Rotovex SR07, SR09, SR11 IAQ
Compact Air Handling Unit
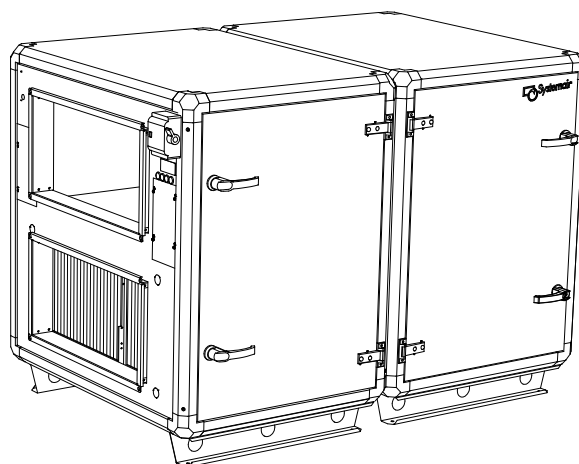
GB **Operation and maintenance instructions**

**Left version**

Right version
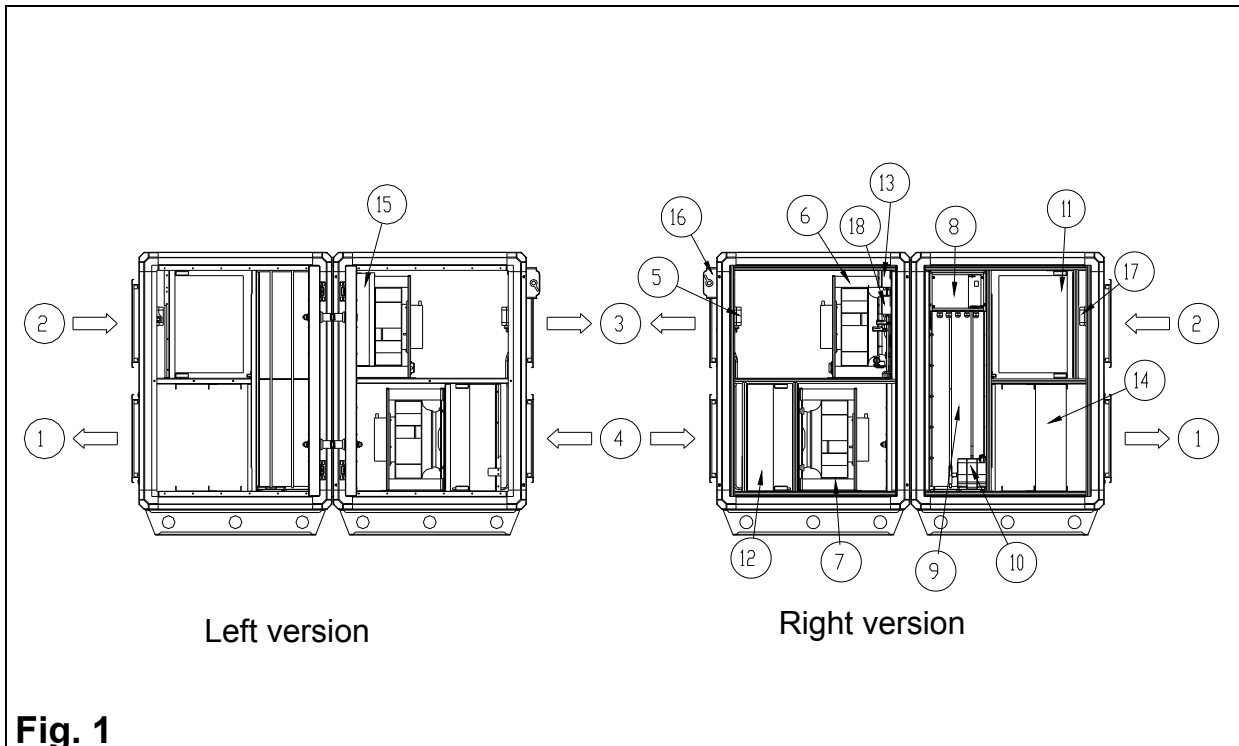
Fig. 1

Description

1.	Supply air	**10.**	Rotor motor
2.	Extract air	**11.**	Filter, Extract air
3.	Exhaust air	**12.**	Filter, supply air
4.	Outside air	**13.**	Pressure sensor supply air fan
5.	Pressure sensor supply air filter	**14.**	Electrical Heater / Water coil
6.	Fan, extract air	**15.**	Electrical Connection box (see fig.3)
7.	Fan supply air	**16.**	Safety switch
8.	Control Heat exchanger	**17.**	Pressure sensor extract air filter
9.	Heat exchanger, Rotor	**18.**	Pressure sensor extract fan

Connection box

Description

|	
20.	Fuse heater
21.	Fuse fans
22.	24 V Transformer
23.	Control unit Corrigo
24.	Contactor
25.	ADO – terminal block tool
26.	Overheating protection EL- heating battery, Manual reset.
27.	Overheating protection EL- heating battery, Automatic reset.

