ComfortZone

User and Installation Manual



Supply Air Unit T15

ComfortZone
VÄRMEPUMPAR *Proudly made in Sweden*

Supply Air Unit T15

This unit is designed to handle preheating and cooling of supply air in buildings equipped with a water heating system. Note that the T15 is not intended to function as a heating coil in air heating systems; its primary role is to preheat incoming air.

The supply air unit is fully equipped with several features, including a low-energy fan, water coil, coarse and fine filters, and a thermostat for adjusting the supply air temperature. A dedicated connection for a recirculation air duct is also integrated, which improves both airflow and cooling performance.

When the cooling function is activated, the components of the heat pump switch roles to produce cooling instead of heating by means of a 4-way valve. This cooling is distributed through the water coil in the T15. As a safety measure, the supply air unit includes a backdraft damper on the supply air and an automatic fan stop function at temperatures below 11 °C.

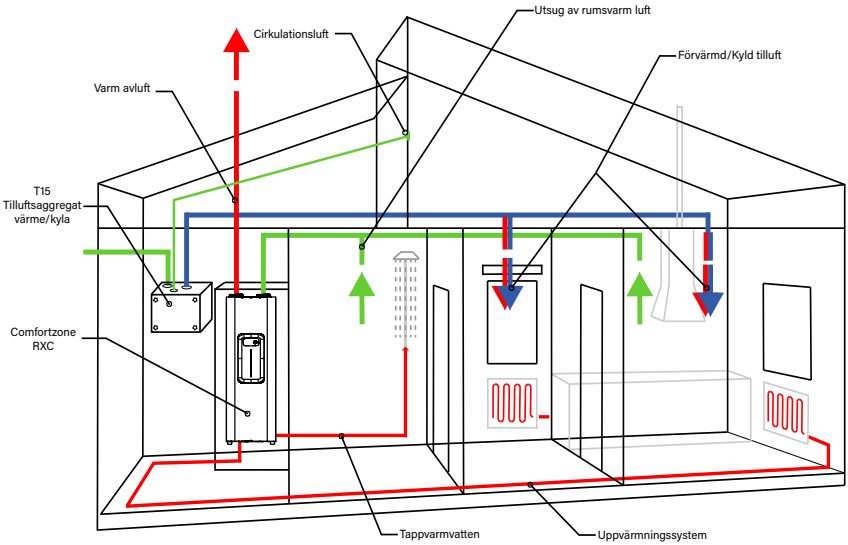


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1 IMPORTANT INFORMATION

Saftey

This appliance can be used by children aged 8 years and above, and by persons with reduced physical, sensory, or mental capabilities, or lack of experience and knowledge, provided that they have been given supervision or instructions concerning safe use of the appliance and understand the risks involved. Children must not play with the appliance. Cleaning and user maintenance must not be carried out by children without supervision.

Symbols

⚠WARNING

This symbol indicates a risk of serious injury to yourself or others, or serious damage to the product.

⚠OBSERVE

This symbol indicates that the product may be damaged.

NOTE

This symbol indicates a note with additional information for the installer or the user.

TIPS

This symbol indicates suggestions and advice for the installer to perform certain tasks more easily or conveniently.

Labeling

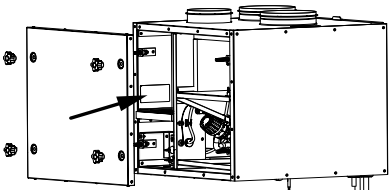
Thesse markings and symbols appear on the unit.

CE — Indicates that the unit has undergone the necessary inspections before being released and that it meets the EU requirements for safety, health, and environmental protection.

When the unit is to be disposed of, it must be handled separately from other waste in accordance with local regulations for proper waste management.

Serial number

The serial number is located behind the cover to the left, above the air filter.



Combined Manual

This manual is intended for both users and installers of the heat pump and the supply air unit, in order to ensure safety and efficiency.

Translations of the manual

If this manual is made available in languages other than Swedish, and any discrepancies arise between the language versions, he Swedish version shall take precedence and be regarded as th authoritative reference for the use and interpretation of this manual.

Plant Information

This information may be useful when contacting a service technician or ordering spare parts.

Model	
Serial number	
Installation date	
Installer	

NOTE

If problems or faults occur with the product, contact the reseller who sold the product or the house.

If repairs are needed, contact an authorized service technician.

Installation Report

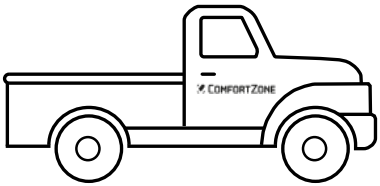
This inspection may only be carried out by a qualified person.

Ventilation System	Note	OK
Fan speed Normal		
Fan speed Cooling		
Supply air fan adj.		
Exhaust air duct insulated		
Motorized dampers installed		
Electricity	**Note**	**OK**
House Fuses		
Circuit Breaker Heat Pump		
Measure phases, N and PE		
Information for the user	**Note**	**OK**
Air bleeding of supply air unit		
Commissioning of cooling function		
Information about warranty terms		
Filter replacement		

2 BEFORE INSTALLATION

Transport

During transport and shipping, the T15 must be kept in an upright position. It must not be laid down.



WARNING

Always move the supply air unit with at least two people.

