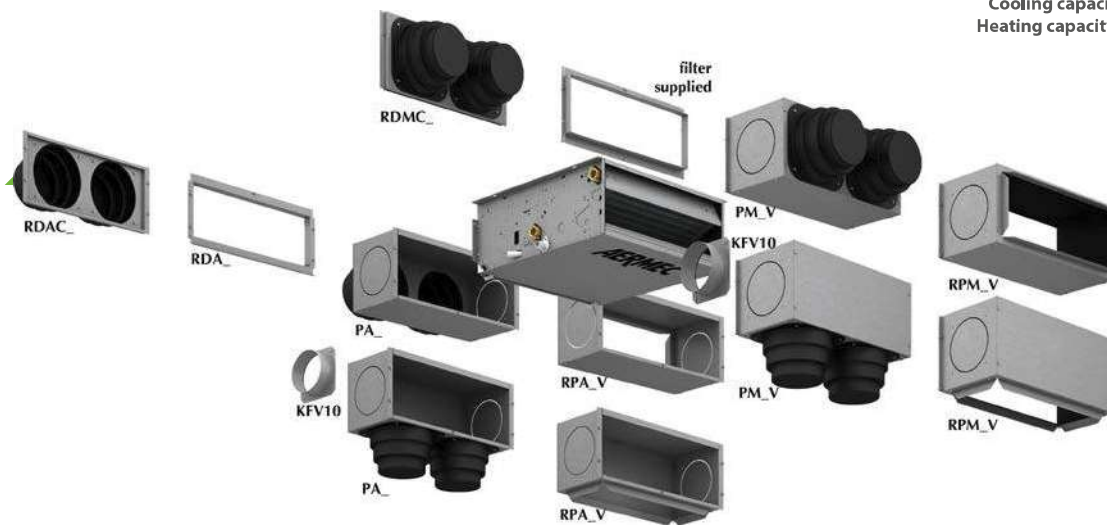


## VES 030-340

## Fan coil unit For ducted installations

Cooling capacity from 1,82 to 5,70kW  
Heating capacity from 1,25 to 10,95kW



- Horizontal or vertical installation
- Heat exchanger developed to optimize the performance sensitive
- Versions for 2/4 pipe systems
- Large range of available static pressure

### DESCRIPTION

Ducted fan coil, for heating, cooling and dehumidifying, specific to work in sensible environment. The fan unit at available working pressures, trough internal insulation, ensure excellent acoustic comfort levels. The small dimensions and easy installation make the fan coil designed for 2 and 4-pipe applications. The main coil, reversible during installation, is designed to ensure an high heat transfer, ideal for applications in sensible environment.

### FEATURES

- Main standard coil or increased for 2-pipe systems
- Main standard coil and additional heating coil (accessory) for 4-pipe system
- 3-way valve accessory
- 2-way valve accessory for variable flow systems
- Fan assembly, high useful head, with aerofoil designed for high performance and simultaneously low-noise comfort
- Centrifugal fans plastic material, in order to reduce power consumption by increasing the ventilation efficiency
- Compatible with the VMF system
- Large range of controllers
- Large range of accessories to satisfy all installation requirements
- Discharge connection supplied loose
- Air filter Class G3, for easy removal and cleaning
- Internal insulation in fire Class 1
- Protective rating IP20
- Fan housing in plastic material removable for easy and useful cleaning
- Easy of installation and maintenance
- Full compliance with safety standards.

### ACCESSORIES

#### Control panel

A range of dedicated controllers, wall-mounted or on the machine, is available but it is essential to choose between these panels for simple and complete tuning, for more details please refer to the dedicated sheet.

#### Probes and accessory for control panels

- **SW3**: water temperature probe allowing automatic season change on electronic controllers supplied with water-side change over
- **SWA**: external probe accessory (length = 6m). The probe detects the temperature of the ambient air if connected to the connector (A) on panel FMT21; the ambient air temperature probe incorporated in the panel is automatically deactivated. Detects the temperature of the water in the system, for ventilation consent, if connected to the connector (W) of the FMT21 panel. Two SWA probes can be simultaneously connected to the panel FMT21.
- **SIT3-5**: Thermostat Interface Card allowing the creation of a network of fan coils (max. 10) commanded by a central control panel (selector or thermostat).
- **SIT3**: commands the 3 fan speeds and must be installed on each fan coil within the network; receives the commands from the selector or the SIT5 card.
- **SIT5**: commands the 3 fan speeds and up to 2 valves (four pipe systems); sends the thermostat's commands to the fan coil network.

