

# INSTALLATION AND OPERATION MANUAL

## FAN COIL

### of SEC type



## INDEX

1.1 APPLICATION .....	3
1.2 CONSTRUCTION.....	4
1.3 TRANSPORT.....	5
1.4 GENERAL WARNINGS.....	5
1.5 SAFETY RULES.....	6
1.6 WORKING CONDITIONS.....	7
1.7 WATER CONNECTION.....	8
1.8 VBP MAIN BATTERY 3 WAY VALVE.....	9
1.9 VBA – SECONDARY THREE-WAY VALVE.....	10
1.10 VSD – SIMPLIFIED SET OF THREE WAY VALVE.....	11
1.11 MAIN AND AUXILIARY 2-WAY VALVE.....	12
1.12 ELECTRICAL CONNECTION.....	13
1.13 CONNECTION DIAGRAM DRIVER WITHOUT THERMOSTAT.....	14
1.14 CONTROLLER CONNECTION DIAGRAM WITH THERMOSTAT.....	15
1.15 MANUAL SELECTION OF 3 FAN SPEEDS WITHOUT THERMOSTATIC CONTROL.....	16
1.16 CLEANING AND MAINTENANCE.....	18

Thank you for choosing a product of **ECO CALORIA!!!**

We are glad to have you as our customers, we believe that you will be satisfied with the use of our heaters. Following the manual and caring out of installation and maintenance by qualified staff ensures proper and safe operation of the device. Not following the manufacturer's recommendations will void the device's warranty.

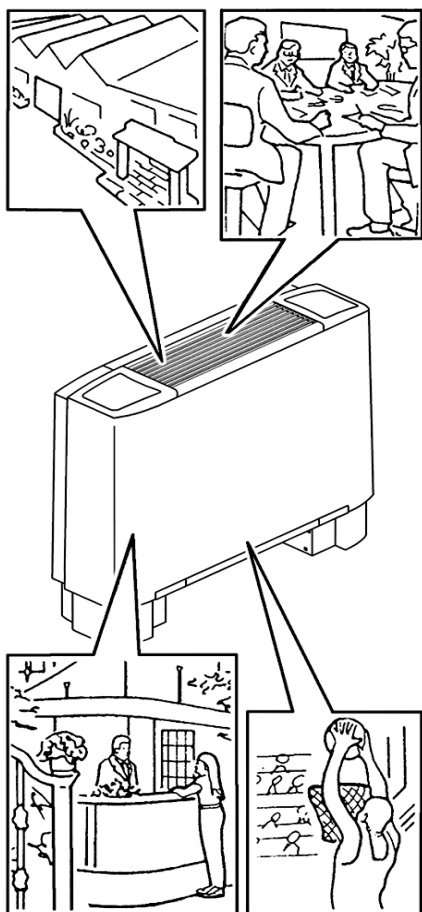
## 1.1 Application

**Before installing the unit, read this manual carefully!**

For proper and safe operation of the device, the installer, user and conservator must follow all instructions contained in this manual.

The manual should be kept in a dry place, protected from damage.

All information contained in this manual must be carefully read and understood, as it is very important for a successful installation, use and maintenance.



**ECOcool** fan coils of **SEC** type are conceived, designed and produced to heat/cool all civil, industrial, commercial or sports premises.

**The appliance may not be used:**

- for outdoor air treatment,
- for installation in moist rooms,
- for installation in explosive atmospheres,
- for installation in corrosive atmospheres.

Make sure that the environment where the appliance is installed does not contain substances that cause the corrosion of the aluminium fins.

The units are supplied with hot or cold water, depending on whether the environment is to be heated or cooled.

The device can not be used by people without technical expertise as well as children.

## 1.2 Construction

**ECOcool** fan coil of **SEC** type consists of the following units:

### Casing

In prepainted hot galvanized sheet steel with synthetic impact resistant side panels. Easy to remove for complete access to the unit.

The air discharge grill incorporated in the top of the casing is reversible with fixed louvres.

### Fan assembly

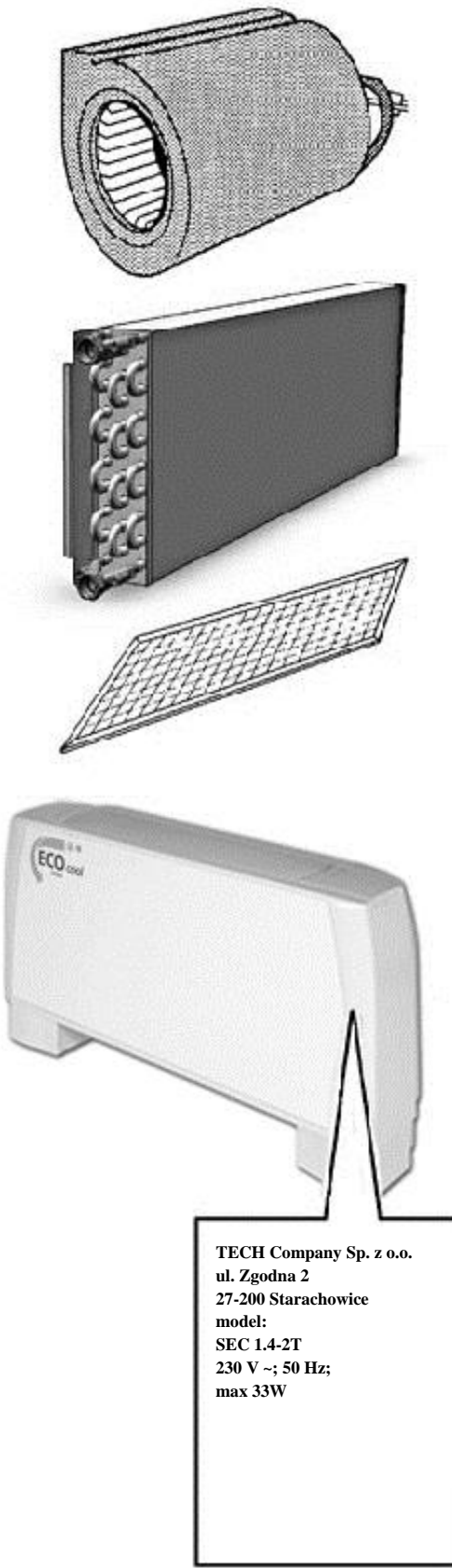
Ultra-silent double intake centrifugal fans with statically and dynamically balanced aluminium impellers keyed directly onto the motor shaft.