Placement and space

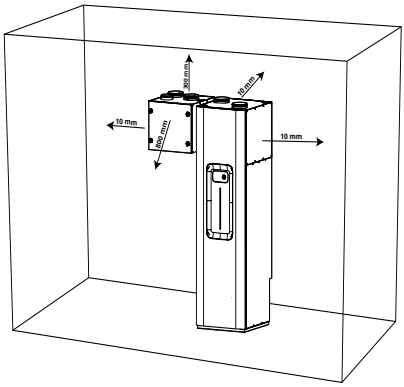
The unit may be installed in an environment with a temperature between 5 and 50 °C and a humidity level below 85%. Condensation and water droplets on surfaces must be avoided.

- Choose a room with a floor drain and a foundation that can support the weight of the unit.
- Place the unit against an exterior wall or a well-insulated interior wall. Avoid placement next to bedrooms or other noise-sensitive areas.
- When placing the unit next to a noise-sensitive area, the adjoining wall must be soundproofed.
- The ambient temperature must be at least 10 °C for the compressor to start, and no more than 50 °C.
- In new constructions, the walls of the installation room must be insulated in accordance with the applicable building regulations.

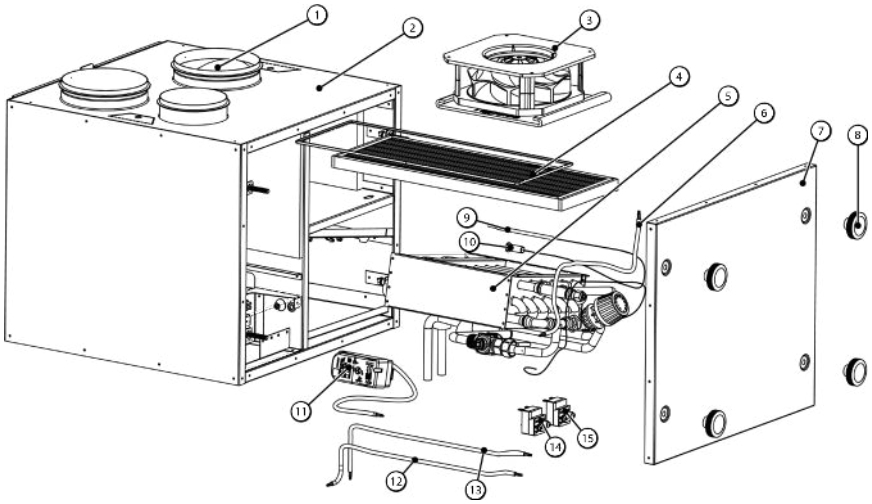
Dimensions

The supply air unit must not be installed in direct contact with walls or built in. Leave at least 10 mm of clearance.

- At least 300 mm of clearance above the ventilation ducts.
- 800 mm of free space in front for service and maintenance.
- At least 10 mm from walls and other objects.

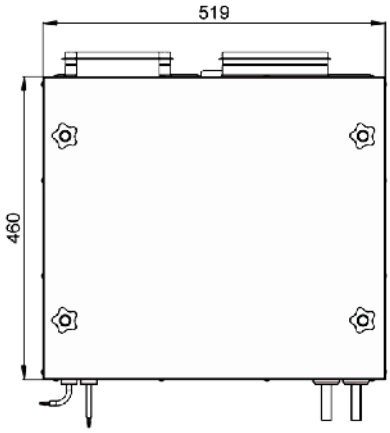


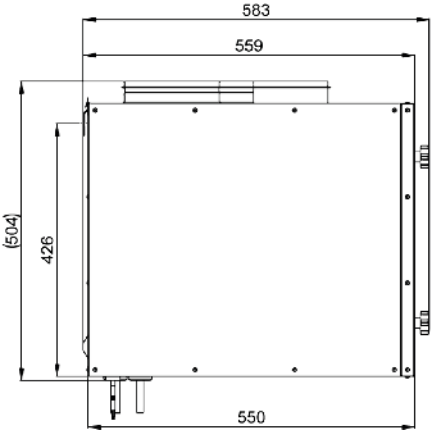
3 COMPONENTS

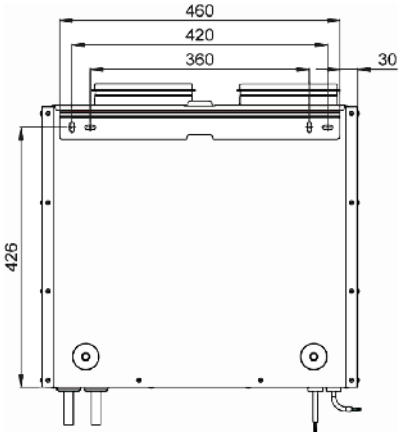


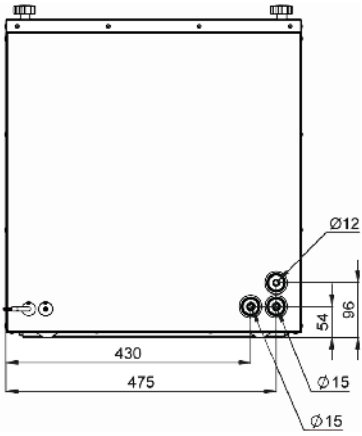
Components			
1	Non-return damper	9	Temperature probe
2	T15 unit	10	Thermostat sensor
3	Fan	11	Diverter valve
4	Filter set	12	Power cable
5	Water coil	13	Control signal fan
6	Fan cable	14	Thermostat 1
7	Hatch	15	Thermostat 2
8	Knob		

4 DIMENSIONS





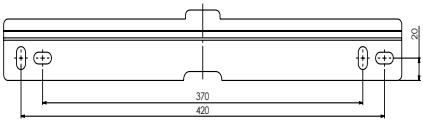




5 INSTALLATION

Install the supply air unit

To install the supply air unit, first attach the wall bracket horizontally to the wall. Then lift the supply air unit into position and hook it in place by fitting the rear edge onto the wall bracket, so that the unit rests against the wall supported by the spacer at the bottom.