Earth
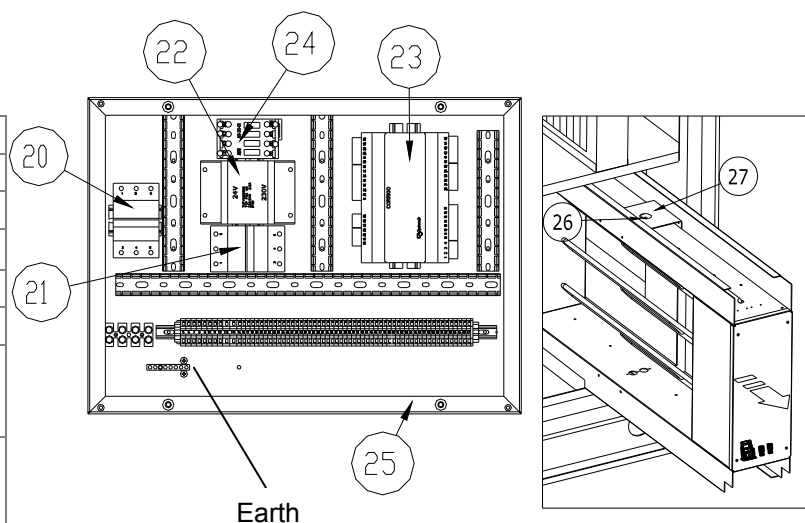
Fig. 2
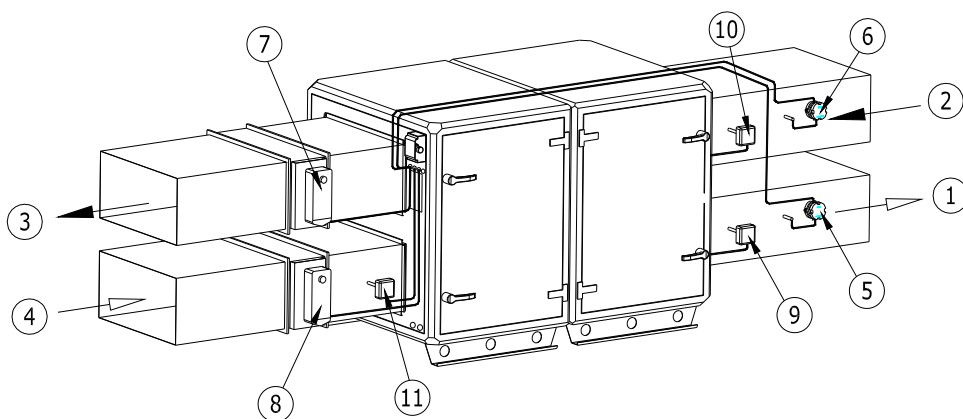
Fig. 3

Description

1.	Supply air	**7.**	Damper and motor exhaust air (accessories)
2.	Extract air	**8.**	Damper and motor outside air (accessories)
3.	Exhaust air	**9.**	Sensor supply air
4.	Outside air	**10.**	Sensor extract air
5.	VAV pressure transmitter supply air (accessories)	**11.**	Sensor outside air
6.	VAV pressure transmitter extract air (accessories)		
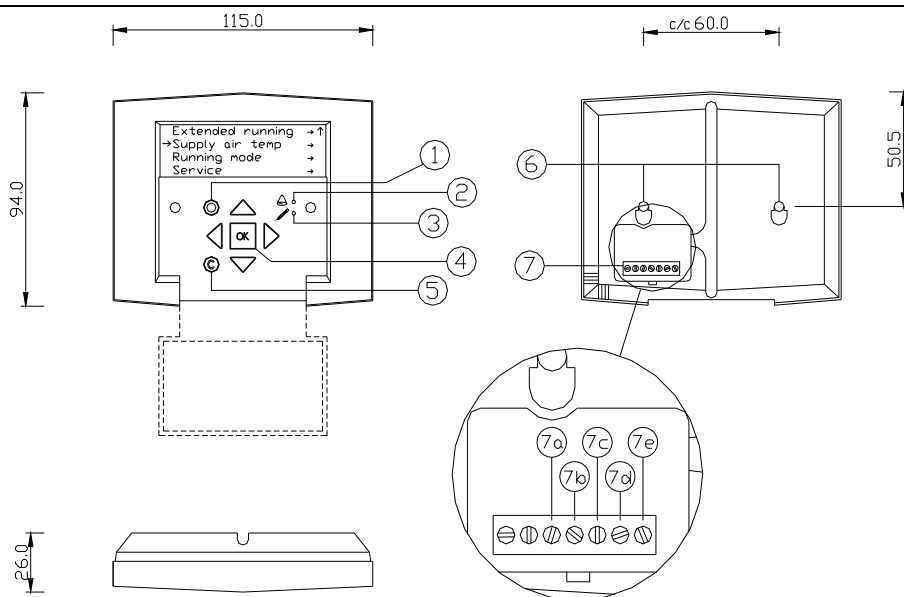
Fig. 4

Description

1.	Alarm button	**7.**	Connection block
2.	Alarm LED	**7a.**	Yellow cable
3.	Write enable LED	**7b.**	Orange cable
4.	OK button	**7c.**	Red cable
5.	Clearing button	**7d.**	Brown cable
6.	Mounting holes	**7e.**	Black cable

Introduction

Installation, operation and maintenance manual concerns air handling unit type Rotovex SR, manufactured by Systemair AB. It consists of basic information and recommendations concerning the design, installation, start-up and operation, to ensure a proper fail-free operation of the unit.

