Installation Instructions

GLOBAL PX/RX/LP



GLOBAL PX/RX/LP Table of Contents

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1.0 Installation instructions Applicable for the following units

EXCHANGER	SIZES	INTEGRATED PRE-HEATING	INTEGRATED POST-HEATING	HANDING	FAN
GLOBAL PX Counterflow	04/05/08/10/12/ 13/14/16/18/20/24/26	Yes, electrical	Yes, electrical or water	Right	Forward (FW)
GLOBAL PX TOP Counterflow	05/08/10/12/14/18	Yes, electrical	Yes, electrical or water	Left/Right	Backward
GLOBAL RX Rotary	05/08/10/12/13/ 14/16/18/20/24/26	No	Yes, electrical or water	Left/Right	Backward
GLOBAL RX TOP Rotary	05/08/10/12/ 13/14/16	No	Yes, electrical or water	Left/Right	Backward
GLOBAL LP Counterflow	02/04/06/08 10/12/13/14/16/18	Yes, electrical	Yes, electrical or water	Left/Right	Backward

Disclaimer Danger/Warning/Caution

- All relevant staff must acquaint themselves with these instructions before beginning any work on the unit. Any damage to the unit or its components caused by improper handling or misuse by the purchaser or the installer are not covered by the guarantee if these instructions have not been followed correctly.
- Make sure that the mains supply to the unit is disconnected before performing any maintenance or electrical work!
- All electrical connections must be made by a qualified electrician and in accordance with local rules and regulations.
- There is still risk of injury due to rotating parts that have not come to a complete standstill even though the mains supply to the unit has been disconnected.
- Beware of sharp edges during assembly and maintenance. Make sure that a proper lifting device is used. Wear protective clothing.
- The unit may only be operated with the doors and panels closed.
- If the unit is installed in a cold location make sure that all joints are covered with insulation and are well taped.
- Duct connections/duct ends should be covered during storage and installation, in order to avoid condensation inside of the unit.
- Check that there are no foreign objects in unit, ducting system or functional sections.
- The unit is packed to prevent damage of the external and internal parts of the unit, dust and moisture penetration. If the unit is not to be installed immediately, it should be stored in a clean, dry area. If stored externally, it should be adequately protected from the weather influences.
- If the filter or any other spare parts are not replaced as the original model, Swegon cannot be responsible for any damages that might occur on the unit or on all the installation.

RANGE OF APPLICATION

The GLOBAL units are designed for use in comfort ventilation applications.

Depending on the variant selected, GLOBAL units can be utilised in buildings such as office buildings, schools, day nurseries, public buildings, shops, residential buildings, etc.

GLOBAL units equipped with plate heat exchangers (PX) 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, saunas, spas or wellness centres.

Please do contact us if you have a need for a unit that is suited for such an application

HOW TO READ THIS DOCUMENT

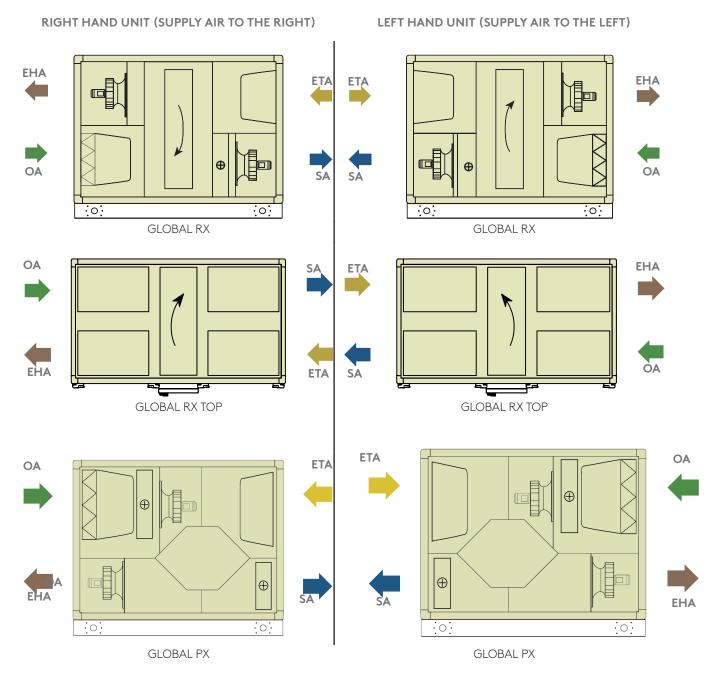
Please make sure that you have read and understood the safety precautions below. For new users, please read the chapter where the Symbols and Abbreviations used for GLOBAL are listed.

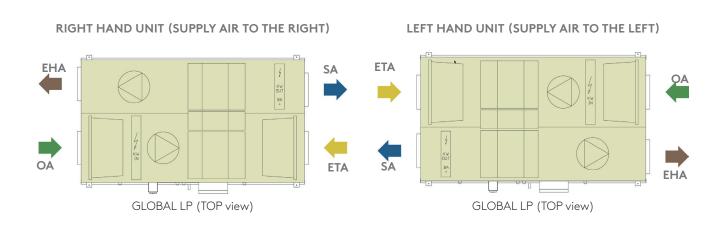
2.0 Symbols and abbreviations

	BW	BACKWARD CURVED FAN				
	BF	BF BAG FILTER		PF	PLEATED FILTER	
	RX	ROTARY HEAT EXCHANGER		PX	PLATE HEAT EXCHANGER	
<u>^</u>	WARNING Must be connected by a qualified Electrician. Warning! Hazardous voltage.			Electronic boards contains ESD sensitive components. Wear antistatic wrist strap connected to protective earth before to manipulate them. In alternative, discharge by touching the unit, handle boards at cor- ners only and use antistatic gloves.		
4						
	OUTDOOR AIR	Ð	Air fror	Air from outdoor to the AHU (OA)		
	SUPPLY AIR		Air from	the AHU to the building (SA)		
•	EXTRACT AIR		Air from t	n the building to the AHU (ETA)		
	EXHAUST AIR	Ĵ	Air from the AHU to outdoor (EHA)		EHA)	
-	COOLING COIL	BA-	+	NV/KW	HEATING COIL (WATER/ELECTRICAL)	
	SILENCER	GD	0-0-0-	CTm	MOTORISED DAMPER	
	PRESSURE SENSOR	Р		Тх	TEMPERATURE SENSOR No = x (1,2,3)	
	SLIP CLAMP Sliding bar and screws are not included	SC		MS	FLEXIBLE CONNECTION	
CIRCULAR DUC	T CONNECTION	ER	For inlet	SR	For outlet	

3.0 Product Overview

3.1 GENERAL OVERVIEW



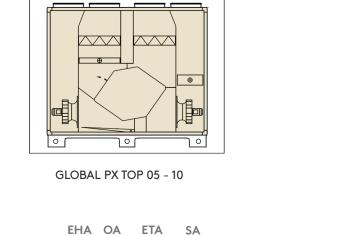


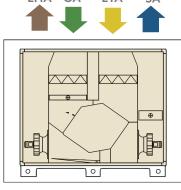
ATTENTION

Right and left hand units have different article numbers and should be ordered accordingly. Main version described in the manuals is always the hand right version.