### Electric motor

Single phase four speed (three connected) motor with permanently on capacitor on elastic vibration damper mounting. Protection class IP 20.

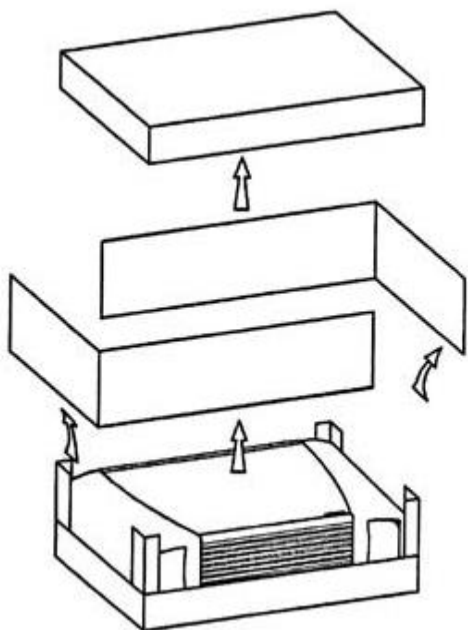
### Heat exchange coil

Made with aluminium finned copper tubes. The 3-4 row exchanger has two 1/2" female gas connections. Coil headers with air vents and water drain outlets (1/8" dia. gas). Ventil units can be fitted with a supplementary one row exchanger (for heating only) with 1/2" dia. gas female connections (3 or 4 row plus 1 version; for 4- tube installations). As standard, the connections are on the left hand side facing the unit. The units can be supplied if specified with the connections on the right hand side. Alternatively the connections can easily be moved from one side to the other on site.



TECH Company Sp. z o.o.  
ul. Zgodna 2  
27-200 Starachowice  
model:  
SEC 1.4-2T  
230 V ~; 50 Hz;  
max 33W

## 1.3 Transport



The appliance is supplied in cardboard packaging.

After unpacking the appliance, make sure it is undamaged and corresponds to the unit requested.

In the event of damage or if the identification code does not correspond to that ordered, contact your dealer immediately, quoting the series and model.

GENERAL NOTES ON DELIVERY:

- Appliance.,
- Instruction and maintenance manual..

## 1.4 General warnings

After removing the packaging, make sure the contents are as requested and not damaged. If this is not the case, contact the **ECOCALORIA** dealer where you bought the appliance.

**ECOcool** fan coil of **SEC** type have been designed for room heating and/or air conditioning and must be used exclusively for that purpose. **ECOCALORIA** declines all responsibility for damage caused by their improper use.

This booklet is an integral part of the appliance and must always accompany the unit. All repairs or maintenance must be performed by **ECOCALORIA** personnel or qualified specialists. **ECOCALORIA** declines all responsibility for damage caused by modifications or tampering with the unit.

Fan coils must never be used by children or unfit persons without supervision. It is dangerous to touch the unit with damp parts of the body and bare feet.

Always unplug the unit from the mains power supply before carrying out any type of operation or maintenance.

Never tamper with or modify regulation and safety devices without prior authorization and instructions from **ECOCALORIA**.

Never twist, detach or pull power cables, even when the unit is unplugged from the mains power supply.

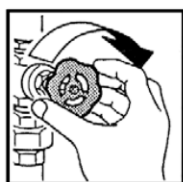
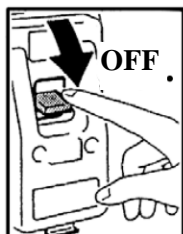
Never throw or spray water on the unit. Never introduce foreign objects through the air intake and discharge grills.

Never remove protective elements without first unplugging the unit from the mains power supply.

Do not throw packaging material away or leave it within reach of children as it may represent a hazard.

Do not install in explosive, corrosive or damp environments, outdoors or in very dusty rooms.

## 1.5 Safety rules



Before carrying out any operation on the appliance, make sure:

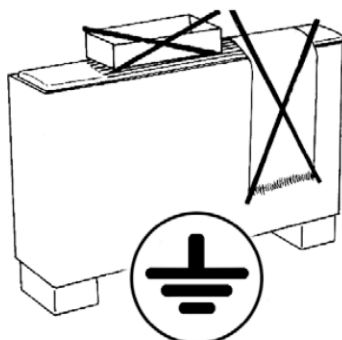
- 1 - The unit is disconnected from the electrical power supply.
- 2 - The coil water supply valve is closed and the coil has cooled down.

- 3 - Install a safety switch to turn off current to the appliance in an easily accessible position near the unit or units.

