

FCZI EU EUF

Fan coils with inverter brushless motor (EC)

Universal and floor installation

Cooling capacity 5,459-29,344 BTU/h

Heating capacity 4,981-112,600 BTU/h



FCZI_EU
FCZI_EUF



- **50% ENERGY SAVINGS COMPARED TO TRADITIONAL FAN COILS**
- **FULLY SILENT FUNCTIONING**
- **FULL COMFORT: REDUCED TEMPERATURE AND RELATIVE HUMIDITY OSCILLATIONS**

FEATURES

Drawing from its wide experience in the field of fan coils, Aermec presents the new FCZI series: the elegant design goes hand in hand with low noise and important energy savings.

inverter motor allows precise adaptation to the real indoor environment requirements without temperature oscillations.

The air flow can be continuously changed through a 1-10 V signal, coming from adjustment and control commands Aermec or from independent adjustment systems. This lowers noise and generates a better response to heat loads and a higher stability in the desired temperature inside the room. The high efficiency even with low speed, makes it possible to reduce power consumption (more than 50% less than fan coils with traditional motors). In term of noise, in any operating condition exceptional values have been observed.

FCZI can be installed in any 2 or 4 pipes system and operates with any heating system source even at low temperatures, and thanks to varied versions and settings, it is easy to pick the ideal solution for any application.

Versions without installed controller,

Vertical or horizontal installation:

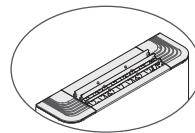
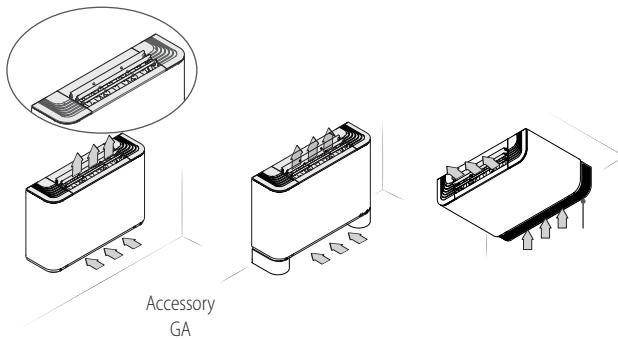
FCZI_EU

FCZ_EUF

- housing RAL9003, grille/feet RAL 7047
- Brushless motor with 0-100% speed continuous variation to guarantee best performance at very low sound level
- Centrifugal fan designed to guarantee continuous modulation of the air flow rate and to increase comfort and electric saving.
- Metallic protective cabinet with rustproofing polyester paint
- Adjustable air distribution grille (EUF version)
- Low loss of flow in the heat exchanger
- Easy installation and maintenance
- **MERV 4** air filter for all versions.
- Extractable shrouds for easy, effective cleaning
- The hydraulic connections can be inverted during installation (only valid for units with a single coil, those with a supplementary coil cannot be inverted).

VERSIONS DESCRIPTION

With adjustable air distribution grille - U



FCZI_EU

- Without installed controller
- Compatible with VMF system
- Fix air distribution grille
- Single for size 2-3
- Three independent for sizes 4-5-7

With the flap completely closed the unit is off

FCZI_EUF

- Without installed controller
- Compatible with VMF system
- Adjustable grille front intake louver

Vertical or horizontal installation

- For 2/4 pipe systems

UNIT SELECTION

By appropriately combining the variety of options available, each model can be configured in order to meet all specific system requirements.

Digit Group	Options	Meaning
1	FCZI	
2	100, 101, 150, 200, 201, 250, 300, 301, 350, 400, 401, 450, 500, 501, 550, 600, 601, 650, 700, 701, 710, 800, 801, 850, 900, 901, 950, 1000, 1001	Size and the type of heat exchanger used
3	EU	Eco universal 110-240 models are intended for wall mounting
3	EUF	Eco universal 110-240 models are intended for wall mounting with adjustable fins for air flow regulation
5	E (optional)	Unit equipped with a direct expansion coil instead of a water heat exchanger
6	T (optional)	Unit equipped with Electronic Control Board
7	R (optional)	Unit equipped with an electric heat element 277 or (240/208V)
TH	= Unit equipped with Electronit Control Board 240 volt ("H")	
TL	= Unit equipped with Electronit Control Board 120 volt ("L")	

