Hz, 10 AT

GOLD 07, capacity variant 2:

1-phase, 3-wire, 230 V -10/+15%, 50 Hz, 16 AT or
3-phase, 5-wire, 400 V -10/+15%, 50 Hz, 10 AT

GOLD 08, capacity variant 1:

1-phase, 3-wire, 230 V -10/+15%, 50 Hz, 16 AT or
3-phase, 5-wire, 400 V -10/+15%, 50 Hz, 10 AT

GOLD 08, capacity variant 2:

3-phase, 5-wire, 400 V -10/+15%, 50 Hz, 10 AT

GOLD 11, capacity variant 1:

1-phase, 3-wire, 230 V -10/+15%, 50 Hz, 16 AT or
3-phase, 5-wire, 400 V -10/+15%, 50 Hz, 10 AT

GOLD 11, capacity variant 2:

3-phase, 5-wire, 400 V -10/+15%, 50 Hz, 10 AT

GOLD 12, capacity variant 1 and 2:

3-phase, 5-wire, 400 V -10/+15%, 50 Hz, 10 AT

GOLD 14, capacity variant 1 and 2:

3-phase, 5-wire, 400 V -10/+15%, 50 Hz, 10 AT

GOLD 20, capacity variant 1:

3-phase, 5-wire, 400 V -10/+15%, 50 Hz, 10 AT

GOLD 20, capacity variant 2:

3-phase, 5-wire, 400 V -10/+15%, 50 Hz, 16 AT

GOLD 25, capacity variant 1:

3-phase, 5-wire, 400 V -10/+15%, 50 Hz, 10 AT

GOLD 25, capacity variant 2:

3-phase, 5-wire, 400 V -10/+15%, 50 Hz, 16 AT

GOLD 30, capacity variant 1:

3-phase, 5-wire, 400 V -10/+15%, 50 Hz,
20 AT (RX), 16 AT (PX)

GOLD 30, capacity variant 2:

3-phase, 5-wire, 400 V -10/+15%, 50 Hz, 20 AT

GOLD 35, capacity variant 1:

3-phase, 5-wire, 400 V -10/+15%, 50 Hz, 20 AT

GOLD 35, capacity variant 2:

3-phase, 5-wire, 400 V -10/+15%, 50 Hz,
20 AT (RX), 25 AT (CX)

GOLD 40, capacity variant 1:

3-phase, 5-wire, 400 V -10/+15%, 50 Hz, 20 AT

GOLD 40, capacity variant 2:

3-phase, 5-wire, 400 V -10/+15%, 50 Hz,
25 AT (RX), 32 AT (CX)

GOLD 50, capacity variant 1:

3-phase, 5-wire, 400 V -10/+15%, 50 Hz,
20 AT (RX), 25 AT (CX)

GOLD 50, capacity variant 2:

3-phase, 5-wire, 400 V -10/+15%, 50 Hz, 32 AT

GOLD 60, capacity variant 1:

3-phase, 5-wire, 400 V -10/+15%, 50 Hz,
32 AT (RX), 40 AT (CX)

GOLD 60, capacity variant 2:

3-phase, 5-wire, 400 V -10/+15%, 50 Hz, 50 AT

GOLD 70, capacity variant 1:

3-phase, 5-wire, 400 V -10/+15%, 50 Hz,
32 AT (RX), 40 AT (CX)

GOLD 70, capacity variant 2:

3-phase, 5-wire, 400 V -10/+15%, 50 Hz,
50 AT (RX), 63 AT (CX)

GOLD 80, capacity variant 1:

3-phase, 5-wire, 400 V -10/+15%, 50 Hz,
50 AT (RX), 63 AT (CX)

GOLD 80, capacity variant 2:

3-phase, 5-wire, 400 V -10/+15%, 50 Hz, 80 AT

GOLD 100, capacity variant 1:

3-phase, 5-wire, 400 V -10/+15%, 50 Hz,
50 AT (RX), 63 AT (CX)

GOLD 100, capacity variant 2:

3-phase, 5-wire, 400 V -10/+15%, 50 Hz, 80 AT

GOLD 120, capacity variant 1:

3-phase, 5-wire, 400 V -10/+15%, 50 Hz, 80 AT

GOLD 120, capacity variant 2:

3-phase, 5-wire, 400 V -10/+15%, 50 Hz, 125 AT

MIN. POWER SUPPLY, SEPARATE SUPPLY AIR AND EXTRACT AIR HANDLING UNITS, GOLD (SD)

GOLD 04:

1-phase, 3-wire, 230 V -10/+15%, 50 Hz, 10 AT

GOLD 05, capacity variant 1:

1-phase, 3-wire, 230 V -10/+15%, 50 Hz, 10 AT

GOLD 05, capacity variant 2:

1-phase, 3-wire, 230 V -10/+15%, 50 Hz, 10 AT

GOLD 07, capacity variant 1:

1-phase, 3-wire cable, 230 V -10/+15%, 50 Hz, 10 AT

GOLD 07, capacity variant 2:

1-phase, 3-wire cable, 230 V -10/+15%, 50 Hz, 10 AT

GOLD 08, capacity variant 1:

1-phase, 3-wire cable, 230 V -10/+15%, 50 Hz, 10 AT

GOLD 08, capacity variant 2:

3-phase, 5-wire, 400 V -10/+15%, 50 Hz, 10 AT

GOLD 11, capacity variant 1:

1-phase, 3-wire cable, 230 V -10/+15%, 50 Hz, 10 AT

GOLD 11, capacity variant 2:

3-phase, 5-wire, 400 V -10/+15%, 50 Hz, 10 AT

GOLD 12–35:

3-phase, 5-wire, 400 V -10/+15%, 50 Hz, 10 AT

GOLD 40, capacity variant 1:

3-phase, 5-wire, 400 V -10/+15%, 50 Hz, 10 AT

GOLD 40, capacity variant 2:

3-phase, 5-wire, 400 V -10/+15%, 50 Hz, 16 AT

GOLD 50, capacity variant 1:

3-phase, 5-wire, 400 V -10/+15%, 50 Hz, 10 AT

GOLD 50, capacity variant 2:

3-phase, 5-wire, 400 V -10/+15%, 50 Hz, 16 AT

GOLD 60, capacity variant 1:

3-phase, 5-wire, 400 V -10/+15%, 50 Hz, 16 AT

GOLD 60, capacity variant 2:

3-phase, 5-wire, 400 V -10/+15%, 50 Hz, 25 AT

GOLD 70, capacity variant 1:

3-phase, 5-wire, 400 V -10/+15%, 50 Hz, 16 AT

GOLD 70, capacity variant 2:

3-phase, 5-wire, 400 V -10/+15%, 50 Hz, 25 AT

GOLD 80, capacity variant 1:

3-phase, 5-wire, 400 V -10/+15%, 50 Hz, 25 AT

GOLD 80, capacity variant 2:

3-phase, 5-wire, 400 V -10/+15%, 50 Hz, 40 AT

GOLD 100, capacity variant 1:

3-phase, 5-wire, 400 V -10/+15%, 50 Hz, 25 AT

GOLD 100, capacity variant 2:

3-phase, 5-wire, 400 V -10/+15%, 50 Hz, 40 AT

GOLD 120, capacity variant 1:

3-phase, 5-wire, 400 V -10/+15%, 50 Hz, 40 AT

GOLD 120, capacity variant 2:

3-phase, 5-wire, 400 V -10/+15%, 50 Hz, 63 AT

10.6.2 Fans

RATED DATA PER FAN

GOLD 04: Motor shaft power: 0.8 kW (0.41 kW)*, motor controller: 1 x 230 V, 50 Hz

GOLD 05: Motor shaft power: 0.8 kW, motor controller: 1 x 230 V, 50 Hz
alt. Motor shaft power: 1.15 kW, motor controller: 1 x 230 V, 50 Hz

GOLD 07: Motor shaft power: 0.8 kW, motor controller: 1 x 230 V, 50 Hz
alt. Motor shaft power: 1.15 kW, motor controller: 1 x 230 V, 50 Hz

GOLD 08: Motor shaft power: 1.15 kW, motor controller: 1 x 230 V, 50 Hz
alt. Motor shaft power: 1.6 kW, 3 x 400 V, 50 Hz

GOLD 11: Motor shaft power: 1.15 kW, motor controller: 1 x 230 V, 50 Hz
alt. Motor shaft power: 1.6 kW, 3 x 400 V, 50 Hz

GOLD 12: Motor shaft power: 1.6 kW, motor controller: 3 x 400 V, 50 Hz
alt. Motor shaft power: 2.4 kW, motor controller: 3 x 400 V, 50 Hz

GOLD 14: Motor shaft power: 1.6 kW, motor controller: 3 x 400 V, 50 Hz
alt. Motor shaft power: 2.4 kW, motor controller: 3 x 400 V, 50 Hz

GOLD 20: Motor shaft power: 2.4 kW, motor controller: 3 x 400 V, 50 Hz
alt. Motor shaft power: 3.4 kW, motor controller: 3 x 400 V, 50 Hz

GOLD 25: Motor shaft power: 2.4 kW, motor controller: 3 x 400 V, 50 Hz
alt. Motor shaft power: 3.4 kW, motor controller: 3 x 400 V, 50 Hz

GOLD 30: Motor shaft power: 4.0 kW, motor controller: 3 x 400 V, 50 Hz
alt. Motor shaft power: 5.0 kW, motor controller: 3 x 400 V, 50 Hz

GOLD 35: Motor shaft power: 4.0 kW, motor controller: 3 x 400 V, 50 Hz
alt. Motor shaft power: 5.0 kW, motor controller: 3 x 400 V, 50 Hz

GOLD 40: Motor shaft power: 5.0 kW (3.9 kW)*, motor controller: 3 x 400 V, 50 Hz
alt. Motor shaft power: 6.5 kW, motor controller: 3 x 400 V, 50 Hz

GOLD 50: Motor shaft power: 2 x 2.4 kW, motor controller: 3 x 400 V, 50 Hz
alt. Motor shaft power: 3.4 kW, motor controller: 3 x 400 V, 50 Hz

GOLD 60: Motor shaft power: 2 x 4.0 kW, motor controller: 3 x 400 V, 50 Hz
alt. Motor shaft power: 2 x 6.5 kW, motor controller: 3 x 400 V, 50 Hz

GOLD 70:	Motor shaft power: 2 x 4.0 kW, motor controller: 3 x 400 V, 50 Hz
alt.	Motor shaft power: 2 x 6.5 kW, motor controller: 3 x 400 V, 50 Hz
GOLD 80:	Motor shaft power: 2 x 6.5 kW, motor controller: 3 x 400 V, 50 Hz
alt.	Motor shaft power: 2 x 10 kW, motor controller: 3 x 400 V, 50 Hz
GOLD 100:	Motor shaft power: 2 x 6.5 kW, motor controller: 3 x 400 V, 50 Hz
alt.	Motor shaft power: 2 x 10 kW, motor controller: 3 x 400 V, 50 Hz
GOLD 120:	Motor shaft power: 3 x 6.5 kW, motor controller: 3 x 400 V, 50 Hz
alt.	Motor shaft power: 3 x 10 kW, motor controller: 3 x 400 V, 50 Hz

*) The motor controller limits the output power to the value specified.

10.6.3 Electrical equipment cubicle

Fuse protection for the air handling unit must not exceed the value stated in Section 10.6.1.

SAFETY ISOLATING SWITCH

Capacity variant 1

GOLD RX/PX/SD 04-11:	20 A
GOLD RX/PX/CX 12-35 and GOLD SD 12-100:	25 A
GOLD CX 40:	32 A
GOLD RX 40-100, GOLD CX 50-100	and
GOLD SD 120:	63 A
GOLD RX/CX 120:	80 A

Capacity variant 2

GOLD RX/PX/SD 05-07:	20 A
GOLD RX/PX 08-35 and GOLD SD 08-70:	25 A
GOLD CX 35-40:	32 A
GOLD SD 80-100:	40 A
GOLD RX 40-70, GOLD CX 50-70	and
GOLD SD 120:	63 A
GOLD RX/CX 80-100:	80 A
GOLD RX/CX 120	160 A

FUSES IN THE ELECTRICAL EQUIPMENT CUBICLE

230 V control current

All sizes/variants:

One 2-pole, 6A automatic circuit breaker

Fans

GOLD 04-07, GOLD 08, capacity variant 1,
GOLD 11 capacity variant 1

RX/PX Two 2-pole, 10A automatic circuit breakers

SD One 2-pole, 10A automatic circuit breaker

GOLD 08, capacity variant 2, GOLD 11, capacity variant 2,
GOLD 12-14, GOLD 20, capacity variant 1, GOLD 25
capacity variant 1:

RX/PX Two 6.3A protective motor switches

SD One 6.3A protective motor switch

GOLD 20, capacity variant 2, GOLD 25 capacity variant 2:

RX/PX Two 7.0A protective motor switches

SD One 7.0A protective motor switch

GOLD 30, capacity variant 1, GOLD 35 capacity variant 1:

RX/PX Two 8.4A protective motor switches

SD One 8.4A protective motor switch

GOLD 30, capacity variant 2, GOLD 35 capacity variant 2:

RX/CX Two 10.6A protective motor switches

SD One 10.6A protective motor switch

GOLD 40 capacity variant 1:

RX/CX Two 10.0A protective motor switches

SD One 10.0A protective motor switch

GOLD 40 capacity variant 2:

RX/CX Two 13.2A protective motor switches

SD One 13.2A protective motor switch

GOLD 50, GOLD 60 capacity variant 1, GOLD 70 capacity
variant 1:

RX/CX Four 10A protective motor switches

SD Two 10A protective motor switches

GOLD 60 capacity variant 2, GOLD 70 capacity variant 2,
GOLD 80 capacity variant 1, GOLD 100 capacity variant
1:

RX/CX Four 13.2A protective motor switches

SD Two 13.2A protective motor switches

GOLD 80 capacity variant 2, GOLD 100 capacity variant
2:

RX/CX Four 13.2A protective motor switches +
Four 13.2A protective motor switches

SD Two 13.2A protective motor switches +
Two 13.2A protective motor switches

GOLD 120 capacity variant 1:

RX/CX Six 13.2A protective motor switches

SD Three 13.2A protective motor switches

GOLD 120 capacity variant 2:

RX/CX Six 13.2A protective motor switches +
Six 13.2A protective motor switches

SD Three 13.2A protective motor switches +
Three 13.2A protective motor switches

Circulation pump

GOLD CX 35/40:

1 pc. 3-phase, 6 A

GOLD CX 50-80:

1 pc. 3-phase, 10 A

Motor and motor controller of the rotary heat exchanger

GOLD RX, standard rotor, sizes 100-120 and

GOLD RX, Recosorptic rotor, sizes 50-120:

1 pc. 2-pole, 6A automatic circuit breaker

FUSES IN THE CONTROL UNIT

3.15 AT, incoming 230V. For mounting, see Section 10.5. For replacement, dismantle the control unit's plastic enclosure.

10.7 Volume of glycol/water CX/SD coil heat exchangers

Total volume (incl. factory-mounted pipework package and piping):

CX, size 35/40	176 litres
CX, size 50/60	230 litres
CX, size 70/80	295 litres

Total volume of the coils (excl. pipework package and piping):

SD, size 11/12	58 litres
SD, size 14/20	90 litres
SD, size 25/30	136 litres
SD, size 35/40	184 litres
SD, size 50/60	256 litres
SD, size 70/80	280 litres
CX/SD, size 100/120	452 litres

10.6.4 Motor in rotary heat exchanger

10.6.4.1 Standard rotor

GOLD RX 04-30: Stepping motor, 2 Nm

On starting max. 6.0 A/77 W. During operation max. 5 A/69 W.

GOLD RX 35-40: Stepping motor, 4 Nm

On starting max. 9.6 A/146 W. During operation max. 8A/130W.

GOLD RX 50-80: Stepping motor, 6 Nm

On starting max. 12 A/220 W. During operation max. 10A/195W.

GOLD RX 100-120: 3-phase step motor.

Max 4.5 A/380 W.

10.6.4.2 Recosorptic rotor

GOLD RX 04-08: Stepping motor, 2 Nm

On starting: max. 6.0 A/77 W. During operation: max. 5 A/69 W.

GOLD RX 11-40: Stepping motor, 4 Nm

On starting: max. 9.6A/146W. During operation: max. 8A/130W.

GOLD RX 50-120: 3-phase stepping motor.

Max 4.5 A/380 W.

10.6.5 Control inaccuracy

Temperature $\pm 1^{\circ}\text{C}$.

Airflow $\pm 5\%$.

11. Appendices

11.1 Declaration of Conformity

11.1.1 GOLD RX



EC DECLARATION OF CONFORMITY FOR MACHINERY

Original

Directive 2006/42/EC, Annex II 1A

Manufacturer (and where appropriate his authorised representative):

Company: Swegon AB
Address: Box 300, SE-53523 Kvänum

Hereby declares that:

Type of machinery: Air handling units
No. of machinery: GOLD 04/05, 07/08, 11/12, 14/20, 25/30, 35/40, 50/60, 70/80, 100/120 E RX and any accessories to the respective designation covered by these directives

Complies with the requirements of Machinery Directive 2006/42/EC.

Complies also with applicable requirements of the following EC directives:

2014/30/EU, EMC
2009/125/EC, Ecodesign (Regulation (EU) nr 327/2011)
2009/125/EC, Ecodesign (Regulation (EU) nr 1253/2014)
1999/5/EC RTTE (radio and telecommunications terminal equipment)

The following harmonized standards have been applied:

EN ISO 12100:2010 Safety of machinery - General principles for design - Risk assessment and risk reduction
EN 60204-1:2006 Safety of machinery - Electrical equipment of machines - Part 1: General requirements
EN ISO 13857:2008 Safety of machinery - Safety distances to prevent hazard zones being reached by upper and lower limbs
EN 61000-6-2:2005 Electromagnetic compatibility (EMC) - Part 6-2: Generic standards - Immunity for industrial environments
EN 61000-6-3:2007+A1 Electromagnetic compatibility (EMC) - Part 6-3: Generic standards - Emission standard for residential, commercial and light-industrial environments
EN 60730-1 Automatic electrical controls for household and similar use - Part 1: General requirements

The following other standards and specifications have been applied:

EN 1886:2007 Ventilation for buildings, air handling units - Mechanical performance
EN 13053:2006+A1:2011 Ventilation for buildings, air handling units - Rating and performance for units, components and sections

Authorized to compile the technical file:

Name: Dan Örtengren
Address: Box 300, SE-53523 Kvänum

Signature:

Place and date: Kvänum / 2017-04-21

Kvänum / 2017-04-21

Signature:




Name: Magnus Ahl
Position: R&D Manager, Kvänum

Niklas Tjäder
Plant Manager, Kvänum

11.1.2 GOLD PX



EC DECLARATION OF CONFORMITY FOR MACHINERY

Original

Directive 2006/42/EC, Annex II 1A

Manufacturer (and where appropriate his authorised representative):

Company: Swegon AB
Address: Box 300, SE-53523 Kvänum

Hereby declares that:

Type of machinery: Air handling units
No. of machinery: GOLD 04/05, 07/08, 11/12, 14/20, 25/30 E PX and any accessories to the respective designation covered by these directives

Complies with the requirements of Machinery Directive 2006/42/EC.

Complies also with applicable requirements of the following EC directives:

2014/30/EU, EMC
2009/125/EC, Ecodesign (Regulation (EU) nr 327/2011)
2009/125/EC, Ecodesign (Regulation (EU) nr 1253/2014)
1999/5/EC RTTE (radio and telecommunications terminal equipment)

The following harmonized standards have been applied:

EN ISO 12100:2010 Safety of machinery - General principles for design - Risk assessment and risk reduction
EN 60204-1:2006 Safety of machinery - Electrical equipment of machines - Part 1: General requirements
EN ISO 13857:2008 Safety of machinery - Safety distances to prevent hazard zones being reached by upper and lower limbs
EN 61000-6-2:2005 Electromagnetic compatibility (EMC) - Part 6-2: Generic standards - Immunity for industrial environments
EN 61000-6-3:2007+A1 Electromagnetic compatibility (EMC) - Part 6-3: Generic standards - Emission standard for residential, commercial and light-industrial environments
EN 60730-1 Automatic electrical controls for household and similar use - Part 1: General requirements

The following other standards and specifications have been applied:

EN 1886:2007 Ventilation for buildings, air handling units - Mechanical performance
EN 13053:2006+A1:2011 Ventilation for buildings, air handling units - Rating and performance for units, components and sections

Authorized to compile the technical file:

Name: Dan Örtengren
Address: Box 300, SE-53523 Kvänum

Signature:

Place and date: Kvänum / 2017-04-21

Kvänum / 2017-04-21

Signature:




Name: Magnus Ahl
Position: R&D Manager, Kvänum

Niklas Tjäder
Plant Manager, Kvänum

11.1.3 GOLD CX



EC DECLARATION OF CONFORMITY FOR MACHINERY

Original

Directive 2006/42/EC, Annex II 1A

Manufacturer (and where appropriate his authorised representative):

Company: Swegon AB
Address: Box 300, SE-53523 Kvänum

Hereby declares that:

Type of machinery: Air handling units
No. of machinery: GOLD 35/40, 50/60, 70/80, 100/120 E CX and any accessories to the respective designation covered by these directives

Complies with the requirements of Machinery Directive 2006/42/EC.

Complies also with applicable requirements of the following EC directives:

2014/30/EU, EMC
2009/125/EC, Ecodesign (Regulation (EU) nr 327/2011)
2009/125/EC, Ecodesign (Regulation (EU) nr 1253/2014)
1999/5/EC RTTE (radio and telecommunications terminal equipment)

The following harmonized standards have been applied:

EN ISO 12100:2010 Safety of machinery - General principles for design - Risk assessment and risk reduction
EN 60204-1:2006 Safety of machinery - Electrical equipment of machines - Part 1: General requirements
EN ISO 13857:2008 Safety of machinery - Safety distances to prevent hazard zones being reached by upper and lower limbs
EN 61000-6-2:2005 Electromagnetic compatibility (EMC) - Part 6-2: Generic standards - Immunity for industrial environments
EN 61000-6-3:2007+A1 Electromagnetic compatibility (EMC) - Part 6-3: Generic standards - Emission standard for residential, commercial and light-industrial environments
EN 60730-1 Automatic electrical controls for household and similar use - Part 1: General requirements

The following other standards and specifications have been applied:

EN 1886:2007 Ventilation for buildings, air handling units - Mechanical performance
EN 13053:2006+A1:2011 Ventilation for buildings, air handling units - Rating and performance for units, components and sections

Authorized to compile the technical file:

Name: Dan Örtengren
Address: Box 300, SE-53523 Kvänum

Signature:

Place and date: Kvänum / 2017-04-21 Kvänum / 2017-04-21

Signature:  

Name: Magnus Ahl Niklas Tjäder
Position: R&D Manager, Kvänum Plant Manager, Kvänum

11.1.4 GOLD SD



EC DECLARATION OF CONFORMITY FOR MACHINERY

Original

Directive 2006/42/EC, Annex II 1A

Manufacturer (and where appropriate his authorised representative):

Company: Swegon AB
Address: Box 300, SE-53523 Kvänum

Hereby declares that:

Type of machinery: Air handling units
No. of machinery: GOLD 04/05, 07/08, 11/12, 14/20, 25/30, 35/40, 50/60, 70/80, 100/120 E SD and any accessories to the respective designation covered by these directives

Complies with the requirements of Machinery Directive 2006/42/EC.

Complies also with applicable requirements of the following EC directives:

2014/30/EU, EMC
2009/125/EC, Ecodesign (Regulation (EU) nr 327/2011)
2009/125/EC, Ecodesign (Regulation (EU) nr 1253/2014)
1999/5/EC RTTE (radio and telecommunications terminal equipment)

The following harmonized standards have been applied:

EN ISO 12100:2010 Safety of machinery - General principles for design - Risk assessment and risk reduction
EN 60204-1:2006 Safety of machinery - Electrical equipment of machines - Part 1: General requirements
EN ISO 13857:2008 Safety of machinery - Safety distances to prevent hazard zones being reached by upper and lower limbs
EN 61000-6-2:2005 Electromagnetic compatibility (EMC) - Part 6-2: Generic standards - Immunity for industrial environments
EN 61000-6-3:2007+A1 Electromagnetic compatibility (EMC) - Part 6-3: Generic standards - Emission standard for residential, commercial and light-industrial environments
EN 60730-1 Automatic electrical controls for household and similar use - Part 1: General requirements

The following other standards and specifications have been applied:

EN 1886:2007 Ventilation for buildings, air handling units - Mechanical performance
EN 13053:2006+A1:2011 Ventilation for buildings, air handling units - Rating and performance for units, components and sections

Authorized to compile the technical file:

Name: Dan Örtengren
Address: Box 300, SE-53523 Kvänum

Signature:

Place and date: Kvänum / 2017-04-21

Kvänum / 2017-04-21

Signature:




Name: Magnus Ahl
Position: R&D Manager, Kvänum

Niklas Tjäder
Plant Manager, Kvänum

11.2 Commissioning Record

Is also available in digital form at www.swegon.com

Company

Our reference

Client	Date	SO No.
Plant	Project/Air handling unit	Series no.:
Plant address	Type/size	Program version:

Filter calibration performed ☐

Timer, current time preset ☐

Other controls



Function	Factory-preset value				Adjusted value			
Airflow								
Regulation mode								
Supply air	☒ Airflow	☐ Duct press	☐ Dem.	☐ Slave	☐ Airflow	☐ Duct press	☐ Dem.	☐ Slave
Extract air	☒ Airflow	☐ Duct press	☐ Dem.	☐ Slave	☐ Airflow	☐ Duct press	☐ Dem.	☐ Slave
Operation level								
Flow, low speed	SA	1)		1)				
	EA	1)		1)				
Flow, high speed	SA	1)		1)				
	EA	1)		1)				
Flow, max speed	SA	1)		1)				
	EA	1)		1)				
Flow, min. speed	SA			1)				
	EA			1)				
Pressure, low speed	SA (Pa)	100						
	EA (Pa)	100						
Pressure, high speed	SA (Pa)	200						
	EA (Pa)	200						
Max. fan speed	SA (%)	100%						
	EA (%)	100%						
Pressure, max speed	SA (Pa)	200						
	EA (Pa)	200						
Demand, low speed	SA (%)		25					
	EA (%)		25					
Demand, high speed	SA (%)		50					
	EA (%)		50					
Optimize								
Optimize	☐ On	☒ Off			☐ On	☐ Off		
Set point displacement								
Supply air	☐ On	☒ Off			☐ On	☐ Off		
Extract air	☐ On	☒ Off			☐ On	☐ Off		
Unit								
Unit of airflow	☐ l/s	☒ m ³ /s	☐ m ³ /h	☐ cfm	☐ l/s	☐ m ³ /s	☐ m ³ /h	☐ cfm
Unit of pressure	☒ Pa	☐ psi	☐ in.wc		☐ Pa	☐ psi	☐ in.wc	
Outdoor air comp.								
Outdoor air comp.	☒ Inactive	☐ Low speed	☐ High Speed		☐ Inactive	☐ Low speed	☐ High Speed	
	☐ Low speed and high speed				☐ Low speed and high speed			
X1, breakp., outd. temp. °C	-20°C							
X2, breakp., outd. temp. °C	-10°C							
X3, breakp., outd. temp. °C	+10°C							
X4, breakp., outd. temp. °C	+20°C							

1) Low speed = 25%, high speed = 50% and max. speed = 75 % of max. flow, see Section 5.3.1.2

Function	Factory-preset value	Adjusted value
<i>Supply air, flow</i>		
Y1, breakp., supply air	25% of max. airflow for air handling unit	
Y2, breakp., supply air	25% of max. airflow for air handling unit	
Y3, breakp., supply air	25% of max. airflow for air handling unit	
Y4, breakp., supply air	25% of max. airflow for air handling unit	
<i>Extract air, flow</i>		
Y1, breakp., extract air	25% of max. airflow for air handling unit	
Y2, breakp., extract air	25% of max. airflow for air handling unit	
Y3, breakp., extract air	25% of max. airflow for air handling unit	
Y4, breakp., extract air	25% of max. airflow for air handling unit	
<i>Supply air, pressure</i>		
Y1, breakp., supply air Pa	100	
Y2, breakp., supply air Pa	100	
Y3, breakp., supply air Pa	100	
Y4, breakp., supply air Pa	100	
<i>Extract air, pressure</i>		
Y1, breakp., extract air Pa	100	
Y2, breakp., extract air Pa	100	
Y3, breakp., extract air Pa	100	
Y4, breakp., extract air Pa	100	
Booster diffusers		
Booster diffusers	☐ On ☒ Off	☐ On ☐ Off



Function	Factory-preset value	Adjusted value
Temperature		
Regulation mode		
Position	☐ ERS 1 ☐ ERS 2 ☒ Supply air	☐ ERS 1 ☐ ERS 2 ☐ Supply air
	☐ Extr. air ☐ ORS ☐ ORE	☐ Extr. air ☐ ORS ☐ ORE
Xzone mode	☐ ERS 1 ☐ ERS 2 ☒ Supply air	☐ ERS 1 ☐ ERS 2 ☐ Supply air
	☐ Extr. air ☐ ORS ☐ ORE	☐ Extr. air ☐ ORS ☐ ORE
Seasonal controlled temperature regulation	☐ On ☒ Off	☐ On ☐ Off
Seasonal controlled temperature regulation	☐ ERS 1 ☐ ERS 2 ☐ Supply air	☐ ERS 1 ☐ ERS 2 ☐ Supply air
	☒ Extr. air ☐ ORS ☐ ORE	☐ Extr. air ☐ ORS ☐ ORE
Seasonal controlled temp. reg., enabled °C	0	
Seasonal controlled temp. reg., disabled °C	20	
Settings		
ERS 1		
Extract related supply air-1 step	2	
Extract related supply air-1 diff K	3	
Extract related supply air-1 break point °C	22	
Xzone, Extract air related supply air – 1 step	2	
Xzone, Extract air related supply air – 1 diff. K	3	
Xzone, Extr. air rel. supply air – 1 break point °C	22	
ERS 2		
Extract air temperature		
Extract related supply air-2 X1 °C	15	
Extract related supply air-2 X2 °C	20	
Extract related supply air-2 X3 °C	22	
Extract related supply air-2 X4 °C	22	
Xzone, Extract air related supply air – 2 X1 °C	15	
Xzone, Extract air related supply air – 2 X2 °C	20	
Xzone, Extract related supply air – 2 X3 °C	22	
Xzone, Extract air related supply air – 2 X4 °C	22	
Supply air temperature set point		
Extract related supply air-2 Y1 °C	20	
Extract related supply air-2 Y2 °C	18	
Extract related supply air-2 Y3 °C	14	
Extract related supply air-2 Y4 °C	12	
Xzone, Extract air related supply air – 2 Y1 °C	20	
Xzone, Extract air related supply air – 2 Y2 °C	18	
Xzone, Extract air related supply air – 2 Y3 °C	14	
Xzone, Extract air related supply air – 2 Y4 °C	12	
Supply air regulation		
Supply air (temp. set point) °C	21	
Xzone, Supply air (temp. set point) °C	21	
Extract air regulation		
Extract air (temp. set point) °C	21	
Supply air, min. °C	16	
Supply air, max. °C	28	
Xzone, Extract air (temp. set point) °C	21	
Xzone, Supply air, min. °C	16	
Xzone, Supply air, max. °C	28	

Function		Factory-preset value	Adjusted value
ORS regulation			
<i>Outdoor air temperature</i>			
Outdoor related supply air X1	°C	-20°C	
Outdoor related supply air X2	°C	-10°C	
Outdoor related supply air X3	°C	10°C	
Outdoor related supply air X4	°C	20°C	
Xzone, Outdoor air related supply air X1	°C	-20°C	
Xzone, Outdoor air related supply air X2	°C	-10°C	
Xzone, Outdoor air related supply air X3	°C	10°C	
Xzone, Outdoor air related supply air X4	°C	20°C	
<i>Supply air temperature set point</i>			
Outdoor related supply air Y1	°C	21.5°C	
Outdoor related supply air Y2	°C	21.5°C	
Outdoor related supply air Y3	°C	21.5°C	
Outdoor related supply air Y4	°C	21.5°C	
Xzone, Outdoor air related supply air Y1	°C	21.5°C	
Xzone, Outdoor air related supply air Y2	°C	21.5°C	
Xzone, Outdoor air related supply air Y3	°C	21.5°C	
Xzone, Outdoor air related supply air Y4	°C	21.5°C	
ORE regulation			
Supply air, min.	°C	16°C	
Supply air, max.	°C	28°C	
<i>Outdoor air temperature</i>			
Outdoor related extract air X1	°C	-20°C	
Outdoor related extract air X2	°C	-10°C	
Outdoor related extract air X3	°C	10°C	
Outdoor related extract air X4	°C	20°C	
Xzone, Outdoor air related extract air X1	°C	-20°C	
Xzone, Outdoor air related extract air X2	°C	-10°C	
Xzone, Outdoor air related extract air X3	°C	10°C	
Xzone, Outdoor air related extract air X4	°C	20°C	
<i>Extract air temperature set point</i>			
Outdoor related extract air Y1	°C	21.5°C	
Outdoor related extract air Y2	°C	21.5°C	
Outdoor related extract air Y3	°C	21.5°C	
Outdoor related extract air Y4	°C	21.5°C	
Xzone, Outdoor air related extract air Y1	°C	21.5°C	
Xzone, Outdoor air related extract air Y2	°C	21.5°C	
Xzone, Outdoor air related extract air Y3	°C	21.5°C	
Xzone, Outdoor air related extract air Y4	°C	21.5°C	
Unit of temperature			
Unit	☒ °C ☐ °F		☐ °C ☐ °F
Set point displacement			
Set point displacement	☐ On ☒ Off		☐ On ☐ Off
Neutral zone			
Supply air, temperature control	K	0.5	
Extract air, temperature control	K	0.5	
Xzone Supply air neutral zone	K	0.5	
Xzone Extract air neutral zone	K	0.5	
External temperature sensors			
Extract air duct, temperature sensor	☐ On ☒ Off		☐ On ☐ Off
Room sensor 1	☐ On ☒ Off		☐ On ☐ Off
Room sensor 2	☐ On ☒ Off		☐ On ☐ Off
Room sensor 3	☐ On ☒ Off		☐ On ☐ Off
Room sensor 4	☐ On ☒ Off		☐ On ☐ Off

Function	Factory-preset value	Adjusted value
External temperature sensors		
Room sensor mode	☒ Medium ☐ Min. ☐ Max.	☐ Medium ☐ Min. ☐ Max.
Room temp from communication	☐ On ☒ Off	☐ On ☐ Off
Room temp., for intermittent night heat only	☐ On ☒ Off	☐ On ☐ Off
Room temp., for summer night cooling only	☐ On ☒ Off	☐ On ☐ Off
Outdoor air sensor 1	☐ On ☒ Off	☐ On ☐ Off
Outdoor air sensor 2	☐ On ☒ Off	☐ On ☐ Off
Outdoor air sensor 3	☐ On ☒ Off	☐ On ☐ Off
Outdoor air sensor 4	☐ On ☒ Off	☐ On ☐ Off
Outdoor air sensor mode	☒ Medium ☐ Min. ☐ Max.	☐ Medium ☐ Min. ☐ Max.
Outdoor temp from communication	☐ On ☒ Off	☐ On ☐ Off
Xzone room sensor 1	☐ On ☒ Off	☐ On ☐ Off
Xzone Room sensor 2	☐ On ☒ Off	☐ On ☐ Off
Xzone Room sensor 3	☐ On ☒ Off	☐ On ☐ Off
Xzone room sensor 4	☐ On ☒ Off	☐ On ☐ Off
Xzone, Room sensor function	☒ Medium ☐ Min. ☐ Max.	☐ Medium ☐ Min. ☐ Max.
Xzone, Room temp. from communication	☐ On ☒ Off	☐ On ☐ Off
Regulation sequence		
Heat mode	1	
Cool mode	1	
Min. exhaust air		
Min. exhaust air	☐ On ☒ Off	☐ On ☐ Off
Min. exhaust air temperature °C	5.0	
Morning Boost		
Morning Boost	☐ On ☒ Off	☐ On ☐ Off
Start time hh:mm	00:00	
Supply air, set point	50% of max. supply air for AHU alt. 100 Pa	
Heating boost		
Heating boost	☐ On ☒ Off	☐ On ☐ Off
Start limit K	3	
Cooling boost		
Cooling boost	☒ Inactive ☐ Comfort ☐ Economy ☐ Sequence ☐ Comfort and economy ☐ Economy and sequence ☐ Sequence and comfort ☐ Comfort, economy and sequence	☐ Inactive ☐ Comfort ☐ Economy ☐ Sequence ☐ Comfort and economy ☐ Economy and sequence ☐ Sequence and comfort ☐ Comfort, economy and sequence
Start limit (Comfort) K	3	
Intermittent night heat		
Intermittent night heat	☐ On ☒ Off	☐ On ☐ Off
Air recirculation	☒ On ☐ Off	☐ On ☐ Off
Room temperature, start °C	16	
Room temperature, stop °C	18	
Supply air temperature, set point °C	28	
Supply airflow, set point	50% of max. supply air for AHU alt. 100 Pa	
Extract air flow, set point	50% of max. supply air for AHU alt. 100 Pa	
Summer night cool		
Summer night cool	☐ On ☒ Off	☐ On ☐ Off
Start time hh:mm	23:00	
Stop time hh:mm	06:00	
Outdoor air start °C	10	
Extract air start °C	22	
Extract air stop °C	16	
Supply air, set point °C	10	
Start, period with stopped AHU mm-dd	05-01	
Stop, period with stopped AHU mm-dd	10-01	
Supply air, set point (flow)	50% of max. airflow for the AHU	
Supply air, set point (pressure)	100 Pa	
Extract air set point (flow)	50% of max. airflow for the AHU	
Extract air set point (pressure)	100 Pa	
Down regulation (airflow/pressure)		
Down regulation	☐ Inactive ☒ Supply air ☐ Supply and extract air	☐ Inactive ☐ Supply air ☐ Supply and extract air



Function	Factory-preset value	Adjusted value
Time and Schedule		
Schedule settings		
Preselected operating mode	☐ Total stop ☒ Low speed ☐ High Speed ☐ Normal Stop ☐ Extended Normal Stop	☐ Total stop ☐ Low speed ☐ High Speed ☐ Normal Stop ☐ Extended Normal Stop
Effective period	☒ On ☐ Off	☐ On ☐ Off
Start date	☐ Enabled ☒ Inactive	☐ Enabled ☐ Inactive
Start date Y/M/D		
Stop date	☐ Enabled ☒ Inactive	☐ Enabled ☐ Inactive
Stop date Y/M/D		
Day schedule		
<i>Monday</i>		
Time, Event 1 hour:min	00:00	
Event 1	☒ Inactive ☐ Total Stop ☐ Low speed ☐ High Speed ☐ Normal Stop ☐ Extended Normal Stop	☐ Inactive ☐ Total Stop ☐ Low speed ☐ High Speed ☐ Normal Stop ☐ Extended Normal Stop
Time, Event 2 hour:min	00:00	
Event 2	☒ Inactive ☐ Total Stop ☐ Low speed ☐ High Speed ☐ Normal Stop ☐ Extended Normal Stop	☐ Inactive ☐ Total Stop ☐ Low speed ☐ High Speed ☐ Normal Stop ☐ Extended Normal Stop
Time, Event 3 hour:min	00:00	
Event 3	☒ Inactive ☐ Total Stop ☐ Low speed ☐ High Speed ☐ Normal Stop ☐ Extended Normal Stop	☐ Inactive ☐ Total Stop ☐ Low speed ☐ High Speed ☐ Normal Stop ☐ Extended Normal Stop
Time, Event 4 hour:min	00:00	
Event 4	☒ Inactive ☐ Total Stop ☐ Low speed ☐ High Speed ☐ Normal Stop ☐ Extended Normal Stop	☐ Inactive ☐ Total Stop ☐ Low speed ☐ High Speed ☐ Normal Stop ☐ Extended Normal Stop
Time, Event 5 hour:min	00:00	
Event 5	☒ Inactive ☐ Total Stop ☐ Low speed ☐ High Speed ☐ Normal Stop ☐ Extended Normal Stop	☐ Inactive ☐ Total Stop ☐ Low speed ☐ High Speed ☐ Normal Stop ☐ Extended Normal Stop
Time, Event 6 hour:min	00:00	
Event 6	☒ Inactive ☐ Total Stop ☐ Low speed ☐ High Speed ☐ Normal Stop ☐ Extended Normal Stop	☐ Inactive ☐ Total Stop ☐ Low speed ☐ High Speed ☐ Normal Stop ☐ Extended Normal Stop

Function	Factory-preset value	Adjusted value
<i>Tuesday</i>		
Time, Event 1 hour:min	00:00	
Event 1	☒ Inactive ☐ Total Stop ☐ Low speed ☐ High Speed ☐ Normal Stop ☐ Extended Normal Stop	☐ Inactive ☐ Total Stop ☐ Low speed ☐ High Speed ☐ Normal Stop ☐ Extended Normal Stop
Time, Event 2 hour:min	00:00	
Event 2	☒ Inactive ☐ Total Stop ☐ Low speed ☐ High Speed ☐ Normal Stop ☐ Extended Normal Stop	☐ Inactive ☐ Total Stop ☐ Low speed ☐ High Speed ☐ Normal Stop ☐ Extended Normal Stop
Time, Event 3 hour:min	00:00	
Event 3	☒ Inactive ☐ Total Stop ☐ Low speed ☐ High Speed ☐ Normal Stop ☐ Extended Normal Stop	☐ Inactive ☐ Total Stop ☐ Low speed ☐ High Speed ☐ Normal Stop ☐ Extended Normal Stop
Time, Event 4 hour:min	00:00	
Event 4	☒ Inactive ☐ Total Stop ☐ Low speed ☐ High Speed ☐ Normal Stop ☐ Extended Normal Stop	☐ Inactive ☐ Total Stop ☐ Low speed ☐ High Speed ☐ Normal Stop ☐ Extended Normal Stop
Time, Event 5 hour:min	00:00	
Event 5	☒ Inactive ☐ Total Stop ☐ Low speed ☐ High Speed ☐ Normal Stop ☐ Extended Normal Stop	☐ Inactive ☐ Total Stop ☐ Low speed ☐ High Speed ☐ Normal Stop ☐ Extended Normal Stop
Time, Event 6 hour:min	00:00	
Event 6	☒ Inactive ☐ Total Stop ☐ Low speed ☐ High Speed ☐ Normal Stop ☐ Extended Normal Stop	☐ Inactive ☐ Total Stop ☐ Low speed ☐ High Speed ☐ Normal Stop ☐ Extended Normal Stop
<i>Wednesday</i>		
Time, Event 1 hour:min	00:00	
Event 1	☒ Inactive ☐ Total Stop ☐ Low speed ☐ High Speed ☐ Normal Stop ☐ Extended Normal Stop	☐ Inactive ☐ Total Stop ☐ Low speed ☐ High Speed ☐ Normal Stop ☐ Extended Normal Stop
Time, Event 2 hour:min	00:00	
Event 2	☒ Inactive ☐ Total Stop ☐ Low speed ☐ High Speed ☐ Normal Stop ☐ Extended Normal Stop	☐ Inactive ☐ Total Stop ☐ Low speed ☐ High Speed ☐ Normal Stop ☐ Extended Normal Stop
Time, Event 3 hour:min	00:00	
Event 3	☒ Inactive ☐ Total Stop ☐ Low speed ☐ High Speed ☐ Normal Stop ☐ Extended Normal Stop	☐ Inactive ☐ Total Stop ☐ Low speed ☐ High Speed ☐ Normal Stop ☐ Extended Normal Stop
Time, Event 4 hour:min	00:00	
Event 4	☒ Inactive ☐ Total Stop ☐ Low speed ☐ High Speed ☐ Normal Stop ☐ Extended Normal Stop	☐ Inactive ☐ Total Stop ☐ Low speed ☐ High Speed ☐ Normal Stop ☐ Extended Normal Stop
Time, Event 5 hour:min	00:00	
Event 5	☒ Inactive ☐ Total Stop ☐ Low speed ☐ High Speed ☐ Normal Stop ☐ Extended Normal Stop	☐ Inactive ☐ Total Stop ☐ Low speed ☐ High Speed ☐ Normal Stop ☐ Extended Normal Stop
Time, Event 6 hour:min	00:00	
Event 6	☒ Inactive ☐ Total Stop ☐ Low speed ☐ High Speed ☐ Normal Stop ☐ Extended Normal Stop	☐ Inactive ☐ Total Stop ☐ Low speed ☐ High Speed ☐ Normal Stop ☐ Extended Normal Stop

