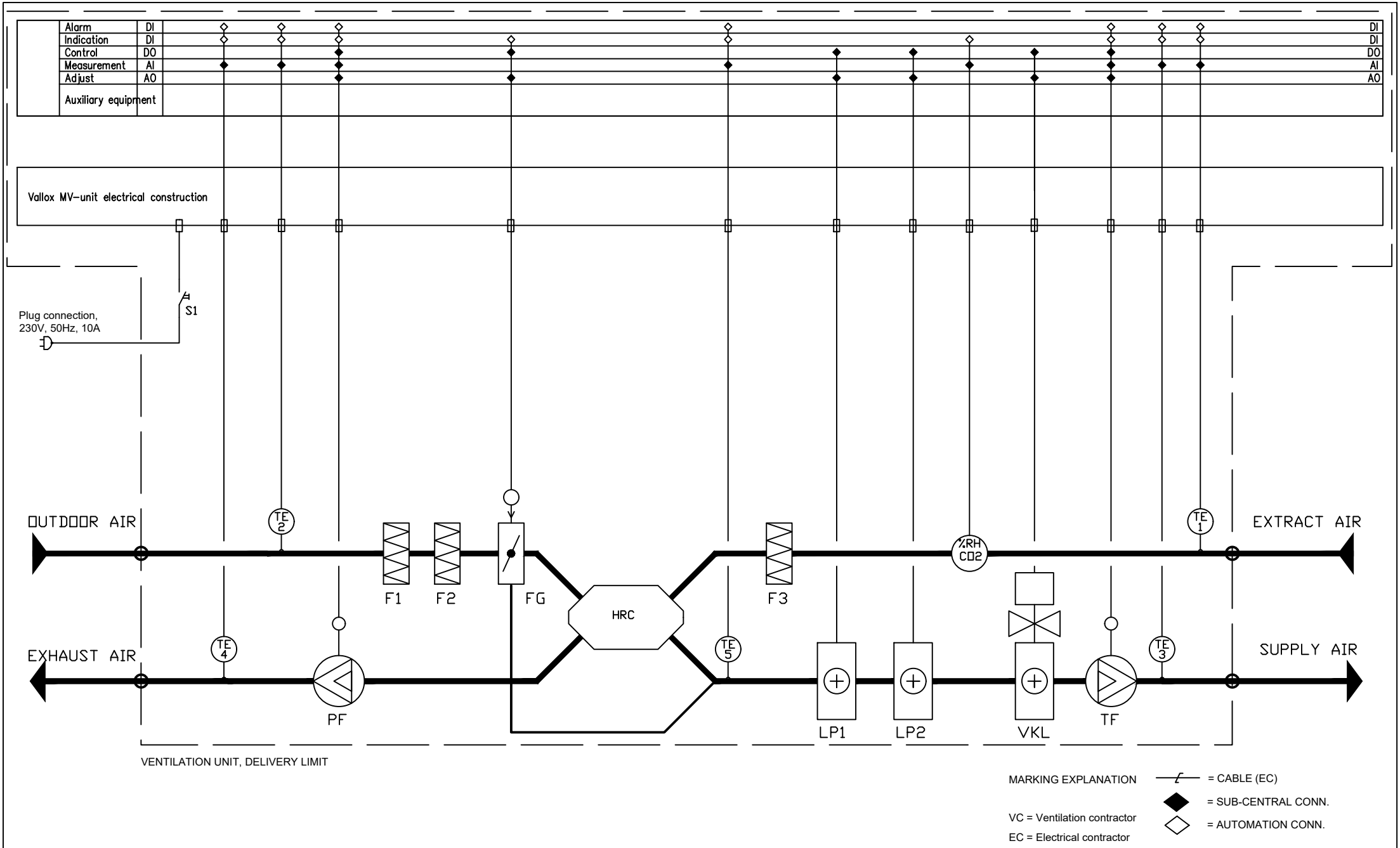


Revision	Date	Person	Change

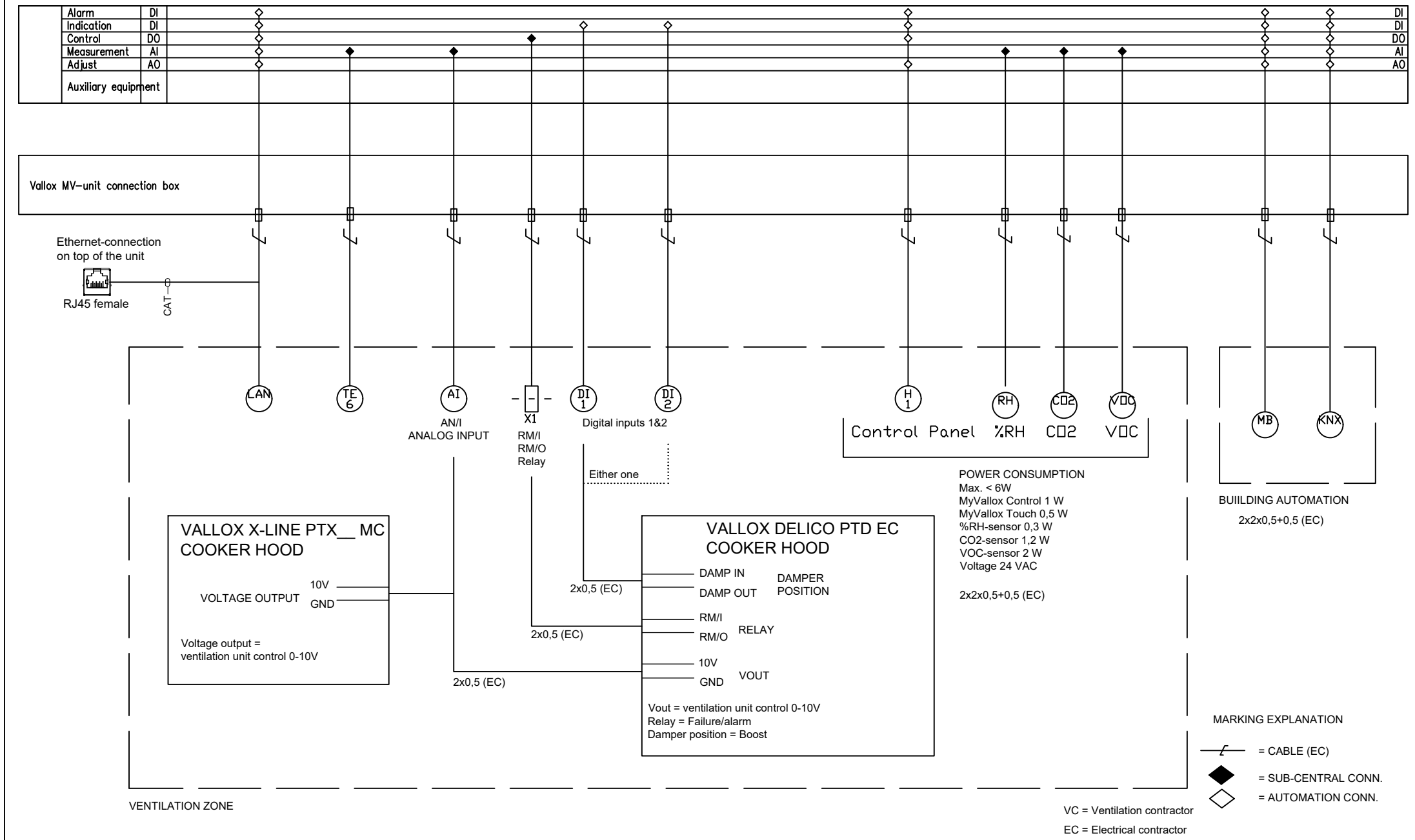
VALLOX

Target
Client name
Address

ADJUSTMENT AND CONTROL DEVICE LIST

Vallox MV VKL -units

Drawer	Designer	Project number	Date.	Revision	Drawing number	Page
Person	Person	001	Date	A	001	01 /14