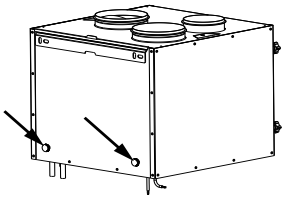
When mounting on a concrete wall, screws and plugs suitable for this purpose are included. Use a drill with a 10 mm diameter and drill to a depth of 75 mm. If the wall is made of any other material than concrete, the installer is responsible for ensuring that the fastening can withstand at least four times the weight of the unit.

Before starting the installation, make sure that the following points are met:

- The wall has sufficient load-bearing capacity to support the weight of the unit.
- The wall is even and level to ensure correct installation and stability.

Spacer adjustment

After installing the supply air unit, adjust the spacer screws located at the bottom of the unit. Turn these screws until the unit is in a level position.



TIPS

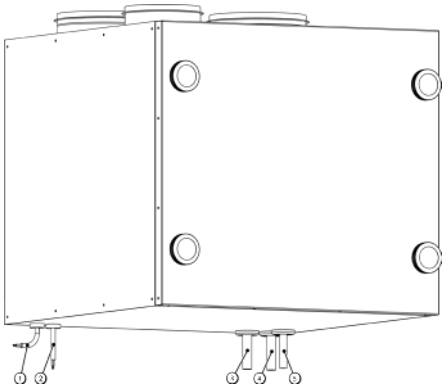
The recommended installation is to place the supply air unit next to the heat pump along the upper section. If this is not feasible, it may be installed in another location.

OBSERVE

The grounding cable is attached to the front hatch. During installation and service, the hatch can be temporarily hung on the lower left nut.

Connections

The supply air unit's connections to the heat pump and condensate pipe.



Connection	Diameter
1 Power cable	
2 Fan control signal	
3 Return to supply air unit	15
4 Supply	15
5 Condensate pipe	10

Air venting

Open the front hatch and perform air venting via the air vent valve on the supply pipe.

Ventilation sytem

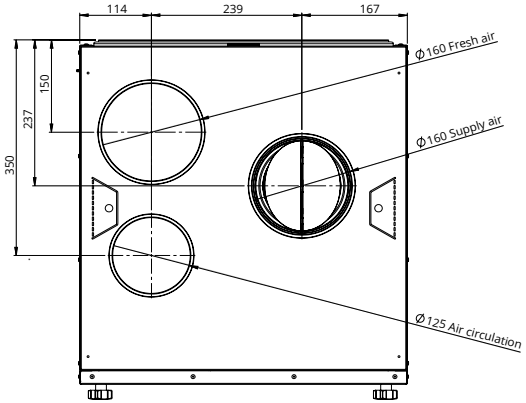
Fresh outdoor air is taken in through the exterior wall. On the exterior wall at the fresh air duct, a weather-protected wall grille with rain cover must be installed. The face velocity at the grille must not exceed 2 m/s. Any insect mesh with a mesh size smaller than 8 mm must be removed from the grille.

The outdoor air duct must be fully insulated with a vapor-tight layer along its entire length. The recirculation air required during cooling operation, to increase the airflow when the fan speed increases, is supplied to the unit via a duct from a suitable location in the house.

The recirculation air duct must always be connected and fitted with a control damper that is NC (Normally Closed). The supply air is connected to the house's air ducts, which must be insulated with a vapor-tight layer.

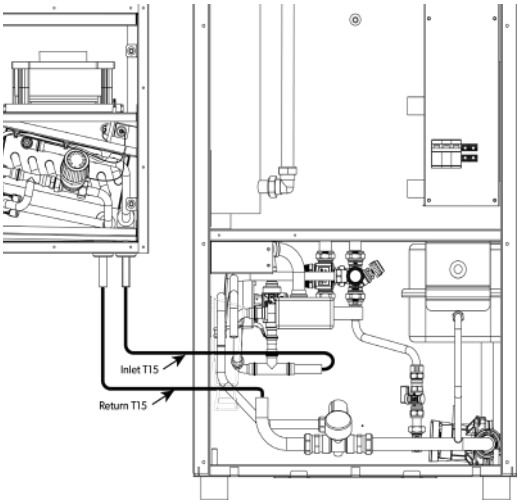
The supply air duct into the house should be fitted with a silencer near the supply air unit to prevent fan noise from being transmitted to the supply air diffusers.

1. Connect the ventilation system's air duct (balanced ventilation) to the exhaust air connection. Install a straight silencer in the air duct.
2. Connect the outdoor duct to the air inlet opening on the supply air unit.



Heating system

1. Connect the supply air unit's supply line from the heat pump using a flexible hose. Connect it to the 15 mm supply pipe for the supply air unit, which is labeled "supply air unit."
2. Connect the return to the heat pump's common return using a flexible hose. Drain the condensate water to a floor drain with a hose or to a drain funnel.



Electronics

Always disconnect both the heat pump and the supply air unit from the mains before installation, service, or maintenance. The installation must be carried out by a qualified electrician in accordance with applicable regulations. The connections are made in the electrical box, located in the control unit housing.

NOTE

Tilluftsaggregatet har ingen huvudströmbrytare och startar när värmepumpen slås på.

Power supply

To operate the supply air unit, a 230 V power supply from the heat pump is required. Connect the cables to the relay board above the control board, where the motorized damper controls are also connected. Terminals 11–19 are pre-mounted from the factory. Only connect the supply air unit's power supply and motorized damper to the board. For connection details, see the Technical Information chapter.