The difference between left and right LP units is the factory placement of the controls box on opposite sides.

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RIGHT HAND UNIT (SUPPLY AIR TO THE RIGHT)

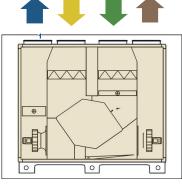
EHA OA

ETA

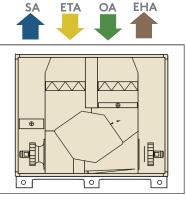
SA

GLOBAL PX TOP 12 - 18

LEFT HAND UNIT (SUPPLY AIR TO THE LEFT) SA ETA OA EHA



GLOBAL PX TOP 05 - 10



GLOBAL PX TOP 12 - 18



GLOBAL LP

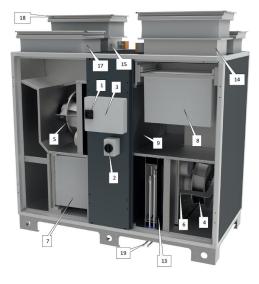
- 1. Main switch for power supply AHU
- 2. Main switch for power supply electrical coils (both internal pre-hating and post-heating)
- 3. Electrical cabinet
- 4. Supply fan
- 5. Extract fan
- 6. Kit CA -airflow measurement (option)
- 7. Outdoor air filter (bag or pleated)
- 8. Extract air filter (bag or pleated)
- 9. Heat exchanger (Plate or Rotary)

- **10.** Modulating 100% bypass (PX only)
- **11.** Drain pan and drain pipe (PX only)
- **12.** Preheating coil (PX only)
- 13. Internal post-heating water or electrical coil (accessory)
- 14. Motorised damper (accessory)
- 15. Motorised damper (accessory)
- 16. Access panel (LP only)
- 17. Flexible sleeve (accessory)
- 18. Slip clamp (accessory)
- **19.** Water connection for post-heating (accessory)



1, 2 and 3 must be installed by a qualified electrician

Note: internal electrical coils, motorised dampers, internal fan-pressure sensors, flexible connections and slip-clamps must ordered and are all pre-installed and factory wired. The internal heating water-coil accessory is pre-installed, but must be connected, hydraulically and electrically, by the installer.



GLOBAL RX TOP



GLOBAL RX

- 1. Main switch for power supply AHU
- Main switch for power supply electrical coils (both internal pre-hating and post-heating)
- 3. Electrical cabinet
- 4. Supply fan
- 5. Extract fan
- 6. Kit CA -airflow measurement (option)
- 7. Outdoor air filter (bag or pleated)
- 8. Extract air filter (bag or pleated)
- 9. Heat exchanger (Plate or Rotary)

- **10.** Modulating 100% bypass (PX only)
- 11. Drain pan and drain pipe (PX only)
- **12.** Preheating coil (PX only)
- 13. Internal post-heating water or electrical coil (accessory)
- 14. Motorised damper (accessory)
- 15. Motorised damper (accessory)
- 16. Access panel (LP only)
- 17. Flexible sleeve (accessory)
- 18. Slip clamp (accessory)
- **19.** Water connection for post-heating (accessory)



1, 2 and 3 must be installed by an accredited electrician

Note: internal electrical coils, motorized dampers, internal fan-pressure sensors, flexible connections and slip-clamps have to be ordered initially and are all pre-mounted and factory wired. Internal heating water-coil accessory is pre-mounted but has to be hydraulically and electrically connected by the installer.

GLOBAL PX TOP

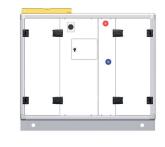


- 1. EC Plug fan w/composite fan blades (aluminium blades optional)
- 2. Fresh air filter ePM1≥60% filter class
- 3. Extract air filter ePM1≥50% filter class
- 4. Integrated TAC controller
- 5. High efficiency counterflow plate heat exchanger
- 6. Modulating 100% BYPASS
- 7. Stainless steel drain pan
- 8. Base frame for easy on site transport
- 9. Integrated post-heating (water/electrical)
- 10. Integrated pre-heating (electrical)
- 11. Silencer

4.0 Unloading and transport









A= min. 90cm



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If it is necessary to dismantle and re-assemble the unit due to the delivery through size-limited openings; the unit must be specifically ordered from the factory with the "dismantle option". For information on how to dismantle and re-assemble the unit please download the " Dismanting and Re-Assembly guide" on our website.

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5.0 Installation

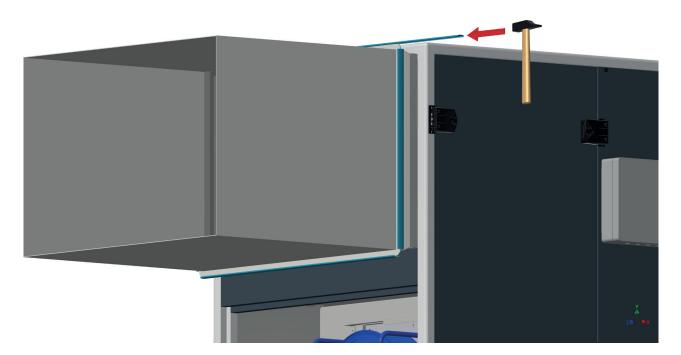
Since some of the wiring is dependent on the chosen functionality, connection of external controls signals such as 0-10 V signals are described in the "Start-up, Operation and Maintenance Manual" downloadable on our website.

5.1 MECHANICAL INSTALLATION

Note: Some accessories are shipped inside of the unit.

