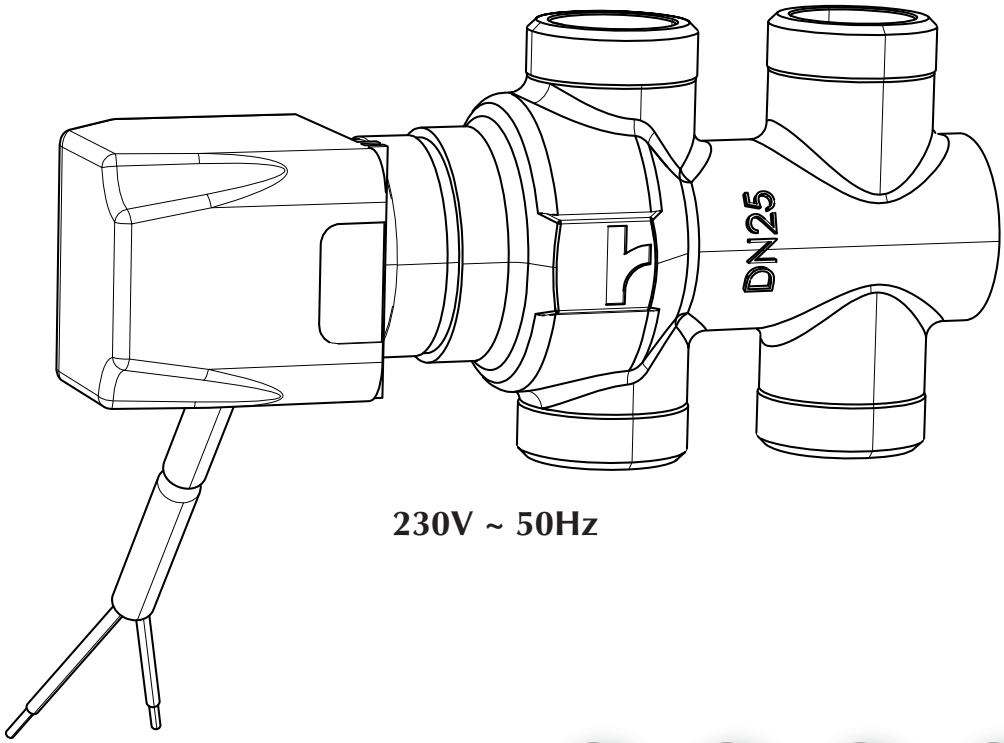
MANUALE INSTALLAZIONE
INSTALLATION MANUAL
MANUEL D'INSTALLATION
INSTALLATIONSHANDBUCH
MANUAL INSTALACIÓN

VCF45C
VCF45H
VCF47C
VCF47H

Kit Valvola 3 vie
three-way valve kit
KIT Vanne à 3 voies
Bausatz 3-Wege-Ventil
Kit Válvula de 3 vías



230V ~ 50Hz

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4413950_00

VCF4557UJ 1106 - 4413950_00

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DESCRIPTION

VCF45C / VCF47C are kits made up of an insulated 3-way valve with 4 connections, an electrothermal actuator and related fittings. They are suitable for installation on VED fan coils with both right and left connections.These are three-way valves and 4 all or nothing type connections, normally closed, with by-pass flow control fitted as a mixer with G 3/4" Male flat fittings, powered at 230V ~50Hz The valves can be controlled by the control panels (accessory) which are enabled for the valve checking function. Consult the control panel characteristics before selecting a panel. The VCF45C / VCF47C kits must be installed on the main coil and are compatible with VED sizes:
VCF45C: VED430, VED432, VED440, VED441, VED530, VED532, VED540, VED541
VCF47C: VED630, VED632, VED640, VED641, VED730, VED732, VED740, VED741