SIZE AVAILABLE FOR VERSION

Versioni	Size available main coil only (2 pipes)											
	200	250	300	350	400	450	500	550	700	750	900	950
FCZI	•	•	•	•	•	•	•	•	•	•	•	•
EU	•	•	•	•	•	•	•	•	•	•	•	•
EUF	•	•	•	•	•	•	•	•	/	/	•	•

Versioni	Size available main and supplementary coil (4 pipes)											
	201	202	301	302	401	402	501	502	701	702	901	
FCZI	•	•	•	•	•	•	•	•	•	•	•	•
EU - EUF	•	•	•	•	•	•	•	•	•	•	•	•

Accessories

A range of dedicated controls, 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 accessories for control panels

- **WMT21:** Electronic thermostat with LCD display (wall installation).
 - **SWAI:** Water temperature probe for WMT21 control panels. Cable length L=6.5 ft.
- VMF system**
- **VMF-E4X:** Wall mounted user interface allowing control via a capacitive touch keyboard.
 - **VMF-E5 and VMF-E6:** Wall recessed panel allowing control of a complete hydronic system via a capacitive touch keyboard.
 - **VMF-E19I:** Thermostat for serial communication
 - **VMF-SW:** water sensor replacing that supplied with VMF-E19I thermostats for installation upstream of the valve.
 - **VMF-SW1:** additional water sensor for 4-pipe

systems with VMF E19I thermostats offering maximum control in the cooling range.

Hot water coil

- **BV:** Single row hot water heat exchanger

Valve kit

- **VCZ_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.
- **VCZ or 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.
- **VCZD or VCZD:** Kit consisting of powered 2-way valve, copper Applicable for standard or oversized main coil.
- **VJP/VJP_M:** Control and balancing combina-

tion 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.

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.

Installation accessoires

- **AMP:** kit for the wall mounting installation.
- **BCZ:** Auxiliary condensate drip tray
- **GA:** Grille to hide hydraulics and electrics on ceiling mounted units; also applicable for floor installation.
- **ZXZ:** Copy of esthetical and structural feet

Refer to dedicated product Leaflet for further details concerning control panel and VMF System

Compatibility of accessories

	Single coil model											
FCZI	200	250	300	350	400	450	500	550	700	750	900	950
Probes and accessories for control panels												
WMT21	EU-EUF	•	•	•	•	•	•	•	•	•	•	•
SWAI	EU-EUF	•	•	•	•	•	•	•	•	•	•	•
VMF System												
VMF-E19I	EU-EUF	•	•	•	•	•	•	•	•	•	•	•
VMF-E4X	EU-EUF	•	•	•	•	•	•	•	•	•	•	•
VMF-E5	EU-EUF	•	•	•	•	•	•	•	•	•	•	•
VMF-SW	EU-EUF	•	•	•	•	•	•	•	•	•	•	•
VMF-SW1	EU-EUF	•	•	•	•	•	•	•	•	•	•	•
Additional coil (heating only)												
BV122	All	•										
BV132	All			•								
BV142	All				•			•				
BVZ800	All								•			
BV162	All											•
Water valves *												
Valve Kit for 4 pipe systems with main coil												
VCZ1X4L-R	EU-EUF	•	•									
VCZ2X4L-R	EU-EUF			•	•	•	•	•	•	•	•	•
VCZ3X4L-R	EU-EUF										•	•
3 way valve kit												
VCZ4124	All	(1)	•	•								
VCZ4224	All	(1)			•	•	•	•	•	•	•	
VCZ4324	All	(1)										•
2 way valve kit												
VCZD124	All	(1)	•	•								
VCZD224	All	(1)			•	•	•	•	•	•	•	
VCZD324	All	(1)										•
Combined adjustment and balancing valve independent of pressure												
VJP060			•	•	•	•						
VJP090							•	•	•	•		
VJP150										•	•	•
VJP060M		(1)	•	•	•	•						
VJP090M		(1)					•	•	•	•		
VJP150M		(1)								•	•	•
Installation accessories												
AMP20	EU	•	•	•	•	•	•	•	•			
AMPZ	EU	•	•	•	•	•	•	•	•	•	•	•
BCZ4	(Vertical)	•	•	•	•	•	•	•	•	•	•	•
BCZ5	(Horizontal)	•	•	•	•	•	•	•	•	•	•	•
BCZ6	(Horizontal)											•
Panel to close rear of unit												
PCZ200	All	•	•									
PCZ300	All			•	•							
PCZ500	All				•	•	•	•				
PCZ800	All								•	•		
PCZ1000	All										•	•
Grille for ceiling mounted units												
GA200	EU-EUF	•	•									
GA300	EU-EUF			•	•							
GA500	EU-EUF				•	•	•	•				
GA800	EU-EUF									•	•	•
ZXZ	All	•	•	•	•	•	•	•	•	•	•	•

For further details concerning control panels and VMF system refer to the dedicated sheets.