Revision	Date	Person	Change

VALLOX

Target
Client name
Address

ADJUSTMENT AND CONTROL DEVICE LIST

Vallox MV VKL -units

Drawer	Designer	Project number	Date.	Revision	Drawing number	Page
Person	Person	001	Date	A	001	02 /14

PART ID	DEVICE	LOCATION	SETTING VALUE	BUYS / INSTALLS	NOTE.
%RHCO2	Concentration measurement	Internal	%RH- ja CO2-sensor	Standard delivery	Standard delivery
AI	Analog input	Connection box		Standard delivery	
DI1	Digital Input	Connection box		Standard delivery	
DI2	Digital Input	Connection box		Standard delivery	
F1	ICO Coarse >75%	Internal	ISO Coarse >75%	Standard delivery	
F2	ISO ePM1 >50%	Internal	ISO ePM1 >50%	Standard delivery	
F3	ICO Coarse >75%	Internal	ISO Coarse >75%	Standard delivery	
FG	Bypass damper motor	Internal		Standard delivery	
H1	Control Panel	Connecction box		Standard delivery	Need to be wired. Can be more than one panel.
HRC	Cross counterflow heat exchanger	Internal		Standard delivery	
LAN	LAN/Ethernet-connection	Cable		Standard delivery	LAN-cabel on top of the unit.
LP1	Electrical heater	Internal	1500 W, with built-in thermal protection	Standard delivery	
LP2	Electrical heater	Internal	1500 W, with built-in thermal protection	Standard delivery	
MB	Modbus-connection	Connection box		Standard delivery	Connected to MV-unit connection box
PF	EC-fan	Internal		Standard delivery	
S1	Safety switch	Internal		Standard delivery	
TE1	NTC 4k7	Internal	4k7	Standard delivery	
TE2	NTC 4k7	Internal	4k7	Standard delivery	
TE3	NTC 4k7	Internal	4k7	Standard delivery	
TE4	NTC 4k7	Internal	4k7	Standard delivery	
TE5	NTC 4k7	Internal	4k7	Standard delivery	
TF	EC-fan	Internal		Standard delivery	
VKL	Water circulating heater	Internal	Includes valve and actuator	Standard delivery	
X1	Relay output	Internal		Standard delivery	
CO2	CO2	Room		VC / EC	Option. External sensor connected to Modbus.

Revision	Date	Person	Change

VALLOX

Target
Client name
Address

ADJUSTMENT AND CONTROL DEVICE LIST

Vallox MV VKL -units

Drawer	Designer	Project number	Date.	Revision	Drawing number	Page
Person	Person	001	Date	...	001	03 /14

PART ID	DEVICE	LOCATION	SETTING VALUE	BUYS / INSTALLS	NOTE.
KNX	KNX-converter	External converter		VC / EC	Option, external KNX converter
RH	%RH	Room		VC / EC	Option. External sensor connected to Modbus.
TE6	External NTC-sensor	Duct	NTC 4k7	VC / EC	Option
VOC	VOC	Room		VC / EC	Option. External sensor connected to Modbus.