   The key to proper and safe operating of the unit is to read this manual thoroughly, use the unit according to given guidelines and follow all safety requirements.

Table of contents

Operation

General
This manual describes the most common function/settings. For more information about other function/settings please see the attached Corrigo E – Manual. The Corrigo E – Manual can also be retrieved from www.regin.se in different languages.

Rotovex units with Electrical heater have 3 minutes of re-cooling after having been turned off.
N.B. If the fire alarm is activated when the heater is on, the fan stops immediately without re-cooling, this can cause the overheating protection to trip. See **fig.2** where to reset the manual overheating protection.
   Maximum allowed supply air temperature is 35°C.

Set the menu language
Press the OK button while switching on the mains supply.
Press the OK button. Choose language with the UP/DOWN-buttons. Confirm the choice with the OK button. Press the LEFT button to go back in the menus.
The language can also be changed in main menu, press "Right" arrow 3-times on the control panel.

Control panel

Access rights
There are 2 different logon levels, *Operator* level and *Service* level
Service levels gives read/write access in the settings and parts of the configuration menu.
Operator level permits read/write access to a limited number of settings and parameters.

Password
As default Rotovex SR comes with the following password for different levels:
Operator 1111   Service 2222

How to operate
See **fig 4**.
The menus in the Corrigo E are organized in a horizontal tree structure. The UP/DOWN-buttons are used to move between menus at the present menu level. The RIGHT/LEFT buttons are used to move between menu levels. When changing parameters the UP/DOWN buttons are used to increase or decrease the value of the parameter and the RIGHT/LEFT buttons to move between digits within the parameter.

The OK button is used to confirm the choice of a parameter setting.

The C button is used to abort an initiated parameter change and restore the original value.

The ALARM button is used to access the alarm list.

Changing parameters
In some menus there are parameters that can be set. This will be indicated by the LED ✎   flashing. To change a parameter, first press the OK button, the LED ✎   changes to a steady light. A cursor will appear at the first settable value. If you wish to change the value, do so by pressing the UP / DOWN buttons. In numbers containing several digits you can move between the digits using the LEFT / RIGHT-buttons.
   When the desired value is displayed, press OK. Settings outside the intervals are not registered. Preset values count. If there are further settable values displayed the cursor will automatically move to the next one. To pass a value without changing it, press RIGHT.
To abort a change and return to the initial setting, press and hold the C-button until the cursor disappears.

Navigating the menus

The start display (the display normally shown) is at the root of the menu tree.

Pressing DOWN ▼ will move you through the menu choices, in this the lowest level. UP ▲ will move you back through the choices.

To enter a higher menu level, use UP or DOWN to place the display marker opposite the menu you wish to access and press RIGHT ►.
If you have sufficient log on privileges the display will change to the menu you have chosen.

At each level there may be several new menus through which you may move using the UP/DOWN buttons.
Sometimes there are further sub menus linked to a menu or menu item. This is indicated by an arrow symbol at the right-hand edge of the display. To choose one, use RIGHT ► again. To back down to a lower menu level, use LEFT ◄.

Alarms

Alarm button (**pos.1** in **fig. 4**) opens the alarm queue. By pressing this button all active and non-acknowledged alarms will be displayed in the menu window. The LED for alarms (**pos.2** in **fig. 4**) is blinking if there are non-acknowledged alarms and shine steadily if the alarms are still active but have been acknowledged. If there are multiple alarms use UP/DOWN buttons to move between them. An alarm can be acknowledged or blocked by using OK and UP/DOWN buttons. To abort and go back to the start menu select Cancel and press the LEFT button.

For alarm settings see the Commissioning protocol (**page 22 and 23**).

Extra stop function

For some alarm types such as electric heating high temperature limit and water heating frost protection it would be dangerous to not stop the unit on alarm. Therefore, for such alarm types, the program will always reset the stop function to Active even if the operator should choose Inactive.
It is unfortunately not possible to remove the display text concerning the stop function for these alarm types. This since the available program space demands that all alarms are treated in the same way in the display.

Starting up the unit.
- Control that all external equipment are connected
- Switch on fuses (**pos.21 fig 2**) in the unit
- Switch on the supply voltage
- Set present time and date, set the control temperature and program the week schedule. Do the necessary settings for extra functions if any.

Initial setup of the unit

On the first start-up, the controller will start a special program for setting language, supply air temp set point, Time & date and week schedule for normal speed. Use the "OK" button to move between changeable parameters and the UP/DOWN arrows to see the displayed alternatives. Confirm by pressing "OK" once more. Move on down in the menu structure by use of the UP/DOWN arrows.

