



## KUB T120/KUB EKO

EN MOUNTING AND INSTALLATION INSTRUCTION



[www.salda.it](http://www.salda.it)

## SYMBOLS AND MARKING

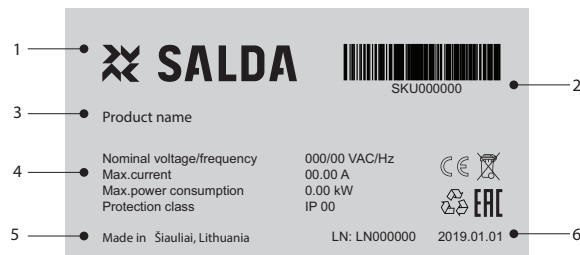


Figure 1.1 - Technical label

1 - Logo; 2 - Product code (SKU); 3 - Product name; 4 - Technical data; 5 - Production place; 6 - Lot number and production date.

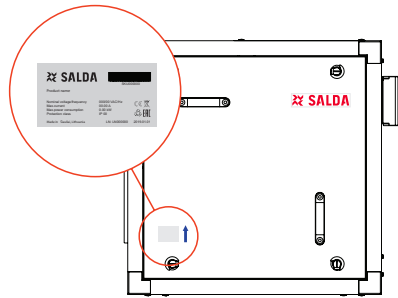


Figure 1.2 - Fan kitchen box ins. and Fan box insulated technical label place



Figure 1.3 - Indication for air flow direction.

## SAFETY INSTRUCTIONS AND WARNINGS



**Warning – pay attention**



**Additional information**

### GENERAL INFORMATION

Before installing the unit read the entire information provided in this document.

Installation of the unit shall only be performed by trained and qualified personnel aware of installation of such type of units, inspection, maintenance and tools required for installation works.

While installing the unit, observe the international and national mechanical and electrotechnical safety requirements of the country in which the product is installed and used.

If the provided information is unclear or any doubts arise regarding safe installation and operation, please contact the manufacturer or representative.

The unit shall be operated only under the below listed conditions.

It is strictly forbidden to use the unit for non-designed purposes or in contradiction to the specified working conditions without written permission of manufacturer or representative.

The manufacturer or representative shall be notified about any fault, including description of the fault and data specified on the product's label.

Any repair or dismantle of the unit in case of fault is forbidden without previous written permission of manufacturer or representative.

Dismantling, repair or modification of the unit shall be performed only upon previous written consent from manufacturer or representative.

Before ordering and installing the unit the end user shall ensure that the unit is suitable for environmental conditions.

### SAFETY PRECAUTIONS

Do not use this unit for purposes other than those provided in its design.

Do not dismantle and modify the unit. Such actions can cause mechanical fault or even injury.

Use special working clothes when installing and maintaining the unit. Be careful – angles and edges of the unit and its components are sharp and can cause injuries.

Being near the unit, do not wear free streaming clothes that could be sucked into the operating fan.

All products packed in the factory are not prepared for eventual operation. The units can be used only after connecting them to air ducts or after installing protection grating in air intake and discharge openings.

Do not put fingers or any other objects into protection grating of air intake and discharge or into connected air duct. In case any foreign body gets into the unit, disconnect the power supply source immediately. Before removal of foreign body, make sure that any mechanical movement in the unit has stopped. In addition, make sure that the accidental switching-on of the unit is impossible.

Avoid direct contact with the flow of supplied and extracted air.

Do not connect the unit to the mains other than indicated in the product label on the casing of the unit.

Never use a damaged power supply cable.

Never touch with wet hands the power supply cables connected to the mains.  
 Never dip extension cords and plugs in water.  
 Do not install and use the unit on uneven surfaces or other unstable planes.  
 Never use this unit in the environment conducive to explosion and containing any aggressive material.

## INFORMATION ABOUT THE PRODUCT

### DESCRIPTION

Fan box is designed for extracting wet, greased and hot (max 120 °C) air. These fans are for commercial kitchen applications. Unsuitable for swimming pools, saunas and so on.  
 Fan speed is controlled by the frequency changer.  
 Maintenance free bearings.  
 Automatic thermo contact engine protection. Fans are not designed for explosive - inclined areas.  
 Used to exhaust air.  
 Backward-curved impeller.  
 Removable grease tray made of stainless steel.  
 Acoustic wall insulation of 25 mm.