Revision	Date	Person	Change

VALLOX

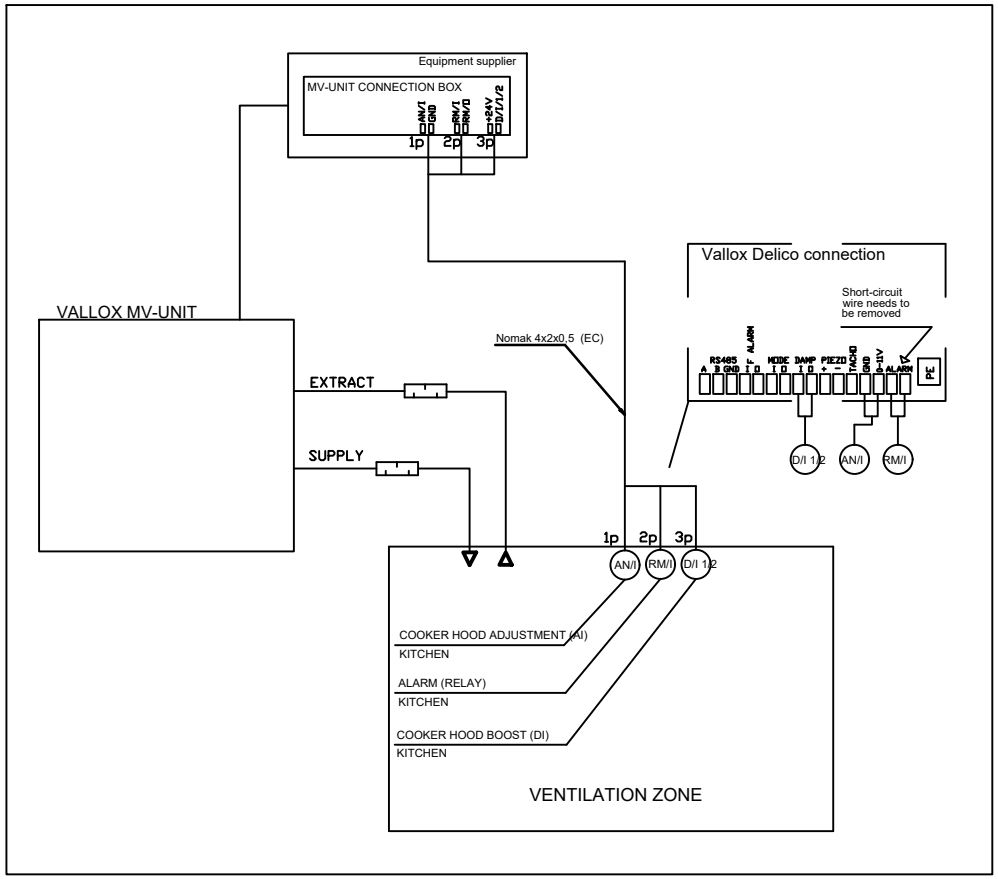
Target
Client name
Address

ADJUSTMENT AND CONTROL DEVICE LIST

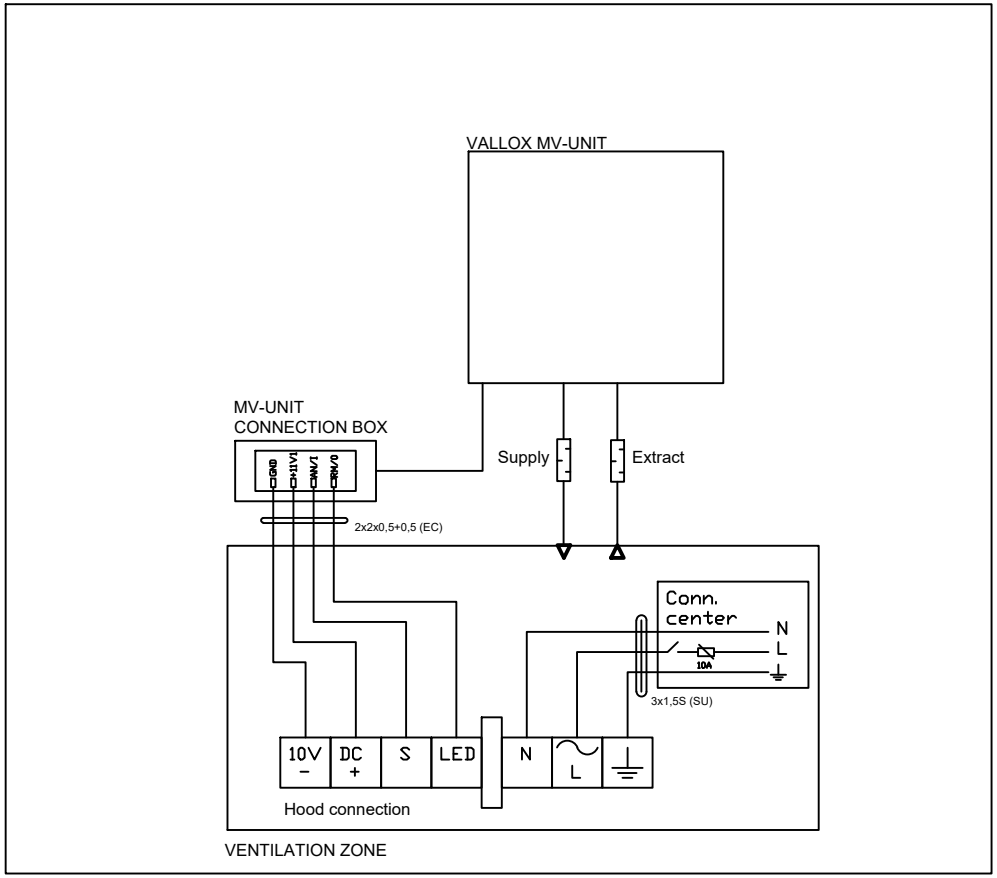
Vallox MV VKL -units

Drawer	Designer	Project number	Date.	Revision	Drawing number	Page
Person	Person	001	Date	...	001	04 /14

Vallox Delico PTD EC cooker hood adjustment



Vallox X-Line PTX__ MC cooker hood adjustment



Revision	Date	Person	Change

VALLOX

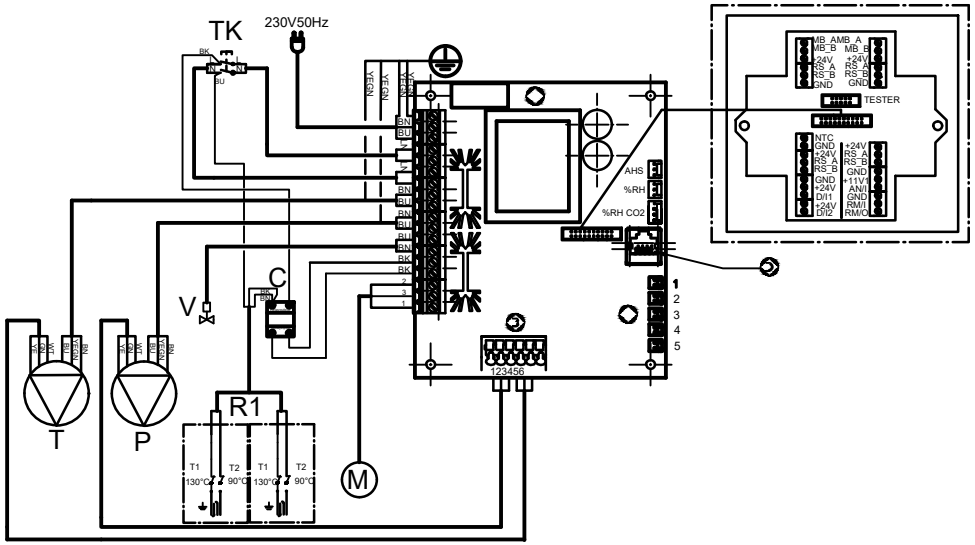
Target
Client name
Address

ADJUSTMENT AND CONTROL DEVICE LIST

Vallox MV VKL -units

Drawer	Designer	Project number	Date.	Revision	Drawing number	Page
Person	Person	001	Date	A	001	05 /14

Vallox 245 MV VKL



A	Motherboard
B	1. Extract air fan tacho (WT) 2. GND (GN) 3. Extract air fan PWM (YE) 4. Supply air fan tacho (WT) 5. GND (GN) 6. Supply air fan PWM (YE)
C	1. Extract air 2. Outdoor air 3. Supply air 4. Exhaust air 5. Supply air from the HR cell
D	LAN

MB_A	External Modbus A signal
MB_B	External Modbus B signal
+24V	+24V voltage (DC)
GND	Digital and analog ground potential
RS_A	Local hardware Modbus A signal
RS_B	Local hardware Modbus B signal
NTC	External temperature sensor connector
D/I1	Digital input 1
D/I2	Digital input 2
11V1	11.1 V operating voltage
AN/I	Analog input 0-10VDC
RM/I	24V relay input
RM/O	24V relay output

V	Liquid radiator actuator
T	Supply air fan
P	Extract air fan
M	Damper motor
TK	Safety switch
C	Heating resistor relay
AHS	Post-heating control
%RH	Internal humidity sensor
%RH CO_2	Internal humidity and carbon dioxide sensor
R1	Additional heating resistor with 90°C and 130°C overheating protection