The following will be displayed:

1

Select language by pressing "OK" and then move between the alternatives with the UP/DOWN buttons. Confirm by pressing "OK". Move to the next level by pressing the "DOWN" button.

```
Choose Language

English
```

2

Shows the actual extract air temperature.

Set the supply air set point. Default is 18°C (log on to service level needed, code **2222**, to change default setting).

```
Extract air temp

Actual:....  °C

Setp.:  18 °C
```

3

Check and make sure that correct time and date is displayed, if not change the settings.

```
Time:  12.46

Date:  2010-03-12

Weekday:  Friday
```

4

Set the week schedule for how it's intended for the unit to operate at normal speed during Monday to Friday. It's possible to set 2 periods per day.

```
Normal speed

Monday → Friday

Per 1:  07:00 - 16:00

Per 2:  00:00 - 00:00
```

5

Set the week schedule for how it's intended for the unit to operate at normal speed during Saturdays and holidays. It's possible to set 2 periods per day.

```
Normal speed

Saturday → Holiday

Per 1:  00:00 - 00:00

Per 2:  00:00 - 00:00
```

6

Set the week schedule for how it's intended for the unit to operate at reduced speed during Monday to Friday. It's possible to set 2 periods per day.

```
Reduced speed

Monday → Friday

Per 1:  00:00 - 00:00

Per 2:  00:00 - 00:00
```

7

Set the week schedule for how it's intended for the unit to operate at reduced speed during Saturdays and holidays. It's possible to set 2 periods per day.

```
Reduced speed

Saturday → Holiday

Per 1:  00:00 - 00:00

Per 2:  00:00 - 00:00
```

8

Select "Yes" or "No" .

```
End Wizard

No
```

After finishing the setup the menu system for "Operator level" will be available.

See below menu overviews that display the available menus in the Operator level followed by the "Service level" manual.

To enter Service level use code 2222 in the "Access rights" menu. For operator level use code 1111.

Note:

To perform more advanced settings please see the enclosed CD where the Corrigo E – manual can be found.

Menu overview OPERATOR/SERVICE LEVEL

Below menu overview shows both the Operator and Service level. The overview of the parts unique to the Service level in below table are marked with grey background color. To logon to the Service level use code **2222** under `Access rights`.

Main menu item	Sub-menu item 1	Sub-menu item 2	Explanations

`Rotovex SR 07 EL`
 	
`2011-03-15 09:00`
 	
`System:Stopped`
 	
`Sp:18.0 Act:  °C`
			Start screen headline.
			
			Can be set to 5 different layouts.
			
			(Changeable at "system level" under the `configuration` menu).

`→ Running mode`	`→ Running mode`	`Running mode`
		
		`Auto`
			Set Running mode to `Auto`, `On` **or** `Off`.

		`Running time`
		
		`SAF: 0.0 h`
		
		`EAF: 0.0 h`
			Shows the time in hours that the motors have been operating.
			
			SAF = Supply air fan.
			
			EAF = Exhaust air fan.

	`→ Selected functions`	`Control function`
		
		`Extract air control`
		
		`Fan control`
		
		`Flow control`
			Shows type of air temperature control the unit is configured for.
			
			Shows type of fan speed control the unit is configured for.

		`Heating:  Water`
		
		`Exchanger:`
		`Rot. Excha`
		
		`Cooling:  Water`
			Shows type of heating selected.
			
			Shows type of exchanger selected.
			
			Shows type of cooling selected.

		`Free cool` `active:  No`	**Shows** the status of the free cooling function.

		`Support control`
		
		`Active:  No`
		
		`CO2/VOC active`
		
		`Never`
			Shows the status of the support control function.
			
			Shows the status of the demand ventilation (CO2/VOC) function.

		`Fire damper function`
		
		`Not active`
		
		`Operation when alarm`
		
		`Stopped`
			Shows the status of the fire damper function.

Main menu item	Sub-menu item 1	Sub-menu item 2	Explanations
		Frost protection Active Cooling recovery No	**Shows** the status of the frost protection function. **Shows** the status of the cooling recovery function.
		External set point Not active	**Shows** the status of the external set point.
	→Alarm events		**Shows** all registered alarms along with the time and date they occurred. Move down and up in the list by pressing ↑↓.
	→Input/ Output	→Analogue inputs	**Shows** the status of the Ananlogue inputs.
		→Digital inputs	**Shows** the status of the Digital inputs.
		→Universal inputs	**Shows** status of Universal Analogue inputs. **Shows** status of Universal Digital inputs.
		→Analogue outputs	**Shows** the status of the Analogue outputs.
		→Digital outputs	**Shows** the status of the Digital outputs.
→Temperature	Extract air temp Act.: °C Setp: 18.0°C		**Shows** the configured temperature control (Default is Extract air temp). **Shows** the actual temperature in the chosen control mode. **Set** the temperature for the chosen control mode.
		If cascade control Max/min supply setp. Max: 30°C Min: 12.0°C	**Set** the maximum and minimum allowed supply air temperature in case of cascade control. **Logon to service level needed to change settings**.
	Outdoor temp: °C Supply air temp Actual: °C Setp: 18°C		**Shows** the actual outdoor air temperature. **Shows** the actual supply air temperature. **Shows** the calculated supply air set point. The exhaust air controller output signal generates the supply air controller's set point value.