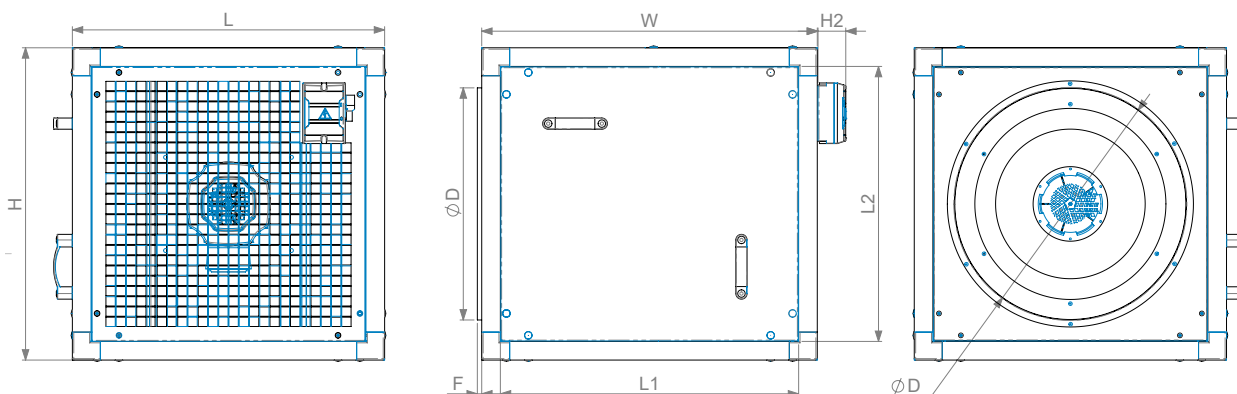


**ATTENTION! It is necessary to use filter before the fan.**

### PURPOSE OF THE DEVICE

Fan kitchen box ins. is used in ventilation systems to extract air from the room (free from metal corroding chemicals; aggressive substances for zinc, plastic, rubber; hard, sticky and fibrous particles).  
 Fan box insulated is designed for ventilation and conditioning systems to supply/extract to/from a room only clean air (free of chemical compounds causing metal corrosion, of substances aggressive to zinc, plastic and rubber, and of particles of solid, adhesive and fibred materials).

### DIMENSIONS AND WEIGHT



	L	L1	ØD	F	H2	L2	W	H	Weight
	[mm]	[mm]	[mm]	[mm]	[mm]	[mm]	[mm]	[mm]	[kg]
<b>KUB T120</b>									
355-4L3	500	420	355	9	61	420	500	500	36
400-4L3	670	590	400	9	61	590	670	670	57
450-4L3	670	590	450	9	61	590	670	670	61
500-4L3	670	640	500	9	61	590	720	670	66
560-4L3	800	720	560	9	61	720	800	800	99
630-4L3	866	786	630	9	61	786	866	866	158
	L	L1	ØD	F	H2	L2	W	H	Weight
	[mm]	[mm]	[mm]	[mm]	[mm]	[mm]	[mm]	[mm]	[kg]
<b>KUB EKO</b>									
100-630	1000	920	510			-			115
50-355	500	420	261			-			28
67-400	670	590	325			-			50
67-500	670	590	412			-			51
80-560	800	720	461			-			75
80-630	800	720	512			-			86

## WORKING CONDITIONS

It is prohibited to use the devices in potentially explosion hazardous environment.

The device is used to extract air (free from metal corroding chemicals; aggressive substances for zinc, plastic, rubber; hard, sticky and fibrous particles) from the room.

Please note the maximum allowed ambient temperature (-40...+40).

The maximum temperature of transported air can not exceed 120 °C.

## TECHNICAL DATA

KUB T120		355-4L3	400-4L3	450-4L3	500-4L3	560-4L3	630-4L3
- Voltage/Frequency	[V/Hz]	~3,400/50	~3,400/50	~3,400/50	~3,400/50	~3,400/50	~3,400/50
- power	[kW]	0,37	0,55	1,1	1,5	3	5,5
- current	[A]	0,44	1,4	2,53	3,3	6	10,7
- speed	[min <sup>-1</sup> ]	1340	1390	1430	1430	1450	1450
- max. airflow	[m <sup>3</sup> /h]	2619	3976	5645	7404	10942	14200
- max. ambient temperature	[°C]	+40	+40	+40	+40	+40	+40
- min. ambient temperature	[°C]	-40	-40	-40	-40	-40	-40
- motor protection class		IP-55	IP-55	IP-55	IP-55	IP-55	IP-55
- wiring diagram		#1 - #2 <sup>2</sup>	#1 - #2 <sup>2</sup>	#1	#1 - #2 <sup>2</sup>	#1 - #2 <sup>2</sup>	#3

<sup>2</sup> The provided technical data is by using #1 el. connection scheme. Using #2 el. connection scheme, technical data will be different.

KUB EKO		100-630	50-355	67-400	67-500	80-560	80-630
- Voltage/Frequency	[V/Hz]	~3,400/50	~1,230/50	~1,230/50	~3,400/50	~3,400/50	~3,400/50
- power	[kW]	2,8	0,37	0,74	1,25	1,5	2,8
- current	[A]	4,4	1,65	3,9	2,1	2,6	4,4
- speed	[min <sup>-1</sup> ]	1230	2010	1700	1400	1230	1230
- max. ambient temperature	[°C]	60	60	60	60	40	60
- min. ambient temperature	[°C]	-15	-15	-15	-15	-15	-15
- motor protection class		IP-55	IP-54	IP-55	IP-55	IP-55	IP-55
- wiring diagram		#5	#4	#5	#5	#5	#5

\*\* - Available as an accessory

## INSTALLATION

### TRANSPORTATION AND STORAGE

All units are packed in the factory to withstand regular conditions of transportation.

Upon unpacking, check the unit for any damages caused during transportation. It is forbidden to install damaged units!!!