VCF45H / VCF47H are kits made up of a three-way valve with 4 connections, an electrothermal actuator and related fittings. They are suitable for installation on VED fan coils with both right and left connections. These are three-way valves and 4 all or nothing type connections, normally closed, with by-pass flow control fitted as a mixer with G 3/4 "Male flat fittings, powered at 230V ~50Hz.The valves can be controlled by the control panels (accessory) which are enabled for the valve checking function. Consult the control panel characteristics before selecting a panel. The VCF45H / VCF47H kits must be installed on the secondary heating only coil and are compatible with VED sizes:
VCF45H:VED432, VED441, VED532, VED541
VCF47H:VED632, VED641, VED732, VED741

VCF45C/ VCF47C KIT COMPONENTS:
- 1 three-way valve and 4 connections
- 1 Electrothermal actuator
- 3 Connection pipes
- 3 Flat seals
- 2 O-Ring seals
- 1 Insulating shell
- 4 Self-locking clamps
- 1 Probe holder clip

VCF45H/ VCF47H KIT COMPONENTS:
- 1 three-way valve and 4 connections
- 1 Electrothermal actuator
- 3 Connection pipes
- 2 O-Ring seals
- 3 Flat seals
- 2 Self-locking clamps
- 1 Probe holder clip

DECLARATION OF CONFORMITY

See the Declaration of Conformity of the VED unit

TECHNICAL SPECIFICATIONS

Power supply:	230V (±10%) ~ 50Hz
Initial peak current:	0.25A x 0.5s
Input operating power:	2.5W
Water temperature range:	4°C ÷ 80°C
Usable liquids:	water (with glycol ≤ 50%)
Initial opening time:	90s
Final opening time:	180s
Maximum working pressure applied to the fan coils:	800kPa
Environmental operating conditions Temperature:	0°C ÷ 40°C
Environmental storage conditions Temperature:	-25°C ÷ 60°C
Protection level of the electrothermal actuator:	IP44
Protection class of the electrothermal actuator:	Type II

Electrothermal actuator with threaded ring nut: M30 x 1.5

Power cable:	VCF47C / VCF47H	L=2200mm 2 x 0.75mm^2
	VCF45C / VCF45C	L=2000mm 2 x 0.75mm^2

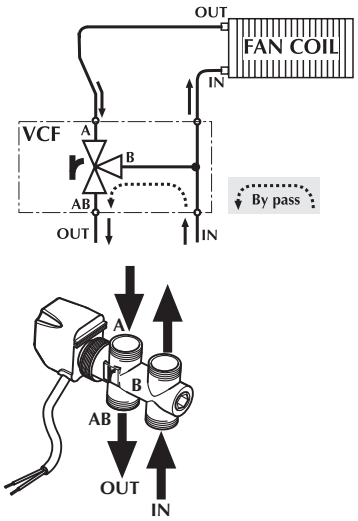
Model	**VCF45C / VCF47C**	**VCF45H / VCF47H**
Valve body		
Connectors	G 3/4" male	G 3/4" male
Seal	Flat	Flat
Connection pipes		
Valve side		
Coil inlet connections	G 3/4" Female	G 3/4" Female
Seal	Flat	Flat
Unit side		
Connectors	G 3/4" male	G 1/2" male
Seal	O-Ring	O-Ring
Pressure drop		
Kvs AB-A	4	4
B - AB (By-pass)	1.7	1.7

CALCULATION OF THE PRESSURE DROP

$$\Delta p = \left(\frac{10\ q}{Kvs}\right)^2$$

Δp [kPa] = Pressure drop
q [m^3/h] = Water flow rate

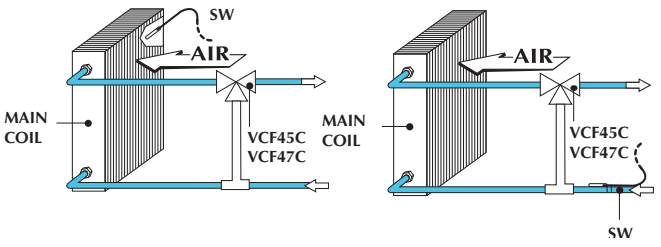
VALVE ASSEMBLY DIAGRAM (MIXER)



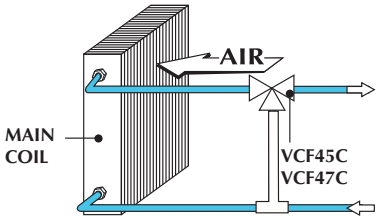
A-AB way of the valve is closed, while the by-pass way (B-AB) is open. With the electrothermal actuator powered, the actuator indicator is red.
A-AB way of the valve is open, while the by-pass way (B-AB) is closed. With the electrothermal actuator powered, the actuator indicator is black.