Main menu item	Sub-menu item 1	Sub-menu item 2	Explanations
	Frost protection Actual: °C		**Shows** the actual water temperature in the water heating battery (Only visible for HW units).
	Exhaust air temp Actual: °C		**Shows** the actual exhaust air temperature.
	Efficiency Exchanger Actual: %		**Shows** the actual heat recovery efficiency. The function calculates the heat exchangers temperature efficiency in % when the output signal to the exchanger is higher than 98% and the outdoor temperature is lower than 10°C. When the control signal is lower than 98% or the outdoor temperature is higher than 10°C the display will show 0%.
→Air Control			This menu option becomes visible if the unit is configured for "Flow control" or "Pressure control".
	Flow control SAF Actual: m³/h Setp.: m³/h		**Shows** airflow for the supply air fan (constant airflow control). Only visible if the unit is configured for Flow control.
		Flow control SAF Setp 1/1: 1100 m³/h Setp 1/2: 550 m³/h	**Set** the normal (1/1) and reduced (1/2) airflow for the supply air fan.
		Outdoor comp.Setp. 1 −20°C = 10 m³/h 0°C = 0 m³/h Act. Comp: 0 m³/h	**Set** the SAF airflow compensation for the settable outdoor temperature. The outdoor compensation is linear and is set using two parameter pairs which give the value of the compensation at two different outdoor temperatures. The compensation can be positive or negative. **Shows** the actual airflow compensation.
	Flow control EAF Actual: + INF m³/h Setp.: m³/h		**Shows** airflow for the extract air fan (constant airflow control). Only visible if the unit is configured for Flow control.

Main menu item	Sub-menu item 1	Sub-menu item 2	Explanations

		`Flow control EAF`
		
		`Setp 1/1: 1100 m³/h`
		
		`Setp 1/2: 550 m³/h↓`
			Set the normal (1/1) and reduced (1/2) airflow for the extract air fan.

		`Outdoor comp.Setp. 1`
		
		`−20°C = 10 m³/h`
		
		`0°C = 0 m³/h`
		
		`Act. Comp: 0 m³/h`
			Set the EAF airflow compensation for the settable outdoor temperature. The outdoor compensation is linear and is set using two parameter pairs which give the value of the compensation at two different outdoor temperatures. The compensation can be positive or negative.
			
			Shows the actual airflow compensation.

	`Pressure control SAF`
	
	`Actual: Pa`
	
	`Setp.: Pa`
			Shows the actual external pressure and set point for the supply air fan.
			
			Only visible if the unit is configured for "Pressure control" (VAV).

		`Pressure control SAF`
		
		`Setp 1/1: 250 Pa`
		
		`Setp 1/2: 100 Pa`
			Set the external pressure set point for normal speed (1/1) and reduced speed (1/2) for the supply air fan.

		`Outdoor comp.Setp. 1`
		
		`−20°C = 0 Pa`
		
		`10°C = 0 Pa`
		
		`Act. Comp: 0 Pa`
			Set the SAF pressure compensation for the settable outdoor temperature. The outdoor compensation is linear and is set using two parameter pairs which give the value of the compensation at two different outdoor temperatures. The compensation can be positive or negative.
			
			Shows the actual pressure compensation.

	`Pressure control EAF`
	
	`Actual: Pa`
	
	`Setp.: Pa`
			Shows the actual external pressure and set point for the extract air fan.
			
			Only visible if the unit is configured for "Pressure control" (VAV)

Main menu item	Sub-menu item 1	Sub-menu item 2	Explanations
		`Pressure control EAF` `Setp 1/1:  250 Pa` `Setp 1/2:  100 Pa`	**Set** the external pressure set point for normal speed (1/1) and reduced speed (1/2) for the supply air fan.
		`Outdoor comp.Setp.  1` `−20°C = 0 Pa` `10°C = 0 Pa` `Act.  Comp:  0 Pa`	**Set** the EAF pressure compensation for the settable outdoor temperature. The outdoor compensation is linear and is set using two parameter pairs which give the value of the compensation at two different outdoor temperatures. The compensation can be positive or negative. **Shows** the actual pressure compensation.
→ `Time settings`	→ `Time/Date`		**Set** correct time and date.
	→ `Timer normal speed`		**Set** week schedule Monday to Sunday + Holiday for normal speed. Possible to set 2 periods per day. 00:00 24:00 for continuous running. 00:00 00:00 inactivates the period. Note the settings in the commissioning record.
	→ `Timer reduced speed`		**Set** week schedule Monday to Sunday + Holiday for reduced speed. Possible to set 2 periods per day. 00:00 24:00 for continuous running. 00:00 00:00 inactivates the period. Note the settings in the commissioning record.
	→ `Extended running`	`Extended running` `60 min` `Time in ext. running` `0 min`	Set the time for extended running. Digital inputs can be used to force the unit to start or increase to Normal running although the timer says the running mode should be `Off` or `Reduced`. If the running time is set to 0 the unit only runs as long as the digital input is closed. The time the extended running is active is monitored in "Time in ext. Running". It's also possible to set a time here as well in order to shorten the initial set period.