The package is only a protection means!

At unloading and storing the units, use suitable lifting equipment to avoid damages and injuries. Do not lift units by holding on power supply cables, connection boxes, air intake or discharge flanges. Avoid hits and shock overloads. Before installation units shall be stored in a dry room with the relative air humidity not exceeding 70% (at +20°C) and with the average ambient temperature ranging between 0°C and +30°C. The place of storage shall be protected against dirt and water.

During transportation and storage of the units, the connection flanges must be in horizontal position.

The storage is not recommended for a period longer than one year. In case of storage longer than one year, it is necessary to check free rotation of bearings before installation (turn the impeller by hand).

## MECHANICAL CONNECTION

Installation works shall be performed only by trained and qualified personnel.

Unit shall be installed firmly and tightly to ensure safe operation.

Do not connect the elbows in vicinity of the connection flanges of the unit. The minimum distance of the straight air duct between the unit and the first branch of the air duct in the suction air duct must be 1xD, in air exhaust duct 3xD, where D is diameter of the air duct. For rectangular air ducts

$$D = \sqrt{4 \times B \times H / \pi}$$

where B – width of the air duct and H – height of the air duct.

When connecting air ducts, consider the direction of air flow (fig. 5) indicated on the casing of the unit.

If installed ventilation unit adjoins the wall, the noise vibrations can be transmitted to the room despite the fact that the noise level is acceptable. The recommended distance to the nearest wall is 400 mm. If this is not possible, we recommend installing to the wall of the room where the noise is not significant.

Vibrations may also be transmitted through the floor. If possible, the floor shall be additionally insulated in order to suppress the noise.

We recommend using grease filters, which reduce accumulation of dirt on the fan impeller. Accumulated dirt changes the balance of the impeller and causes vibration. This can cause the failure of fan motor.

We recommend using Vibration isolating gasket (fig. 2).

Fan is connected to the air ducts using screws or C profile.

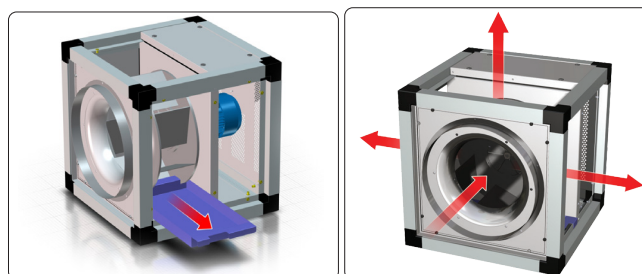
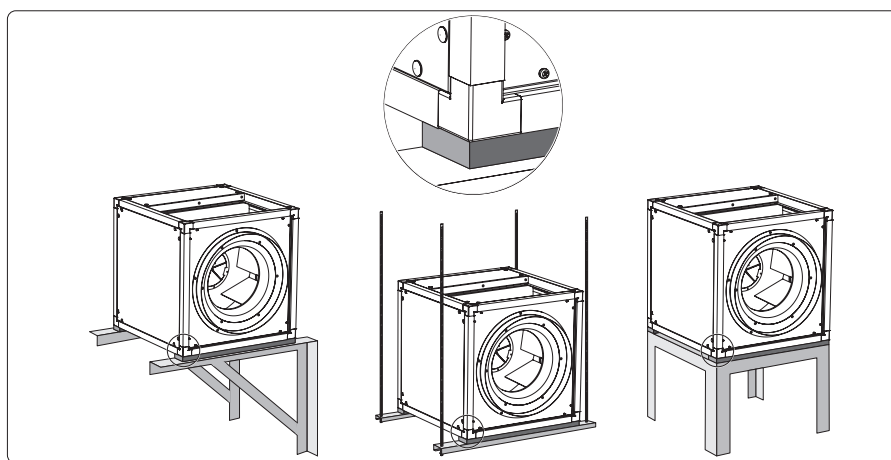
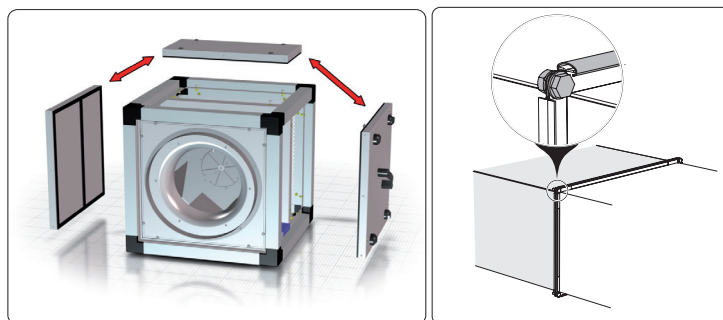
Installation shall be performed in such manner that the weight of the air duct system and its components would not overload the ventilation unit.

If the air duct system becomes unstable because of fan weight, the fan must be additionally fixed to the floor, wall or ceiling (fig. 3).

When connecting fan to the air duct system, we recommend using accessories – flexible connections LSV. This will reduce vibration transmitted to the air duct and environment by the unit.

During installation, enough space must be retained for opening maintenance cover of the impeller.

