



# TECHNICAL MANUAL

## MYCOND MSHA(C) X DUCT DEHUMIDIFIER WITH FRESH AIR SUPPLY

KEEP THIS MANUAL FOR FUTURE REFERENCE

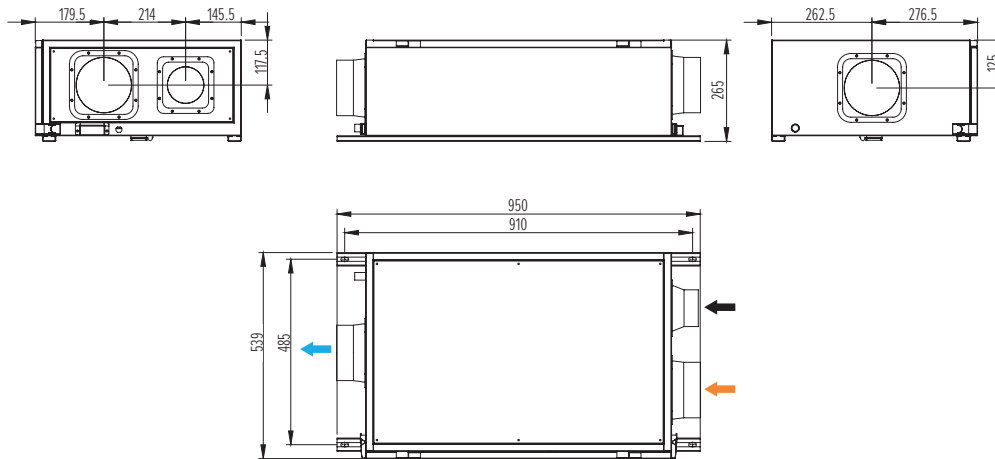
Thank you for choosing our dehumidifier. In this manual you will find valuable information that you need to properly operate and maintain your new dehumidifier. Please take the time to carefully read it and all aspects of this dehumidifier.

## CONTENTS

<b>I. Charakterystyka techniczna .....</b>	<b>3</b>
<b>II. Zalecenia dotyczące lokalizacji.....</b>	<b>13</b>
<b>III. Schematy połączeń elektrycznych .....</b>	<b>15</b>
<b>IV. Panel sterowania .....</b>	<b>21</b>
4.1. Interfejs sterownika .....	22
4.2. Protokół komunikacyjny RS485-1 Modbus dla zewnętrznych czujników temperatury/wilgotności .....	22
4.3. Protokół komunikacyjny RS485-2 Modbus.....	23

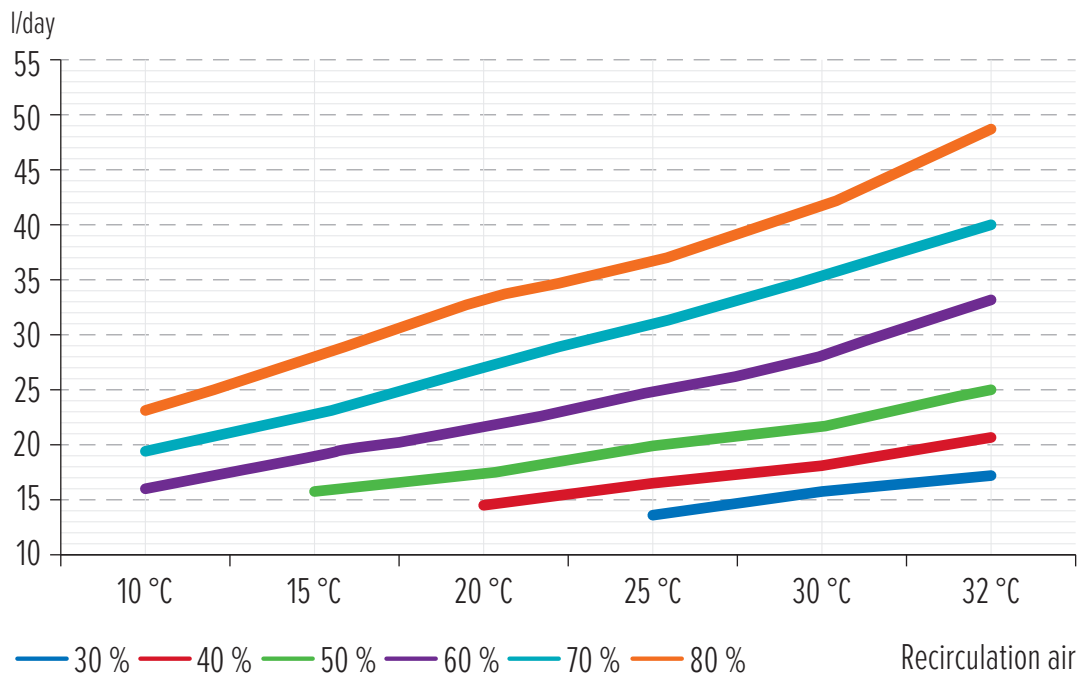
# I. CHARACTERISTICS TECHNICAL

## Overall dimensions MSHA(C)-40X / MSHA(C)-60X

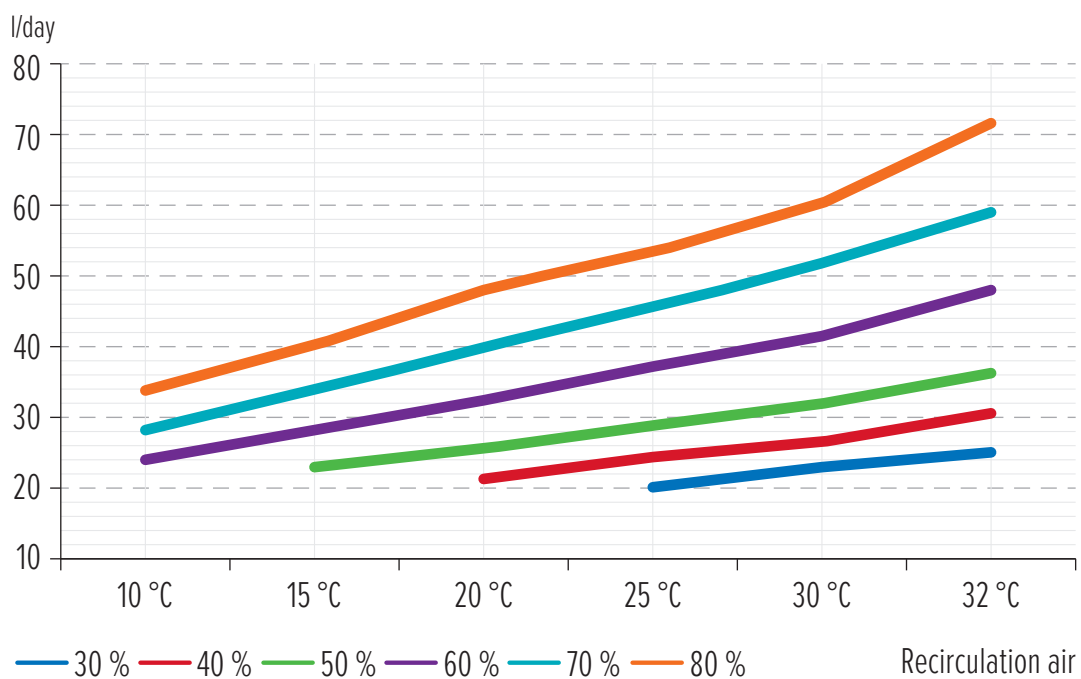


Technical data	Units	MSHA(C)-40X	MSHA(C)-60X
Capacity (30 °C, 80 % relative humidity)	l/day	40	60
Supply air flow rate	m <sup>3</sup> /h	500-670	650-780
Number of speeds		BLDC motors, adjustable speed	
Static pressure	Pa	100	100
Reverse airflow	m <sup>3</sup> /h	350-460	470-550
Fresh air flow	m <sup>3</sup> /h	150-210	180-230
Power	W	670	740
Electricity	A	3	3.5
Electrical voltage	V/Hz	220 V / 50 Hz	220 V / 50 Hz
Control		Wall control	Wall control
Noise level	dB	<45	<45
Compressor		Embraco	Embraco
Radiator		R134A	R134A
Condenser		Copper tubes with hydrophilic-coated aluminium fins	
Drip tray		SUS304	SUS304
Size of the drainage hole		DN20	DN20
Filters		G4 + F7 (+ HEPA optional)	G4 + F7 (+ HEPA H13 optional)
Filter size G4	mm	516×203×23	516×203×24
Filter size F7	mm	516×203×33	516×203×33
HEPA filter size H13	mm	433×203×57	433×203×57
Cleaning		UV lamp/negative ion generator (optional)	
Dimensions of fresh air duct	mm	Ø100	Ø100
Return air duct dimensions	mm	Ø150	Ø150
Supply air duct dimensions	mm	Ø150	Ø150
Overall dimensions	mm	950×539×265	950×539×265
Weight	kg	45	47