Function		Factory-preset value	Adjusted value
<i>Thursday</i>			
Time, Event 1	hour:min	00:00	
Event 1		☒ Inactive ☐ Total Stop ☐ Low speed ☐ High Speed ☐ Normal Stop ☐ Extended Normal Stop	☐ Inactive ☐ Total Stop ☐ Low speed ☐ High Speed ☐ Normal Stop ☐ Extended Normal Stop
Time, Event 2	hour:min	00:00	
Event 2		☒ Inactive ☐ Total Stop ☐ Low speed ☐ High Speed ☐ Normal Stop ☐ Extended Normal Stop	☐ Inactive ☐ Total Stop ☐ Low speed ☐ High Speed ☐ Normal Stop ☐ Extended Normal Stop
Time, Event 3	hour:min	00:00	
Event 3		☒ Inactive ☐ Total Stop ☐ Low speed ☐ High Speed ☐ Normal Stop ☐ Extended Normal Stop	☐ Inactive ☐ Total Stop ☐ Low speed ☐ High Speed ☐ Normal Stop ☐ Extended Normal Stop
Time, Event 4	hour:min	00:00	
Event 4		☒ Inactive ☐ Total Stop ☐ Low speed ☐ High Speed ☐ Normal Stop ☐ Extended Normal Stop	☐ Inactive ☐ Total Stop ☐ Low speed ☐ High Speed ☐ Normal Stop ☐ Extended Normal Stop
Time, Event 5	hour:min	00:00	
Event 5		☒ Inactive ☐ Total Stop ☐ Low speed ☐ High Speed ☐ Normal Stop ☐ Extended Normal Stop	☐ Inactive ☐ Total Stop ☐ Low speed ☐ High Speed ☐ Normal Stop ☐ Extended Normal Stop
Time, Event 6	hour:min	00:00	
Event 6		☒ Inactive ☐ Total Stop ☐ Low speed ☐ High Speed ☐ Normal Stop ☐ Extended Normal Stop	☐ Inactive ☐ Total Stop ☐ Low speed ☐ High Speed ☐ Normal Stop ☐ Extended Normal Stop
<i>Friday</i>			
Time, Event 1	hour:min	00:00	
Event 1		☒ Inactive ☐ Total Stop ☐ Low speed ☐ High Speed ☐ Normal Stop ☐ Extended Normal Stop	☐ Inactive ☐ Total Stop ☐ Low speed ☐ High Speed ☐ Normal Stop ☐ Extended Normal Stop
Time, Event 2	hour:min	00:00	
Event 2		☒ Inactive ☐ Total Stop ☐ Low speed ☐ High Speed ☐ Normal Stop ☐ Extended Normal Stop	☐ Inactive ☐ Total Stop ☐ Low speed ☐ High Speed ☐ Normal Stop ☐ Extended Normal Stop
Time, Event 3	hour:min	00:00	
Event 3		☒ Inactive ☐ Total Stop ☐ Low speed ☐ High Speed ☐ Normal Stop ☐ Extended Normal Stop	☐ Inactive ☐ Total Stop ☐ Low speed ☐ High Speed ☐ Normal Stop ☐ Extended Normal Stop
Time, Event 4	hour:min	00:00	
Event 4		☒ Inactive ☐ Total Stop ☐ Low speed ☐ High Speed ☐ Normal Stop ☐ Extended Normal Stop	☐ Inactive ☐ Total Stop ☐ Low speed ☐ High Speed ☐ Normal Stop ☐ Extended Normal Stop
Time, Event 5	hour:min	00:00	
Event 5		☒ Inactive ☐ Total Stop ☐ Low speed ☐ High Speed ☐ Normal Stop ☐ Extended Normal Stop	☐ Inactive ☐ Total Stop ☐ Low speed ☐ High Speed ☐ Normal Stop ☐ Extended Normal Stop
Time, Event 6	hour:min	00:00	
Event 6		☒ Inactive ☐ Total Stop ☐ Low speed ☐ High Speed ☐ Normal Stop ☐ Extended Normal Stop	☐ Inactive ☐ Total Stop ☐ Low speed ☐ High Speed ☐ Normal Stop ☐ Extended Normal Stop

Function	Factory-preset value	Adjusted value
<i>Saturday</i>		
Time, Event 1 hour:min	00:00	
Event 1	☒ Inactive ☐ Total Stop ☐ Low speed ☐ High Speed ☐ Normal Stop ☐ Extended Normal Stop	☐ Inactive ☐ Total Stop ☐ Low speed ☐ High Speed ☐ Normal Stop ☐ Extended Normal Stop
Time, Event 2 hour:min	00:00	
Event 2	☒ Inactive ☐ Total Stop ☐ Low speed ☐ High Speed ☐ Normal Stop ☐ Extended Normal Stop	☐ Inactive ☐ Total Stop ☐ Low speed ☐ High Speed ☐ Normal Stop ☐ Extended Normal Stop
Time, Event 3 hour:min	00:00	
Event 3	☒ Inactive ☐ Total Stop ☐ Low speed ☐ High Speed ☐ Normal Stop ☐ Extended Normal Stop	☐ Inactive ☐ Total Stop ☐ Low speed ☐ High Speed ☐ Normal Stop ☐ Extended Normal Stop
Time, Event 4 hour:min	00:00	
Event 4	☒ Inactive ☐ Total Stop ☐ Low speed ☐ High Speed ☐ Normal Stop ☐ Extended Normal Stop	☐ Inactive ☐ Total Stop ☐ Low speed ☐ High Speed ☐ Normal Stop ☐ Extended Normal Stop
Time, Event 5 hour:min	00:00	
Event 5	☒ Inactive ☐ Total Stop ☐ Low speed ☐ High Speed ☐ Normal Stop ☐ Extended Normal Stop	☐ Inactive ☐ Total Stop ☐ Low speed ☐ High Speed ☐ Normal Stop ☐ Extended Normal Stop
Time, Event 6 hour:min	00:00	
Event 6	☒ Inactive ☐ Total Stop ☐ Low speed ☐ High Speed ☐ Normal Stop ☐ Extended Normal Stop	☐ Inactive ☐ Total Stop ☐ Low speed ☐ High Speed ☐ Normal Stop ☐ Extended Normal Stop
<i>Sunday</i>		
Time, Event 1 hour:min	00:00	
Event 1	☒ Inactive ☐ Total Stop ☐ Low speed ☐ High Speed ☐ Normal Stop ☐ Extended Normal Stop	☐ Inactive ☐ Total Stop ☐ Low speed ☐ High Speed ☐ Normal Stop ☐ Extended Normal Stop
Time, Event 2 hour:min	00:00	
Event 2	☒ Inactive ☐ Total Stop ☐ Low speed ☐ High Speed ☐ Normal Stop ☐ Extended Normal Stop	☐ Inactive ☐ Total Stop ☐ Low speed ☐ High Speed ☐ Normal Stop ☐ Extended Normal Stop
Time, Event 3 hour:min	00:00	
Event 3	☒ Inactive ☐ Total Stop ☐ Low speed ☐ High Speed ☐ Normal Stop ☐ Extended Normal Stop	☐ Inactive ☐ Total Stop ☐ Low speed ☐ High Speed ☐ Normal Stop ☐ Extended Normal Stop
Time, Event 4 hour:min	00:00	
Event 4	☒ Inactive ☐ Total Stop ☐ Low speed ☐ High Speed ☐ Normal Stop ☐ Extended Normal Stop	☐ Inactive ☐ Total Stop ☐ Low speed ☐ High Speed ☐ Normal Stop ☐ Extended Normal Stop
Time, Event 5 hour:min	00:00	
Event 5	☒ Inactive ☐ Total Stop ☐ Low speed ☐ High Speed ☐ Normal Stop ☐ Extended Normal Stop	☐ Inactive ☐ Total Stop ☐ Low speed ☐ High Speed ☐ Normal Stop ☐ Extended Normal Stop
Time, Event 6 hour:min	00:00	
Event 6	☒ Inactive ☐ Total Stop ☐ Low speed ☐ High Speed ☐ Normal Stop ☐ Extended Normal Stop	☐ Inactive ☐ Total Stop ☐ Low speed ☐ High Speed ☐ Normal Stop ☐ Extended Normal Stop

Function		Factory-preset value	Adjusted value
Ex1			
Time, Event 1	hour:min	00:00	
Event 1		☒ Inactive ☐ Total Stop ☐ Low speed ☐ High Speed ☐ Normal Stop ☐ Extended Normal Stop	☐ Inactive ☐ Total Stop ☐ Low speed ☐ High Speed ☐ Normal Stop ☐ Extended Normal Stop
Time, Event 2	hour:min	00:00	
Event 2		☒ Inactive ☐ Total Stop ☐ Low speed ☐ High Speed ☐ Normal Stop ☐ Extended Normal Stop	☐ Inactive ☐ Total Stop ☐ Low speed ☐ High Speed ☐ Normal Stop ☐ Extended Normal Stop
Time, Event 3	hour:min	00:00	
Event 3		☒ Inactive ☐ Total Stop ☐ Low speed ☐ High Speed ☐ Normal Stop ☐ Extended Normal Stop	☐ Inactive ☐ Total Stop ☐ Low speed ☐ High Speed ☐ Normal Stop ☐ Extended Normal Stop
Time, Event 4	hour:min	00:00	
Event 4		☒ Inactive ☐ Total Stop ☐ Low speed ☐ High Speed ☐ Normal Stop ☐ Extended Normal Stop	☐ Inactive ☐ Total Stop ☐ Low speed ☐ High Speed ☐ Normal Stop ☐ Extended Normal Stop
Time, Event 5	hour:min	00:00	
Event 5		☒ Inactive ☐ Total Stop ☐ Low speed ☐ High Speed ☐ Normal Stop ☐ Extended Normal Stop	☐ Inactive ☐ Total Stop ☐ Low speed ☐ High Speed ☐ Normal Stop ☐ Extended Normal Stop
Time, Event 6	hour:min	00:00	
Event 6		☒ Inactive ☐ Total Stop ☐ Low speed ☐ High Speed ☐ Normal Stop ☐ Extended Normal Stop	☐ Inactive ☐ Total Stop ☐ Low speed ☐ High Speed ☐ Normal Stop ☐ Extended Normal Stop
Ex2			
Time, Event 1	hour:min	00:00	
Event 1		☒ Inactive ☐ Total Stop ☐ Low speed ☐ High Speed ☐ Normal Stop ☐ Extended Normal Stop	☐ Inactive ☐ Total Stop ☐ Low speed ☐ High Speed ☐ Normal Stop ☐ Extended Normal Stop
Time, Event 2	hour:min	00:00	
Event 2		☒ Inactive ☐ Total Stop ☐ Low speed ☐ High Speed ☐ Normal Stop ☐ Extended Normal Stop	☐ Inactive ☐ Total Stop ☐ Low speed ☐ High Speed ☐ Normal Stop ☐ Extended Normal Stop
Time, Event 3	hour:min	00:00	
Event 3		☒ Inactive ☐ Total Stop ☐ Low speed ☐ High Speed ☐ Normal Stop ☐ Extended Normal Stop	☐ Inactive ☐ Total Stop ☐ Low speed ☐ High Speed ☐ Normal Stop ☐ Extended Normal Stop
Time, Event 4	hour:min	00:00	
Event 4		☒ Inactive ☐ Total Stop ☐ Low speed ☐ High Speed ☐ Normal Stop ☐ Extended Normal Stop	☐ Inactive ☐ Total Stop ☐ Low speed ☐ High Speed ☐ Normal Stop ☐ Extended Normal Stop
Time, Event 5	hour:min	00:00	
Event 5		☒ Inactive ☐ Total Stop ☐ Low speed ☐ High Speed ☐ Normal Stop ☐ Extended Normal Stop	☐ Inactive ☐ Total Stop ☐ Low speed ☐ High Speed ☐ Normal Stop ☐ Extended Normal Stop
Time, Event 6	hour:min	00:00	
Event 6		☒ Inactive ☐ Total Stop ☐ Low speed ☐ High Speed ☐ Normal Stop ☐ Extended Normal Stop	☐ Inactive ☐ Total Stop ☐ Low speed ☐ High Speed ☐ Normal Stop ☐ Extended Normal Stop

Function	Factory-preset value	Adjusted value
Exceptions schedule		
<i>Exception 1 (Ex1)</i>		
Exceptions method	☐ Inactive ☐ Date ☐ Date range ☐ Weekday ☒ Calendar 1 ☐ Calendar 2	☐ Inactive ☐ Date ☐ Date range ☐ Weekday ☐ Calendar 1 ☐ Calendar 2
<i>Date</i>		
Start date Y/M/D		
Start weekday	☒ Each day ☐ Monday ☐ Tuesday ☐ Wednesday ☐ Thursday ☐ Friday ☐ Saturday ☐ Sunday	☐ Each day ☐ Monday ☐ Tuesday ☐ Wednesday ☐ Thursday ☐ Friday ☐ Saturday ☐ Sunday
<i>Date range</i>		
Start date Y/M/D		
Start weekday	☒ Each day ☐ Monday ☐ Tuesday ☐ Wednesday ☐ Thursday ☐ Friday ☐ Saturday ☐ Sunday	☐ Each day ☐ Monday ☐ Tuesday ☐ Wednesday ☐ Thursday ☐ Friday ☐ Saturday ☐ Sunday
Stop date Y/M/D		
Stop weekday	☒ Each day ☐ Monday ☐ Tuesday ☐ Wednesday ☐ Thursday ☐ Friday ☐ Saturday ☐ Sunday	☐ Each day ☐ Monday ☐ Tuesday ☐ Wednesday ☐ Thursday ☐ Friday ☐ Saturday ☐ Sunday
<i>Weekday</i>		
Start date		☐ Month 1-12 ☐ Odd ☐ Even ☐ Each ☐ Day 1-7 ☐ 8-14 ☐ 15-21 ☐ 22-28 ☐ 29-31
Start weekday	☒ Each day ☐ Monday ☐ Tuesday ☐ Wednesday ☐ Thursday ☐ Friday ☐ Saturday ☐ Sunday	☐ Each day ☐ Monday ☐ Tuesday ☐ Wednesday ☐ Thursday ☐ Friday ☐ Saturday ☐ Sunday

Function	Factory-preset value	Adjusted value
Exception 2 (Ex2)		
Exception method	☐ Inactive ☐ Date ☐ Date range ☐ Weekday ☐ Calendar 1 ☒ Calendar 2	☐ Inactive ☐ Date ☐ Date range ☐ Weekday ☐ Calendar 1 ☐ Calendar 2
<i>Date</i>		
Start date Y/M/D		
Start weekday	☒ Each day ☐ Monday ☐ Tuesday ☐ Wednesday ☐ Thursday ☐ Friday ☐ Saturday ☐ Sunday	☐ Each day ☐ Monday ☐ Tuesday ☐ Wednesday ☐ Thursday ☐ Friday ☐ Saturday ☐ Sunday
<i>Date range</i>		
Start date Y/M/D		
Start weekday	☒ Each day ☐ Monday ☐ Tuesday ☐ Wednesday ☐ Thursday ☐ Friday ☐ Saturday ☐ Sunday	☐ Each day ☐ Monday ☐ Tuesday ☐ Wednesday ☐ Thursday ☐ Friday ☐ Saturday ☐ Sunday
Stop date Y/M/D		
Stop weekday	☒ Each day ☐ Monday ☐ Tuesday ☐ Wednesday ☐ Thursday ☐ Friday ☐ Saturday ☐ Sunday	☐ Each day ☐ Monday ☐ Tuesday ☐ Wednesday ☐ Thursday ☐ Friday ☐ Saturday ☐ Sunday
<i>Weekday</i>		
Start date		☐ Mon 1-12 ☐ Odd ☐ Even ☐ Each ☐ Day 1-7 ☐ 8-14 ☐ 15-21 ☐ 22-28 ☐ 29-31
Start weekday	☒ Each day ☐ Monday ☐ Tuesday ☐ Wednesday ☐ Thursday ☐ Friday ☐ Saturday ☐ Sunday	☐ Each day ☐ Monday ☐ Tuesday ☐ Wednesday ☐ Thursday ☐ Friday ☐ Saturday ☐ Sunday
Calendar 1		
Function 1	☒ Inactive ☐ Date ☐ Date range ☐ Weekday	☐ Inactive ☐ Date ☐ Date range ☐ Weekday
<i>Date</i>		
Start date Y/M/D		
Start weekday	☒ Each day ☐ Monday ☐ Tuesday ☐ Wednesday ☐ Thursday ☐ Friday ☐ Saturday ☐ Sunday	☐ Each day ☐ Monday ☐ Tuesday ☐ Wednesday ☐ Thursday ☐ Friday ☐ Saturday ☐ Sunday
<i>Date range</i>		
Start date Y/M/D		
Stop date Y/M/D		
<i>Weekday</i>		
Start date		☐ Mon 1-12 ☐ Odd ☐ Even ☐ Each ☐ Day 1-7 ☐ 8-14 ☐ 15-21 ☐ 22-28 ☐ 29-31
Start weekday	☒ Each day ☐ Monday ☐ Tuesday ☐ Wednesday ☐ Thursday ☐ Friday ☐ Saturday ☐ Sunday	☐ Each day ☐ Monday ☐ Tuesday ☐ Wednesday ☐ Thursday ☐ Friday ☐ Saturday ☐ Sunday

Function	Factory-preset value	Adjusted value
Function 2	☒ Inactive ☐ Date ☐ Date range ☐ Weekday	☐ Inactive ☐ Date ☐ Date range ☐ Weekday
Date		
Start date Y/M/D		
Start weekday	☒ Each day ☐ Monday ☐ Tuesday ☐ Wednesday ☐ Thursday ☐ Friday ☐ Saturday ☐ Sunday	☐ Each day ☐ Monday ☐ Tuesday ☐ Wednesday ☐ Thursday ☐ Friday ☐ Saturday ☐ Sunday
Date range		
Start date Y/M/D		
Stop date Y/M/D		
Weekday		
Start date		☐ Mon 1-12 ☐ Odd ☐ Even ☐ Each ☐ Day 1-7 ☐ 8-14 ☐ 15-21 ☐ 22-28 ☐ 29-31
Start weekday	☒ Each day ☐ Monday ☐ Tuesday ☐ Wednesday ☐ Thursday ☐ Friday ☐ Saturday ☐ Sunday	☐ Each day ☐ Monday ☐ Tuesday ☐ Wednesday ☐ Thursday ☐ Friday ☐ Saturday ☐ Sunday
Function 3	☒ Inactive ☐ Date ☐ Date range ☐ Weekday	☐ Inactive ☐ Date ☐ Date range ☐ Weekday
Date		
Start date Y/M/D		
Start weekday	☒ Each day ☐ Monday ☐ Tuesday ☐ Wednesday ☐ Thursday ☐ Friday ☐ Saturday ☐ Sunday	☐ Each day ☐ Monday ☐ Tuesday ☐ Wednesday ☐ Thursday ☐ Friday ☐ Saturday ☐ Sunday
Date range		
Start date Y/M/D		
Stop date Y/M/D		
Weekday		
Start date		☐ Mon 1-12 ☐ Odd ☐ Even ☐ Each ☐ Day 1-7 ☐ 8-14 ☐ 15-21 ☐ 22-28 ☐ 29-31
Start weekday	☒ Each day ☐ Monday ☐ Tuesday ☐ Wednesday ☐ Thursday ☐ Friday ☐ Saturday ☐ Sunday	☐ Each day ☐ Monday ☐ Tuesday ☐ Wednesday ☐ Thursday ☐ Friday ☐ Saturday ☐ Sunday

Function	Factory-preset value	Adjusted value
Function 4	☒ Inactive ☐ Date ☐ Date range ☐ Weekday	☐ Inactive ☐ Date ☐ Date range ☐ Weekday
<i>Date</i>		
Start date Y/M/D		
Start weekday	☒ Each day ☐ Monday ☐ Tuesday ☐ Wednesday ☐ Thursday ☐ Friday ☐ Saturday ☐ Sunday	☐ Each day ☐ Monday ☐ Tuesday ☐ Wednesday ☐ Thursday ☐ Friday ☐ Saturday ☐ Sunday
<i>Date range</i>		
Start date Y/M/D		
Stop date Y/M/D		
<i>Weekday</i>		
Start date		☐ Mon 1-12 ☐ Odd ☐ Even ☐ Each ☐ Day 1-7 ☐ 8-14 ☐ 15-21 ☐ 22-28 ☐ 29-31
Start weekday	☒ Each day ☐ Monday ☐ Tuesday ☐ Wednesday ☐ Thursday ☐ Friday ☐ Saturday ☐ Sunday	☐ Each day ☐ Monday ☐ Tuesday ☐ Wednesday ☐ Thursday ☐ Friday ☐ Saturday ☐ Sunday
Function 5	☒ Inactive ☐ Date ☐ Date range ☐ Weekday	☐ Inactive ☐ Date ☐ Date range ☐ Weekday
<i>Date</i>		
Start date Y/M/D		
Start weekday	☒ Each day ☐ Monday ☐ Tuesday ☐ Wednesday ☐ Thursday ☐ Friday ☐ Saturday ☐ Sunday	☐ Each day ☐ Monday ☐ Tuesday ☐ Wednesday ☐ Thursday ☐ Friday ☐ Saturday ☐ Sunday
<i>Date range</i>		
Start date Y/M/D		
Stop date Y/M/D		
<i>Weekday</i>		
Start date		☐ Mon 1-12 ☐ Odd ☐ Even ☐ Each ☐ Day 1-7 ☐ 8-14 ☐ 15-21 ☐ 22-28 ☐ 29-31
Start weekday	☒ Each day ☐ Monday ☐ Tuesday ☐ Wednesday ☐ Thursday ☐ Friday ☐ Saturday ☐ Sunday	☐ Each day ☐ Monday ☐ Tuesday ☐ Wednesday ☐ Thursday ☐ Friday ☐ Saturday ☐ Sunday

Function	Factory-preset value	Adjusted value
Function 6	☒ Inactive ☐ Date ☐ Date range ☐ Weekday	☐ Inactive ☐ Date ☐ Date range ☐ Weekday
Date		
Start date Y/M/D		
Start weekday	☒ Each day ☐ Monday ☐ Tuesday ☐ Wednesday ☐ Thursday ☐ Friday ☐ Saturday ☐ Sunday	☐ Each day ☐ Monday ☐ Tuesday ☐ Wednesday ☐ Thursday ☐ Friday ☐ Saturday ☐ Sunday
Date range		
Start date Y/M/D		
Stop date Y/M/D		
Weekday		
Start date		☐ Mon 1-12 ☐ Odd ☐ Even ☐ Each ☐ Day 1-7 ☐ 8-14 ☐ 15-21 ☐ 22-28 ☐ 29-31
Start weekday	☒ Each day ☐ Monday ☐ Tuesday ☐ Wednesday ☐ Thursday ☐ Friday ☐ Saturday ☐ Sunday	☐ Each day ☐ Monday ☐ Tuesday ☐ Wednesday ☐ Thursday ☐ Friday ☐ Saturday ☐ Sunday
Function 7	☒ Inactive ☐ Date ☐ Date range ☐ Weekday	☐ Inactive ☐ Date ☐ Date range ☐ Weekday
Date		
Start date Y/M/D		
Start weekday	☒ Each day ☐ Monday ☐ Tuesday ☐ Wednesday ☐ Thursday ☐ Friday ☐ Saturday ☐ Sunday	☐ Each day ☐ Monday ☐ Tuesday ☐ Wednesday ☐ Thursday ☐ Friday ☐ Saturday ☐ Sunday
Date range		
Start date Y/M/D		
Stop date Y/M/D		
Weekday		
Start date		☐ Mon 1-12 ☐ Odd ☐ Even ☐ Each ☐ Day 1-7 ☐ 8-14 ☐ 15-21 ☐ 22-28 ☐ 29-31
Start weekday	☒ Each day ☐ Monday ☐ Tuesday ☐ Wednesday ☐ Thursday ☐ Friday ☐ Saturday ☐ Sunday	☐ Each day ☐ Monday ☐ Tuesday ☐ Wednesday ☐ Thursday ☐ Friday ☐ Saturday ☐ Sunday

Function	Factory-preset value	Adjusted value
Function 8	☒ Inactive ☐ Date ☐ Date range ☐ Weekday	☐ Inactive ☐ Date ☐ Date range ☐ Weekday
Date		
Start date Y/M/D		
Start weekday	☒ Each day ☐ Monday ☐ Tuesday ☐ Wednesday ☐ Thursday ☐ Friday ☐ Saturday ☐ Sunday	☐ Each day ☐ Monday ☐ Tuesday ☐ Wednesday ☐ Thursday ☐ Friday ☐ Saturday ☐ Sunday
Date range		
Start date Y/M/D		
Stop date Y/M/D		
Weekday		
Start date		☐ Mon 1-12 ☐ Odd ☐ Even ☐ Each ☐ Day 1-7 ☐ 8-14 ☐ 15-21 ☐ 22-28 ☐ 29-31
Start weekday	☒ Each day ☐ Monday ☐ Tuesday ☐ Wednesday ☐ Thursday ☐ Friday ☐ Saturday ☐ Sunday	☐ Each day ☐ Monday ☐ Tuesday ☐ Wednesday ☐ Thursday ☐ Friday ☐ Saturday ☐ Sunday
Function 9	☒ Inactive ☐ Date ☐ Date range ☐ Weekday	☐ Inactive ☐ Date ☐ Date range ☐ Weekday
Date		
Start date Y/M/D		
Start weekday	☒ Each day ☐ Monday ☐ Tuesday ☐ Wednesday ☐ Thursday ☐ Friday ☐ Saturday ☐ Sunday	☐ Each day ☐ Monday ☐ Tuesday ☐ Wednesday ☐ Thursday ☐ Friday ☐ Saturday ☐ Sunday
Date range		
Start date Y/M/D		
Stop date Y/M/D		
Weekday		
Start date		☐ Mon 1-12 ☐ Odd ☐ Even ☐ Each ☐ Day 1-7 ☐ 8-14 ☐ 15-21 ☐ 22-28 ☐ 29-31
Start weekday	☒ Each day ☐ Monday ☐ Tuesday ☐ Wednesday ☐ Thursday ☐ Friday ☐ Saturday ☐ Sunday	☐ Each day ☐ Monday ☐ Tuesday ☐ Wednesday ☐ Thursday ☐ Friday ☐ Saturday ☐ Sunday

Function	Factory-preset value	Adjusted value
Function 10	☒ Inactive ☐ Date ☐ Date range ☐ Weekday	☐ Inactive ☐ Date ☐ Date range ☐ Weekday
Date		
Start date Y/M/D		
Start weekday	☒ Each day ☐ Monday ☐ Tuesday ☐ Wednesday ☐ Thursday ☐ Friday ☐ Saturday ☐ Sunday	☐ Each day ☐ Monday ☐ Tuesday ☐ Wednesday ☐ Thursday ☐ Friday ☐ Saturday ☐ Sunday
Date range		
Start date Y/M/D		
Stop date Y/M/D		
Weekday		
Start date		☐ Mon 1-12 ☐ Odd ☐ Even ☐ Each ☐ Day 1-7 ☐ 8-14 ☐ 15-21 ☐ 22-28 ☐ 29-31
Start weekday	☒ Each day ☐ Monday ☐ Tuesday ☐ Wednesday ☐ Thursday ☐ Friday ☐ Saturday ☐ Sunday	☐ Each day ☐ Monday ☐ Tuesday ☐ Wednesday ☐ Thursday ☐ Friday ☐ Saturday ☐ Sunday
Calendar 2		
Function 1	☒ Inactive ☐ Date ☐ Date range ☐ Weekday	☐ Inactive ☐ Date ☐ Date range ☐ Weekday
Date		
Start date Y/M/D		
Start weekday	☒ Each day ☐ Monday ☐ Tuesday ☐ Wednesday ☐ Thursday ☐ Friday ☐ Saturday ☐ Sunday	☐ Each day ☐ Monday ☐ Tuesday ☐ Wednesday ☐ Thursday ☐ Friday ☐ Saturday ☐ Sunday
Date range		
Start date Y/M/D		
Stop date Y/M/D		
Weekday		
Start date		☐ Mon 1-12 ☐ Odd ☐ Even ☐ Each ☐ Day 1-7 ☐ 8-14 ☐ 15-21 ☐ 22-28 ☐ 29-31
Start weekday	☒ Each day ☐ Monday ☐ Tuesday ☐ Wednesday ☐ Thursday ☐ Friday ☐ Saturday ☐ Sunday	☐ Each day ☐ Monday ☐ Tuesday ☐ Wednesday ☐ Thursday ☐ Friday ☐ Saturday ☐ Sunday

Function	Factory-preset value	Adjusted value
Function 2	☒ Inactive ☐ Date ☐ Date range ☐ Weekday	☐ Inactive ☐ Date ☐ Date range ☐ Weekday
<i>Date</i>		
Start date Y/M/D		
Start weekday	☒ Each day ☐ Monday ☐ Tuesday ☐ Wednesday ☐ Thursday ☐ Friday ☐ Saturday ☐ Sunday	☐ Each day ☐ Monday ☐ Tuesday ☐ Wednesday ☐ Thursday ☐ Friday ☐ Saturday ☐ Sunday
<i>Date range</i>		
Start date Y/M/D		
Stop date Y/M/D		
<i>Weekday</i>		
Start date		☐ Mon 1-12 ☐ Odd ☐ Even ☐ Each ☐ Day 1-7 ☐ 8-14 ☐ 15-21 ☐ 22-28 ☐ 29-31
Start weekday	☒ Each day ☐ Monday ☐ Tuesday ☐ Wednesday ☐ Thursday ☐ Friday ☐ Saturday ☐ Sunday	☐ Each day ☐ Monday ☐ Tuesday ☐ Wednesday ☐ Thursday ☐ Friday ☐ Saturday ☐ Sunday
Function 3	☒ Inactive ☐ Date ☐ Date range ☐ Weekday	☐ Inactive ☐ Date ☐ Date range ☐ Weekday
<i>Date</i>		
Start date Y/M/D		
Start weekday	☒ Each day ☐ Monday ☐ Tuesday ☐ Wednesday ☐ Thursday ☐ Friday ☐ Saturday ☐ Sunday	☐ Each day ☐ Monday ☐ Tuesday ☐ Wednesday ☐ Thursday ☐ Friday ☐ Saturday ☐ Sunday
<i>Date range</i>		
Start date Y/M/D		
Stop date Y/M/D		
<i>Weekday</i>		
Start date		☐ Mon 1-12 ☐ Odd ☐ Even ☐ Each ☐ Day 1-7 ☐ 8-14 ☐ 15-21 ☐ 22-28 ☐ 29-31
Start weekday	☒ Each day ☐ Monday ☐ Tuesday ☐ Wednesday ☐ Thursday ☐ Friday ☐ Saturday ☐ Sunday	☐ Each day ☐ Monday ☐ Tuesday ☐ Wednesday ☐ Thursday ☐ Friday ☐ Saturday ☐ Sunday

Function	Factory-preset value	Adjusted value
Function 4	☒ Inactive ☐ Date ☐ Date range ☐ Weekday	☐ Inactive ☐ Date ☐ Date range ☐ Weekday
Date		
Start date Y/M/D		
Start weekday	☒ Each day ☐ Monday ☐ Tuesday ☐ Wednesday ☐ Thursday ☐ Friday ☐ Saturday ☐ Sunday	☐ Each day ☐ Monday ☐ Tuesday ☐ Wednesday ☐ Thursday ☐ Friday ☐ Saturday ☐ Sunday
Date range		
Start date Y/M/D		
Stop date Y/M/D		
Weekday		
Start date		☐ Mon 1-12 ☐ Odd ☐ Even ☐ Each ☐ Day 1-7 ☐ 8-14 ☐ 15-21 ☐ 22-28 ☐ 29-31
Start weekday	☒ Each day ☐ Monday ☐ Tuesday ☐ Wednesday ☐ Thursday ☐ Friday ☐ Saturday ☐ Sunday	☐ Each day ☐ Monday ☐ Tuesday ☐ Wednesday ☐ Thursday ☐ Friday ☐ Saturday ☐ Sunday
Function 5	☒ Inactive ☐ Date ☐ Date range ☐ Weekday	☐ Inactive ☐ Date ☐ Date range ☐ Weekday
Date		
Start date Y/M/D		
Start weekday	☒ Each day ☐ Monday ☐ Tuesday ☐ Wednesday ☐ Thursday ☐ Friday ☐ Saturday ☐ Sunday	☐ Each day ☐ Monday ☐ Tuesday ☐ Wednesday ☐ Thursday ☐ Friday ☐ Saturday ☐ Sunday
Date range		
Start date Y/M/D		
Stop date Y/M/D		
Weekday		
Start date		☐ Mon 1-12 ☐ Odd ☐ Even ☐ Each ☐ Day 1-7 ☐ 8-14 ☐ 15-21 ☐ 22-28 ☐ 29-31
Start weekday	☒ Each day ☐ Monday ☐ Tuesday ☐ Wednesday ☐ Thursday ☐ Friday ☐ Saturday ☐ Sunday	☐ Each day ☐ Monday ☐ Tuesday ☐ Wednesday ☐ Thursday ☐ Friday ☐ Saturday ☐ Sunday

Function	Factory-preset value	Adjusted value
Function 6	☒ Inactive ☐ Date ☐ Date range ☐ Weekday	☐ Inactive ☐ Date ☐ Date range ☐ Weekday
<i>Date</i>		
Start date Y/M/D		
Start weekday	☒ Each day ☐ Monday ☐ Tuesday ☐ Wednesday ☐ Thursday ☐ Friday ☐ Saturday ☐ Sunday	☐ Each day ☐ Monday ☐ Tuesday ☐ Wednesday ☐ Thursday ☐ Friday ☐ Saturday ☐ Sunday
<i>Date range</i>		
Start date Y/M/D		
Stop date Y/M/D		
<i>Weekday</i>		
Start date		☐ Mon 1-12 ☐ Odd ☐ Even ☐ Each ☐ Day 1-7 ☐ 8-14 ☐ 15-21 ☐ 22-28 ☐ 29-31
Start weekday	☒ Each day ☐ Monday ☐ Tuesday ☐ Wednesday ☐ Thursday ☐ Friday ☐ Saturday ☐ Sunday	☐ Each day ☐ Monday ☐ Tuesday ☐ Wednesday ☐ Thursday ☐ Friday ☐ Saturday ☐ Sunday
Function 7	☒ Inactive ☐ Date ☐ Date range ☐ Weekday	☐ Inactive ☐ Date ☐ Date range ☐ Weekday
<i>Date</i>		
Start date Y/M/D		
Start weekday	☒ Each day ☐ Monday ☐ Tuesday ☐ Wednesday ☐ Thursday ☐ Friday ☐ Saturday ☐ Sunday	☐ Each day ☐ Monday ☐ Tuesday ☐ Wednesday ☐ Thursday ☐ Friday ☐ Saturday ☐ Sunday
<i>Date range</i>		
Start date Y/M/D		
Stop date Y/M/D		
<i>Weekday</i>		
Start date		☐ Mon 1-12 ☐ Odd ☐ Even ☐ Each ☐ Day 1-7 ☐ 8-14 ☐ 15-21 ☐ 22-28 ☐ 29-31
Start weekday	☒ Each day ☐ Monday ☐ Tuesday ☐ Wednesday ☐ Thursday ☐ Friday ☐ Saturday ☐ Sunday	☐ Each day ☐ Monday ☐ Tuesday ☐ Wednesday ☐ Thursday ☐ Friday ☐ Saturday ☐ Sunday

Function	Factory-preset value	Adjusted value
Function 8	☒ Inactive ☐ Date ☐ Date range ☐ Weekday	☐ Inactive ☐ Date ☐ Date range ☐ Weekday
<i>Date</i>		
Start date Y/M/D		
Start weekday	☒ Each day ☐ Monday ☐ Tuesday ☐ Wednesday ☐ Thursday ☐ Friday ☐ Saturday ☐ Sunday	☐ Each day ☐ Monday ☐ Tuesday ☐ Wednesday ☐ Thursday ☐ Friday ☐ Saturday ☐ Sunday
<i>Date range</i>		
Start date Y/M/D		
Stop date Y/M/D		
<i>Weekday</i>		
Start date		☐ Mon 1-12 ☐ Odd ☐ Even ☐ Each ☐ Day 1-7 ☐ 8-14 ☐ 15-21 ☐ 22-28 ☐ 29-31
Start weekday	☒ Each day ☐ Monday ☐ Tuesday ☐ Wednesday ☐ Thursday ☐ Friday ☐ Saturday ☐ Sunday	☐ Each day ☐ Monday ☐ Tuesday ☐ Wednesday ☐ Thursday ☐ Friday ☐ Saturday ☐ Sunday
Function 9	☒ Inactive ☐ Date ☐ Date range ☐ Weekday	☐ Inactive ☐ Date ☐ Date range ☐ Weekday
<i>Date</i>		
Start date Y/M/D		
Start weekday	☒ Each day ☐ Monday ☐ Tuesday ☐ Wednesday ☐ Thursday ☐ Friday ☐ Saturday ☐ Sunday	☐ Each day ☐ Monday ☐ Tuesday ☐ Wednesday ☐ Thursday ☐ Friday ☐ Saturday ☐ Sunday
<i>Date range</i>		
Start date Y/M/D		
Stop date Y/M/D		
<i>Weekday</i>		
Start date		☐ Mon 1-12 ☐ Odd ☐ Even ☐ Each ☐ Day 1-7 ☐ 8-14 ☐ 15-21 ☐ 22-28 ☐ 29-31
Start weekday	☒ Each day ☐ Monday ☐ Tuesday ☐ Wednesday ☐ Thursday ☐ Friday ☐ Saturday ☐ Sunday	☐ Each day ☐ Monday ☐ Tuesday ☐ Wednesday ☐ Thursday ☐ Friday ☐ Saturday ☐ Sunday

Function	Factory-preset value	Adjusted value
Function 10	☒ Inactive ☐ Date ☐ Date range ☐ Weekday	☐ Inactive ☐ Date ☐ Date range ☐ Weekday
<i>Date</i>		
Start date Y/M/D		
Start weekday	☒ Each day ☐ Monday ☐ Tuesday ☐ Wednesday ☐ Thursday ☐ Friday ☐ Saturday ☐ Sunday	☐ Each day ☐ Monday ☐ Tuesday ☐ Wednesday ☐ Thursday ☐ Friday ☐ Saturday ☐ Sunday
<i>Date range</i>		
Start date Y/M/D		
Stop date Y/M/D		
<i>Weekday</i>		
Start date		☐ Mon 1-12 ☐ Odd ☐ Even ☐ Each ☐ Day 1-7 ☐ 8-14 ☐ 15-21 ☐ 22-28 ☐ 29-31
Start weekday	☒ Each day ☐ Monday ☐ Tuesday ☐ Wednesday ☐ Thursday ☐ Friday ☐ Saturday ☐ Sunday	☐ Each day ☐ Monday ☐ Tuesday ☐ Wednesday ☐ Thursday ☐ Friday ☐ Saturday ☐ Sunday
Prolonged operation		
Ext. low speed hour:min.	00:00	
Ext. high speed hour:min.	00:00	



Function	Factory-preset value	Adjusted value
Filters		
Pre-filter	☒ Inactive ☐ Supply air ☐ Extract air ☐ Supply and extract air	☐ Inactive ☐ Supply air ☐ Extract air ☐ Supply and extract air
AHU filter (GOLD SD)	☒ Inactive ☐ Supply air ☐ Extract air ☐ Supply and extract air	☐ Inactive ☐ Supply air ☐ Extract air ☐ Supply and extract air
End filter	☐ On ☒ Off	☐ On ☐ Off
<i>Alarm limits</i>		
Supply air pre-filter Pa	100	
Extract air pre-filter Pa	100	
Supply air AHU filter Pa	100	
Extract air AHU filter Pa	100	
Supply air end filter Pa	100	



Function	Factory-preset value	Adjusted value
Language		
Language	English	



Function	Factory-preset value		Adjusted value	
Alarm priorities				
Fire alarms				
Internal fire alarm	☐ On	☒ Off	☐ On	☐ Off
Internal fire alarm reset	☒ Manual	☐ Auto	☐ Manual	☐ Auto
Internal fire alarm after cool	☐ Active	☒ Inactive	☐ Active	☐ Inactive
External fire alarm 1 reset	☒ Manual	☐ Auto	☐ Manual	☐ Auto
External fire alarm 1 after cool	☐ Active	☒ Inactive	☐ Active	☐ Inactive
External fire alarm 2 reset	☒ Manual	☐ Auto	☐ Manual	☐ Auto
External fire alarm 2 after cool	☐ Active	☒ Inactive	☐ Active	☐ Inactive
Fan operation on an internal fire alarm	☒ Inactive ☐ Extract air	☐ Supply air ☐ Supply and extract air	☐ Inactive ☐ Extract air	☐ Supply air ☐ Supply and extract air
Supply air fan on an int. fire alarm %	100			
Extract air fan on an int. fire alarm %	100			
Fan operation on external fire alarm 1	☒ Inactive ☐ Extract air	☐ Supply air ☐ Supply and extract air	☐ Inactive ☐ Extract air	☐ Supply air ☐ Supply and extract air
Supply air fan on external fire alarm 1 %	100			
Extract air fan on external fire alarm 1 %	100			
Fan operation on external fire alarm 2	☒ Inactive ☐ Extract air	☐ Supply air ☐ Supply and extract air	☐ Inactive ☐ Extract air	☐ Supply air ☐ Supply and extract air
Supply air fan on external fire alarm 2 %	100			
Extract air fan on external fire alarm 2 %	100			
Order of priority	☒ Ext. fire alarm 1 ☐ Int. fire alarm	☐ Ext. fire alarm 2 ☐ Automatic	☐ Ext. fire alarm 1 ☐ Int. fire alarm	☐ Ext. fire alarm 2 ☐ Automatic
External alarms				
External alarm 1 reset	☐ Manual	☒ Auto	☐ Manual	☐ Auto
External alarm 1 after cool	☐ Active	☒ Inactive	☐ Active	☐ Inactive
External alarm 1 input	☒ Closed circuit	☐ Open circuit	☐ Closed circuit	☐ Open circuit
External alarm 1 delay time s	10			
External alarm 2 reset	☐ Manual	☒ Auto	☐ Manual	☐ Auto
External alarm 2 after cool	☐ Active	☒ Inactive	☐ Active	☐ Inactive
External alarm 2 input	☒ Closed circuit	☐ Open circuit	☐ Closed circuit	☐ Open circuit
External alarm 2, time delay s	10			
Temperature protection				
Temperature protection	☐ On	☒ Off	☐ On	☐ Off
Alarm delay s	30			
Alarm limit °C	7			
Temperature alarm limits				
Pre-heat below set point K	5.0			
Supply air below set point K	5.0			
Supply air above set point K	7.0			
Extract air below alarm limit °C	12.0			
Outdoor temperature limit stop °C	5.0			
Service period				
Service period Mon.	12			
Alarm priority				
See alarm list				



Function	Factory-preset value	Adjusted value
Log		
Log file period	☒ On ☐ Off	☐ On ☐ Off
Log sender active	☐ On ☒ Off	☐ On ☐ Off
Live mode	☒ E-mail ☐ FTP ☐ E-mail and FTP	☐ E-mail ☐ FTP ☐ E-mail and FTP



Function	Factory-preset value	Adjusted value
Air handling unit		
Type of air handling unit	Type of air handling unit supplied, except the GOLD SD extract air handling unit	☐ GOLD RX ☐ GOLD PX ☐ GOLD CX ☐ GOLD SD Supply air ☐ GOLD SD Extract air ☐ GOLD SD Supply air+CX ☐ GOLD SD Supply air+Extract air ☐ GOLD SD Supply air+Extract air+CX
<i>GOLD RX/IPX/CX</i>		
Name		
Fan position 1	☒ Extract air ☐ Supply air	☐ Extract air ☐ Supply air
Flow chart, supply air fan position	☐ Upper level ☒ Bottom	☐ Upper level ☐ Bottom
<i>GOLD SD</i>		
Name		
Flowchart, fan position	☐ Upper level ☒ Bottom	☐ Upper level ☐ Bottom
<i>VOC/CO₂ sensor</i>		
VOC sensor, operating mode	☒ Inactive ☐ Monitoring only ☐ Monitoring and regulation	☐ Inactive ☐ Monitoring only ☐ Monitoring and regulation
CO ₂ unit	☒ % ☐ ppm	☐ % ☐ ppm
Flow chart, VOC sensor position	☒ Supply air ☐ Extract air	☐ Supply air ☐ Extract air



Function	Factory-preset value		Adjusted value	
Heat				
Pre-heat				
Pre-heat	☐ On	☒ Off	☐ On	☐ Off
Pre-heat set point °C	5			
Outdoor air temperature related	☐ On	☒ Off	☐ On	☐ Off
Difference, outdoor temp. K	5			
Preheat, min. limit °C	-10			
Periodic operation pump	☒ On	☐ Off	☐ On	☐ Off
Periodic operation valve	☒ On	☐ Off	☐ On	☐ Off
Periodic operation interval h	24			
Periodic operation period min.	3			
Alarm input	☒ Inactive	☐ Alarm on open cont.	☐ Inactive	☐ Alarm on open cont.
	☐ Alarm on closed cont.	☐ Contactor function	☐ Alarm on closed cont.	☐ Contactor function
Extra reg. sequence				
Extra regulation seq. 1 mode	☒ Inactive	☐ Heat	☐ Inactive	☐ Heat
	☐ Cool	☐ Heat and cool	☐ Cool	☐ Heat and cool
Output inverse 10 - 0 V	☐ On	☒ Off	☐ On	☐ Off
Recirculation control	☐ On	☒ Off	☐ On	☐ Off
Max. output signal %	100			
Periodic operation pump	☒ On	☐ Off	☐ On	☐ Off
Periodic operation valve	☒ On	☐ Off	☐ On	☐ Off
Periodic operation interval h	24			
Periodic operation period min.	3			
Pump alarm	☒ Inactive	☐ Alarm on open cont.	☐ Inactive	☐ Alarm on open cont.
	☐ Alarm on closed cont.	☐ Contactor function	☐ Alarm on closed cont.	☐ Contactor function
Extra regulation seq. 2 mode	☒ Inactive	☐ Heat	☐ Inactive	☐ Heat
	☐ Cool	☐ Heat and cool	☐ Cool	☐ Heat and cool
Output inverse 10 - 0 V	☐ On	☒ Off	☐ On	☐ Off
Recirculation control	☐ On	☒ Off	☐ On	☐ Off
Max. output signal %	100			
Periodic operation pump	☒ On	☐ Off	☐ On	☐ Off
Periodic operation valve	☒ On	☐ Off	☐ On	☐ Off
Periodic operation interval h	24			
Periodic operation period min.	3			
Pump alarm	☒ Inactive	☐ Alarm on open cont.	☐ Inactive	☐ Alarm on open cont.
	☐ Alarm on closed cont.	☐ Contactor function	☐ Alarm on closed cont.	☐ Contactor function
Reheat				
Air heater for hot water			☐ Active	
Periodic operation pump	☒ On	☐ Off	☐ On	☐ Off
Periodic operation valve	☒ On	☐ Off	☐ On	☐ Off
Periodic operation interval h	24			
Periodic operation period min.	3			
Xzone				
Xzone	☐ On	☒ Off	☐ On	☐ Off
Air heater for hot water			☐ Active	
Periodic operation pump	☒ On	☐ Off	☐ On	☐ Off
Periodic operation valve	☒ On	☐ Off	☐ On	☐ Off
Periodic operation interval h	24			
Periodic operation period min.	3			
Alarm input	☒ Inactive	☐ Alarm on open cont.	☐ Inactive	☐ Alarm on open cont.
	☐ Alarm on closed cont.	☐ Contactor function	☐ Alarm on closed cont.	☐ Contactor function
Electric air heater			☐ Active	
Post-cooling min.	3			
Season Heat				
Season Heat	☒ Inactive	☐ Extra regul.seq. 1 closed cont.	☐ Inactive	☐ Extra regul.seq. 1 closed cont.
	☐ Extra regul.seq. 1 closed cont.	☐ Extra regul.seq. 1 manual	☐ Extra regul.seq. 1 closed cont.	☐ Extra regul.seq. 1 manual
Extra reg. sequence	☐ On	☒ Off	☐ On	☐ Off