If necessary, the maintenance side can be changed (fig. 1). If the maintenance side is changed, the removable grease tray should be turned 180°.



## ROOF INSTALLATION



## START-UP

Operation start-up of the unit shall be performed only by trained and qualified personnel.

Before start-up, make sure that power supply circuit corresponds to the specifications indicated on the label.

Before start-up, make sure that the unit is connected to the mains in accordance with the wiring diagram shown in this document and under the electric connection box cover.

Before start up of the fan, make sure that TC contacts are connected to the eternal thermal protection devices of the motor.

Before start-up of the fan, make sure that the above instructions of safety and installation are applied.

Upon start-up of the unit, make sure that the motor rotates evenly, without vibration and outside noise.

Upon start-up of the unit, make sure that the air flow generated by the unit matches the direction(s) of air indicated on the casing.

The current used by the motor shall be tested for compliance with the maximum allowed current (indicated on the product label).

The motor must be inspected for overheating. With the regulator.

It is forbidden to switch on/off the fan so often that it would cause the overheating of the motor windings or damage of the insulation. NOT MORE than 1 time per minute.

## MAINTENANCE

Fan bearings are maintenance-free.

**It is necessary to use filter before the fan.** The suitable filter must be chosen by designer of ventilation system.

Before cleaning, disconnect the supply voltage and block the switch to avoid accidental switching on.

Wait until any mechanical movement stops, the motor cools down and connected capacitors (when used) discharge .

Ensure that the fan and installed parts and accessories are firmly and tightly installed.

Carefully clean the impeller to avoid changing the balance of impeller.

For the fan cleaning do not use mechanical cleaners, compressed air or water stream, aggressive chemicals. When cleaning the fan, do not deform the impeller, avoid moisture or water contact with electrical devices and equipments.

After the maintenance work and when installing back to the air duct system, perform the same actions described in Installation and Start-up sections and follow other requirements of this document.

## IMPROPER OPERATION AND REPAIR

Fault removal works shall be performed only by trained and qualified personnel.

Before start of repair works, ENSURE THAT the unit is disconnected from the supply voltage and wait until the fan motor stops and the heating elements cool down.

Follow the above safety requirements.

The unit switches-off:

Check if voltage and current of the mains correspond to the requirements indicated on the product label.

Check for power availability to the unit.

Upon elimination of power supply faults, switch-on the unit again.

The fan motor has integrated automatic thermal protection and power supply is proper but the unit does not switch on:

Wait for 10–20 minutes until the motor cools down.

If the motor switches on by itself after 10–20 minutes without disconnecting power supply, automatic thermal protection was activated. Find the cause for motor overheating and eliminate it.

The fan motor with thermo-contact protection stops because of overheating and external protection is activated:

Allow the motor to cool down for 15–20 minutes.

Correct the cause for motor overheating.

Switch the fan again.

The motor does not switch on again:

Disconnect the supply voltage.

Ensure that the impeller is not blocked.

Inspect the capacitor (for single-phase fans – according the connection diagram). If faults repeat, change the capacitor.

If the fault can not be removed, please contact the supplier.

## ELECTRIC INSTALLATION

The devices have rotating parts and are connected to the electricity. This may pose a risk to the human health and life. That is why safety requirements have to be followed while installing. If you have any doubts on the safety of the products installation and use, please contact the manufacturer or its representative.

Installation works may be performed only by trained and qualified personnel.

Make sure that the electric power chain data complies with the data on the product label on the device case.

Selected power cable has to match device power.

The fan has to be connected according to the electric scheme which is described in this document and is shown under the electricity connection switch cap (fig. 06).