#### VMF system

**VMF-E0X**: a thermostat accessory to be secured to the side of the fan coil, fitted as standard with an air probe and a water probe, it controls systems with 2 pipes, 4 pipes, 2 pipes + Cold Plasma, 2 pipes + UV lamps, 2 pipes + Heating element. Equipped with an external contact to be used as a remote ON-OFF at low voltage. By means of 2-wire serial communication, this thermostat allows for the creation of a single fan coil area (1 master + maximum 5 slaves). Compared to the previous model, thanks to a different dip switch configuration, it allows implementing new features:

- In systems with two pipes and a heating element, the latter can be activated as a complete replacement, allowing you to warm the environment exclusively with this accessory.
- Dualjet features are available in standard software and can be set via dip switch.

The thermostat is protected by a fuse

**VMF-E19**: like VMF-E0X plus:

- Economy contact/presence sensor

- Additional water sensor for overall control in 4-pipe systems (with VMF-SW1 accessory).
- Serial RS485, ModBus RTU protocol, for centralised control.
- Possibility of inserting expansion boards for future developments. The VMF-E19 accessory must be therefore used in masters in the presence of multiple zones, or for communication with the chiller/heat pump
- Compatibility with the VMF-IO accessory
- Compatibility with VMF-LON expansion board

**VMF-IO:** Expansion board that expands the availability of Digital Inputs and Outputs, configurable via dip switches, thus making it possible to control the thermostat via an external BMS without using a local user interface (e.g. VMF-E2 or VMF-E4X). The expansion board can be used to configure the MODBUS addresses of the single thermostats included in a system, thus avoiding having to interact with the user interface for allocating an address and, most importantly, in order to replicate the address when replacing thermostats.

**VMF-LON:** Expansion that allows interfacing with a thermostat with BMS systems using the LON protocol.

**VMF-E4X:** is a wall-mounted user interface to be combined with VMF-E19 and VMF-E19I accessories for drawer grids. Featuring an innovative, extremely slim and cost-effective design, it allows running functions via a capacitive touchscreen keyboard with LCD display. You can choose to adjust the environment with a panel-mounted sensor probe (standard), or with the fan coil probe to which it is connected, or through mediated reading. It also enables the activation of an air purifier (Cold Plasma / UV Lamp) and a heating element. Light grey front panel PANTONE COOL GRAY 1C

**VMF-E4DX:** is a variant of the previous code but with a light grey front panel PANTONE 425C (METAL)

- **VMF-SW:** water probe to be used, if necessary, to replace the one supplied as standard with VMF-E0X, VMF-E19 and VMF-E19I thermostats, for installation upstream of the valve
- **VMF-SW1:** extra water probe to be used for 4-pipe systems with VMF-E19 and VMF-E19I thermostats for overall control in the cold range

#### Hot water coil

- **BV:** Single row hot water heat exchanger. Not available for versions with Plasmacluster.

#### Valve kit

- **VCF\_X4:** Valve kits for single coil units, installed in 4 pipe systems with totally separated "Cooling" and "Heating" circuits. The kit consists of 2 valves with 3-way 4 port connection complete with electro-thermal actuators, insulating shells for the valves and associated hydraulic piping. The VCF1X4L valve kit allows left side connection.

- **VCF:** kit containing a motorised 3-way valve with insulating shell plus coupling and pipes in insulated copper. Applicable for standard or oversized main coil. Available with 230V and 24V~50Hz power supply.
- **VCFD:** Kit consisting of powered 2-way valve, copper couplings and pipes applicable for standard or oversized main coil. Available with 230V and 24V~50Hz power supply.
- **VJP/VJP\_M:** Control and balancing combination valve for 2 and 4 pipe systems to install outside the unit, supplied without fittings and hydraulic components. The valve, which can guarantee a constant water flow rate in the terminal, within its operating range, is available with 230V and 24V~50Hz power supply.
- The VJP is controlled by on-off logic with compatible control panels (accessories) The VJP\_M is controlled by modulating logic with panels not supplied by Aermec The design water flow rate is crucial to refine the selection of the valve shown in the compatibility table.