Function	Factory-preset value	Adjusted value
Cool		
Extra regulation sequence		
Extra regulation sequence 1	☒ Inactive ☐ Heating ☐ Cooling ☐ Heating and cooling	☐ Inactive ☐ Heating ☐ Cooling ☐ Heating and cooling
Output inverse 10 - 0 V	☐ On ☒ Off	☐ On ☐ Off
Recirculation control	☐ On ☒ Off	☐ On ☐ Off
Max. output signal %	100	
Periodic operation pump	☒ On ☐ Off	☐ On ☐ Off
Periodic operation valve	☒ On ☐ Off	☐ On ☐ Off
Periodic operation interval h	24	
Periodic operation period min.	3	
Pump alarm	☒ Inactive ☐ Alarm on open cont. ☐ Alarm on closed cont. ☐ Contactor function	☐ Inactive ☐ Alarm on open cont. ☐ Alarm on closed cont. ☐ Contactor function
Extra regulation sequence 2	☒ Inactive ☐ Heating ☐ Cooling ☐ Heating and cooling	☐ Inactive ☐ Heating ☐ Cooling ☐ Heating and cooling
Output inverse 10 - 0 V	☐ On ☒ Off	☐ On ☐ Off
Recirculation control	☐ On ☒ Off	☐ On ☐ Off
Max. output signal %	100	
Periodic operation pump	☒ On ☐ Off	☐ On ☐ Off
Periodic operation valve	☒ On ☐ Off	☐ On ☐ Off
Periodic operation interval h	24	
Periodic operation period min.	3	
Pump alarm	☒ Inactive ☐ Alarm on open cont. ☐ Alarm on closed cont. ☐ Contactor function	☐ Inactive ☐ Alarm on open cont. ☐ Alarm on closed cont. ☐ Contactor function
Cool		
<i>DX air cooler</i>		
Cooling	☒ Inactive ☐ 1-step ☐ 2-step ☐ 3-step, binary	☐ Inactive ☐ 1-step ☐ 2-step ☐ 3-step, binary
<i>Air cooler for water</i>		☐ Active
Period. operation pump 1	☒ On ☐ Off	☐ On ☐ Off
Period. operation pump 2	☒ On ☐ Off	☐ On ☐ Off
Periodic operation valve	☒ On ☐ Off	☐ On ☐ Off
Periodic operation interval h	24	
Periodic operation period min.	3	
Xzone		
<i>DX air cooler</i>		
Cooling	☒ Inactive ☐ 1-step ☐ 2-step ☐ 3-step, binary	☐ Inactive ☐ 1-step ☐ 2-step ☐ 3-step, binary
<i>Air cooler for water</i>		☐ Active
Period. operation pump 1	☒ On ☐ Off	☐ On ☐ Off
Period. operation pump 2	☒ On ☐ Off	☐ On ☐ Off
Periodic operation valve	☒ On ☐ Off	☐ On ☐ Off
Periodic operation interval h	24	
Periodic operation period min.	3	
Alarm input 1	☒ Inactive ☐ Alarm on open cont. ☐ Alarm on closed cont. ☐ Contactor function	☐ Inactive ☐ Alarm on open cont. ☐ Alarm on closed cont. ☐ Contactor function
Alarm input 2	☒ Inactive ☐ Alarm on open cont. ☐ Alarm on closed cont. ☐ Contactor function	☐ Inactive ☐ Alarm on open cont. ☐ Alarm on closed cont. ☐ Contactor function
COOL DX		
COOL DX	☒ Inactive ☐ Economy ☐ Comfort ☐ COOL DX Top	☐ Inactive ☐ Economy ☐ Comfort ☐ COOL DX Top
Delay time		
Restart time min.	5	
Step switch time min.	5	
Stop/start time min.	5	

Outdoor air limits			
Step 1	°C	15	
Step 2	°C	18	
Step 3	°C	20	
Air flow, limits			
<i>Cooling, 0-10 V</i>			
Supply air, 0-10 V		25% of max. airflow for air handling unit	
Extract air, 0-10 V		25% of max. airflow for air handling unit	
<i>Cooling, On/Off</i>			
Supply air, On/Off, step 1		25% of max. airflow for air handling unit	
Extract air, On/Off, step 1		25% of max. airflow for air handling unit	
Supply air, On/Off, step 2		50% of max. airflow for air handling unit	
Extract air, On/Off, step 2		50% of max. airflow for air handling unit	
Supply air, On/Off, step 3		75% of max. airflow for air handling unit	
Extract air, On/Off, step 3		75% of max. airflow for air handling unit	



Function	Factory-preset value		Adjusted value	
Heat/Cool recovery				
Carry over control				
Carry over control	☐ On	☒ Off	☐ On	☐ Off
Efficiency measurement				
Efficiency measurement	☐ On	☒ Off	☐ On	☐ Off
Defrosting				
Defrosting	☐ On	☒ Off	☐ On	☐ Off
Defrosting limit value Pa	50			
Calibration	☐ On	☒ Off	☐ On	☐ Off
Calibration/Optimization (PX)				
Calibration	☐ On	☒ Off	☐ On	☐ Off
Bypass optimization	☐ On	☒ Off	☐ On	☐ Off



Function	Factory-preset value	Adjusted value
SMART Link		
Type of unit	☒ Inactive ☐ Water, heat pump ☐ Water, chiller ☐ Water, reversible ☐ DX, heat pump ☐ DX, chiller ☐ DX, reversible	☐ Inactive ☐ Water, heat pump ☐ Water, chiller ☐ Water, reversible ☐ DX, heat pump ☐ DX, chiller ☐ DX, reversible
<i>Water</i>		
Heated water (set point) °C	40	
Heated water diff K	3	
Chilled water (set point) °C	12	
Chilled water diff K	2	
Outdoor air limit °C (not applicable to the chiller)	-20	
Optimize	☐ On ☒ Off	☐ On ☐ Off
Cool. optim. reg. speed K/min	0.3	
Heat. optim. reg. speed K/min	0.3	
Valve limit, lower %	75	
Valve limit, upper %	95	
Delay s	60	
AQUA Link	☐ On ☒ Off	☐ On ☐ Off
Pump alarm	☒ Inactive ☐ Alarm on closed contact ☐ Alarm on open contact ☐ Contactor function	☐ Inactive ☐ Alarm on closed contact ☐ Alarm on open contact ☐ Contactor function
<i>DX (Celest+)</i>		
Amount of units	1	
Comfort mode, durationmin	30	
Outdoor air limit °C (not applicable to the chiller)	-20	
Defrost delay s	180	
Dead band, supply air temp. K	0,0	
Stabilization time s	240	



Function	Factory-preset value		Adjusted value	
Humidity				
Humidifying				
Humidifying	☒ Inactive	☐ On/Off	☐ Inactive	☐ On/Off
	☐ 0 - 10 V		☐ 0 - 10 V	
Location, regulating humidity sensor	☒ Supply air	☐ Extract air	☐ Supply air	☐ Extract air
Evaporative				
Start limit %RH	40			
Stop limit %RH	45			
Steam				
Set point %RH	30			
Max. supply air %RH	80			
Dehumidifying				
Dehumidification	☒ Inactive	☐ Supply air	☐ Inactive	☐ Supply air
	☐ Extract air		☐ Extract air	
Supply air, rel. humidity %RH	50			
Extract air, rel. humidity %RH	50			
Humidifier alarm				
Alarm input	☒ Inactive	☐ Closed circuit	☐ Inactive	☐ Closed circuit
	☐ Open circuit	☐ Contactor function	☐ Open circuit	☐ Contactor function



Function	Factory-preset value		Adjusted value	
ReCO₂				
CO ₂ /VOC, operating mode	☒ Inactive	☐ CO ₂ /VOC	☐ Inactive	☐ CO ₂ /VOC
	☐ CO ₂ /VOC and air flow boost		☐ CO ₂ /VOC and air flow boost	
Temperature mode	☒ Inactive	☐ Heat sequence	☐ Inactive	☐ Heat sequence
	☐ Cool sequence	☐ Heat and cool sequence	☐ Cool sequence	☐ Heat and cool sequence
CO₂/VOC				
CO ₂ , set point %	50			
CO ₂ , set point ppm	1000			
VOC, set point ppm	1500			
Min. outdoor air	25% of max. airflow for air handling unit			
Min. exhaust air	25% of max. airflow for air handling unit			
Calibration	☐ On	☒ Off	☐ On	☐ Off
Temperature				
Min. outdoor air	25% of max. airflow for air handling unit			
Min. exhaust air	25% of max. airflow for air handling unit			
Calibration	☐ On	☒ Off	☐ On	☐ Off



Function	Factory-preset value	Adjusted value
All Year Comfort		
Function	☒ Inactive ☐ Chilled water ☐ Heated water ☐ Chilled and heated water	☐ Inactive ☐ Chilled water ☐ Heated water ☐ Chilled and heated water
Chilled water		
Chilled water °C	14	
Outdoor temp. comp.	☐ On ☒ Off	☐ On ☐ Off
Outdoor temp. X1 °C	10	
Outdoor temp. X2 °C	20	
Outdoor temp. X3 °C	25	
Outdoor temp. X4 °C	30	
Chilled water temp. Y1 °C	22	
Chilled water temp Y2 °C	18	
Chilled water temp. Y3 °C	14	
Chilled water temp. Y4 °C	12	
Outd. temp. for pump start °C	10	
Outd. temp. for pump stop °C	7	
Room temp. compensation	☐ On ☒ Off	☐ On ☐ Off
Room temp. set point °C	21	
Room temp. P-band K	5	
Room comp. night block.	☐ On ☒ Off	☐ On ☐ Off
Night compensation	☐ On ☒ Off	☐ On ☐ Off
Night reduction K	2	
Time channel 1, start night h:min.	00:00	
Time channel 1, end night h:min.	00:00	
Time channel 1, period	☒ Inactive ☐ Monday ☐ Tuesday ☐ Wednesday ☐ Thursday ☐ Friday ☐ Saturday ☐ Sunday ☐ Mon.-Fri. ☐ Mon.-Sun. ☐ Sat.-Sun.	☐ Inactive ☐ Monday ☐ Tuesday ☐ Wednesday ☐ Thursday ☐ Friday ☐ Saturday ☐ Sunday ☐ Mon.-Fri. ☐ Mon.-Sun. ☐ Sat.-Sun.
Dew point compensation	☐ On ☒ Off	☐ On ☐ Off
Air flow compensation	☐ On ☒ Off	☐ On ☐ Off
Periodic operation pump	☒ On ☐ Off	☐ On ☐ Off
Periodic operation valve	☐ On ☒ Off	☐ On ☐ Off
Periodic operation interval h	24	
Periodic operation period min.	3	
Pump alarm	☒ Inactive ☐ Alarm on closed cont. ☐ Alarm on open contact ☐ Contactor function	☐ Inactive ☐ Alarm on closed cont. ☐ Alarm on open contact ☐ Contactor function
Valve alarm	☐ On ☒ Off	☐ On ☐ Off

Function	Factory-preset value	Adjusted value
Heated water		
Heated water °C	30	
Outdoor temp. comp.	☐ On ☒ Off	☐ On ☐ Off
Outdoor temperature X1 °C	-20	
Outdoor temperature X2 °C	0	
Outdoor temperature X3 °C	5	
Outdoor temperature X4 °C	15	
Heated water temp. Y1 °C	40	
Heated water temp. Y2 °C	30	
Heated water temp. Y3 °C	20	
Heated water temp. Y4 °C	15	
Outd. temp. for pump start °C	15	
Outd. temp. for pump stop °C	18	
Room temp. compensation	☐ On ☒ Off	☐ On ☐ Off
Room temp. set point °C	21	
Room temp. P-band K	5	
Room comp. night blocking	☐ On ☒ Off	☐ On ☐ Off
Night compensation	☐ On ☒ Off	☐ On ☐ Off
Night reduction K	-2	
Time channel 2, start night h:min.	00:00	
Time channel 2, end night h:min.	00:00	
Time channel 2, period	☒ Inactive ☐ Monday ☐ Tuesday ☐ Wednesday ☐ Thursday ☐ Friday ☐ Saturday ☐ Sunday ☐ Mon.-Fri. ☐ Mon.-Sun. ☐ Sat.-Sun.	☐ Inactive ☐ Monday ☐ Tuesday ☐ Wednesday ☐ Thursday ☐ Friday ☐ Saturday ☐ Sunday ☐ Mon.-Fri. ☐ Mon.-Sun. ☐ Sat.-Sun.
Air flow compensation	☐ On ☒ Off	☐ On ☐ Off
Periodic operation pump	☒ On ☐ Off	☐ On ☐ Off
Periodic operation valve	☐ On ☒ Off	☐ On ☐ Off
Periodic operation interval h	24	
Periodic operation period min	3	
Pump alarm	☒ Inactive ☐ Alarm on closed cont. ☐ Alarm on open contact ☐ Contactor function	☐ Inactive ☐ Alarm on closed cont. ☐ Alarm on open contact ☐ Contactor function
Valve alarm	☐ On ☒ Off	☐ On ☐ Off



Function	Factory-preset value	Adjusted value
MIRU Control	See the commissioning report for MIRU Control	



Function	Factory-preset value	Adjusted value
Inputs / Outputs		
<i>External operation, module 3</i>		
Digital output 1, operating mode	Inactive	☐ Inactive ☐ AHU in auto op. mode ☐ AHU in low speed op. mode ☐ A alarm ☐ Damper relay ☐ Heat exchanger, defrost. ☐ Reheat, cap. red. ☐ Morning Boost ☐ Air flow down regulation ☐ Extra reg. sequ. 2, Heat ☐ Extra reg. sequ. 2, Cool ☐ Cooling Boost ☐ Supply air fan in operation ☐ Internal fire alarm tripped ☐ External fire alarm 2 ☐ Any fire alarm ☐ Ext. fire alarm 2 with priority ☐ Preheating ☐ Air handling unit in operation ☐ AHU in man. op. mode ☐ AHU in high speed operation ☐ B-alarm ☐ Heat exchange ☐ Re-heat ☐ Heating boost ☐ Intermittent night op. ☐ Extra reg. sequ. 1, Heat ☐ Extra reg. sequ. 1, Cool ☐ Cooling ☐ Summer night cool ☐ Extract air fan in operation ☐ External fire alarm 1 ☐ External fire alarms 1 and 2 ☐ Ext. fire alarm 1 with priority ☐ Int. fire alarm with priority
Digital output 2, operating mode	Inactive	☐ Inactive ☐ AHU in auto op. mode ☐ AHU in low speed op. mode ☐ A alarm ☐ Damper relay ☐ Heat exchanger, defrost. ☐ Reheat, cap. red. ☐ Morning Boost ☐ Air flow down regulation ☐ Extra reg. sequ. 2, Heat ☐ Extra reg. sequ. 2, Cool ☐ Cooling Boost ☐ Supply air fan in operation ☐ Internal fire alarm tripped ☐ External fire alarm 2 ☐ Any fire alarm ☐ Ext. fire alarm 2 with priority ☐ Preheating ☐ Air handling unit in operation ☐ AHU in man. op. mode ☐ AHU in high speed operation ☐ B-alarm ☐ Heat exchange ☐ Re-heat ☐ Heating boost ☐ Intermittent night op. ☐ Extra reg. sequ. 1, Heat ☐ Extra reg. sequ. 1, Cool ☐ Cooling ☐ Summer night cool ☐ Extract air fan in operation ☐ External fire alarm 1 ☐ External fire alarms 1 and 2 ☐ Ext. fire alarm 1 with priority ☐ Int. fire alarm with priority
Digital Input 1	☒ Inactive ☐ Stop AYC heating water ☐ Alarm reset ☐ Stop AYC chilled water	☐ Inactive ☐ Stop AYC heating water ☐ Alarm reset ☐ Stop AYC, chilled water
Digital Input 2	☒ Inactive ☐ Stop AYC heating water ☐ Alarm reset ☐ Stop AYC chilled water	☐ Inactive ☐ Stop AYC heating water ☐ Alarm reset ☐ Stop AYC chilled water
Analogue Input 1	See Section 6.4.19	☐ Inactive ☐ Set point displ., supply air ☐ Set point displacement ☐ Set point displ., extract air
Analogue Input 2	See Section 6.4.19	☐ Inactive ☐ Set point displ., supply air ☐ Set point displacement ☐ Set point displ., extract air

Function	Factory-preset value	Adjusted value
Inputs / Outputs		
<i>External operation, module 6</i>		
Digital output 1, operating mode	Inactive	☐ Inactive ☐ AHU in auto op. mode ☐ AHU in low speed op. mode ☐ A alarm ☐ Damper relay ☐ Heat exchanger, defrost. ☐ Reheat, cap. red. ☐ Morning Boost ☐ Air flow down regulation ☐ Extra reg. sequ. 2, Heat ☐ Extra reg. sequ. 2, Cool ☐ Cooling Boost ☐ Supply air fan in operation ☐ Internal fire alarm tripped ☐ External fire alarm 2 ☐ Any fire alarm ☐ Ext. fire alarm 2 with priority ☐ Preheating ☐ Air handling unit in operation ☐ AHU in man. op. mode ☐ AHU in high speed operation ☐ B-alarm ☐ Heat exchange ☐ Re-heat ☐ Heating boost ☐ Intermittent night op. ☐ Extra reg. sequ. 1, Heat ☐ Extra reg. sequ. 1, Cool ☐ Cooling ☐ Summer night cool ☐ Extract air fan in operation ☐ External fire alarm 1 ☐ External fire alarms 1 and 2 ☐ Ext. fire alarm 1 with priority ☐ Int. fire alarm with priority
Digital output 2, operating mode	Inactive	☐ Inactive ☐ AHU in auto op. mode ☐ AHU in low speed op. mode ☐ A alarm ☐ Damper relay ☐ Heat exchanger, defrost. ☐ Reheat, cap. red. ☐ Morning Boost ☐ Air flow down regulation ☐ Extra reg. sequ. 2, Heat ☐ Extra reg. sequ. 2, Cool ☐ Cooling Boost ☐ Supply air fan in operation ☐ Internal fire alarm tripped ☐ External fire alarm 2 ☐ Any fire alarm ☐ Ext. fire alarm 2 with priority ☐ Preheating ☐ Air handling unit in operation ☐ AHU in man. op. mode ☐ AHU in high speed operation ☐ B-alarm ☐ Heat exchange ☐ Re-heat ☐ Heating boost ☐ Intermittent night op. ☐ Extra reg. sequ. 1, Heat ☐ Extra reg. sequ. 1, Cool ☐ Cooling ☐ Summer night cool ☐ Extract air fan in operation ☐ External fire alarm 1 ☐ External fire alarms 1 and 2 ☐ Ext. fire alarm 1 with priority ☐ Int. fire alarm with priority
Digital Input 1	☒ Inactive ☐ Stop AYC heating water ☐ Alarm reset ☐ Stop AYC chilled water	☐ Inactive ☐ Stop AYC heating water ☐ Alarm reset ☐ Stop AYC, chilled water
Digital Input 2	☒ Inactive ☐ Stop AYC heating water ☐ Alarm reset ☐ Stop AYC chilled water	☐ Inactive ☐ Stop AYC heating water ☐ Alarm reset ☐ Stop AYC chilled water
Analogue Input 1	See Section 6.4.19	☐ Inactive ☐ Set point displ., supply air ☐ Set point displacement ☐ Set point displ., extract air
Analogue Input 2	See Section 6.4.19	☐ Inactive ☐ Set point displ., supply air ☐ Set point displacement ☐ Set point displ., extract air

Function	Factory-preset value		Adjusted value	
Inputs / Outputs				
<i>External communication module A/B/C</i>				
External communication module A	☐ On	☒ Off	☐ On	☐ Off
Temperature sensor no. 1	☐ On	☒ Off	☐ On	☐ Off
Temperature sensor no. 2	☐ On	☒ Off	☐ On	☐ Off
External communication module B	☐ On	☒ Off	☐ On	☐ Off
Temperature sensor no. 1	☐ On	☒ Off	☐ On	☐ Off
Temperature sensor no. 2	☐ On	☒ Off	☐ On	☐ Off
External communication module C	☐ On	☒ Off	☐ On	☐ Off
Temperature sensor no. 1	☐ On	☒ Off	☐ On	☐ Off
Temperature sensor no. 2	☐ On	☒ Off	☐ On	☐ Off



Function	Factory-preset value	Adjusted value
Communication		
External Port B		
DHCP	☐ On ☒ Off	☐ On ☐ Off
IP address	10.200.1.1	
Net mask	255.255.255.0	
Standard value GATEWAY	0.0.0.0	
Primary DNS	0.0.0.0	
Secondary DNS	0.0.0.0	
Wireless LAN		
Wireless LAN	☐ On ☒ Off	☐ On ☐ Off
SSID	GOLD	
Password	123456789	
IP address	192.168.234.1	
Net mask	255.255.255.0	
Channel, frequency band	5	
E-mail		
SMTP-server	☒ External ☐ Internal	☐ External ☐ Internal
SMTP server address		
SMTP port number	25	
SMTP username		
SMTP password		
Encryption	☐ On ☒ Off	☐ On ☐ Off
E-mail user		
E-mail reply path		
EIA-485		
Protocol	☐ Inactive ☒ Modbus ☐ EXOline ☐ Metasys N2 Open ☐ LON	☐ Inactive ☐ Modbus ☐ EXOline ☐ Metasys N2 Open ☐ LON
Baudrate	☐ 4800 ☒ 9600 ☐ 19200 ☐ 38400	☐ 4800 ☐ 9600 ☐ 19200 ☐ 38400
Parity	☒ None ☐ Even ☐ odd	☐ None ☐ Even ☐ odd
Stopbits	2	
Modbus ID/Metasys ID/PLA	1	
ELA	1	
Shortest feedback delay ms	0	
Modbus TCP		
Port number	502	
Approved client IP address	0.0.0.0	
Approved client netmask	0.0.0.0	
BACnet IP		
Network number Ext. B	0	
Internal network number A	0	
Device ID	0	
Port number	47808	
EXOline TCP		
Port number	26486	
PLA	1	
ELA	1	
Op. level communication		
Operation level	☒ Inactive ☐ Total stop ☐ Low speed ☐ High Speed ☐ Normal Stop ☐ Extended Normal Stop	☐ Inactive ☐ Total Stop ☐ Low speed ☐ High Speed ☐ Normal Stop ☐ Extended Normal Stop



Function	Factory-preset value	Adjusted value
Users		
Requirements for user password	☐ On ☒ Off	☐ On ☐ Off



Function	Factory-preset value	Adjusted value
<i>IQnavigator</i>		
Connect to IQlogic	☒ Direct ☐ DHCP ☐ Static IP ☐ Wireless	☐ Direct ☐ DHCP ☐ Static IP ☐ Wireless
IQnavigator IP address		
IQnavigator Netmask		
Pre-selected IQnavigator gateway		
IQlogic IP address		
Brightness mode	☒ Auto adjust ☐ Low ☐ Medium ☐ High	☐ Auto adjust ☐ Low ☐ Medium ☐ High
Button sound effects	☐ On ☒ Off	☐ On ☐ Off
Volume	3	

Alarm No.	Function	Factory-preset valuee		Adjusted value	
		Priority	Effect	Priority	Effect
		0 = Blocked A = alarm A B = B alarm	0 = In oper. 1 = Stop	0 = Blocked A = A alarm B = B alarm	0 = In oper. 1 = Stop
1:1	External fire alarm no. 1 tripped	A ¹⁾	1		
1:2	External fire alarm no. 2 tripped	A ¹⁾	1		
1:3	Internal fire alarm tripped	A ¹⁾	1		
2:1	External alarm no. 1 tripped ²⁾	A	1 ³⁾		
2:2	External alarm no. 2 tripped ²⁾	B	0 ³⁾		
3:1	Preheating, I/O module no. 9 communication error	A	0 ³⁾		
3:2	Preheating, overheating protection for electric air heater tripped	A ¹⁾	0 ³⁾		
3:3	Pre-heating, frost guard tripped	A ¹⁾	1		
3:4	Pre-heating, frost guard temperature sensor defective	A ¹⁾	1		
3:5	Pre-heating, temperature sensor defective	A	0 ³⁾		
3:6	Pre-heating, valve monitoring tripped	B	0 ³⁾		
3:7	Pre-heating, temperature below set point alarm limit	A	0 ³⁾		
3:8	Pre-heat, alarm input tripped	A	0		
4:1	Extra regulation sequence 1, I/O module no. E communication error	A	0 ³⁾		
4:2	Extra regulation sequence 1, overheating protection for electric air heater tripped	A ¹⁾	0 ³⁾		
4:3	Extra regulation sequence 1, frost guard tripped	A ¹⁾	1		
4:4	Extra regulation sequence 1, frost guard temperature sensor defective	A ¹⁾	1		
4:5	Extra regulation sequence 1, valve monitoring tripped	B	0 ³⁾		
4:6	Extra regulation sequence 1, alarm input tripped	A	0		
4:7	Extra regulation sequence 1, temperature protection via communication, communication error	B	0		
4:9	Extra regulation sequence 2, I/O module no. F communication error	A	0 ³⁾		
4:10	Extra regulation sequence 2, overheating protection for electric air heater tripped	A ¹⁾	0 ³⁾		
4:11	Extra regulation sequence 2, frost guard tripped	A ¹⁾	1		
4:12	Extra regulation sequence 2, frost guard temperature sensor defective	A ¹⁾	1		
4:13	Extra regulation sequence 22, valve monitoring tripped	B	0 ³⁾		
4:14	Extra regulation sequence 1, alarm input tripped	A	0		
5:1	Reheating, overheating protection for electric air heater tripped	A ¹⁾	0 ³⁾		
5:2	Reheating, frost guard tripped	A ¹⁾	1		
5:3	Reheating, frost guard temperature sensor defective	A ¹⁾	1		
5:4	Reheating, heat valve monitoring tripped	B	0 ³⁾		
6:1	Xzone I/O-module no. A communication error	A	0 ³⁾		
6:2	Xzone, overheating protection for electric air heater tripped	A ¹⁾	0 ³⁾		
6:3	Xzone, frost guard tripped	A ¹⁾	1		
6:4	Xzone, frost guard temperature sensor defective	A ¹⁾	1		
6:5	Xzone, supply air temperature sensor defective	A	1 ³⁾		
6:6	Xzone, heating valve monitoring tripped	B	0 ³⁾		
6:7	Xzone, supply air temperature below set point alarm limit	A	0 ³⁾		
6:8	Xzone, supply air temperature above set point alarm limit	B	0 ³⁾		
6:9	Xzone, heat, alarm input tripped	A	0		
7:1	Xzone I/O-module no. B communication error	A	0 ³⁾		
7:2	Xzone, extract air temperature sensor defective	A	1 ³⁾		
7:3	Xzone, cooling valve monitoring tripped	B	0 ³⁾		
7:4	Xzone, extract air temperature below set point alarm limit	A	0 ³⁾		
7:5	Xzone, cool, alarm input 1 tripped	A	0		
7:6	Xzone, cool, alarm input 2 tripped	A	0		
8:5	Cooling, valve monitoring tripped	B	0 ³⁾		
10:1	Supply air temperature sensor defective	A	1 ³⁾		

Alarm No.	Function	Factory-preset valuee		Adjusted value	
		Priority	Effect	Priority	Effect
		0 = Blocked A = alarm A B = B alarm	0 = In oper. 1 = Stop	0 = Blocked A = A alarm B = B alarm	0 = In oper. 1 = Stop
10:2	Supply air temperature sensor for density compensation defective	B	0 ³⁾		
10:3	Extract air temperature sensor defective	A	1 ³⁾		
10:4	Extract air temperature sensor for density compensation defective (RX/IPX/CX)	B	0 ³⁾		
10:5	Extract air temperature sensor for heat exchanger defrosting defective	A	1 ³⁾		
10:6	Extract air temperature sensor for density compensation in SD AHU defective	A	1 ³⁾		
10:7	Extract air duct temperature sensor defective	A	1 ³⁾		
10:10	Outdoor air temperature sensor defective (GOLD SD)	B	0 ³⁾		
11:1	Room temperature sensor no. 1 defective	B	0 ³⁾		
11:2	Room temperature sensor no. 2 defective	B	0 ³⁾		
11:3	Room temperature sensor no. 3 defective	B	0 ³⁾		
11:4	Room temperature sensor no. 4 defective	B	0 ³⁾		
11:5	Xzone, room temperature sensor no. 5 defective	B	0 ³⁾		
11:6	Xzone, room temperature sensor no. 6 defective	B	0 ³⁾		
11:7	Xzone, room temperature sensor no. 7 defective	B	0 ³⁾		
11:8	Xzone, room temperature sensor no. 8 defective	B	0 ³⁾		
11:9	Outdoor temperature sensor no. A defective	B	0 ³⁾		
11:10	Outdoor temperature sensor no. B defective	B	0 ³⁾		
11:11	Outdoor temperature sensor no. C defective	B	0 ³⁾		
11:12	Outdoor temperature sensor no. D defective	B	0 ³⁾		
11:13	Room temperature via communication, communication error ²⁾	B	0 ³⁾		
11:14	Xzone, room temperature via communication, communication error ²⁾	B	0 ³⁾		
11:15	Outdoor temperature via communication, communication error ²⁾	B	0 ³⁾		
12:1	Supply air temperature below set point alarm limit	A	1 ³⁾		
12:2	Supply air temperature above set point alarm limit	B	0 ³⁾		
12:6	Extract air temperature below alarm limit	A	1 ³⁾		
12:11	Temperature protection below alarm limit ²⁾	A	1 ³⁾		
12:13	Heat exchanger efficiency below alarm limit	B	0 ³⁾		
13:1	Humidification, I/O module no. 4 communication error	B	0 ³⁾		
13:2	Supply air humidity sensor defective	A	0 ³⁾		
13:3	Extract air humidity sensor defective	A	0 ³⁾		
13:4	Exhaust air humidity sensor defective	A	0 ³⁾		
13:9	Humidifier, alarm output tripped	A	0 ³⁾		
13:11	VOC sensor communication error	B	0 ³⁾		
13:12	VOC sensor, internal communication error	B	0 ³⁾		
13:13	VOC sensor, internal error	B	0 ³⁾		
13:14	VOC sensor, level below/above set point alarm limit	B	0 ³⁾		
15:1	plate heat exchanger, I/O module no. 2 communication error	A	1 ³⁾⁴⁾		
15:2	Plate heat exchanger, temperature sensor no. 1 defective	A	1 ³⁾⁴⁾		
15:3	Plate heat exchanger, temperature sensor no. 2 defective	A	1 ³⁾⁴⁾		
15:4	Plate heat exchanger, damper monitoring tripped	A	0 ³⁾⁴⁾		
15:7	Plate heat exchanger, I/O module no. 3 communication error	A	1		
15:8	Plate heat exchanger, bypass damper monitoring tripped	A	0		
15:9	Plate heat exchanger, damper no. 1 monitoring tripped	A	0		
15:10	Plate heat exchanger, damper no. 2 monitoring tripped	A	0		
15:11	Plate heat exchanger, I/O module no. 3 communication error	A	1		
15:12	Plate heat exchanger, bypass damper monitoring tripped	A	0		

Alarm No.	Function	Factory-preset valuee		Adjusted value	
		Priority	Effect	Priority	Effect
		0 = Blocked A = alarm A B = B alarm	0 = In oper. 1 = Stop	0 = Blocked A = A alarm B = B alarm	0 = In oper. 1 = Stop
15:13	Plate heat exchanger, counter-flow, defrosting pressure over alarm limit	B	1		
15:14	Plate heat exchanger, defrosting sensor no. C communication error	B	0		
15:15	Plate heat exchanger, defrosting pressure over alarm limit	B	1		
16:1	Coil heat exchanger, I/O module no. 1 communication error	A	1 ³⁽⁴⁾		
16:2	Coil heat exchanger, temperature sensor defective	A	1 ³⁽⁴⁾		
16:3	Coil heat exchanger, valve monitoring tripped	A	0 ³⁽⁴⁾		
16:4	Coil heat exchanger, pump monitoring tripped	A	1 ³⁽⁴⁾		
16:5	Coil heat exchanger, I/O module no. C communication error	A	1 ³⁽⁴⁾		
16:6	Coil heat exchanger, pressure sensor defective	A	1 ³⁽⁴⁾		
16:7	Coil heat exchanger, low pressure in fluid circuit	A	1 ³⁽⁴⁾		
17:1	Rotary heat exchanger, motor controller communication error	A	1 ³⁾		
17:2	Rotary heat exchanger, defrosting pressure sensor no. 7 communication error	B	0 ³⁾		
17:3	Rotary heat exchanger, defrosting pressure above alarm limit	B	1 ³⁽⁴⁾		
17:4	Rotary heat exchanger, rotation detector tripped	A ¹⁾	1 ³⁽⁴⁾		
17:5	Rotary heat exchanger, motor controller overcurrent	A ¹⁾	1 ³⁽⁴⁾		
17:6	Rotary heat exchanger, motor controller undervoltage	A ¹⁾	1 ³⁽⁴⁾		
17:7	Rotary heat exchanger, motor controller overvoltage	A ¹⁾	1 ³⁽⁴⁾		
17:8	Rotary heat exchanger, motor controller excess temperature	A ¹⁾	1 ³⁽⁴⁾		
17:9	Rotary heat exchanger, motor controller start up error	A ¹⁾	1 ³⁽⁴⁾		
18:1	AYC I/O module no. 7 communication error	A	0 ³⁾		
18:2	AYC heating, temperature sensor defective	A	0 ³⁾		
18:3	AYC heating, valve monitoring tripped	B	0 ³⁾		
18:4	AYC heating, pump monitoring tripped	A	0 ³⁾		
18:5	AYC heating, temperature below set point alarm limit	A	0 ³⁾		
18:6	AYC heating, temperature above set point alarm limit ⁵⁾	B	0 ³⁾		
18:9	AYC cooling, temperature sensor defective	A	0 ³⁾		
18:10	AYC cooling, valve monitoring tripped	B	0 ³⁾		
18:11	AYC cooling, pump monitoring tripped	A	0 ³⁾		
18:12	AYC cooling, temperature below set point alarm limit	A	0 ³⁾		
18:13	AYC cooling, temperature above set point alarm limit ⁵⁾	B	0 ³⁾		
21:1	COOL DX, I/O module no. 2 communication error	B	0 ³⁾		
21:2	COOL DX, compressor no. 1 low pressure sensor defective	A ¹⁾	0 ³⁾		
21:3	COOL DX, compressor no. 1 low pressure below alarm limit	A ¹⁾	0 ³⁾		
21:4	COOL DX, compressor no. 1 high pressure sensor defective	A ¹⁾	0 ³⁾		
21:5	COOL DX, compressor no. 1 high pressure above alarm limit	A ¹⁾	0 ³⁾		
21:6	COOL DX, compressor no. 1 monitoring tripped	A	0 ³⁾		
21:7	COOL DX, compressor no. 1 restart error	A	0 ³⁾		
21:8	COOL DX, compressor no. 2 low pressure sensor defective	A ¹⁾	0 ³⁾		
21:9	COOL DX, compressor no. 2 low pressure below alarm limit	A ¹⁾	0 ³⁾		
21:10	COOL DX, compressor no. 2 high pressure sensor defective	A ¹⁾	0 ³⁾		
21:11	COOL DX, compressor no. 2 high pressure above alarm limit	A ¹⁾	0 ³⁾		
21:12	COOL DX, compressor no. 2 monitoring tripped	A	0 ³⁾		
21:13	COOL DX, compressor no. 2 restart error	A	0 ³⁾		
21:14	COOL DX, outdoor air temperature sensor defective	B	0 ³⁾		
21:15	COOL DX, phase monitoring error	A	0 ³⁾		
23:1	SMART Link, communication error	A	0 ³⁾		

Alarm No.	Function	Factory-preset valuee		Adjusted value	
		Priority	Effect	Priority	Effect
		0 = Blocked A = alarm A B = B alarm	0 = In oper. 1 = Stop	0 = Blocked A = A alarm B = B alarm	0 = In oper. 1 = Stop
23:2	SMART Link, alarm level 1 tripped	B	0 ³⁾		
23:3	SMART Link, alarm level 2 tripped	B	0 ³⁾		
23:4	SMART Link, alarm level 3 tripped	B	0 ³⁾		
23:10	AQUA Link, I/O module no. 5 tripped	B	0 ³⁾		
23:11	AQUA Link, pump monitoring tripped	B	0 ³⁾		
24:1	SMART Link, no. 1 communication error	A	0 ³⁾		
24:2	SMART Link, no. 1 alarm tripped	A	0 ³⁾		
24:4	SMART Link, no. 2 communication error	A	0 ³⁾		
24:5	SMART Link, no. 2 alarm tripped	A	0 ³⁾		
24:7	SMART Link, no. 3 communication error	A	0 ³⁾		
24:8	SMART Link, no. 3 alarm tripped	A	0 ³⁾		
24:10	SMART Link, no. 4 communication error	A	0 ³⁾		
24:11	SMART Link, no. 4 alarm tripped	A	0 ³⁾		
26:1	Pre-filter, supply air pressure sensor no. 8 communication error	B	0 ³⁾		
26:2	pre-filter, supply air fouled	B	0 ³⁾		
26:7	Pre-filter, extract air pressure sensor no. 9 communication error	B	0 ³⁾		
26:8	Pre-filter, extract air fouled	B	0 ³⁾		
27:1	AHU filter, supply air pressure sensor no. 3/4 communication error	B	0 ³⁾		
27:2	AHU filter, supply air fouled	B	0 ³⁾		
27:7	AHU filter, extract air pressure sensor no. 3/4 communication error	B	0 ³⁾		
27:8	AHU filter, extract air fouled	B	0 ³⁾		
28:1	Final filter, supply air pressure sensor no. A communication error	B	0 ³⁾		
28:2	Final filter, supply air fouled	B	0 ³⁾		
30:1	Flow measurement, supply air pressure sensor no. 1/2 communication error	A	1 ³⁾		
30:2	Flow measurement, supply airflow below set point alarm limit	B	0 ³⁾		
30:3	Flow measurement, supply air flow above set point alarm limit	B	0 ³⁾		
30:6	Flow measurement, extract air pressure sensor no. 1/2 communication error	A	1 ³⁾		
30:7	Flow measurement, extract airflow below set point alarm limit	B	0 ³⁾		
30:8	Flow measurement, extract airflow below set point alarm limit	B	0 ³⁾		
30:11	Flow measurement, purging pressure sensor no. B communication error	B	0 ³⁾		
31:1	Pressure regulation, supply air pressure sensor no. 5 communication error	A	1 ³⁾		
31:2	Pressure regulation, supply air pressure below set point alarm limit	B	0 ³⁾		
31:3	Pressure regulation, supply air pressure above set point alarm limit	B	0 ³⁾		
31:6	Pressure regulation, extract air pressure sensor no. 6 kommunikationsfel	A	1 ³⁾		
31:7	Pressure regulation, extract air pressure below set point alarm limit	B	0 ³⁾		
31:8	Pressure regulation, extract air pressure above set point alarm limit	B	0 ³⁾		
32:1	RECO ₂ , I/O module no. 0 communication error	A	0 ³⁾		
32:2	RECO ₂ , pressure sensor no. 0 communication error	A	0 ³⁾		
32:3	RECO ₂ /Intermittent night heating recirculated air damper mon. tripped	B	0 ³⁾		
32:4	RECO ₂ , outdoor air damper monitoring tripped	B	0 ³⁾		
33:1	Period between servicing past alarm limit ²⁾	B	0 ³⁾		
33:15	Lock function tripped	A	1		
34:1	External control, I/O module no. 3 communication error	B	0 ³⁾		
34:2	External control, I/O module no. 6 kommunikationsfel	B	0 ³⁾		
35:1	Booster air terminal, I/O module no. 8 communication error	B	0		
36:1	External communication, I/O module no. A communication error	B	0 ³⁾		

Alarm No.	Function	Factory-preset valuee		Adjusted value	
		Priority	Effect	Priority	Effect
		0 = Blocked A = alarm A B = B alarm	0 = In oper. 1 = Stop	0 = Blocked A = A alarm B = B alarm	0 = In oper. 1 = Stop
36:2	External communication, I/O module no. A temperature sensor no. 1 defective	B	0 ³⁾		
36:3	External communication, I/O module no. A temperature sensor no. 2 defective	B	0 ³⁾		
36:6	External communication, I/O module no. B communication error	B	0 ³⁾		
36:7	External communication, I/O module no. B temperature sensor no. 1 defective	B	0 ³⁾		
36:8	External communication, I/O module no. B temperature sensor no. 2 defective	B	0 ³⁾		
36:11	External communication, I/O module no. C communication error	B	0 ³⁾		
36:12	External communication, I/O module no. C temperature sensor no. 1 defective	B	0 ³⁾		
36:13	External communication, I/O module no. C temperature sensor no. 2 defective	B	0 ³⁾		
38:1	MIRU Control no. 1 communication error	A	0 ³⁾		
38:2	MIRU Control no. 1 motor controller alarm tripped	A	0 ³⁾		
38:3	MIRU Control no. 1 motor controller communication error	A	0 ³⁾		
38:4	MIRU Control no. 1 flow measurement pressure sensor no. 0 communication error	A	0 ³⁾		
38:5	MIRU Control no. 1 pressure regulation sensor no. 1 communication error	A	0 ³⁾		
38:6	MIRU Control no. 1 temperature sensor defective	B	0 ³⁾		
38:7	MIRU Control no. 1 flow/pressure deviation from set point alarm limit	B	0 ³⁾		
39:1	MIRU Control no. 2 communication error	A	0 ³⁾		
39:2	MIRU Control no. 2 motor controller alarm tripped	A	0 ³⁾		
39:3	MIRU Control no. 2 motor controller communication error	A	0 ³⁾		
39:4	MIRU Control no. 2 flow measurement pressure sensor no. 0 communication error	A	0 ³⁾		
39:5	MIRU Control no. 2 pressure regulation sensor no. 1 communication error	A	0 ³⁾		
39:6	MIRU Control no. 2 temperature sensor defective	B	0 ³⁾		
39:7	MIRU Control no. 2 flow/pressure deviation from set point alarm limit	B	0 ³⁾		
40:1	MIRU Control no. 3 communication error	A	0 ³⁾		
40:2	MIRU Control no. 3 motor controller alarm tripped	A	0 ³⁾		
40:3	MIRU Control no. 3 motor controller communication error	A	0 ³⁾		
40:4	MIRU Control no. 3 flow measurement pressure sensor no. 0 communication error	A	0 ³⁾		
40:5	MIRU Control no. 3 pressure regulation sensor no. 1 communication error	A	0 ³⁾		
40:6	MIRU Control no. 3 temperature sensor defective	B	0 ³⁾		
40:7	MIRU Control no. 3 flow/pressure deviation from set point alarm limit	B	0 ³⁾		
41:1	MIRU Control no. 4 communication error	A	0 ³⁾		
41:2	MIRU Control no. 4 motor controller alarm tripped	A	0 ³⁾		
41:3	MIRU Control no. 4 motor controller communication error	A	0 ³⁾		
41:4	MIRU Control no. 4 flow measurement pressure sensor no. 0 communication error	A	0 ³⁾		
41:5	MIRU Control no. 4 pressure regulation sensor no. 1 communication error	A	0 ³⁾		
41:6	MIRU Control no. 4 temperature sensor defective	B	0 ³⁾		
41:7	MIRU Control no. 4 flow/pressure deviation from set point alarm limit	B	0 ³⁾		
42:1	MIRU Control no. 5 communication error	A	0 ³⁾		
42:2	MIRU Control no. 5 motor controller alarm tripped	A	0 ³⁾		
42:3	MIRU Control no. 5 motor controller communication error	A	0 ³⁾		