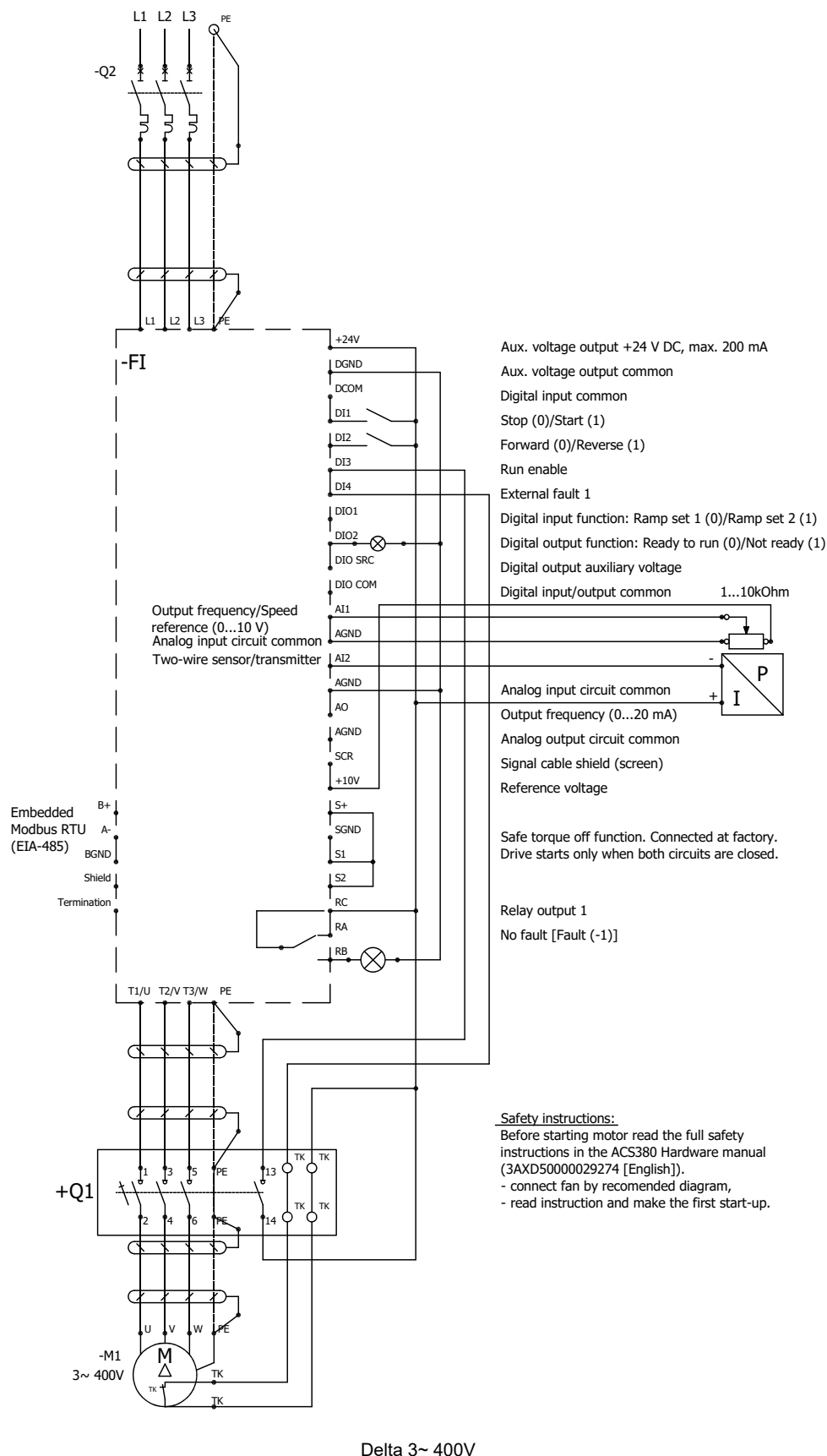
Before turning on, it is necessary to make sure that the electricity scheme in this document coincides with the scheme indicated under the electrical circuit box cover. If they do not match, it is strictly prohibited to turn the device on and it is necessary to contact the manufacturer or its representative.

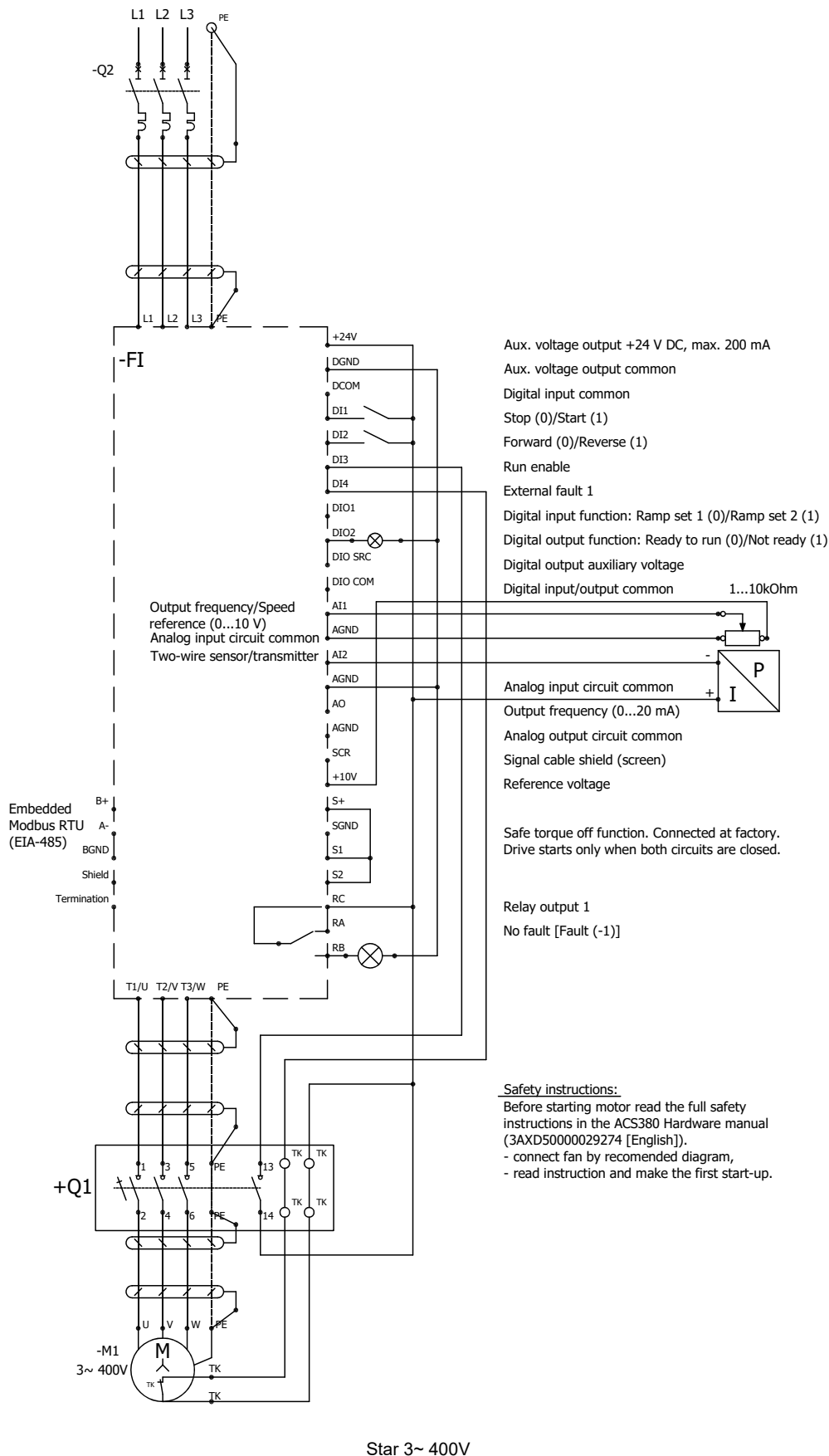
The device must be connected to the power supply using the security features, for example, an automatic switch (Table 1).