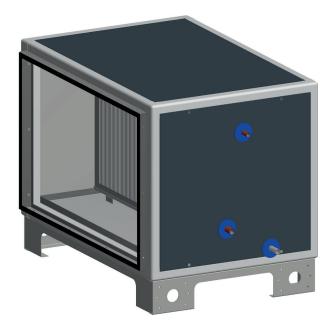
SLIP CLAMPS (SC)

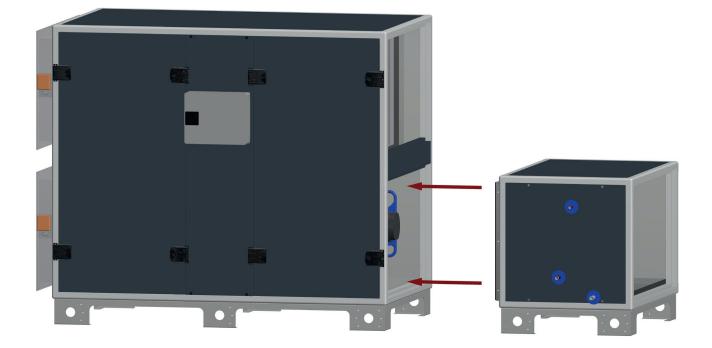


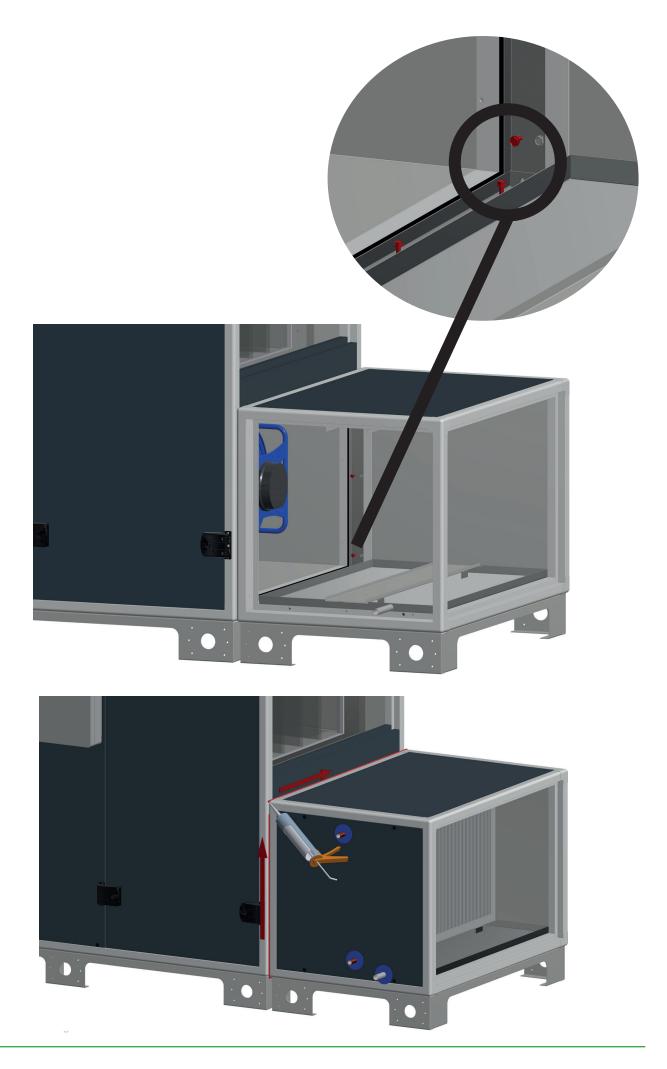


Sliding bar and screws are not included

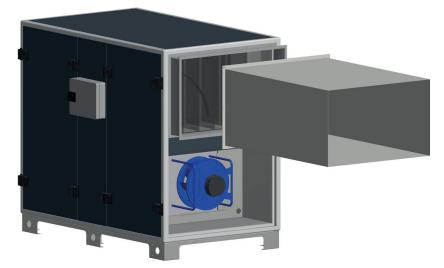
EXTERNAL INSULATED CASING (ECA)

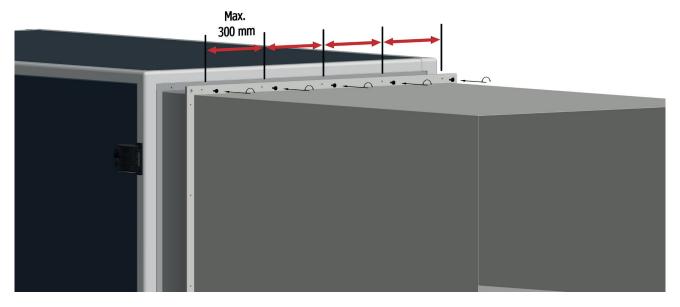




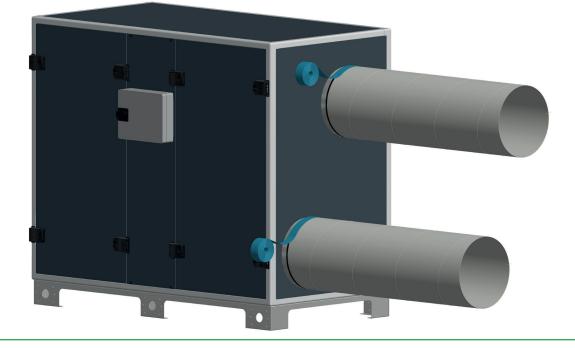


FLEXIBLE CONNECTIONS (MS)