*The water valves can be combined with the unit if it is also provided a control panel that controls VJP / VJP_M The compatibility of the valves in the hot branch plant 4 tubes, check with the design water flow

(1) VCZ4124-VCZ4224-VCZ4324-VCZD124-VCZD224-VCZD324-VJP060M-VJP090M-VJP150M are 24V

Compatibility of accessories

	Twin coil model										
FCZI	201	202	301	302	401	402	501	502	701	702	901
Probes and accessories for control panels											
WMT21	EU-EUF	•	•	•	•	•	•	•	•	•	•
SWAI	EU-EUF	•	•	•	•	•	•	•	•	•	•
VMF System											
VMF-E19I	EU-EUF	•	•	•	•	•	•	•	•	•	•
VMF-E4X	EU-EUF	•	•	•	•	•	•	•	•	•	•
VMF-E5	EU-EUF	•	•	•	•	•	•	•	•	•	•
VMF-SW	EU-EUF	•	•	•	•	•	•	•	•	•	•
VMF-SW1	EU-EUF	•	•	•	•	•	•	•	•	•	•
Water valves											
3 way valve kit											
VCZ4124	All	(1)	•	•							
VCZ4224	All	(1)			•	•	•	•	•	•	•
VCZ4324	All	(1)									•
2 way valve kit											
VCZD124	All	(1)	•	•							
VCZD224	All	(1)			•	•	•	•	•	•	•
VCZD324	All	(1)									•
3 way valve kit for heating coil only											
VCF4424	All	(1)	•	•	•	•	•	•	•	•	•
VCF4524	All	(1)									•
2 way valve kit for heating coil only											
VCFD424	All	(1)	•	•	•	•	•	•	•	•	•
Combined adjustment and balancing valve independent of pressure*											
VJP060	All		•	•	•	•	•	•	•	•	•
VJP150	All										•
VJP060M	All	(1)	•	•	•	•	•	•	•	•	•
VJP150M	All	(1)									•
Installation accessories											
AMP20	EU-EUF	•	•	•	•	•	•	•	•	•	•
AMPZ	EU-EUF	•	•	•	•	•	•	•	•	•	•
BCZ4 (Vertical)		•	•	•	•	•	•	•	•	•	•
BCZ5 (Horizontal)		•	•	•	•	•	•	•	•	•	•
BCZ6 (Horizontal)											•
Panel to close rear of unit											
PCZ200	All	•	•								
PCZ300	All			•	•						
PCZ500	All					•	•	•	•		
PCZ800	All									•	•
PCZ1000	All										•
Grille for ceiling mounted units											
GA200	EU-EUF	•	•								
GA300	EU-EUF			•	•						
GA500	EU-EUF					•	•	•	•		
GA800	EU-EUF									•	•
ZXZ	All	•	•	•	•	•	•	•	•	•	•

For further concerning control panels and VMF system refer to the dedicated sheets.

*The water valves can be combined with the unit if it is also provided a control panel that controls

VJP / VJP_M The compatibility of the valves in the hot branch plant 4 tubes, check with the design water flow