Make sure that the grounding wire is connected.

If the device engine speed control regulator is used, be sure that it ensures safe activity of the engine.

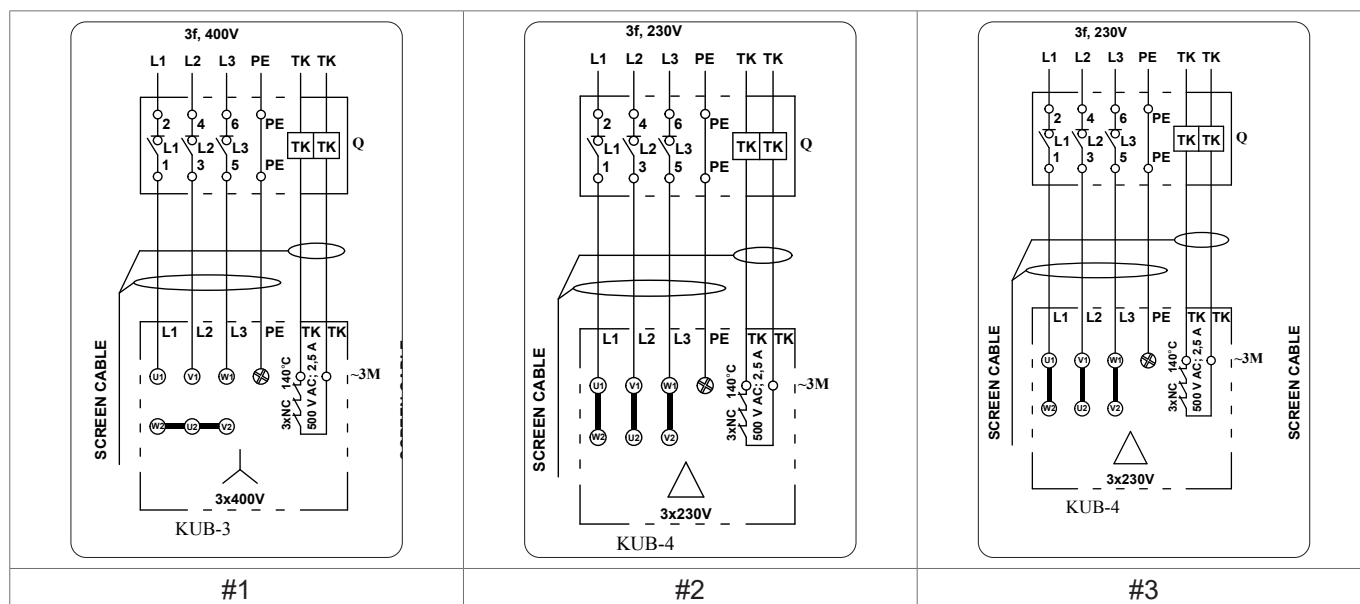
It is necessary to ensure minimal engine speed at which the reverse thrust valves (if any) open.