Alarm No.	Function	Factory-preset valuee		Adjusted value	
		Priority	Effect	Priority	Effect
		0 = Blocked A = alarm A B = B alarm	0 = In oper. 1 = Stop	0 = Blocked A = A alarm B = B alarm	0 = In oper. 1 = Stop
42:4	MIRU Control no. 5 flow measurement pressure sensor no. 0 communication error	A	0 ³⁾		
42:5	MIRU Control no. 5 pressure regulation sensor no. 1 communication error	A	0 ³⁾		
42:6	MIRU Control no. 5 temperature sensor defective	B	0 ³⁾		
42:7	MIRU Control no. 5 flow/pressure deviation from set point alarm limit	B	0 ³⁾		
43:1	MIRU Control no. 6 communication error	A	0 ³⁾		
43:2	MIRU Control no. 6 motor controller alarm tripped	A	0 ³⁾		
43:3	MIRU Control no. 6 motor controller communication error	A	0 ³⁾		
43:4	MIRU Control no. 6 flow measurement pressure sensor no. 0 communication error	A	0 ³⁾		
43:5	MIRU Control no. 6 pressure regulation sensor no. 1 communication error	A	0 ³⁾		
43:6	MIRU Control no. 6 temperature sensor defective	B	0 ³⁾		
43:7	MIRU Control no. 6 flow/pressure deviation from set point alarm limit	B	0 ³⁾		
44:1	MIRU Control no. 7 communication error	A	0 ³⁾		
44:2	MIRU Control no. 7 motor controller alarm tripped	A	0 ³⁾		
44:3	MIRU Control no. 7 motor controller communication error	A	0 ³⁾		
44:4	MIRU Control no. 7 flow measurement pressure sensor no. 0 communication error	A	0 ³⁾		
44:5	MIRU Control no. 7 pressure regulation sensor no. 1 communication error	A	0 ³⁾		
44:6	MIRU Control no. 7 temperature sensor defective	B	0 ³⁾		
44:7	MIRU Control no. 7 flow/pressure deviation from set point alarm limit	B	0 ³⁾		
45:1	MIRU Control no. 8 communication error	A	0 ³⁾		
45:2	MIRU Control no. 8 motor controller alarm tripped	A	0 ³⁾		
45:3	MIRU Control no. 8 motor controller communication error	A	0 ³⁾		
45:4	MIRU Control no. 8 flow measurement pressure sensor no. 0 communication error	A	0 ³⁾		
45:5	MIRU Control no. 8 pressure regulation sensor no. 1 communication error	A	0 ³⁾		
45:6	MIRU Control no. 8 temperature sensor defective	B	0 ³⁾		
45:7	MIRU Control no. 8 flow/pressure deviation from set point alarm limit	B	0 ³⁾		
46:1	MIRU Control no. 9 communication error	A	0 ³⁾		
46:2	MIRU Control no. 9 motor controller alarm tripped	A	0 ³⁾		
46:3	MIRU Control no. 9 motor controller communication error	A	0 ³⁾		
46:4	MIRU Control no. 9 flow measurement pressure sensor no. 0 communication error	A	0 ³⁾		
46:5	MIRU Control no. 9 pressure regulation sensor no. 1 communication error	A	0 ³⁾		
46:6	MIRU Control no. 9 temperature sensor defective	B	0 ³⁾		
46:7	MIRU Control no. 9 flow/pressure deviation from set point alarm limit	B	0 ³⁾		
47:1	MIRU Control no. 10 communication error	A	0 ³⁾		
47:2	MIRU Control no. 10 motor controller alarm tripped	A	0 ³⁾		
47:3	MIRU Control no. 10 motor controller communication error	A	0 ³⁾		
47:4	MIRU Control no. 10 flow measurement pressure sensor no. 0 communication error	A	0 ³⁾		
47:5	MIRU Control no. 10 pressure regulation sensor no. 1 communication error	A	0 ³⁾		
47:6	MIRU Control no. 10 temperature sensor defective	B	0 ³⁾		
47:7	MIRU Control no. 10 flow/pressure deviation from set point alarm limit	B	0 ³⁾		
49:1	Supply air fan no. 1A communication error	A	1 ³⁾		
49:2	Supply air fan no. 1A motor controller overcurrent	A ¹⁾	1 ³⁾		
49:3	Supply air fan no. 1A motor controller undervoltage	A ¹⁾	1 ³⁾		
49:4	Supply air fan no. 1A motor controller overvoltage	A ¹⁾	1 ³⁾		

Alarm No.	Function	Factory-preset valuee		Adjusted value	
		Priority	Effect	Priority	Effect
		0 = Blocked A = alarm A B = B alarm	0 = In oper. 1 = Stop	0 = Blocked A = A alarm B = B alarm	0 = In oper. 1 = Stop
49:5	Supply air fan no. 1A motor controller excess temperature	A ¹⁾	1 ³⁾		
49:6	Supply air fan no. 1A motor controller start up error	A ¹⁾	1 ³⁾		
49:7	Supply air fan no. 1A motor controller uneven phase voltage	A ¹⁾	1 ³⁾		
49:8	Supply air fan no. 1A motor controller phase error	A ¹⁾	1 ³⁾		
49:9	Supply air fan no. 1A motor controller internal memory error	A ¹⁾	1 ³⁾		
49:10	Supply air fan no. 1A motor controller current limitation	B	0 ³⁾		
49:11	Supply air fan no. 1A motor controller internal communication error	A	1 ³⁾		
50:1	Supply air fan no. 2A communication error	A	1 ³⁾		
50:2	Supply air fan no. 2A motor controller overcurrent	A ¹⁾	1 ³⁾		
50:3	Supply air fan no. 2A motor controller undervoltage	A ¹⁾	1 ³⁾		
50:4	Supply air fan no. 2A motor controller overvoltage	A ¹⁾	1 ³⁾		
50:5	Supply air fan no. 2A motor controller excess temperature	A ¹⁾	1 ³⁾		
50:6	Supply air fan no. 2A motor controller start up error	A ¹⁾	1 ³⁾		
50:7	Supply air fan no. 2A motor controller uneven phase voltage	A ¹⁾	1 ³⁾		
50:8	Supply air fan no. 2A motor controller phase error	A ¹⁾	1 ³⁾		
50:9	Supply air fan no. 2A motor controller internal memory error	A ¹⁾	1 ³⁾		
50:10	Supply air fan no. 2A motor controller current limitation	B	0 ³⁾		
50:11	Supply air fan no. 2A motor controller internal communication error	A	1 ³⁾		
51:1	Supply air fan no. 3A communication error	A	1 ³⁾		
51:2	Supply air fan no. 3A motor controller overcurrent	A ¹⁾	1 ³⁾		
51:3	Supply air fan no. 3A motor controller undervoltage	A ¹⁾	1 ³⁾		
51:4	Supply air fan no. 3A motor controller overvoltage	A ¹⁾	1 ³⁾		
51:5	Supply air fan no. 3A motor controller excess temperature	A ¹⁾	1 ³⁾		
51:6	Supply air fan no. 3A motor controller start up error	A ¹⁾	1 ³⁾		
51:7	Supply air fan no. 3A motor controller uneven phase voltage	A ¹⁾	1 ³⁾		
51:8	Supply air fan no. 3A motor controller phase error	A ¹⁾	1 ³⁾		
51:9	Supply air fan no. 3A motor controller internal memory error	A ¹⁾	1 ³⁾		
51:10	Supply air fan no. 3A motor controller current limitation	B	0 ³⁾		
51:11	Supply air fan no. 3A motor controller internal communication error	A	1 ³⁾		
52:1	Supply air fan no. 1B communication error	A	1 ³⁾		
52:2	Supply air fan no. 1B motor controller overcurrent	A ¹⁾	1 ³⁾		
52:3	Supply air fan no. 1B motor controller undervoltage	A ¹⁾	1 ³⁾		
52:4	Supply air fan no. 1B motor controller overvoltage	A ¹⁾	1 ³⁾		
52:5	Supply air fan no. 1B motor controller excess temperature	A ¹⁾	1 ³⁾		
52:6	Supply air fan no. 1B motor controller start up error	A ¹⁾	1 ³⁾		
52:7	Supply air fan no. 1B motor controller uneven phase voltage	A ¹⁾	1 ³⁾		
52:8	Supply air fan no. 1B motor controller phase error	A ¹⁾	1 ³⁾		
52:9	Supply air fan no. 1B motor controller internal memory error	A ¹⁾	1 ³⁾		
52:10	Supply air fan no. 1B motor controller current limitation	B	0 ³⁾		
53:1	Supply air fan no. 2B communication error	A	1 ³⁾		
53:2	Supply air fan no. 2B motor controller overcurrent	A ¹⁾	1 ³⁾		
53:3	Supply air fan no. 2B motor controller undervoltage	A ¹⁾	1 ³⁾		
53:4	Supply air fan no. 2B motor controller overvoltage	A ¹⁾	1 ³⁾		
53:5	Supply air fan no. 2B motor controller excess temperature	A ¹⁾	1 ³⁾		
53:6	Supply air fan no. 2B motor controller start up error	A ¹⁾	1 ³⁾		
53:7	Supply air fan no. 2B motor controller uneven phase voltage	A ¹⁾	1 ³⁾		
53:8	Supply air fan no. 2B motor controller phase error	A ¹⁾	1 ³⁾		

Alarm No.	Function	Factory-preset valuee		Adjusted value	
		Priority	Effect	Priority	Effect
		0 = Blocked A = alarm A B = B alarm	0 = In oper. 1 = Stop	0 = Blocked A = A alarm B = B alarm	0 = In oper. 1 = Stop
53:9	Supply air fan no. 2B motor controller internal memory error	A ¹⁾	1 ³⁾		
53:10	Supply air fan no. 2B motor controller current limitation	B	0 ³⁾		
54:1	Supply air fan no. 3B communication error	A	1 ³⁾		
54:2	Supply air fan no. 3B motor controller overcurrent	A ¹⁾	1 ³⁾		
54:3	Supply air fan no. 3B motor controller undervoltage	A ¹⁾	1 ³⁾		
54:4	Supply air fan no. 3B motor controller overvoltage	A ¹⁾	1 ³⁾		
54:5	Supply air fan no. 3B motor controller excess temperature	A ¹⁾	1 ³⁾		
54:6	Supply air fan no. 3B motor controller start up error	A ¹⁾	1 ³⁾		
54:7	Supply air fan no. 3B motor controller uneven phase voltage	A ¹⁾	1 ³⁾		
54:8	Supply air fan no. 3B motor controller phase error	A ¹⁾	1 ³⁾		
54:9	Supply air fan no. 3B motor controller internal memory error	A ¹⁾	1 ³⁾		
54:10	Supply air fan no. 3B motor controller current limitation	B	0 ³⁾		
55:1	Extract air fan no. 1A communication error	A	1 ³⁾		
55:2	Extract air fan no. 1A motor controller overcurrent	A ¹⁾	1 ³⁾		
55:3	Extract air fan no. 1A motor controller undervoltage	A ¹⁾	1 ³⁾		
55:4	Extract air fan no. 1A motor controller overvoltage	A ¹⁾	1 ³⁾		
55:5	Extract air fan no. 1A motor controller excess temperature	A ¹⁾	1 ³⁾		
55:6	Extract air fan no. 1A motor controller start up error	A ¹⁾	1 ³⁾		
55:7	Extract air fan no. 1A motor controller uneven phase voltage	A ¹⁾	1 ³⁾		
55:8	Extract air fan no. 1A motor controller phase error	A ¹⁾	1 ³⁾		
55:9	Extract air fan no. 1A motor controller internal memory error	A ¹⁾	1 ³⁾		
55:10	Extract air fan no. 1A motor controller current limitation	B	0 ³⁾		
55:11	Extract air fan no. 1A motor controller internal communication error	A	1 ³⁾		
56:1	Extract air fan no. 2A communication error	A	1 ³⁾		
56:2	Extract air fan no. 2A motor controller overcurrent	A ¹⁾	1 ³⁾		
56:3	Extract air fan no. 2A motor controller undervoltage	A ¹⁾	1 ³⁾		
56:4	Extract air fan no. 2A motor controller overvoltage	A ¹⁾	1 ³⁾		
56:5	Extract air fan no. 2A motor controller excess temperature	A ¹⁾	1 ³⁾		
56:6	Extract air fan no. 2A motor controller start up error	A ¹⁾	1 ³⁾		
56:7	Extract air fan no. 2A motor controller uneven phase voltage	A ¹⁾	1 ³⁾		
56:8	Extract air fan no. 2A motor controller phase error	A ¹⁾	1 ³⁾		
56:9	Extract air fan no. 2A motor controller internal memory error	A ¹⁾	1 ³⁾		
56:10	Extract air fan no. 2A motor controller current limitation	B	0 ³⁾		
56:11	Extract air fan no. 2A motor controller internal communication error	A	1 ³⁾		
57:1	Extract air fan no. 3A communication error	A	1 ³⁾		
57:2	Extract air fan no. 3A motor controller overcurrent	A ¹⁾	1 ³⁾		
57:3	Extract air fan no. 3A motor controller undervoltage	A ¹⁾	1 ³⁾		
57:4	Extract air fan no. 3A motor controller overvoltage	A ¹⁾	1 ³⁾		
57:5	Extract air fan no. 3A motor controller excess temperature	A ¹⁾	1 ³⁾		
57:6	Extract air fan no. 3A motor controller start up error	A ¹⁾	1 ³⁾		
57:7	Extract air fan no. 3A motor controller uneven phase voltage	A ¹⁾	1 ³⁾		
57:8	Extract air fan no. 3A motor controller phase error	A ¹⁾	1 ³⁾		
57:9	Extract air fan no. 3A motor controller internal memory error	A ¹⁾	1 ³⁾		
57:10	Extract air fan no. 3A motor controller current limitation	B	0 ³⁾		
57:11	Extract air fan no. 3A motor controller internal communication error	A	1 ³⁾		
58:1	Extract air fan no. 1B communication error	A	1 ³⁾		
58:2	Extract air fan no. 1B motor controller overcurrent	A ¹⁾	1 ³⁾		

Alarm No.	Function	Factory-preset valuee		Adjusted value	
		Priority	Effect	Priority	Effect
		0 = Blocked A = alarm A B = B alarm	0 = In oper. 1 = Stop	0 = Blocked A = A alarm B = B alarm	0 = In oper. 1 = Stop
58:3	Extract air fan no. 1B motor controller undervoltage	A ¹⁾	1 ³⁾		
58:4	Extract air fan no. 1B motor controller overvoltage	A ¹⁾	1 ³⁾		
58:5	Extract air fan no. 1B motor controller excess temperature	A ¹⁾	1 ³⁾		
58:6	Extract air fan no. 1B motor controller start up error	A ¹⁾	1 ³⁾		
58:7	Extract air fan no. 1B motor controller uneven phase voltage	A ¹⁾	1 ³⁾		
58:8	Extract air fan no. 1B motor controller phase error	A ¹⁾	1 ³⁾		
58:9	Extract air fan no. 1B motor controller internal memory error	A ¹⁾	1 ³⁾		
58:10	Extract air fan no. 1B motor controller current limitation	B	0 ³⁾		
59:1	Extract air fan no. 2B communication error	A	1 ³⁾		
59:2	Extract air fan no. 2B motor controller overcurrent	A ¹⁾	1 ³⁾		
59:3	Extract air fan no. 2B motor controller undervoltage	A ¹⁾	1 ³⁾		
59:4	Extract air fan no. 2B motor controller overvoltage	A ¹⁾	1 ³⁾		
59:5	Extract air fan no. 2B motor controller excess temperature	A ¹⁾	1 ³⁾		
59:6	Extract air fan no. 2B motor controller start up error	A ¹⁾	1 ³⁾		
59:7	Extract air fan no. 2B motor controller uneven phase voltage	A ¹⁾	1 ³⁾		
59:8	Extract air fan no. 2B motor controller phase error	A ¹⁾	1 ³⁾		
59:9	Extract air fan no. 2B motor controller internal memory error	A ¹⁾	1 ³⁾		
59:10	Extract air fan no. 2B motor controller current limitation	B	0 ³⁾		
60:1	Extract air fan no. 3B communication error	A	1 ³⁾		
60:2	Extract air fan no. 3B motor controller overcurrent	A ¹⁾	1 ³⁾		
60:3	Extract air fan no. 3B motor controller undervoltage	A ¹⁾	1 ³⁾		
60:4	Extract air fan no. 3B motor controller overvoltage	A ¹⁾	1 ³⁾		
60:5	Extract air fan no. 3B motor controller excess temperature	A ¹⁾	1 ³⁾		
60:6	Extract air fan no. 3B motor controller start up error	A ¹⁾	1 ³⁾		
60:7	Extract air fan no. 3B motor controller uneven phase voltage	A ¹⁾	1 ³⁾		
60:8	Extract air fan no. 3B motor controller phase error	A ¹⁾	1 ³⁾		
60:9	Extract air fan no. 3B motor controller internal memory error	A ¹⁾	1 ³⁾		
60:10	Extract air fan no. 3B motor controller current limitation	B	0 ³⁾		
61:1	Supply air fan no. 1A I/O module communication error	A	1 ³⁾		
61:6	Supply air fan no. 2A I/O module communication error	A	1 ³⁾		
61:11	Supply air fan no. 3A I/O module communication error	A	1 ³⁾		
62:1	Extract air fan no. 1A I/O module communication error	A	1 ³⁾		
62:6	Extract air fan no. 2A I/O module communication error	A	1 ³⁾		
62:11	Extract air fan no. 3A I/O module communication error	A	1 ³⁾		

¹⁾ Cannot be blocked.

²⁾ The delay is adjustable.

³⁾ Adjustable.

⁴⁾ Stops the AHU if the temperature is below the adjustable limit.

⁵⁾ Inactive as factory setting.

Commissioning performed by:

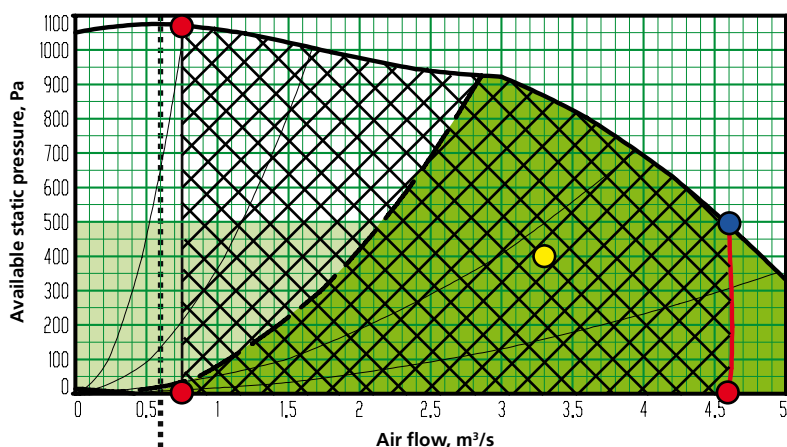
Date

Company

Name

11.3 Ecodesign data

Example



The lower limit for the airflow when the unit is operating in the airflow regulation mode.

 Recommended range for the design working point.

 Permissible operating range when the fan is controlled to operate at a lower speed. If pressure regulation is used, the airflow can be regulated to zero, however this presupposes a certain static pressure drop in the ducting (approx. 50 Pa).

 Permissible operating range in accordance with regulation 1253/2014
Working point with the highest air flow shall be found within the permissible area. In case of unbalanced air flows; mean working point, supply extract shall be used.
Working points with less air flow is allowed to be found outside the permissible range e.g. in case of variable air flow.

 Max. limit, Ecodesign 2016.

 Outer limit - largest permissible air flow at maximum speed.

 Remaining outer limits.

 Recommended average working point.

RX

Size	Motor option	In and outlet connections	Working point		Part of information requirements for NRJU according to Regulation (EU) No 1253/2014														
			Colour	Remark	AHU type	Type of drive	Type of HRS	Thermal efficiency	Nominal flow rate	Effective electric power	SFPint	Face velocity	Nominal external pressure	Internal pressure drop	Overall fan efficiency (EU) No 327/2011	Maximum external leaking rate	Maximum internal leakage	Energy performance of filters	Casing sound power level, LWA
04	Not applicable	Duct	Red	Min. - low	NRJU BVU	variable speed	Other	83	0.08	0.02	237	0.3	0	29	64.8	-	-	-	21
			Red	Min. - high	NRJU BVU	variable speed	Other	83	0.08	0.29	235	0.3	634	29	64.8	-	-	-	62
			Yellow	Average	NRJU BVU	variable speed	Other	86	0.30	0.26	576	1.0	250	150	64.8	-	-	-	49
		Full face	Blue	Max. - high	NRJU BVU	variable speed	Other	83	0.45	0.39	946	1.4	262	269	64.8	1	1	747	53
			Red	Max. - low	NRJU BVU	variable speed	Other	83	0.45	0.34	946	1.4	0	269	64.8	-	-	-	51
			Red	Min. - low	NRJU BVU	variable speed	Other	83	0.08	0.02	248	0.3	0	28	64.8	-	-	-	20
05	1	Duct	Red	Min. - high	NRJU BVU	variable speed	Other	83	0.08	0.29	227	0.3	636	28	64.8	-	-	-	62
			Yellow	Average	NRJU BVU	variable speed	Other	86	0.30	0.25	520	1.0	250	136	64.8	-	-	-	48
			Blue	Max. - high	NRJU BVU	variable speed	Other	83	0.45	0.35	833	1.4	312	237	64.8	1	1	746	53
		Full face	Red	Max. - low	NRJU BVU	variable speed	Other	83	0.45	0.31	850	1.4	0	237	64.8	-	-	-	51
			Red	Min. - low	NRJU BVU	variable speed	Other	83	0.08	0.02	237	0.3	0	29	65.5	-	-	-	21
			Red	Min. - high	NRJU BVU	variable speed	Other	83	0.08	0.29	235	0.3	1000	29	65.5	-	-	-	67
06	2	Duct	Red	Min. - low	NRJU BVU	variable speed	Other	83	0.08	0.42	863	1.4	300	242	65.5	-	-	-	52
			Yellow	Average	NRJU BVU	variable speed	Other	86	0.30	0.34	1042	1.4	385	453	65.5	1	1	1270	57
			Blue	Max. - high	NRJU BVU	variable speed	Other	79	0.60	0.60	1472	1.9	0	453	65.5	-	-	-	57
		Full face	Red	Max. - low	NRJU BVU	variable speed	Other	83	0.60	0.60	1475	1.9	0	421	65.5	-	-	-	20
			Red	Min. - low	NRJU BVU	variable speed	Other	83	0.08	0.53	248	0.3	1001	28	65.5	-	-	-	67
			Yellow	Average	NRJU BVU	variable speed	Other	83	0.42	0.33	761	1.0	300	214	65.5	-	-	-	52
07	1	Duct	Blue	Max. - high	NRJU BVU	variable speed	Other	79	0.64	0.92	1368	2.0	370	364	65.5	1	1	1400	58
			Red	Max. - low	NRJU BVU	variable speed	Other	79	0.64	0.72	1401	2.0	0	364	65.5	-	-	-	58
			Red	Min. - low	NRJU BVU	variable speed	Other	83	0.08	0.02	327	0.3	0	29	65.5	-	-	-	21
		Full face	Red	Min. - high	NRJU BVU	variable speed	Other	83	0.08	0.72	288	0.3	1200	29	65.5	-	-	-	69
			Yellow	Average	NRJU BVU	variable speed	Other	83	0.42	0.58	922	1.4	400	242	63.5	-	-	-	54
			Blue	Max. - high	NRJU BVU	variable speed	Other	80	0.59	1.38	1487	1.9	667	404	63.5	1	1	1280	60
08	2	Duct	Red	Max. - low	NRJU BVU	variable speed	Other	80	0.59	0.67	1487	1.9	0	405	63.5	-	-	-	56
			Red	Min. - low	NRJU BVU	variable speed	Other	83	0.08	0.02	315	0.3	0	28	63.5	-	-	-	20
			Red	Min. - high	NRJU BVU	variable speed	Other	83	0.08	0.72	278	0.3	1201	28	63.5	-	-	-	69
		Full face	Yellow	Average	NRJU BVU	variable speed	Other	79	0.64	0.55	815	1.4	400	214	63.5	-	-	-	53
			Red	Max. - high	NRJU BVU	variable speed	Other	83	0.42	1.27	1447	2.1	595	398	63.5	1	1	1490	60
			Red	Max. - low	NRJU BVU	variable speed	Other	79	0.63	0.73	1456	2.0	0	390	63.5	-	-	-	58
09	1	Duct	Red	Min. - low	NRJU BVU	variable speed	Other	67	0.10	0.02	177	0.2	0	21	65.5	-	-	-	18
			Yellow	Average	NRJU BVU	variable speed	Other	86	0.75	0.36	459	1.0	1011	157	65.5	-	-	-	67
			Blue	Max. - high	NRJU BVU	variable speed	Other	86	0.75	0.44	459	1.0	350	137	65.5	-	-	-	53
		Full face	Blue	Max. - high	NRJU BVU	variable speed	Other	83	0.75	0.84	1071	1.6	257	287	65.5	4	1	1440	61
			Red	Max. - low	NRJU BVU	variable speed	Other	67	0.10	0.02	153	0.2	0	20	65.5	-	-	-	18
			Red	Min. - low	NRJU BVU	variable speed	Other	67	0.10	0.59	152	0.2	1012	20	65.5	-	-	-	67
10	2	Duct	Yellow	Average	NRJU BVU	variable speed	Other	86	0.45	0.42	416	1.0	350	119	65.5	-	-	-	52
			Blue	Max. - high	NRJU BVU	variable speed	Other	83	0.75	0.83	891	1.6	257	237	65.5	4	1	1440	61
			Red	Max. - low	NRJU BVU	variable speed	Other	83	0.75	0.60	976	1.6	0	237	65.5	-	-	-	61
		Full face	Red	Min. - low	NRJU BVU	variable speed	Other	67	0.10	0.02	221	0.2	0	21	63.5	-	-	-	18
			Red	Min. - high	NRJU BVU	variable speed	Other	67	0.10	0.79	176	0.2	1211	21	63.5	-	-	-	69
			Yellow	Average	NRJU BVU	variable speed	Other	86	0.45	0.56	506	1.0	450	137	63.5	-	-	-	54
11	1	Duct	Blue	Max. - high	NRJU BVU	variable speed	Other	83	0.75	1.20	1069	1.6	484	287	63.5	4	1	1430	62
			Red	Max. - low	NRJU BVU	variable speed	Other	83	0.75	0.72	1267	1.6	0	287	63.5	-	-	-	61
			Red	Min. - low	NRJU BVU	variable speed	Other	67	0.10	0.02	213	0.2	0	20	63.5	-	-	-	18
		Full face	Red	Min. - high	NRJU BVU	variable speed	Other	67	0.10	0.79	169	0.2	1212	20	63.5	-	-	-	69
			Yellow	Average	NRJU BVU	variable speed	Other	86	0.45	0.54	440	1.0	450	119	63.5	-	-	-	54
			Blue	Max. - high	NRJU BVU	variable speed	Other	83	0.75	1.20	887	1.6	537	237	63.5	4	1	1440	62
12	2	Duct	Red	Max. - low	NRJU BVU	variable speed	Other	83	0.75	0.67	1114	1.6	0	237	63.5	-	-	-	61
			Red	Min. - low	NRJU BVU	variable speed	Other	85	0.20	0.04	258	0.4	0	47	65.4	-	-	-	30
			Yellow	Average	NRJU BVU	variable speed	Other	85	0.20	0.85	300	0.4	985	47	65.4	-	-	-	69
		Full face	Blue	Max. - high	NRJU BVU	variable speed	Other	83	0.70	0.75	887	1.5	300	259	65.4	-	-	-	55
			Red	Max. - low	NRJU BVU	variable speed	Other	80	0.95	1.34	1442	2.1	323	416	65.4	1	1	2120	60
			Red	Min. - low	NRJU BVU	variable speed	Other	80	0.94	1.03	1449	2.0	0	410	65.4	-	-	-	59
13	1	Duct	Red	Min. - high	NRJU BVU	variable speed	Other	85	0.20	0.04	242	0.4	0	44	65.4	-	-	-	29
			Yellow	Average	NRJU BVU	variable speed	Other	85	0.20	0.85	278	0.4	989	44	65.4	-	-	-	69
			Blue	Max. - high	NRJU BVU	variable speed	Other	83	0.70	0.70	742	1.5	300	215	65.4	-	-	-	55
		Full face	Blue	Max. - high	NRJU BVU	variable speed	Other	79	0.99	1.32	1237	2.1	339	354	65.4	1	1	2290	61
			Red	Max. - low	NRJU BVU	variable speed	Other	79	0.99	1.03	1306	2.1	0	357	65.4	-	-	-	60
			Red	Min. - low	NRJU BVU	variable speed	Other	85	0.20	0.04	261	0.4	0	47	67.4	-	-	-	30
14	2	Duct	Red	Min. - high	NRJU BVU	variable speed	Other	85	0.20	1.11	319	0.4	1193	47	67.4	-	-	-	71
			Yellow	Average	NRJU BVU	variable speed	Other	83	0.70	0.87	873	1.5	400	259	67.4	-	-	-	56
			Blue	Max. - high	NRJU BVU	variable speed	Other	80	0.97	1.74	1438	2.1	547	427	67.4	1	1	2120	62
		Full face	Red	Max. - low	NRJU BVU	variable speed	Other	80	0.96	1.04	1439	2.1	0	420	67.4	-	-	-	60
			Red	Min. - low	NRJU BVU	variable speed	Other	85	0.20	0.04	244	0.4	0	44	67.4	-	-	-	29
			Red	Min. - high	NRJU BVU	variable speed	Other	85	0.20	1.11	296	0.4	1196	44	67.4	-	-	-	71
15	1	Duct	Yellow	Average	NRJU BVU	variable speed	Other	83	0.70	0.81	725	1.5	400	215	67.4	-	-	-	56
			Blue	Max. - high	NRJU BVU	variable speed	Other	79	1.00	1.72	1218	2.2	373	360	67.4	1	1	2250	62
			Red	Max. - low	NRJU BVU	variable speed	Other	79	1.00	1.01	1278	2.2	0	360	67.4	-	-	-	60
		Full face	Red	Min. - low	NRJU BVU	variable speed	Other	85	0.20	0.04	261	0.4	0	47	67.4	-	-	-	30
			Red	Min. - high	NRJU BVU	variable speed	Other	85	0.20	1.11	319	0.4	1193	47	67.4	-	-	-	71
			Yellow	Average	NRJU BVU	variable speed	Other	83	0.70	0.87	873	1.5	400	259	67.4	-	-	-	56

RX

Size	Motor option	In and outlet connections	Working point		Part of information requirements for NRVL according to Regulation (EU) No 1253/2014																Overall fan efficiency (EU) No 327/2011	Maximum external leaking rate	Maximum internal leakage	Energy performance of filters	Casing sound power level, LWA	
			Colour	Remark	AHU type	Type of drive	Type of HRS	Thermal efficiency	Nominal flow rate	Effective electric power	SFPint	Face velocity	Nominal external pressure	Internal pressure drop vent. comp.	Pa	Pa	%	%	%	kWh/year						dB(A)
11	1	Duct	Red	Min. - low	NRVL BVU	variable speed	Other	83	0.20	0.03	197	0.3	0	33	65.4	-	-	-	-	-	-	27	69			
			Red	Min. - high	NRVL BVU	variable speed	Other	83	0.20	0.89	206	0.3	1001	167	65.4	-	-	-	-	-	-	-	-			
			Yellow	Average	NRVL BVU	variable speed	Other	86	0.72	0.73	573	1.1	350	167	65.4	-	-	-	-	-	-	-	55			
		Blue	Max. - high	NRVL BVU	variable speed	Other	83	1.09	1.24	1127	1.6	247	305	65.4	1	1	2550	62	62	62	2550	62	62			
		Red	Max. - low	NRVL BVU	variable speed	Other	83	1.09	1.01	1229	1.6	0	306	65.4	-	-	-	-	-	-	-	-	27			
		Red	Min. - low	NRVL BVU	variable speed	Other	83	0.20	0.03	188	0.3	1001	31	65.4	-	-	-	-	-	-	-	-	27	69		
	2	Full face	Red	Min. - high	NRVL BVU	variable speed	Other	83	0.20	0.89	194	0.3	1001	143	65.4	-	-	-	-	-	-	-	-	55		
			Yellow	Average	NRVL BVU	variable speed	Other	86	0.72	0.70	493	1.1	350	254	65.4	3	1	2630	62	62	62	2630	62	62		
			Blue	Max. - high	NRVL BVU	variable speed	Other	83	1.10	1.23	954	1.6	277	305	65.4	-	-	-	-	-	-	-	-	27		
		Red	Max. - low	NRVL BVU	variable speed	Other	83	1.10	0.94	1080	1.6	0	254	65.4	-	-	-	-	-	-	-	-	27	69		
		Red	Min. - low	NRVL BVU	variable speed	Other	83	0.20	0.03	197	0.3	1001	31	65.4	-	-	-	-	-	-	-	-	71	71		
		Red	Min. - high	NRVL BVU	variable speed	Other	83	0.20	1.16	218	0.3	1208	33	67.4	-	-	-	-	-	-	-	-	-	-		
12	1	Duct	Red	Average	NRVL BVU	variable speed	Other	86	0.75	0.90	590	1.1	450	177	67.4	-	-	-	-	-	-	-	57			
			Blue	Max. - high	NRVL BVU	variable speed	Other	83	1.10	1.64	1083	1.6	477	310	67.4	3	1	2410	63	63	63	2410	63	63		
			Red	Max. - low	NRVL BVU	variable speed	Other	83	1.10	0.98	1197	1.6	0	310	67.4	-	-	-	-	-	-	-	-	62		
		Red	Min. - low	NRVL BVU	variable speed	Other	83	0.20	0.03	187	0.3	1001	31	67.4	-	-	-	-	-	-	-	-	27	71		
		Red	Min. - high	NRVL BVU	variable speed	Other	83	0.20	1.16	207	0.3	1209	31	67.4	-	-	-	-	-	-	-	-	-	27	71	
		Yellow	Average	NRVL BVU	variable speed	Other	86	0.75	0.86	505	1.1	450	151	67.4	-	-	-	-	-	-	-	-	-	2420	63	
	2	Full face	Red	Max. - high	NRVL BVU	variable speed	Other	83	1.10	1.64	875	1.6	526	284	67.4	3	1	2420	63	63	63	2420	63	63		
			Red	Max. - low	NRVL BVU	variable speed	Other	83	1.10	0.91	1040	1.6	0	254	67.4	-	-	-	-	-	-	-	-	-	62	62
			Red	Min. - low	NRVL BVU	variable speed	Other	83	0.20	0.03	190	0.3	956	33	66.8	-	-	-	-	-	-	-	-	-	26	26
		Red	Min. - high	NRVL BVU	variable speed	Other	83	0.20	1.02	250	0.3	956	33	66.8	-	-	-	-	-	-	-	-	-	26	26	
		Yellow	Average	NRVL BVU	variable speed	Other	86	1.00	1.03	865	1.5	300	268	66.8	-	-	-	-	-	-	-	-	-	3280	61	
		Blue	Max. - high	NRVL BVU	variable speed	Other	80	1.35	1.73	1351	2.0	307	423	66.8	1	1	3280	61	61	61	3280	61	61			
14	1	Duct	Red	Max. - low	NRVL BVU	variable speed	Other	80	1.36	1.38	1302	2.0	0	427	66.8	-	-	-	-	-	-	-	-	25	25	
			Red	Min. - low	NRVL BVU	variable speed	Other	83	0.20	0.03	230	0.3	957	31	66.8	-	-	-	-	-	-	-	-	-	25	25
			Red	Min. - high	NRVL BVU	variable speed	Other	83	0.20	0.95	215	0.3	957	31	66.8	-	-	-	-	-	-	-	-	-	70	70
		Yellow	Average	NRVL BVU	variable speed	Other	86	1.00	0.95	715	1.5	300	222	66.8	-	-	-	-	-	-	-	-	-	58	58	
		Blue	Max. - high	NRVL BVU	variable speed	Other	80	1.40	1.69	1144	2.1	330	359	66.8	3	1	3490	62	62	62	3490	62	62			
		Red	Max. - low	NRVL BVU	variable speed	Other	80	1.40	1.29	1168	2.1	0	359	66.8	-	-	-	-	-	-	-	-	-	81	81	
	2	Duct	Red	Min. - low	NRVL BVU	variable speed	Other	83	0.20	0.04	205	0.3	0	33	66.0	-	-	-	-	-	-	-	-	-	26	26
			Red	Min. - high	NRVL BVU	variable speed	Other	83	0.20	1.38	270	0.3	1185	33	66.0	-	-	-	-	-	-	-	-	-	72	72
			Yellow	Average	NRVL BVU	variable speed	Other	83	1.00	1.23	880	1.5	400	268	66.0	-	-	-	-	-	-	-	-	-	58	58
		Blue	Max. - high	NRVL BVU	variable speed	Other	80	1.36	2.41	1387	2.0	567	427	66.0	1	1	3380	63	63	63	3380	63	63			
		Red	Max. - low	NRVL BVU	variable speed	Other	80	1.37	1.41	1385	2.0	0	434	66.0	-	-	-	-	-	-	-	-	-	25	25	
		Red	Min. - low	NRVL BVU	variable speed	Other	83	0.20	0.03	194	0.3	0	31	66.0	-	-	-	-	-	-	-	-	-	25	25	
14	1	Full face	Red	Min. - high	NRVL BVU	variable speed	Other	83	0.20	1.38	256	0.3	1186	31	66.0	-	-	-	-	-	-	-	-	72	72	
			Yellow	Average	NRVL BVU	variable speed	Other	83	1.00	1.14	726	1.5	400	222	66.0	-	-	-	-	-	-	-	-	-	57	57
			Blue	Max. - high	NRVL BVU	variable speed	Other	80	1.40	2.39	1158	2.1	605	359	66.0	1	1	3540	63	63	63	3540	63	63		
		Red	Max. - low	NRVL BVU	variable speed	Other	80	1.40	1.29	1169	2.1	0	359	66.0	-	-	-	-	-	-	-	-	-	81	81	
		Red	Min. - low	NRVL BVU	variable speed	Other	68	0.21	0.02	123	0.3	970	21	66.8	-	-	-	-	-	-	-	-	-	22	22	
		Red	Min. - high	NRVL BVU	variable speed	Other	68	0.21	1.07	151	0.3	970	21	66.8	-	-	-	-	-	-	-	-	-	22	22	
	2	Duct	Red	Average	NRVL BVU	variable speed	Other	85	1.10	1.00	504	1.4	350	159	66.8	-	-	-	-	-	-	-	-	-	59	59
			Blue	Max. - high	NRVL BVU	variable speed	Other	82	1.60	1.55	904	2.0	249	269	66.8	1	1	3000	65	65	65	3000	65	65		
			Red	Max. - low	NRVL BVU	variable speed	Other	82	1.60	1.24	994	2.0	0	269	66.8	-	-	-	-	-	-	-	-	-	22	22
		Red	Min. - low	NRVL BVU	variable speed	Other	68	0.21	0.02	122	0.3	0	21	66.8	-	-	-	-	-	-	-	-	-	22	22	
		Red	Min. - high	NRVL BVU	variable speed	Other	68	0.21	1.07	150	0.3	971	21	66.8	-	-	-	-	-	-	-	-	-	72	72	
		Yellow	Average	NRVL BVU	variable speed	Other	85	1.10	0.99	486	1.4	350	154	66.8	-	-	-	-	-	-	-	-	-	59	59	
14	1	Full face	Red	Max. - high	NRVL BVU	variable speed	Other	82	1.60	1.54	872	2.0	252	258	66.8	1	1	3040	65	65	65	3040	65	65		
			Red	Max. - low	NRVL BVU	variable speed	Other	82	1.60	1.23	968	2.0	0	258	66.8	-	-	-	-	-	-	-	-	-	22	22
			Red	Min. - low	NRVL BVU	variable speed	Other	68	0.21	0.03	131	0.3	0	21	66.0	-	-	-	-	-	-	-	-	-	22	22
		Red	Min. - high	NRVL BVU	variable speed	Other	68	0.21	1.45	163	0.3	1199	21	66.0	-	-	-	-	-	-	-	-	-	74	74	
		Yellow	Average	NRVL BVU	variable speed	Other	85	1.10	1.22	511	1.4	450	159	66.0	-	-	-	-	-	-	-	-	-	60	60	
		Blue	Max. - high	NRVL BVU	variable speed	Other	82	1.65	2.20	916	2.1	466	282	66.0	4	1	3680	66	66	66	3680	66	66			
	2	Duct	Red	Max. - low	NRVL BVU	variable speed	Other	82	1.65	1.34	1041	2.1	0	282	66.0	-	-	-	-	-	-	-	-	-	22	22
			Red	Min. - low	NRVL BVU	variable speed	Other	68	0.21	0.03	130	0.3	0	21	66.0	-	-	-	-	-	-	-	-	-	22	22
			Red	Min. - high	NRVL BVU	variable speed	Other	68	0.21	1.45	162	0.3	1200	21	66.0	-	-	-	-	-	-	-	-	-	72	72
		Yellow	Average	NRVL BVU	variable speed	Other	85	1.10	1.20	492	1.4	450	154	66.0	-	-	-	-	-	-	-	-	-	59	59	
		Blue	Max. - high	NRVL BVU	variable speed	Other	80	1.36	1.70	1340	2.0	307	423	66.0	1	1	3280	61	61	61	3280	61	61			
		Red	Max. - low	NRVL BVU	variable speed	Other	83	0.20	0.95	215	0.3	957	31	66.8	-	-	-	-	-	-	-	-	-	70	70	