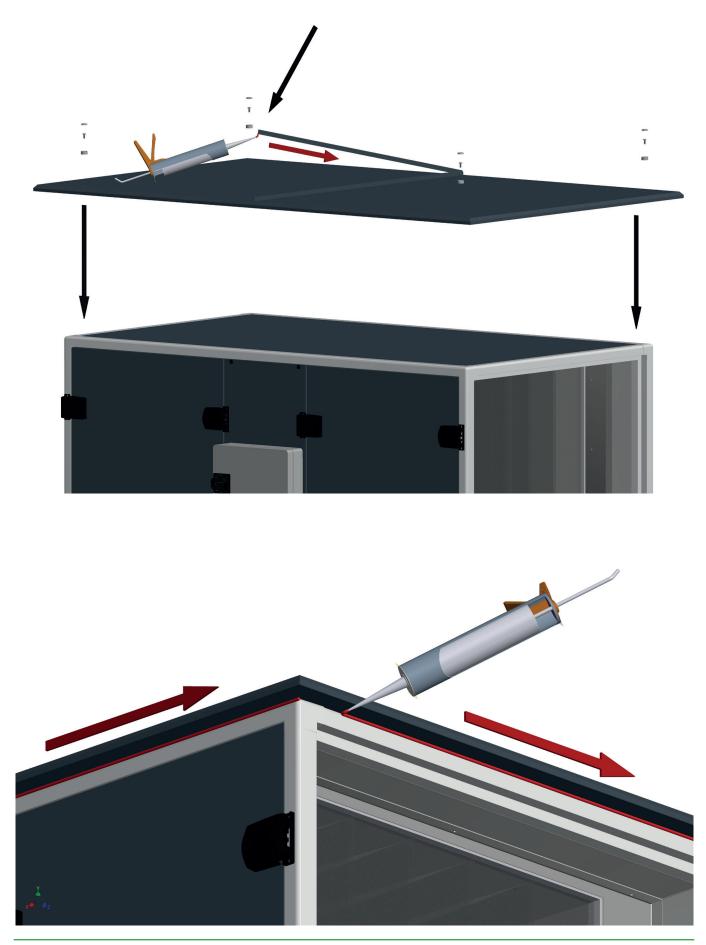




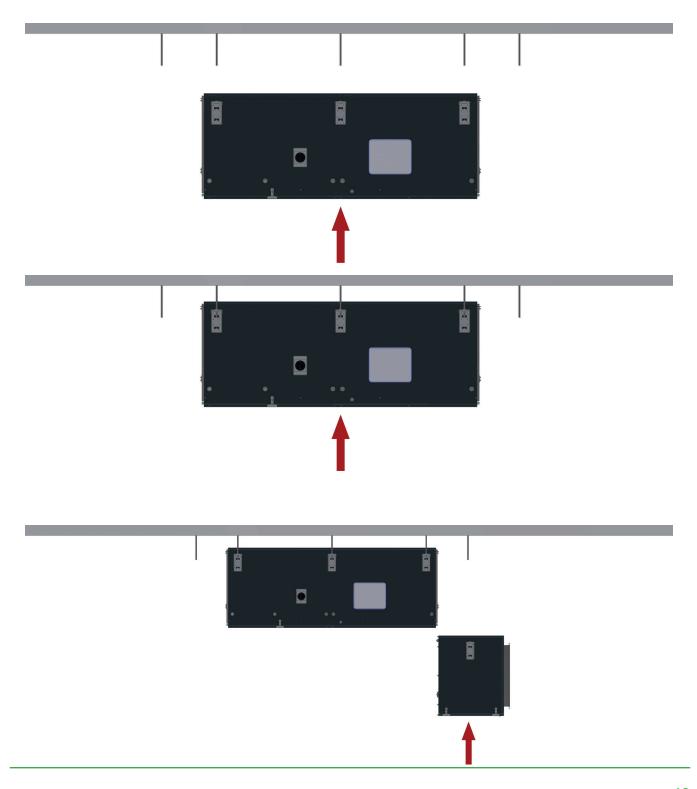
CIRCULAR CONNECTIONS

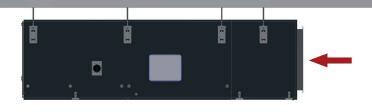


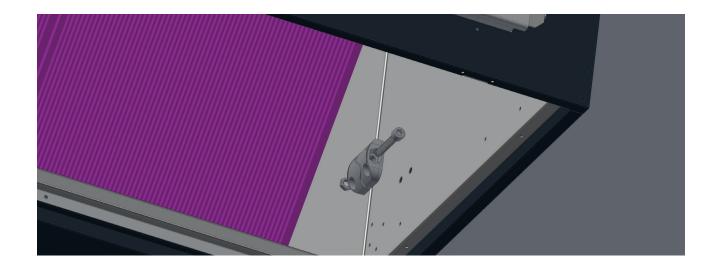
INSTALLATION OF ROOF FOR MOUNTING OUTDOORS (OUT)