SYSTEM EXAMPLE

2-PIPE SYSTEM

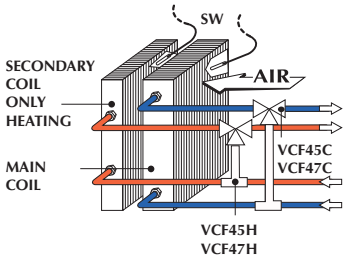


With water sensor in the coil **With water sensor upstream of the valve**

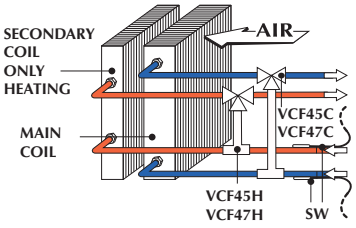


Without water sensor

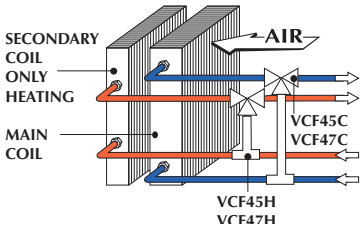
4-PIPE SYSTEM



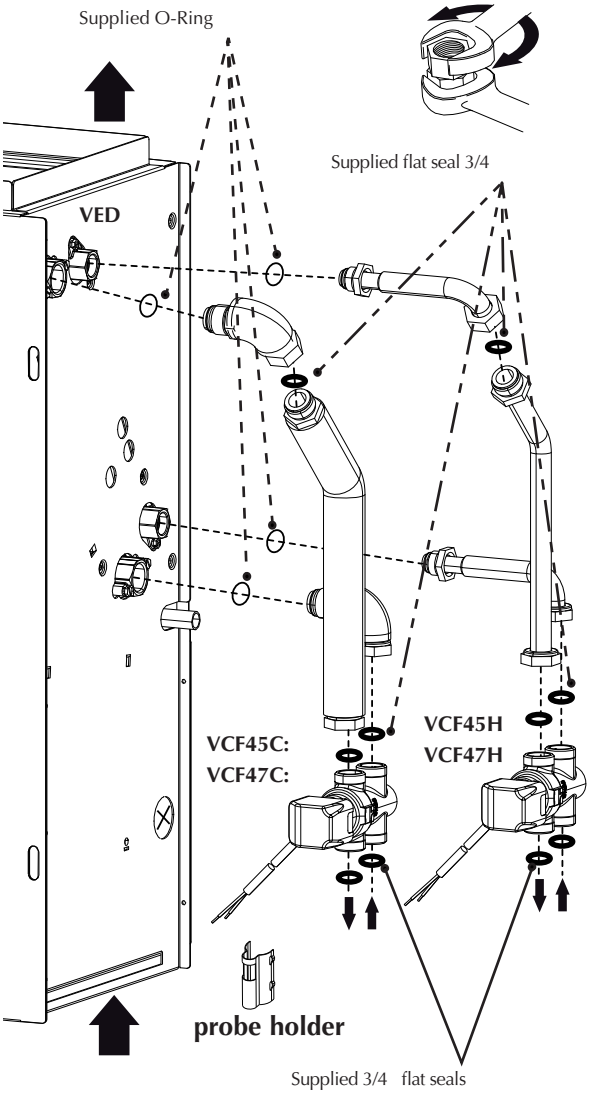
With water sensor in the coil



With water sensor upstream of the valve

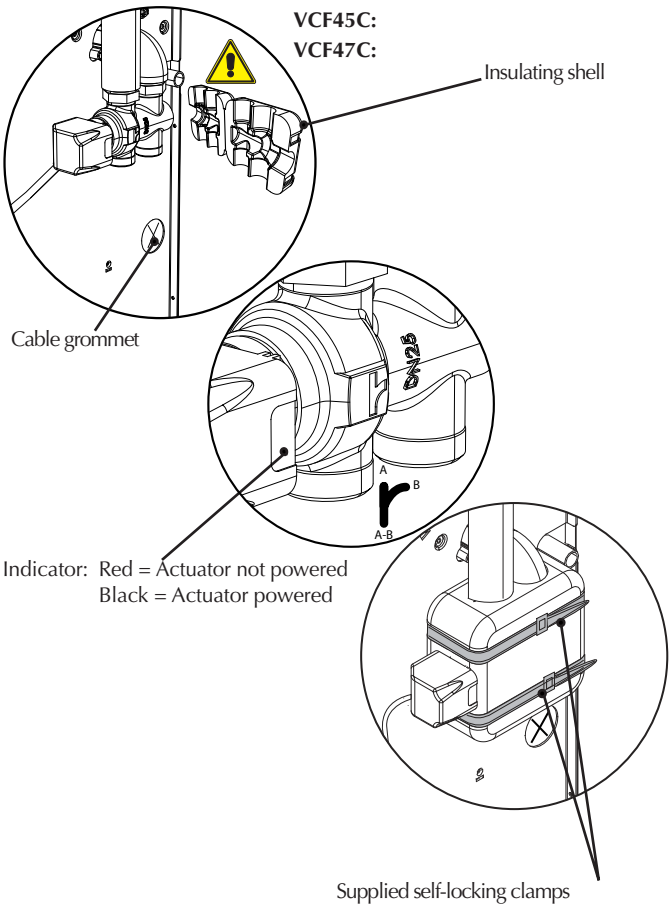


Without water sensor



Key:

SW	Water temperature sensor (ACCESSORY)
VCF45C / VCF47C	Main coil three-way valve
VCF45H / VCF47H	Secondary heating only coil three-way valve



CAUTION:check that the power supply is disconnected before performing operations on the unit.

WARNING:electrical connections, the installation of the fan coils and their accessories must only be carried out by people with the proper technical and professional qualifications for the installation, conversion, expansion and maintenance of the machinery and able to check that it is working properly and safe.

In the specific case of electrical wirings, the following must be checked:

- Measurement of the electrical system insulation strength.

- continuity test of the protection wires.

Before carrying out any intervention, use the necessary Personal Protective Equipment.

Before installing the valve accessory kit consult the VED fan coil installation manual; it is the installer's job to prepare the water and electrical systems and to make the proper connections with the unit.

The installation must be carried out in accordance with what is shown in the figure.

WARNING! During installation, pay attention to the flow direction, **before fitting the valve, check the installation direction referring to the embossed symbol on the valve body.**

- Fit the connection pipes supplied with the valve body. The seal is guaranteed by the supplied 3/4" flat seals (Tightening torque 25÷50Nm)
- Fit the two outlet pipes from the fan coil together. The seal is guaranteed by the supplied 3/4" flat seal
- Fit the valve body with the connection pipes to the fan coil, the seal is guaranteed by the supplied O-Ring
- Remove any protective cap or handwheel from the valve body
- Tighten **manually** the ring nut of the electrothermal actuator on the valve body, so that the actuator indicator is pointing outwards
- On the VCF45C / VCF47C models, fix the insulating shell to the valve body with the two supplied clamps. Complete the insulation of the valve, any joints and pipes that may be uncovered. The isolation is especially important in circuits with cold water to avoid the formation of condensation and any drips.
- Insert the power cable into the electrothermal actuator through the cable gland on the side of the fan coil. Pass through the ventilation compartment fixing the cable on the appropriate cable clips of the shrouds. Exit the opposite side through the appropriate cable gland.