BK	Black
BU	Blue
BN	Brown
WT	White
GY	Grey
YE	Yellow
YEGN	Yellow-green

Revision	Date	Person	Change

VALLOX

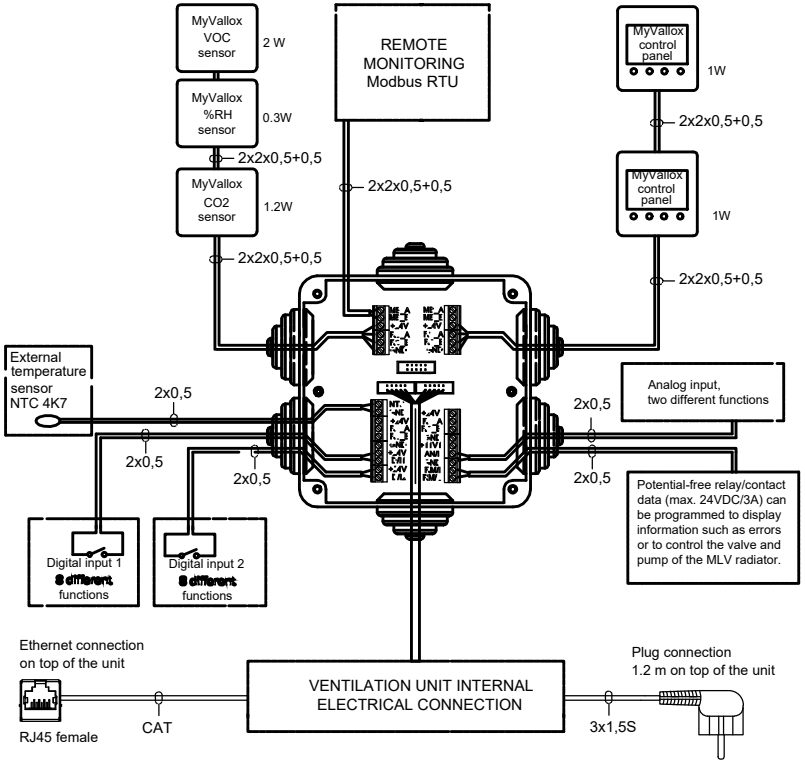
Target
Client name
Address

ADJUSTMENT AND CONTROL DEVICE LIST

Vallox MV VKL -units

Drawer	Designer	Project number	Date.	Revision	Drawing number	Page
Person	Person	001	Date	...	001	06 /14

EXTERNAL ELECTRICAL CONNECTION



POWER SUPPLY	
Maximum	≤6 W
MyVallox Control	1 W
MyVallox Touch	0.5 W.
MyVallox %RH sensor	0.3W
MyVallox CO_2 sensor	1.2W
MyVallox VOC sensor	2W
External actuator or damper motor of the unit that receives feed from the relay	
Voltage	24 VDC

MB_A	External Modbus A signal
MB_B	External Modbus B signal
+24V	+24V voltage (DC)
GND	Digital and analog ground potential
RS_A	Local hardware Modbus A signal
RS_B	Local hardware Modbus B signal
NTC	External temperature sensor connector

D/I1	Digital input 1
D/I2	Digital input 2
11V1	11.1 V operating voltage
AN/I	Analog input 0-10VDC
RM/I	24V relay input
RM/O	24V relay output

Revision	Date	Person	Change

VALLOX

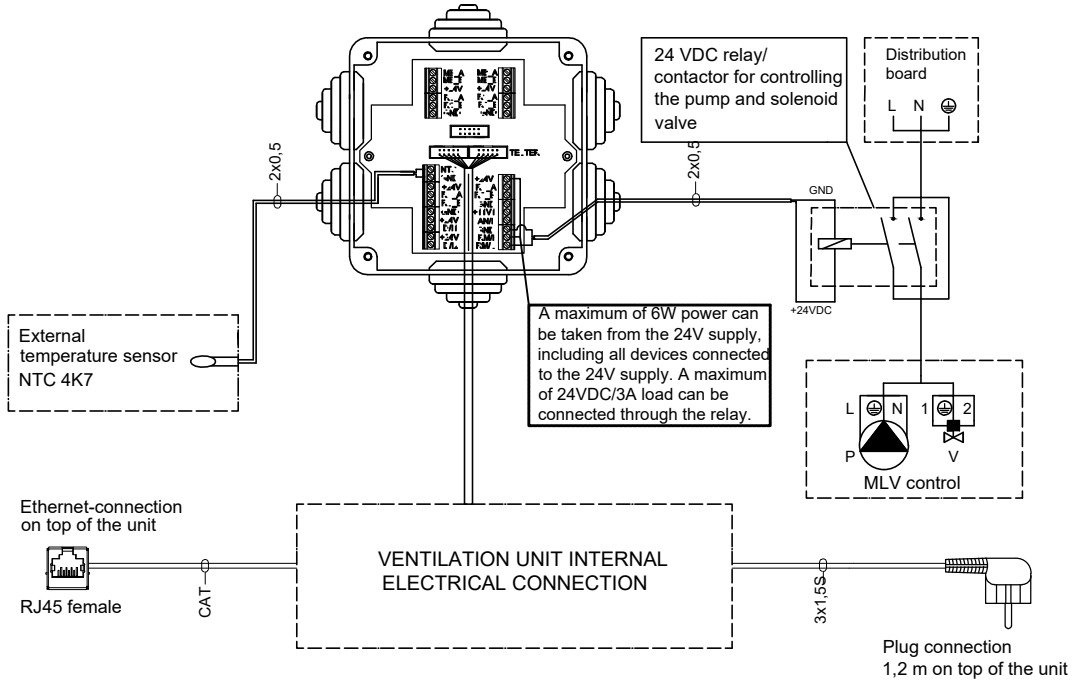
Target
Client name
Address

ADJUSTMENT AND CONTROL DEVICE LIST

Vallox MV VKL -units

Drawer	Designer	Project number	Date.	Revision	Drawing number	Page
Person	Person	001	Date	...	001	07 /14

EXTERNAL ELECTRICAL CONNECTION FOR MLV DUCT RADIATOR CONTROL



POWER SUPPLY

Maximum	≤6 W
MyVallox Control	1 W
MyVallox Touch	0.5 W
MyVallox %RH sensor	0.3 W
MyVallox CO2 sensor	1.2 W
MyVallox VOC sensor	2 W
External actuator or damper motor of the unit that receives feed from the relay	
Voltage	24 VDC

MB_A	External Modbus A signal
MB_B	External Modbus B signal
+24V	+24 V voltage (DC)
GND	Digital and analog ground potential
RS_A	Local hardware Modbus A -signal
RS_B	Local hardware Modbus B -signal
NTC	External temperature sensor connector
D/I1	Digital input 1

D/I2	Digital input 2
11V1	11,1 V operating voltage
AN/I	Analog input 0-10 VDC
RM/I	24 V relay input
RM/O	24 V relay output
P	Circulation pump
V	Solenoid valve

Revision	Date	Person	Change

VALLOX

Target
Client name
Address

ADJUSTMENT AND CONTROL DEVICE LIST

Vallox MV VKL -units

Drawer	Designer	Project number	Date.	Revision	Drawing number	Page
Person	Person	001	Date	A	001	08 /14

MV ventilation unit control options:
– MyVallox Touch control panel
o local control
– MyVallox Control panel
o local control
– MyVallox Home – online user interface
o local control in the home network
– MyVallox Cloud – online user interface as a cloud service
o control through the www.MyVallox.com website
– Modbus RTU
o remote control of the building through Modbus
– Through digital and analog inputs
o local control, cooker hood or remote control

Fan speed control:
– The fan speed is controlled by using the Away, At home, Boost, and Custom modes. The modes can be switched in all control method options, except for the programmable mode.
– The rotation speed of supply and extract fans can be specified in percentages in the At home, Away, and Boost modes. The rotation speed ratio between the supply and extract fans is the same in the At home, Away and Boost modes.
– In CF models, the supply and extract air flows can be specified in percentages in the At home, Away, and Boost modes. The ratio between the supply and extract air flows is the same in the At home, Away and Boost modes. The air flows remain stable regardless of changes in pressure losses caused by ducts, wind, dirty filters or freezing of the HR cell and the defrost cycles.
- Settings of the Away mode
- Fan speed, supply air temperature, and %RH and CO2 adjustments on/off
- Settings of the At home mode
- Fan speed, supply air temperature, and %RH and CO2 adjustments on/off
- Settings of the Boost mode
- Fan speed, supply air temperature, timer, and %RH and CO2 adjustments on/off
- Once the timing ends, the unit will restore to the mode that was in use before the timer setting was activated.