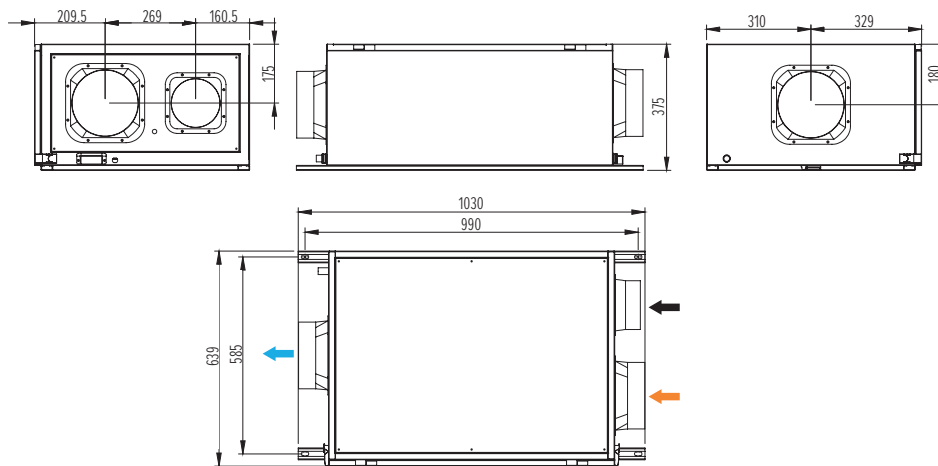
### Performance chart of MSHA(C)-40X



### Performance chart of MSHA(C)-60X

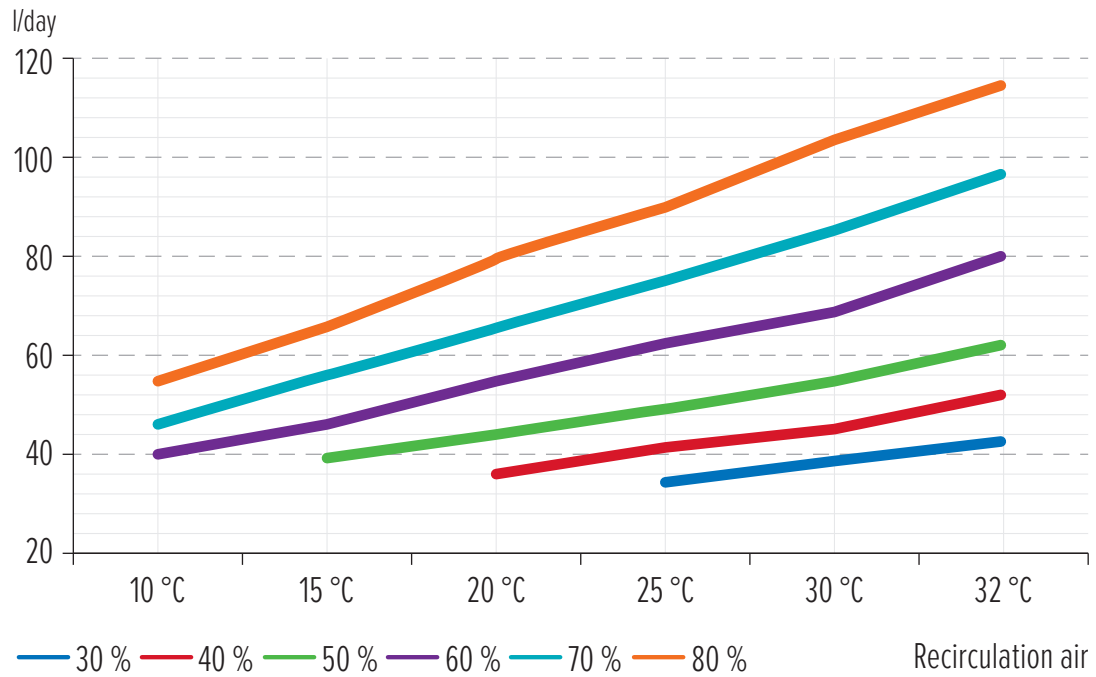


## Overall dimensions MSHA(C)-100X / MSHA(C)-140X

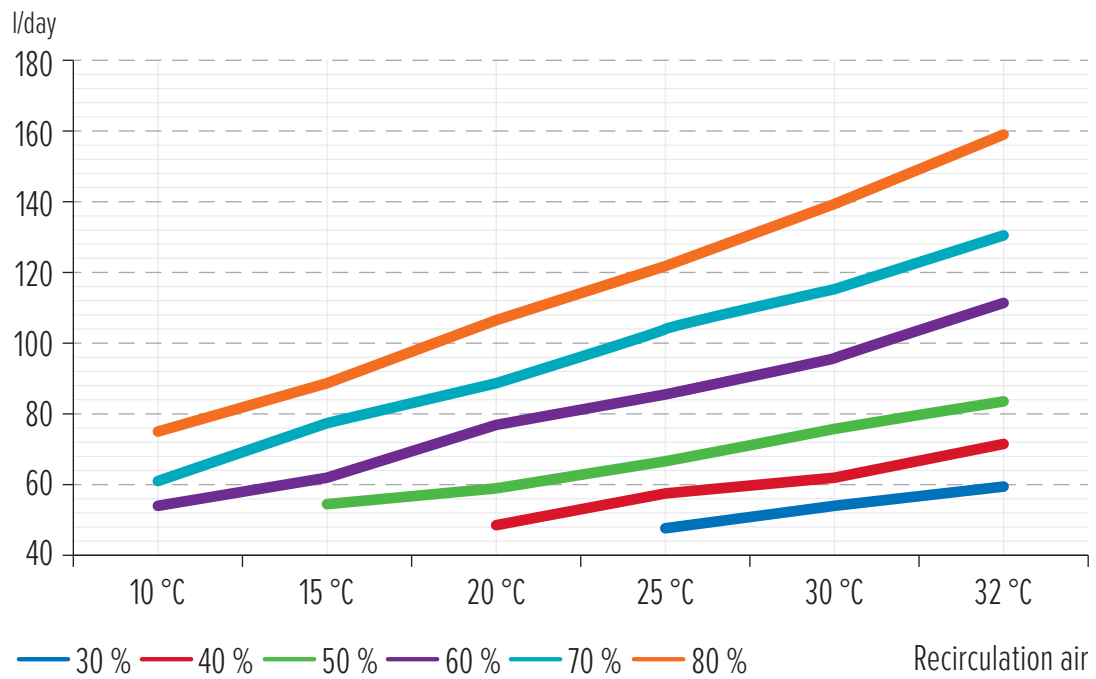


Technical data	Units	MSHA(C)-100X	MSHA(C)-140X
Capacity (30 °C, 80 % relative humidity)	l/day	100	140
Supply air flow rate	m <sup>3</sup> /h	1000-1200	1200-1350
Number of speeds		BLDC motors, adjustable speed	
Static pressure	Pa	100	100
Reverse airflow	m <sup>3</sup> /h	680-800	750-850
Fresh air flow	m <sup>3</sup> /h	320-400	400-500
Power	W	1050	1300
Electricity	A	4.9	6.2
Electrical voltage	V/Hz	220 V / 50 Hz	220 V / 50 Hz
Control		Wall control	Wall control
Noise level	dB	<45	<45
Compressor		Matsushita/Panasonic	Matsushita/Panasonic
Radiator		R410A	R410A
Condenser		Copper tubes with hydrophilic-coated aluminium fins	
Drip tray		SUS304	SUS304
Size of the drainage hole		DN20	DN20
Filters		G4 + F7 (+ HEPA H13 optional)	G4 + F7 (+ HEPA H13 optional)
Filter size G4	mm	616×303×23	616×303×23
Filter size F7	mm	616×303×23	616×303×23
HEPA filter size H13	mm	533×303×57	533×303×57
Cleaning		UV lamp/negative ion generator (optional)	
Dimensions of fresh air duct	mm	Ø150	Ø150
Return air duct dimensions	mm	Ø200	Ø200
Supply air duct dimensions	mm	Ø200	Ø200
Overall dimensions	mm	1030×639×375	1030×639×375
Weight	kg	68	71