- Do not expose to inflammable gas.
- Do not place objects over the grills.

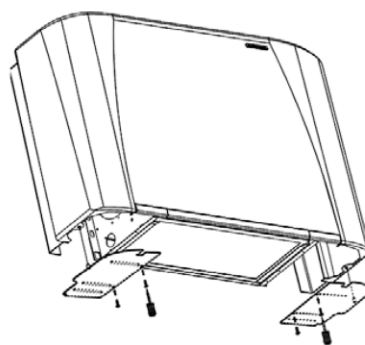
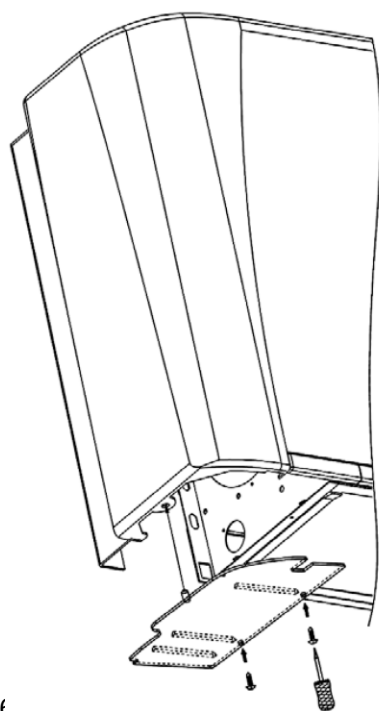
- Always use protective gloves to disassemble the unit.

Make sure the unit is earthed.



In case of installation of fan coil version MV or MVB without onboard control, it is necessary to close the bay on the side of the electric connections positioned below the door. For this purpose it is possible to use the accessory “control bay cap”, code 6060004. For safety reasons, the bottom panels must be fitted when installing MV version appliances without feet. The panels prevent the parts inside the technical compartment and the live parts from being accessible to the hands. Failure to fit these panels represents a serious risk to personal safety.

When moving the appliance, lift it by yourself (for weights of under 30 kg) or with the help of another person. Lift it slowly, taking care not to drop it. Fan blades may reach speeds of up to 1,000 revs/min. Never introduce objects or the hand into the fans. Do not remove the safety labels inside the appliance. If you cannot read the



## 1.6 Operating limits

The basic specification of the fan coil and heat exchanger is given below:

Fan coil and heat exchanger

Maximum temperature of heat vector fluid = 85°C

Minimum temperature of refrigerant fluid = 5°C

Maximum working pressure = 8 bars

Power supply voltage 230V - 50Hz

### Model MV

### Weight (kg)

Model		Weight with packaging									Weight without packaging								
		1	2	3	4	5	6	7	8	9	1	2	3	4	5	6	7	8	9
Rows	3-2T	14	16	21	22	24	25	30	39	40	13	14	18	19	21	22	26	35	36
	3-4T	15	19	27	28	30	31	37	47	48	14	17	24	25	27	28	33	43	44
	3-4T/2T	15	22	33	34	36	37	44	55	56	14	20	30	31	33	34	40	51	52
	4-2T	14	18	24	25	27	28	34	45	46	13	16	21	22	24	25	30	41	42
	4-4T	15	21	29	30	32	33	40	52	54	14	19	26	27	29	30	36	48	50

### Water content

Model		Water content (litres)								
		1	2	3	4	5	6	7	8	9
Rows	3	0,5	0,6	0,9	0,9	1,3	1,6	1,7	1,9	1,9
	4	0,7	0,8	1,3	1,3	1,7	2,2	2,4	2,8	2,8
	4T	0,2	0,2	0,3	0,3	0,4	0,5	0,5	0,6	0,6
	3-4T/2T	0,4	0,4	0,6	0,6	0,8	1,0	1,0	1,2	1,2

### Motor Absorption

Model		Motor Absorption								
		1	2	3	4	5	6	7	8	9
230 V/ 50 Hz	W	33	40	49	57	61	88	103	130	176
	A	0,16	0,18	0,23	0,26	0,27	0,39	0,47	0,58	0,78

## 1.7 Hydraulic connections

Maximum working pressure: 8 bar.

Always use two spanners to connect the heat exchanger to the pipes.

Always fit a gate valve in the water circuit.

To reverse the connections side, proceed as follows:

- 1 - Undo the four screws (two per side) fixing the coil to the frame and remove the coil.
- 2 - Undo the two screws fixing the baffle to the coil and remove it together with the lagging covering the coil. Reposition it on top of the coil.
- 3 - Disconnect the wires (taking note of the colour). Undo the screws fixing the terminal board and remove it.
- 4 - Remove the pre-cut shape from the frame.
- 5 - Remount the baffle at the bottom and replace the coil, fixing it with the four screws.
- 6 - Fix the control unit and terminal board on the opposite side to the connections.
- 7 - Reconnect the electrical wires, following the notes made previously and referring to the electrical wiring diagram.



### IMPORTANT!

You are recommended to fit a siphon on the condensate drain. Install a condensate drain pipe with a slope of at least 3 cm/metre.

If a second heat exchanger coil is fitted, to change the connections side, proceed as described previously.