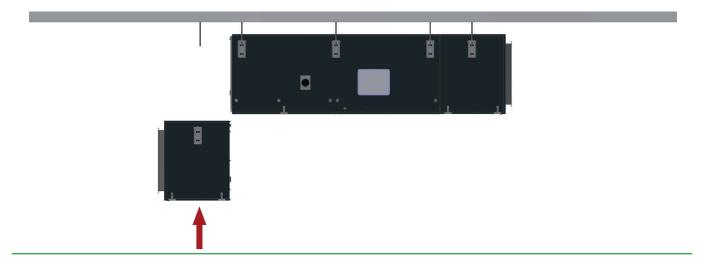
MECHANICAL INSTALLATION FOR GLOBAL LP



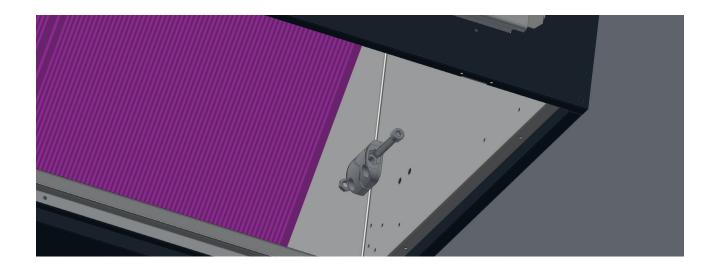




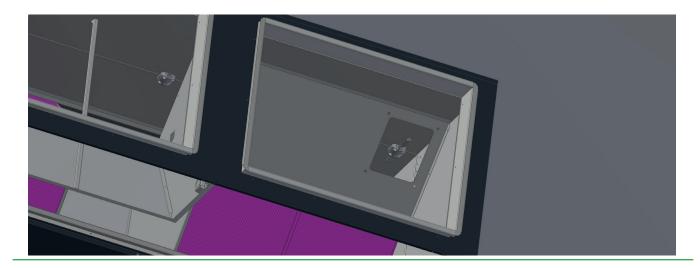


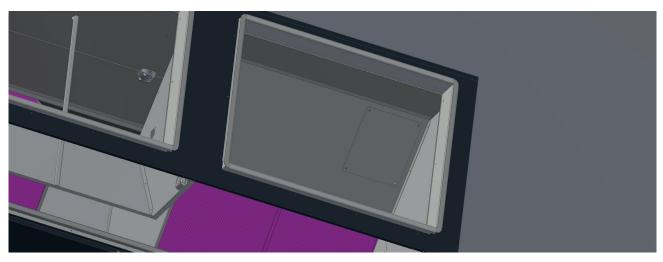


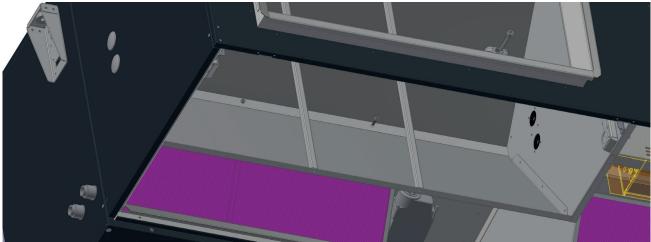


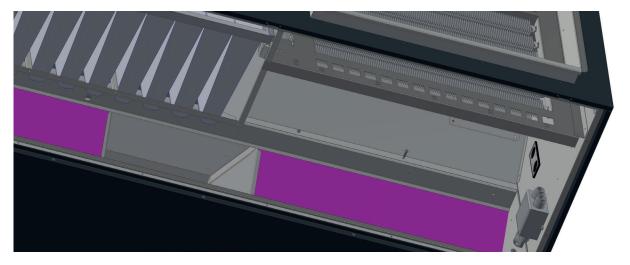


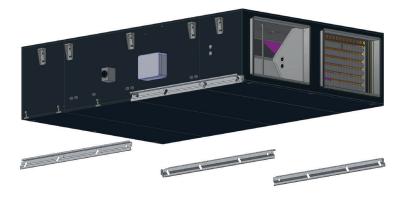










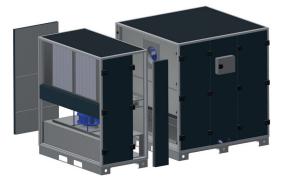


MECHANICAL INSTALLATION FOR GLOBAL PX

Assembly procedure for Global PX 20-24-26 multi-block units



1. Remove the front and rear doors of the secondary block



2. Place the 2 blocks side by side.



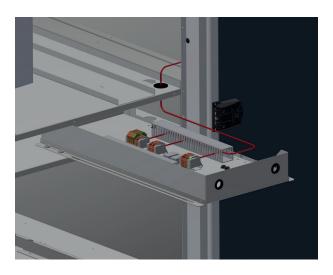
Using a hexagonal key, tighten the clams screws (4 at the front and 4 at the back).
Insert the tool through the bore hole in the profile.



4. Blank off the profile holes with the small black plugs to ensure suitable tightness.



5. Connect the jumper wires of the main block to the terminal blocks inside a sliding connection box.

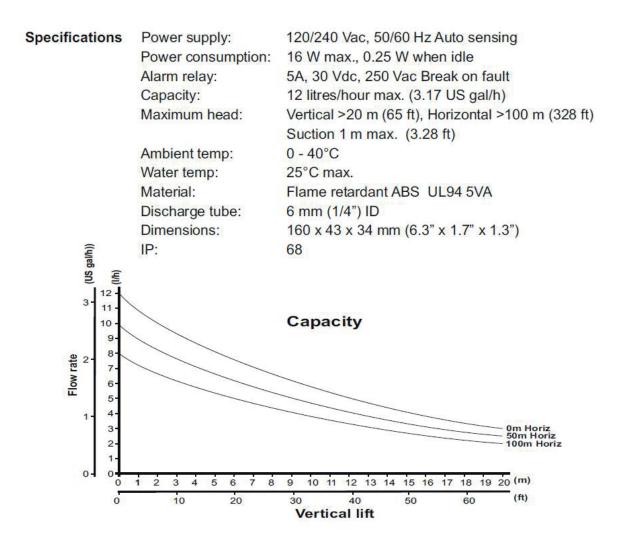


6. The assembly procedure is now complete.



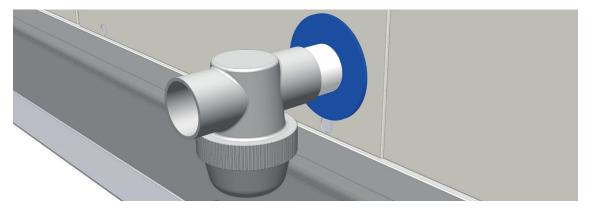
5.2 HYDRAULICAL INSTALLATION

CONDENSATE PUMP FOR GLOBAL LP

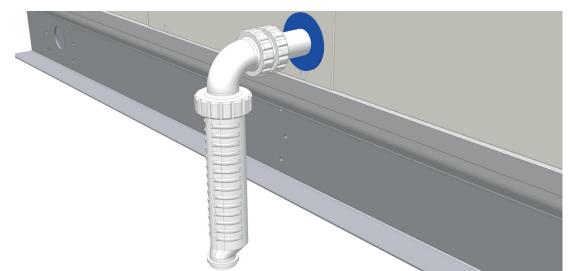


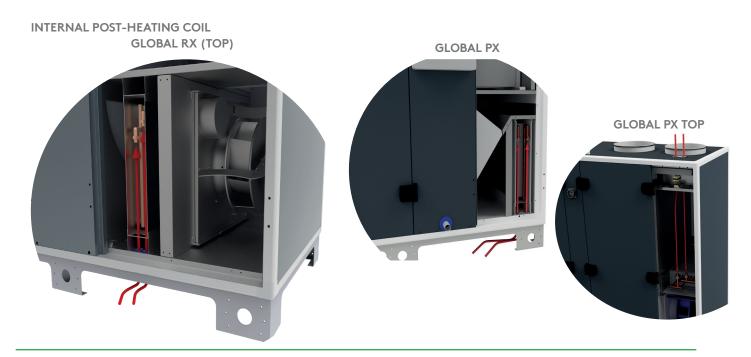
DRAIN-PAN CONNECTION FOR GLOBAL PX

SYPHON FOR INDOOR INSTALLATION

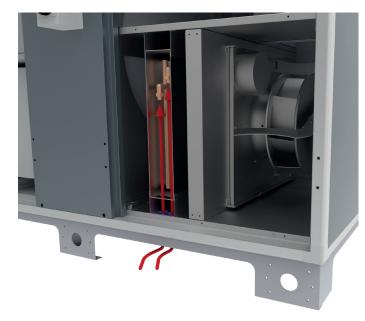


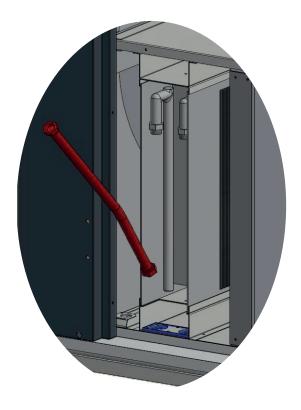
SYPHON FOR OUTDOOR INSTALLATION

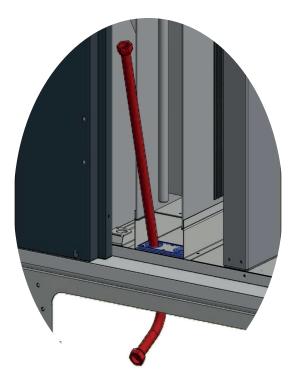


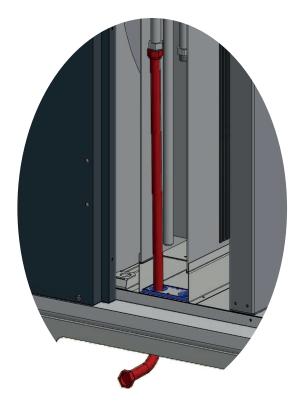


INTERNAL POST-HEATING WATER COIL GLOBAL RX (TOP)