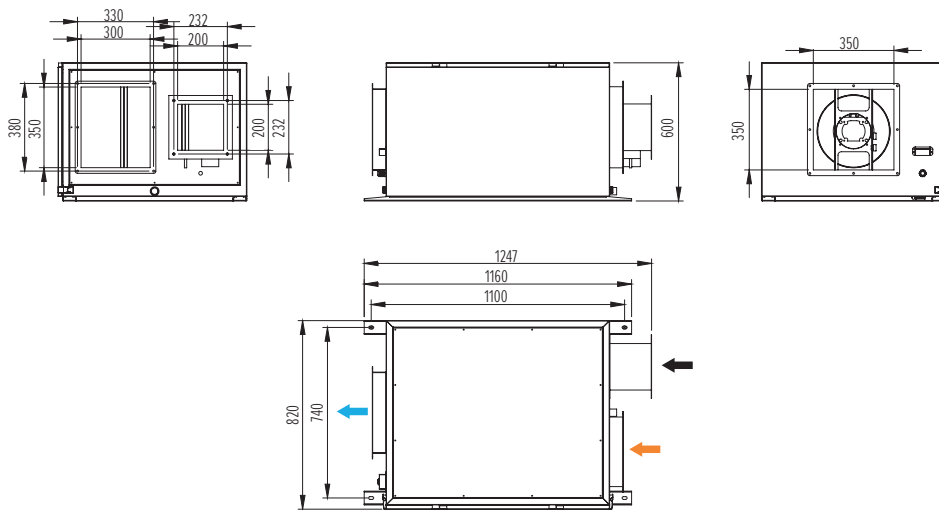
### Performance chart of MSHA(C)-100X



### Performance chart of MSHA(C)-140X

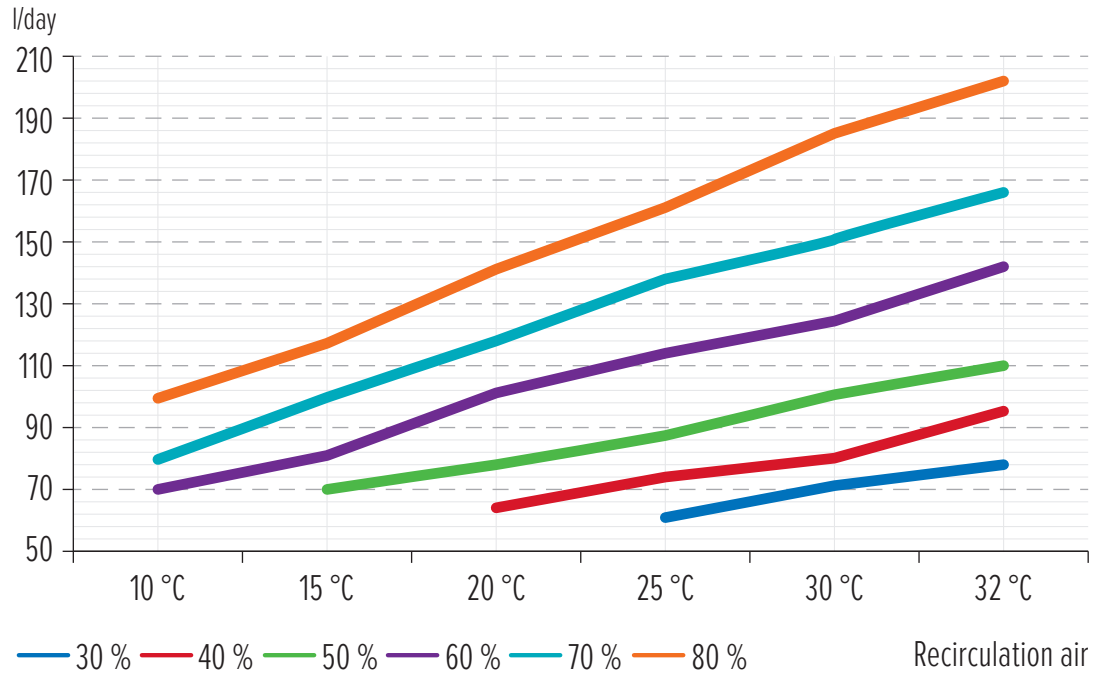


## Overall dimensions MSHA(C)-180X / MSHA(C)-250X

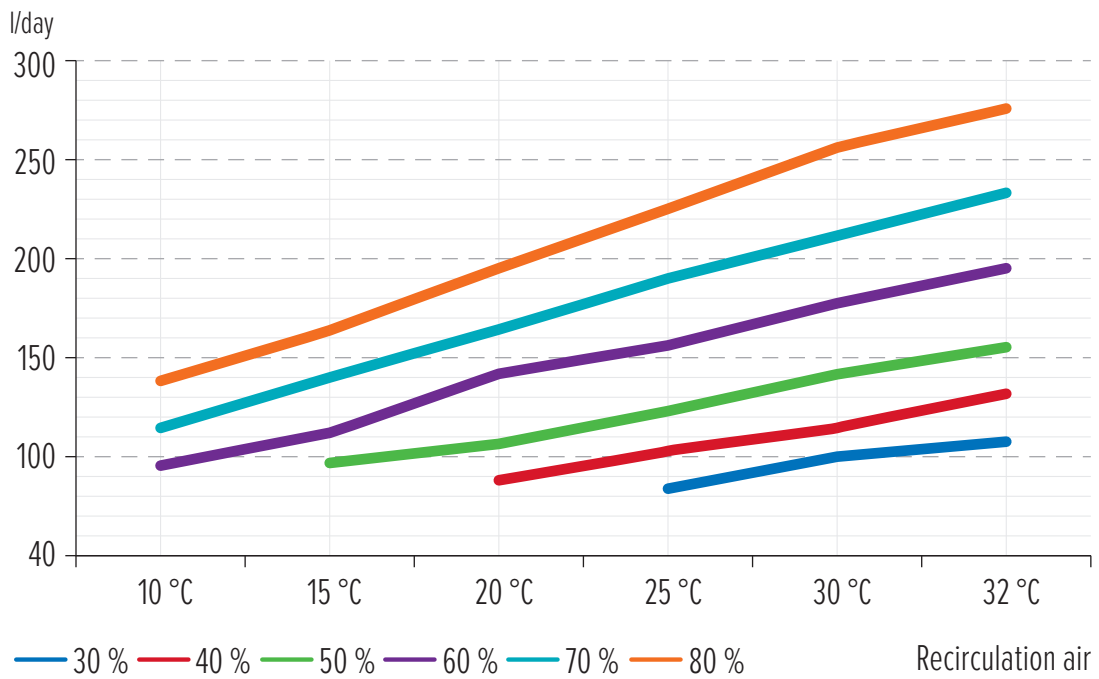


Technical data	Units	MSHA(C)-180X	MSHA(C)-250X
Capacity (30 °C, 80 % relative humidity)	l/day	180	250
Supply air flow rate	m <sup>3</sup> /h	1800-2200	2500-2900
Number of speeds		BLDC motors, adjustable speed	
Static pressure	Pa	200	200
Reverse airflow	m <sup>3</sup> /h	1200-1450	1850-2050
Fresh air flow	m <sup>3</sup> /h	600-750	650-850
Power	W	3000	4200
Electricity	A	5.4	7.5
Electrical voltage	V/Hz	380 V / 50 Hz	380 V / 50 Hz
Control		Wall control	Wall control
Noise level	dB	<55	<55
Compressor		Panasonic	Panasonic
Radiator		R410A	R410A
Condenser		Copper tubes with hydrophilic-coated aluminium fins	
Drip tray		SUS304	SUS304
Size of the drainage hole		DN32	DN32
Filters		G4 + F7 (+ HEPA optional)	G4 + F7 (+ HEPA H13 optional)
Filter size G4	mm	495×266×21	495×266×21
Filter size F7	mm	495×266×21	495×266×21
HEPA filter size H13	mm	—	—
Cleaning		UV lamp/negative ion generator (optional)	
Dimensions of fresh air duct	mm	200×200	200×200
Return air duct dimensions	mm	300×350	300×350
Supply air duct dimensions	mm	350×350	350×350
Overall dimensions	mm	1160×820×600	1160×820×600
Weight	kg	177	185