- Settings of the Custom mode
- Fan speed separately for the supply and extract air fans and the timer
- The supply air temperature setting is determined based on the previous mode
- Once the timing ends, the unit will restore to the mode that was in use before the timer setting was activated.
- Settings of the programmable mode
- Fan speed separately for the supply and extract air fans, supply air temperature, and the timer
- The previous mode is restored once the timing ends
- Can only be activated through the digital input 1 or 2, or, alternatively, through Modbus.

Supply air temperature adjustment:
– The supply air temperature adjustment options are supply air adjustment, extract air adjustment, and cooling adjustment.
– Operation of the supply air adjustment:
o When the temperature of the air passing through the heat recovery cell is lower than the temperature set for the supply air and the outdoor air temperature is lower than the Heating season setting, the adjustment uses the heat recovery cell and the post-heating radiator to achieve the set temperature.
o Heat recovery is bypassed if the outdoor air temperature is higher than the Heating season setting and the supply air temperature is higher than the temperature set for supply air.
– Operation of the extract air adjustment:
o If the extract air temperature is lower than the temperature set for the supply air and the outdoor air temperature is lower than the Heating season setting, the adjustment increases the target value of the supply air adjustment (max. 10°C).
o If the extract air temperature is higher than the temperature set for supply air and the outdoor air temperature is lower than the Heating season setting, the adjustment decreases the target value of the supply air adjustment (max. 10°C).
o When the temperature of the air coming through the heat recovery cell is lower than the temperature set for supply air and the outdoor air temperature is lower than the Heating season setting, the adjustment uses the heat recovery cell and the post-heating radiator to achieve the target value.
o Heat recovery is bypassed if the outdoor air temperature is lower than the Heating season setting and the supply air temperature is higher than the supply air target value.
– Operation of the cooling adjustment:
o If the extract air temperature is lower than the temperature set for the supply air and the outdoor air temperature is lower than the Heating season setting, the adjustment increases the target value of the supply air adjustment (max. 10°C).
o If the extract air temperature is higher than the temperature set for supply air and the outdoor air temperature is lower than the Heating season setting, the adjustment decreases the target value of the supply air adjustment (max. 10 °C) and boosts the fan speed according to need up to the fan speed setting of the Boost mode. When the Boost mode is in use, the fan speed is increased based on the need up to the maximum speed.
o When the temperature of the air coming through the heat recovery cell is lower than the temperature set for supply air and the outdoor air temperature is lower than the Heating season setting, the adjustment uses the heat recovery cell and the post-heating radiator to achieve the target value.
o Heat recovery is bypassed if the outdoor air temperature is higher than the Heating season setting.
– The permitted range of the supply air setting is +5…+25 °C. The recommended setting is +15 °C.
– The post-heating radiator is only used in the heat recovery mode and during defrosting, and when the outdoor air temperature is lower than the Heating season setting.

Controlling the heat recovery cell bypass:
– The heat recovery cell bypass can be set to operate partially in an on/off manner, or it can be turned off completely.
– The partial bypass of the heat recovery cell has two alternative modes:
o The aim is to maintain the supply air temperature at the set value by fully or partially bypassing the heat recovery cell, when the outdoor air temperature is higher than the Heating season setting.
o If the outdoor air temperature is lower than the Heating season setting, heat recovery is always on.
– On/off bypass of the heat recovery cell
o The heat recovery cell is bypassed fully when the outdoor air temperature is higher than the Heating season setting.
– The unit shifts to the cool recovery mode, when all of the following conditions are met:
o The supply air target value is lower than the extract air temperature.
o The outdoor temperature is two degrees higher than the indoor temperature.
– The bypass of the heat recovery cell is not in use:
o The heat recovery cell is not bypassed.
– Controlling the heat recovery cell by means of a separate switch (digital input):
o The heat recovery mode is activated when the outdoor temperature falls under +3°C, and the heat recovery cell is bypassed when the outdoor temperature increases above +5°C.

Humidity-based control:
– The ventilation unit controls the fan speed based on the humidity level.
– The extract air chamber of the unit contains a humidity sensor that is used in the humidity-based control.
– A separate humidity sensor can be installed outside the unit in the apartment (optional).
– The humidity level can be set either automatically or manually.
o When the automatic humidity level setting is in use, establishing the value takes around 10 hours from the start-up. After this, the unit will update the humidity level automatically.
o When the manual humidity level setting is in use, the humidity level can be set between 1% and 99%.
– The humidity-based control increases the fan speed up to the fan speed setting of the Boost mode. When the Boost mode is in use, the fan speed is increased based on the need up to the maximum speed.
– The humidity-based control cannot reduce the fan speed below the set fan speed of the mode that is in use.
– Note! The ventilation unit cannot increase the humidity level of the apartment.

Carbon dioxide -based control:
– The ventilation unit controls the fan speed based on the carbon dioxide level.
– The extract air chamber of the unit contains a carbon dioxide sensor for carbon dioxide -based control.
– A separate carbon dioxide sensor can be installed outside the unit in the apartment (optional).
– The adjustment range of the carbon dioxide level is 500 ppm - 2000 ppm.
– The carbon dioxide -based control increases the fan speed up to the fan speed setting of the Boost mode. When the Boost mode is in use, the fan speed is increased based on the need up to the maximum speed.
– The carbon dioxide -based control cannot reduce the fan speed below the set fan speed of the mode that is in use.

VOC-based control:
– The ventilation unit controls the fan speed based on the VOC level.
– Requires that a VOC sensor be installed outside the unit (optional).
– The VOC sensor gives the ventilation unit a value that is similar to the carbon dioxide level and which is within the range of 500 ppm - 2000 ppm.
– The VOC-based control increases the fan speed up to the fan speed setting of the Boost mode. When the Boost mode is in use, the fan speed is increased based on the need up to the maximum speed.
– VOC-based control cannot reduce the fan speed below the set fan speed of the mode that is in use.