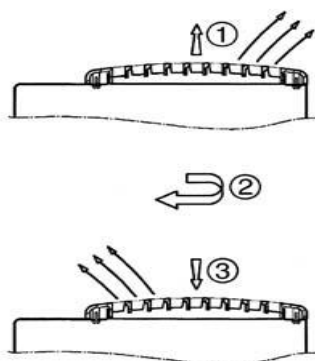
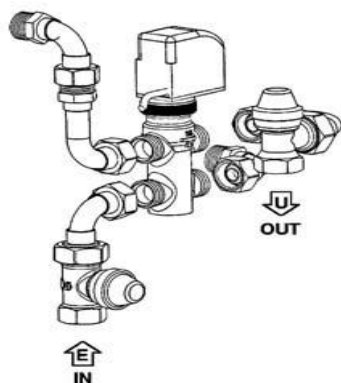
If the unit is fitted with a valve, connect the connection pipes to the valve.

If the unit is used for cooling, insulate the pipes and valve to avoid drops of condensate forming.

During the summer and when the fan is inactive for long periods, you are recommended to shut off the water supply to the coil to avoid condensation forming on the outside of the unit.

If a supplementary condensate drain pan is used, this should be fixed to the connections side of the frame and the condensate drain pipe should be fastened to the latter.

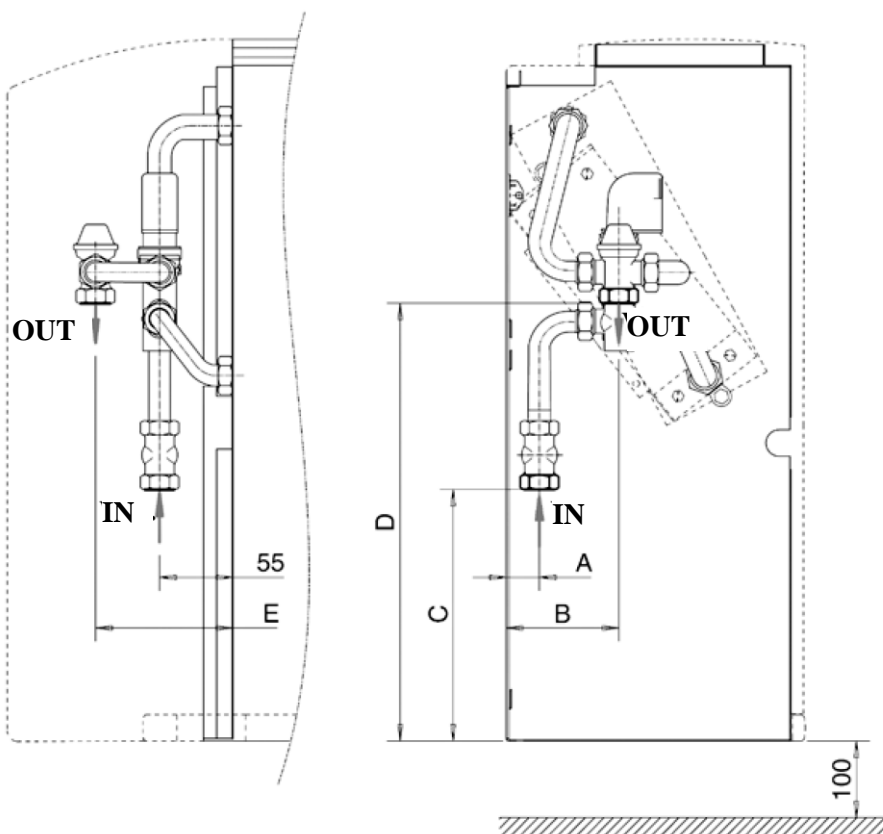
In the MV, MVB and MO versions, the air flow can be reversed by rotating the grill as illustrated.





### 1.8 VBP main battery 3 way valve

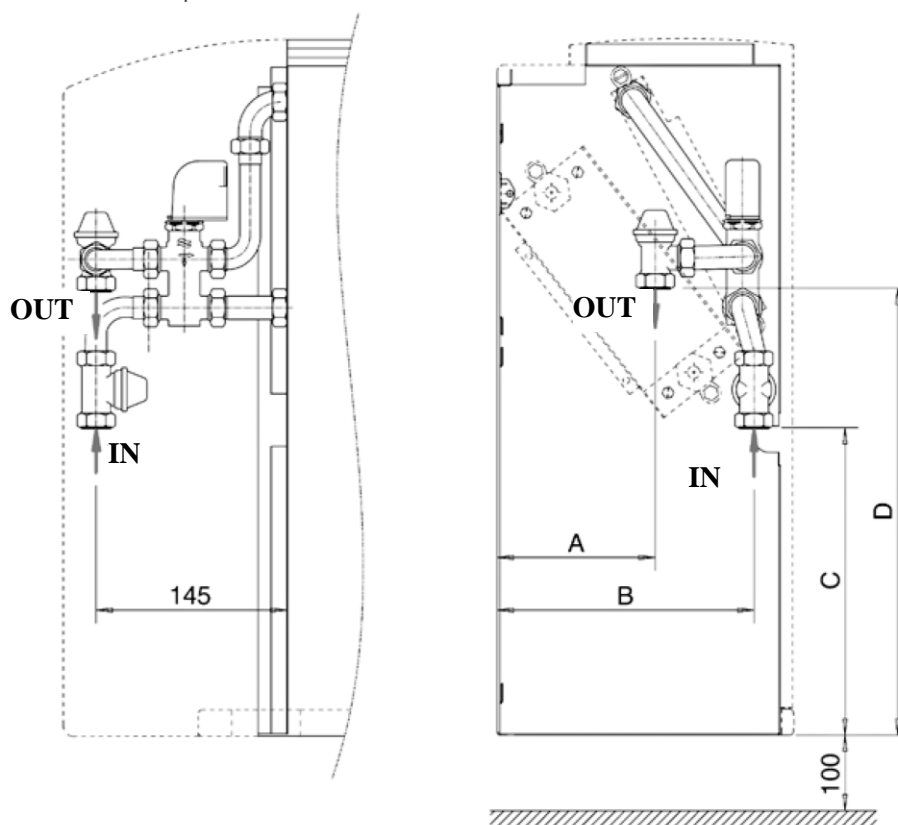
Control valve kit: 3 way valve, ON-OFF, with electric control and mounting kit (optional).