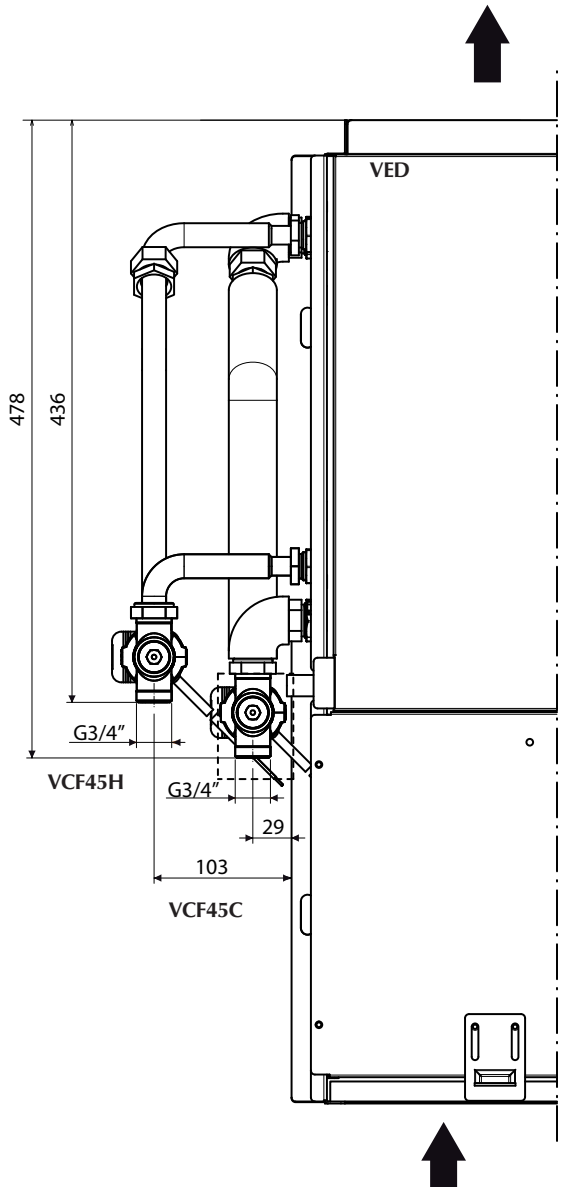
Electrical wirings

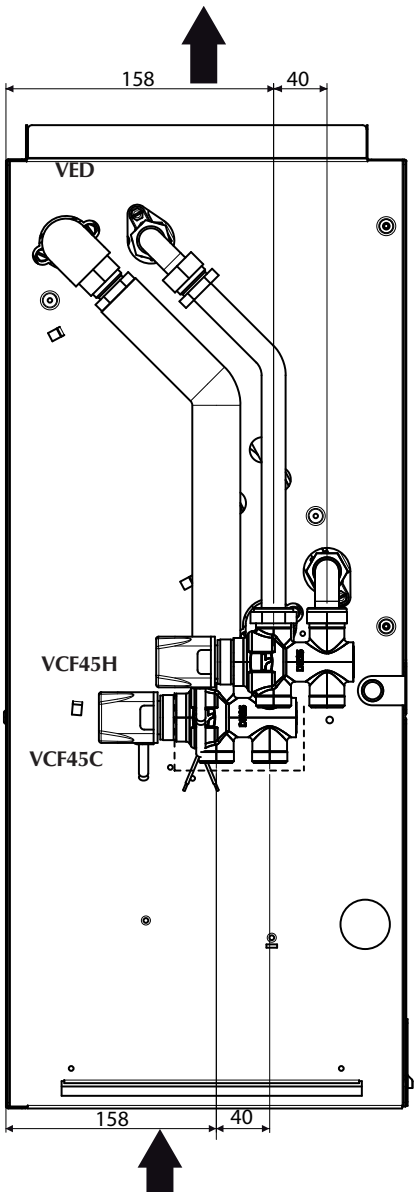
Connect the valve electrical cable to the unit control board or control panel as indicated in the wiring diagrams attached to the fan coil or the control panel manuals.