#### Accessory for Installation:

- **AMP:** kit for the wall mounting installation.
- **BC:** Auxiliary condensate drip tray.
- **DSC4:** Condensate drainage device for use when natural run-off is not possible.
- **SE:** External air damper with manual control

#### Ducting accessories:

- **RDA\_V:** Straight intake connection with rectangular flange.
- **RDAC\_V:** Straight intake connection with circular flanges.
- **RPA\_V:** Intake plenum with rectangular flange.
- **RDMC\_V:** Straight discharge with circular flanges. Internally insulated.
- **PA\_V:** Intake plenum with circular flanges. Flanges in plastic material.
- **RPM\_V:** Discharge plenum with rectangular flange. Internally insulated.
- **PM\_V:** Discharge plenum with circular flanges. Internally insulated. Flanges in plastic material.
- **KFV10:** Circular flanges kit for intake/discharge plenum.

#### Grid:

- **GA:** Intake grid with fixed louvers.
- **GAF:** Intake grid with fixed louvers with filter.
- **GM:** Flow grid with adjustable louvers.

For more details on the control panels and VMF system refer to the dedicated sheet

## ACCESSORIES COMPATIBILITY

VES		030	040	130	140	230	240	330	340
<b>Probes and accessories for control panels</b>									
TX		*	*	*	*	*	*	*	*
KTLP		*	*	*	*	*	*	*	*
PX-PX2-PX2C6	(1)	*	*	*	*	*	*	*	*
PXAE		*	*	*	*	*	*	*	*
PXAR		*	*	*	*	*	*	*	*
TPF		*	*	*	*	*	*	*	*
WMT05-06-10		*	*	*	*	*	*	*	*
FMT10		*	*	*	*	*	*	*	*
FMT21		*	*	*	*	*	*	*	*
SWA						In combination with FMT21			
SW3						In combination with PXAE or PXAR			
SIT3						In combination with FMT21 or PXAE or PXAR or PX2 or PX or PX2C6 WMT05*-06-10			
SIT5						In combination with FMT21 or PXAE or PXAR			
<b>VMF System</b>									
VMF-E0		*	*	*	*	*	*	*	*
VMF-E19		*	*	*	*	*	*	*	*
VMF-E4		*	*	*	*	*	*	*	*
VMF-SW		*	*	*	*	*	*	*	*
VMF-SW1		*	*	*	*	*	*	*	*
VMF-I0		*	*	*	*	*	*	*	*
VMF-LON		*	*	*	*	*	*	*	*
<b>Additional coil (heating only)</b>									
BV030		*							
BV130				*					
BV230						*			
BV162								*	
<b>Water valves</b>									
<b>Valve Kit for 4 pipe systems with Main coil</b>									
VCF3X4L-R		*	*	*	*	*	*	*	*
<b>3 way valve kit</b>									
VCF43/4324	(2)	*	*	*		*		*	*
VCF43S/4324S	(2)				*		*		
<b>2 way valve kit</b>									
VCFD3/324	(2)	*	*	*	*	*	*	*	*
<b>3 way valve kit for heating coil only</b>									
VCF45/4524		*		*		*		*	
<b>2 way valve kit for heating coil only</b>									
VCFD4/424		*		*		*		*	
<b>Combined adjustment and balancing valve independent of pressure *</b>									
VJP060/060M	(2)	*	*	*	*				
VJP090/090M	(2)					*	*		
VJP150/150M	(2)							*	*
<b>Accessories for installation</b>									
AMP		*	*	*	*	*	*	*	*
DSC4	(3)	*	*	*	*	*	*	*	*
ZX7		*	*	*	*	*	*		
ZX8								*	*
<b>Auxiliary condensate drip tray</b>									
BC4	(4)	*	*	*	*	*	*	*	*
BC6		*	*	*	*	*	*	*	*
BC9		*	*	*	*	*	*	*	*
<b>Grille</b>									
GA22		*	*						
GA32				*	*				
GA42						*	*		
GA62								*	*
GAF22		*	*						
GAF32				*	*				
GAF42						*	*		

For more details on the control panels and VMF system, refer to the dedicated product data sheets.