Model	Dimensions					Valve			Manual stop valve		
	A	B	C	D	E	DN	Ø	Kvs	DN	Ø	Kvs
1-5	25	85	190	290	105	15	1/2"	1,6	15	1/2"	2
6-7	25	85	190	290	105	20	3/4"	2,5	15	1/2"	2
8-9	50	120	185	290	105	20	3/4"	2,5	15	1/2"	2

## 1.9 VBP - additional coil 3 way valve

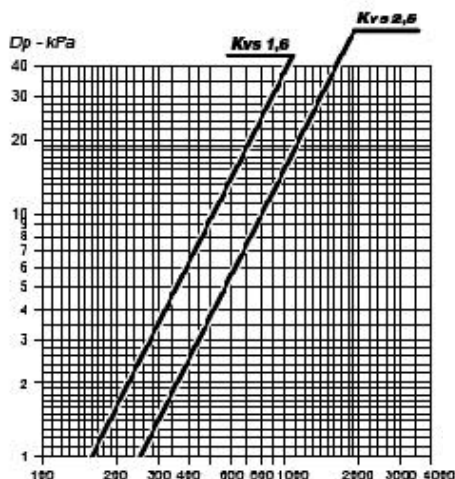
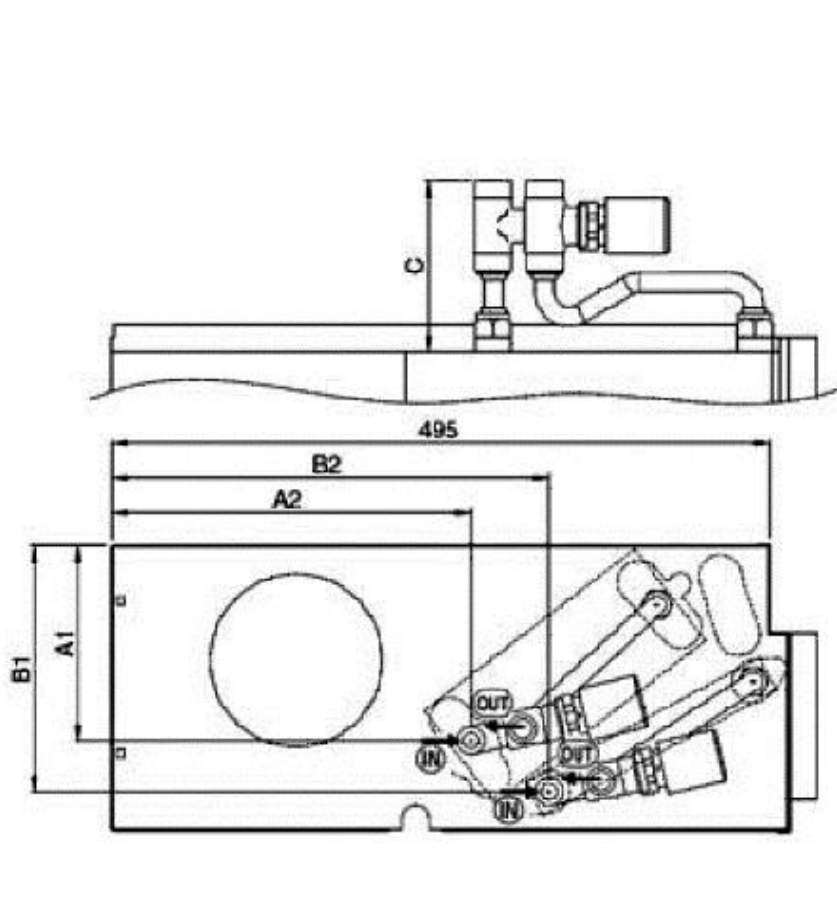
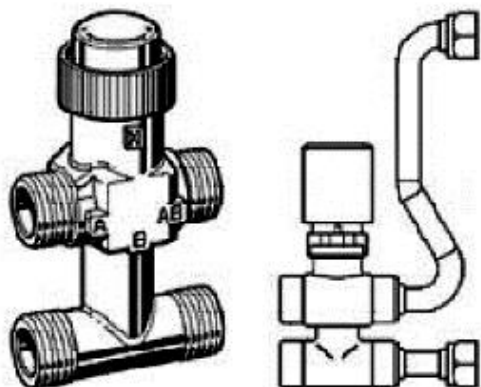
Control valve kit: 3 way valve, ON-OFF, with electric motor and mounting kit with micrometric lockshield valve.