WARNING

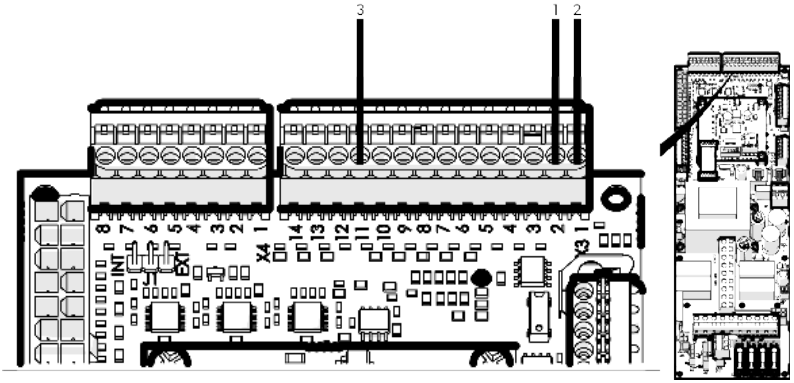
Only an authorized service partner or qualified personnel may replace a damaged power supply cable.

Control

The supply air unit is controlled by the heat pump. The module includes a gray signal cable with three black wires at the end. The wires are numbered and must be connected to terminal X3 on the heat pump's control board as follows:

- Wire marked 1 to pin 2.
- Wire marked 2 to pin 1.
- Wire marked 3 to pin 11.

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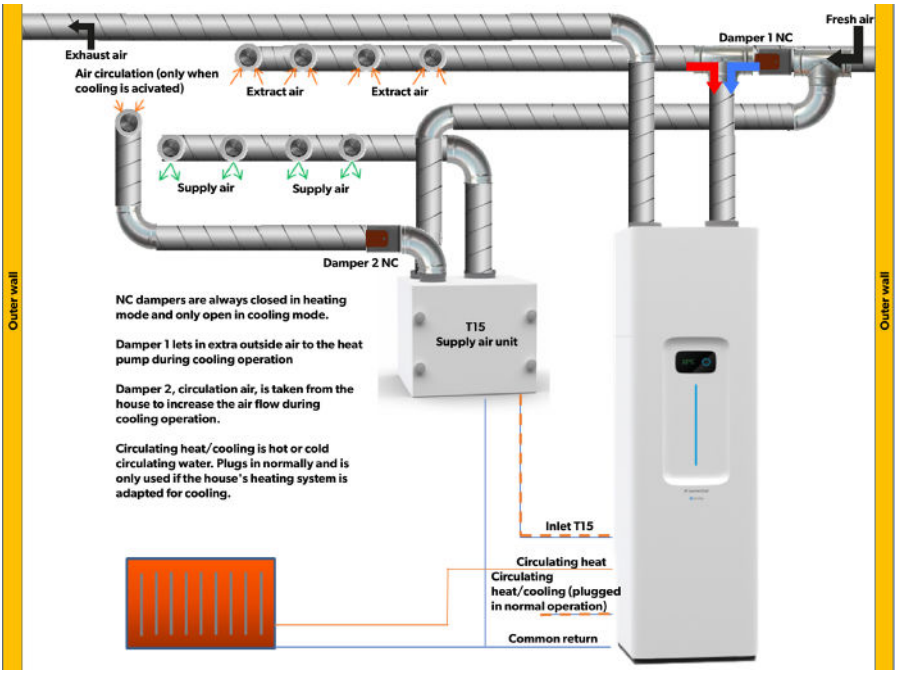


Installation options

The T15 has a built-in water coil connected to the heat pump. The connection is located before the diverter valve, which means circulation is always present to the T15. When installing the T15 and RXC, this can be done in different ways—two alternatives are shown here. In both cases, the T15 provides preheated or cooled supply air.

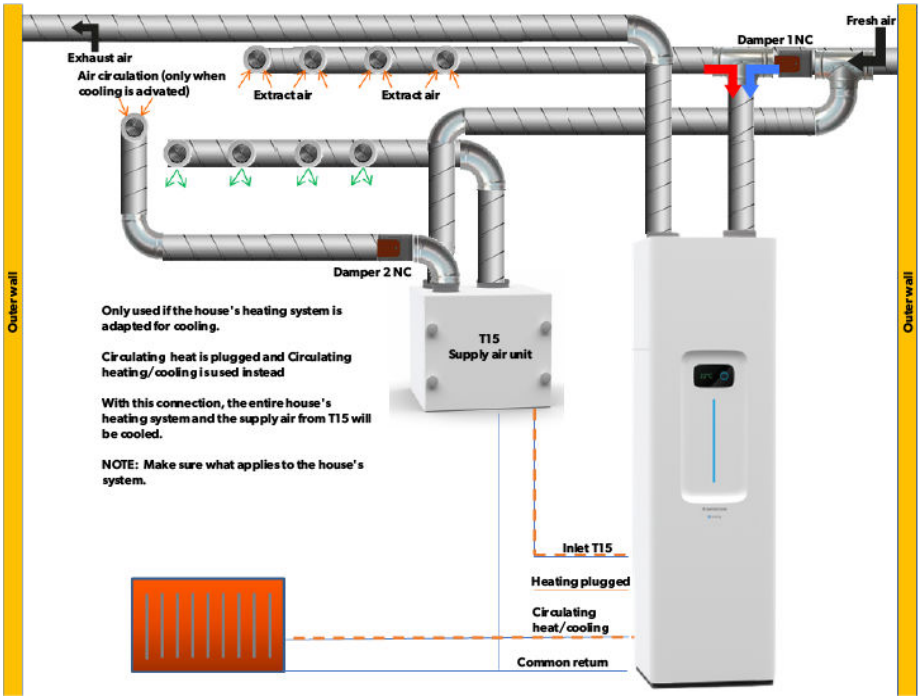
Via supply air

Supply air unit with cooling function only via the supply air. The CU22 branch under the heat pump, intended for heating/cooling circulation, is plugged, and the heating system is connected to the heating supply.