Main menu item	Sub-menu item 1	Sub-menu item 2	Explanations
	→ Holidays	Holidays (mm:dd) 1:01-01 — 01-02 2:09-04 — 09-10 3:01-05 — 01-05	**Set** up to 24 separate possible holiday periods for a full year. A holiday period can be any number of consecutive days from one and upwards. The dates are in the format: MM:DD. When the current date falls within a holiday period, the scheduler will use the settings for the weekday "Holiday".
→ Manual/Auto			In this menu the running mode of all the configured output signals and a number of control functions can be manually controlled. The supply air controller's output signal can be manually set (Manual/Auto) to any value between 0 and 100%. The temperature output signals will change accordingly if they are in Auto mode. It is also possible to manually control each of the temperature output signals individually. **Since leaving any of the outputs in manual control will disrupt the normal control, an alarm will be generated as soon as any output is set to a manual mode.**
	Supply Temperature contr. Auto Manual set: 0.0		**Set** the supply air temperature to "Auto", "On" or "Off". **Set** the output signal between 0-100%. The outputs Y1, Y2 and Y3, if in Auto-mode, will follow the signal according to the set split values.
	SAF: Auto Manual set: 0.0 EAF: Auto Manual set: 0.0		**Set** the start signal for SAF (supply air fan) & EAF (exhaust air fan) to "Auto, Manual full speed, Manual half speed or Manual.
	Heating Auto Manual set: 100.0		**Set** the heating to Auto, Manual or Off. **Set** the manual output 0-100%.

Main menu item	Sub-menu item 1	Sub-menu item 2	Explanations

	`Exchanger`
	
	`Auto`
	
	`Manual set:`
	`0.0`
			Set the exchanger rotor control to `Auto`, `Manual` or `Off`.
			
			Set the manual output 0-100%.

	`Cooling`
	
	`Auto`
	
	`Manual set:`
	`0.0`
			Set the cooling to `Auto`, `Manual` or `Off`.
			
			Set the manual output 0-100%.
			
			Note:
			
			Needs to be activated in order to be visible here.

	`P1-Heating`
	
	`Auto`
	
	`P1-Exchanger`
	
	`Auto`
			Set the pump control for the heating coil to `Auto`, `On` or `Off`.
			
			Set the pump control for a possible run around coil to `Auto`, `On` or `Off`.

	`P1-Cooling`
	
	`Auto`
			Set the pump control for the cooling coil to `Auto`, `On` or `Off`.

	`Fire damper`
	
	`Auto`
			Set the Fire damper to `Auto`, `Open` or `Close`.
			
			Note:
			
			Needs to be activated in order to be visible here.
			
			Configuration of fire damper functions are made at `System level`.

	`Fresh air damper (Outdoor air damper)`
	
	`Auto`
			Set the Outdoor air damper to `Auto`, `Open` or `Close`.

	`Exhaust air damper`
	
	`Auto`
			Set the Exhast air damper to `Auto`, `Open` or `Close`.

→ `Settings`			In this menu group the settings for the activated functions are available. Depending on which choices have been made in the configuration menu some of the possible alternatives may not be displayed.

Main menu item	Sub-menu item 1	Sub-menu item 2	Explanations
	→ Control temp	Supply air control P-band: 33.0°C I-time: 100.0 sec	**Set** P-band and I-time for the Supply air control function. **Note:** See Corrigo E ventilation 3.0 manual for deeper explanation.
		Room control P-band: 100.0°C I-time: 300.0 sec	**Set** P-band and I-time for the Room control function. **Note:** See Corrigo E ventilation 3.0 manual for more info.
		Shutdown mode P-band: 100.0°C I-time: 100.0 sec	**Set** P-band and I-time for the Shutdown function. **Note:** See Corrigo E ventilation 3.0 manual for deeper explanation.
		→ Frost protection Active Setp shutdown: 25.0°C P-band active: 5.0°C	P-band active 5° C means that the frost protection controller will start overriding the heating output when the frost protection temperature is less than 5 degrees above the set frost alarm default alarm limit is 7° C.
		Fast stop at frost protection alarm Yes	**Set** the fast stop of the unit in case of frost protection alarm to Yes or No.
	→ Control flow		Alternatively Pressure control if chosen in the configuration of the unit from factory.
		Flow control SAF P-band: 10000.0 m³/h I-time: 10.0 sec Min. output: 0%	**Set** P-band, I-time and Min. output for the supply air fan when the unit comes configured as Flow control from factory. Alternatively Pressure control if that configuration is chosen.

Main menu item	Sub-menu item 1	Sub-menu item 2	Explanations

		`Flow control EAF`
		
		`P-band: 10000.0 m³/h`
		
		`I-time:  10.0 sec`
		
		`Min.  output: 0%`
			Set P-band, I-time and Min. output for the Extract air fan when the unit comes configured as `Flow control` from factory. Alternatively `Pressure control` if that configuration is chosen.