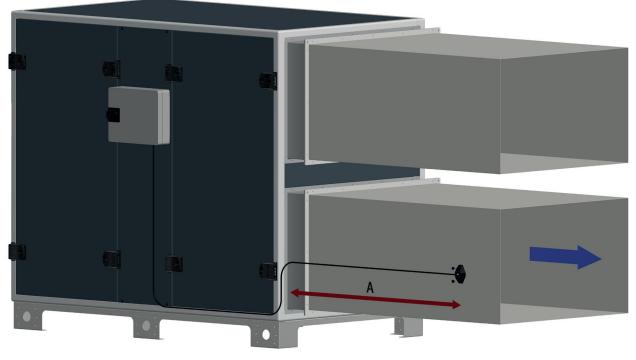




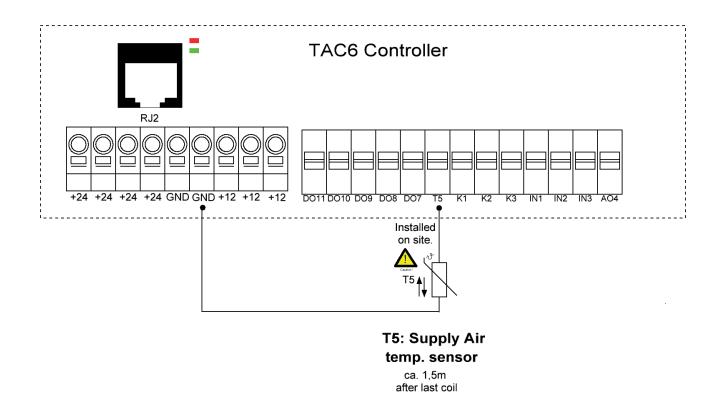


5.3 ELECTRICAL CONNECTIONS

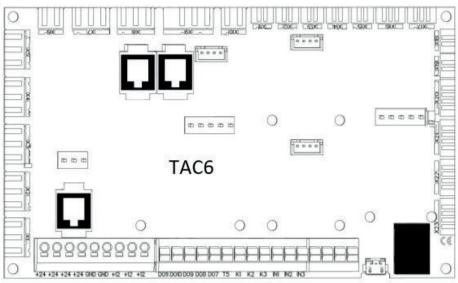
SUPPLY AIR TEMPERATURE SENSOR T5 (CID883006)



A = minimum 1.5 m



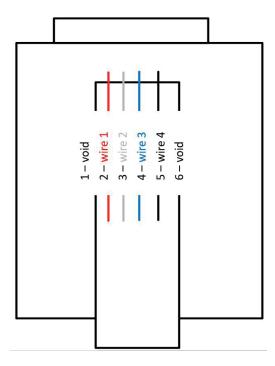
TOUCH SCREEN HMI (TACtouch) CID372142



Extender cable wiring

In installation where an extender cable is necessary, this last one must conform to the RS-485 Standard with twisted pair conductors. The cable must be shielded. Conductor Area min 0.2 mm². The total length must not exceed 100 meters.

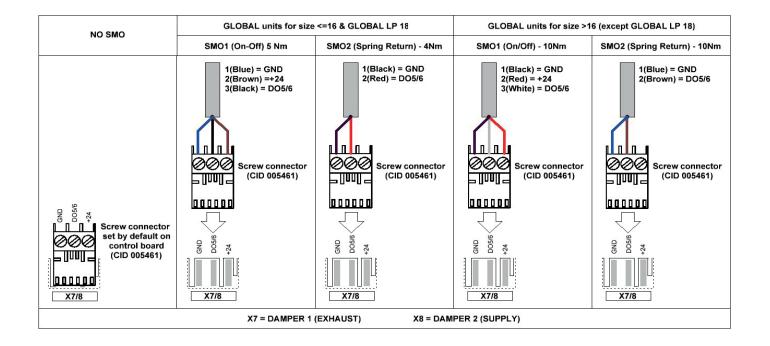
2 pairs connected to RJ12 connectors at cable extremities, straight wired. Pinout for each connector as in figure below (colors are indicative for the wires of the extender cable):



Electrical cable: Installaters need to foresee extra electrical cable length for easier future maintenance of the AHU.