RX

Size	Motor option	In and outlet connections	Working point		Part of information requirements for NRVL according to Regulation (EU) No 1253/2014															
			Colour	Remark	AHU type	Type of drive	Type of HRS	Thermal efficiency %	Nominal flow rate m³/s	Effective electric power kW	SFPint W/(m³/s)	Face velocity m/s	Nominal external pressure Pa	Internal pressure drop vent. comp. Pa	Overall fan efficiency (EU) No 327/2011 %	Maximum external leaking rate %	Maximum internal leakage %	Energy performance of filters kWh/year	Casing sound power level, LWA dBA	
20	1	Duct	Red	Min. - low	NRVL BVU	variable speed	Other	83	0.30	0.04	147	0.4	0	32	66.7	-	-	-	27	
			Red	Min. - high	NRVL BVU	variable speed	Other	83	0.30	1.47	235	0.4	975	32	66.7	-	-	-	68	
			Blue	Average	NRVL BVU	variable speed	Other	84	2.07	1.30	706	1.8	300	222	66.7	1	1	4710	53	
		Red	Max. - low	NRVL BVU	variable speed	Other	79	2.06	2.04	1273	2.6	0	391	66.7	-	-	-	62		
		Red	Min. - low	NRVL BVU	variable speed	Other	83	0.30	0.04	145	0.4	0	32	66.7	-	-	-	27		
		Red	Min. - high	NRVL BVU	variable speed	Other	83	0.30	1.47	232	0.4	975	32	66.7	-	-	-	68		
	2	Full face	Yellow	Average	NRVL BVU	variable speed	Other	84	1.40	1.27	675	1.8	300	213	66.7	-	-	-	57	
			Blue	Max. - high	NRVL BVU	variable speed	Other	79	2.10	2.07	1229	2.6	347	382	66.7	1	1	4840	63	
			Red	Min. - low	NRVL BVU	variable speed	Other	83	0.30	0.05	191	0.4	0	32	65.7	-	-	-	27	
		Red	Min. - high	NRVL BVU	variable speed	Other	83	0.30	1.98	253	0.4	1207	32	65.7	-	-	-	70		
		Yellow	Average	NRVL BVU	variable speed	Other	84	1.40	1.59	724	1.8	400	222	65.7	-	-	-	58		
		Blue	Max. - high	NRVL BVU	variable speed	Other	79	2.08	3.75	1270	2.6	836	366	65.7	1	1	4720	65		
25	1	Duct	Red	Max. - low	NRVL BVU	variable speed	Other	79	2.05	2.02	1272	2.6	0	390	65.7	-	-	-	62	
			Red	Min. - low	NRVL BVU	variable speed	Other	83	0.30	0.05	189	0.4	0	32	65.7	-	-	-	27	
			Red	Min. - high	NRVL BVU	variable speed	Other	83	0.30	1.98	250	0.4	1208	32	65.7	-	-	-	70	
		Yellow	Average	NRVL BVU	variable speed	Other	84	1.40	1.56	692	1.8	400	213	65.7	-	-	-	58		
		Blue	Max. - high	NRVL BVU	variable speed	Other	79	2.10	3.74	1223	2.6	637	382	65.7	1	1	4820	65		
		Red	Min. - low	NRVL BVU	variable speed	Other	79	2.10	2.07	1256	2.6	0	382	65.7	-	-	-	62		
	2	Duct	Red	Min. - low	NRVL BVU	variable speed	Other	71	0.30	0.03	99	0.3	0	23	66.7	-	-	-	22	
			Red	Min. - high	NRVL BVU	variable speed	Other	71	0.30	1.51	165	0.3	985	23	66.7	-	-	-	68	
			Yellow	Average	NRVL BVU	variable speed	Other	81	1.70	1.64	616	1.7	350	195	66.7	-	-	-	59	
		Blue	Max. - high	NRVL BVU	variable speed	Other	81	2.35	2.54	1027	2.3	277	308	66.7	1	1	5040	64		
		Red	Max. - low	NRVL BVU	variable speed	Other	81	0.30	0.02	1101	0.3	0	309	66.7	-	-	-	64		
		Red	Min. - low	NRVL BVU	variable speed	Other	71	0.30	0.03	98	0.3	0	23	66.7	-	-	-	22		
30	1	Full face	Red	Min. - high	NRVL BVU	variable speed	Other	71	0.30	1.51	164	0.3	985	23	66.7	-	-	-	68	
			Yellow	Average	NRVL BVU	variable speed	Other	84	1.70	1.62	591	1.7	350	187	66.7	-	-	-	59	
			Blue	Max. - high	NRVL BVU	variable speed	Other	81	2.36	2.53	989	2.3	279	295	66.7	1	1	5120	64	
		Red	Max. - low	NRVL BVU	variable speed	Other	81	2.37	2.00	1069	2.3	0	296	66.7	-	-	-	64		
		Red	Min. - low	NRVL BVU	variable speed	Other	71	0.30	0.04	131	0.3	0	23	65.7	-	-	-	22		
		Red	Min. - high	NRVL BVU	variable speed	Other	71	0.30	2.03	177	0.3	1217	23	65.7	-	-	-	70		
	2	Duct	Other	Average	NRVL BVU	variable speed	Other	84	1.70	1.96	621	1.7	450	195	65.7	-	-	-	60	
			Blue	Max. - high	NRVL BVU	variable speed	Other	81	2.50	3.50	1101	2.4	445	338	65.7	3	1	5560	66	
			Red	Max. - low	NRVL BVU	variable speed	Other	81	2.50	2.34	1214	2.4	0	338	65.7	-	-	-	65	
		Red	Min. - low	NRVL BVU	variable speed	Other	71	0.30	0.04	130	0.3	0	23	65.7	-	-	-	22		
		Red	Min. - high	NRVL BVU	variable speed	Other	71	0.30	2.03	176	0.3	1217	23	65.7	-	-	-	70		
		Yellow	Average	NRVL BVU	variable speed	Other	84	1.70	1.93	596	1.7	450	187	65.7	-	-	-	60		
35	1	Full face	Blue	Max. - high	NRVL BVU	variable speed	Other	81	2.50	3.49	1047	2.4	480	321	65.7	3	1	5560	66	
			Red	Max. - low	NRVL BVU	variable speed	Other	81	2.50	2.29	1167	2.4	0	321	65.7	-	-	-	65	
			Red	Min. - low	NRVL BVU	variable speed	Other	85	0.50	0.08	168	0.5	0	41	65.2	-	-	-	32	
		Red	Min. - high	NRVL BVU	variable speed	Other	85	0.50	2.49	288	0.5	1076	41	65.2	-	-	-	70		
		Blue	Average	NRVL BVU	variable speed	Other	82	2.20	2.28	901	2.2	300	281	65.2	-	-	-	60		
		Yellow	Max. - high	NRVL BVU	variable speed	Other	80	2.73	4.67	1276	2.7	562	385	65.2	1	1	6710	65		
	2	Duct	Red	Max. - low	NRVL BVU	variable speed	Other	79	2.76	2.74	1269	2.7	0	392	65.2	-	-	-	62	
			Red	Min. - low	NRVL BVU	variable speed	Other	85	0.50	0.08	165	0.5	0	41	65.2	-	-	-	32	
			Red	Min. - high	NRVL BVU	variable speed	Other	85	0.50	2.49	284	0.5	1077	41	65.2	-	-	-	70	
		Yellow	Average	NRVL BVU	variable speed	Other	82	2.20	2.23	858	2.2	300	267	65.2	-	-	-	60		
		Blue	Max. - high	NRVL BVU	variable speed	Other	79	2.82	4.66	1261	2.8	535	383	65.2	1	1	7090	65		
		Red	Max. - low	NRVL BVU	variable speed	Other	79	2.84	2.84	1261	2.8	0	387	65.2	-	-	-	63		
40	1	Duct	Red	Min. - low	NRVL BVU	variable speed	Other	85	0.50	0.08	174	0.5	0	41	67.2	-	-	-	32	
			Red	Min. - high	NRVL BVU	variable speed	Other	85	0.50	3.00	304	0.5	1223	41	67.2	-	-	-	72	
			Yellow	Average	NRVL BVU	variable speed	Other	82	2.20	2.72	920	2.2	400	281	67.2	-	-	-	61	
		Blue	Max. - high	NRVL BVU	variable speed	Other	80	2.67	5.73	1281	2.6	769	373	67.2	1	1	6690	66		
		Red	Max. - low	NRVL BVU	variable speed	Other	79	2.76	2.74	1269	2.7	0	392	67.2	-	-	-	62		
		Red	Min. - low	NRVL BVU	variable speed	Other	85	0.50	0.08	171	0.5	0	41	67.2	-	-	-	32		
	2	Full face	Red	Min. - high	NRVL BVU	variable speed	Other	85	0.50	2.99	299	0.5	1223	41	67.2	-	-	-	72	
			Yellow	Average	NRVL BVU	variable speed	Other	85	2.30	2.29	515	1.5	350	162	65.2	-	-	-	61	
			Blue	Max. - high	NRVL BVU	variable speed	Other	81	3.71	9.97	1411	3.71	281	278	65.2	1	1	7680	67	
		Red	Max. - low	NRVL BVU	variable speed	Other	81	3.71	3.36	1154	2.2	281	278	65.2	-	-	-	67		
		Red	Min. - low	NRVL BVU	variable speed	Other	77	0.50	0.04	90	0.3	0	24	67.2	-	-	-	26		
		Red	Min. - high	NRVL BVU	variable speed	Other	77	0.50	2.61	159	0.3	1099	24	65.2	-	-	-	63		
45	1	Duct	Red	Min. - low	NRVL BVU	variable speed	Other	77	0.50	0.04	88	0.3	0	24	65.2	-	-	-	26	
			Red	Min. - high	NRVL BVU	variable speed	Other	77	0.50	2.61	159	0.3	1099	24	65.2	-	-	-	63	
			Yellow	Average	NRVL BVU	variable speed	Other	85	2.50	2.33	549	1.5	350	172	65.2	-	-	-	61	
		Blue	Max. - high	NRVL BVU	variable speed	Other	85	3.68	4.14	1058	2.2	278	259	65.2	1	1	7500	67		
		Red	Max. - low	NRVL BVU	variable speed	Other	82	3.68	3.40	1204	2.2	0	239	65.2	-	-	-	67		
		Red	Min. - low	NRVL BVU	variable speed	Other	77	0.50	0.04	86	0.3	0	23	65.2	-	-	-	26		
	2	Full face	Red	Min. - high	NRVL BVU	variable speed	Other	77	0.50	2.61	156	0.3	1099	23	65.2	-	-	-	70	
			Yellow	Average	NRVL BVU	variable speed	Other	85	2.50	2.29	515	1.5	350	162	65.2	-	-	-	61	
			Blue	Max. - high	NRVL BVU	variable speed	Other	81	3.71	9.97	1411	3.71	281	278	65.2	1	1	7680	67	
		Red	Max. - low	NRVL BVU	variable speed	Other	81	3.71	3.36	1154	2.2	281	278	65.2	-	-	-	67		
		Red	Min. - low	NRVL BVU	variable speed	Other	77	0.50	0.04	90	0.3	0	24	67.2	-	-	-	26		
		Red	Min. - high	NRVL BVU	variable speed	Other	77	0.50	2.61	165	0.3	1246	24	67.2	-	-	-	63		
50	1	Duct	Red	Min. - low	NRVL BVU	variable speed	Other	77	0.50	0.04	88	0.3	0	24	67.2	-	-	-	26	
			Red	Min. - high	NRVL BVU	variable speed	Other	77	0.50	2.61	165	0.3	1246	24	67.2	-	-	-	63	
			Yellow	Average	NRVL BVU	variable speed	Other	85	2.50	2.79	552	1.5	450	172	67.2	-	-	-	62	
		Blue	Max. - high	NRVL BVU	variable speed	Other	81	3.50	3.60	1162	3.3	352	326	67.2	1	1	8400	68		
		Red	Max. - low	NRVL BVU	variable speed	Other	81	3.66	3.87	1316	2.3	0	260	67.2	-	-	-	68		
		Red	Min. - low	NRVL BVU	variable speed	Other	77	0.50	0.04	86	0.3	0	23	67.2	-	-	-	26		
	2	Full face	Red	Min. - high	NRVL BVU	variable speed	Other	77	0.50	3.04	168	0.3	1246	23	67.2	-	-	-	70	
			Yellow	Average	NRVL BVU	variable speed	Other	85	2.50	2.73	519	1.5	450	162	67.2	-	-	-	62	
			Blue	Max. - high	NRVL BVU	variable speed	Other	81	3.50	5.03	1073	2.3	354	303	67.2	3	1	8430	68	
		Red	Max. - low	NRVL BVU	variable speed	Other	81	3.50	5.03	1073	2.3	0	300	67.2	-	-	-	68		
		Red	Min. - low	NRVL BVU	variable speed	Other	81	3.90	3.88	1275	2.3	0	300	67.2	-	-	-	68		
		Red	Min. - high	NRVL BVU	variable speed	Other	81	3.90	3.88	1275	2.3	0	300	67.2	-	-	-	68		

RX

Part of information requirements for NRJU according to Regulation (EU) No 1253/2014																			
Size	Motor option	In and outlet connections	Working point		AHU type	Type of drive	Type of HRS	Thermal efficiency	Nominal flow rate	Effective electric power	SFPint	Face velocity	Nominal external pressure	Internal pressure drop vent. comp.	Overall fan efficiency (EU) No 327/2011	Maximum external leaking rate	Maximum internal leakage	Energy performance of filters	Casing sound power level, LWA
			Colour	Remark															
40	1	Duct	Red	Min. - low	NRJU BVU	variable speed	Other	84	0.75	0.09	135	0.4	0	38	70.5	-	-	-	33
			Red	Min. - high	NRJU BVU	variable speed	Other	84	0.75	2.53	238	0.4	810	38	70.5	-	-	-	69
			Yellow	Average	NRJU BVU	variable speed	Other	85	2.70	2.10	606	1.6	250	191	70.5	-	-	-	58
		Full face	Red	Min. - low	NRJU BVU	variable speed	Other	81	3.90	4.35	1043	2.3	308	326	70.5	1	1	7600	64
			Red	Min. - high	NRJU BVU	variable speed	Other	81	3.90	3.17	1041	2.3	0	37	70.5	-	-	-	63
			Yellow	Average	NRJU BVU	variable speed	Other	84	0.75	2.52	232	0.4	810	37	70.5	-	-	-	69
	2	Duct	Red	Min. - low	NRJU BVU	variable speed	Other	85	2.70	2.04	565	1.6	250	179	70.5	-	-	-	58
			Red	Max. - high	NRJU BVU	variable speed	Other	81	3.90	4.35	960	2.3	333	300	70.5	1	1	7600	64
			Red	Min. - low	NRJU BVU	variable speed	Other	81	3.90	3.01	962	2.3	0	300	70.5	-	-	-	63
		Full face	Red	Min. - low	NRJU BVU	variable speed	Other	84	0.75	0.09	135	0.4	0	38	69.2	-	-	-	33
			Red	Max. - high	NRJU BVU	variable speed	Other	84	0.75	3.93	265	0.4	1117	38	69.2	-	-	-	72
			Yellow	Average	NRJU BVU	variable speed	Other	83	3.30	3.54	817	1.9	350	255	69.2	1	1	9730	67
50	1	Duct	Red	Min. - low	NRJU BVU	variable speed	Other	79	4.40	4.34	1272	2.6	0	390	69.2	-	-	-	65
			Red	Min. - high	NRJU BVU	variable speed	Other	79	4.40	0.09	131	0.4	0	37	69.2	-	-	-	32
			Yellow	Average	NRJU BVU	variable speed	Other	84	0.75	3.93	258	0.4	1118	37	69.2	-	-	-	72
		Full face	Red	Min. - low	NRJU BVU	variable speed	Other	83	3.30	3.43	756	1.9	350	237	69.2	-	-	-	62
			Red	Max. - high	NRJU BVU	variable speed	Other	79	4.60	7.07	1258	2.7	475	382	69.2	1	1	10700	67
			Red	Min. - low	NRJU BVU	variable speed	Other	79	4.59	4.58	1256	2.7	0	380	69.2	-	-	-	66
	2	Duct	Red	Min. - low	NRJU BVU	variable speed	Other	71	0.60	0.05	92	0.2	0	22	66.7	-	-	-	25
			Red	Min. - high	NRJU BVU	variable speed	Other	71	0.60	3.00	157	0.2	987	22	66.7	-	-	-	71
			Yellow	Average	NRJU BVU	variable speed	Other	85	3.10	2.73	476	1.2	350	151	66.7	-	-	-	61
		Full face	Red	Max. - high	NRJU BVU	variable speed	Other	81	4.82	4.97	942	1.8	269	277	66.7	1	1	9270	67
			Red	Max. - low	NRJU BVU	variable speed	Other	81	4.82	3.96	1030	1.8	0	277	66.7	-	-	-	67
			Red	Min. - high	NRJU BVU	variable speed	Other	71	0.60	4.03	169	0.2	1220	22	65.7	-	-	-	73
60	1	Duct	Red	Min. - low	NRJU BVU	variable speed	Other	84	1.00	0.12	132	0.4	0	38	65.2	-	-	-	34
			Red	Min. - high	NRJU BVU	variable speed	Other	84	1.00	5.00	270	0.4	1083	38	65.2	-	-	-	73
			Yellow	Average	NRJU BVU	variable speed	Other	82	4.50	4.52	856	1.7	300	267	65.2	-	-	-	63
		Full face	Red	Max. - high	NRJU BVU	variable speed	Other	79	5.76	9.42	1266	2.2	529	384	65.2	1	1	12500	68
			Red	Min. - low	NRJU BVU	variable speed	Other	79	5.80	5.73	1264	2.2	0	388	65.2	-	-	-	66
			Red	Min. - high	NRJU BVU	variable speed	Other	84	1.00	0.12	128	0.4	0	38	65.2	-	-	-	34
	2	Duct	Red	Min. - low	NRJU BVU	variable speed	Other	84	1.00	5.00	265	0.4	1083	38	65.2	-	-	-	73
			Yellow	Average	NRJU BVU	variable speed	Other	82	4.50	4.39	805	1.7	300	251	65.2	-	-	-	63
			Blue	Max. - high	NRJU BVU	variable speed	Other	79	6.01	9.32	1251	2.3	489	382	65.2	1	1	13500	68
		Full face	Red	Max. - low	NRJU BVU	variable speed	Other	79	6.01	5.99	1251	2.3	0	380	65.2	-	-	-	66
			Red	Min. - low	NRJU BVU	variable speed	Other	84	1.00	0.16	186	0.4	0	38	67.4	-	-	-	34
			Red	Min. - high	NRJU BVU	variable speed	Other	84	1.00	7.70	301	0.4	1474	38	67.4	-	-	-	77
70	1	Duct	Red	Min. - low	NRJU BVU	variable speed	Other	82	4.50	5.28	854	1.7	400	267	67.4	-	-	-	64
			Red	Max. - high	NRJU BVU	variable speed	Other	79	5.68	14.57	1274	2.1	1019	376	67.4	1	1	12500	71
			Red	Max. - low	NRJU BVU	variable speed	Other	79	5.78	5.68	1265	2.2	0	385	67.4	-	-	-	66
		Full face	Red	Min. - low	NRJU BVU	variable speed	Other	84	1.00	0.16	182	0.4	0	38	67.4	-	-	-	34
			Red	Min. - high	NRJU BVU	variable speed	Other	84	1.00	7.70	295	0.4	1474	38	67.4	-	-	-	77
			Yellow	Average	NRJU BVU	variable speed	Other	82	4.50	5.16	803	1.7	400	251	67.4	-	-	-	64
	2	Duct	Red	Max. - low	NRJU BVU	variable speed	Other	79	5.92	14.71	1258	2.2	996	373	67.4	1	1	13500	71
			Red	Max. - high	NRJU BVU	variable speed	Other	79	5.98	5.93	1253	2.3	0	378	67.4	-	-	-	66
			Red	Min. - low	NRJU BVU	variable speed	Other	83	1.00	0.07	83	0.3	0	28	65.2	-	-	-	30
		Full face	Red	Min. - high	NRJU BVU	variable speed	Other	83	1.00	5.14	189	0.3	1094	28	65.2	-	-	-	73
			Yellow	Average	NRJU BVU	variable speed	Other	85	4.80	4.58	594	1.6	350	186	65.2	-	-	-	63
			Blue	Max. - high	NRJU BVU	variable speed	Other	80	7.18	8.44	1121	2.3	301	331	65.2	1	1	15000	70
80	1	Duct	Red	Max. - low	NRJU BVU	variable speed	Other	80	7.18	6.69	1204	2.3	0	331	65.2	-	-	-	69
			Red	Min. - low	NRJU BVU	variable speed	Other	83	1.00	0.07	81	0.3	0	27	65.2	-	-	-	30
			Red	Min. - high	NRJU BVU	variable speed	Other	83	1.00	5.14	186	0.3	1094	27	65.2	-	-	-	73
		Full face	Red	Min. - low	NRJU BVU	variable speed	Other	85	4.80	4.50	564	1.6	350	177	65.2	-	-	-	63
			Blue	Max. - high	NRJU BVU	variable speed	Other	80	7.23	8.38	1085	2.4	304	313	65.2	1	1	15300	70
			Red	Max. - low	NRJU BVU	variable speed	Other	80	7.23	6.61	1156	2.4	0	313	65.2	-	-	-	69
	2	Duct	Red	Min. - low	NRJU BVU	variable speed	Other	83	1.00	0.11	128	0.3	0	28	67.4	-	-	-	30
			Red	Min. - high	NRJU BVU	variable speed	Other	83	1.00	7.90	210	0.3	1484	28	67.4	-	-	-	77
			Yellow	Average	NRJU BVU	variable speed	Other	84	5.20	6.06	665	1.7	450	209	67.4	-	-	-	65
		Full face	Red	Max. - high	NRJU BVU	variable speed	Other	80	7.50	14.52	1203	2.4	696	353	67.4	1	1	16400	72
			Red	Max. - low	NRJU BVU	variable speed	Other	80	7.41	7.38	1293	2.4	0	347	67.4	-	-	-	70
			Red	Min. - low	NRJU BVU	variable speed	Other	83	1.00	0.11	126	0.3	0	27	67.4	-	-	-	30

RX

Part of information requirements for NRJU according to Regulation (EU) No 1253/2014									
Size	Motor option	In and outlet connections	Working point		Type of drive	Type of HRS	Thermal efficiency %	Nominal flow rate m³/s	Effective electric power kW
			Colour	Remark					
80	1	Duct	Red	Min. - low	NRJU BVU	variable speed	85	1.50	0.19
			Red	Min. - high	NRJU BVU	variable speed	85	1.50	7.64
			Yellow	Average	NRJU BVU	variable speed	82	6.20	6.18
		Full face	Blue	Max. - high	NRJU BVU	variable speed	79	7.95	14.59
			Red	Max. - low	NRJU BVU	variable speed	79	8.04	7.92
			Red	Min. - low	NRJU BVU	variable speed	82	1.50	0.19
	2	Full face	Red	Min. - high	NRJU BVU	variable speed	82	1.50	0.19
			Red	Min. - low	NRJU BVU	variable speed	82	1.50	0.19
			Yellow	Average	NRJU BVU	variable speed	82	6.20	6.18
		Duct	Red	Max. - high	NRJU BVU	variable speed	79	8.32	14.59
			Red	Max. - low	NRJU BVU	variable speed	79	8.32	0.27
			Red	Min. - low	NRJU BVU	variable speed	85	1.50	0.19
100	1	Duct	Red	Min. - high	NRJU BVU	variable speed	85	1.50	11.22
			Red	Min. - low	NRJU BVU	variable speed	85	1.50	11.22
			Yellow	Average	NRJU BVU	variable speed	82	6.50	7.94
		Full face	Blue	Max. - high	NRJU BVU	variable speed	79	7.93	20.79
			Red	Max. - low	NRJU BVU	variable speed	79	7.93	7.85
			Red	Min. - low	NRJU BVU	variable speed	85	1.50	0.24
	2	Duct	Red	Min. - high	NRJU BVU	variable speed	85	1.50	11.21
			Red	Min. - low	NRJU BVU	variable speed	85	1.50	11.21
			Yellow	Average	NRJU BVU	variable speed	82	6.50	7.75
		Full face	Blue	Max. - high	NRJU BVU	variable speed	79	8.31	21.12
			Red	Max. - low	NRJU BVU	variable speed	79	8.22	8.19
			Red	Min. - low	NRJU BVU	variable speed	80	1.50	0.09
120	1	Duct	Red	Min. - high	NRJU BVU	variable speed	80	1.50	8.10
			Red	Min. - low	NRJU BVU	variable speed	80	1.50	8.10
			Yellow	Average	NRJU BVU	variable speed	85	7.00	6.36
		Full face	Blue	Max. - high	NRJU BVU	variable speed	81	11.00	12.89
			Red	Max. - low	NRJU BVU	variable speed	81	11.00	10.13
			Red	Min. - low	NRJU BVU	variable speed	80	1.50	0.09
	2	Duct	Red	Min. - high	NRJU BVU	variable speed	80	1.50	8.09
			Red	Min. - low	NRJU BVU	variable speed	80	1.50	8.09
			Yellow	Average	NRJU BVU	variable speed	85	7.00	6.27
		Full face	Blue	Max. - high	NRJU BVU	variable speed	81	11.00	12.88
			Red	Max. - low	NRJU BVU	variable speed	81	11.00	10.13
			Red	Min. - low	NRJU BVU	variable speed	80	1.50	0.13
140	1	Duct	Red	Min. - high	NRJU BVU	variable speed	80	1.50	11.61
			Red	Min. - low	NRJU BVU	variable speed	80	1.50	11.61
			Yellow	Average	NRJU BVU	variable speed	85	7.50	8.57
		Full face	Blue	Max. - high	NRJU BVU	variable speed	81	11.00	21.22
			Red	Max. - low	NRJU BVU	variable speed	81	11.00	10.07
			Red	Min. - low	NRJU BVU	variable speed	80	1.50	0.13
	2	Duct	Red	Min. - high	NRJU BVU	variable speed	80	1.50	11.61
			Red	Min. - low	NRJU BVU	variable speed	80	1.50	11.61
			Yellow	Average	NRJU BVU	variable speed	85	7.50	8.46
		Full face	Blue	Max. - high	NRJU BVU	variable speed	81	11.00	21.21
			Red	Max. - low	NRJU BVU	variable speed	81	11.00	9.78
			Red	Min. - low	NRJU BVU	variable speed	85	2.50	0.34
160	1	Duct	Red	Min. - high	NRJU BVU	variable speed	85	2.50	11.80
			Red	Min. - low	NRJU BVU	variable speed	85	2.50	11.80
			Yellow	Average	NRJU BVU	variable speed	82	10.00	10.42
		Full face	Blue	Max. - high	NRJU BVU	variable speed	80	12.53	21.43
			Red	Max. - low	NRJU BVU	variable speed	80	12.54	12.46
			Red	Min. - low	NRJU BVU	variable speed	85	2.50	0.34
	2	Duct	Red	Min. - high	NRJU BVU	variable speed	85	2.50	11.81
			Red	Min. - low	NRJU BVU	variable speed	85	2.50	11.81
			Yellow	Average	NRJU BVU	variable speed	82	10.00	10.14
		Full face	Blue	Max. - high	NRJU BVU	variable speed	79	13.06	21.27
			Red	Max. - low	NRJU BVU	variable speed	79	12.97	12.99
			Red	Min. - low	NRJU BVU	variable speed	85	2.50	0.43
180	1	Duct	Red	Min. - high	NRJU BVU	variable speed	85	2.50	17.17
			Red	Min. - low	NRJU BVU	variable speed	85	2.50	17.17
			Yellow	Average	NRJU BVU	variable speed	82	10.00	12.54
		Full face	Blue	Max. - high	NRJU BVU	variable speed	80	12.52	31.69
			Red	Max. - low	NRJU BVU	variable speed	80	12.14	12.10
			Red	Min. - low	NRJU BVU	variable speed	85	2.50	0.43
	2	Duct	Red	Min. - high	NRJU BVU	variable speed	85	2.50	17.17
			Red	Min. - low	NRJU BVU	variable speed	85	2.50	17.17
			Yellow	Average	NRJU BVU	variable speed	82	10.00	12.27
		Full face	Blue	Max. - high	NRJU BVU	variable speed	79	13.07	32.09
			Red	Max. - low	NRJU BVU	variable speed	79	12.52	12.61
			Red	Min. - low	NRJU BVU	variable speed	80	12.52	12.61

RX Top

Part of information requirements for NRUV according to Regulation (EU) No 1253/2014

Inspection side	Size	Working point		AHU type	Type of drive	Type of HRS	Thermal efficiency %	Nominal flow rate m³/s	Effective electric power kW	SFPint W/(m³/s)	Face velocity m/s	Nominal external pressure Pa	Internal pressure drop vent. comp. Pa	Overall fan efficiency (EU) No 327/2011 %	Maximum external leaking rate %	Maximum internal leakage %	Energy performance of filters kWh/year	Casing sound power level, LWA dB(A)
		Colour	Remark															
Right	04	Red	Min - low	NRUV, BVU	variable speed	Other	83	0.08	0.02	307	0.3	0	28	64.8	-	-	-	16
		Red	Min - high	NRUV, BVU	variable speed	Other	83	0.08	0.33	259	0.3	640	28	64.8	-	-	-	59
		Yellow	Average	NRUV, BVU	variable speed	Other	86	0.30	0.30	685	1.2	250	161	64.8	-	-	-	46
		Blue	Max - high	NRUV, BVU	variable speed	Other	83	0.45	0.54	1152	1.7	254	297	64.8	1	1	1200	51
	05	Red	Max - low	NRUV, BVU	variable speed	Other	83	0.45	0.41	1172	1.7	0	297	64.8	-	-	-	50
		Red	Min - low	NRUV, BVU	variable speed	Other	83	0.08	0.02	307	0.3	0	28	65.5	-	-	-	16
		Red	Min - high	NRUV, BVU	variable speed	Other	83	0.08	0.56	271	0.3	1010	28	65.5	-	-	-	64
		Yellow	Average	NRUV, BVU	variable speed	Other	84	0.37	0.45	899	1.4	300	219	65.5	-	-	-	49
		Blue	Max - high	NRUV, BVU	variable speed	Other	80	0.55	1.01	1517	2.1	484	405	65.5	1	1	1740	56
		Red	Max - low	NRUV, BVU	variable speed	Other	80	0.54	0.62	1521	2.1	0	399	65.5	-	-	-	54
		Red	Min - low	NRUV, BVU	variable speed	Other	67	0.10	0.01	166	0.2	0	21	63.8	-	-	-	17
	07	Red	Min - high	NRUV, BVU	variable speed	Other	67	0.10	0.57	161	0.2	979	21	63.8	-	-	-	64
		Yellow	Average	NRUV, BVU	variable speed	Other	86	0.44	0.44	512	1.1	350	148	63.8	-	-	-	51
		Blue	Max - high	NRUV, BVU	variable speed	Other	83	0.73	0.86	1146	1.7	271	320	63.8	1	1	2340	60
		Red	Max - low	NRUV, BVU	variable speed	Other	83	0.73	0.68	1229	1.7	0	322	63.8	-	-	-	59
Left	08	Red	Min - low	NRUV, BVU	variable speed	Other	85	0.20	0.05	257	0.5	0	49	65.4	-	-	-	31
		Red	Min - high	NRUV, BVU	variable speed	Other	85	0.20	0.84	305	0.5	982	49	65.4	-	-	-	67
		Yellow	Average	NRUV, BVU	variable speed	Other	84	0.66	0.78	919	1.6	350	275	65.4	-	-	-	57
		Blue	Max - high	NRUV, BVU	variable speed	Other	81	0.89	1.36	1478	2.1	366	445	65.4	1	1	3420	61
	11	Red	Max - low	NRUV, BVU	variable speed	Other	81	0.89	0.99	1473	2.1	0	449	65.4	-	-	-	60
		Red	Min - low	NRUV, BVU	variable speed	Other	83	0.20	0.04	225	0.3	0	34	65.4	-	-	-	28
		Red	Min - high	NRUV, BVU	variable speed	Other	83	0.20	0.87	215	0.3	958	34	65.4	-	-	-	67
		Yellow	Average	NRUV, BVU	variable speed	Other	86	0.70	0.74	646	1.0	350	193	65.4	-	-	-	57
	12	Blue	Max - high	NRUV, BVU	variable speed	Other	83	1.04	1.24	1261	1.5	253	366	65.4	1	1	4130	63
		Red	Max - low	NRUV, BVU	variable speed	Other	83	1.05	1.02	1364	1.6	0	368	65.4	-	-	-	62
		Red	Min - low	NRUV, BVU	variable speed	Other	83	0.20	0.03	177	0.3	0	34	66.8	-	-	-	27
		Red	Min - high	NRUV, BVU	variable speed	Other	83	0.20	0.98	248	0.3	951	34	66.8	-	-	-	68
Left	04	Yellow	Average	NRUV, BVU	variable speed	Other	84	0.90	0.96	921	1.3	300	287	66.8	-	-	-	58
		Blue	Max - high	NRUV, BVU	variable speed	Other	82	1.19	1.78	1459	1.8	394	454	66.8	1	1	5240	62
		Red	Max - low	NRUV, BVU	variable speed	Other	81	1.21	1.25	1452	1.8	0	465	66.8	-	-	-	60
		Red	Min - low	NRUV, BVU	variable speed	Other	83	0.08	0.02	308	0.3	0	28	64.8	-	-	-	19
	05	Red	Min - high	NRUV, BVU	variable speed	Other	83	0.08	0.33	259	0.3	639	28	64.8	-	-	-	59
		Yellow	Average	NRUV, BVU	variable speed	Other	86	0.30	0.30	684	1.2	250	161	64.8	-	-	-	46
		Blue	Max - high	NRUV, BVU	variable speed	Other	83	0.45	0.54	1149	1.7	251	297	64.8	4	1	1220	52
		Red	Max - low	NRUV, BVU	variable speed	Other	83	0.45	0.39	1174	1.7	0	297	64.8	-	-	-	51
	07	Red	Min - low	NRUV, BVU	variable speed	Other	83	0.08	0.02	308	0.3	0	28	65.5	-	-	-	19
		Red	Min - high	NRUV, BVU	variable speed	Other	83	0.08	0.57	271	0.3	1010	28	65.5	-	-	-	64
		Yellow	Average	NRUV, BVU	variable speed	Other	84	0.37	0.45	896	1.4	300	219	65.5	-	-	-	50
		Blue	Max - high	NRUV, BVU	variable speed	Other	80	0.55	1.01	1516	2.1	479	407	65.5	1	1	1740	57
Left	08	Red	Max - low	NRUV, BVU	variable speed	Other	80	0.54	0.60	1520	2.1	0	400	65.5	-	-	-	55
		Red	Min - low	NRUV, BVU	variable speed	Other	67	0.10	0.01	167	0.2	0	21	63.8	-	-	-	18
		Red	Min - high	NRUV, BVU	variable speed	Other	67	0.10	0.58	162	0.2	982	21	63.8	-	-	-	64
		Yellow	Average	NRUV, BVU	variable speed	Other	86	0.44	0.45	513	1.1	350	148	63.8	-	-	-	52
	11	Blue	Max - high	NRUV, BVU	variable speed	Other	83	0.75	0.83	1237	1.8	206	338	63.8	4	1	2580	61
		Red	Max - low	NRUV, BVU	variable speed	Other	83	0.75	0.69	1323	1.8	0	338	63.8	-	-	-	61
		Red	Min - low	NRUV, BVU	variable speed	Other	85	0.20	0.04	259	0.5	0	49	65.4	-	-	-	33
		Red	Min - high	NRUV, BVU	variable speed	Other	85	0.20	0.84	304	0.5	982	49	65.4	-	-	-	68
	12	Yellow	Average	NRUV, BVU	variable speed	Other	84	0.66	0.79	917	1.6	350	275	65.4	-	-	-	57
		Blue	Max - high	NRUV, BVU	variable speed	Other	81	0.89	1.36	1478	2.1	390	446	65.4	1	1	3420	62
		Red	Max - low	NRUV, BVU	variable speed	Other	81	0.89	0.89	1478	2.1	0	446	65.4	-	-	-	60
		Red	Min - low	NRUV, BVU	variable speed	Other	83	0.20	0.04	226	0.3	0	34	65.4	-	-	-	29
Left	04	Red	Min - high	NRUV, BVU	variable speed	Other	83	0.20	0.87	216	0.3	956	34	65.4	-	-	-	68
		Yellow	Average	NRUV, BVU	variable speed	Other	86	0.70	0.74	646	1.0	350	193	65.4	-	-	-	58
		Blue	Max - high	NRUV, BVU	variable speed	Other	83	1.06	1.23	1325	1.6	215	377	65.4	1	1	4390	63
		Red	Max - low	NRUV, BVU	variable speed	Other	83	1.07	1.04	1414	1.6	0	379	65.4	-	-	-	63
	11	Red	Min - low	NRUV, BVU	variable speed	Other	83	0.20	0.03	190	0.3	0	34	66.8	-	-	-	29
		Red	Min - high	NRUV, BVU	variable speed	Other	83	0.20	0.97	247	0.3	953	34	66.8	-	-	-	69
		Yellow	Average	NRUV, BVU	variable speed	Other	84	0.90	0.96	920	1.3	300	287	66.8	-	-	-	58
		Blue	Max - high	NRUV, BVU	variable speed	Other	82	1.19	1.78	1459	1.8	392	455	66.8	1	1	5230	63
	12	Red	Max - low	NRUV, BVU	variable speed	Other	81	1.21	1.19	1453	1.8	0	465	66.8	-	-	-	61

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Part of information requirements for NRUV according to Regulation (EU) No 1253/2014																			
Size	Motor option	In and outlet connections	Working point		AHU type	Type of drive	Type of HRS	Thermal efficiency	Nominal flow rate	Effective electric power	SFPint	Face velocity	Nominal pressure	Internal pressure drop vent. comp.	Overall fan efficiency (EU) No 327/2011	Maximum external leaking rate	Maximum internal leakage	Energy performance of filters	Casing sound power level, LWA
			Colour	Remark															
04	Not applicable	Duct	Red	Min. - low	NRUV, BVU	variable speed	Other	78	0.08	0.01	293	0.3	0	32	64.8	-	-	-	16
			Red	Min. - high	NRUV, BVU	variable speed	Other	78	0.08	0.27	317	0.3	628	32	64.8	-	-	-	62
			Yellow	Average	NRUV, BVU	variable speed	Other	74	0.30	0.26	633	1.0	250	161	64.8	-	-	-	49
		Full face	Blue	Max. - high	NRUV, BVU	variable speed	Other	70	0.45	0.49	1038	1.4	280	293	64.8	1	1	750	53
			Red	Min. - low	NRUV, BVU	variable speed	Other	70	0.45	0.26	1055	1.4	0	293	64.8	-	-	-	50
			Red	Min. - high	NRUV, BVU	variable speed	Other	78	0.08	0.01	284	0.3	629	31	64.8	-	-	-	15
	1	Full face	Red	Min. - low	NRUV, BVU	variable speed	Other	78	0.08	0.27	307	0.3	629	31	64.8	-	-	-	62
			Yellow	Average	NRUV, BVU	variable speed	Other	74	0.30	0.25	576	1.0	250	147	64.8	-	-	-	49
			Blue	Max. - high	NRUV, BVU	variable speed	Other	70	0.45	0.49	925	1.4	312	261	64.8	1	1	750	53
		Duct	Red	Min. - low	NRUV, BVU	variable speed	Other	70	0.45	0.24	954	1.4	0	261	64.8	-	-	-	49
			Red	Min. - high	NRUV, BVU	variable speed	Other	78	0.08	0.01	293	0.3	0	32	65.5	-	-	-	16
			Yellow	Average	NRUV, BVU	variable speed	Other	72	0.08	0.47	362	0.3	989	32	65.5	-	-	-	67
05	2	Duct	Red	Min. - low	NRUV, BVU	variable speed	Other	72	0.35	0.36	760	1.1	300	201	65.5	-	-	-	51
			Yellow	Average	NRUV, BVU	variable speed	Other	70	0.48	0.93	1224	1.5	662	326	65.5	1	1	895	58
			Blue	Max. - high	NRUV, BVU	variable speed	Other	70	0.50	0.33	1225	1.6	0	345	65.5	-	-	-	52
		Full face	Red	Min. - low	NRUV, BVU	variable speed	Other	70	0.08	0.01	284	0.3	629	31	64.8	-	-	-	15
			Red	Min. - high	NRUV, BVU	variable speed	Other	78	0.08	0.47	350	0.3	990	31	65.5	-	-	-	67
			Yellow	Average	NRUV, BVU	variable speed	Other	72	0.35	0.34	684	1.1	300	182	65.5	-	-	-	51
	1	Full face	Blue	Max. - high	NRUV, BVU	variable speed	Other	71	0.53	0.94	1232	1.7	596	342	65.5	1	1	1040	58
			Red	Min. - low	NRUV, BVU	variable speed	Other	71	0.54	0.36	1232	1.7	0	343	65.5	-	-	-	53
			Red	Min. - high	NRUV, BVU	variable speed	Other	78	0.08	0.02	368	0.3	0	32	63.5	-	-	-	16
		Duct	Red	Min. - low	NRUV, BVU	variable speed	Other	78	0.08	0.64	410	0.3	1186	32	63.5	-	-	-	68
			Yellow	Average	NRUV, BVU	variable speed	Other	72	0.35	0.45	823	1.1	400	201	63.5	-	-	-	54
			Blue	Max. - high	NRUV, BVU	variable speed	Other	70	0.44	1.18	1207	1.4	934	284	63.5	1	1	870	66
07	2	Duct	Red	Min. - low	NRUV, BVU	variable speed	Other	70	0.48	0.32	1222	1.5	0	326	63.5	-	-	-	51
			Yellow	Average	NRUV, BVU	variable speed	Other	72	0.08	0.02	355	0.3	0	31	63.5	-	-	-	15
			Blue	Max. - high	NRUV, BVU	variable speed	Other	78	0.08	0.64	397	0.3	1187	31	63.5	-	-	-	68
		Full face	Red	Min. - low	NRUV, BVU	variable speed	Other	72	0.35	0.44	740	1.1	400	182	63.5	-	-	-	53
			Yellow	Average	NRUV, BVU	variable speed	Other	70	0.50	1.24	1229	1.6	894	311	63.5	1	1	1020	61
			Blue	Max. - high	NRUV, BVU	variable speed	Other	71	0.52	0.35	1229	1.7	0	324	63.5	-	-	-	52
	1	Duct	Red	Min. - low	NRUV, BVU	variable speed	Other	79	0.08	0.01	225	0.2	0	23	65.5	-	-	-	12
			Yellow	Average	NRUV, BVU	variable speed	Other	77	0.45	0.47	260	0.2	1001	23	65.5	-	-	-	67
			Blue	Max. - high	NRUV, BVU	variable speed	Other	70	0.74	0.88	1192	1.6	291	332	65.5	1	1	1350	60
		Full face	Red	Min. - low	NRUV, BVU	variable speed	Other	71	0.69	0.46	1212	1.5	0	301	65.5	-	-	-	58
			Yellow	Average	NRUV, BVU	variable speed	Other	79	0.08	0.01	221	0.2	0	22	65.5	-	-	-	12
			Blue	Max. - high	NRUV, BVU	variable speed	Other	77	0.45	0.41	506	1.0	350	144	65.5	-	-	-	52
08	2	Duct	Red	Min. - low	NRUV, BVU	variable speed	Other	71	0.75	0.87	1056	1.6	307	291	65.5	1	1	1400	60
			Yellow	Average	NRUV, BVU	variable speed	Other	70	0.74	0.49	1191	1.6	0	286	65.5	-	-	-	60
			Blue	Max. - high	NRUV, BVU	variable speed	Other	79	0.08	0.01	260	0.2	1198	23	63.5	-	-	-	12
		Full face	Red	Min. - low	NRUV, BVU	variable speed	Other	79	0.08	0.64	295	0.2	1198	23	63.5	-	-	-	68
			Yellow	Average	NRUV, BVU	variable speed	Other	77	0.45	0.54	608	1.0	450	162	63.5	-	-	-	53
			Blue	Max. - high	NRUV, BVU	variable speed	Other	70	0.73	1.24	1190	1.6	569	330	63.5	1	1	1350	61
	1	Duct	Red	Min. - low	NRUV, BVU	variable speed	Other	72	0.66	0.45	1242	1.4	0	277	63.5	-	-	-	57
			Yellow	Average	NRUV, BVU	variable speed	Other	79	0.08	0.01	255	0.2	0	22	63.5	-	-	-	12
			Blue	Max. - high	NRUV, BVU	variable speed	Other	77	0.45	0.52	540	1.0	450	144	63.5	-	-	-	53
		Full face	Red	Min. - low	NRUV, BVU	variable speed	Other	71	0.75	1.24	1055	1.6	578	291	63.5	1	1	1400	61
			Yellow	Average	NRUV, BVU	variable speed	Other	70	0.69	0.47	1216	1.5	0	254	63.5	-	-	-	58
			Blue	Max. - high	NRUV, BVU	variable speed	Other	79	0.20	0.04	340	0.4	0	60	65.4	-	-	-	28
09	2	Duct	Red	Min. - low	NRUV, BVU	variable speed	Other	79	0.20	0.76	439	0.4	971	60	65.4	-	-	-	69
			Yellow	Average	NRUV, BVU	variable speed	Other	73	0.62	0.65	899	1.3	300	254	65.4	-	-	-	54
			Blue	Max. - high	NRUV, BVU	variable speed	Other	70	0.73	1.36	1188	1.6	653	327	65.4	1	1	1340	59
		Full face	Red	Min. - low	NRUV, BVU	variable speed	Other	71	0.75	0.48	1192	1.6	0	337	65.4	-	-	-	54
			Yellow	Average	NRUV, BVU	variable speed	Other	79	0.20	0.04	324	0.4	0	57	65.4	-	-	-	28
			Blue	Max. - high	NRUV, BVU	variable speed	Other	73	0.62	0.76	413	0.4	975	57	65.4	-	-	-	69
	1	Duct	Red	Min. - low	NRUV, BVU	variable speed	Other	79	0.20	0.99	477	0.4	1177	60	67.4	-	-	-	71
			Yellow	Average	NRUV, BVU	variable speed	Other	72	0.64	0.78	925	1.4	400	267	67.4	-	-	-	55
			Blue	Max. - high	NRUV, BVU	variable speed	Other	70	0.72	1.69	1190	1.6	900	321	67.4	1	1	1340	63
		Full face	Red	Min. - low	NRUV, BVU	variable speed	Other	71	0.77	0.50	1196	1.7	0	355	67.4	-	-	-	54
			Yellow	Average	NRUV, BVU	variable speed	Other	79	0.20	0.04	327	0.4	0	57	67.4	-	-	-	28
			Blue	Max. - high	NRUV, BVU	variable speed	Other	79	0.20	0.99	449	0.4	1181	57	67.4	-	-	-	71

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Part of information requirements for NRUV according to Regulation (EU) No 1253/2014													
Size	Motor option	In and outlet connections	Working point		Type of drive	AHU type	Type of HRS	Thermal efficiency	Nominal flow rate	Effective electric power	SE-Pint	Face velocity	Nominal external pressure
			Colour	Remark									
11	1	Duct	Red	Min. - low	NRUV, BVU	variable speed	Other	81	0.20	0.03	251	0.3	0
			Red	Min. - high	NRUV, BVU	variable speed	Other	81	0.20	0.76	300	0.3	991
			Yellow	Average	NRUV, BVU	variable speed	Other	78	0.72	0.73	890	1.1	350
		Full face	Blue	Max. - high	NRUV, BVU	variable speed	Other	73	1.05	1.30	1228	1.6	311
			Red	Max. - low	NRUV, BVU	variable speed	Other	74	0.99	0.69	1262	1.5	0
			Red	Min. - low	NRUV, BVU	variable speed	Other	81	0.20	0.03	242	0.3	0
	2	Full face	Red	Min. - high	NRUV, BVU	variable speed	Other	81	0.20	0.76	287	0.3	993
			Yellow	Average	NRUV, BVU	variable speed	Other	78	0.72	0.70	610	1.1	350
			Blue	Max. - high	NRUV, BVU	variable speed	Other	73	1.05	1.29	1095	1.6	323
			Red	Max. - low	NRUV, BVU	variable speed	Other	73	1.07	0.71	1234	1.5	0
			Red	Min. - low	NRUV, BVU	variable speed	Other	81	0.20	0.03	250	0.3	0
12	1	Duct	Red	Min. - high	NRUV, BVU	variable speed	Other	81	0.20	0.99	326	0.3	1197
			Yellow	Average	NRUV, BVU	variable speed	Other	78	0.75	0.88	715	1.1	450
			Blue	Max. - high	NRUV, BVU	variable speed	Other	73	1.08	1.71	1218	1.6	539
		Full face	Red	Max. - low	NRUV, BVU	variable speed	Other	74	1.01	0.69	1215	1.5	0
			Red	Min. - low	NRUV, BVU	variable speed	Other	81	0.20	0.03	241	0.3	321
			Red	Min. - high	NRUV, BVU	variable speed	Other	81	0.20	0.99	312	0.3	1199
	2	Full face	Yellow	Average	NRUV, BVU	variable speed	Other	78	0.75	0.85	628	1.1	450
			Blue	Max. - high	NRUV, BVU	variable speed	Other	73	1.10	1.69	1080	1.6	548
			Red	Max. - low	NRUV, BVU	variable speed	Other	73	1.06	0.71	1228	1.6	0
			Red	Min. - low	NRUV, BVU	variable speed	Other	81	0.20	0.03	241	0.3	0
			Red	Min. - high	NRUV, BVU	variable speed	Other	81	0.20	0.91	375	0.3	945
14	1	Duct	Red	Min. - high	NRUV, BVU	variable speed	Other	81	0.20	0.91	375	0.3	945
			Yellow	Average	NRUV, BVU	variable speed	Other	75	0.90	0.93	924	1.3	300
			Blue	Max. - high	NRUV, BVU	variable speed	Other	73	1.07	1.76	1223	1.6	564
		Full face	Red	Max. - low	NRUV, BVU	variable speed	Other	73	1.11	0.73	1213	1.6	0
			Red	Min. - low	NRUV, BVU	variable speed	Other	81	0.20	0.03	231	0.3	39
			Red	Min. - high	NRUV, BVU	variable speed	Other	81	0.20	0.91	795	1.3	947
	2	Full face	Yellow	Average	NRUV, BVU	variable speed	Other	75	0.90	0.87	795	1.3	300
			Blue	Max. - high	NRUV, BVU	variable speed	Other	74	1.21	1.78	1215	1.8	475
			Red	Max. - low	NRUV, BVU	variable speed	Other	74	1.23	0.81	1217	1.8	0
			Red	Min. - low	NRUV, BVU	variable speed	Other	81	0.20	0.03	259	0.3	41
			Red	Min. - high	NRUV, BVU	variable speed	Other	81	0.20	1.23	415	0.3	1171
14	1	Duct	Red	Min. - high	NRUV, BVU	variable speed	Other	81	0.20	1.23	415	0.3	1171
			Yellow	Average	NRUV, BVU	variable speed	Other	75	0.95	1.10	1003	1.4	350
			Blue	Max. - high	NRUV, BVU	variable speed	Other	73	1.04	2.42	1233	1.5	858
		Full face	Red	Max. - low	NRUV, BVU	variable speed	Other	73	1.11	0.73	1214	1.6	0
			Red	Min. - low	NRUV, BVU	variable speed	Other	81	0.20	0.03	247	0.3	0
			Red	Min. - high	NRUV, BVU	variable speed	Other	81	0.20	1.23	396	0.3	1173
	2	Full face	Yellow	Average	NRUV, BVU	variable speed	Other	75	0.95	1.03	859	1.4	350
			Blue	Max. - high	NRUV, BVU	variable speed	Other	73	1.18	2.40	1216	1.7	790
			Red	Max. - low	NRUV, BVU	variable speed	Other	74	1.23	0.81	1218	1.8	0
			Red	Min. - low	NRUV, BVU	variable speed	Other	80	0.20	0.02	117	0.3	0
			Red	Min. - high	NRUV, BVU	variable speed	Other	80	0.20	0.91	164	0.3	972
14	1	Duct	Yellow	Average	NRUV, BVU	variable speed	Other	75	1.05	0.87	446	1.3	350
			Blue	Max. - high	NRUV, BVU	variable speed	Other	73	1.63	1.56	936	2.0	255
			Red	Max. - low	NRUV, BVU	variable speed	Other	73	1.63	1.01	1126	2.0	282
		Full face	Red	Min. - low	NRUV, BVU	variable speed	Other	80	0.20	0.02	116	0.3	0
			Red	Min. - high	NRUV, BVU	variable speed	Other	80	0.20	0.91	162	0.3	973
			Red	Min. - low	NRUV, BVU	variable speed	Other	80	0.20	0.02	116	0.3	0
	2	Full face	Yellow	Average	NRUV, BVU	variable speed	Other	75	1.05	0.87	429	1.3	350
			Blue	Max. - high	NRUV, BVU	variable speed	Other	73	1.63	1.55	902	2.1	280
			Red	Max. - low	NRUV, BVU	variable speed	Other	73	1.65	1.03	1125	2.1	0
			Red	Min. - low	NRUV, BVU	variable speed	Other	80	0.20	0.02	127	0.3	0
			Red	Min. - high	NRUV, BVU	variable speed	Other	80	0.20	1.23	181	0.3	1199
14	1	Duct	Yellow	Average	NRUV, BVU	variable speed	Other	73	1.20	1.26	544	1.5	450
			Blue	Max. - high	NRUV, BVU	variable speed	Other	73	1.65	2.28	919	2.1	536
			Red	Max. - low	NRUV, BVU	variable speed	Other	73	1.64	1.02	1127	2.1	0
		Full face	Red	Min. - low	NRUV, BVU	variable speed	Other	80	0.20	0.02	127	0.3	0
			Red	Min. - high	NRUV, BVU	variable speed	Other	80	0.20	1.23	179	0.3	1199
			Red	Min. - low	NRUV, BVU	variable speed	Other	80	0.20	0.02	127	0.3	0
	2	Full face	Yellow	Average	NRUV, BVU	variable speed	Other	73	1.20	1.24	522	1.5	450
			Blue	Max. - high	NRUV, BVU	variable speed	Other	73	1.65	2.28	878	2.1	549
			Red	Max. - low	NRUV, BVU	variable speed	Other	73	1.65	1.01	1108	2.1	0
			Red	Min. - low	NRUV, BVU	variable speed	Other	73	1.65	1.01	1108	2.1	0
			Red	Min. - high	NRUV, BVU	variable speed	Other	73	1.65	1.01	1108	2.1	0