	`→ Alarm settings`	`→ Alarm limits`	**Set** the alarm limits and allowed deviations for the different functions.
		`→ Alarm delays`	**Set** the alarm delays and allowed deviation delays for the different functions.

	`Restore factory settings:  No`
	
	`Restore user settings:  No`
			In this menu, it is possible to restore all parameters to their factory settings or to the user settings they were **saved as earlier.**
			
			Select `Yes` or `No`.

	`Save user settings`
	
	`No`
			The current configuration can be saved in a separate memory area and can later be restored using the previous menu, Restore user settings. **Select** `Yes` or `No`

`→ Configuration`	`→ Control function`	`Control function`
		
		`Mode:`
		
		`Room control`
			Set type of temperature control function you want the unit to operate under. Choose between
			
			`Extract air control, "Room control, Outdoor comp.  Supply, Supply air control,`
			
			`Extract/supply air` →(possible to switch between the two depending on outdoor temp.),
			
			`Room/supply air` →(possible to switch between the two depending on outdoor temp.),

	`→ Free cooling`	`Free cool active:  No`
		
		`Outd.  temp activation`
		
		`22°C`
			Set free cooling active to "`Yes` or `No`.
			
			Set the lower outdoor day temperature limit for the activation of the free cooling function. The temperature of the previous day needs to be over the set temperature in order activate the free cooling function.

Main menu item	Sub-menu item 1	Sub-menu item 2	Explanations
		`Outd. temp night` `High: 15.0°C` `Low: 5.0°C` `Room temp min. 18°C`	**Set** the upper outdoor night temperature limit for the activation of the free cooling function. **Set** the lower outdoor night temperature limit for the activation of the free cooling function. **Set** the lower room temperature limit. The temperature needs to be above this value for the free cooling function to stay active.
		`Hour for start/stop` `Free cooling` `Start: 0` `Stop: 7`	**Set** the start and stop time for the free cooling function For example `Start: 0` and `Stop: 6` means that the free cooling sequence is active between 00.00 and 06.00 h.
		`Time to block heat output after Free cooling` `60 min`	**Set** the delay in minutes from the time where the free cooling sequence has stopped until a possible heating sequence is initiated, i.e. how long a cooler room temperature than set temperature can be accepted.
		`Fan output when free cooling` `SAF: 0 %` `EAF: 0 %`	**Set** the fan speed in percentage of the normal speed for each fan individually during the free cooling sequence.
		`Outdoor sensor placed in intake channel` (intake duct) `No`	**Set** if the outdoor sensor is placed in the intake duct or not. Choose between `No` and `Yes` Preset is `No`.
	→ Support control	`Support control` `Active: No` `EAF running during Support contr.: Yes`	When using the control function room control or extract air temperature control, it is possible to utilize support-heating and/or support-cooling. Minimum running time is settable 0…720 minutes. (factory setting 20 minutes). Choose between "Active: Yes or No". (For start and stop temperatures see the "Temperature" menu).
		`Min. run time for support ctrl: 60 min`	**Set** the minimum running time in minutes for support control.

Main menu item	Sub-menu item 1	Sub-menu item 2	Explanations
	→ CO2/VOC Control	CO2/VOC active Never Type: Fan Min. time: 60 min	In applications with varying occupancy the fan speeds can be controlled by the air quality as measured by a CO2/VOC-sensor. See encl. corrigo manual (CD) for det. explanation. **Set** active to Never, Always or If time channel off. Set what should be regulated. Select type Fan **Set** the min. time the unit is activated by the CO2/VOC demand function.
		Activation level 1/2-speed: 800 ppm 1/1-speed: 1000 ppm diff: 160 ppm	**Set** the activation level at 1/2 speed **Set** the activation level at 1/1 speed **Set** allowed diff. value.
	→ Cooling recovery	Cooling recovery No Cooling limit: 2.0°C	**Set** the cooling recovery to Yes or No. **Set** the cooling limit (the difference in temperature between extract air and outdoor air that activates the cooling recovery).
→ Access rights	→ Log on	Log on Enter password xxxx Actual level: None	**Log on** to service level by entering a 4-digit code. After reaching the desired level go back with "LEFT" arrow (press 2 times) on the control panel. Standard code from factory to enter service level is 2222. Back to operator level: 1111
	→ Log off	Log off No Actual level:None	**Log off** from system level by changing "No" to "Yes" with the "OK" and "UP/DOWN" buttons Automatic logoff after 6 minutes of inactivity.
	→ Change password	Change password for level:None New password xxxx	**Set** a new password for the level of your choice. Can only be done once logged on to the service level.

Free cooling description

This function is used during the warm period to save energy by using cold outdoor air, e.g. during night time, to cool down the building.

Note:

The following is only valid if the free cooling function is set to `Active` in the program menu.

Free cooling is only activated when the following starting conditions are met.

Starting conditions:

- Less than 4 days have passed since the unit was last in running mode.
- The outdoor temperature during the previous running period exceeded a set limit (+22°C).
- It is between 00:00 and 07:00:00 in the day (settable).
- The timer outputs for normal speed, Extended running normal and External stop are Off.
- A time channel will be On sometime during the recently started 24 hours.