In combination with heating system

Supply air unit with cooling function via the supply air and that cooled water goes out via the rest of the heating system. The heating system must be adapted to cold conditions in order not to condense and cause water damage.



Motorized damper

When installing RXC and T15 with cooling function, one or two shut-off dampers are mounted. These are automatically controlled, meaning the dampers open when the cooling function is activated and close when it is deactivated. The dampers must be of the NC (Normally Closed) type, meaning they are closed when de-energized, spring-return, and operated at 230 V~ (LM230A). See relay board connections in the Technical Information chapter.

6 COMMISSIONING

Settings

The installation parameters are adjusted in the heat pump's Service Menu. To open the Service Menu, go to Advanced Settings, select General Settings, and hold the button for about 6 seconds. A prompt to open the Service Menu will appear—turn the knob once to the left, select the check mark with Yes, and press the button. The Service Menu will now be displayed, an extended menu with more options and settings.

Activating the cooling system

To activate the cooling function in the heat pump, navigate to Advanced Settings > Heating Settings > UV Cooling > Cooling and select YES.

Return to the home screen and select the Temperature/Time icon. A snowflake symbol will now be visible on the display. The snowflake then activates the cooling operation when selected.

Airflows

The house's airflows are designed in accordance with applicable building regulations. In general, the exhaust air volume is dimensioned, and the supply air volume is set 10–20% lower than the exhaust air volume to ensure a slight negative pressure in the house.

During cooling operation, an additional supply of outdoor air of approximately 100% is recommended, i.e., a doubling of the total exhaust air volume, along with a recirculation airflow of 50–100% of the exhaust air volume.

Fan speed

The fan speed is set on the heat pump's display. Always start by adjusting the fan speed for heating. Go to Advanced Settings > Fan Settings > Supply Fan Adjustment; the value is usually between -30% - -40%.

Next, set the fan speed for cooling. Go to Advanced Settings > Fan Settings > Cooling Fan Settings > Fan Speed Cooling. This controls the fan speed of the heat pump during cooling and should be set to approximately +75%. Then select Supply Air Fan Cooling, which controls the fan in the T15, and set it to approximately +75%.

⚠OBSERVE

The fan speed is always higher during cooling in both the heat pump and the supply air unit. Check the fan function by selecting the Temperature/Time icon, starting the cooling function by choosing the snowflake symbol, and setting it to Yes. The fans should now increase in both the heat pump and the T15.

Warm supply air temperature

Choice: 14-20˚C.

Factory setting: 17-18˚C.

The supply air temperature to the rooms during heating operation is set with the thermostat knob. When using preheated supply air for ventilation purposes, the supply air temperature should normally be 17–18 °C and always match the desired room temperature. A higher supply air temperature may also overload the heat pump.

Maximum circulation flow

Choice: 1-7+N.

Factory setting: 4.

If necessary, the maximum circulation flow to the supply air coil can be adjusted. Loosen the thermostat housing and turn the adjustment between positions 1–7 or N (Fully open) according to the scale on the ring.

7 SERVICE

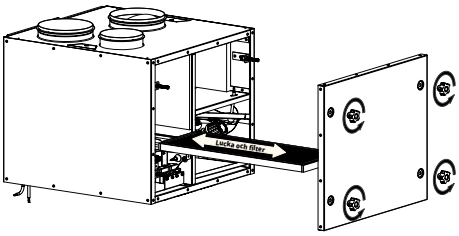
⚠OBSERVE

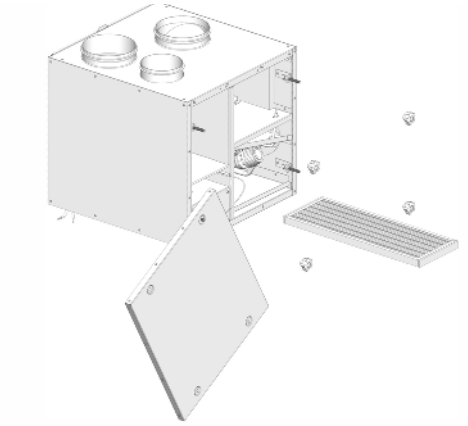
Only persons with sufficient competence and knowledge are permitted to carry out service and maintenance on the unit.

Type of maintenance	How often?
Inspection and cleaning of filters	Every six months
Filter replacement	Recommended annually

Air filter supply air unit

Clean the air filters in the supply air unit once every six months. A general recommendation is to replace the filters once a year. New air filters can be purchased through resellers or at comfortzone.se.