System side water connections

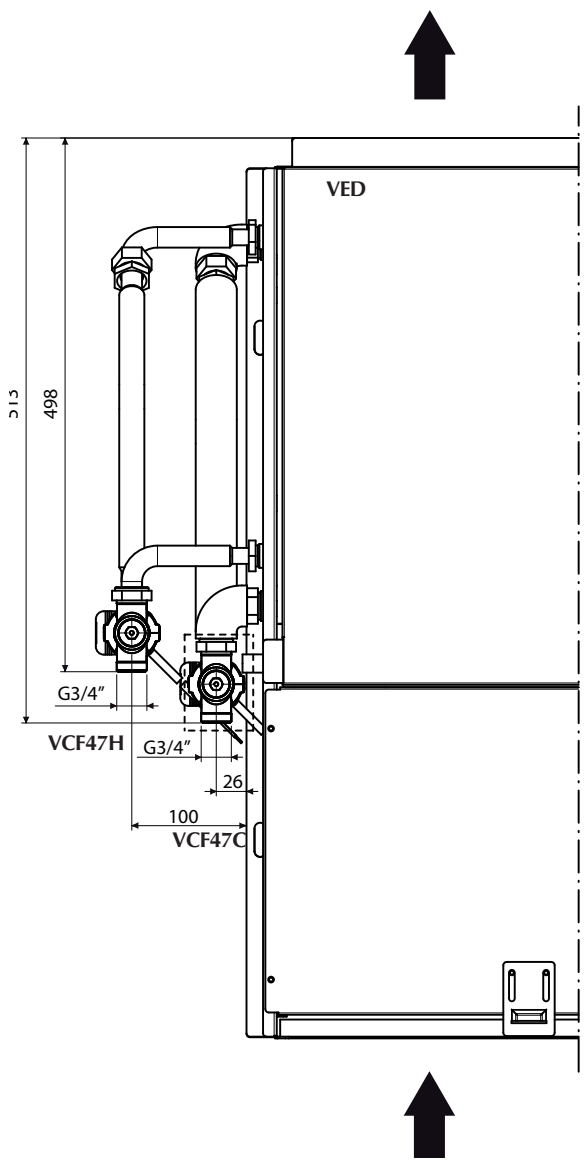
Perform the water connections (system side) on the valve with 3/4" flat seals (not supplied).

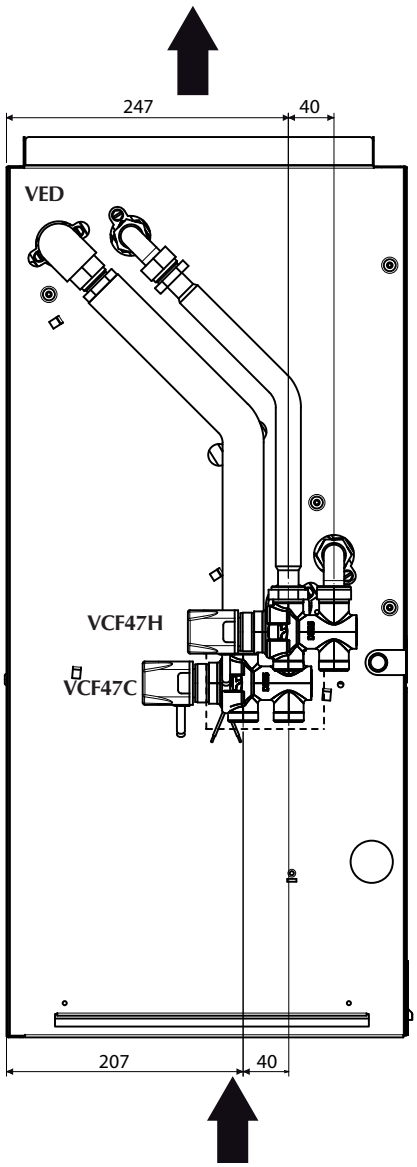
VCF45C VCF45H
VED 4 5





VCF47C VCF47H
VED 6 7





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AERMEC S.p.A.
I-37040 Bevilacqua (VR) - Italia
Via Roma, 996 - Tel. (+39) 0442 633111
Telefax (+39) 0442 93730 - (+39) 0442 93566
www .aermec. com