(1) VCZ4124-VCZ4224-VCZ4324-VCZD124-VCZD224-VCZD324-VJP60M-VJP090M-VJP150M are 24V

Technical data - with single coil

FCZI	200			250			300			350			400			450				
Fan speed	H	M	L	H	M	L	H	M	L	H	M	L	H	M	L	H	M	L		
Heating Performance																				
2 pipe systems																				
Heating capacity (158°F)	(1)	MBTU/h	1.24	0.99	0.68	1.35	1.06	0.74	1.84	1.49	1.16	2.06	1.65	1.26	2.39	1.92	1.45	2.62	2.10	1.53
Water flow rate	(1)	gmp	1.43	1.14	0.78	1.56	1.22	0.85	2.12	1.72	1.34	2.37	1.90	1.45	2.76	2.21	1.67	3.02	2.43	1.76
Pressure drop	(1)	ft H2O	6.02	4.01	2.01	7.69	5.02	2.34	6.02	4.01	2.34	6.69	4.68	2.68	8.03	5.35	3.01	5.35	3.68	2.01
Heating capacity (113°F)	(2)	MBTU/h	0.62	0.49	0.33	0.67	0.53	0.36	0.91	0.74	0.58	1.02	0.82	0.63	1.19	0.95	0.72	1.30	1.04	0.76
Water flow rate	(2)	gmp	1.40	1.12	0.77	1.54	1.21	0.84	2.09	1.70	1.32	2.34	1.87	1.43	2.72	2.18	1.64	2.97	2.39	1.73
Pressure drop	(2)	ft H2O	6.02	4.01	2.01	7.69	5.02	2.34	6.02	4.01	2.34	6.69	4.68	2.68	8.03	5.35	3.01	5.35	3.68	2.01
Cooling Performance																				
Total cooling capacity	(3)	MBTU/h	0.54	0.43	0.30	0.65	0.52	0.35	0.89	0.73	0.56	1.01	0.82	0.63	1.20	0.98	0.74	1.35	1.07	0.81
Sensible cooling capacity	(3)	MBTU/h	0.44	0.35	0.24	0.51	0.40	0.26	0.68	0.55	0.42	0.73	0.59	0.44	0.89	0.72	0.53	0.97	0.77	0.57
Cooling capacity (latent)	(3)	MBTU/h	0.09	0.08	0.06	0.14	0.12	0.09	0.20	0.17	0.14	0.28	0.23	0.19	0.31	0.26	0.20	0.38	0.30	0.24
Water flow rate	(3)	gmp	92	74	51	112	89	61	153	125	96	187	154	117	207	168	127	232	185	139
Pressure drop	(3)	ft H2O	6.02	4.18	2.17	8.36	5.69	2.84	6.02	4.35	2.68	8.36	5.85	3.68	8.03	5.52	3.35	7.36	5.02	3.01
Fans																				
Centrifugal Fans	n°				1						2						2			
Air flow rate	cfm	97	74	47	97	74	47	151	117	87	151	117	87	201	154	110	201	154	110	
Sound level																				
Sound power level	(4)	dB(A)	51	46	35	51	46	35	48	41	34	48	41	34	51	44	37	51	44	37
Sound pressure level	dB(A)	43	38	27	43	38	27	40	33	26	40	33	26	43	36	29	43	36	29	
Hydraulic connections																				
Main coil																				
Standard	Ø			1/2"				/			3/4"			/		3/4"		/		
Oversized	Ø			/				1/2"			/			3/4"		/		3/4"		
Electrical data																				
Absorbed power	W	14	8	7	14	8	5	13	7	5	13	7	5	18	10	5	18	10	5	
Signal 0-10V	%	90	68	44	90	68	44	90	70	52	90	70	52	90	68	49	90	68	49	