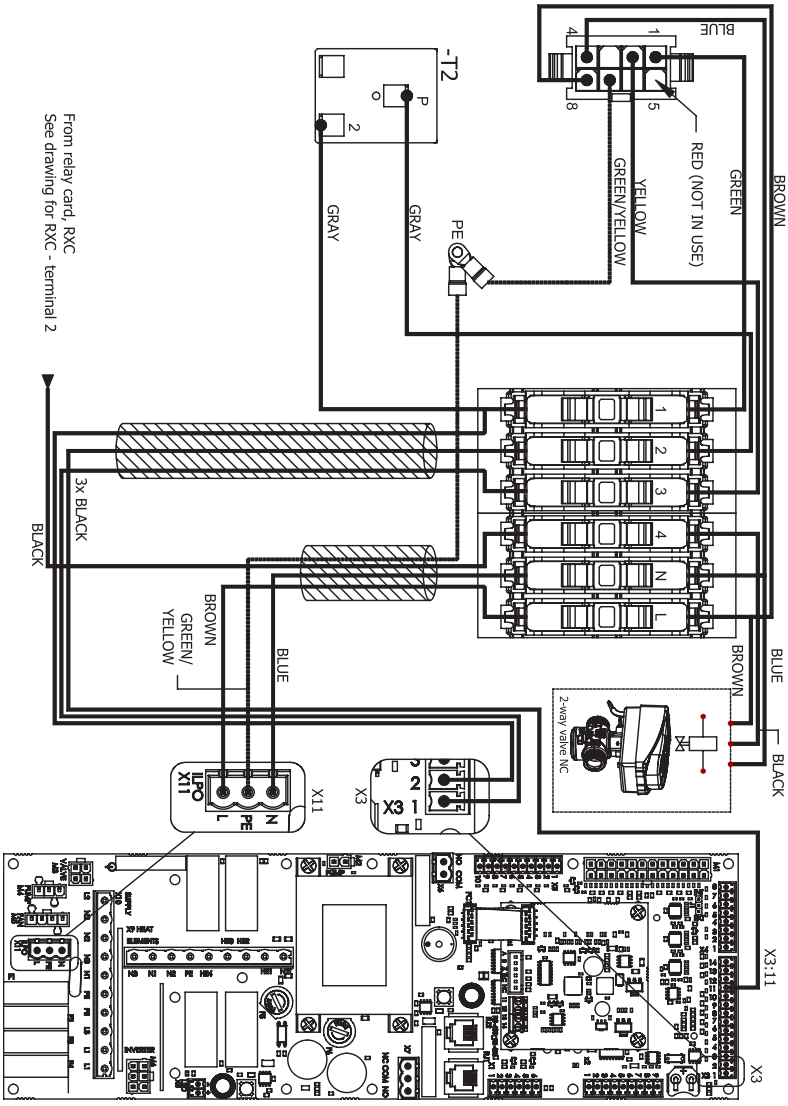
1. Turn off the supply air unit using the main switch of the heat pump.
2. Remove the front cover of the supply air unit by loosening the four screws. Note that a grounding cable is connected to the cover. When replacing the filter, the front cover can be temporarily hung on the lower left nut.
3. Remove the filter set from the supply air unit.
4. Inspect the old filter set. If it needs cleaning, make sure not to use water or any other liquids. Also check that the filter set is free from damage.
5. Replace the existing filter set with a new one.
6. Reattach the front cover to the supply air unit and tighten the screws.
7. Start the supply air unit using the main switch of the heat pump.

8 TECHNICAL INFORMATION

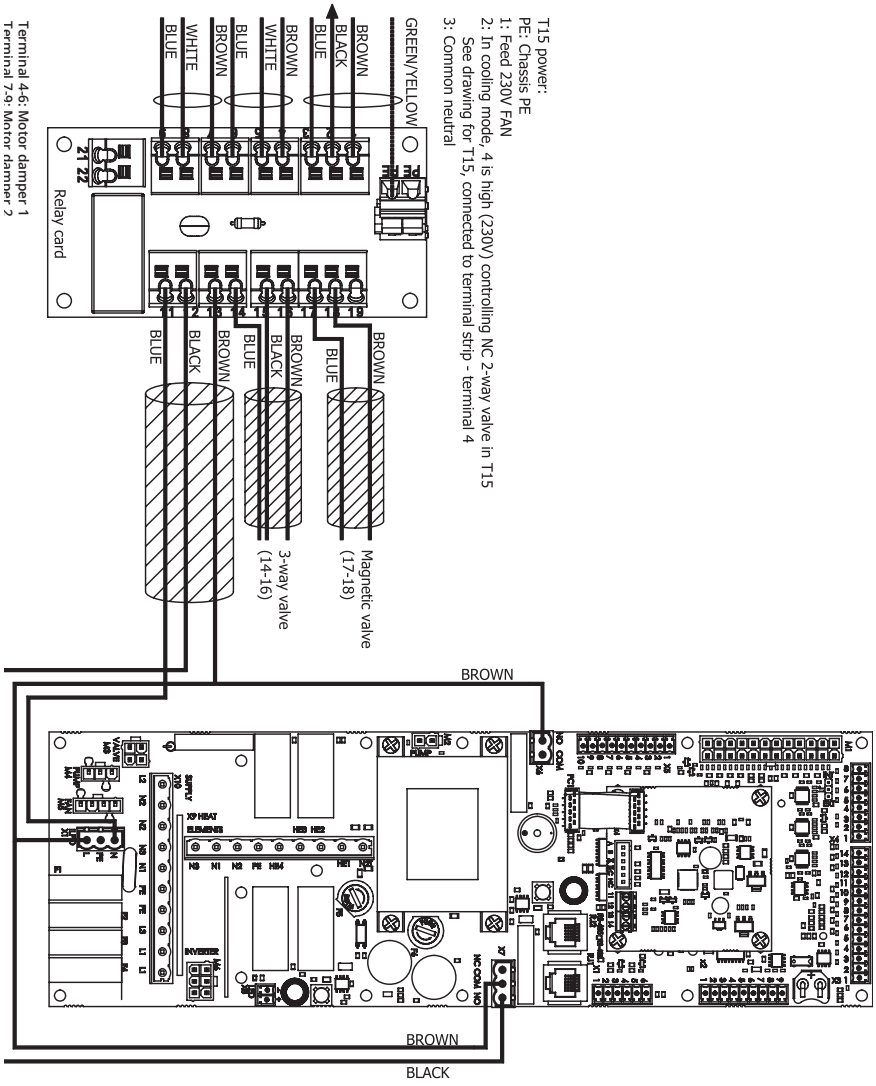
Specifications	T15	T15S
Dimensions (H x W x D)	460x519x550 mm	460x519x550 mm
Voltage	230V~50Hz	230V~50Hz
Maximum Current	0,8A	0,8A
Fan, Power Consumption	83W	169W
Type of Pre-filter	G2	G2
Type of Fine Filter	F7	F7
Weight (incl. mounting bracket)	35Kg	35kg
IP rating	IP21	IP21