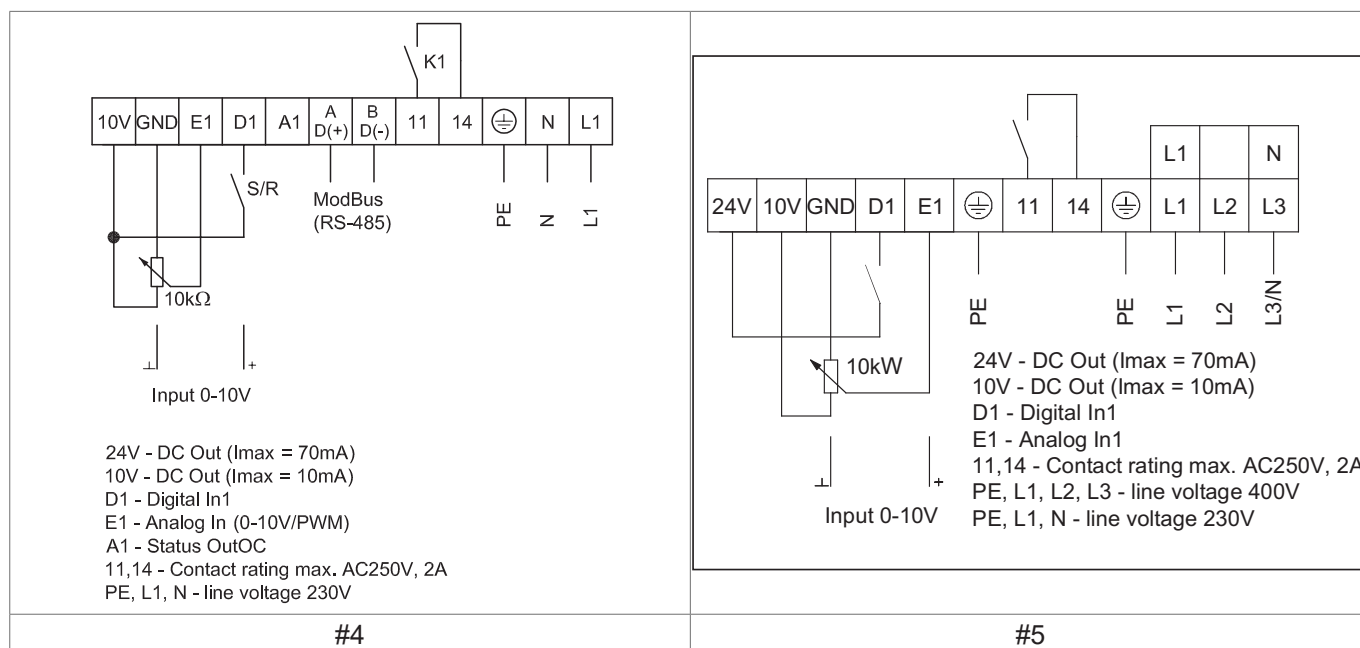


## WIRING DIAGRAM



Q - switch, M - fan motor

**NOTE: Fan with frequency converter (if used) must be connected with screened cable in compliance with EMC standards.**



## SELECTION OF POWER SUPPLY CABLE AND PROTECTIVE DEVICE

KUB T120		355-4L3	400-4L3	450-4L3	500-4L3	560-4L3	630-4L3
Cross-section of the power supply cable	[mm²]	4x1,0	4x1,0	4x1,0	4x1,0	4x1,0	4x1,5
Protective device; automatic switch	[A]	3P C4	3P C4	3P C4	3P C4	3P C6	3P C10

## ECODESIGN DATA TABLE

KUB EKO	100-630	50-355	67-400	67-500	80-560	80-630
Declared typology	Unidirectional					
Type of drive	Variable					
Type of HRS	N/A	N/A	N/A	N/A	N/A	N/A

KUB EKO		100-630	50-355	67-400	67-500	80-560	80-630
Nominal NRVC flow rate	[ m <sup>3</sup> /s ]	2,89	0,47	0,83	1,41	1,66	2,57
Effective electric power input	[ kW ]	2,9	0,41	0,79	1,27	1,52	2,98
SFPint	[ W/(m <sup>3</sup> /s) ]	N/A	N/A	N/A	N/A	N/A	N/A
Face velocity	[ m/s ]	0	0	0	0	0	0
Normal external pressure	[ Pa ]	580	422	493	448	494	600
Internal pressure drop of ventilation components	[ Pa ]	N/A	N/A	N/A	N/A	N/A	N/A
Static efficiency of fans used in accordance with Regulation No 327/2011	[ % ]	57,8	48,4	52,1	49,7	54	51,8
Declared maximum external leakage	[ % ]	<1	<1	<1	<1	<1	<1
Casing sound power level (Lwa)	[ dB(A) ]	76	57	59	62	67	73
ErP Compliance		2018	2018	2018	2018	2018	2018
Internet address for disassembly instructions		www.salda.lt					

## DECLARATION OF CONFORMITY

Manufacturer

**SALDA, UAB**  
**Ragainės g. 100**  
**LT-78109 Šiauliai, Lithuania**  
**Tel.: +370 41 540415**  
**www.salda.lt**

Hereby confirms that the following products - Air handling units:

**Fan\***

(where by “\*” indicates possible unit installation type and modification)

Provided it was delivered and installed in the facility in accordance with the included installation instructions, comply with all applicable requirements in the following directives and regulations:

**Machinery Directive 2006 / 42 / EC**  
**Low Voltage Directive 2014 / 35 / EU**  
**EMC Directive 2014 / 30 / EU**  
**RoHS 2 Directive 2011 / 65 / EU**  
**Energy labeling of residential units Nr. 1254 / 2014**  
**Ecodesign requirements for ventilation units Nr. 1253 / 2014**