The defrosting function of the ventilation unit:
– The unit has a heat recovery cell defrosting function that is activated based on the need. When the formation of ice in the heat recovery cell has reached a certain point, the unit will start the defrosting cycle. The defrosting is completed with extract air by bypassing the supply air side of the heat recovery cell. The ratio of the supply and extract air will be maintained as even as possible. Supply air temperature during defrosting cycles can be set to +12…+20°C. During the defrost cycle, the unit uses the post-heating resistor and possible additional heating resistor to reach the set supply air temperature.
– Alternatively, the defrosting can be completed by stopping the supply air fan.
– If the unit cannot defrost the heat recovery cell within the set time limit, e.g., because the ceiling feed-through has become frozen, the unit will complete a boosted defrosting cycle and increase the extract fan speed for the duration of this cycle.
– The unit also includes a manual defrosting function that can be activated through various user interfaces.

Safety devices:
– Overheating protectors of the post-heating resistor: Two overheating protectors have been integrated with the resistor. One of the overheating protectors is automatically restoring (of type BTS) and the other is cutting off (of type BTC, cut-off).
– Fans are equipped with automatic overheating protectors.
– The safety switch of the door cuts off the power feed to the unit when the door is opened. Despite this, always disconnect the power plug before starting maintenance work on the unit. The Vallox 51 MV and 51K MV units do not have a door safety switch.

Alarms and reminders:
– The ventilation unit stops in error situations, except for data transfer errors. The unit gives an error message in the following situations:
o The fan has stopped.
o The temperature sensor is damaged
o Data transfer error between the control panel and the motherboard
o Low temperature of supply air
– The 24 V potential-free error relay provides information of the error affecting the unit. In an error situation, the ends of the relay open. The ends of the relay open in the following situations:
o The fan has stopped.
o The temperature sensor is damaged
o The ventilation unit has stopped (on/off status information)
– The maintenance reminder notifies the user through the control panel of the service need once every four months (factory setting). The notification interval can be changed, turned off or set to be automatically acknowledged. Check the maintenance measures from the manual.
– Data can also be read through the Modbus channel.
– The relay can, alternatively, be programmed for the following functions:

Relay function	ends closed	ends open
Maintenance reminder	normal operation	maintenance reminder
Fault	normal operation	error situation
Fault and maintenance reminder	normal operation	maintenance reminder/error
Emergency stop	normal operation	emergency stop
Position of the bypass damper	winter setting	summer setting
Duct radiator control	on	off
Air heating	on	off
On/off status	on	off

Digital controls (2 pcs)
– The unit has two digital inputs. The functions listed in the table below can be selected for these inputs.
– Digital control can be operated either by using the press button or the rocker switch. Both digital inputs recognize the type of the switch automatically.
– The press button functions become activated every time the press button is released. A function that has been activated with the press button can be cancelled by keeping the press button pressed down for five seconds.
– When the press button is used, the selected mode will be activated for the duration set on the timer, after which the unit will return to the normal mode.
– Rocker switch functions will be activated and deactivated directly based on the position of the rocker switch.
– When the rocker switch is turned to the ON position for the first time, it will take the rocker switch function five seconds to activate. After that, the function will be activated immediately.
– In addition, the press button function can be activated by keeping the rocker switch in the ON position for less than five seconds. The press button function can be cancelled by keeping the rocker switch in the ON position for over five seconds.

Function	With the rocker switch		Ends open
	0 V	24 V	A 24 V pulse for less than 5 seconds
Custom mode	Off	On	On for the set period of time
At home/Away control	At home	Away	Changes the status between the At home and Away modes
Emergency stop	The unit turns off	Normal operation	The unit turns off
Boost	Off	On	On for the set timer period
Direct control of the heat recovery cell bypass	Automatic status	Bypass status	Changes the bypass status
Week clock	Off	On	Changes the week clock status
Programmable input	Off	On	On for the set period of time

Programmable input (1 pc)
– One programmable digital input can be connected to the ventilation unit
– The programmable input can be used to turn a preset function on (24V) or off (0V).
The following will be configured for the function:
o supply and extract air fan speeds
o supply air temperature setting
o duration

Analog input (1 pc)
The control options of the analog input are:

Function	Voltage value
Stop, away, at home, boost	Stop = 0-1 V, Away = 2-4 V, At Home = 5-7 V, Boost = 8-10 V
Supply air temperature control	0-10 V = +5…+25 °C

Modbus:
– Two-way traffic through Modbus
o Modbus can be used to control and read the operating modes of the unit
o Settings can be made for the ventilation unit (e.g., supply air temperature adjustment)
o Errors can be read
o See the separate Modbus register for further information

Power consumption of control panels and sensors
– The combined power of the devices connected to the ventilation unit must not exceed 6W. The power consumption of each device is specified below
o Control panel 1W
o Humidity sensor 0.3W
o Carbon dioxide sensor 1.2W
o VOC sensor 2W

Revision	Date	Person	Change

VALLOX

Target
Client name
Address

ADJUSTMENT AND CONTROL DEVICE LIST

Vallox MV VKL -units

Drawer	Designer	Project number	Date.	Revision	Drawing number	Page
Person	Person	001	Date	A	001	11 /14

The external liquid radiator is controlled through the 24V relay of the ventilation unit
Liquid radiator in the outdoor air duct
The ventilation unit measures the outdoor temperature by means of an NTC temperature sensor installed before the liquid radiator in the outdoor air duct (optional).

– Heating (optional)
o When the outdoor temperature falls below the winter setting, the radiator is turned on.
o When the outdoor temperature increases one degree above the winter setting, the radiator is turned off.
– Cooling
o When the outdoor temperature it above the summer setting and the supply air temperature increases one degree above the supply air target value, the radiator is turned on.
o When the outdoor temperature falls below the supply air target value, the radiator is turned off.
– Automatic condensing limit (optional)
o The ventilation unit calculates a dew point based on the temperature and humidity, and will not cool the supply air below this temperature. Requires that an NTC temperature sensor be installed in the duct.

Liquid radiator in the supply air duct
The ventilation unit measures the supply air temperature through an NTC sensor (optional) that is installed in the supply air duct after the liquid radiator or in the room. The unit aims to maintain the supply air temperature at the target value. If the target value cannot be achieved by partially bypassing the heat recovery cell, the duct radiator is turned on.
Ventilation heating
– When the supply air or the room temperature falls below the target value, the radiator is turned on.
– When the supply air or the room temperature increases one degree above the target value, the radiator is turned off.

Cooling
– When the outdoor temperature is above the summer setting and the supply air or room temperature increases one degree above the supply air target value, the radiator is turned on.
– When the supply air or the room temperature falls below the supply air target value, the radiator is turned off.

Automatic condensing limit (optional)
– The ventilation unit calculates a dew point based on the temperature and humidity, and will not cool the supply air below this temperature. Requires that an NTC temperature sensor be installed in the duct.

Freeze protection of the internal liquid radiator of the unit (Vallox 245 MV VKL)
– The internal liquid radiator of the unit has programmed freeze protection. Both fans of the unit stop, when the supply air temperature is <+5°C and the outdoor air temperature is <0°C. The fans start, when the supply air temperature is >+5 °C.