\* WMT05 not compatible with the additional battery (hot only) BV

(1) Installation only on the wall; (PX2C6 PX2 panel in pack of 6)

(2) VCF4324-VCFD324-VCF4524-VCFD424-VJP060M are 24V

(3) The DSC4 accessory is not compatible with the AMP accessory with all the bowls and the VMF system

(4) BC4 bowl and VCF-VCFD valves cannot be installed simultaneously

VES		030	040	130	140	230	240	330	340
GAF62								•	•
GM22		•	•						
GM32				•	•				
GM42						•	•		
GM62								•	•
SE20X	(5)	•	•						
SE30X	(5)			•	•				
SE40X	(5)					•	•		
SE80X	(5)							•	•
<b>Plenum for duct installation</b>									
RDA000V		•	•						
RDA100V				•	•				
RDA200V						•	•		
RDA300V								•	•
RPA000V	(6)	•	•						
RPA100V	(6)			•	•				
RPA200V	(6)					•	•		
RPA300V	(6)							•	•
RDAC000V		•	•						
RDAC100V				•	•				
RDAC200V						•	•		
RDAC300V								•	•
PA000V	(6)	•	•						
PA100V	(6)			•	•				
PA200V	(6)					•	•		
PA300V	(6)							•	•
PM000V	(6)	•	•						
PM100V	(6)			•	•				
PM200V	(6)					•	•		
PM300V	(6)							•	•
RPM000V	(6)	•	•						
RPM100V	(6)			•	•				
RPM200V	(6)					•	•		
RPM300V	(6)							•	•
RDMC000V		•	•						
RDMC100V				•	•				
RDMC200V						•	•		
RDMC300V								•	•
KFV10		•	•	•	•	•	•	•	•

VJP / VJP\_M The compatibility of the valves in the hot branch of the 4-pipe system is to be verified with the projected water flow

(5) SE accessories require combination with ZX structural feet

(6) All Plenums (RPA\_V; PA\_V; RPM\_V; PM\_V) have a circular half-cut ( $\emptyset = 150\text{mm}$ ) on both sides, which can be removed; they can have suction / delivery straight or downwards (referring to horizontal installation)