FCZI	500			550			700			750			900			950				
Fan speed	H	M	L	H	M	L	H	M	L	H	M	L	H	M	L	H	M	L		
Heating Performance																				
2 pipe systems																				
Heating capacity (158°F)	(1)	MBTU/h	2.84	2.45	1.76	3.26	2.79	1.95	3.68	3.28	2.71	4.18	3.78	3.04	5.07	4.47	3.60	5.72	4.82	3.75
Water flow rate	(1)	gmp	3.28	2.82	2.03	3.76	3.22	2.25	4.24	3.79	3.13	4.83	4.36	3.51	5.85	5.16	4.16	6.60	5.57	4.32
Pressure drop	(1)	ft H2O	9.37	7.03	4.01	8.70	6.69	3.35	9.74	7.90	5.62	10.02	5.02	3.35	7.36	5.82	4.01	11.04	8.20	5.19
Heating capacity (113°F)	(2)	MBTU/h	1.41	1.21	0.88	1.62	1.39	0.97	1.83	1.63	1.35	2.07	1.87	1.51	2.52	2.22	1.79	2.84	2.40	1.86
Water flow rate	(2)	gmp	3.23	2.78	2.00	3.71	3.17	2.21	4.18	3.72	3.08	4.75	4.29	3.46	5.75	5.07	4.09	6.50	5.48	4.26
Pressure drop	(2)	ft H2O	9.37	7.03	4.01	8.53	6.52	3.35	9.70	7.86	5.52	10.85	4.85	3.35	7.19	5.69	4.01	11.04	8.03	5.02
Cooling Performance																				
Total cooling capacity	(3)	MBTU/h	1.42	1.23	0.90	1.60	1.38	0.97	1.84	1.64	1.31	2.05	1.79	1.43	2.31	1.67	1.44	2.88	2.45	1.93
Sensible cooling capacity	(3)	MBTU/h	1.06	0.91	0.65	1.17	1.00	0.69	1.44	1.26	1.00	1.58	1.35	1.07	1.90	1.26	0.99	1.93	1.63	1.27
Cooling capacity (latent)	(3)	MBTU/h	0.36	0.32	0.25	0.43	0.38	0.28	0.40	0.38	0.31	0.48	0.43	0.36	0.41	0.41	0.44	0.94	0.82	0.66
Water flow rate	(3)	gmp	3.22	2.79	2.03	3.63	3.13	2.21	4.17	3.70	2.97	4.65	4.04	3.23	5.24	3.79	3.25	6.51	5.54	4.37
Pressure drop	(3)	ft H2O	9.70	7.53	4.35	9.37	7.19	3.85	10.04	8.20	5.52	10.19	4.85	3.35	7.36	4.18	3.18	10.04	7.53	5.02
Fans																				
Centrifugal Fans	n°				2						3						3			
Air flow rate	cfm	241	201	134	241	201	134	381	311	234	381	311	234	381	311	234	381	311	234	
Sound level																				
Sound power level	(4)	dB(A)	56	51	42	56	51	42	62	57	50	62	57	50	62	57	51	61	57	51
Sound pressure level	dB(A)	48	43	34	48	43	34	54	49	42	54	49	42	54	49	43	53	49	43	
Hydraulic connections																				
Main coil																				
Standard	Ø			3/4"				/			3/4"			/		3/4"		/		
Oversized	Ø			/				3/4"			/			3/4"		/		3/4"		
Electrical data																				
Absorbed power	W	19	10	4	19	10	4	80	40	30	80	40	30	80	40	30	80	40	30	
Signal	%	90	74	50	90	74	50	90	72	56	90	72	56	90	72	56	90	72	56	

(1) Room air temperature 68°F, d.b.; Water (in/out) 158°F/140°F;

(2) Room air temperature 68°F d.b.; Water (in/out) 113°F/104°F

(3) Room air temperature 80.6°F d.b./66.2°F w.b.; Water (in/out) 44.6°F/53.6°F

Sound pressure level (A-weighted) measured indoors with volume V=85m³, reverberation time t = 0.5 s; Direction factor Q = 2; Distance r = 98.4in

Technical data - with main + supplementary coil

FCZI	201			301			401				
Fan speed	H	M	L	H	M	L	H	M	L		
Heating Performance											
4 pipe systems											
Heating capacity (149°F)	(1)	MBTU/h	0.54	0.45	0.34	0.86	0.73	0.60	1.04	0.89	0.74
Water flow rate	(1)	GMP	0.62	0.52	0.39	0.99	0.84	0.70	1.20	1.02	0.82
Pressure drop	(1)	ft H2O	3.51	2.51	1.51	10.20	7.69	5.52	2.84	2.17	1.51
Cooling Performance											
Total cooling capacity	(2)	MBTU/h	0.54	0.43	0.30	0.89	0.73	0.56	1.20	0.98	0.74
Sensible cooling capacity	(2)	MBTU/h	0.44	0.35	0.24	0.68	0.55	0.42	0.89	0.72	0.53
Cooling capacity (latent)	(2)	MBTU/h	0.09	0.08	0.06	0.20	0.17	0.14	0.31	0.26	0.20
Water flow rate	(2)	GMP	1.21	0.97	0.67	2.01	1.65	1.27	2.73	2.21	1.67
Pressure drop	(2)	ft H2O	6.02	4.18	2.17	6.02	4.35	2.68	11.37	7.86	4.68
Fans											
Centrifugal Fans	n°		1			2			2		
Air flow rate	cfm	97	74	47	151	117	87	201	154	110	
Sound level											
Sound power level	(3)	dB(A)	51	46	35	48	41	34	51	44	37
Sound pressure level		dB(A)	43	38	27	40	33	26	43	36	29
Hydraulic connections											
Main coil	Ø		1/2"			3/4"			3/4"		
Additional coil	Ø		1/2"			1/2"			1/2"		
Electrical data											
Absorbed power	W	14	8	7	13	7	5	18	10	5	
Signal 0-10V	%	90	68	44	90	70	52	90	68	49	