Cooker hood control options

Control method 1 (cooker hood, humidity and carbon dioxide -based control)

MyVallox ventilation units do not have a control panel. The setup of the unit is completed through a computer or a setup control panel. The fan speed of the MyVallox ventilation unit is adjusted from the Vallox Delico PTD EC cooker hood (Away/At home/Boost). The fan speed will be increased to the Boost mode, when the damper of the cooker hood is opened. The damper of the cooker hood will close after one hour (can be adjusted) when the timer is used, or it can be closed by using the button located on the cooker hood, after which the fan speed is restored to the previously used speed. When the humidity or carbon dioxide level of the extract air increases, ventilation is boosted. When the error data/alarm of the cooker hood (Alarm) is connected, the signal light of the cooker hood will flash when a maintenance reminder or error data is received from the ventilation unit. The relay setting options of the ventilation unit are maintenance reminder, error data, both, or off. If the signal light is not turned on, Alarm cables can be left disconnected.

Control method 2 (MyVallox Control panel, cooker hood, humidity and carbon dioxide -based control)

The fan speed of the MyVallox ventilation unit is adjusted from the MyVallox Control panel and the Vallox Delico PTD EC cooker hood (Away/At home/Boost). The latest command will remain in force. The fan speed will be increased to the Boost mode, when the damper of the cooker hood is opened. The damper of the cooker hood will close after one hour (can be adjusted) when the timer is used, or it can be closed by using the button located on the cooker hood, after which the fan speed is restored to the previously used speed. When the humidity or carbon dioxide level of the extract air increases, ventilation is boosted. When the error data/alarm of the cooker hood (Alarm) is connected, the signal light of the cooker hood will flash when a maintenance reminder or error data is received from the ventilation unit. The relay setting options of the ventilation unit are maintenance reminder, error data, both, or off. If the signal light is not turned on, Alarm cables can be left disconnected.

Control method 3 (cooker hood, contact data of the position of the cooker hood damper, humidity and carbon dioxide -based control)

MyVallox ventilation units do not have a control panel. The setup of the unit is completed through a computer or a setup control panel. The fan speed of the MyVallox ventilation unit is adjusted from the Vallox Delico PTD EC cooker hood (Away/At home/Boost). The speed of the fans is increased to the selected speed based on the contact data received from the cooker hood indicating that the damper is open. For the duration that the damper is open, the speeds of the supply and extract air fans will be set so that the ratio between the supply and extract air flows does not change. The damper of the cooker hood will close after one hour (can be adjusted) when the timer is used, or it can be closed by using the button located on the cooker hood, after which the fan speed is restored to the previously used speed. When the humidity or carbon dioxide level of the extract air increases, ventilation is boosted. When the error data/alarm of the cooker hood (Alarm) is connected, the signal light of the cooker hood will flash when a maintenance reminder or error data is received from the ventilation unit. The relay setting options of the ventilation unit are maintenance reminder, error data, both, or off. If the signal light is not turned on, Alarm cables can be left disconnected.

Control method 4 (MyVallox Control panel, cooker hood, contact data of the position of the cooker hood damper, humidity and carbon dioxide -based control)

The fan speed of the MyVallox ventilation unit is adjusted from the MyVallox Control panel and the Vallox Delico PTD EC cooker hood (Away/At home/Boost). The latest command will remain in force. The speed of the fans is increased to the selected speed based on the contact data received from the cooker hood indicating that the damper is open. For the duration that the damper is open, the speeds of the supply and extract air fans will be set so that the ratio between the supply and extract air flows does not change. The damper of the cooker hood will close after one hour (can be adjusted) when the timer is used, or it can be closed by using the button located on the cooker hood, after which the fan speed is restored to the previously used speed. When the humidity or carbon dioxide level of the extract air increases, ventilation is boosted. When the error data/alarm of the cooker hood (Alarm) is connected, the signal light of the cooker hood will flash when a maintenance reminder or error data is received from the ventilation unit. The relay setting options of the ventilation unit are maintenance reminder, error data, both, or off. If the signal light is not turned on, Alarm cables can be left disconnected.

Control method 5A (At home/Away switch, contact data of the position of the cooker hood damper, humidity and carbon dioxide -based control)

MyVallox ventilation units do not have a control panel. The setup of the unit is completed through a computer or a setup control panel. The switch located in the lobby is used to select either the Away or the At home mode. The speed of the fans increases to the selected speed based on the contact data received from the Vallox Delico KTD A, or Vallox X-Line KTXA cooker hood indicating that the damper is open. For the duration that the damper is open, the speeds of the supply and extract air fans will be set so that the ratio between the supply and extract air flows does not change. The damper of the cooker hood will close after one hour when the timer is used, or it can be closed by using the button located on the cooker hood, after which the fan speed is restored to the speed previously used. When the humidity or carbon dioxide level of the extract air increases, ventilation is boosted. When the error data/alarm of the cooker hood (Alarm) is connected, the signal light of the cooker hood will flash when a maintenance reminder or error data is received from the ventilation unit. The relay setting options of the ventilation unit are maintenance reminder, error data, both, or off. If the signal light is not turned on, Alarm cables can be left disconnected.

Control method 5B (contact data of the position of the cooker hood damper, humidity and carbon dioxide -based control)

MyVallox ventilation units do not have a control panel. The setup of the unit is completed through a computer or a setup control panel. The speed of the fans increases to the selected speed based on the contact data received from the Vallox Delico KTD A, or Vallox X-Line KTXA cooker hood indicating that the damper is open. For the duration that the damper is open, the speeds of the supply and extract air fans will be set so that the ratio between the supply and extract air flows does not change. The damper of the cooker hood will close after one hour when the timer is used, or it can be closed by using the button located on the cooker hood, after which the fan speed is restored to the speed previously used. The ventilation unit normally uses the fan speed set for the Away mode and the ventilation is boosted when the humidity or carbon dioxide level of the extract air increases. When the error data/alarm of the cooker hood (Alarm) is connected, the signal light of the cooker hood will flash when a maintenance reminder or error data is received from the ventilation unit. The relay setting options of the ventilation unit are maintenance reminder, error data, both, or off. If the signal light is not turned on, Alarm cables can be left disconnected.

Control method 6 (MyVallox Control panel, contact data of the position of the cooker hood damper, humidity and carbon dioxide -based control)

The fan speed of the MyVallox ventilation unit is adjusted from the MyVallox Control -panel (Away/At home/Boost). From the boost mode, the fan speed restores to the previously used speed after 30 minutes (can be adjusted). The speed of the fans increases to the selected speed based on the contact data received from the Vallox Delico KTD A, or Vallox X-Line KTXA cooker hood indicating that the damper is open. For the duration that the damper is open, the speeds of the supply and extract air fans will be set so that the ratio between the supply and extract air flows does not change. The damper of the cooker hood will close after one hour when the timer is used, or it can be closed by using the button located on the cooker hood, after which the fan speed is restored to the speed previously used. When the humidity or carbon dioxide level of the extract air increases, ventilation is boosted. When the error data/alarm of the cooker hood (Alarm) is connected, the signal light of the cooker hood will flash when a maintenance reminder or error data is received from the ventilation unit. The relay setting options of the ventilation unit are maintenance reminder, error data, both, or off. If the signal light is not turned on, Alarm cables can be left disconnected.