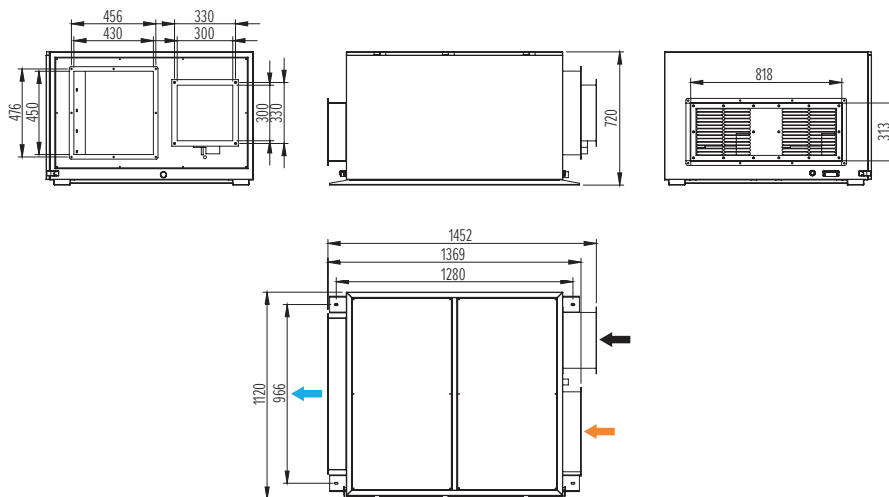
### Performance chart of MSHA(C)-180X



### Performance chart of MSHA(C)-250X

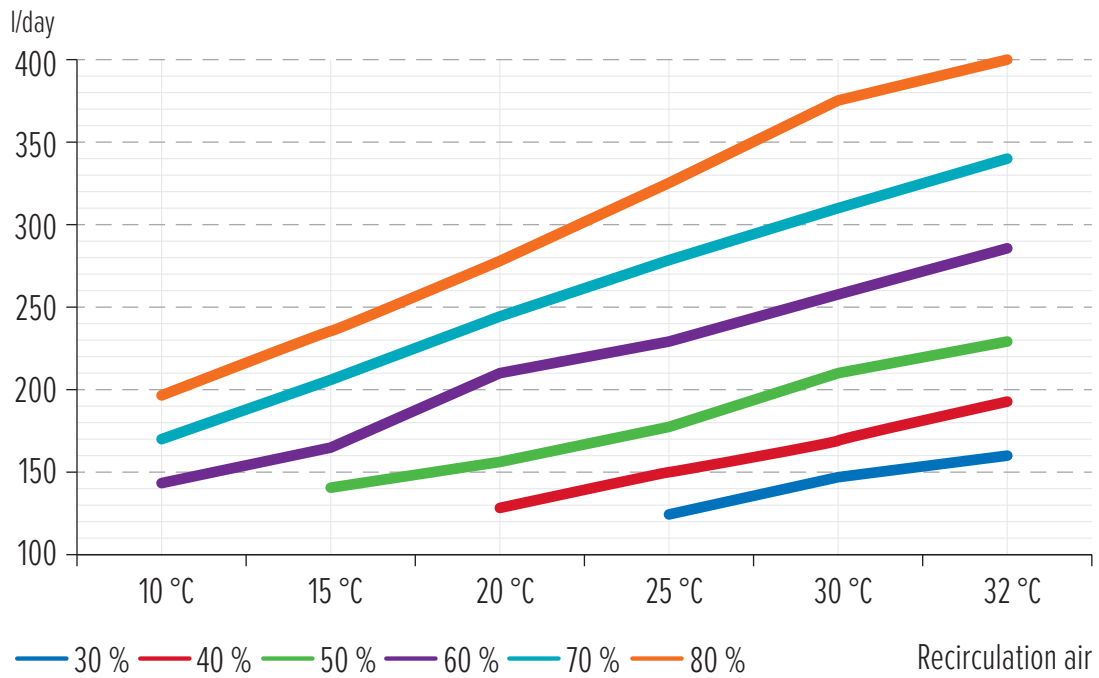


## Overall dimensions MSHA(C)-380X / MSHA(C)-500X

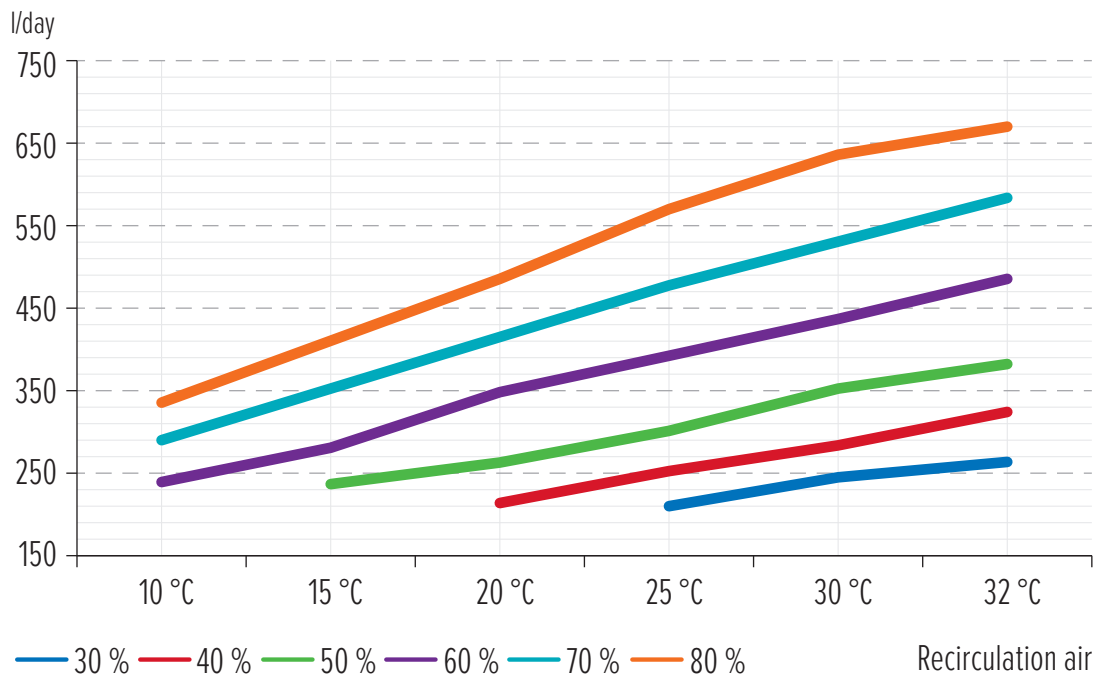


Technical data	Units	MSHA(C)-380X	MSHA(C)-500X
Capacity (30 °C, 80 % relative humidity)	l/day	380	500
Supply air flow rate	m <sup>3</sup> /h	3500-3850	4800-5300
Number of speeds		AC motor, 1 speed	
Static pressure	Pa	200	200
Reverse airflow	m <sup>3</sup> /h	2600-2850	3530-3900
Fresh air flow	m <sup>3</sup> /h	900-1000	1250-1450
Power	W	6600	10000
Electricity	A	11.8	18
Electrical voltage	V/Hz	380 V / 50 Hz	380 V / 50 Hz
Control		Wall control	Wall control
Noise level	dB	<55	<55
Compressor		Daikin	Daikin
Radiator		R410A	R410A
Condenser		Copper tubes with hydrophilic-coated aluminium fins	
Drip tray		SUS304	SUS304
Size of the drainage hole		DN20	DN20
Filters		G4 + F7 (+ HEPA H13 optional)	G4 + F7 (+ HEPA H13 optional)
Filter size G4	mm	604×274×21	604×274×21
Filter size F7	mm	604×274×21	604×274×21
HEPA filter size H13	mm	—	—
Cleaning		UV lamp/negative ion generator (optional)	
Dimensions of fresh air duct	mm	300×300	300×300
Return air duct dimensions	mm	430×450	430×450
Supply air duct dimensions	mm	818×313	818×313
Overall dimensions	mm	1370×1120×720	1370×1120×720
Weight	kg	270	300