Model	Dimensions (mm)					Valve			Micrometric lockshield valve		
	A	B	C	D	E	DN	Ø	Kvs	DN	Ø	Kvs
1-7	120	195	240	340	----	15	1/2"	1,6	15	1/2"	2
8-9	135	200	235	330	----	15	1/2"	1,6	15	1/2"	2

### 1.10 VS – simplified kit for 3 way valve

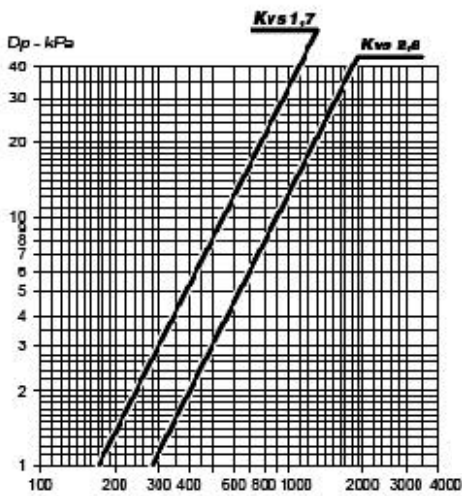
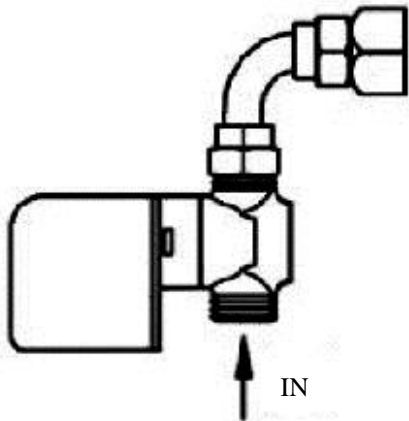
Control valve kit: 2 way valve, ON-OFF, with electric motor and mounting kit.



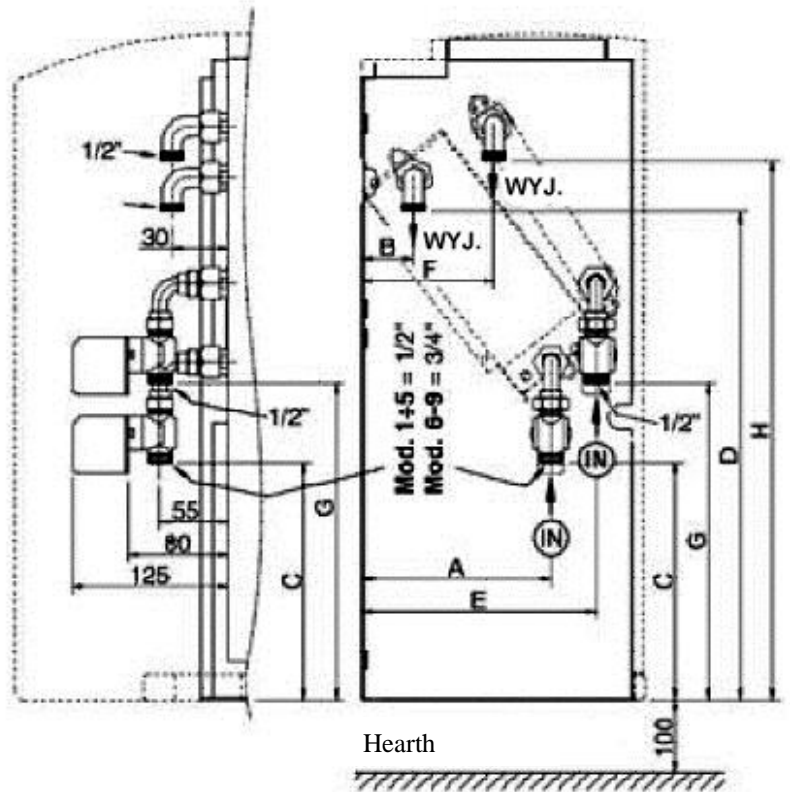
Model	Main		Additional		Valve		
	A1	A2	B1	B2	DN	Ø	Kvs
1-5	152	270	185	330	15	1/2"	1,6
6-7	152	268	185	330	20	3/4"	2,5
8-9	177	270	210	327	20	3/4"	2,5

### 1.11 2 way valve for main and additional coil.

Control valve kit: 2 way valve, ON-OFF, with electric motor and mounting kit.



Water flow (l/h)



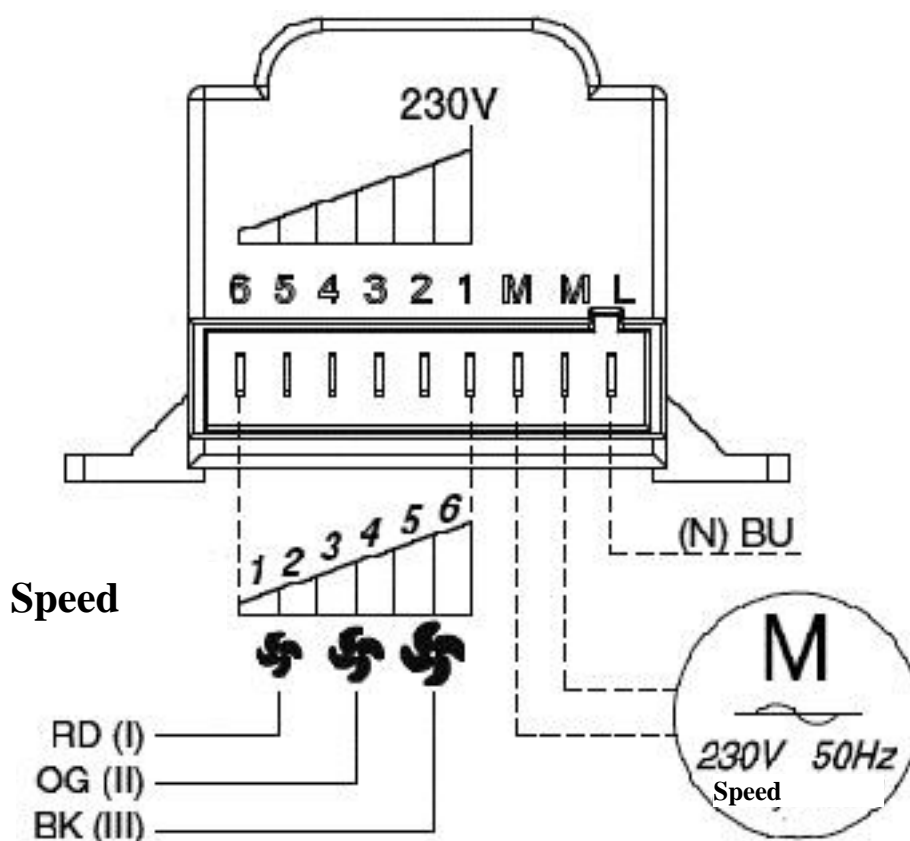
Model	Dimensions (mm)								Valve		
	A	B	C	D	E	F	G	H	DN	Ø	Kvs
1-5	149	41	180	386	186	103	239	456	15	1/2"	1,7
6-7	150	43	181	438	186	103	239	456	20	3/4"	2,8
8-9	176	40	175	422	210	104	237	440	20	3/4"	2,8