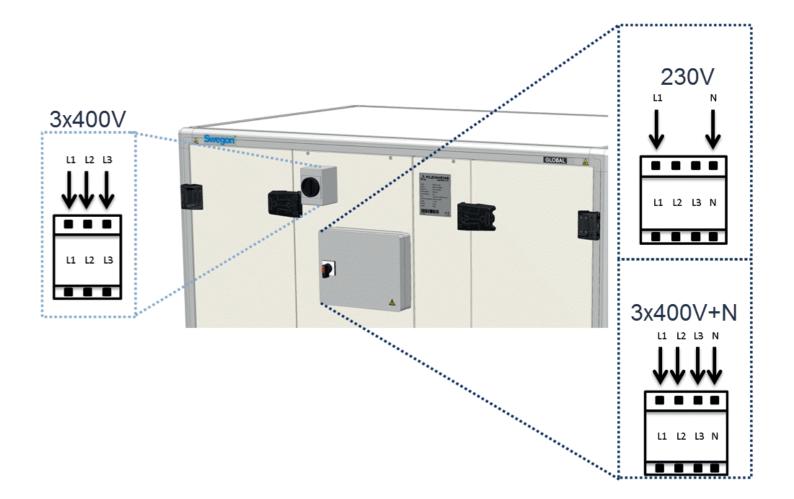
TACtouch TAC6

DAMPER CONNECTION

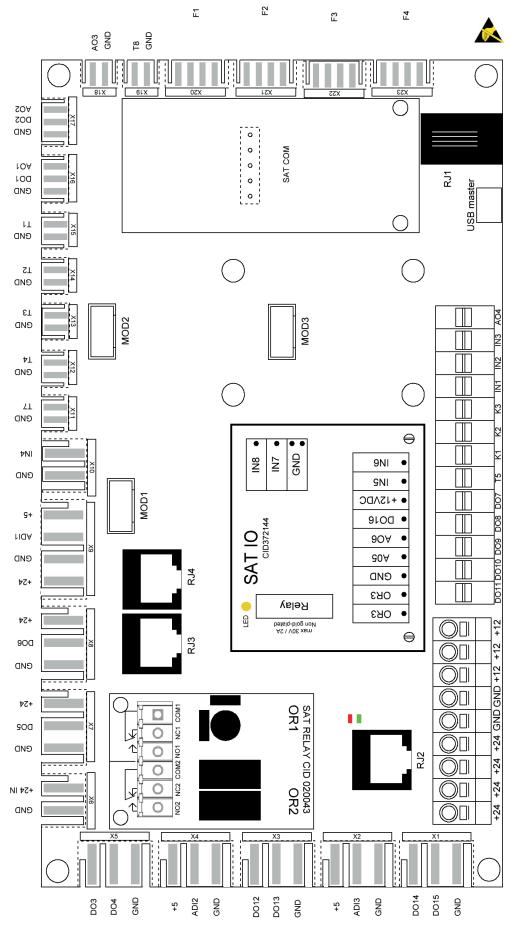


-	05		ACCESSORIES	ELECTRICAL F	IEATER 400V	ELECTRICAL F	HEATER 230 V
-		1 X 230 V	5,3 A	3 X 400 V	6,5 A	3 X 230 V	11,3 A
	08	1 X 230 V	5,3 A	3 X 400 V	8,7 A	3 X 230 V	15,1 A
	10	1 X 230 V	4,9 A	3 X 400 V	8,7 A	3 X 230 V	15,1 A
	12	1 X 230 V	7,7 A	3 X 400 V	13 A	3 X 230 V	22,6 A
GLOBAL RX	13	1 X 230 V	7,7 A	3 X 400 V	13 A	3 X 230 V	22,6 A
	14	1 X 230 V	7,7 A	3 X 400 V	17,3 A	3 X 230 V	30,1 A
	16	1 X 230 V	7,7 A	3 X 400 V	17,3 A	3 X 230 V	30,1 A
	18	3 X 400 V + N	6,5 A	3 X 400 V	21,7 A	/	/
	20	3 X 400 V + N	6,5 A	3 X 400 V	26 A	/	/
	24	3 X 400 V + N	6,5 A	3 X 400 V	32,5 A	/	/
	26	3 X 400 V + N	6,5 A	3 X 400 V	32,5 A	/	/
	05	1 X 230 V	5,3 A	3 X 400 V	6,5 A	3 X 230 V	11,3 A
	08	1 X 230 V	5,3 A	3 X 400 V	8,7 A	3 X 230 V	15,1 A
	10	1 X 230 V	4,9 A	3 X 400 V	8,7 A	3 X 230 V	15,1 A
GLOBAL RX TOP	12	1 X 230 V	7,7 A	3 X 400 V	8,7 A	3 X 230 V	15,1 A
	13	1 X 230 V	7,7 A	3 X 400 V	13 A	3 X 230 V	22,6 A
	14	1 X 230 V	7,7 A	3 X 400 V	13 A	3 X 230 V	22,6 A
	16	1 X 230 V	7,7 A	3 X 400 V	17,3 A	3 X 230 V	30,1 A
	02	1 X 230 V	3,1 A	/	/	1 X 230 V	13 A
	04	1 X 230 V	3,1 A	/	/	1 X 230 V	13 A
	06	1 X 230 V	5,3 A	3 X 400 V	6,5 A	/	/
	08	1 X 230 V	5,3 A	3 X 400 V	8,7 A	/	/
GLOBAL LP	10	1 X 230 V	4,9 A	3 X 400 V	8,7 A	/	/
	12	1 X 230 V	7,7 A	3 X 400 V	13 A	/	/
	13	1 X 230 V	7,7 A	3 X 400 V	13 A	/	/
	14	1 X 230 V	7,7 A	3 X 400 V	13 A	/	/
	16	1 X 230 V	12,7 A	3 X 400 V	17,3 A	/	/
	18	1 X 230 V	12,7 A	3 X 400 V	17,3 A	/	/

	SIZE	AHU WITHOUT ACCESSORIES		ELECTRICAL HEATER 400V Valid info only for one heater		ELECTRICAL HEATER 230 V	
	04	1 X 230 V	5,3 A	3 X 400 V	4,3 A	3 X 230 V	7,5 A
	05	1 X 230 V	5,3 A	3 X 400 V	4,3 A	3 X 230 V	7,5 A
	06	1 X 230 V	5,3 A	3 X 400 V	8,7 A	3 X 230 V	15,1 A
	08	1 X 230 V	5,3 A	3 X 400 V	8,7 A	3 X 230 V	15,1 A
Γ	10	1 X 230 V	4,9 A	3 X 400 V	10,8 A	3 X 230 V	18,8 A
Γ	12	1 X 230 V	7,7 A	3 X 400 V	13 A	3 X 230 V	22,6 A
GLOBAL PX	13	1 X 230 V	7,7 A	3 X 400 V	13 A	3 X 230 V	22,6 A
Γ	14	1 X 230 V	7,7 A	3 X 400 V	13 A	3 X 230 V	22,6 A
Γ	16	1 X 230 V	7,7 A	3 X 400 V	17,3 A	3 X 230 V	30,1 A
-	18	1 X 230 V	12,7 A	3 X 400 V	21,7 A	/	/
	20	1 X 230 V	12,7 A	3 X 400 V	21,7 A	/	/
	24	3 X 400 V + N	6,5 A	3 X 400 V	32,5 A	/	/
	26	3 X 400 V + N	6,5 A	3 X 400 V	32,5 A	/	/
GLOBAL PX TOP	05	1 X 230 V	5,3 A	3 X 400 V	4,3 A	3 X 230 V	7,5 A
	08	1 X 230 V	5,3 A	3 X 400 V	8,7 A	3 X 230 V	15,1 A
	10	1 X 230 V	7,7 A	3 X 400 V	8,7 A	3 X 230 V	15,1 A
	12	1 X 230 V	7,7 A	3 X 400 V	13 A	3 X 230 V	22,6 A
Γ	14	1 X 230 V	7,7 A	3 X 400 V	13 A	3 X 230 V	22,6 A
	18	1 X 230 V	12,7 A	3 X 400 V	17,3 A	3 X 230 V	30,1 A