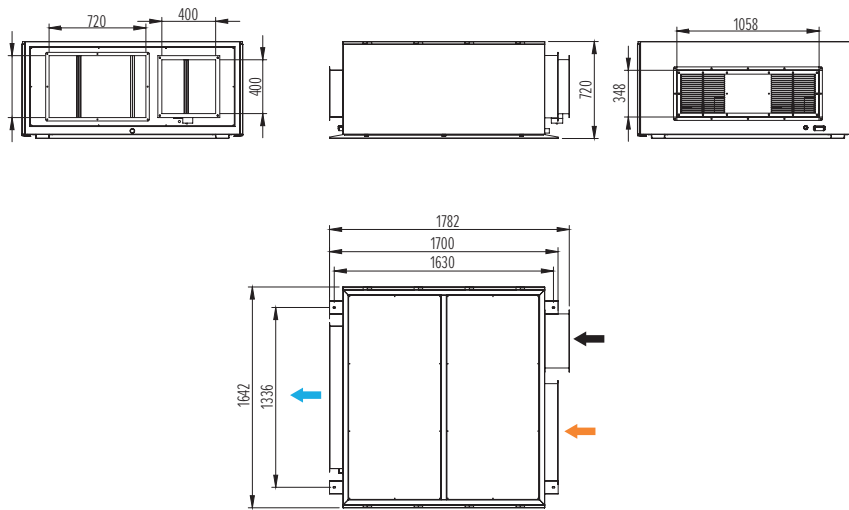
### Performance chart of MSHA(C)-380X



### Performance chart of MSHA(C)-500X

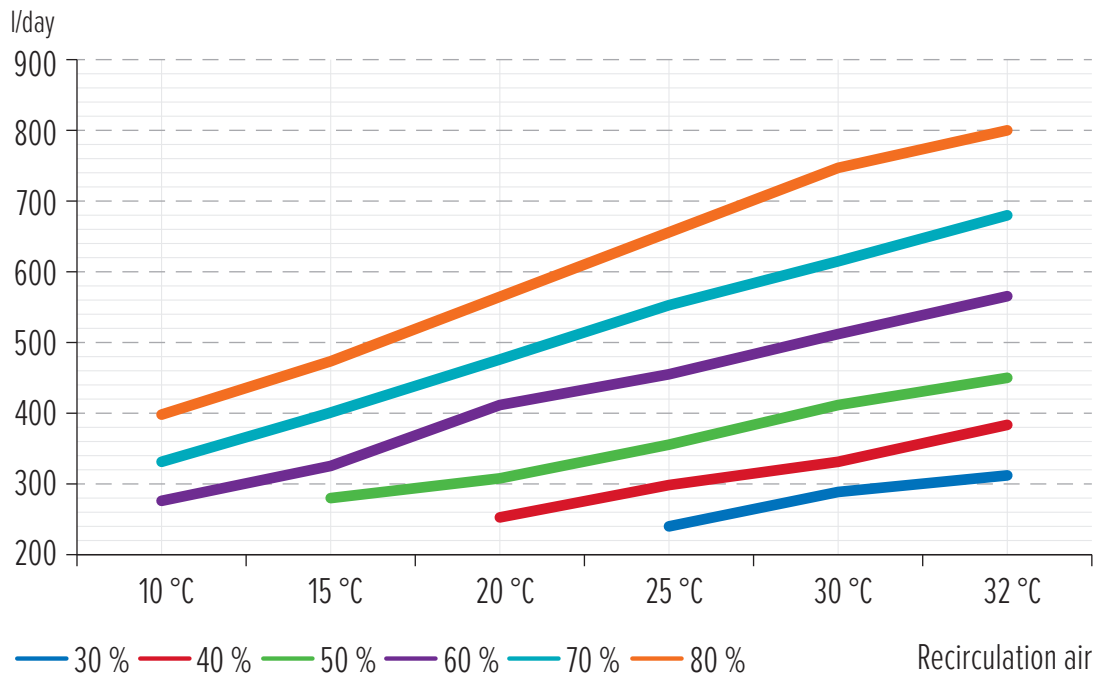


## Overall dimensions MSHA(C)-750X / MSHA(C)-1000X

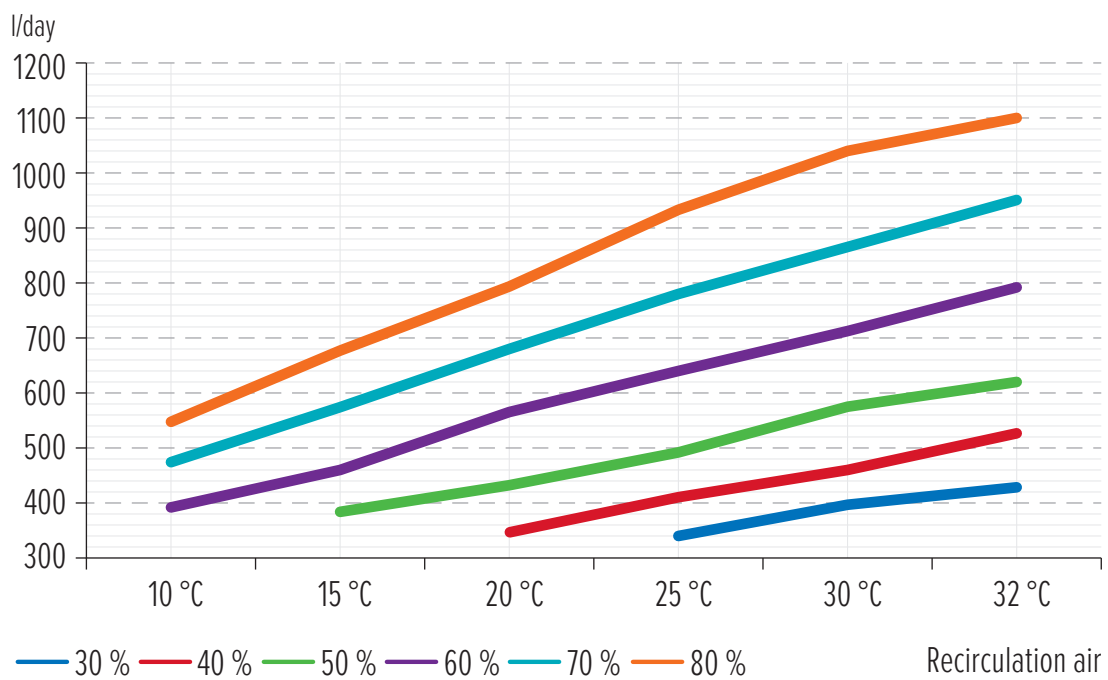


Technical data	Units	MSHA(C)-750X	MSHA(C)-1000X
Capacity (30 °C, 80 % relative humidity)	l/day	750	1000
Supply air flow rate	m <sup>3</sup> /h	7500-9000	9000-11000
Number of speeds		AC motor, 1 speed	
Static pressure	Pa	400	400
Reverse airflow	m <sup>3</sup> /h	5500-6500	6800-8100
Fresh air flow	m <sup>3</sup> /h	2000-2500	2200-2900
Power	W	17000	23500
Electricity	A	30	40
Electrical voltage	V/Hz	380 V / 50 Hz	380 V / 50 Hz
Control		Wall control	Wall control
Noise level	dB	<55	<55
Compressor		Daikin	Daikin
Radiator		R410A	R410A
Condenser		Copper tubes with hydrophilic-coated aluminium fins	
Drip tray		SUS304	SUS304
Size of the drainage hole		DN32	DN32
Filters		G4 + F7 (+ HEPA optional)	G4 + F7 (+ HEPA H13 optional)
Filter size G4	mm	399×602×21	399×602×21
Filter size F7	mm	399×602×21	399×602×21
HEPA filter size H13	mm	—	—
Cleaning		UV lamp/negative ion generator (optional)	
Dimensions of fresh air duct	mm	400×400	400×400
Return air duct dimensions	mm	760×460	760×460
Supply air duct dimensions	mm	1058×348	1058×348
Overall dimensions	mm	1700×1642×720	1700×1642×720
Weight	kg	500	560

### Performance chart of MSHA(C)-750X



### Performance chart of MSHA(C)-1000X



## II. RECOMMENDATIONS FOR LOCATIONS

The air ducts connecting to the unit must be connected by flexible inserts. The unit panel on which the air duct connections are located must not carry any structural load.

The manufacturer does not provide this option. Provision must be made for earthing the air ducts and the appliance.

### **Electrolytic corrosion in swimming pools**

Electrolytic corrosion occurs when dissimilar metals interact by a potential difference. When such metals are separated by an electrically conductive liquid (electrolyte), a weak voltage (potential difference) is created between them, causing ions of one material to move from one to the other. As in power components, ions will move from a metal with a higher potential to a metal with a lower potential.

Voltages above 0.3 volts can destroy high-potential metal.