Control method 7 (cooker hood, humidity and carbon dioxide -based control)

MyVallox ventilation units do not have a control panel. The setup of the unit is completed through a computer or a setup control panel. The fan speed of the MyVallox ventilation unit is adjusted from the Vallox X-Line PTXP MC or Vallox X-Line PTXPA MC cooker hood (Away/At home/Boost). When the humidity or carbon dioxide level of the extract air increases, ventilation is boosted. When the LED cable of the cooker hood is connected, the signal light of the cooker hood will remain turned on when the ventilation unit is on. The signal light will turn off when a maintenance reminder or error data is received from the ventilation unit. The relay setting options of the ventilation unit are maintenance reminder, error data, both, or off. If the signal light is not turned on, the LED cable can be left disconnected.

Control method 8 (MyVallox Control panel, cooker hood, humidity and carbon dioxide -based control)

The fan speed of the MyVallox ventilation unit is adjusted from the MyVallox Control panel and the Vallox X-Line PTXP MC or Vallox X-Line PTXPA MC cooker hood (Away/At home/Boost). The latest command will remain in force. When the humidity or carbon dioxide level of the extract air increases, ventilation is boosted. When the LED cable of the cooker hood is connected, the signal light of the cooker hood will remain turned on when the ventilation unit is on. The signal light will turn off when a maintenance reminder or error data is received from the ventilation unit. The relay setting options of the ventilation unit are maintenance reminder, error data, both, or off. If the signal light is not turned on, the LED cable can be left disconnected.

MODBUS (RTU) REGISTERS

Temperatures are in centikelvins.
- Temperature in Celsius degrees = (temperature in centikelvins − 27315) / 100
- Temperature in centikelvin degrees = (temperature in Celsius degrees * 100) + 27315

All registers are holding registers.

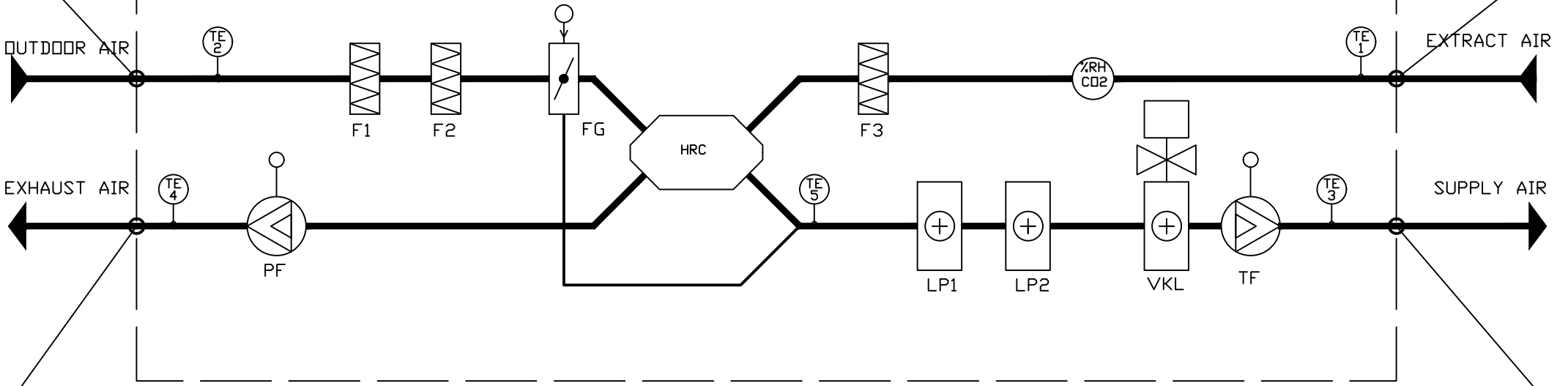
Supported function codes:
- Read multiple holding registers, 0x03
- Write one holding register, 0x06
- Write multiple holding registers, 0x10

Writing to read-only holding registers is prohibited and will cause an error code.

VARIABLE NAME	R/RW	ADDR.	MIN	MAX	TYPE	DESCRIPTION
MODE	R/W	4610	0	7		Unit state, 0 = normal state, 5 = turned off
EXTR_FAN_BALANCE_BASE	R/W	20485	0	100	%	Base level of extract air fan control percentage
SUPP_FAN_BALANCE_BASE	R/W	20486	0	100	%	Base level os supply air fan control percentage
STATE	R/W	4609	0	1		Operating mode (0=Away, 1=Home)
CELL_STATE	R	4616	0	3		0=Heat recovery, 1=Cool recovery, 2=Bypass, 3=Defrosting
FAN_SPEED	R	4353	0	100	%	Current fan speed
AWAY_SPEED_SETTING	R/W	20501	0	100	%	Away-profile fan speed
HOME_SPEED_SETTING	R/W	20507	0	100	%	Home-profile fan speed
BOOST_SPEED_SETTING	R/W	20513	0	100	%	Boost-profile fan speed
AWAY_AIR_TEMP_TARGET	R/W	20502	27815	29815	cK	Away-profile supply air temperature
HOME_AIR_TEMP_TARGET	R/W	20508	27815	29815	cK	Home-profile supply air temperature
BOOST_AIR_TEMP_TARGET	R/W	20514	27815	29815	cK	Boost-profile supply air temperature

VARIABLE NAME	R/RW	ADDR.	MIN	MAX	TYPE	DESCRIPTION
TEMP_OUTDOOR_AIR	R	4356	21000	33224	cK	Outdoor air temperature

VARIABLE NAME	R/RW	ADDR.	MIN	MAX	TYPE	DESCRIPTION
TEMP_EXTRACT_AIR	R	4354	21000	33224	cK	Extract air temperature
RH_VALUE	R	4363	0	100	%	Relative humidity
CO2_VALUE	R	4364	0	10000	PPM	Carbon dioxide level



VARIABLE NAME	R/RW	ADDR.	MIN	MAX	TYPE	DESCRIPTION
TEMP_EXHAUST_AIR	R	4355	21000	33224	cK	Exhaust air temperature
EXTR_FAN_SPEED	R	4361	0	10000	RPM	Extract fan speed

VARIABLE NAME	R/RW	ADDR.	MIN	MAX	TYPE	DESCRIPTION
TEMP_SUPPLY_AIR	R	4358	21000	33224	cK	Supply air temperature
SUPP_FAN_SPEED	R	4362	0	10000	RPM	Supply fan speed

Complete Modbus register descriptions can be found from:
https://res.cloudinary.com/vallox/image/upload/v1701783910/FileStock/ValidManuals/Manual_Modbus_ENG.pdf

Revision	Date	Person	Change

VALLOX

Target
Client name
Address

ADJUSTMENT AND CONTROL DEVICE LIST

Vallox MV VKL -units

Drawer	Designer	Project number	Date.	Revision	Drawing number	Page
Person	Person	001	Date	A	001	14 /14