5.4 TAC CONTROL BOARD MAIN CONTROL BOARD TAC - CID026006

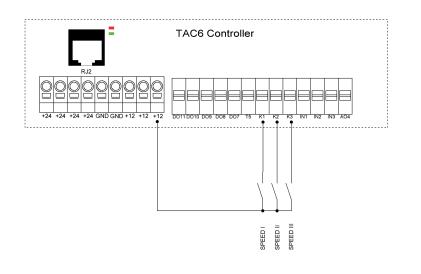


AO1 = outpout 0-10V for external hydraulic postheater (option)	T1 = from outdoors T° sensor (prewired)				
DO1 = KWout = output PWM for KWout power regulation (option - prewired)	T2 = from indoors T° sensor (prewired)				
DO2 = KWin- PX: output PWM for KWin power regulation (option - prewired) RX SPEED PWM - RX (prewired)	T3 = to outdoors T° sensor (prewired)				
AO2 = RX SPEED 0-10V - RX (option)	T5 = supply T° sensor for IBA/KWout coil (option)				
AO3 = 0-10 V output to control cooling capacity	T7 = IBA/EBA anti freeze protection T° sensor (option - prewired for IBA)				
AO4 = outpout 0-10V for internal hydraulic postheater (option - prewired)	T8 = Cooling coil frost protection sensor				
DO3 = BYPASS OPEN- PX (with rotary actuator) (prewired)	IN1 = FIRE ALARM				
DO4 = BYPASS CLOSE - PX (with rotary actuator) (prewired)	IN2 = BOOST				
DO5 = DAMPER 1 (with or without spring return, Imax = 0.5A DC) (option - prewired)	IN3 = BYPASS ACTIVATION OVERRIDE				
DO6 = DAMPER 2 (with or without spring return, Imax = 0.5A DC) (option - prewired)	IN4 = Drain pan full contact (only for LP Unit - prewired)				
D07 = HEAT OUTPUT (open collector; Vmax=24 VDC; Imax=0,1 A)	K1: Airflow MODE	= m³/h K1			
DO8 = COOL OUTPUT (open collector; Vmax=24 VDC; Imax=0,1 A)	Demand/Pressure control	= START/STOP			
DO9 = ALARM OUTPUT (open collector; Vmax=24 VDC; Imax=0,1 A)	Torque MODE	= %torque K1			
DO10 = AL dPA OUTPUT (open collector; Vmax=24 VDC; Imax=0,1 A)	K2: Airflow control	= m³/h K2			
DO11 = FAN ON OUTPUT (open collector; Vmax=24 VDC; Imax=0,1 A)	Demand/Pressure control	= 0-10V INPUT			
ADI1 = BYPASS POS - PX RX SPEED FEEDBACK - RX (prewired)	Torque control	= %torque K2			
ADI2 = SUPPLY FILTER dPa	K3: Airflow control	= m³/h K3			
ADI3 = EXTRACT FILTER dPa	Demand/Pressure control	= % ON K3 or 0-10 V INPUT			
	Torque control	= %torque K3			
F1 = FAN 1 (SUPPLY)	RJ1 = RJ12 connector for TACtouch (option)				
F3 = FAN 3 (EXHAUST)	RJ2 = RJ12 connector for Modbus Pressure CP mode (option)				
	RJ3 = RJ12 connector for Modbus Pressure CA mode on supply flow (option - prewir				
SAT COM = SAT MODBUS or SAT KNX or SAT ETHERNET or SAT WIFI - (option)	RJ4 = RJ12 connector for Modbus Pressure CA mode on exhaust flow and defrost detecting (option - prewired)				
SAT RELAY: only used for global lp, then premounted and prewired					
SAT RELAY OR1 - linear actuator for LP linear bypass actuator - forward)	GREEN LED ON = POWERED ON				
SAT RELAY OR2 - linear actuator for LP linear bypass actuator - backward	RED LED ON = ALARM				
	+24 = +24V DC (min: +22V DC; max: +26V DC). 0,8 A max				
	+12 = +12V DC (min: +11,49V DC; max: +12,81V DC). 0,3 A max				

6.0 Test start GLOBAL Air handling Unit

Quick test start on site with factory settings (not yet commissioned). This is designed to make an initial functional test. A complete Set-up must be performed afterwards. Accessories are preconfigured with standard settings as listed in the Operation and Maintenance Manual downloadable on our website.

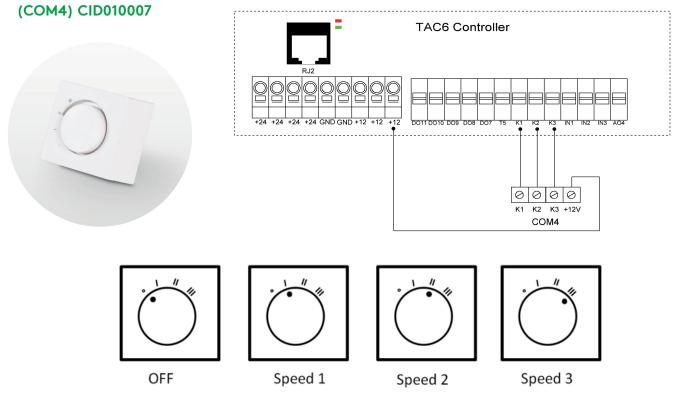
6.1 TEST START WITHOUT USER INTERFACE



K1& K2 & K3 open: Off K1 closed: Speed 1 K2 closed: Speed 2

K3 closed: Speed 3

6.2 TEST START WITH POSITION SWITCH

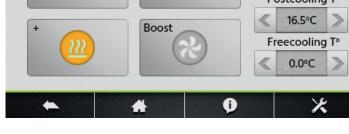


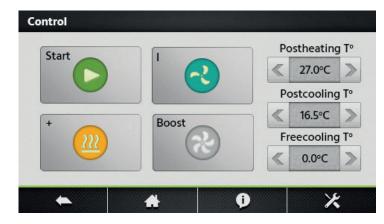
6.3 TEST START WITH TACtouch interface CID372142

At the first start up, the basic setup menu will be activated automatically for the commissioning, with also advanced parameter for master selection "contacts K1-K2-K3 master" which must be set to NO . After the commissioning, this parameter is still available in menu Settings/Advanced Settings.

Main menu: Control











Version: 20210503

We reserve the right for changes.