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Size	Motor option	In and outlet connections	Part of information requirements for NRUV according to Regulation (EU) No 1253/2014																
			Working point		AHU type	Type of drive	Type of HRS	Thermal efficiency	Nominal flow rate	Effective electric power	SFPint	Face velocity	Nominal pressure	Internal pressure drop vent. comp.	Overall fan efficiency (EU) No 327/2011	Maximum external leaking rate	Maximum internal leakage	Energy performance of filters	Casing sound power level, LWA
Colour	Remark	%	m³/s	kW															
20	1	Duct	Red	Min. - low	NRUV, BVU	variable speed	Other	80	0.30	0.02	120	0.4	0	28	66.7	-	-	-	21
			Red	Min. - high	NRUV, BVU	variable speed	Other	80	0.30	1.32	247	0.4	976	28	66.7	-	-	-	68
			Yellow	Average	NRUV, BVU	variable speed	Other	72	1.40	1.24	695	1.8	300	218	66.7	-	-	-	58
		Full face	Blue	Max. - high	NRUV, BVU	variable speed	Other	73	1.82	2.78	1112	2.3	553	341	66.7	1	1	3710	62
			Red	Max. - low	NRUV, BVU	variable speed	Other	73	1.82	1.10	1112	2.3	0	343	66.7	-	-	-	58
			Red	Min. - low	NRUV, BVU	variable speed	Other	80	0.30	0.02	118	0.4	0	28	66.7	-	-	-	21
	2	Duct	Red	Min. - high	NRUV, BVU	variable speed	Other	80	0.30	1.32	243	0.4	976	28	66.7	-	-	-	68
			Yellow	Average	NRUV, BVU	variable speed	Other	72	1.40	1.22	663	1.8	300	209	66.7	-	-	-	56
			Blue	Max. - high	NRUV, BVU	variable speed	Other	73	1.87	2.78	1109	2.4	531	342	66.7	1	1	3900	62
		Full face	Red	Max. - low	NRUV, BVU	variable speed	Other	73	1.86	1.12	1109	2.3	0	339	66.7	-	-	-	58
			Red	Min. - low	NRUV, BVU	variable speed	Other	80	0.30	0.03	160	0.4	0	28	65.7	-	-	-	21
			Red	Min. - high	NRUV, BVU	variable speed	Other	80	0.30	1.79	271	0.4	1206	28	65.7	-	-	-	70
25	1	Duct	Blue	Max. - high	NRUV, BVU	variable speed	Other	72	1.79	3.71	1114	2.3	859	333	65.7	1	1	3720	65
			Red	Min. - low	NRUV, BVU	variable speed	Other	73	1.80	1.09	1115	2.3	0	338	65.7	-	-	-	58
			Red	Min. - high	NRUV, BVU	variable speed	Other	80	0.30	0.03	157	0.4	0	28	65.7	-	-	-	21
		Full face	Red	Min. - low	NRUV, BVU	variable speed	Other	80	0.30	1.79	267	0.4	1207	28	65.7	-	-	-	70
			Yellow	Average	NRUV, BVU	variable speed	Other	72	1.40	1.49	685	1.8	400	209	65.7	-	-	-	58
			Blue	Max. - high	NRUV, BVU	variable speed	Other	73	1.84	3.73	1109	2.3	839	334	65.7	1	1	3900	65
	2	Duct	Red	Max. - low	NRUV, BVU	variable speed	Other	73	1.84	1.11	1109	2.3	0	333	65.7	-	-	-	58
			Red	Min. - low	NRUV, BVU	variable speed	Other	81	0.30	0.02	84	0.3	0	20	66.7	-	-	-	19
			Red	Min. - high	NRUV, BVU	variable speed	Other	81	0.30	1.32	176	0.3	985	20	66.7	-	-	-	68
		Full face	Yellow	Average	NRUV, BVU	variable speed	Other	77	1.50	1.30	511	1.5	350	162	66.7	-	-	-	57
			Blue	Max. - high	NRUV, BVU	variable speed	Other	74	2.33	2.60	1087	2.3	305	332	66.7	1	1	4900	64
			Red	Min. - low	NRUV, BVU	variable speed	Other	73	2.19	1.30	1083	2.1	0	299	66.7	-	-	-	61
30	1	Duct	Red	Min. - low	NRUV, BVU	variable speed	Other	81	0.30	0.02	83	0.3	0	20	66.7	-	-	-	19
			Red	Min. - high	NRUV, BVU	variable speed	Other	81	0.30	1.32	173	0.3	985	20	66.7	-	-	-	68
			Yellow	Average	NRUV, BVU	variable speed	Other	77	1.50	1.28	492	1.5	350	156	66.7	-	-	-	57
		Full face	Blue	Max. - high	NRUV, BVU	variable speed	Other	74	2.34	2.59	1053	2.3	308	321	66.7	1	1	4970	64
			Red	Max. - low	NRUV, BVU	variable speed	Other	73	2.23	1.34	1088	2.2	0	296	66.7	-	-	-	62
			Red	Min. - low	NRUV, BVU	variable speed	Other	81	0.30	0.02	110	0.3	0	20	65.7	-	-	-	19
	2	Duct	Red	Min. - high	NRUV, BVU	variable speed	Other	81	0.30	1.79	193	0.3	1216	20	65.7	-	-	-	70
			Yellow	Average	NRUV, BVU	variable speed	Other	76	1.60	1.71	573	1.6	450	179	65.7	-	-	-	59
			Blue	Max. - high	NRUV, BVU	variable speed	Other	74	2.38	3.67	1101	2.3	575	345	65.7	1	1	4970	65
		Full face	Red	Max. - low	NRUV, BVU	variable speed	Other	73	2.16	1.29	1079	2.1	0	292	65.7	-	-	-	61
			Red	Min. - low	NRUV, BVU	variable speed	Other	81	0.30	0.02	109	0.3	0	20	65.7	-	-	-	19
			Red	Min. - high	NRUV, BVU	variable speed	Other	81	0.30	1.79	191	0.3	1216	20	65.7	-	-	-	70
30	1	Duct	Yellow	Average	NRUV, BVU	variable speed	Other	76	1.60	1.69	550	1.6	450	172	65.7	-	-	-	59
			Blue	Max. - high	NRUV, BVU	variable speed	Other	74	2.45	3.62	1104	2.4	584	345	65.7	1	1	5260	65
			Red	Min. - low	NRUV, BVU	variable speed	Other	73	2.21	1.32	1084	2.2	0	289	65.7	-	-	-	61
		Full face	Red	Max. - low	NRUV, BVU	variable speed	Other	81	0.50	0.05	140	0.5	0	36	65.2	-	-	-	27
			Red	Min. - high	NRUV, BVU	variable speed	Other	81	0.50	2.29	296	0.5	1079	36	65.2	-	-	-	70
			Yellow	Average	NRUV, BVU	variable speed	Other	74	1.80	1.64	707	1.8	300	215	65.2	-	-	-	57
	2	Duct	Blue	Max. - high	NRUV, BVU	variable speed	Other	73	2.25	4.49	1088	2.2	789	312	65.2	1	1	4870	65
			Red	Max. - low	NRUV, BVU	variable speed	Other	74	2.38	1.42	1100	2.3	0	345	65.2	-	-	-	58
			Red	Min. - low	NRUV, BVU	variable speed	Other	81	0.50	0.05	137	0.5	0	36	65.2	-	-	-	27
		Full face	Red	Min. - high	NRUV, BVU	variable speed	Other	81	0.50	2.29	291	0.5	1080	36	65.2	-	-	-	70
			Yellow	Average	NRUV, BVU	variable speed	Other	74	1.80	1.61	677	1.8	300	207	65.2	-	-	-	57
			Blue	Max. - high	NRUV, BVU	variable speed	Other	74	2.33	4.55	1096	2.3	768	317	65.2	1	1	5170	65
30	1	Duct	Red	Max. - low	NRUV, BVU	variable speed	Other	74	2.45	1.47	1103	2.4	0	344	65.2	-	-	-	58
			Red	Min. - low	NRUV, BVU	variable speed	Other	81	0.50	0.05	144	0.5	0	36	67.2	-	-	-	27
			Red	Min. - high	NRUV, BVU	variable speed	Other	81	0.50	2.74	314	0.5	1224	36	67.2	-	-	-	72
		Full face	Yellow	Average	NRUV, BVU	variable speed	Other	74	1.90	2.17	797	1.9	400	236	67.2	-	-	-	60
			Blue	Max. - high	NRUV, BVU	variable speed	Other	73	2.16	5.31	1083	2.1	991	253	67.2	1	1	4810	67
			Red	Max. - low	NRUV, BVU	variable speed	Other	74	2.38	1.42	1101	2.3	0	345	67.2	-	-	-	58
	2	Duct	Red	Min. - low	NRUV, BVU	variable speed	Other	81	0.50	0.05	141	0.5	0	36	67.2	-	-	-	27
			Red	Min. - high	NRUV, BVU	variable speed	Other	81	0.50	2.74	308	0.5	1225	36	67.2	-	-	-	72
			Yellow	Average	NRUV, BVU	variable speed	Other	74	1.90	2.14	762	1.9	400	226	67.2	-	-	-	59
		Full face	Blue	Max. - high	NRUV, BVU	variable speed	Other	73	2.25	5.40	1088	2.2	975	298	67.2	1	1	5100	67
			Red	Max. - low	NRUV, BVU	variable speed	Other	74	2.45	1.47	1104	2.4	0	344	67.2	-	-	-	58
			Red	Min. - low	NRUV, BVU	variable speed	Other	81	0.50	0.05	141	0.5	0	36	67.2	-	-	-	27

CX

Part of information requirements for NRVL according to Regulation (EU) No 1253/2011									
Size	Motor option	In and outlet connections	Working point		Type of drive	Type of HRS	Thermal efficiency %	Nominal flow rate m³/s	Effective electric power kW
			Colour	Remark					
35	1	Duct	Red	Min. - low	NRVL BVU	Run-around	74	0.50	0.28
			Red	Min. - high	NRVL BVU	Run-around	74	0.50	0.28
			Yellow	Average	NRVL BVU	Run-around	66	2.47	2.09
		Full face	Blue	Max. - high	NRVL BVU	Run-around	64	3.77	4.15
			Red	Max. - low	NRVL BVU	Run-around	64	3.76	2.96
			Red	Min. - low	NRVL BVU	Run-around	74	0.50	0.02
	2	Duct	Red	Min. - high	NRVL BVU	Run-around	74	0.50	2.74
			Red	Max. - low	NRVL BVU	Run-around	64	3.82	4.10
			Yellow	Average	NRVL BVU	Run-around	66	2.80	2.81
		Full face	Blue	Max. - high	NRVL BVU	Run-around	64	3.90	5.11
			Red	Max. - low	NRVL BVU	Run-around	64	3.75	2.95
			Red	Min. - low	NRVL BVU	Run-around	74	0.50	0.02
40	1	Duct	Red	Min. - high	NRVL BVU	Run-around	74	0.50	2.74
			Red	Max. - low	NRVL BVU	Run-around	64	3.93	3.01
			Yellow	Average	NRVL BVU	Run-around	66	2.70	2.70
		Full face	Blue	Max. - high	NRVL BVU	Run-around	64	3.90	5.11
			Red	Max. - low	NRVL BVU	Run-around	64	3.75	2.95
			Red	Min. - low	NRVL BVU	Run-around	74	0.50	0.02
	2	Duct	Red	Min. - high	NRVL BVU	Run-around	74	0.50	2.74
			Red	Max. - low	NRVL BVU	Run-around	64	3.93	3.01
			Yellow	Average	NRVL BVU	Run-around	66	2.70	2.70
		Full face	Blue	Max. - high	NRVL BVU	Run-around	64	3.90	5.11
			Red	Max. - low	NRVL BVU	Run-around	64	3.75	2.95
			Red	Min. - low	NRVL BVU	Run-around	74	0.50	0.02
50	1	Duct	Red	Min. - high	NRVL BVU	Run-around	74	0.50	2.74
			Red	Max. - low	NRVL BVU	Run-around	64	3.93	3.01
			Yellow	Average	NRVL BVU	Run-around	66	2.70	2.70
		Full face	Blue	Max. - high	NRVL BVU	Run-around	64	3.90	5.11
			Red	Max. - low	NRVL BVU	Run-around	64	3.75	2.95
			Red	Min. - low	NRVL BVU	Run-around	74	0.50	0.02
	2	Duct	Red	Min. - high	NRVL BVU	Run-around	74	0.50	2.74
			Red	Max. - low	NRVL BVU	Run-around	64	3.93	3.01
			Yellow	Average	NRVL BVU	Run-around	66	2.70	2.70
		Full face	Blue	Max. - high	NRVL BVU	Run-around	64	3.90	5.11
			Red	Max. - low	NRVL BVU	Run-around	64	3.75	2.95
			Red	Min. - low	NRVL BVU	Run-around	74	0.50	0.02

CX

		Working point		Part of information requirements for NRVL according to Regulation (EU) No 1253/201																	
Size	Motor option	In and outlet connections	Colour	Remark	AHU type	Type of drive	Type of HRS	Thermal efficiency	Nominal flow rate	Effective electric power	SFPrint	Face velocity	Nominal external pressure	Internal pressure drop vent. comp.	Overall fan efficiency (EU) No 1253/201	Maximum external leaking rate	Maximum internal leakage	Energy performance of filters	Casing power level, LWA		
60	1	Duct	Red	Min. - low	NRVL BVU	variable speed	Run-around	68	1.00	0.06	85	0.4	0	29	65.2	-	-	-	-	-	-
			Red	Min. - high	NRVL BVU	variable speed	Run-around	68	1.00	4.65	240	0.4	1098	29	65.2	-	-	-	-	-	-
			Yellow	Average	NRVL BVU	variable speed	Run-around	66	4.30	4.13	823	1.6	300	255	65.2	-	-	-	-	-	-
			Blue	Max. - high	NRVL BVU	variable speed	Run-around	63	5.97	9.43	1402	2.3	486	426	65.2	1	0	13400	-	-	-
			Red	Max. - low	NRVL BVU	variable speed	Run-around	63	5.98	4.55	1402	2.3	0	427	65.2	-	-	-	-	-	-
			Red	Min. - low	NRVL BVU	variable speed	Run-around	68	1.00	0.06	82	0.4	0	29	65.2	-	-	-	-	-	-
		Full face	Red	Min. - high	NRVL BVU	variable speed	Run-around	68	1.00	4.65	234	0.4	1099	29	65.2	-	-	-	-	-	-
			Yellow	Average	NRVL BVU	variable speed	Run-around	66	4.30	4.02	775	1.6	300	241	65.2	-	-	-	-	-	-
			Blue	Max. - high	NRVL BVU	variable speed	Run-around	63	6.02	9.40	1324	2.3	499	403	65.2	1	0	13600	-	-	-
			Red	Max. - low	NRVL BVU	variable speed	Run-around	63	6.02	4.37	1338	2.3	0	403	65.2	-	-	-	-	-	-
			Red	Min. - low	NRVL BVU	variable speed	Run-around	68	1.00	0.09	135	0.4	0	29	67.4	-	-	-	-	-	-
			Red	Min. - high	NRVL BVU	variable speed	Run-around	68	1.00	7.13	274	0.4	1488	29	67.4	-	-	-	-	-	-
70	2	Duct	Yellow	Average	NRVL BVU	variable speed	Run-around	65	4.50	5.16	878	1.7	400	274	67.4	-	-	-	-	-	-
			Blue	Max. - high	NRVL BVU	variable speed	Run-around	64	5.89	14.53	1413	2.2	991	417	67.4	1	0	13400	-	-	-
			Red	Max. - low	NRVL BVU	variable speed	Run-around	64	5.92	4.53	1416	2.2	0	420	67.4	-	-	-	-	-	-
			Red	Min. - low	NRVL BVU	variable speed	Run-around	68	1.00	0.09	131	0.4	0	29	67.4	-	-	-	-	-	-
			Red	Min. - high	NRVL BVU	variable speed	Run-around	68	1.00	7.13	267	0.4	1489	29	67.4	-	-	-	-	-	-
			Yellow	Average	NRVL BVU	variable speed	Run-around	65	4.50	5.04	827	1.7	400	258	67.4	-	-	-	-	-	-
		Full face	Blue	Max. - high	NRVL BVU	variable speed	Run-around	63	5.98	14.60	1350	2.3	996	399	67.4	2	0	13800	-	-	-
			Red	Max. - low	NRVL BVU	variable speed	Run-around	63	5.98	4.42	1362	2.3	0	399	67.4	-	-	-	-	-	-
			Red	Min. - low	NRVL BVU	variable speed	Run-around	71	1.00	0.04	57	0.3	0	20	65.2	-	-	-	-	-	-
			Red	Min. - high	NRVL BVU	variable speed	Run-around	71	1.00	4.65	160	0.3	1109	20	65.2	-	-	-	-	-	-
			Yellow	Average	NRVL BVU	variable speed	Run-around	66	4.80	4.50	639	1.6	350	200	65.2	-	-	-	-	-	-
			Blue	Max. - high	NRVL BVU	variable speed	Run-around	64	7.26	8.54	1272	2.4	277	380	65.2	1	0	15300	-	-	-
80	1	Full face	Red	Max. - low	NRVL BVU	variable speed	Run-around	64	7.27	5.60	1422	2.4	0	381	65.2	-	-	-	-	-	-
			Red	Min. - low	NRVL BVU	variable speed	Run-around	71	1.00	0.04	56	0.3	0	19	65.2	-	-	-	-	-	-
			Red	Min. - high	NRVL BVU	variable speed	Run-around	71	1.00	4.65	156	0.3	1110	19	65.2	-	-	-	-	-	-
			Yellow	Average	NRVL BVU	variable speed	Run-around	66	4.80	4.43	609	1.6	350	191	65.2	-	-	-	-	-	-
			Blue	Max. - high	NRVL BVU	variable speed	Run-around	64	7.31	8.49	1222	2.4	282	363	65.2	1	0	15500	-	-	-
			Red	Max. - low	NRVL BVU	variable speed	Run-around	64	7.42	5.70	1419	2.4	0	371	65.2	-	-	-	-	-	-
		Duct	Red	Min. - low	NRVL BVU	variable speed	Run-around	71	1.00	0.06	88	0.3	0	20	67.4	-	-	-	-	-	-
			Red	Min. - high	NRVL BVU	variable speed	Run-around	71	1.00	7.13	182	0.3	1499	20	67.4	-	-	-	-	-	-
			Yellow	Average	NRVL BVU	variable speed	Run-around	66	5.20	5.92	721	1.7	450	227	67.4	-	-	-	-	-	-
			Blue	Max. - high	NRVL BVU	variable speed	Run-around	64	7.50	14.76	1343	2.4	725	399	67.4	1	0	16300	-	-	-
			Red	Max. - low	NRVL BVU	variable speed	Run-around	64	7.20	5.57	1426	2.3	0	374	67.4	-	-	-	-	-	-
			Red	Min. - low	NRVL BVU	variable speed	Run-around	71	1.00	0.06	86	0.3	0	19	67.4	-	-	-	-	-	-
80	2	Full face	Red	Min. - high	NRVL BVU	variable speed	Run-around	71	1.00	7.13	179	0.3	1500	19	67.4	-	-	-	-	-	-
			Yellow	Average	NRVL BVU	variable speed	Run-around	66	5.20	5.83	686	1.7	450	216	67.4	-	-	-	-	-	-
			Blue	Max. - high	NRVL BVU	variable speed	Run-around	64	7.50	14.76	1267	2.4	748	377	67.4	1	0	16300	-	-	-
			Red	Max. - low	NRVL BVU	variable speed	Run-around	64	7.34	5.64	1419	2.4	0	364	67.4	-	-	-	-	-	-
			Red	Min. - low	NRVL BVU	variable speed	Run-around	65	1.50	0.09	94	0.5	0	36	69.2	-	-	-	-	-	-
			Red	Min. - high	NRVL BVU	variable speed	Run-around	65	1.50	7.40	298	0.5	1137	36	69.2	-	-	-	-	-	-
		Duct	Yellow	Average	NRVL BVU	variable speed	Run-around	65	6.00	6.01	909	2.0	300	283	69.2	-	-	-	-	-	-
			Blue	Max. - high	NRVL BVU	variable speed	Run-around	63	7.79	14.33	1405	2.5	640	424	69.2	1	0	17200	-	-	-
			Red	Max. - low	NRVL BVU	variable speed	Run-around	63	7.86	5.90	1387	2.6	0	430	69.2	-	-	-	-	-	-
			Red	Min. - low	NRVL BVU	variable speed	Run-around	65	1.50	0.09	91	0.5	0	35	69.2	-	-	-	-	-	-
			Red	Min. - high	NRVL BVU	variable speed	Run-around	65	1.50	7.39	291	0.5	1137	35	69.2	-	-	-	-	-	-
			Yellow	Average	NRVL BVU	variable speed	Run-around	65	6.00	5.86	860	2.0	300	268	69.2	-	-	-	-	-	-
80	1	Full face	Blue	Max. - high	NRVL BVU	variable speed	Run-around	63	7.86	14.34	1340	2.6	652	405	69.2	1	0	17500	-	-	-
			Red	Max. - low	NRVL BVU	variable speed	Run-around	63	7.86	5.59	1313	2.6	0	405	69.2	-	-	-	-	-	-
			Red	Min. - low	NRVL BVU	variable speed	Run-around	65	1.50	0.14	144	0.5	0	36	68.5	-	-	-	-	-	-
			Red	Min. - high	NRVL BVU	variable speed	Run-around	65	1.50	10.50	320	0.5	1520	36	68.5	-	-	-	-	-	-
			Yellow	Average	NRVL BVU	variable speed	Run-around	65	6.30	7.67	995	2.1	400	305	68.5	-	-	-	-	-	-
			Blue	Max. - high	NRVL BVU	variable speed	Run-around	63	7.79	20.06	1410	2.5	1077	417	68.5	1	0	17200	-	-	-
		Duct	Red	Max. - low	NRVL BVU	variable speed	Run-around	63	7.79	5.93	1403	2.5	0	424	68.5	-	-	-	-	-	-
			Red	Min. - low	NRVL BVU	variable speed	Run-around	65	1.50	0.14	140	0.5	0	35	68.5	-	-	-	-	-	-
			Red	Min. - high	NRVL BVU	variable speed	Run-around	65	1.50	10.50	311	0.5	1521	35	68.5	-	-	-	-	-	-
			Yellow	Average	NRVL BVU	variable speed	Run-around	65	6.30	7.49	941	2.1	400	289	68.5	-	-	-	-	-	-
			Blue	Max. - high	NRVL BVU	variable speed	Run-around	63	7.81	20.22	1348	2.5	1092	401	68.5	1	0	17600	-	-	-
			Red	Max. - low	NRVL BVU	variable speed	Run-around	63	7.81	5.65	1332	2.5	0	401	68.5	-	-	-	-	-	-

CX

		Part of information requirements for NRVL according to Regulation (EU) No 1253/201																	
Size	Motor option	In and outlet connections	Working point		AHU type	Type of drive	Type of HRS	Thermal efficiency	Nominal flow rate	Effective electric power	SPint	Face velocity	Nominal external pressure	Internal pressure drop vent. comp.	Overall fan efficiency (EU) No 327/2011	Maximum external leaking rate	Maximum internal leakage	Energy performance of filters	Casing sound power level, LWA
			Colour	Remark															
100	1	Duct	Red	Min. - low	NRVL BVU	variable speed	Run-around	70	1.50	0.04	0.3	0	0	18	69.2	0	-	-	28
			Yellow	Average	NRVL BVU	variable speed	Run-around	66	7.50	6.88	607	1.5	350	192	69.2	1	0	23100	65
			Blue	Max. - high	NRVL BVU	variable speed	Run-around	64	11.00	13.16	1185	2.3	309	347	69.2	1	0	23100	72
			Red	Max. - low	NRVL BVU	variable speed	Run-around	64	11.00	8.34	1397	2.3	0	347	69.2	-	-	71	
			Red	Min. - low	NRVL BVU	variable speed	Run-around	70	1.50	0.04	39	0	0	18	69.2	-	-	28	
	2	Full face	Red	Min. - high	NRVL BVU	variable speed	Run-around	66	7.50	6.78	579	1.5	350	183	69.2	-	-	65	
			Yellow	Average	NRVL BVU	variable speed	Run-around	64	11.00	13.15	1121	2.3	327	328	69.2	1	0	23100	72
			Blue	Max. - high	NRVL BVU	variable speed	Run-around	64	11.00	8.10	1350	2.3	0	328	69.2	-	-	71	
			Red	Max. - low	NRVL BVU	variable speed	Run-around	70	1.50	0.06	61	0	0	18	68.5	-	-	28	
			Red	Min. - low	NRVL BVU	variable speed	Run-around	70	1.50	10.50	163	0.3	1541	18	68.5	-	-	78	
120	1	Duct	Blue	Max. - high	NRVL BVU	variable speed	Run-around	64	11.00	21.59	1128	2.3	815	347	68.5	3	0	22000	73
			Red	Max. - low	NRVL BVU	variable speed	Run-around	64	11.00	8.29	1388	2.3	0	347	68.5	-	-	71	
			Red	Min. - low	NRVL BVU	variable speed	Run-around	70	1.50	0.06	59	0	0	18	68.5	-	-	28	
			Red	Min. - high	NRVL BVU	variable speed	Run-around	70	1.50	10.50	160	0.3	1541	18	68.5	-	-	78	
			Yellow	Average	NRVL BVU	variable speed	Run-around	66	7.50	8.15	593	1.5	450	183	68.5	-	-	68	
	2	Full face	Blue	Max. - high	NRVL BVU	variable speed	Run-around	64	11.00	21.60	1067	2.3	834	328	68.5	3	0	22000	73
			Red	Max. - low	NRVL BVU	variable speed	Run-around	64	11.00	8.04	1340	2.3	0	328	68.5	-	-	71	
			Red	Min. - low	NRVL BVU	variable speed	Run-around	64	2.50	0.19	119	0.5	0	38	69.2	-	-	35	
			Red	Min. - high	NRVL BVU	variable speed	Run-around	64	2.50	10.94	290	0.5	1085	38	69.2	-	-	77	
			Yellow	Average	NRVL BVU	variable speed	Run-around	65	9.30	9.40	887	1.9	887	267	69.2	-	-	66	
1	Duct	Blue	Max. - high	NRVL BVU	variable speed	Run-around	64	12.30	21.52	1413	2.5	560	411	69.2	1	0	28700	72	
		Red	Max. - low	NRVL BVU	variable speed	Run-around	63	12.32	9.44	1415	2.5	0	414	69.2	-	-	68		
		Red	Min. - low	NRVL BVU	variable speed	Run-around	64	2.50	0.19	116	0.5	0	37	69.2	-	-	35		
		Red	Min. - high	NRVL BVU	variable speed	Run-around	64	2.50	10.95	283	0.5	1087	37	69.2	-	-	77		
		Yellow	Average	NRVL BVU	variable speed	Run-around	65	9.30	9.19	842	1.9	300	253	69.2	-	-	66		
120	2	Full face	Blue	Max. - high	NRVL BVU	variable speed	Run-around	63	12.72	21.50	1404	2.6	529	410	69.2	1	0	30500	72
			Red	Max. - low	NRVL BVU	variable speed	Run-around	63	12.66	8.63	1403	2.6	0	408	69.2	-	-	68	
			Red	Min. - low	NRVL BVU	variable speed	Run-around	64	2.50	0.26	157	0.5	0	38	68.5	-	-	35	
			Red	Min. - high	NRVL BVU	variable speed	Run-around	64	2.50	16.10	324	0.5	1447	38	68.5	-	-	80	
			Yellow	Average	NRVL BVU	variable speed	Run-around	65	10.00	12.61	1017	2.0	299	299	68.5	-	-	68	
	2	Duct	Blue	Max. - high	NRVL BVU	variable speed	Run-around	64	12.02	30.67	1420	2.5	995	398	68.5	1	0	28500	75
			Red	Max. - low	NRVL BVU	variable speed	Run-around	64	11.87	9.16	1425	2.4	0	390	68.5	-	-	67	
			Red	Min. - low	NRVL BVU	variable speed	Run-around	64	2.50	0.25	153	0.5	0	37	68.5	-	-	35	
			Red	Min. - high	NRVL BVU	variable speed	Run-around	65	10.00	12.34	964	2.0	400	37	68.5	-	-	80	
			Yellow	Average	NRVL BVU	variable speed	Run-around	63	12.70	31.39	1404	2.6	982	408	68.5	1	0	30500	75
2	Full face	Blue	Max. - high	NRVL BVU	variable speed	Run-around	64	12.16	9.34	1417	2.5	0	362	68.5	-	-	67		
		Red	Max. - low	NRVL BVU	variable speed	Run-around	64	12.16	9.34	1417	2.5	0	362	68.5	-	-	67		

SD with coil heat exchanger

Part of information requirements for NRUV according to Regulation (EU) No 1253/2014													
Size	Motor option	In and outlet connections	Working point		Type of drive	Type of HRS	Thermal efficiency	Nominal flow rate	Effective electric power	SFPInt	Face velocity	Nominal external pressure	Internal pressure drop
			Colour	Remark									
11	1	Duct	Red	Min. - low	NRUV, BVU	Run-around	74	0.20	0.02	168	0.3	0	24
			Red	Min. - high	NRUV, BVU	Run-around	74	0.20	0.76	171	0.3	1009	24
			Yellow	Average	NRUV, BVU	Run-around	68	0.75	0.71	554	1.1	350	162
		Full face	Blue	Max. - high	NRUV, BVU	Run-around	67	1.08	1.28	1016	1.6	331	284
			Red	Max. - low	NRUV, BVU	Run-around	66	1.20	0.98	1508	1.8	0	335
			Red	Min. - low	NRUV, BVU	Run-around	74	0.20	0.02	163	0.3	0	22
	2	Duct	Red	Min. - high	NRUV, BVU	Run-around	74	0.20	0.76	163	0.3	1010	22
			Yellow	Average	NRUV, BVU	Run-around	68	0.75	0.69	502	1.1	350	146
			Blue	Max. - high	NRUV, BVU	Run-around	67	1.10	1.26	934	1.6	331	298
		Full face	Red	Max. - low	NRUV, BVU	Run-around	66	1.20	0.93	1406	1.8	0	295
			Red	Min. - low	NRUV, BVU	Run-around	74	0.20	0.02	164	0.3	0	24
			Red	Min. - high	NRUV, BVU	Run-around	74	0.20	0.99	186	0.3	1215	24
12	1	Duct	Yellow	Average	NRUV, BVU	Run-around	68	0.80	0.89	592	1.2	450	178
			Blue	Max. - high	NRUV, BVU	Run-around	66	1.20	1.61	1171	1.8	384	335
			Red	Max. - low	NRUV, BVU	Run-around	66	1.20	0.94	1442	1.8	0	335
		Full face	Red	Min. - low	NRUV, BVU	Run-around	74	0.20	0.02	158	0.3	0	22
			Red	Min. - high	NRUV, BVU	Run-around	74	0.20	0.99	177	0.3	1216	22
			Yellow	Average	NRUV, BVU	Run-around	68	0.80	0.87	553	1.2	450	160
	2	Duct	Blue	Max. - high	NRUV, BVU	Run-around	66	1.20	1.61	1032	1.8	423	295
			Red	Max. - low	NRUV, BVU	Run-around	66	1.20	0.89	1344	1.8	0	295
			Red	Min. - low	NRUV, BVU	Run-around	74	0.20	0.02	142	0.3	0	24
		Full face	Red	Min. - high	NRUV, BVU	Run-around	74	0.20	0.91	214	0.3	963	24
			Yellow	Average	NRUV, BVU	Run-around	68	0.80	0.74	700	1.3	250	214
			Blue	Max. - high	NRUV, BVU	Run-around	65	1.31	1.76	1247	1.9	396	388
14	1	Duct	Red	Max. - low	NRUV, BVU	Run-around	63	1.44	1.13	1442	2.1	0	446
			Red	Min. - low	NRUV, BVU	Run-around	74	0.20	0.02	136	0.3	0	22
			Red	Min. - high	NRUV, BVU	Run-around	74	0.20	0.90	204	0.3	963	22
		Full face	Yellow	Average	NRUV, BVU	Run-around	68	0.80	0.70	623	1.3	250	192
			Blue	Max. - high	NRUV, BVU	Run-around	64	1.38	1.74	1145	2.0	381	358
			Red	Max. - low	NRUV, BVU	Run-around	63	1.44	1.01	0	2.1	0	389
	2	Duct	Red	Min. - high	NRUV, BVU	Run-around	74	0.20	0.02	150	0.3	0	24
			Red	Min. - low	NRUV, BVU	Run-around	74	0.20	1.23	237	0.3	1189	24
			Yellow	Average	NRUV, BVU	Run-around	67	1.00	0.97	821	1.5	300	252
		Full face	Blue	Max. - high	NRUV, BVU	Run-around	63	1.44	2.41	1442	2.1	542	446
			Red	Max. - low	NRUV, BVU	Run-around	63	1.44	1.13	1450	2.1	0	446
			Red	Min. - low	NRUV, BVU	Run-around	74	0.20	0.02	144	0.3	0	22
14	1	Duct	Red	Min. - high	NRUV, BVU	Run-around	74	0.20	1.23	225	0.3	1191	22
			Yellow	Average	NRUV, BVU	Run-around	67	1.00	0.92	728	1.5	300	224
			Blue	Max. - high	NRUV, BVU	Run-around	63	1.43	2.41	1250	2.1	605	387
		Full face	Red	Max. - low	NRUV, BVU	Run-around	63	1.43	1.00	1295	2.1	0	387
			Red	Min. - low	NRUV, BVU	Run-around	78	0.20	0.01	95	0.3	0	12
			Red	Min. - high	NRUV, BVU	Run-around	78	0.20	0.91	108	0.3	978	12
	2	Duct	Red	Max. - low	NRUV, BVU	Run-around	66	1.10	0.82	431	1.4	300	136
			Yellow	Average	NRUV, BVU	Run-around	65	1.65	1.54	847	2.1	264	251
			Blue	Max. - high	NRUV, BVU	Run-around	64	1.80	1.26	1266	2.3	0	288
		Full face	Red	Max. - low	NRUV, BVU	Run-around	78	0.20	0.01	94	0.3	0	12
			Red	Min. - low	NRUV, BVU	Run-around	78	0.20	0.91	107	0.3	978	12
			Yellow	Average	NRUV, BVU	Run-around	66	1.10	0.81	423	1.4	300	134
14	1	Duct	Red	Max. - high	NRUV, BVU	Run-around	65	1.66	1.53	842	2.1	259	248
			Blue	Max. - low	NRUV, BVU	Run-around	64	1.80	1.25	1251	2.3	0	282
			Red	Min. - low	NRUV, BVU	Run-around	78	0.20	0.02	105	0.3	0	12
		Full face	Red	Min. - high	NRUV, BVU	Run-around	78	0.20	1.23	119	0.3	1205	12
			Yellow	Average	NRUV, BVU	Run-around	66	1.20	1.13	495	1.5	400	156
			Blue	Max. - high	NRUV, BVU	Run-around	64	1.80	2.13	953	2.3	383	286
	2	Duct	Red	Max. - low	NRUV, BVU	Run-around	64	1.80	1.24	1246	2.3	0	288
			Red	Min. - low	NRUV, BVU	Run-around	78	0.20	0.02	105	0.3	0	12
			Red	Min. - high	NRUV, BVU	Run-around	78	0.20	1.23	118	0.3	1205	12
		Full face	Yellow	Average	NRUV, BVU	Run-around	66	1.20	1.13	486	1.5	400	153
			Blue	Max. - high	NRUV, BVU	Run-around	64	1.80	2.13	931	2.3	389	282
			Red	Max. - low	NRUV, BVU	Run-around	64	1.80	1.23	1231	2.3	0	282

SD with coil heat exchanger

Part of information requirements for NRUV according to Regulation (EU) No 1253/2014													
Size	Motor option	In and outlet connections	Working point		AHU type	Type of drive	Type of HRS	Thermal efficiency %	Nominal flow rate m³/s	Effective electric power kW	SFPInt W/(m³·s)	Face velocity m/s	Nominal external pressure Pa
			Colour	Remark									
20	1	Duct	Red	Min. - low	NRUV, BVU	variable speed	Run-around	73	0.30	0.02	88	0.4	0
			Red	Min. - high	NRUV, BVU	variable speed	Run-around	73	0.30	1.32	184	0.4	983
			Yellow	Average	NRUV, BVU	variable speed	Run-around	65	1.60	1.33	756	2.0	250
		Full face	Blue	Max. - high	NRUV, BVU	variable speed	Run-around	64	2.14	2.22	1208	2.7	368
			Red	Max. - low	NRUV, BVU	variable speed	Run-around	63	2.25	1.71	1400	2.8	0
			Red	Min. - low	NRUV, BVU	variable speed	Run-around	73	0.30	0.02	87	0.4	0
	2	Duct	Red	Min. - high	NRUV, BVU	variable speed	Run-around	73	0.30	1.32	182	0.4	983
			Yellow	Average	NRUV, BVU	variable speed	Run-around	65	1.60	1.32	739	2.0	250
			Blue	Max. - high	NRUV, BVU	variable speed	Run-around	64	2.15	2.71	1188	2.7	367
		Full face	Red	Max. - low	NRUV, BVU	variable speed	Run-around	63	2.26	1.68	1376	2.8	0
			Red	Min. - low	NRUV, BVU	variable speed	Run-around	73	0.30	0.02	117	0.4	0
			Red	Min. - high	NRUV, BVU	variable speed	Run-around	73	0.30	1.79	202	0.4	1213
25	1	Duct	Red	Min. - low	NRUV, BVU	variable speed	Run-around	63	2.25	3.73	1304	2.8	581
			Red	Max. - low	NRUV, BVU	variable speed	Run-around	63	2.24	1.70	1402	2.8	0
			Red	Min. - high	NRUV, BVU	variable speed	Run-around	73	0.30	0.02	116	0.4	0
		Full face	Red	Max. - high	NRUV, BVU	variable speed	Run-around	65	1.70	1.62	821	2.1	300
			Yellow	Average	NRUV, BVU	variable speed	Run-around	63	2.25	3.73	1271	2.8	592
			Red	Max. - high	NRUV, BVU	variable speed	Run-around	63	2.25	1.69	1389	2.8	0
	2	Duct	Red	Min. - low	NRUV, BVU	variable speed	Run-around	77	0.30	0.01	62	0.3	0
			Red	Min. - high	NRUV, BVU	variable speed	Run-around	77	0.30	1.32	114	0.3	992
			Yellow	Average	NRUV, BVU	variable speed	Run-around	66	1.60	1.18	425	1.6	300
		Full face	Blue	Max. - high	NRUV, BVU	variable speed	Run-around	64	2.77	2.18	1330	2.7	27
			Red	Max. - low	NRUV, BVU	variable speed	Run-around	64	2.77	2.09	1376	2.7	0
			Red	Min. - low	NRUV, BVU	variable speed	Run-around	77	0.30	0.01	62	0.3	0
30	1	Duct	Red	Min. - high	NRUV, BVU	variable speed	Run-around	77	0.30	1.32	112	0.3	992
			Yellow	Average	NRUV, BVU	variable speed	Run-around	66	1.60	1.17	414	1.6	300
			Blue	Max. - high	NRUV, BVU	variable speed	Run-around	64	2.78	2.16	1307	2.7	28
		Full face	Red	Max. - low	NRUV, BVU	variable speed	Run-around	64	2.78	2.08	1357	2.7	0
			Red	Min. - low	NRUV, BVU	variable speed	Run-around	77	0.30	0.02	77	0.3	0
			Red	Min. - high	NRUV, BVU	variable speed	Run-around	77	0.30	1.79	125	0.3	1222
	2	Duct	Red	Min. - low	NRUV, BVU	variable speed	Run-around	66	1.80	1.72	515	1.8	400
			Blue	Max. - high	NRUV, BVU	variable speed	Run-around	64	2.74	3.55	1030	2.7	370
			Red	Max. - low	NRUV, BVU	variable speed	Run-around	64	2.80	2.09	1363	2.7	0
		Full face	Red	Min. - low	NRUV, BVU	variable speed	Run-around	77	0.30	0.02	77	0.3	0
			Red	Min. - high	NRUV, BVU	variable speed	Run-around	77	0.30	1.79	124	0.3	1222
			Yellow	Average	NRUV, BVU	variable speed	Run-around	66	1.80	1.71	501	1.8	400
30	1	Duct	Blue	Max. - high	NRUV, BVU	variable speed	Run-around	64	2.75	3.34	1005	2.7	373
			Red	Max. - low	NRUV, BVU	variable speed	Run-around	64	2.80	2.05	1337	2.7	0
			Red	Min. - low	NRUV, BVU	variable speed	Run-around	72	0.50	0.04	97	0.5	0
		Full face	Red	Min. - high	NRUV, BVU	variable speed	Run-around	72	0.50	2.29	212	0.5	1090
			Yellow	Average	NRUV, BVU	variable speed	Run-around	65	2.20	1.78	696	2.2	250
			Blue	Max. - high	NRUV, BVU	variable speed	Run-around	63	3.31	4.51	1345	3.2	370
	2	Duct	Red	Max. - low	NRUV, BVU	variable speed	Run-around	63	3.26	2.48	1410	3.2	0
			Red	Min. - low	NRUV, BVU	variable speed	Run-around	72	0.50	0.04	96	0.5	0
			Red	Min. - high	NRUV, BVU	variable speed	Run-around	72	0.50	2.29	209	0.5	1090
		Full face	Yellow	Average	NRUV, BVU	variable speed	Run-around	65	2.20	1.75	674	2.2	250
			Blue	Max. - high	NRUV, BVU	variable speed	Run-around	63	3.35	4.49	1314	3.2	367
			Red	Max. - low	NRUV, BVU	variable speed	Run-around	63	3.31	2.51	1409	3.2	0
30	1	Duct	Red	Min. - low	NRUV, BVU	variable speed	Run-around	72	0.50	0.04	100	0.5	0
			Red	Min. - high	NRUV, BVU	variable speed	Run-around	72	0.50	2.74	225	0.5	1235
			Yellow	Average	NRUV, BVU	variable speed	Run-around	65	2.40	2.29	800	2.3	300
		Full face	Blue	Max. - high	NRUV, BVU	variable speed	Run-around	63	3.40	5.53	1404	3.3	511
			Red	Max. - low	NRUV, BVU	variable speed	Run-around	63	3.26	2.48	1412	3.2	0
			Red	Min. - low	NRUV, BVU	variable speed	Run-around	72	0.50	0.04	99	0.5	0
	2	Duct	Red	Min. - high	NRUV, BVU	variable speed	Run-around	72	0.50	2.74	222	0.5	1235
			Yellow	Average	NRUV, BVU	variable speed	Run-around	65	2.40	2.25	773	2.3	300
			Blue	Max. - high	NRUV, BVU	variable speed	Run-around	63	3.45	5.49	1384	3.4	494
		Full face	Red	Max. - low	NRUV, BVU	variable speed	Run-around	63	3.30	2.50	1410	3.2	0
			Red	Min. - low	NRUV, BVU	variable speed	Run-around	72	0.50	0.04	100	0.5	0
			Red	Min. - high	NRUV, BVU	variable speed	Run-around	72	0.50	2.74	225	0.5	1235