9 WIRING DIAGRAM

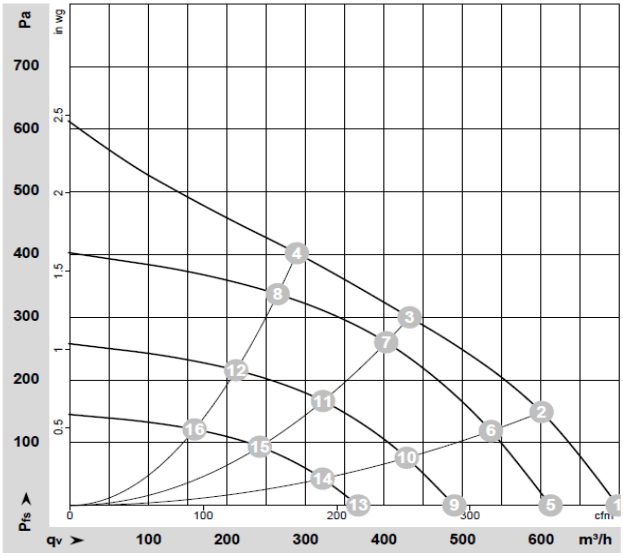
Supply Air Unit



Relay Board


T15 power:
PE: Chassis PE
1: Feed 230V FAN
2: In cooling mode, 4 is high (230V) controlling NC 2-way valve in T15
See drawing for T15, connected to terminal strip - terminal 4
3: Common neutral
Terminal 4-6: Motor damper 1
Terminal 7-9: Motor damper 2
Relay card
GREEN/YELLOW
BROWN
BLUE
BLACK
WHITE
Magnetic valve (17-18)
3-way valve (14-16)
BROWN
BLACK
BROWN

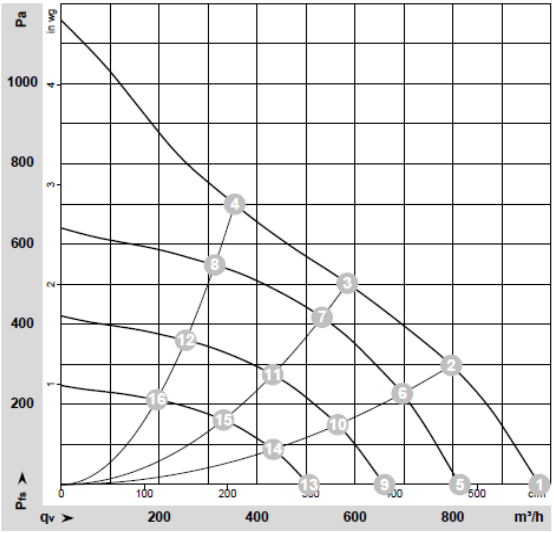
Fan Diagram T15



	U	f	n	P_{ed}	I	LpA_{in}	LwA_{in}	q_v	P_{fs}	q_v	P_{fs}
	V	Hz	min^{-1}	W	A	dB(A)	dB(A)	m^3/h	Pa	cfm	in.wg
1	230	50	3420	75	0.67	66	73	695	0	410	0.00
2	230	50	3360	79	0.70	60	68	600	150	355	0.60
3	230	50	3200	83	0.75	58	66	435	300	255	1.20
4	230	50	3275	83	0.73	60	69	290	400	170	1.61
5	230	50	3000	51	0.45			610	0	360	0.00
6	230	50	3000	56	0.50			535	119	315	0.48
7	230	50	3000	69	0.60			405	261	235	1.05
8	230	50	3000	64	0.56			265	337	155	1.35
9	230	50	2400	26	0.23			490	0	290	0.00
10	230	50	2400	29	0.26			430	76	250	0.31
11	230	50	2400	35	0.31			320	167	190	0.67
12	230	50	2400	33	0.29			210	216	125	0.87
13	230	50	1800	11	0.10			365	0	215	0.00
14	230	50	1800	12	0.11			320	43	190	0.17
15	230	50	1800	15	0.13			240	94	140	0.38
16	230	50	1800	14	0.12			160	121	95	0.49

U= power supply - f=Frequency - n=Speed (rpm) - P_{ed}=Power consumption - I= Current draw - Lpa_{in}= Sound pressure level intake side - LwA_{in}= Sound power level intake side - q_v= Air flow - p_{fs}= Pressure increase