The swimming pool and its associated equipment can cause this effect. The pool water is an ideal electrolyte, and the filter circuit equipment, heaters and pool exit stairs, which consist of dissimilar metals, close the circuit for the formation of electrolytic corrosion.

These low voltages can lead to premature equipment failure due to corrosion. In contrast to corrosion caused by oxidation, electrolytic corrosion can lead to the complete destruction of metal components in a very short time.

To prevent this type of corrosion, all metal components should be connected with a 10 mm<sup>2</sup> electrical conductor. This should include all metal components (metal filters, safety nets for suction nozzles, steps, handrails) that come into contact with the pool water. It is strongly recommended that in existing pools that do not have such protection, the above measures are taken to prevent electrolytic corrosion.

### **Dehumidifier location:**

- The dehumidifier must be placed in a suitable location.
- The base should be flat and level.
- The base must be strong enough to support the weight of the unit (up to 390 kg). The maximum permissible surface inclination is 1 mm/m.
- When connecting drain pipes, leave enough height for the siphon to fit.

It is recommended to place the unit in areas with air circulation and in areas with slight temperature differences.

For maintenance purposes, space should be left for changing or cleaning the unit's filters and for access to the control unit.

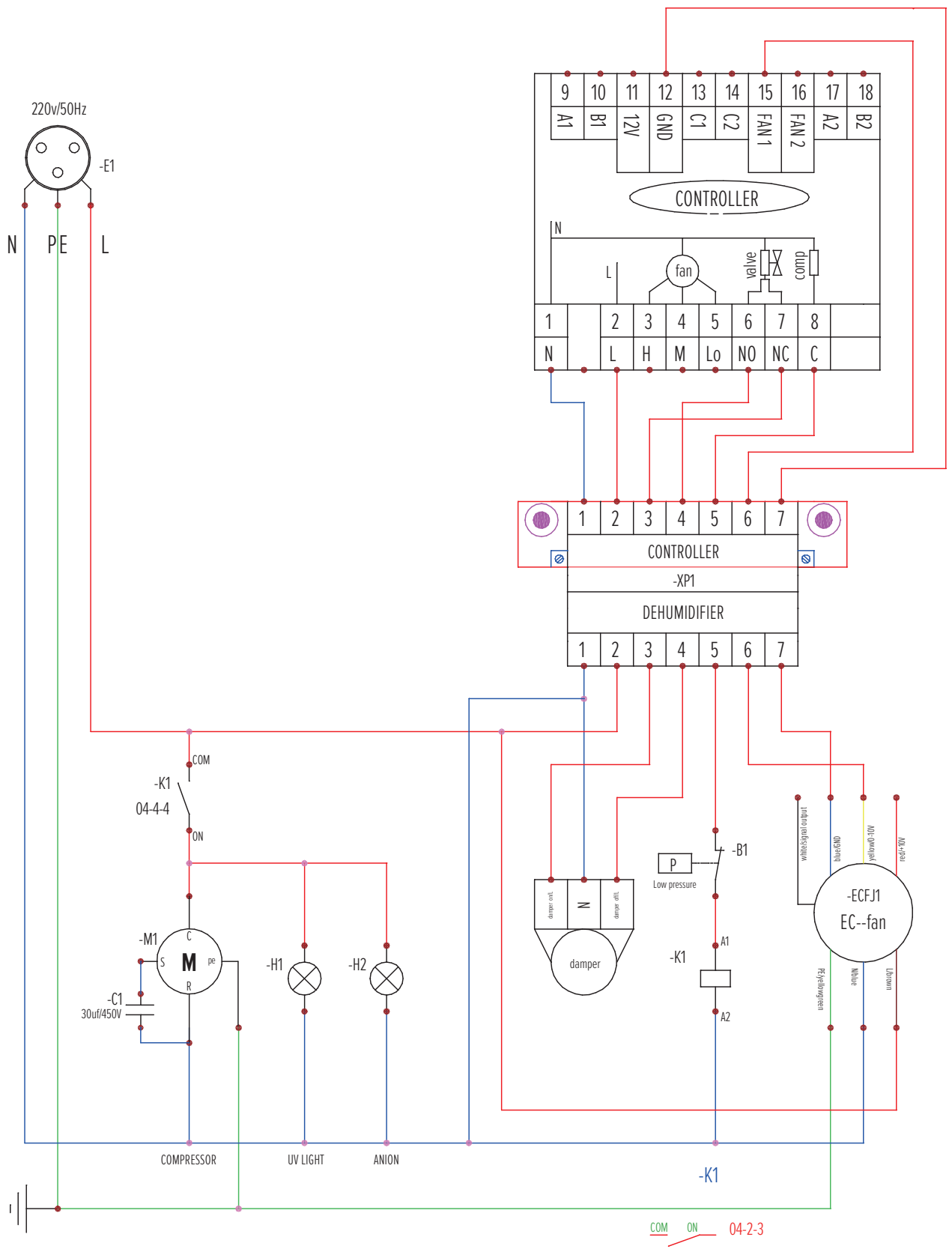


The dimensions of the filters can be found on page 3.