SD with coil heat exchanger

Part of information requirements for NRUV according to Regulation (EU) No 1253/2014																			
Size	Motor option	In and outlet connections	Working point		AHU type	Type of drive	Type of HRS	Thermal efficiency	Nominal flow rate	Effective electric power	SFPint	Face velocity	Nominal external pressure	Internal pressure drop	Overall fan efficiency (EU) No 327/2011	Maximum external leaking rate	Maximum internal leakage	Energy performance of filters	Casing sound power level, LWA
			Colour	Remark															
35	1	Duct	Red	Min. - low	NRUV, BVU	variable speed	Run-around	75	0.50	0.02	66	0.3	0	15	65.2	-	-	-	23
			Red	Min. - high	NRUV, BVU	variable speed	Run-around	75	0.50	2.29	119	0.3	1106	15	65.2	-	-	-	70
			Yellow	Average	NRUV, BVU	variable speed	Run-around	66	2.40	2.01	460	1.4	350	145	65.2	-	-	-	59
		Blue	Max. - high	NRUV, BVU	variable speed	Run-around	65	3.84	4.07	1076	2.3	248	298	65.2	1	0	8360	67	
		Red	Max. - low	NRUV, BVU	variable speed	Run-around	65	3.92	3.11	1445	2.3	0	307	65.2	-	-	-	67	
		Red	Min. - low	NRUV, BVU	variable speed	Run-around	75	0.50	0.02	66	0.3	0	14	65.2	-	-	-	23	
	2	Full face	Red	Min. - high	NRUV, BVU	variable speed	Run-around	75	0.50	2.29	117	0.3	1106	14	65.2	-	-	-	70
			Yellow	Average	NRUV, BVU	variable speed	Run-around	66	2.40	1.98	438	1.4	350	138	65.2	-	-	-	59
			Blue	Max. - high	NRUV, BVU	variable speed	Run-around	65	3.86	4.06	1030	2.3	250	281	65.2	1	0	8550	67
		Red	Max. - low	NRUV, BVU	variable speed	Run-around	64	3.98	3.17	1445	2.4	0	296	65.2	-	-	-	68	
		Red	Min. - low	NRUV, BVU	variable speed	Run-around	75	0.50	0.02	66	0.3	0	15	67.2	-	-	-	23	
		Red	Min. - high	NRUV, BVU	variable speed	Run-around	75	0.50	2.74	127	0.3	1251	15	67.2	-	-	-	72	
40	1	Duct	Yellow	Average	NRUV, BVU	variable speed	Run-around	66	2.60	2.70	523	1.5	450	163	67.2	-	-	-	61
			Blue	Max. - high	NRUV, BVU	variable speed	Run-around	64	4.00	5.02	1043	2.4	373	297	67.2	1	0	8750	68
			Red	Max. - low	NRUV, BVU	variable speed	Run-around	65	3.97	3.16	1445	2.3	0	294	67.2	-	-	-	68
		Red	Min. - low	NRUV, BVU	variable speed	Run-around	70	0.75	0.04	83	0.4	0	26	70.5	-	-	-	26	
		Red	Min. - high	NRUV, BVU	variable speed	Run-around	70	0.75	2.30	190	0.4	822	26	70.5	-	-	-	69	
		Yellow	Average	NRUV, BVU	variable speed	Run-around	66	2.70	1.94	546	1.6	250	173	70.5	-	-	-	58	
	2	Full face	Blue	Max. - high	NRUV, BVU	variable speed	Run-around	64	4.11	4.33	1057	2.4	282	330	70.5	1	0	8400	64
			Red	Max. - low	NRUV, BVU	variable speed	Run-around	63	4.78	3.64	1410	2.8	0	417	70.5	-	-	-	65
			Red	Min. - low	NRUV, BVU	variable speed	Run-around	70	0.75	0.04	81	0.4	0	26	70.5	-	-	-	26
		Red	Min. - high	NRUV, BVU	variable speed	Run-around	70	0.75	2.31	185	0.4	823	26	70.5	-	-	-	69	
		Yellow	Average	NRUV, BVU	variable speed	Run-around	66	2.70	1.90	517	1.6	250	164	70.5	-	-	-	57	
		Blue	Max. - high	NRUV, BVU	variable speed	Run-around	64	4.14	4.31	1004	2.4	282	314	70.5	1	0	8510	64	
50	1	Duct	Red	Max. - low	NRUV, BVU	variable speed	Run-around	63	4.88	3.65	1382	2.9	0	402	70.5	-	-	-	66
			Red	Min. - low	NRUV, BVU	variable speed	Run-around	70	0.75	0.04	83	0.4	0	26	69.2	-	-	-	26
			Red	Min. - high	NRUV, BVU	variable speed	Run-around	70	0.75	3.57	217	0.4	1128	26	69.2	-	-	-	72
		Yellow	Average	NRUV, BVU	variable speed	Run-around	65	3.30	3.30	751	1.9	350	235	69.2	-	-	-	61	
		Blue	Max. - high	NRUV, BVU	variable speed	Run-around	63	4.85	7.02	1404	2.9	403	426	69.2	1	0	11800	67	
		Red	Max. - low	NRUV, BVU	variable speed	Run-around	63	4.77	3.64	1409	2.8	0	417	69.2	-	-	-	65	
	2	Full face	Red	Min. - low	NRUV, BVU	variable speed	Run-around	70	0.75	0.04	81	0.4	0	26	69.2	-	-	-	26
			Red	Min. - high	NRUV, BVU	variable speed	Run-around	70	0.75	3.57	211	0.4	1128	26	69.2	-	-	-	72
			Yellow	Average	NRUV, BVU	variable speed	Run-around	65	3.30	3.23	707	1.9	350	222	69.2	-	-	-	61
		Blue	Max. - high	NRUV, BVU	variable speed	Run-around	63	4.91	6.98	1338	2.9	407	406	69.2	1	0	12100	68	
		Red	Max. - low	NRUV, BVU	variable speed	Run-around	63	4.91	3.72	1401	2.9	0	406	69.2	-	-	-	66	
		Red	Min. - low	NRUV, BVU	variable speed	Run-around	76	0.60	0.03	61	0.2	0	12	66.7	-	-	-	21	
1	Duct	Red	Min. - high	NRUV, BVU	variable speed	Run-around	76	0.60	2.65	104	0.2	994	12	66.7	-	-	-	71	
		Yellow	Average	NRUV, BVU	variable speed	Run-around	66	3.10	2.49	407	1.2	350	130	66.7	-	-	-	60	
		Blue	Max. - high	NRUV, BVU	variable speed	Run-around	65	5.02	4.89	930	1.9	255	270	66.7	1	0	10100	68	
	Red	Max. - low	NRUV, BVU	variable speed	Run-around	65	5.54	4.20	1385	2.1	0	315	66.7	-	-	-	69		
	Red	Min. - low	NRUV, BVU	variable speed	Run-around	76	0.60	0.03	61	0.2	0	12	66.7	-	-	-	21		
	Red	Min. - high	NRUV, BVU	variable speed	Run-around	76	0.60	3.57	115	0.2	1224	12	65.7	-	-	-	73		
2	Full face	Yellow	Average	NRUV, BVU	variable speed	Run-around	67	3.30	3.29	452	1.3	450	142	65.7	-	-	-	62	
		Blue	Max. - high	NRUV, BVU	variable speed	Run-around	65	5.60	6.57	1098	2.1	319	320	65.7	1	0	12300	70	
		Red	Max. - low	NRUV, BVU	variable speed	Run-around	65	5.60	4.20	1372	2.1	0	320	65.7	-	-	-	69	
	Red	Min. - low	NRUV, BVU	variable speed	Run-around	76	0.60	0.03	73	0.2	0	12	65.7	-	-	-	21		
	Red	Min. - high	NRUV, BVU	variable speed	Run-around	76	0.60	3.57	112	0.2	1225	12	65.7	-	-	-	73		
	Yellow	Average	NRUV, BVU	variable speed	Run-around	67	3.30	3.24	425	1.3	450	134	65.7	-	-	-	62		
Full face	Blue	Max. - high	NRUV, BVU	variable speed	Run-around	65	5.60	6.57	1014	2.1	343	296	65.7	1	0	12300	70		
	Red	Max. - low	NRUV, BVU	variable speed	Run-around	65	5.60	4.04	1312	2.1	0	296	65.7	-	-	-	69		

SD with coil heat exchanger

Part of information requirements for NRUV according to Regulation (EU) No 1253/2014													
Size	Motor option	In and outlet connections	Working point		AHU type	Type of drive	Type of HRS	Thermal efficiency %	Nominal flow rate m³/s	Effective electric power kW	SFPint W/(m³.s)	Face velocity m/s	Nominal external pressure Pa
			Colour	Remark									
60	1	Duct	Red	Min. - low	NRUV BVU	variable speed	Run-around	70	1.00	0.05	73	0.4	0
			Red	Min. - high	NRUV BVU	variable speed	Run-around	70	1.00	0.45	208	0.4	1102
			Yellow	Average	NRUV BVU	variable speed	Run-around	66	4.30	3.80	683	1.6	300
		Full face	Blue	Max. - high	NRUV BVU	variable speed	Run-around	64	6.63	9.10	1361	2.5	373
			Red	Max. - low	NRUV BVU	variable speed	Run-around	64	6.58	5.05	1419	2.5	0
			Red	Min. - low	NRUV BVU	variable speed	Run-around	70	1.00	0.05	70	0.4	1103
	2	Duct	Red	Min. - high	NRUV BVU	variable speed	Run-around	70	1.00	0.45	201	0.4	1103
			Yellow	Average	NRUV BVU	variable speed	Run-around	66	4.30	3.89	636	1.6	300
			Blue	Max. - high	NRUV BVU	variable speed	Run-around	63	6.77	8.99	1291	2.6	366
		Full face	Red	Max. - low	NRUV BVU	variable speed	Run-around	63	6.81	5.18	1410	2.6	0
			Red	Min. - low	NRUV BVU	variable speed	Run-around	70	1.00	0.08	116	0.4	0
			Yellow	Average	NRUV BVU	variable speed	Run-around	70	1.00	7.13	237	0.4	1492
70	1	Duct	Red	Min. - high	NRUV BVU	variable speed	Run-around	66	4.50	4.81	729	1.7	400
			Blue	Max. - high	NRUV BVU	variable speed	Run-around	64	6.70	14.91	1413	2.5	859
			Red	Max. - low	NRUV BVU	variable speed	Run-around	64	6.49	4.99	1422	2.5	0
		Full face	Red	Min. - low	NRUV BVU	variable speed	Run-around	70	1.00	0.08	112	0.4	0
			Red	Min. - high	NRUV BVU	variable speed	Run-around	70	1.00	7.13	230	0.4	1493
			Yellow	Average	NRUV BVU	variable speed	Run-around	66	4.50	4.69	677	1.7	400
	2	Duct	Red	Max. - high	NRUV BVU	variable speed	Run-around	63	6.96	14.91	1376	2.6	821
			Red	Max. - low	NRUV BVU	variable speed	Run-around	64	6.72	5.12	1415	2.5	0
			Red	Min. - low	NRUV BVU	variable speed	Run-around	71	1.00	0.04	57	0.3	0
		Full face	Red	Min. - high	NRUV BVU	variable speed	Run-around	71	1.00	4.65	160	0.3	1109
			Yellow	Average	NRUV BVU	variable speed	Run-around	66	4.80	4.50	639	1.6	350
			Blue	Max. - high	NRUV BVU	variable speed	Run-around	64	7.25	8.56	1266	2.4	283
80	1	Duct	Red	Max. - low	NRUV BVU	variable speed	Run-around	64	7.27	5.60	1422	2.4	0
			Red	Min. - low	NRUV BVU	variable speed	Run-around	71	1.00	0.04	56	0.3	0
			Yellow	Average	NRUV BVU	variable speed	Run-around	71	1.00	4.65	156	0.3	1110
		Full face	Red	Max. - high	NRUV BVU	variable speed	Run-around	63	7.70	14.64	1409	2.5	861
			Red	Max. - low	NRUV BVU	variable speed	Run-around	64	7.31	8.50	1218	2.4	284
			Red	Min. - low	NRUV BVU	variable speed	Run-around	71	1.00	0.06	88	0.3	0
	2	Duct	Red	Min. - high	NRUV BVU	variable speed	Run-around	71	1.00	7.13	179	0.3	1500
			Yellow	Average	NRUV BVU	variable speed	Run-around	66	5.20	5.83	696	1.7	450
			Blue	Max. - high	NRUV BVU	variable speed	Run-around	63	7.84	14.54	1370	2.6	842
		Full face	Red	Max. - low	NRUV BVU	variable speed	Run-around	64	7.34	5.64	1419	2.4	0
			Red	Min. - low	NRUV BVU	variable speed	Run-around	65	1.50	0.09	94	0.5	0
			Yellow	Average	NRUV BVU	variable speed	Run-around	65	1.50	7.40	298	0.5	1137
90	1	Duct	Red	Min. - high	NRUV BVU	variable speed	Run-around	65	6.00	6.01	909	2.0	300
			Blue	Max. - high	NRUV BVU	variable speed	Run-around	63	7.86	14.34	1340	2.6	852
			Red	Max. - low	NRUV BVU	variable speed	Run-around	63	7.86	5.59	1313	2.6	0
		Full face	Red	Min. - low	NRUV BVU	variable speed	Run-around	65	1.50	0.14	144	0.5	0
			Red	Min. - high	NRUV BVU	variable speed	Run-around	65	1.50	10.50	320	0.5	1520
			Yellow	Average	NRUV BVU	variable speed	Run-around	65	6.30	7.67	995	2.1	400
	2	Duct	Blue	Max. - high	NRUV BVU	variable speed	Run-around	63	7.70	20.05	1410	2.5	1077
			Red	Max. - low	NRUV BVU	variable speed	Run-around	63	7.80	5.94	1403	2.5	0
			Red	Min. - high	NRUV BVU	variable speed	Run-around	65	1.50	0.14	140	0.5	0
		Full face	Yellow	Average	NRUV BVU	variable speed	Run-around	65	6.30	7.49	941	2.1	400
			Blue	Max. - high	NRUV BVU	variable speed	Run-around	63	7.82	20.22	1351	2.6	1091
			Red	Max. - low	NRUV BVU	variable speed	Run-around	63	7.82	5.66	1335	2.6	0

SD with coil heat exchanger

		Working point		Part of information requirements for NRUV according to Regulation (EU) No 1253/2014																
Size	Motor option	In and outle connections	Colour	Remark	AHU type	Type of drive	Type of HRS	Thermal efficiency	Nominal flow rate	Effective electric power	SFPint	Face velocity	Nominal external pressure	Internal pressure drop	Overall fan efficiency (EU) No 327/2011	Maximum external leaking rate	Maximum internal leakage	Energy performance of filters	Casing sound power level, LWA	
100	1	Duct	Red	Min. - low	NRUV, BVU	variable speed	Run-around	70	1.50	0.04	40	0.3	0	18	69.2	-	-	-	-	28
			Red	Min. - high	NRUV, BVU	variable speed	Run-around	70	1.50	7.40	152	0.3	1158	18	69.2	-	-	-	-	75
			Yellow	Average	NRUV, BVU	variable speed	Run-around	66	7.50	6.88	607	1.5	350	192	69.2	-	-	-	-	65
			Blue	Max. - high	NRUV, BVU	variable speed	Run-around	64	11.21	13.02	1237	2.3	268	357	69.2	1	0	24300	72	
			Red	Max. - low	NRUV, BVU	variable speed	Run-around	64	11.17	8.71	1440	2.3	0	355	69.2	-	-	-	-	71
			Red	Min. - low	NRUV, BVU	variable speed	Run-around	70	1.50	0.04	39	0.3	0	18	69.2	-	-	-	-	28
	Full face	Red	Min. - high	NRUV, BVU	variable speed	Run-around	70	1.50	7.40	149	0.3	1158	18	69.2	-	-	-	-	75	
		Yellow	Average	NRUV, BVU	variable speed	Run-around	66	7.50	6.78	579	1.5	350	183	69.2	-	-	-	-	65	
		Blue	Max. - high	NRUV, BVU	variable speed	Run-around	64	11.28	12.95	1187	2.3	274	340	69.2	1	0	24700	72		
		Red	Max. - low	NRUV, BVU	variable speed	Run-around	64	11.36	8.87	1436	2.3	0	344	69.2	-	-	-	-	72	
		Red	Min. - low	NRUV, BVU	variable speed	Run-around	70	1.50	0.06	61	0.3	0	18	68.5	-	-	-	-	28	
		Red	Min. - high	NRUV, BVU	variable speed	Run-around	70	1.50	10.50	163	0.3	1541	18	68.5	-	-	-	-	78	
120	1	Duct	Yellow	Average	NRUV, BVU	variable speed	Run-around	66	7.50	8.28	621	1.5	450	192	68.5	-	-	-	-	66
			Blue	Max. - high	NRUV, BVU	variable speed	Run-around	64	12.00	20.88	1251	2.5	597	396	68.5	1	0	26600	74	
			Red	Max. - low	NRUV, BVU	variable speed	Run-around	64	11.22	8.74	1435	2.3	0	357	68.5	-	-	-	-	71
			Red	Min. - low	NRUV, BVU	variable speed	Run-around	70	1.50	0.06	59	0.3	0	18	68.5	-	-	-	-	28
			Red	Min. - high	NRUV, BVU	variable speed	Run-around	70	1.50	10.50	160	0.3	1541	18	68.5	-	-	-	-	78
			Yellow	Average	NRUV, BVU	variable speed	Run-around	66	7.50	8.15	593	1.5	450	183	68.5	-	-	-	-	66
	Full face	Blue	Max. - high	NRUV, BVU	variable speed	Run-around	64	12.00	20.88	1251	2.5	620	374	68.5	1	0	26600	74		
		Red	Max. - low	NRUV, BVU	variable speed	Run-around	64	11.42	8.88	1429	2.3	0	346	68.5	-	-	-	-	72	
		Red	Min. - low	NRUV, BVU	variable speed	Run-around	64	2.50	0.19	119	0.5	0	38	69.2	-	-	-	-	35	
		Red	Min. - high	NRUV, BVU	variable speed	Run-around	64	2.50	10.94	290	0.5	1085	38	69.2	-	-	-	-	77	
		Yellow	Average	NRUV, BVU	variable speed	Run-around	65	9.30	9.40	887	1.9	300	267	69.2	-	-	-	-	66	
		Blue	Max. - high	NRUV, BVU	variable speed	Run-around	64	12.30	21.52	1413	2.5	560	411	69.2	1	0	28700	72		
2	1	Duct	Red	Max. - low	NRUV, BVU	variable speed	Run-around	63	12.32	9.44	1415	2.5	0	414	69.2	-	-	-	-	68
			Red	Min. - low	NRUV, BVU	variable speed	Run-around	64	2.50	0.19	116	0.5	0	37	69.2	-	-	-	-	35
			Red	Min. - high	NRUV, BVU	variable speed	Run-around	64	2.50	10.95	283	0.5	1087	37	69.2	-	-	-	-	77
			Yellow	Average	NRUV, BVU	variable speed	Run-around	65	9.30	9.19	842	1.9	300	253	69.2	-	-	-	-	66
			Blue	Max. - high	NRUV, BVU	variable speed	Run-around	63	12.72	21.50	1404	2.6	529	410	69.2	1	0	30500	72	
			Red	Max. - low	NRUV, BVU	variable speed	Run-around	63	12.67	9.64	1403	2.6	0	406	69.2	-	-	-	-	68
	Full face	Red	Max. - high	NRUV, BVU	variable speed	Run-around	64	2.50	0.26	157	0.5	0	38	68.5	-	-	-	-	35	
		Red	Min. - low	NRUV, BVU	variable speed	Run-around	64	2.50	16.10	324	0.5	1447	38	68.5	-	-	-	-	80	
		Yellow	Average	NRUV, BVU	variable speed	Run-around	65	10.00	12.61	1017	2.0	400	299	68.5	-	-	-	-	68	
		Blue	Max. - high	NRUV, BVU	variable speed	Run-around	64	12.03	30.68	1420	2.5	985	398	68.5	1	0	28500	75		
		Red	Max. - low	NRUV, BVU	variable speed	Run-around	64	11.87	9.16	1425	2.4	0	390	68.5	-	-	-	-	67	
		Red	Min. - low	NRUV, BVU	variable speed	Run-around	64	2.50	0.25	153	0.5	0	37	68.5	-	-	-	-	35	
Full face	Red	Min. - high	NRUV, BVU	variable speed	Run-around	64	2.50	16.10	315	0.5	1448	37	68.5	-	-	-	-	80		
	Yellow	Average	NRUV, BVU	variable speed	Run-around	65	10.00	12.34	964	2.0	400	284	68.5	-	-	-	-	68		
	Blue	Max. - high	NRUV, BVU	variable speed	Run-around	63	12.67	31.33	1397	2.6	983	406	68.5	1	0	30400	75			
	Red	Max. - low	NRUV, BVU	variable speed	Run-around	64	12.16	9.32	1417	2.5	0	392	68.5	-	-	-	-	67		
	Red	Min. - high	NRUV, BVU	variable speed	Run-around	64	2.50	16.10	315	0.5	1448	37	68.5	-	-	-	-	80		
	Yellow	Average	NRUV, BVU	variable speed	Run-around	65	10.00	12.34	964	2.0	400	284	68.5	-	-	-	-	68		

SD, without coil heat exchanger, with filter

Size	Motor option	In and outlet connections	Working point		Part of information requirements for NRUV according to Regulation (EU) No 1253/2014												Overall fan efficiency (EU) No 1253/2014 32/120/11	Maximum external leaking rate	Maximum internal leakage	Energy performance of filters kWh/year	Casing sound power level, L _{WA} dB(A)
			Colour	Remark	AHU type	Type of drive	Type of HRS	Thermal efficiency	Nominal flow rate	Effective electric power	SFP _{int}	Face velocity	Nominal pressure	Internal pressure drop vent. comp.	%	%					
04	Not applicable	Duct	Red	Min. - low	NRUV, BVU	variable speed	none	not applicable	0.08	0.01	47	0.3	0	64.8	-	not applicable	-	10			
			Red	Min. - high	NRUV, BVU	variable speed	none	not applicable	0.08	0.27	43	0.3	649	9	64.8	-	59				
			Yellow	Average	NRUV, BVU	variable speed	none	not applicable	0.36	0.23	330	1.3	250	71	64.8	-	44				
			Blue	Max. - low	NRUV, BVU	variable speed	none	not applicable	0.55	0.47	250	2.0	305	143	64.8	1	852				
			Red	Max. - high	NRUV, BVU	variable speed	none	not applicable	0.48	0.15	250	1.8	0	114	64.8	-	51				
	Full face	Red	Min. - low	NRUV, BVU	variable speed	none	not applicable	0.08	0.01	57	0.3	638	9	64.8	-	10					
		Red	Min. - high	NRUV, BVU	variable speed	none	not applicable	0.08	0.31	52	0.3	638	9	64.8	-	59					
		Yellow	Average	NRUV, BVU	variable speed	none	not applicable	0.36	0.26	332	1.3	250	64	64.8	-	45					
		Blue	Max. - low	NRUV, BVU	variable speed	none	not applicable	0.55	0.47	250	2.0	269	123	64.8	1	1090					
		Red	Max. - high	NRUV, BVU	variable speed	none	not applicable	0.45	0.15	250	1.7	0	90	64.8	-	46					
05	1	Duct	Red	Min. - low	NRUV, BVU	variable speed	none	not applicable	0.08	0.01	47	0.3	0	65.5	-	not applicable	-	10			
			Red	Min. - high	NRUV, BVU	variable speed	none	not applicable	0.08	0.47	49	0.3	1010	9	65.5	-	63				
			Yellow	Average	NRUV, BVU	variable speed	none	not applicable	0.40	0.34	350	1.5	350	64	65.5	-	47				
			Blue	Max. - low	NRUV, BVU	variable speed	none	not applicable	0.54	0.94	250	2.0	779	140	65.5	1	848				
			Red	Max. - high	NRUV, BVU	variable speed	none	not applicable	0.48	0.15	250	1.8	0	114	65.5	-	55				
	Full face	Red	Min. - low	NRUV, BVU	variable speed	none	not applicable	0.08	0.01	57	0.3	997	9	65.5	-	47					
		Red	Min. - high	NRUV, BVU	variable speed	none	not applicable	0.08	0.56	60	0.3	997	9	65.5	-	10					
		Yellow	Average	NRUV, BVU	variable speed	none	not applicable	0.40	0.38	152	1.5	350	74	65.5	1	855					
		Blue	Max. - low	NRUV, BVU	variable speed	none	not applicable	0.55	0.97	250	2.0	691	123	65.5	1	1090					
		Red	Max. - high	NRUV, BVU	variable speed	none	not applicable	0.45	0.15	250	1.7	0	90	65.5	-	55					
06	2	Duct	Red	Min. - low	NRUV, BVU	variable speed	none	not applicable	0.08	0.01	63	0.3	1207	9	63.5	-	46				
			Red	Min. - high	NRUV, BVU	variable speed	none	not applicable	0.08	0.64	56	0.3	1207	9	63.5	-	10				
			Yellow	Average	NRUV, BVU	variable speed	none	not applicable	0.40	0.45	163	1.5	450	64	63.5	-	65				
			Blue	Max. - low	NRUV, BVU	variable speed	none	not applicable	0.52	1.25	250	1.9	1056	123	63.5	1	855				
			Red	Max. - high	NRUV, BVU	variable speed	none	not applicable	0.43	0.14	250	1.6	0	96	63.5	-	45				
	Full face	Red	Min. - low	NRUV, BVU	variable speed	none	not applicable	0.08	0.01	58	0.3	1183	9	63.5	-	10					
		Red	Min. - high	NRUV, BVU	variable speed	none	not applicable	0.08	0.73	65	0.3	1183	9	63.5	-	65					
		Yellow	Average	NRUV, BVU	variable speed	none	not applicable	0.40	0.49	168	1.5	450	74	63.5	-	50					
		Blue	Max. - low	NRUV, BVU	variable speed	none	not applicable	0.54	1.26	250	2.0	941	119	63.5	1	855					
		Red	Max. - high	NRUV, BVU	variable speed	none	not applicable	0.46	0.15	250	1.7	0	91	63.5	-	46					
07	1	Duct	Red	Min. - low	NRUV, BVU	variable speed	none	not applicable	0.08	0.01	47	0.2	0	5	65.5	-	10				
			Red	Min. - high	NRUV, BVU	variable speed	none	not applicable	0.08	0.47	30	0.2	1017	5	65.5	-	63				
			Yellow	Average	NRUV, BVU	variable speed	none	not applicable	0.50	0.44	119	1.2	400	68	65.5	-	50				
			Blue	Max. - low	NRUV, BVU	variable speed	none	not applicable	0.76	0.85	250	1.8	434	137	65.5	1	1070				
			Red	Max. - high	NRUV, BVU	variable speed	none	not applicable	0.66	0.21	250	1.6	0	107	65.5	-	54				
	Full face	Red	Min. - low	NRUV, BVU	variable speed	none	not applicable	0.08	0.01	44	0.2	0	5	65.5	-	10					
		Red	Min. - high	NRUV, BVU	variable speed	none	not applicable	0.08	0.47	29	0.2	1017	5	65.5	-	64					
		Yellow	Average	NRUV, BVU	variable speed	none	not applicable	0.50	0.43	87	1.2	400	50	65.5	-	50					
		Blue	Max. - low	NRUV, BVU	variable speed	none	not applicable	0.80	0.81	195	1.9	383	101	65.5	1	1360					
		Red	Max. - high	NRUV, BVU	variable speed	none	not applicable	0.80	0.25	244	1.9	0	101	65.5	-	59					
08	2	Duct	Red	Min. - low	NRUV, BVU	variable speed	none	not applicable	0.08	0.01	63	0.2	0	5	63.5	-	10				
			Red	Min. - high	NRUV, BVU	variable speed	none	not applicable	0.08	0.64	34	0.2	1214	5	63.5	-	65				
			Yellow	Average	NRUV, BVU	variable speed	none	not applicable	0.50	0.56	128	1.2	500	68	63.5	-	51				
			Blue	Max. - low	NRUV, BVU	variable speed	none	not applicable	0.76	1.23	250	1.8	700	138	63.5	1	1070				
			Red	Max. - high	NRUV, BVU	variable speed	none	not applicable	0.54	0.19	250	1.3	0	78	63.5	-	50				
	Full face	Red	Min. - low	NRUV, BVU	variable speed	none	not applicable	0.08	0.01	59	0.2	0	5	63.5	-	10					
		Red	Min. - high	NRUV, BVU	variable speed	none	not applicable	0.08	0.64	33	0.2	1214	5	63.5	-	65					
		Yellow	Average	NRUV, BVU	variable speed	none	not applicable	0.50	0.55	92	1.2	500	50	63.5	-	51					
		Blue	Max. - low	NRUV, BVU	variable speed	none	not applicable	0.80	1.20	168	1.9	658	101	63.5	1	1310					
		Red	Max. - high	NRUV, BVU	variable speed	none	not applicable	0.60	0.22	250	1.4	0	65	63.5	-	52					
09	1	Duct	Red	Min. - low	NRUV, BVU	variable speed	none	not applicable	0.20	0.02	63	0.5	0	17	65.4	-	22				
			Red	Min. - high	NRUV, BVU	variable speed	none	not applicable	0.20	0.76	62	0.5	1012	17	65.4	-	66				
			Yellow	Average	NRUV, BVU	variable speed	none	not applicable	0.70	0.62	206	1.7	350	119	65.4	-	51				
			Blue	Max. - low	NRUV, BVU	variable speed	none	not applicable	0.77	1.37	250	1.8	803	139	65.4	1	1070				
			Red	Max. - high	NRUV, BVU	variable speed	none	not applicable	0.69	0.22	250	1.7	0	118	65.4	-	49				
	Full face	Red	Min. - low	NRUV, BVU	variable speed	none	not applicable	0.20	0.02	55	0.5	0	15	65.4	-	22					
		Red	Min. - high	NRUV, BVU	variable speed	none	not applicable	0.20	0.85	61	0.5	1005	15	65.4	-	66					
		Yellow	Average	NRUV, BVU	variable speed	none	not applicable	0.70	0.60	150	1.7	350	82	65.4	-	51					
		Blue	Max. - low	NRUV, BVU	variable speed	none	not applicable	0.97	1.33	250	2.3	563	136	65.4	1	1920					
		Red	Max. - high	NRUV, BVU	variable speed	none	not applicable	0.76	0.25	250	1.8	0	94	65.4	-	51					
10	2	Duct	Red	Min. - low	NRUV, BVU	variable speed	none	not applicable	0.20	0.02	61	0.5	0	17	67.4	-	22				
			Red	Min. - high	NRUV, BVU	variable speed	none	not applicable	0.20	0.62	61	0.5	1218	17	67.4	-	68				
			Yellow	Average	NRUV, BVU	variable speed	none	not applicable	0.70	0.73	201	1.7	450	119	67.4	-	52				
			Blue	Max. - low	NRUV, BVU	variable speed	none	not applicable	0.76	1.72	250	1.8	1055	138	67.4	1	1070				
			Red	Max. - high	NRUV, BVU	variable speed	none	not applicable	0.71	0.22	250	1.7	0	121	67.4	-	49				
	Full face	Red	Min. - low	NRUV, BVU	variable speed	none	not applicable	0.20	0.02	53	0.5	0	15	67.4	-	22					
		Red	Min. - high	NRUV, BVU	variable speed	none	not applicable	0.20	1.11	66	0.5	1209	15	67.4	-	68					
		Yellow	Average	NRUV, BVU	variable speed	none	not applicable	0.70	0.72	146	1.7	450	82	67.4	-	52					
		Blue	Max. - low	NRUV, BVU	variable speed	none	not applicable	0.99	1.74	250	2.4	801	140	67.4	1	1940					
		Red	Max. - high	NRUV, BVU	variable speed	none	not applicable	0.74	0.25	250	2.0	0	140	67.4	-	56					

SD, without coil heat exchanger, with filter

Size	Motor option	In and outlet connections	Working point		Part of information requirements for NRVL according to Regulation (EU) No 1253/2014														
			Colour	Remark	AHU type	Type of drive	Type of HRS	Thermal efficiency	Nominal flow rate	Effective electric power	SPint	Face velocity	Nominal external pressure	Internal pressure drop vent. comp.	Overall fan efficiency (EU) No 327/2011	Maximum external leaking rate	Maximum internal leakage	Energy performance of filters	Casing sound power level, LwA
11	1	Duct	Red	Min. - low	NRVL BVU	variable speed	none	not applicable	0.20	0.02	46	0.3	0	10	65.4	-	not applicable	-	24
			Red	Min. - high	NRVL BVU	variable speed	none	not applicable	0.20	0.76	36	1.3	1023	10	65.4	-	not applicable	-	66
			Yellow	Average	NRVL BVU	variable speed	none	not applicable	0.75	0.85	111	1.3	400	64	65.4	-	not applicable	-	52
		Full face	Blue	Max. - high	NRVL BVU	variable speed	none	not applicable	1.16	1.20	250	2.0	368	130	65.4	1	not applicable	1860	60
			Red	Max. - low	NRVL BVU	variable speed	none	not applicable	0.86	0.30	250	1.5	0	80	65.4	-	not applicable	-	54
			Red	Min. - low	NRVL BVU	variable speed	none	not applicable	0.20	0.02	43	0.3	0	9	65.4	-	not applicable	-	24
	2	Duct	Red	Min. - high	NRVL BVU	variable speed	none	not applicable	0.20	0.76	32	0.3	1024	9	65.4	-	not applicable	-	66
			Yellow	Average	NRVL BVU	variable speed	none	not applicable	0.75	0.83	84	1.3	400	49	65.4	-	not applicable	-	51
			Blue	Max. - high	NRVL BVU	variable speed	none	not applicable	1.18	1.18	250	2.0	372	96	65.4	1	not applicable	1900	60
		Full face	Red	Max. - low	NRVL BVU	variable speed	none	not applicable	0.93	0.34	250	1.6	0	67	65.4	-	not applicable	-	56
			Red	Min. - low	NRVL BVU	variable speed	none	not applicable	0.20	0.02	45	0.3	0	10	67.4	-	not applicable	-	24
12	1	Duct	Red	Min. - high	NRVL BVU	variable speed	none	not applicable	0.20	0.99	40	0.3	1229	10	67.4	-	not applicable	-	68
			Yellow	Average	NRVL BVU	variable speed	none	not applicable	0.80	0.83	118	1.4	500	71	67.4	-	not applicable	-	53
			Blue	Max. - high	NRVL BVU	variable speed	none	not applicable	1.20	1.61	241	2.0	579	138	67.4	1	not applicable	1820	61
		Full face	Red	Max. - low	NRVL BVU	variable speed	none	not applicable	0.89	0.30	250	1.5	0	85	67.4	-	not applicable	-	55
			Red	Min. - low	NRVL BVU	variable speed	none	not applicable	0.20	0.02	42	0.3	0	9	67.4	-	not applicable	-	24
			Red	Min. - high	NRVL BVU	variable speed	none	not applicable	0.20	0.99	35	0.3	1230	9	67.4	-	not applicable	-	68
	2	Duct	Blue	Max. - high	NRVL BVU	variable speed	none	not applicable	0.80	0.80	89	1.4	500	53	67.4	-	not applicable	-	53
			Red	Max. - low	NRVL BVU	variable speed	none	not applicable	1.20	1.61	171	2.0	619	98	67.4	1	not applicable	1820	61
			Red	Min. - low	NRVL BVU	variable speed	none	not applicable	0.97	0.34	250	1.6	0	70	67.4	-	not applicable	-	56
		Full face	Red	Min. - high	NRVL BVU	variable speed	none	not applicable	0.20	0.90	40	0.3	976	10	66.8	-	not applicable	-	17
			Red	Min. - low	NRVL BVU	variable speed	none	not applicable	0.20	0.90	45	0.3	976	10	66.8	-	not applicable	-	66
			Yellow	Average	NRVL BVU	variable speed	none	not applicable	1.00	0.69	162	1.7	300	102	66.8	-	not applicable	-	51
14	1	Duct	Blue	Max. - high	NRVL BVU	variable speed	none	not applicable	1.28	1.76	250	2.2	645	155	66.8	1	not applicable	1930	58
			Red	Max. - low	NRVL BVU	variable speed	none	not applicable	1.14	0.35	250	1.9	0	126	66.8	-	not applicable	-	53
			Red	Min. - low	NRVL BVU	variable speed	none	not applicable	0.20	0.01	34	0.3	0	9	66.8	-	not applicable	-	17
		Full face	Red	Min. - high	NRVL BVU	variable speed	none	not applicable	0.20	0.90	40	0.3	977	9	66.8	-	not applicable	-	66
			Yellow	Average	NRVL BVU	variable speed	none	not applicable	1.59	0.64	117	1.7	300	74	66.8	-	not applicable	-	51
			Blue	Max. - high	NRVL BVU	variable speed	none	not applicable	1.59	1.58	250	2.7	414	153	66.8	1	not applicable	3070	60
	2	Duct	Red	Max. - low	NRVL BVU	variable speed	none	not applicable	1.26	0.20	250	2.1	0	105	66.8	-	not applicable	-	55
			Red	Min. - low	NRVL BVU	variable speed	none	not applicable	0.20	0.02	40	0.3	0	10	66.0	-	not applicable	-	17
			Red	Min. - high	NRVL BVU	variable speed	none	not applicable	0.20	1.23	50	0.3	1203	10	66.0	-	not applicable	-	69
		Full face	Yellow	Average	NRVL BVU	variable speed	none	not applicable	1.00	0.88	165	1.7	400	102	66.0	-	not applicable	-	53
			Blue	Max. - high	NRVL BVU	variable speed	none	not applicable	2.42	0.56	250	2.1	561	150	66.0	1	not applicable	1920	60
			Red	Max. - low	NRVL BVU	variable speed	none	not applicable	1.13	0.35	250	1.9	0	125	66.0	-	not applicable	-	53
		Full face	Red	Min. - low	NRVL BVU	variable speed	none	not applicable	0.20	0.12	36	0.3	0	9	66.0	-	not applicable	-	17
			Yellow	Average	NRVL BVU	variable speed	none	not applicable	0.20	1.23	49	0.3	1204	9	66.0	-	not applicable	-	69
1	Duct	Blue	Max. - high	NRVL BVU	variable speed	none	not applicable	1.62	0.83	119	1.9	420	74	66.0	-	not applicable	-	52	
		Red	Max. - low	NRVL BVU	variable speed	none	not applicable	1.62	0.31	250	2.7	561	157	66.0	1	not applicable	3100	61	
		Blue	Max. - high	NRVL BVU	variable speed	none	not applicable	1.26	0.20	250	2.1	0	106	66.0	-	not applicable	-	55	
	Full face	Red	Max. - low	NRVL BVU	variable speed	none	not applicable	0.20	0.01	34	0.2	0	8	66.8	-	not applicable	-	18	
		Red	Min. - low	NRVL BVU	variable speed	none	not applicable	0.20	0.91	35	0.2	981	8	66.8	-	not applicable	-	66	
		Red	Min. - high	NRVL BVU	variable speed	none	not applicable	0.20	1.46	50	0.2	0	8	66.8	-	not applicable	-	18	
	Full face	Red	Min. - low	NRVL BVU	variable speed	none	not applicable	0.20	0.51	250	1.6	0	75	66.8	-	not applicable	-	60	
		Yellow	Average	NRVL BVU	variable speed	none	not applicable	1.10	0.76	79	1.2	350	50	66.8	-	not applicable	-	54	
20	1	Duct	Blue	Max. - high	NRVL BVU	variable speed	none	not applicable	1.80	1.38	184	2.0	259	92	66.8	1	not applicable	2800	64
			Red	Max. - low	NRVL BVU	variable speed	none	not applicable	1.48	0.53	250	1.6	0	72	66.8	-	not applicable	-	60
			Red	Min. - low	NRVL BVU	variable speed	none	not applicable	0.20	0.02	38	0.2	0	8	66.0	-	not applicable	-	18
		Full face	Red	Min. - high	NRVL BVU	variable speed	none	not applicable	0.20	1.23	39	0.2	1208	8	66.0	-	not applicable	-	71
			Yellow	Average	NRVL BVU	variable speed	none	not applicable	1.20	1.06	92	1.3	450	58	66.0	-	not applicable	-	56
			Blue	Max. - high	NRVL BVU	variable speed	none	not applicable	1.80	2.13	162	2.0	568	98	66.0	1	not applicable	2200	64
	2	Duct	Red	Max. - low	NRVL BVU	variable speed	none	not applicable	1.47	0.51	250	1.6	0	75	66.0	-	not applicable	-	60
			Red	Min. - low	NRVL BVU	variable speed	none	not applicable	0.20	0.02	38	0.2	0	8	66.0	-	not applicable	-	18
			Red	Min. - high	NRVL BVU	variable speed	none	not applicable	0.20	1.23	38	0.2	1208	8	66.0	-	not applicable	-	71
		Full face	Yellow	Average	NRVL BVU	variable speed	none	not applicable	1.20	1.05	88	1.3	450	55	66.0	-	not applicable	-	56
Blue	Max. - high		NRVL BVU	variable speed	none	not applicable	1.80	2.13	151	2.0	575	92	66.0	1	not applicable	2200	64		
1	Duct	Red	Max. - low	NRVL BVU	variable speed	none	not applicable	1.49	0.53	250	1.7	0	72	66.0	-	not applicable	-	60	
		Red	Min. - low	NRVL BVU	variable speed	none	not applicable	0.30	0.02	25	0.3	0	12	66.7	-	not applicable	-	15	
		Red	Min. - high	NRVL BVU	variable speed	none	not applicable	0.30	1.32	52	0.3	989	12	66.7	-	not applicable	-	65	
	Full face	Yellow	Average	NRVL BVU	variable speed	none	not applicable	1.60	1.18	131	1.8	350	84	66.7	-	not applicable	-	54	
		Blue	Max. - high	NRVL BVU	variable speed	none	not applicable	2.44	0.67	249	2.7	413	148	66.7	1	not applicable	4020	61	
		Red	Max. - low	NRVL BVU	variable speed	none	not applicable	1.91	0.61	250	2.1	0	106	66.7	-	not applicable	-	55	
2	Duct	Red	Min. - low	NRVL BVU	variable speed	none	not applicable	0.30	0.02	25	0.3	0	12	66.7	-	not applicable	-	15	
		Red	Min. - high	NRVL BVU	variable speed	none	not applicable	0.30	1.33	51	0.3	990	12	66.7	-	not applicable	-	65	
		Yellow	Average	NRVL BVU	variable speed	none	not applicable	1.60	1.16	123	1.8	350	79	66.7	-	not applicable	-	54	
	Full face	Blue	Max. - high	NRVL BVU	variable speed	none	not applicable	2.53	2.41	250	2.8	365	143	66.7	1	not applicable	4450	62	
		Red	Max. - low	NRVL BVU	variable speed	none	not applicable	1.95	0.63	250	2.2	0	101	66.7	-	not applicable	-	56	
		Red	Min. - low	NRVL BVU	variable speed	none	not applicable	0.30	0.02	33	0.3	0	12	65.7	-	not applicable	-	15	
2	Duct	Red	Min. - high	NRVL BVU	variable speed	none	not applicable	0.30	1.79	57	0.3	1220	12	65.7	-	not applicable	-	67	
		Yellow	Average	NRVL BVU	variable speed	none	not applicable	1.80	1.55	166	2.0	400	98	65.7	-	not applicable	-	56	
		Blue	Max. - high	NRVL BVU	variable speed	none	not applicable	2.52	3.57	250	2.8	675	155	65.7	1	not applicable	4080	63	
	Full face	Red	Max. - low	NRVL BVU	variable speed	none	not applicable	1.89	0.61	250	2.1	0	105	65.7	-	not applicable	-	55	
		Red	Min. - low	NRVL BVU	variable speed	none	not applicable	0.30	0.02	32	0.3	0	12	65.7	-	not applicable	-	15	
		Red	Min. - high	NRVL BVU	variable speed	none	not applicable	0.30	1.79	56	0.3	1220	12	65.7	-	not applicable	-	67	
Full face	Yellow	Average	NRVL BVU	variable speed	none	not applicable	1.53	1.33	146	2.0	400	92	65.7	-	not applicable	-	56		
	Red	Max. - high	NRVL BVU	variable speed	none	not applicable	2.65	3.45	250	2.9	592	152	65.7	1	not applicable	4560	63		
			Red	Max. - low	NRVL BVU	variable speed	none	not applicable	1.94	0.63	250	2.1	0	101	65.7	-	not applicable	-	55