The following harmonized standards are applied in applicable parts:

EN ISO 12100:2012 - Safety of machinery - General principles for design - Risk assessment and risk reduction.  
EN 60335-1:2012 - Household and similar electrical appliances. Safety. Part 1: General requirements.  
EN 60529:1999/A2:2014/AC:2019 - Degrees of protection provided by enclosures (IP code).  
EN 60204-1:2018 - Safety of machinery - Electrical equipment of machines - Part 1: General requirements.  
EN IEC 61000-6-1:2019-03 - Electromagnetic compatibility (EMC) -- Part 6-1: Generic standards - Immunity for residential, commercial and light-industrial environments.  
LST EN 61000-6-2:2019 - Electromagnetic compatibility (EMC) -- Part 6-2: Generic standards - Immunity for industrial environments.  
LST EN 61000-6-3:2008 - Electromagnetic compatibility (EMC) -- Part 6-3: Generic standards - Emission standard for residential, commercial and light-industrial environments.

Should any alterations be made in the products, this declaration will no longer apply.

**Quality:** SALDA UAB activities are in line with the international quality management system standard **ISO 9001:2015**.

Date 2022-02-02



Giedrius Taujenis  
Director product development

## WARRANTY

1. All equipment manufactured in our factory is checked in operating conditions and tested before delivery. The test protocol is supplied together with the unit. The equipment is shipped in good working condition to the end client. The unit is warranted for the period of two years from the date of the invoice.
2. If equipment is found to have been damaged during transportation, a claim should be made against the carrier, as we assume no responsibility for such damage.
3. This warranty does not apply:
  - 3.1. when transportation, storage, installation and maintenance instructions of the unit are violated;
  - 3.2. when the equipment is improperly maintained, mounted - inadequate maintenance;
  - 3.3. when the equipment without our knowledge and permission has been upgraded or unskilled repairs were made;
  - 3.4. when the unit was used not for its original purpose.
  - 3.5. Company SALDA UAB is not responsible for potential loss of property or personal injury in cases where the Air Handling unit is manufactured without the control system and the control system is installed by the client or the third parties. The manufacturer's warranty does not cover devices that will be damaged by installing the control system.
4. This warranty does not apply to these malfunction cases:
  - 4.1. mechanical damage;
  - 4.2. damage caused by entering outside objects, materials and liquids;
  - 4.3. damage caused by natural disasters, accidents (voltage change in the electricity network, lightning, etc.).
5. The company assumes no liability for the damage to its products neither directly nor indirectly, if the damage is caused by failure to comply with the installation and mounting regulations, deliberate or careless users or third-party behaviour.

These conditions are readily discernible when the equipment is returned to our factory for inspection.

If the direct client determines that equipment is found to be faulty, or a breakdown occurred, he should inform the manufacturer within five working days and deliver the equipment to the manufacturer. Delivery costs should be covered by the customer.



**The manufacturer reserves the right to change this technical passport at any time without prior notice if some typographic errors or inaccurate information is found, as well as after improving the apps and/or the devices. Such changes will be included in the new issues of the technical passport. All illustrations are just for information and thus may differ from the original device. The newest manual version is available at <https://select.salda.lt>**

## LIMITED WARRANTY COUPON

Warranty term

**24 months\***

I received the complete package and technical manual of the product ready for usage. I have read the warranty terms and conditions and agree with them:

.....  
Customer's signature

\*Refer to WARRANTY CONDITIONS

*Dear User, we appreciate your choice and do hereby guarantee that all ventilation equipment manufactured by our Company is inspected and thoroughly tested. An operational and high-quality product is sold to the direct buyer and shipped from the territory of the factory. It is provided with a 24-month warranty from the issue date of the invoice.*

*Your opinion is important to us, thus we always look forward to hearing your comments, feedback, or suggestions regarding technical and operational characteristics of the Products.*

*In order to avoid any misunderstandings, please read the instructions for installation and operation of the product as well as other technical documents of the product carefully. The number of the Limited Warranty Coupon and the serial number of the product specified on the silver identification sticker attached to the housing must match.*

*The Limited Warranty Coupon shall be valid provided that the seller's stamps and records are clear. It is not allowed to change, delete, or rewrite the data specified on it in any manner – such a coupon shall be invalid.*

*With this Limited Warranty Coupon the manufacturer confirms his obligations to implement the imperative requirements established by effective laws on protection of consumer rights in the event of identification of any defects of the products.*

*The manufacturer reserves the right to refuse provision of free warranty servicing in cases when the warranty conditions listed below are disregarded.*

## LINKS TO OTHER DOCUMENTS

DE MANUAL



<https://select.salda.lt/file/kubde>

FR MANUAL



<https://select.salda.lt/file/kubfr>

IT MANUAL



<https://select.salda.lt/file/kubit>

LT MANUAL



<https://select.salda.lt/file/kubl>

RU MANUAL



<https://select.salda.lt/file/kubru>



MAN000151



Ragainės g. 100  
Šiauliai LT-78109, LITHUANIA

+370 41 540 415  
office@salda.lt