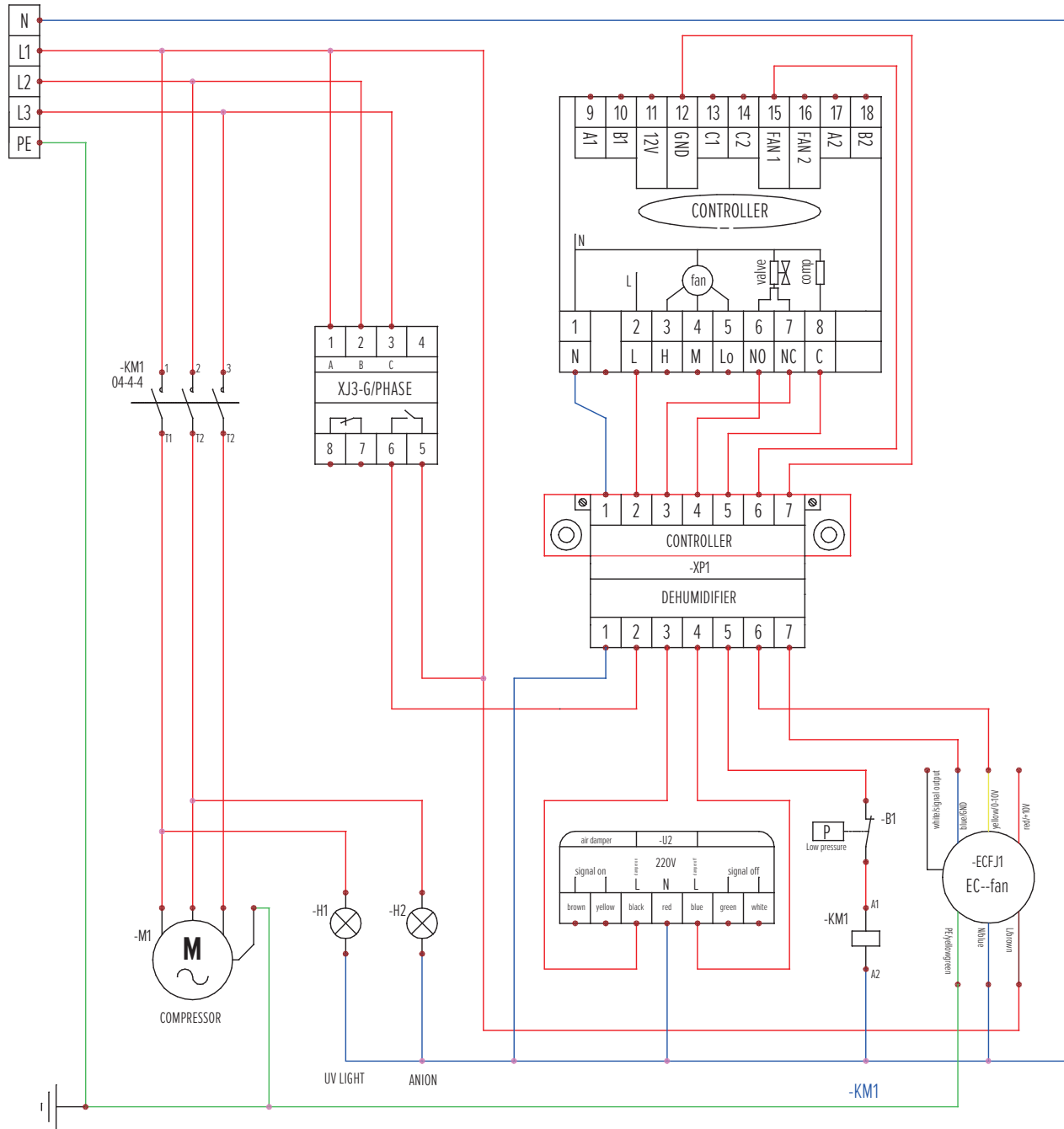


# Wiring diagram MSHA(C)-100X / MSHA(C)-140X



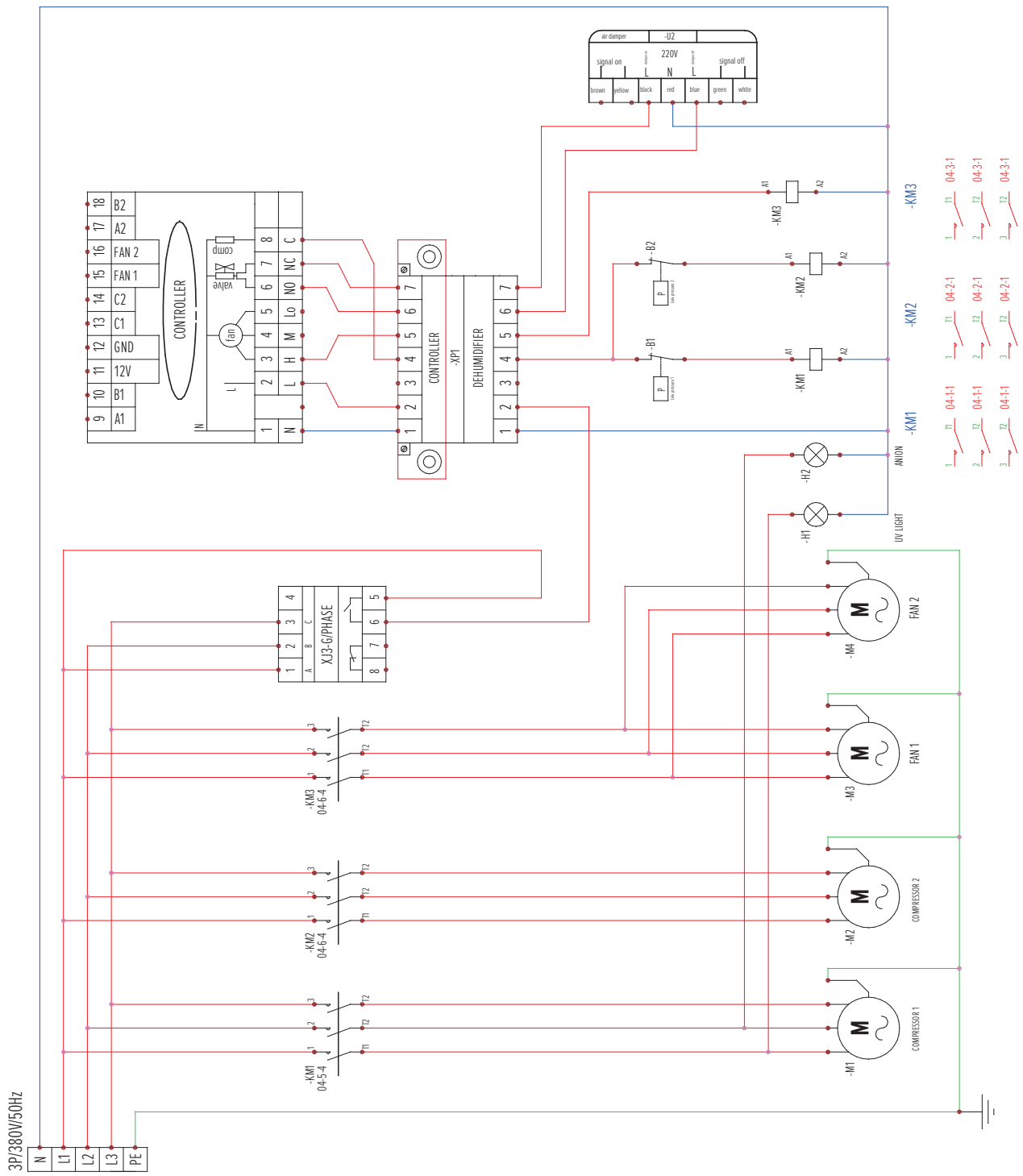
### Wiring diagram MSHA(C)-180X / MSHA(C)-250X

3P/380V/50Hz



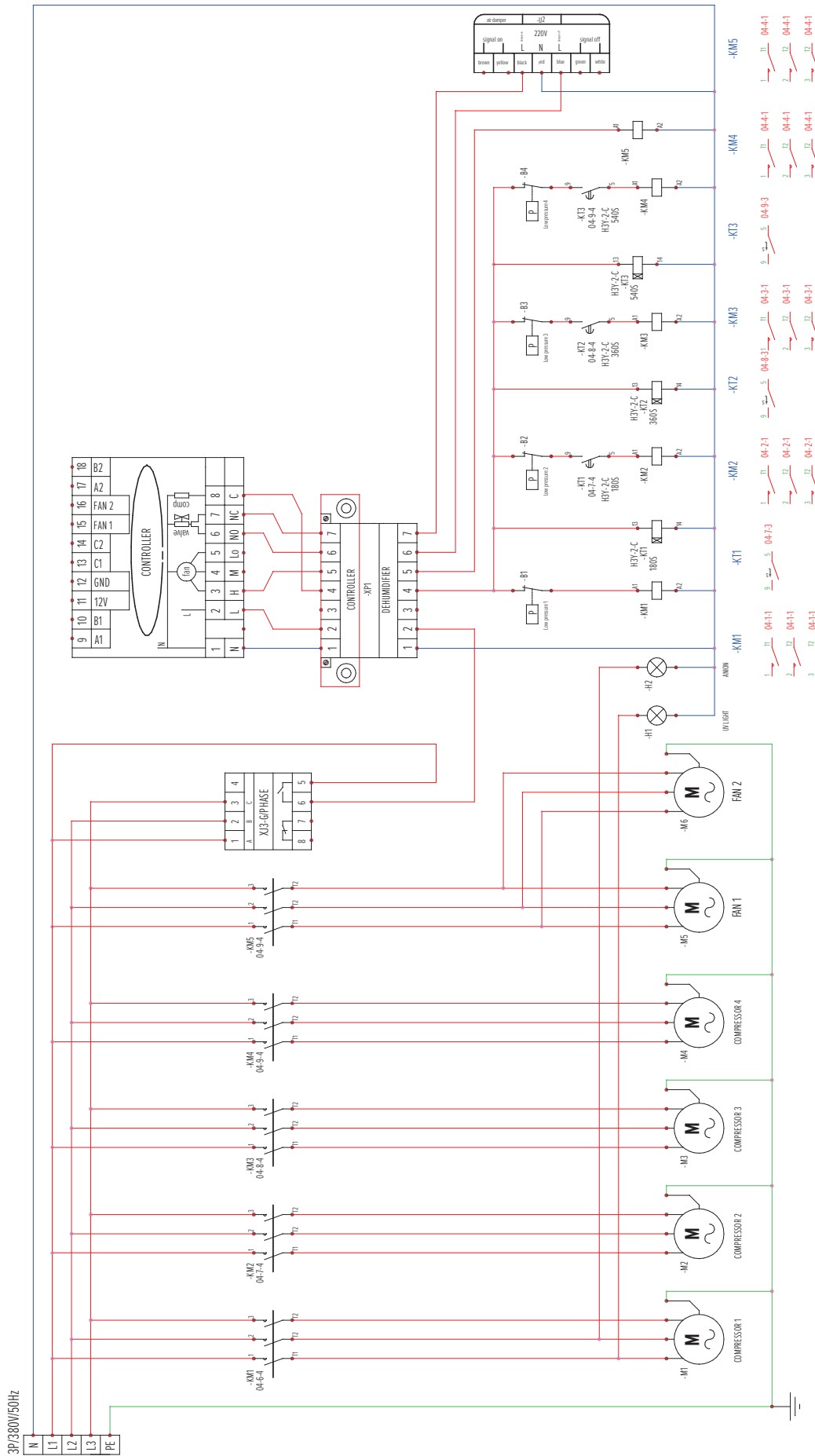
- 1 → T1 04-1-1
- 2 → T2 04-1-1
- 3 → T2 04-1-1