## 1.12 Electrical connections

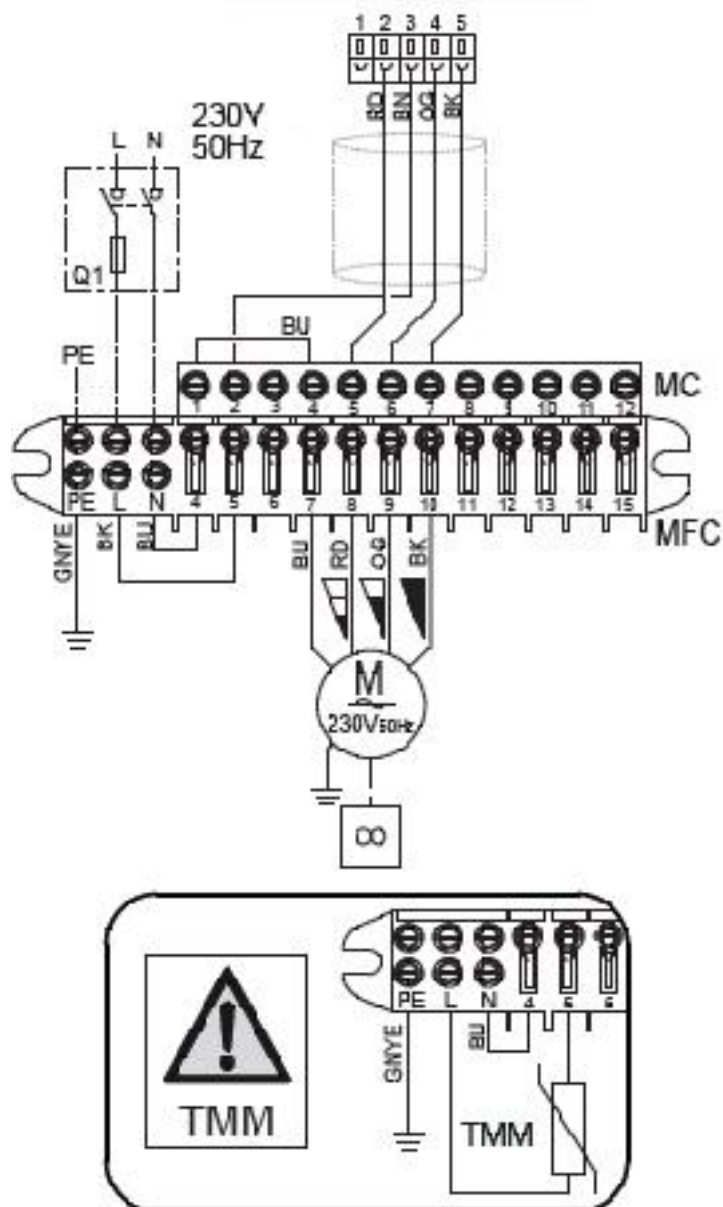
### General instructions

- Before installing the fan coil, make sure the rated voltage of the power supply is 230V - 50 Hz.
- Make sure that, in addition to supplying the working current required by the fan coil, the mains electrical supply is also able to supply the current necessary to operate other household appliances and units.
- Perform electrical connections in accordance with laws and regulations in force in the country concerned.
- Upstream of the unit, fit an omnipolar switch with minimum contact distance of 3 mm. The unit must always be earthed.