## TECHNICAL DATA

VES		30			40			130			140			230			240			330			340		
Fan speed		H	M	L	H	M	L	H	M	L	H	M	L	H	M	L	H	M	L	H	M	L	H	M	L
Heating Performance																									
<b>2 pipes system</b>																									
Heating capacity (70°C)	(1) kW	3,69	3,37	1,82	3,92	3,57	2,37	6,29	5,83	4,40	6,58	6,09	4,52	7,16	6,50	5,35	7,91	7,14	5,80	10,51	9,34	7,81	10,95	10,02	8,31
Water flow rate	(1) l/h	323	296	160	343	313	207	552	512	386	577	534	396	628	570	469	694	626	509	921	819	685	960	878	729
Pressure drops	(1) kPa	9	7	3	12	10	4	26	22	13	18	16	9	37	30	27	32	26	18	16	13	9	32	28	22
Heating capacity (50°C)	(2) kW	2,22	2,03	1,09	2,36	2,15	1,42	3,79	3,52	2,65	3,96	3,67	2,72	4,31	3,92	3,22	4,77	4,30	3,49	6,33	5,63	4,71	6,60	6,04	5,01
Water flow rate	(2) l/h	383	350	189	406	370	245	660	612	461	682	632	469	743	674	555	820	741	602	1090	969	810	1136	1039	862
Pressure drops	(2) kPa	13	10	4	17	14	6	39	34	20	25	22	13	54	44	39	48	38	26	22	18	13	45	39	32
Cooling Performance																									
Total cooling capacity	(3) kW	1,91	1,75	1,25	2,75	1,89	1,30	3,11	2,87	2,20	3,30	3,08	2,43	3,95	3,57	2,85	4,08	3,76	3,40	5,36	4,82	4,00	5,71	5,12	4,46
Sensible cooling capacity	(3) kW	1,36	1,24	0,88	1,46	1,32	0,86	2,34	2,17	1,59	2,38	2,21	1,68	2,90	2,62	2,13	3,01	2,73	2,35	3,85	3,44	2,85	4,09	3,66	3,18
Water flow rate	(3) l/h	330	302	215	360	325	224	535	496	379	569	530	419	679	614	491	702	646	584	922	829	689	982	880	768
Pressure drops	(3) kPa	24	21	11	36	30	15	56	49	30	29	25	17	101	85	57	56	48	40	30	25	18	50	41	32
Total cooling capacity	(4) kW	0,88	0,80	0,57	0,78	0,51	0,33	1,42	1,32	1,00	1,52	1,40	1,11	1,80	1,64	1,30	1,93	1,74	1,57	2,58	2,30	2,03	2,68	2,41	2,05
Sensible cooling capacity	(4) kW	0,88	0,80	0,57	0,78	0,51	0,33	1,42	1,32	1,00	1,52	1,40	1,11	1,80	1,64	1,30	1,93	1,74	1,57	2,58	2,30	2,03	2,68	2,41	2,05
Water flow rate	(4) l/h	151	138	98	136	88	57	244	228	173	262	242	192	309	283	225	333	300	270	445	397	349	461	416	354
Pressure drops	(4) kPa	4	4	2	5	2	1	10	9	5	5	4	3	18	15	10	9	7	6	6	4	3	8	6	5
Fans																									
Fan	type/n°	Centrifugal/1			Centrifugal/1			Centrifugal/2			Centrifugal/2			Centrifugal/2			Centrifugal/2			Centrifugal/3			Centrifugal/3		
Air flow rate	m³/h	285	256	161	277	249	160	434	397	287	420	386	280	590	524	417	570	509	406	805	704	572	775	685	563
High static pressure	Pa	61	50	21	61	50	21	60	50	26	60	50	26,4	64	50	32	63	50	32	66	50	33	64	50	34
Sound data																									
Sound power level (inle+radiator)	(5) dB(A)	54	52	44	54	52	44	55	53	47	55	53	47	57	54	49	57	54	49	58	55	38	58	55	38
Sound power level (outlet)	dB(A)	50	48	40	50	48	40	50	48	42	50	48	42	52	49	44	52	49	44	54	51	34	54	51	34
Diameter connections																									
Standard coil	∅	3/4"			3/4"			3/4"			3/4"			3/4"			3/4"			3/4"			3/4"		
Additional coil	∅	/			/			/			/			/			/			/			/		
Electrical Features																									
Absorbed power	W	59	38	23	58	38	23	76	53	34	75	52	34	93	57	43	92	57	43	104	75	63	103	74	63
Max. input current	A	0,37			0,37			0,41			0,41			0,58			0,58			0,66			0,66		
Electrical wiring		V6	V4	V1	V6	V4	V1	V6	V4	V1	V6	V4	V1	V6	V3	V1	V6	V3	V1	V7	V3	V1	V7	V3	V1
Power supply	V/ph/Hz	230V~50Hz																							

H max. speed; M med. speed; L min. speed

(1) Room air 20°C b.s.; Water (in/out) 70°C/60°C;

(2) Room air 20°C b.s.; Water (in/out) 50°C/45°C;

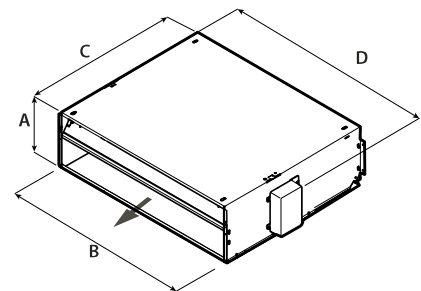
(3) Room air 27°C b.s./19°C b.u.; Water (in/out) 7°C/12°C (EUROVENT)

(4) Room air 27°C b.s./19°C b.u.; Water (in/out) 13°C/18°C

(5) Sound power: Aermec determines sound power values on the basis of measurements made in accordance with UNI EN 16583:15, as required for Eurovent certification.

## DIMENSIONS AND WEIGHT

VES		030	040	130	140	230	240	330	340
A	mm	217	217	217	217	217	217	217	217
B	mm	550	550	781	781	1001	1001	1122	1122
C	mm	584	584	584	584	584	584	584	584
D	mm	576	576	807	807	1027	1027	1148	1148
Weight	Kg	22	24	25	33	33	34	35	34



Aermec reserves the right to make any modifications deemed necessary. All data is subject to change without notice. Aermec does not assume responsibility or liability for errors or omissions.

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