FCZI	501			701			901				
Fan speed	H	M	L	H	M	L	H	M	L		
Heating Performance											
4 pipe systems											
Heating capacity (65°C)	(1)	MBTU/h	0.09	0.08	0.06	0.20	0.17	0.14	0.31	0.26	0.20
Water flow rate	(1)	GMP	1.44	1.29	1.00	1.92	1.65	1.41	2.21	2.17	1.82
Pressure drop	(1)	ft H2O	3.51	2.84	1.84	6.19	4.85	3.68	4.01	4.01	2.84
Cooling Performance											
Total cooling capacity	(2)	MBTU/h	4.25	3.69	2.68	5.50	4.89	3.92	6.91	5.00	4.29
Sensible cooling capacity	(2)	MBTU/h	1.42	1.23	0.90	1.84	1.64	1.31	2.31	1.67	1.44
Cooling capacity (latent)	(2)	MBTU/h	0.36	0.32	0.25	0.40	0.38	0.31	0.41	0.41	0.44
Water flow rate	(2)	GMP	3.22	2.80	2.03	4.17	3.70	2.97	5.23	3.79	3.25
Pressure drop	(2)	ft H2O	29.0	22.5	13.0	30.0	24.5	16.5	9.5	14.5	9.5
Fans											
Centrifugal Fans	n°		2			3			3		
Air flow rate	cfm	241	201	134	381	311	234	381	311	234	
Sound level											
Sound power level	(3)	dB(A)	56	51	42	62	57	50	62	57	51
Sound pressure level		dB(A)	48	43	34	54	49	42	54	49	43
Hydraulic connections											
Main coil	Ø		3/4"			3/4"			3/4"		
Additional coil	Ø		1/2"			1/2"			1/2"		
Electrical data											
Absorbed power	W	19	10	4	80	40	30	80	40	30	
Signal 0-10V	%	90	74	50	90	72	56	90	72	56	

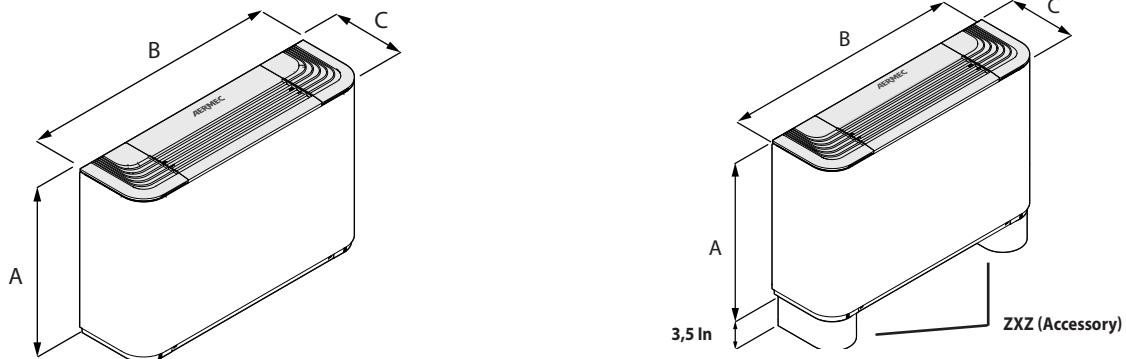
H Maximum speed; M Average Speed; L Minimum speed

(1) Room air temperature 68°F d.b.; Water (in/out) 149°F/131°F;

(2) (2) Room air temperature 80.6°F d.b./66.2°F w.b.; Water (in/out) 44.6°F/53.6°F

(3) Sound pressure level (A-weighted) measured indoors with volume V=85m³, reverberation time t = 0.5 s; Direction factor Q = 2; Distance r = 98.4in

Dimensions and Weights



FCZI	200	201	202	250	300	301	302	350	400	401	402	450	500	501	502	550	700	701	702	750	900	901	/	950
Dimensions for all versions																								
A	in	19			19			19			19		19			19			19		23			
A (with feet)	in	22			22			22			22		22			22			22		26			
B	in	29			38			47			47		47			51			51		51			
C	in	8			8			8			8		8			8			8		8			
Weight	lbs	33	33	35	35	37	37	39	39	48	50	52	52	48	50	52	52	63	66	68	68		74	