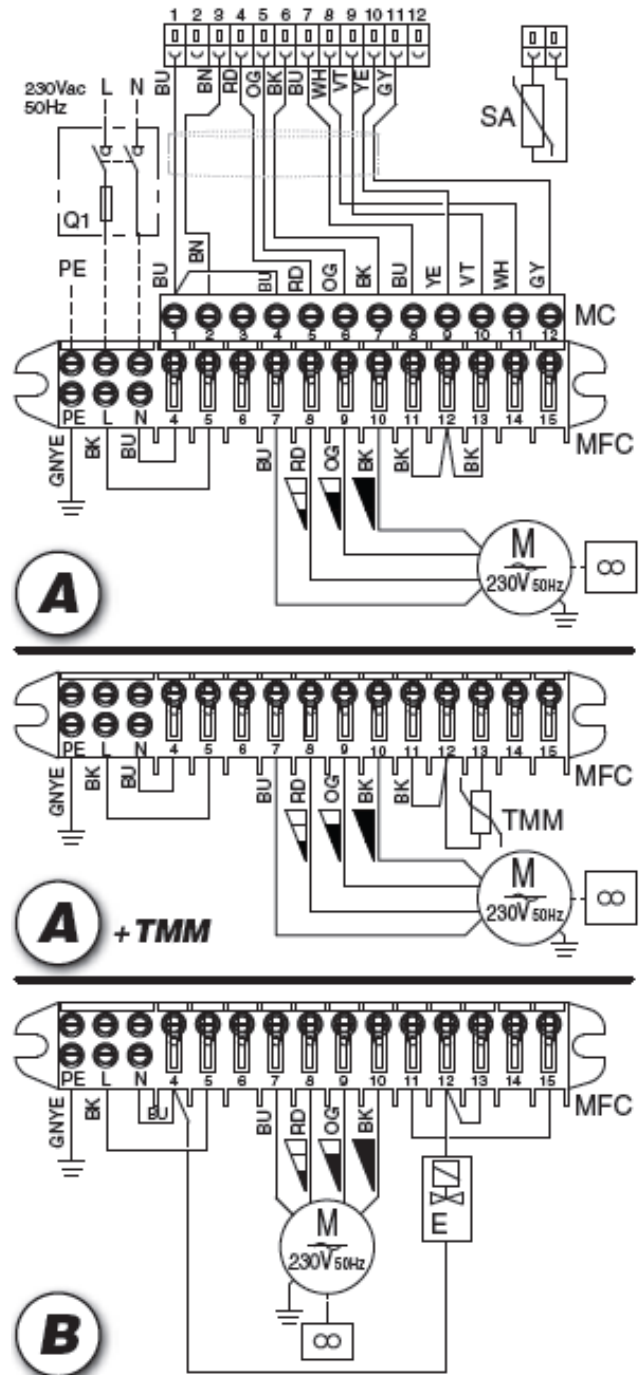
Always disconnect the electrical power supply before opening the unit.

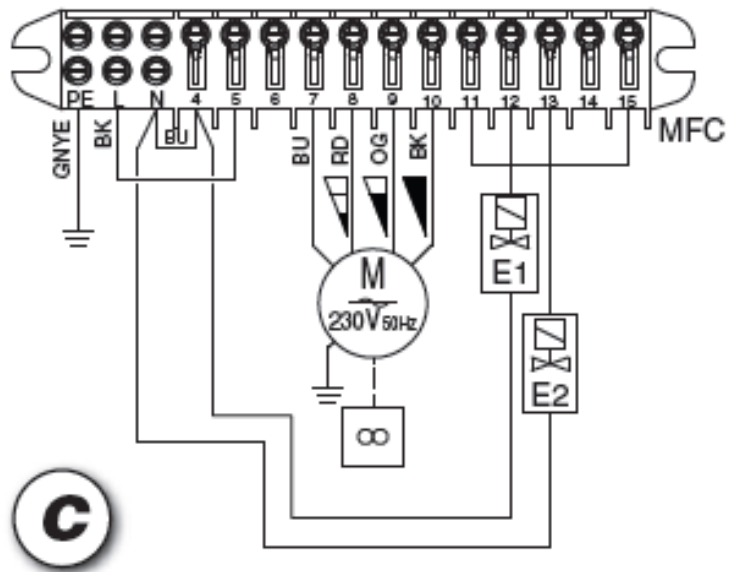
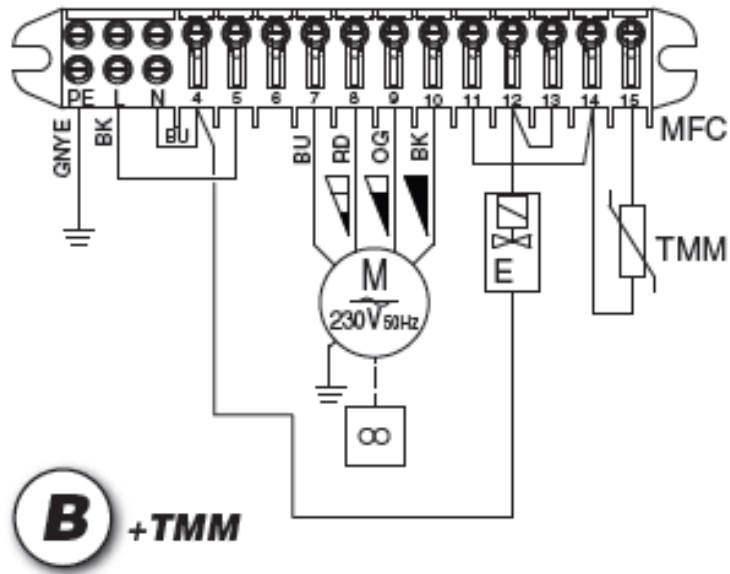


### 1.13 Electric control unit without thermostat



### 1.14 Electric control unit with electronic thermostat









## 1.16 Cleaning, maintenance and spare parts

Before carrying out cleaning or maintenance, make sure the power to the unit is turned off.

### **IMPORTANT!**

Maintenance of the unit must be carried out by trained maintenance personnel only.

#### **Fan**

No maintenance required.

#### **Heat exchanger coil**

No ordinary maintenance required.

#### **FILTER**

Using a suitable tool, unhook the filter holder strip and extract the filter from the guides. Clean regularly with a vacuum cleaner or shake lightly. When it can no longer be cleaned, replace.

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Brand owner 