# Wiring diagram MSHA(C)-380X / MSHA(C)-500X





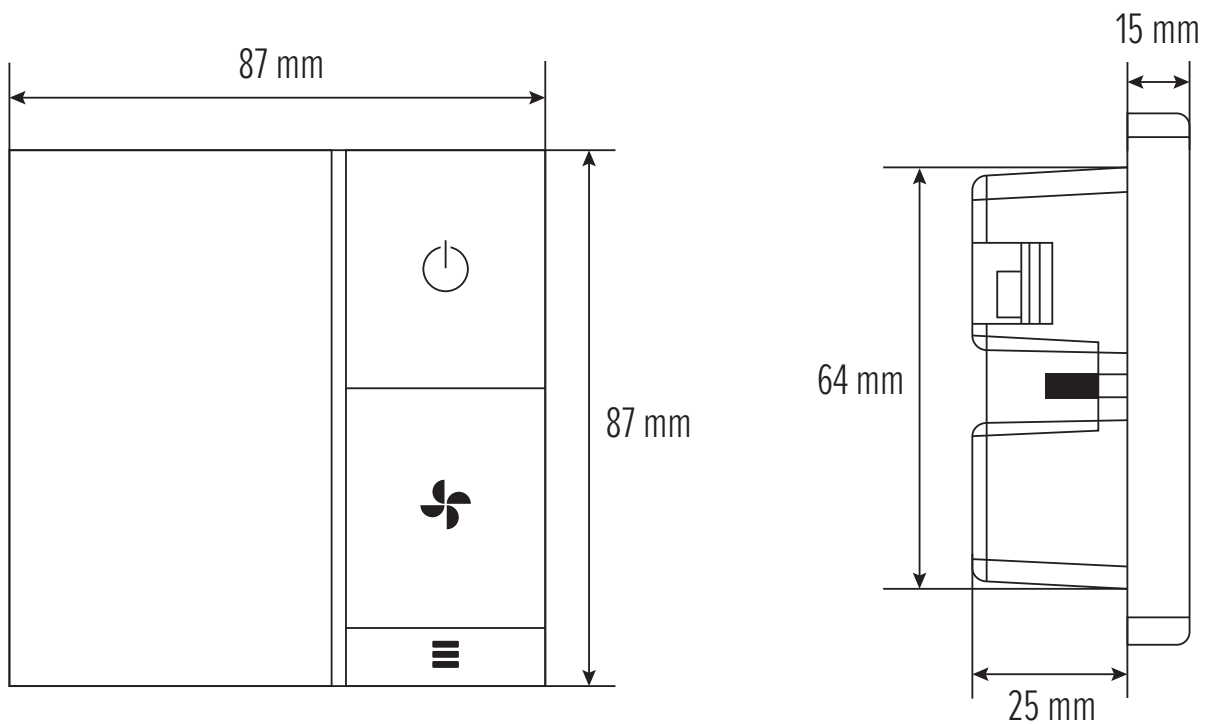
# Wiring diagram MSHA(C)-1000X



## IV. PANEL CONTROL

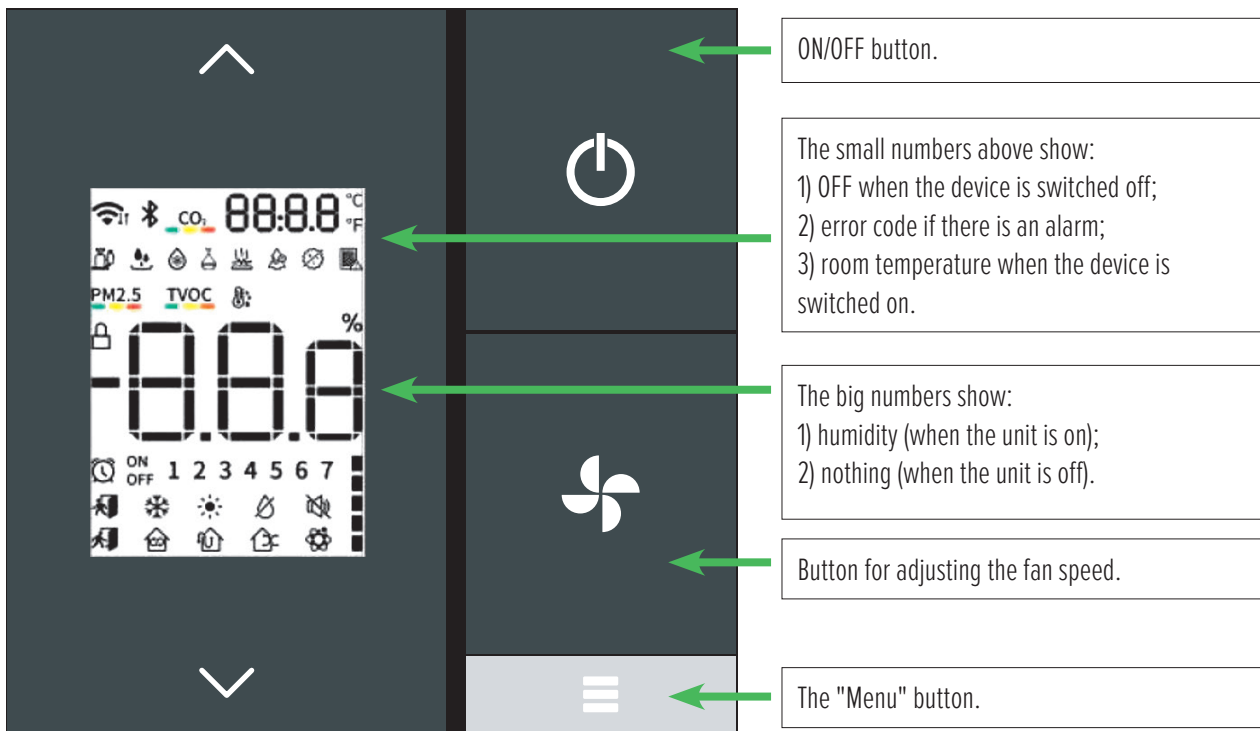


Technical data	
Power source	230 V ~ 50 Hz
Max. current	2A for inductive loads
Display	LCD
Modbus	RS485
Wireless protocol	Wi-Fi
Frequency range	2.4 GHz
Precision of control	1 °C and 5% relative humidity



The control panel is mounted in a mounting box 86HS50 (86x86x50), for which the intended mounting position is recessed in the wall to a depth of 50 mm. The distance between the mounting brackets is 60 mm.

## 4.1. CONTROLLER INTERFACE



## 4.2. RS485-1 MODBUS COMMUNICATION PROTOCOL FOR EXTERNAL SENSORS

### TEMPERATURE/HUMIDITY

Address:13    Transmission frequency:9600    Parity:8N1

Title	Add	Code	Byte	Read only or read/write	Accuracy	Data type
humidity	0000H	03	2	Read-only	0.10%	Temp1
temperature	0001H	03	2	Read-only	0.10%	Temp1

## 4.3. COMMUNICATION PROTOCOL RS485-2 MODBUS

Function code description:

function 03 – read    function 06 – single recording    function 16 – multiple recording

Address	Function code	Object	Read only or read/write	Data
0x1001	03/16/16	On/Off.	Read/write	– Off – On
0x1002	03/16/16	Fan speed	Read/write	1 – 1 fan speed 2 – 2 fan speed 3 – 3 fan speed 4 – 4 fan speed 5 – 5 fan speed
0x1003	03/16/16	Air valve closed/ open	Read/write	– closed – open
0x1004	03/16/16	Humidification setting	Read/write	1~99%
0x1006	03/16/16	Automatic flap adjustment air	Read/write	1~99%
0x1008	03/16/16	Automatic opening/closing air flap	Read/write	0 – unused 1 – used
0x101B	03/16/16	Temperature setting	Read/write	5~35°C
0x101C	03/16/16	Mode of operation	Read/write	0 – drying 1 – cooling + drying 2 – heating + drying 3 – cooling + humidification 4 – heating + humidifying 5 – humidification
0x101D	03/16/16	Moisture setting	Read/write	1~99
0x2001	03	Internal temperature sensor	Read-only	
0x2002	03	Internal humidity sensor	Read-only	
0x2003	03	External temperature sensor	Read-only	
0x2004	03	External humidity sensor	Read-only	
0x2005	03	Fan operation time	Read-only	1=10 hours
0x2006	03	Fault	Read-only	bit0: internal sensor fault bit1: external sensor fault bit2: filter alarm bit3: minimum protection against absolute humidity bit4: in defrost mode
0x2007	03	Dew point	Read-only	
0x2008	03	Absolute humidity	Read-only	