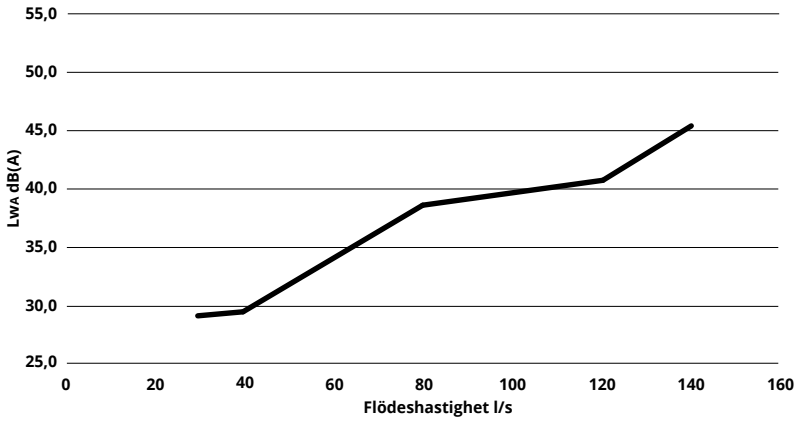
Fan Diagram T15S



	U	f	n	P_{ed}	I	LpA_{in}	LwA_{in}	q_v	P_{fs}	q_v	P_{fs}
	V	Hz	min^{-1}	W	A	dB(A)	dB(A)	m^3/h	Pa	cfm	in.wg
1	230	50	4440	161	1.35	72	81	975	0	575	0.00
2	230	50	4230	165	1.35	67	75	795	300	470	1.20
3	230	50	4120	169	1.35	63	71	585	500	345	2.01
4	230	50	4180	160	1.35	67	75	355	700	210	2.81
5	230	50	3700	93	0.80	68	77	815	0	480	0.00
6	230	50	3700	110	0.94	63	72	695	230	410	0.92
7	230	50	3700	126	1.07	60	69	535	417	315	1.67
8	230	50	3700	111	0.95	64	72	315	548	185	2.20
9	230	50	3000	50	0.43	63	71	660	0	390	0.00
10	230	50	3000	59	0.50	58	67	565	152	335	0.61
11	230	50	3000	67	0.57	55	64	430	274	255	1.10
12	230	50	3000	59	0.51	58	66	255	360	150	1.45
13	230	50	2300	22	0.19	56	65	505	0	300	0.00
14	230	50	2300	27	0.22	51	60	435	89	255	0.36
15	230	50	2300	30	0.26	48	57	330	161	195	0.65
16	230	50	1200	27	0.23	52	60	195	212	115	0.85

U= power supply - f=Frequency - n=Speed (rpm) - P_{ed}=Power consumption - I= Current draw - Lpa_{in}= Sound pressure level intake side - LwA_{in}= Sound power level intake side - q_v= Air flow - p_{fs}= Pressure increase

Sound Level LWA (dBA REL 1 pW) in diagram and table



Flow l/s	Lwa
30	29,2
40	29,5
55	32,7
80	38,7
120	45,3
140	48,4

10 CONTACT

Denmark

IKM A/S

H.C. Ørsteds Vej 2D-E, DK-6100 Haderslev

Tel: +45 294 899 89

mail: salg@ikm.dk • www.ikm.dk

Faroe Islands

Svend Krosstein

P/F Postbox 3229, FO-110 Tórshavn

Tel: +298 34 46 00

mail: krosstein@krosstein.fo • www.krosstein.fo

Netherlands

Inventum Technologies BV

Kaagschip 25, 3991 CS Houten

Tel: +31 30 274 8484

mail: info@inventum.com • www.inventum.com

Ireland

Joule

Unit 407 NW Business Park, Ballycoolin, Dublin

Tel: +353 1 623 7080

mail: info@joule.ie • www.joule.ie

Germany

Pollmann-Technik GmbH & Co.

KG Brinkstr 81, 46348 Raesfeld

Tel: +49 2865 603 665

mail: info@pollmann-technik.de • www.pollmann-technik.de

Sweden

Comfortzone AB

Sjöflygvägen 35, 183 62 Täby

Tel: +46 1 682 16 40

mail: info@comfortzone.se • www.comfortzone.se

In case of faults or problems, always contact the dealer who sold the product or the house where the heat pump is installed.

A service technician can be contacted for repairs.

11 WARRANTY

The warranty terms apply only to the Swedish market: The following is only an overall summary of the applicable terms. It is therefore important to note that certain specific conditions must be met for the right of complaint and warranty to apply. For complete information, please refer to ComfortZone's terms of purchase for consumers and businesses, as well as ComfortZone's warranty terms. You can find the latest version of these terms on ComfortZone's website.

Product Warranty – Exhaust Air Heat Pump & Supply Air Unit

Validity: 3 years.

Coverage: Covers original defects discovered within 3 years from installation.

Safety Warranty – Exhaust Air Heat Pump & Supply Air Unit

Validity: 3 years.

Coverage: Covers deductible and depreciation in the event of mechanical damage. Applies after the expiration of the product warranty. Requires valid insurance issued by a Swedish insurance company and that the mechanical damage has been approved by the insurance company. Does not apply if the cost is lower than the deductible.

Extended Safety Warranty for Exhaust Air Heat Pump

Validity: 1-18 years.

Coverage: The customer has the option to extend the Safety Warranty by taking out a dedicated heat pump insurance with Söderberg & Partners. Covers deductible and depreciation in the event of mechanical damage. ComfortZone's responsibility ends upon the expiration of the standard Safety Warranty.

Spare Parts for Exhaust Air Heat Pumps and Supply Air Units

Validity: 1 years.

Coverage: Applies to original defects and only for new original parts from ComfortZone installed by an authorized service company. Does not cover spare parts installed to remedy defects covered by the product warranty.



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