SD, without coil heat exchanger, with filter

Part of information requirements for NRJV according to Regulation (EU) No 1253/2014																				
Size	Motor option	In and outlet connections	Working point	Colour	Remark	AHU type	Type of drive	Type of HRS	Thermal efficiency	Nominal flow rate	Effective electric power	SFPint	Face velocity	Nominal external pressure	Internal pressure drop vent. comp.	Overall fan efficiency (EU) No 327/2011	Maximum external leaking rate	Maximum internal leakage	Energy performance of filters	Casing sound power level, LWA
25	1	Duct	Red	Min. - low	NRJV BVU	variable speed	none	not applicable	0.30	0.01	22	0.2	0	8	66.7	-	not applicable	-	15	
			Red	Min. - high	NRJV BVU	variable speed	none	not applicable	0.30	1.32	34	0.2	966	8	66.7	-	not applicable	-	53	
			Yellow	Average	NRJV BVU	variable speed	none	not applicable	1.60	1.09	79	1.2	350	51	66.7	-	not applicable	-	63	
		Red	Max. - low	NRJV BVU	variable speed	none	not applicable	2.21	0.77	250	1.6	0	76	66.7	-	not applicable	-	58		
		Red	Min. - low	NRJV BVU	variable speed	none	not applicable	0.30	0.01	22	0.2	0	9	66.7	-	not applicable	-	15		
		Red	Min. - high	NRJV BVU	variable speed	none	not applicable	0.30	1.32	40	0.2	984	9	66.7	-	not applicable	-	65		
	2	Full face	Yellow	Average	NRJV BVU	variable speed	none	not applicable	1.60	1.11	88	1.2	350	56	66.7	-	not applicable	-	53	
			Blue	Max. - high	NRJV BVU	variable speed	none	not applicable	2.78	2.17	239	2.0	320	104	65.7	1	not applicable	3840	64	
			Red	Max. - low	NRJV BVU	variable speed	none	not applicable	2.16	0.74	250	1.6	0	81	66.7	-	not applicable	-	58	
		Red	Min. - low	NRJV BVU	variable speed	none	not applicable	0.30	0.02	26	0.2	0	8	65.7	-	not applicable	-	15		
		Red	Min. - high	NRJV BVU	variable speed	none	not applicable	1.78	37	37	0.2	1226	8	65.7	-	not applicable	-	67		
		Yellow	Average	NRJV BVU	variable speed	none	not applicable	1.80	1.59	93	1.3	450	59	65.7	-	not applicable	-	56		
30	1	Duct	Blue	Max. - high	NRJV BVU	variable speed	none	not applicable	2.80	3.28	178	2.0	530	104	65.7	1	not applicable	3840	64	
			Red	Max. - low	NRJV BVU	variable speed	none	not applicable	2.22	0.77	250	1.6	0	77	65.7	-	not applicable	-	58	
			Red	Min. - low	NRJV BVU	variable speed	none	not applicable	0.30	0.02	26	0.2	0	9	65.7	-	not applicable	-	15	
		Red	Min. - high	NRJV BVU	variable speed	none	not applicable	0.30	1.79	44	0.2	1224	9	65.7	-	not applicable	-	67		
		Yellow	Average	NRJV BVU	variable speed	none	not applicable	1.80	1.60	103	1.3	450	65	65.7	-	not applicable	-	56		
		Blue	Max. - high	NRJV BVU	variable speed	none	not applicable	2.80	3.28	191	2.0	522	112	65.7	1	not applicable	4390	64		
	2	Full face	Red	Max. - low	NRJV BVU	variable speed	none	not applicable	2.17	0.74	250	1.6	0	81	65.7	-	not applicable	-	58	
			Red	Min. - low	NRJV BVU	variable speed	none	not applicable	0.50	0.29	63	0.4	1087	16	65.2	-	not applicable	-	67	
			Blue	Average	NRJV BVU	variable speed	none	not applicable	1.71	154	154	1.8	300	97	65.2	-	not applicable	-	56	
		Yellow	Average	NRJV BVU	variable speed	none	not applicable	3.52	4.34	250	2.6	540	150	65.2	1	not applicable	6520	63		
		Red	Max. - low	NRJV BVU	variable speed	none	not applicable	2.61	0.84	250	1.9	0	102	65.2	-	not applicable	-	55		
		Red	Min. - low	NRJV BVU	variable speed	none	not applicable	0.50	0.03	27	0.4	0	13	67.2	-	not applicable	-	20		
35	1	Duct	Red	Min. - high	NRJV BVU	variable speed	none	not applicable	0.50	2.74	58	0.4	1245	94	67.2	-	not applicable	-	69	
			Yellow	Average	NRJV BVU	variable speed	none	not applicable	2.60	2.45	150	1.9	450	84	67.2	-	not applicable	-	58	
			Blue	Max. - high	NRJV BVU	variable speed	none	not applicable	3.67	5.32	250	2.7	670	150	67.2	1	not applicable	6050	64	
		Red	Max. - low	NRJV BVU	variable speed	none	not applicable	2.65	0.87	250	1.9	0	97	67.2	-	not applicable	-	56		
		Red	Min. - low	NRJV BVU	variable speed	none	not applicable	0.50	0.03	29	0.4	0	16	67.2	-	not applicable	-	20		
		Red	Min. - high	NRJV BVU	variable speed	none	not applicable	0.50	2.74	67	0.4	1242	16	67.2	-	not applicable	-	69		
	2	Full face	Yellow	Average	NRJV BVU	variable speed	none	not applicable	2.60	2.48	160	1.9	450	102	67.2	-	not applicable	-	58	
			Blue	Max. - high	NRJV BVU	variable speed	none	not applicable	3.55	5.41	250	2.8	722	151	67.2	1	not applicable	6560	64	
			Red	Max. - low	NRJV BVU	variable speed	none	not applicable	2.59	0.84	250	1.9	0	101	67.2	-	not applicable	-	55	
		Red	Min. - low	NRJV BVU	variable speed	none	not applicable	0.50	0.02	23	0.3	0	9	68.2	-	not applicable	-	20		
		Red	Min. - high	NRJV BVU	variable speed	none	not applicable	0.50	2.89	88	0.3	1111	9	68.2	-	not applicable	-	67		
		Yellow	Average	NRJV BVU	variable speed	none	not applicable	2.50	1.76	88	1.3	350	56	68.2	-	not applicable	-	56		
40	1	Duct	Blue	Max. - high	NRJV BVU	variable speed	none	not applicable	4.00	3.80	239	2.1	540	103	68.2	1	not applicable	6260	65	
			Red	Max. - low	NRJV BVU	variable speed	none	not applicable	3.05	1.08	250	1.6	0	11	68.2	-	not applicable	-	59	
			Red	Min. - low	NRJV BVU	variable speed	none	not applicable	0.50	0.02	22	0.3	0	8	68.2	-	not applicable	-	20	
		Yellow	Average	NRJV BVU	variable speed	none	not applicable	2.50	2.19	37	0.3	1111	8	68.2	-	not applicable	-	56		
		Blue	Max. - high	NRJV BVU	variable speed	none	not applicable	4.00	3.89	250	2.1	350	84	68.2	1	not applicable	6260	65		
		Red	Max. - low	NRJV BVU	variable speed	none	not applicable	3.18	1.17	250	1.7	0	63	68.2	-	not applicable	-	60		
	2	Duct	Red	Min. - low	NRJV BVU	variable speed	none	not applicable	0.50	0.02	22	0.3	0	9	67.2	-	not applicable	-	20	
			Red	Min. - high	NRJV BVU	variable speed	none	not applicable	0.50	2.74	38	0.3	1256	9	67.2	-	not applicable	-	69	
			Yellow	Average	NRJV BVU	variable speed	none	not applicable	2.70	2.41	98	1.4	450	61	67.2	-	not applicable	-	58	
		Blue	Max. - high	NRJV BVU	variable speed	none	not applicable	4.00	5.01	181	2.1	561	103	67.2	1	not applicable	5420	65		
		Red	Max. - low	NRJV BVU	variable speed	none	not applicable	3.03	1.08	250	1.6	0	71	67.2	-	not applicable	-	59		
		Red	Min. - low	NRJV BVU	variable speed	none	not applicable	0.50	0.02	22	0.3	0	8	67.2	-	not applicable	-	20		
40	1	Full face	Red	Min. - high	NRJV BVU	variable speed	none	not applicable	0.50	2.74	37	0.3	1256	8	67.2	-	not applicable	-	69	
			Yellow	Average	NRJV BVU	variable speed	none	not applicable	2.70	2.36	84	1.4	450	52	67.2	-	not applicable	-	58	
			Blue	Max. - high	NRJV BVU	variable speed	none	not applicable	4.00	5.01	147	2.1	580	84	67.2	1	not applicable	5420	65	
		Red	Max. - low	NRJV BVU	variable speed	none	not applicable	3.17	1.17	250	1.7	0	63	67.2	-	not applicable	-	60		
		Red	Min. - low	NRJV BVU	variable speed	none	not applicable	0.75	0.03	21	0.4	0	14	70.5	-	not applicable	-	22		
		Red	Min. - high	NRJV BVU	variable speed	none	not applicable	0.75	2.30	49	0.4	831	14	70.5	-	not applicable	-	66		
	2	Duct	Yellow	Average	NRJV BVU	variable speed	none	not applicable	3.00	1.86	109	1.6	300	70	70.5	-	not applicable	-	55	
			Blue	Max. - high	NRJV BVU	variable speed	none	not applicable	5.00	3.70	247	2.6	250	140	70.5	1	not applicable	8060	63	
			Red	Max. - low	NRJV BVU	variable speed	none	not applicable	4.15	1.33	250	2.2	0	108	70.5	-	not applicable	-	59	
		Red	Min. - low	NRJV BVU	variable speed	none	not applicable	0.75	0.03	20	0.4	0	13	70.5	-	not applicable	-	22		
		Red	Min. - high	NRJV BVU	variable speed	none	not applicable	0.75	3.57	53	0.4	1137	13	70.5	-	not applicable	-	69		
		Yellow	Average	NRJV BVU	variable speed	none	not applicable	3.00	1.81	92	1.6	300	59	70.5	-	not applicable	-	55		
40	1	Full face	Blue	Max. - high	NRJV BVU	variable speed	none	not applicable	5.90	5.97	250	3.1	375	136	70.5	1	not applicable	11400	67	
			Red	Max. - low	NRJV BVU	variable speed	none	not applicable	4.42	1.46	250	2.3	0	94	70.5	-	not applicable	-	60	
			Red	Min. - low	NRJV BVU	variable speed	none	not applicable	0.75	0.03	21	0.4	0	14	69.2	-	not applicable	-	22	
		Red	Min. - high	NRJV BVU	variable speed	none	not applicable	0.75	3.56	56	0.4	1136	14	69.2	-	not applicable	-	69		
		Yellow	Average	NRJV BVU	variable speed	none	not applicable	3.50	2.91	135	1.8	400	86	69.2	-	not applicable	-	58		
		Blue	Max. - high	NRJV BVU	variable speed	none	not applicable	5.26	6.69	250	2.7	565	150	69.2	1	not applicable	8330	65		
	2	Full face	Red	Max. - low	NRJV BVU	variable speed	none	not applicable	4.15	1.33	250	2.2	0	108	69.2	-	not applicable	-	59	
			Red	Min. - low	NRJV BVU	variable speed	none	not applicable	0.75	0.03	23	0.4	0	13	69.2	-	not applicable	-	22	
			Red	Min. - high	NRJV BVU	variable speed	none	not applicable	0.75	5.25	59	0.4	1506	13	69.2	-	not applicable	-	72	
		Yellow	Average	NRJV BVU	variable speed	none	not applicable	3.50	2.93	117	1.8	400	71	69.2	-	not applicable	-	58		
		Blue	Max. - high	NRJV BVU	variable speed	none	not applicable	6.00	10.43	235	3.1	839	139	69.2	1	not applicable	10900	68		
		Red	Max. - low	NRJV BVU	variable speed	none	not applicable	4.38	1.45	250	2.3	0	93	69.2	-	not applicable	-	60		

SD, without coil heat exchanger, with filter

Size	Motor option	In and outlet connections	Working point		AHU type	Type of drive	Type of HRS	Thermal efficiency	Nominal flow rate	Effective electric power	SPint	Face velocity	Part of information requirements for NRVL according to Regulation (EU) No 1253/2014				Casing sound power level, LwA
			Colour	Remark									External pressure	Internal pressure drop vent. comp.	Maximum external leaking rate	Maximum internal leakage	
50	1	Duct	Red	Min - low	NRVL BVU	variable speed	none	not applicable	0.60	0.03	22	0.2	0	8	not applicable	-	18
			Red	Min - high	NRVL BVU	variable speed	none	not applicable	0.60	2.65	34	0.2	998	8	not applicable	-	68
			Yellow	Average	NRVL BVU	variable speed	none	not applicable	3.30	2.28	85	1.2	350	54	not applicable	-	57
		Full face	Blue	Max - high	NRVL BVU	variable speed	none	not applicable	5.50	4.40	220	2.1	249	106	not applicable	8950	66
			Red	Max - low	NRVL BVU	variable speed	none	not applicable	4.38	1.51	250	1.6	0	78	not applicable	-	61
			Red	Min - low	NRVL BVU	variable speed	none	not applicable	0.75	0.03	19	0.3	0	12	not applicable	-	62
	2	Duct	Red	Min - high	NRVL BVU	variable speed	none	not applicable	0.60	0.03	22	0.2	0	8	not applicable	-	18
			Red	Min - low	NRVL BVU	variable speed	none	not applicable	0.60	2.65	34	0.2	998	8	not applicable	-	68
			Yellow	Average	NRVL BVU	variable speed	none	not applicable	3.30	2.28	85	1.2	350	57	not applicable	-	56
		Full face	Blue	Max - high	NRVL BVU	variable speed	none	not applicable	5.50	4.40	219	2.2	359	115	not applicable	11100	67
			Red	Max - low	NRVL BVU	variable speed	none	not applicable	4.62	1.57	250	1.7	0	84	not applicable	-	61
			Red	Min - low	NRVL BVU	variable speed	none	not applicable	0.60	0.03	26	0.2	0	8	not applicable	-	18
60	1	Duct	Red	Min - high	NRVL BVU	variable speed	none	not applicable	0.60	0.03	37	0.2	1228	8	not applicable	-	70
			Red	Min - low	NRVL BVU	variable speed	none	not applicable	0.60	3.58	37	0.2	1228	8	not applicable	-	70
			Yellow	Average	NRVL BVU	variable speed	none	not applicable	3.60	3.49	96	1.3	500	61	not applicable	-	59
		Full face	Blue	Max - high	NRVL BVU	variable speed	none	not applicable	5.60	6.56	187	2.1	524	109	not applicable	7630	67
			Red	Max - low	NRVL BVU	variable speed	none	not applicable	4.39	1.52	250	1.6	0	78	not applicable	-	61
			Red	Min - low	NRVL BVU	variable speed	none	not applicable	0.75	0.03	20	0.3	0	12	not applicable	-	22
	2	Duct	Red	Min - high	NRVL BVU	variable speed	none	not applicable	0.60	0.03	22	0.2	0	8	not applicable	-	18
			Red	Min - low	NRVL BVU	variable speed	none	not applicable	0.60	2.65	34	0.2	998	8	not applicable	-	68
			Yellow	Average	NRVL BVU	variable speed	none	not applicable	3.60	3.62	103	1.3	500	63	not applicable	-	59
		Full face	Blue	Max - high	NRVL BVU	variable speed	none	not applicable	5.60	6.00	193	2.2	853	115	not applicable	9910	68
			Red	Max - low	NRVL BVU	variable speed	none	not applicable	4.60	1.56	250	1.7	0	83	not applicable	-	61
			Red	Min - low	NRVL BVU	variable speed	none	not applicable	1.00	0.04	20	0.4	0	13	not applicable	-	23
70	1	Duct	Red	Min - high	NRVL BVU	variable speed	none	not applicable	0.60	0.03	55	0.4	1109	13	not applicable	-	70
			Red	Min - low	NRVL BVU	variable speed	none	not applicable	0.60	3.60	55	0.4	1109	98	not applicable	-	60
			Yellow	Average	NRVL BVU	variable speed	none	not applicable	5.20	5.47	188	1.9	400	98	not applicable	-	60
		Full face	Blue	Max - high	NRVL BVU	variable speed	none	not applicable	7.07	8.69	250	2.8	541	151	not applicable	11100	66
			Red	Max - low	NRVL BVU	variable speed	none	not applicable	5.47	1.76	250	2.0	0	106	not applicable	-	59
			Red	Min - low	NRVL BVU	variable speed	none	not applicable	1.00	0.04	24	0.4	0	16	not applicable	-	23
	2	Duct	Red	Min - high	NRVL BVU	variable speed	none	not applicable	0.60	0.03	64	0.4	1106	16	not applicable	-	70
			Red	Min - low	NRVL BVU	variable speed	none	not applicable	0.60	3.57	64	0.4	1106	16	not applicable	-	70
			Yellow	Average	NRVL BVU	variable speed	none	not applicable	5.20	5.20	186	1.9	300	98	not applicable	-	60
		Full face	Blue	Max - high	NRVL BVU	variable speed	none	not applicable	7.07	8.69	250	2.8	541	151	not applicable	11100	66
			Red	Max - low	NRVL BVU	variable speed	none	not applicable	5.47	1.76	250	2.0	0	106	not applicable	-	59
			Red	Min - low	NRVL BVU	variable speed	none	not applicable	1.00	0.04	24	0.4	0	16	not applicable	-	23
80	1	Duct	Red	Min - high	NRVL BVU	variable speed	none	not applicable	0.60	0.03	63	0.4	1498	13	not applicable	-	73
			Red	Min - low	NRVL BVU	variable speed	none	not applicable	0.60	3.58	63	0.4	1498	13	not applicable	-	73
			Yellow	Average	NRVL BVU	variable speed	none	not applicable	5.40	4.75	167	2.0	400	104	not applicable	-	61
		Full face	Blue	Max - high	NRVL BVU	variable speed	none	not applicable	7.03	8.69	250	2.8	541	151	not applicable	11100	66
			Red	Max - low	NRVL BVU	variable speed	none	not applicable	5.32	1.72	250	2.0	0	102	not applicable	-	59
			Red	Min - low	NRVL BVU	variable speed	none	not applicable	1.00	0.07	35	0.4	0	16	not applicable	-	23
	2	Duct	Red	Min - high	NRVL BVU	variable speed	none	not applicable	0.60	0.03	73	0.4	1498	16	not applicable	-	73
			Red	Min - low	NRVL BVU	variable speed	none	not applicable	0.60	3.58	73	0.4	1498	16	not applicable	-	73
			Yellow	Average	NRVL BVU	variable speed	none	not applicable	5.40	4.71	163	2.0	400	101	not applicable	-	61
		Full face	Blue	Max - high	NRVL BVU	variable speed	none	not applicable	7.39	8.69	250	2.8	541	149	not applicable	14500	69
			Red	Max - low	NRVL BVU	variable speed	none	not applicable	5.36	1.74	250	2.0	0	100	not applicable	-	59
			Red	Min - low	NRVL BVU	variable speed	none	not applicable	1.00	0.03	15	0.3	0	10	not applicable	-	23
50	1	Duct	Red	Min - high	NRVL BVU	variable speed	none	not applicable	0.60	0.03	15	0.3	0	10	not applicable	-	20
			Red	Min - low	NRVL BVU	variable speed	none	not applicable	0.60	2.65	15	0.3	0	10	not applicable	-	20
			Yellow	Average	NRVL BVU	variable speed	none	not applicable	5.50	4.06	115	1.8	350	71	not applicable	-	61
		Full face	Blue	Max - high	NRVL BVU	variable speed	none	not applicable	7.95	7.66	216	2.6	363	116	not applicable	12300	68
			Red	Max - low	NRVL BVU	variable speed	none	not applicable	6.13	2.09	250	2.0	0	82	not applicable	-	62
			Red	Min - low	NRVL BVU	variable speed	none	not applicable	1.00	0.03	15	0.3	0	9	not applicable	-	23
	2	Duct	Red	Min - high	NRVL BVU	variable speed	none	not applicable	0.60	0.03	39	0.3	1118	9	not applicable	-	70
			Red	Min - low	NRVL BVU	variable speed	none	not applicable	0.60	3.96	39	0.3	1118	9	not applicable	-	70
			Yellow	Average	NRVL BVU	variable speed	none	not applicable	5.50	3.96	95	1.8	350	59	not applicable	-	61
		Full face	Blue	Max - high	NRVL BVU	variable speed	none	not applicable	7.95	7.67	189	2.6	389	91	not applicable	12300	68
			Red	Max - low	NRVL BVU	variable speed	none	not applicable	6.48	2.30	250	2.1	0	71	not applicable	-	63
			Red	Min - low	NRVL BVU	variable speed	none	not applicable	1.00	0.04	23	0.3	0	10	not applicable	-	23
50	1	Duct	Red	Min - high	NRVL BVU	variable speed	none	not applicable	0.60	0.03	46	0.3	1508	10	not applicable	-	73
			Red	Min - low	NRVL BVU	variable speed	none	not applicable	0.60	3.96	46	0.3	1508	10	not applicable	-	73
			Yellow	Average	NRVL BVU	variable speed	none	not applicable	5.60	5.15	117	1.8	450	73	not applicable	-	62
		Full face	Blue	Max - high	NRVL BVU	variable speed	none	not applicable	8.00	8.00	200	2.6	884	117	not applicable	11400	69
			Red	Max - low	NRVL BVU	variable speed	none	not applicable	6.01	2.07	250	2.0	0	80	not applicable	-	61
			Red	Min - low	NRVL BVU	variable speed	none	not applicable	1.00	0.04	22	0.3	0	9	not applicable	-	23
	2	Duct	Red	Min - high	NRVL BVU	variable speed	none	not applicable	0.60	0.03	44	0.3	1508	9	not applicable	-	73
			Red	Min - low	NRVL BVU	variable speed	none	not applicable	0.60	3.96	44	0.3	1508	9	not applicable	-	73
			Yellow	Average	NRVL BVU	variable speed	none	not applicable	5.60	5.03	97	1.8	450	60	not applicable	-	62
		Full face	Blue	Max - high	NRVL BVU	variable speed	none	not applicable	8.00	8.00	198	2.6	910	91	not applicable	11400	69
			Red	Max - low	NRVL BVU	variable speed	none	not applicable	6.37	2.28	250	2.1	0	70	not applicable	-	63
			Red	Min - low	NRVL BVU	variable speed	none	not applicable	1.50	0.05	15	0.5	0	15	not applicable	-	25
50	1	Duct	Red	Min - high	NRVL BVU	variable speed	none	not applicable	0.60	0.03	64	0.5	1154	15	not applicable	-	72
			Red	Min - low	NRVL BVU	variable speed	none	not applicable	0.60	3.96	64	0.5	1154	15	not applicable	-	72
			Yellow	Average	NRVL BVU	variable speed	none	not applicable	7.50	6.53	170	2.4	400	107	not applicable	-	62
		Full face	Blue	Max - high	NRVL BVU	variable speed	none	not applicable	8.00	8.00	250	3.2	685	154	not applicable	15400	67
			Red	Max - low	NRVL BVU	variable speed	none	not applicable	7.78	2.46	250	2.5	0	113	not applicable	-	60
			Red	Min - low	NRVL BVU	variable speed	none	not applicable	1.00	0.04	20	0.3	0	10	not applicable	-	75
	2	Duct	Red	Min - high	NRVL BVU	variable speed	none	not applicable	0.60	0.03	67	0.5	1154	14	not applicable	-	72
			Red	Min - low	NRVL BVU	variable speed	none	not applicable	0.60	3.96	67	0.5	1154	14	not applicable	-	72
			Yellow	Average	NRVL BVU	variable speed	none	not applicable	7.50	6.53	134	2.4	400	86	not applicable	-	66
		Full face	Blue	Max - high	NRVL BVU	variable speed	none	not applicable	8.46	8.46	250	3.7	443	141	not applicable	22700	68
			Red	Max - low	NRVL BVU	variable speed	none	not applicable	7.78	2.78	250	2.8	0	98	not applicable	-	62
			Red	Min - low	NRVL BVU	variable speed	none	not applicable	1.50	0.08	27	0.5	0	15	not applicable	-	25
50	1	Duct	Red	Min - high	NRVL BVU	variable speed	none	not applicable	0.60	0.03	68	0.5	1537	15	not applicable	-	75
			Red	Min - low	NRVL BVU	variable speed	none	not applicable	0.60	3.96	68	0.5	1537	15	not applicable	-	75
			Yellow	Average	NRVL BVU	variable speed	none	not applicable	8.00	8.06	192	2.6	450	117	not applicable	-	63
		Full face	Blue	Max - high	NRVL BVU	variable speed	none	not applicable	8.00	8.00	250	3.2	1174	155	not applicable	15500	70
			Red	Max - low	NRVL BVU	variable speed	none	not applicable	7.84	2.48	250	2.6	0	114	not applicable	-	61
			Red	Min - low	NRVL BVU	variable speed	none	not applicable	1.50	0.08	25	0.5	0	14	not applicable	-	25
	2	Duct	Red	Min - high	NRVL BVU	variable speed	none	not applicable	0.60	0.03	64	0.5	1538	14	not applicable	-	75
			Red	Min - low	NRVL BVU	variable speed	none	not applicable	0.60	3.96	64	0.5	1538	14	not applicable	-	75
			Yellow	Average	NRVL BVU	variable speed	none	not applicable	8.00	7.70	150	2.6	450	91	not applicable	-	63
		Full face	Blue	Max - high	NRVL BVU	variable speed	none	not applicable	11.84	20.93	250	3.9	850	150	not applicable	23300	71
			Red	Max - low	NRVL BVU	variable speed	none	not applicable	8.56	2.79	250	2.8	0	99	not applicable	-	62
			Red	Min - low	NRVL BVU	variable speed	none	not applicable	1.50	0.08	25	0.5	0	99	not applicable	-	62

SD, without coil heat exchanger, with filter

Size	Motor option	In and outlet connections	Working point		Part of information requirements for NRJU according to Regulation (EU) No 1253/2014														
			Colour	Remark	AHU type	Type of drive	Type of HRS	Thermal efficiency	Nominal flow rate	Effective electric power	SFPint	Face velocity	Nominal external pressure	Internal pressure drop vent. comp.	Overall fan efficiency (EU) No 327/2011	Maximum external leaking rate	Maximum internal leakage	Energy performance of filters	Casing sound power level, LWA
100	1	Duct	Red	Min. - low	NRJU BVU	variable speed	none	not applicable	1.50	0.03	10	0.3	0	9	69.2	-	not applicable	-	25
			Red	Min. - high	NRJU BVU	variable speed	none	not applicable	1.50	7.40	39	0.3	1164	9	69.2	-	not applicable	-	72
			Yellow	Average	NRJU BVU	variable speed	none	not applicable	8.00	6.49	103	1.6	400	64	69.2	-	not applicable	-	63
		Blue	Max. - high	NRJU BVU	variable speed	none	not applicable	11.50	12.67	183	2.4	467	103	69.2	1	not applicable	16100	69	
		Red	Max. - low	NRJU BVU	variable speed	none	not applicable	9.42	3.25	250	1.9	0	79	69.2	-	not applicable	-	65	
		Red	Min. - low	NRJU BVU	variable speed	none	not applicable	1.50	0.03	10	0.3	0	9	69.2	-	not applicable	-	25	
	Full face	Red	Min. - high	NRJU BVU	variable speed	none	not applicable	1.50	7.39	38	0.3	1164	9	69.2	-	not applicable	-	72	
		Yellow	Average	NRJU BVU	variable speed	none	not applicable	8.00	6.36	87	1.6	400	54	69.2	-	not applicable	-	63	
		Blue	Max. - high	NRJU BVU	variable speed	none	not applicable	11.50	12.66	146	2.4	487	82	69.2	1	not applicable	16100	69	
		Red	Max. - low	NRJU BVU	variable speed	none	not applicable	9.99	3.57	250	2.0	0	70	69.2	-	not applicable	-	66	
2	1	Duct	Red	Min. - low	NRJU BVU	variable speed	none	not applicable	1.50	0.04	15	0.3	0	9	68.5	-	not applicable	-	25
			Red	Min. - high	NRJU BVU	variable speed	none	not applicable	1.50	10.51	42	0.3	1548	9	68.5	-	not applicable	-	75
			Yellow	Average	NRJU BVU	variable speed	none	not applicable	8.00	8.04	105	1.6	500	64	68.5	-	not applicable	-	63
		Blue	Max. - high	NRJU BVU	variable speed	none	not applicable	12.00	20.88	182	2.5	881	109	68.5	1	not applicable	16300	71	
		Red	Max. - low	NRJU BVU	variable speed	none	not applicable	9.54	3.28	250	2.0	0	80	68.5	-	not applicable	-	65	
		Red	Min. - low	NRJU BVU	variable speed	none	not applicable	1.50	0.04	15	0.3	0	9	68.5	-	not applicable	-	25	
	Full face	Red	Min. - high	NRJU BVU	variable speed	none	not applicable	1.50	10.50	41	0.3	1548	9	68.5	-	not applicable	-	75	
		Yellow	Average	NRJU BVU	variable speed	none	not applicable	8.00	7.92	89	1.6	500	54	68.5	-	not applicable	-	63	
		Blue	Max. - high	NRJU BVU	variable speed	none	not applicable	12.00	20.87	145	2.5	903	86	68.5	1	not applicable	16300	71	
		Red	Max. - low	NRJU BVU	variable speed	none	not applicable	10.08	3.60	250	2.1	0	70	68.5	-	not applicable	-	66	
120	1	Duct	Red	Min. - low	NRJU BVU	variable speed	none	not applicable	2.50	0.12	25	0.5	0	16	69.2	-	not applicable	-	29
			Red	Min. - high	NRJU BVU	variable speed	none	not applicable	2.50	10.96	63	0.5	1104	16	69.2	-	not applicable	-	74
			Yellow	Average	NRJU BVU	variable speed	none	not applicable	11.00	7.89	162	2.3	300	97	69.2	-	not applicable	-	63
		Blue	Max. - high	NRJU BVU	variable speed	none	not applicable	14.81	20.43	250	3.0	607	145	69.2	1	not applicable	24400	69	
		Red	Max. - low	NRJU BVU	variable speed	none	not applicable	11.47	3.71	250	2.3	0	102	69.2	-	not applicable	-	62	
		Red	Min. - low	NRJU BVU	variable speed	none	not applicable	2.50	0.12	24	0.5	0	15	69.2	-	not applicable	-	29	
	Full face	Red	Min. - high	NRJU BVU	variable speed	none	not applicable	2.50	10.95	59	0.5	1104	15	69.2	-	not applicable	-	74	
		Yellow	Average	NRJU BVU	variable speed	none	not applicable	11.00	7.53	131	2.3	300	78	69.2	-	not applicable	-	63	
		Blue	Max. - high	NRJU BVU	variable speed	none	not applicable	15.80	19.58	208	3.2	300	118	69.2	1	not applicable	27500	70	
		Red	Max. - low	NRJU BVU	variable speed	none	not applicable	12.17	4.09	250	2.5	0	88	69.2	-	not applicable	-	63	
2	1	Duct	Red	Min. - low	NRJU BVU	variable speed	none	not applicable	2.50	0.16	33	0.5	0	16	68.5	-	not applicable	-	29
			Red	Min. - high	NRJU BVU	variable speed	none	not applicable	2.50	16.11	70	0.5	1465	16	68.5	-	not applicable	-	77
			Yellow	Average	NRJU BVU	variable speed	none	not applicable	11.50	10.95	160	2.4	400	103	68.5	-	not applicable	-	64
		Blue	Max. - high	NRJU BVU	variable speed	none	not applicable	14.89	32.63	250	3.0	1097	147	68.5	1	not applicable	24500	72	
		Red	Max. - low	NRJU BVU	variable speed	none	not applicable	10.84	3.52	250	2.2	0	93	68.5	-	not applicable	-	60	
		Red	Min. - low	NRJU BVU	variable speed	none	not applicable	2.50	0.15	86	0.5	0	15	68.5	-	not applicable	-	29	
	Full face	Red	Min. - high	NRJU BVU	variable speed	none	not applicable	2.50	16.11	86	0.5	1466	15	68.5	-	not applicable	-	77	
		Yellow	Average	NRJU BVU	variable speed	none	not applicable	11.50	10.54	144	2.4	400	82	68.5	-	not applicable	-	64	
		Blue	Max. - high	NRJU BVU	variable speed	none	not applicable	15.80	32.62	207	3.2	1028	120	68.5	1	not applicable	27600	72	
		Red	Max. - low	NRJU BVU	variable speed	none	not applicable	11.27	3.87	250	2.3	0	80	68.5	-	not applicable	-	62	

SD, fan only

Part of information requirements for NRUV according to Regulation (EU) No 1253/2014										Working point									
Size	Motor option	In and outlet connections	Colour	Remark	AHU type	Type of drive	Type of HRS	Thermal efficiency	Nominal flow rate	Effective electric power	SPint	Face velocity	Nominal external pressure	Internal pressure drop vent. comp.	Overall fan efficiency (EU) No 327/2011	Maximum external leaking rate	Maximum internal leakage	Energy performance of filters	Casing sound power level, LwA
04	Not applic.	Duct	Blue	Max. - high	NRUV, BVU	variable speed	none	not applicable	0.60	0.45	not applicable	2.2	360	12	64.8	1	not applicable	not applicable	52
		Duct	Blue	Max. - high	NRUV, BVU	variable speed	none	not applicable	0.60	0.45	not applicable	2.2	338	12	64.8	1	not applicable	not applicable	52
05	1	Duct	Blue	Max. - high	NRUV, BVU	variable speed	none	not applicable	0.80	0.81	not applicable	2.9	431	96	65.5	1	not applicable	not applicable	58
		Duct	Blue	Max. - high	NRUV, BVU	variable speed	none	not applicable	0.78	0.85	not applicable	2.8	456	19	65.5	1	not applicable	not applicable	58
	2	Duct	Blue	Max. - high	NRUV, BVU	variable speed	none	not applicable	0.80	1.20	not applicable	2.9	713	96	63.5	1	not applicable	not applicable	59
		Duct	Blue	Max. - high	NRUV, BVU	variable speed	none	not applicable	0.80	1.15	not applicable	2.9	668	20	63.5	1	not applicable	not applicable	59
07	1	Duct	Blue	Max. - high	NRUV, BVU	variable speed	none	not applicable	0.80	0.81	not applicable	1.9	463	64	65.5	1	not applicable	not applicable	58
		Duct	Blue	Max. - high	NRUV, BVU	variable speed	none	not applicable	0.80	0.81	not applicable	1.9	523	4	65.5	1	not applicable	not applicable	58
	2	Duct	Blue	Max. - high	NRUV, BVU	variable speed	none	not applicable	0.80	1.20	not applicable	1.9	745	64	63.5	1	not applicable	not applicable	59
		Duct	Blue	Max. - high	NRUV, BVU	variable speed	none	not applicable	0.80	1.20	not applicable	1.9	805	4	63.5	1	not applicable	not applicable	59
08	1	Duct	Blue	Max. - high	NRUV, BVU	variable speed	none	not applicable	1.14	1.19	not applicable	2.7	519	139	65.4	1	not applicable	not applicable	60
		Duct	Blue	Max. - high	NRUV, BVU	variable speed	none	not applicable	1.14	1.20	not applicable	2.8	579	139	65.4	1	not applicable	not applicable	60
	2	Duct	Blue	Max. - high	NRUV, BVU	variable speed	none	not applicable	1.20	1.68	not applicable	2.9	693	144	67.4	1	not applicable	not applicable	61
		Duct	Blue	Max. - high	NRUV, BVU	variable speed	none	not applicable	1.20	1.68	not applicable	2.9	693	9	67.4	1	not applicable	not applicable	61
11	1	Duct	Blue	Max. - high	NRUV, BVU	variable speed	none	not applicable	1.18	1.19	not applicable	2.0	467	42	65.4	1	not applicable	not applicable	60
		Duct	Blue	Max. - high	NRUV, BVU	variable speed	none	not applicable	1.18	1.19	not applicable	2.0	506	3	65.4	1	not applicable	not applicable	60
	2	Duct	Blue	Max. - high	NRUV, BVU	variable speed	none	not applicable	1.20	1.61	not applicable	2.0	724	43	67.4	1	not applicable	not applicable	61
		Duct	Blue	Max. - high	NRUV, BVU	variable speed	none	not applicable	1.20	1.61	not applicable	2.0	724	3	67.4	1	not applicable	not applicable	61
12	1	Duct	Blue	Max. - high	NRUV, BVU	variable speed	none	not applicable	1.60	1.38	not applicable	3.1	384	97	66.8	1	not applicable	not applicable	63
		Duct	Blue	Max. - high	NRUV, BVU	variable speed	none	not applicable	1.60	1.38	not applicable	3.1	374	7	66.8	1	not applicable	not applicable	63
	2	Duct	Blue	Max. - high	NRUV, BVU	variable speed	none	not applicable	1.80	2.13	not applicable	3.1	619	97	66.0	1	not applicable	not applicable	63
		Duct	Blue	Max. - high	NRUV, BVU	variable speed	none	not applicable	1.80	2.13	not applicable	3.1	709	7	66.0	1	not applicable	not applicable	63
14	1	Duct	Blue	Max. - high	NRUV, BVU	variable speed	none	not applicable	1.80	1.38	not applicable	2.0	362	19	66.8	1	not applicable	not applicable	64
		Duct	Blue	Max. - high	NRUV, BVU	variable speed	none	not applicable	1.80	1.38	not applicable	2.0	368	13	66.8	1	not applicable	not applicable	64
	2	Duct	Blue	Max. - high	NRUV, BVU	variable speed	none	not applicable	1.80	2.13	not applicable	2.0	697	19	66.0	1	not applicable	not applicable	64
		Duct	Blue	Max. - high	NRUV, BVU	variable speed	none	not applicable	1.80	2.13	not applicable	2.0	704	13	66.0	1	not applicable	not applicable	64
20	1	Duct	Blue	Max. - high	NRUV, BVU	variable speed	none	not applicable	2.78	2.16	not applicable	3.1	314	46	66.7	1	not applicable	not applicable	63
		Duct	Blue	Max. - high	NRUV, BVU	variable speed	none	not applicable	2.78	2.16	not applicable	3.1	330	30	66.7	1	not applicable	not applicable	63
	2	Duct	Blue	Max. - high	NRUV, BVU	variable speed	none	not applicable	2.80	3.28	not applicable	3.1	637	46	65.7	1	not applicable	not applicable	64
		Duct	Blue	Max. - high	NRUV, BVU	variable speed	none	not applicable	2.80	3.28	not applicable	3.1	653	30	65.7	1	not applicable	not applicable	64
25	1	Duct	Blue	Max. - high	NRUV, BVU	variable speed	none	not applicable	2.78	2.17	not applicable	2.0	340	20	66.7	1	not applicable	not applicable	63
		Duct	Blue	Max. - high	NRUV, BVU	variable speed	none	not applicable	2.78	2.17	not applicable	2.0	351	9	66.7	1	not applicable	not applicable	63
	2	Duct	Blue	Max. - high	NRUV, BVU	variable speed	none	not applicable	2.80	3.28	not applicable	2.0	663	20	65.7	1	not applicable	not applicable	64
		Duct	Blue	Max. - high	NRUV, BVU	variable speed	none	not applicable	2.80	3.28	not applicable	2.0	674	9	65.7	1	not applicable	not applicable	64
30	1	Duct	Blue	Max. - high	NRUV, BVU	variable speed	none	not applicable	4.00	3.92	not applicable	2.9	442	42	65.2	1	not applicable	not applicable	65
		Duct	Blue	Max. - high	NRUV, BVU	variable speed	none	not applicable	4.00	3.92	not applicable	2.9	465	19	65.2	1	not applicable	not applicable	65
	2	Duct	Blue	Max. - high	NRUV, BVU	variable speed	none	not applicable	4.00	5.01	not applicable	2.9	672	42	67.2	1	not applicable	not applicable	65
		Duct	Blue	Max. - high	NRUV, BVU	variable speed	none	not applicable	4.00	5.02	not applicable	2.9	695	19	67.2	1	not applicable	not applicable	65
35	1	Duct	Blue	Max. - high	NRUV, BVU	variable speed	none	not applicable	4.00	3.92	not applicable	2.1	460	24	65.2	1	not applicable	not applicable	65
		Duct	Blue	Max. - high	NRUV, BVU	variable speed	none	not applicable	4.00	3.92	not applicable	2.1	479	5	65.2	1	not applicable	not applicable	65
	2	Duct	Blue	Max. - high	NRUV, BVU	variable speed	none	not applicable	4.00	5.02	not applicable	2.1	690	24	67.2	1	not applicable	not applicable	65
		Duct	Blue	Max. - high	NRUV, BVU	variable speed	none	not applicable	4.00	5.01	not applicable	2.1	709	5	67.2	1	not applicable	not applicable	65
40	1	Duct	Blue	Max. - high	NRUV, BVU	variable speed	none	not applicable	5.00	5.96	not applicable	2.6	386	38	70.5	1	not applicable	not applicable	63
		Duct	Blue	Max. - high	NRUV, BVU	variable speed	none	not applicable	5.00	5.96	not applicable	2.6	403	11	70.5	1	not applicable	not applicable	63
	2	Duct	Blue	Max. - high	NRUV, BVU	variable speed	none	not applicable	6.00	6.00	not applicable	3.1	503	54	69.2	1	not applicable	not applicable	67
		Duct	Blue	Max. - high	NRUV, BVU	variable speed	none	not applicable	6.00	5.96	not applicable	3.1	460	54	69.2	1	not applicable	not applicable	67
50	1	Duct	Blue	Max. - high	NRUV, BVU	variable speed	none	not applicable	5.50	10.43	not applicable	3.1	1017	11	69.2	1	not applicable	not applicable	68
		Duct	Blue	Max. - high	NRUV, BVU	variable speed	none	not applicable	5.50	10.43	not applicable	3.1	361	25	66.7	1	not applicable	not applicable	68
	2	Duct	Blue	Max. - high	NRUV, BVU	variable speed	none	not applicable	6.00	5.97	not applicable	2.2	512	2	66.7	1	not applicable	not applicable	67
		Duct	Blue	Max. - high	NRUV, BVU	variable speed	none	not applicable	6.00	6.56	not applicable	2.1	657	26	65.7	1	not applicable	not applicable	67
60	1	Duct	Blue	Max. - high	NRUV, BVU	variable speed	none	not applicable	7.95	7.72	not applicable	3.0	470	53	65.2	1	not applicable	not applicable	68
		Duct	Blue	Max. - high	NRUV, BVU	variable speed	none	not applicable	7.95	7.72	not applicable	3.0	519	4	65.2	1	not applicable	not applicable	68
	2	Duct	Blue	Max. - high	NRUV, BVU	variable speed	none	not applicable	8.00	14.41	not applicable	3.0	995	54	67.4	1	not applicable	not applicable	69
		Duct	Blue	Max. - high	NRUV, BVU	variable speed	none	not applicable	8.00	14.41	not applicable	3.0	1048	4	67.4	1	not applicable	not applicable	69
70	1	Duct	Blue	Max. - high	NRUV, BVU	variable speed	none	not applicable	7.95	7.72	not applicable	2.6	496	27	65.2	1	not applicable	not applicable	68
		Duct	Blue	Max. - high	NRUV, BVU	variable speed	none	not applicable	7.95	7.71	not applicable	2.6	521	2	65.2	1	not applicable	not applicable	68
	2	Duct	Blue	Max. - high	NRUV, BVU	variable speed	none	not applicable	8.00	14.41	not applicable	2.6	1024	28	67.4	1	not applicable	not applicable	69
		Duct	Blue	Max. - high	NRUV, BVU	variable speed	none	not applicable	8.00	14.41	not applicable	2.6	1050	2	67.4	1	not applicable	not applicable	69
80	1	Duct	Blue	Max. - high	NRUV, BVU	variable speed	none	not applicable	11.50	12.69	not applicable	3.8	563	57	69.2	1	not applicable	not applicable	69
		Duct	Blue	Max. - high	NRUV, BVU	variable speed	none	not applicable	11.50	12.68	not applicable	3.8	616	4	69.2	1	not applicable	not applicable	69
	2	Duct	Blue	Max. - high	NRUV, BVU	variable speed	none	not applicable	12.00	20.88	not applicable	3.9	978	62	68.5	1	not applicable	not applicable	71
		Duct	Blue	Max. - high	NRUV, BVU	variable speed	none	not applicable	12.00	20.89	not applicable	3.9	1036	4	68.5	1	not applicable	not applicable	71
100	1	Duct	Blue	Max. - high	NRUV, BVU	variable speed	none	not applicable	11.50	12.69	not applicable	2.4	599	21	69.2	1	not applicable	not applicable	69
		Duct	Blue	Max. - high	NRUV, BVU	variable speed	none	not applicable	11.50	12.68	not applicable	2.4	619	1	69.2	1	not applicable	not applicable	69
	2	Duct	Blue	Max. - high	NRUV, BVU	variable speed	none	not applicable	12.00	20.89	not applicable	2.5	1017	23	68.5	1	not applicable	not applicable	71
		Duct	Blue	Max. - high	NRUV, BVU	variable speed	none	not applicable	12.00	20.88	not applicable	2.5	1039	1	68.5	1	not applicable	not applicable	71
120	1	Duct	Blue	Max. - high	NRUV, BVU	variable speed	none	not applicable	15.60	19.59	not applicable	3.2	676	39	69.2	1	not applicable	not applicable	70
		Duct	Blue	Max. - high	NRUV, BVU	variable speed	none	not applicable	15.60	19.60	not applicable	3.2	714	1	69.2	1	not applicable	not applicable	70
	2	Duct	Blue	Max. - high	NRUV, BVU	variable speed	none	not applicable	15.80	32.61	not applicable	3.2	1158	40	68.5	1	not applicable	not applicable	72
		Duct	Blue	Max. - high	NRUV, BVU	variable speed	none	not applicable	15.80	32.61	not applicable	3.2	1197	1	68.5	1	not applicable	not applicable	72

11.4 Building Materials Declaration

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11.5 License

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