The unit checks the night temperature (indoor and outdoor temperature) during 3 minutes at the set starting hour when the fans are started so that the sensors can perform a temperature measurement. If above conditions are met the free cooling function is started, if not the unit goes back to OFF position.

If the outdoor sensor is not located in the outdoor air inlet duct and a room sensor has been selected, the unit will not start free cooling as long as all the temperatures are not within the start and stop temperature intervals.

Stop conditions:

- Outdoor temp above the set max value (+18°C) or below the set min value (condensation risk, +10°C).
- The room temp/extract air temp is below the set stop value (+18°C).
- One of the timer outputs for normal speed, External stop or Extended running normal is On.
- The time has past 07:00:00.

When free cooling is active, the fans run at normal speed or the set value for pressure/flow control and the digital output `Free cooling` is active. The outputs `Y1-Heating, Y2-Heat exchanger` and `Y3-Cooling` are shut down. After free cooling has been activated, the heating output is blocked for 60 minutes (configurable time).

Warning

In order to avoid electrical shock, fire or other damage that might occur in connection with faulty use and operation of the unit, it is important to consider the following:

- The system must be installed according to the mounting instructions
- Insulate mains supply before service or cleaning of the heat recovery unit
- Tumble dryer must not be connected directly to the ventilation system
- Make sure the filter is mounted in its place before running the system
- Maintenance must be performed according to the instructions.

Maintenance

Maintenance of the Rotovex should normally be carried out 3 – 4 times a year. Apart from general cleaning the following should be observed:

1. Changing Supply / Extract air filter, indicates as "Filter guard" in the control panel (fig.3 and 4).
The bag filter cannot be cleaned and must be changed as necessary. New filters can be ordered from Systemair.
Pressure guards monitor Supply and Extract air filters.
Initial pressure drop is approx. for EU7 filters = 80Pa and for EU5 filter = 45Pa.
Final pressure drop is approx. 240 Pa

2. Checking the heat exchanger (Once a year), (fig.1).
After long times use dust may build up in the exchanger and block the airflow. It is vital to clean the exchanger regularly to maintain high efficiency. The heat exchanger can not be taken out of the unit. Clean the surface of the exchanger using a vacuum cleaner with a brush fitting. Take great care not to damage the surface. If necessary, compressed air may be used to remove dirt. If the transmission belt is worn or slack it should be replaced.

3. Checking the fans (once a year), (fig.1).
Even if the required maintenance, such as changing of filters is carried out, dust and grease may slowly build up inside the fan (pos.6 and 7 in fig. 1). This will reduce the efficiency.
The fans may be cleaned with a cloth or a soft brush. Do not use water. White spirit can be used to remove obstinate settlements. Allow drying properly before remounting.

4. Cleaning extract louvres and inlet diffusers (when necessary)
The system supplies fresh air to the building and extracts the used indoor air via the duct system and diffusers/louvres. Diffusers and louvres are mounted in ceilings/walls in bedroom, living room, wet rooms, WC etc. Remove diffusers and louvers and wash in hot soapy water as required. (Diffusers/ louvres must be put back with their original settings and positions in order not to unbalance the system).

5. Checking the fresh air intake
Leaves and pollution could plug up the air intake grille and reduce the capacity. Check the air intake grille at least twice a year, and clean if necessary.

6. Checking the duct system (when necessary)
Dust and grease settlements may build up in the duct system even if filters are changed regularly. This will reduce the efficiency of the installation. The duct runs should therefore be cleaned/ changed when necessary. Steel ducts can be cleaned by pulling a brush soaked in hot soapy water, through the duct via diffuser/ louver openings or special inspection hatches in the duct system (if fitted).

NOTE! In addition roof cowl must be checked once a year and cleaned as necessary.

Troubleshooting

Should problems occur, please check or correct the following before contacting your service representative.
Always check if there are any alarms active in the control panel.

1. Fan(s) do not start
- Check if there are any alarm messages
- Check the settings in the control panel (times, week schedule, auto, manual operating etc.)
- Check that the fuses are not defect

2. Reduced airflow
A.) Check the settings of fan speed
B.) Check that the Fresh / Exhaust air damper, if used, opens
C.) Change of filters required?
D.) Cleaning of diffusers/louvers required?
E.) Cleaning of fans required?
F.) Is roof unit/air intake clogged?
G.) Duct system. Check visible duct runs for damage and/or build-up of dust/pollution
H.) Check diffuser/louver openings.

3. Cold supply air
A.) Check control temperature on the control panel
B.) Check if overheating thermostat is alert. If necessary, reset by pressing the red button, marked RESET , on top of the connection box (pos.26 in fig.2)
C.) Check if the extract filter must be changed
D.) Check that the heat exchanger is rotating
E.) Check if the fan thermo contact has tripped, shows as *Fan alarm* in the control panel. If necessary, reset it (see page 3).

4. Noise/ vibrations
A.) Clean fan impellers
B.) Pull the fans out and check that the 2 screws holding the fans are tightened.

Service

Before calling your service representative, make a note of the specification and production number from the data plate.

Systemair AB reserves the right to make changes and improvements to the contents of this manual without prior notice