

TriAqua

AEROTHERMAL HEAT PUMP (DOMESTIC HOT WATER, HEATING AND COOLING)



3AEO-11 (3AEO-11I / 3AEO-11E)

3AEO-14 (3AEO-14I / 3AEO-14E)

3AEO-19 (3AEO-19I / 3AEO-19E)



TECHNICAL MANUAL

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1. GENERAL DESCRIPTION

The TriAqua System is an air-to-water heat pump which produces Domestic Hot Water (DHW) throughout the year, Heating in winter, and Cooling in summer for any type of buildings. The system consists of two units, indoor and outdoor.

Indoor Unit

It includes all the hydraulic components to simplify its installation. The following components are included:

- Filling system, with pressure reducer valve.
- Stainless steel Air Conditioning (A/C) and DHW storage tanks.
- Expansion tanks in both circuits.
- Safety valves on both storage tanks.
- Manual purge system on both storage tanks.
- Mesh filter in the A/C circuit.
- DHW circuit water pumps.
- 2kW electric heater.

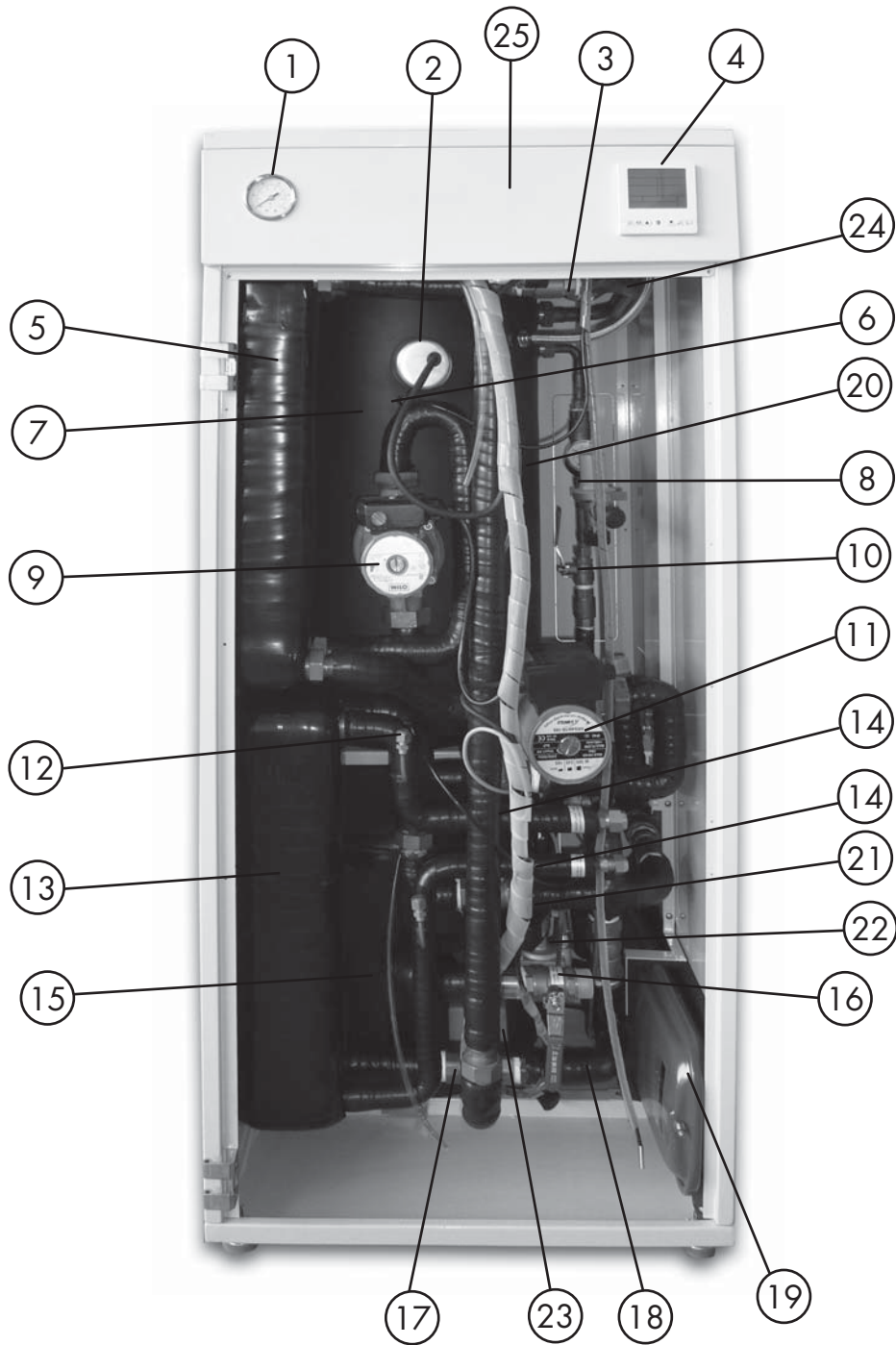
Outdoor Unit

The unit cabinet is made of galvanized steel sheet with a baked-on painted polyester resin.

It contains a Scroll compressor with R – 410A refrigerant. The refrigerant circuit is made of refrigeration copper tubing, dehydrated and deoxidized. Easily accessible plug-type valves for checking and filling are included.

2. DESCRIPTION OF THE UNIT

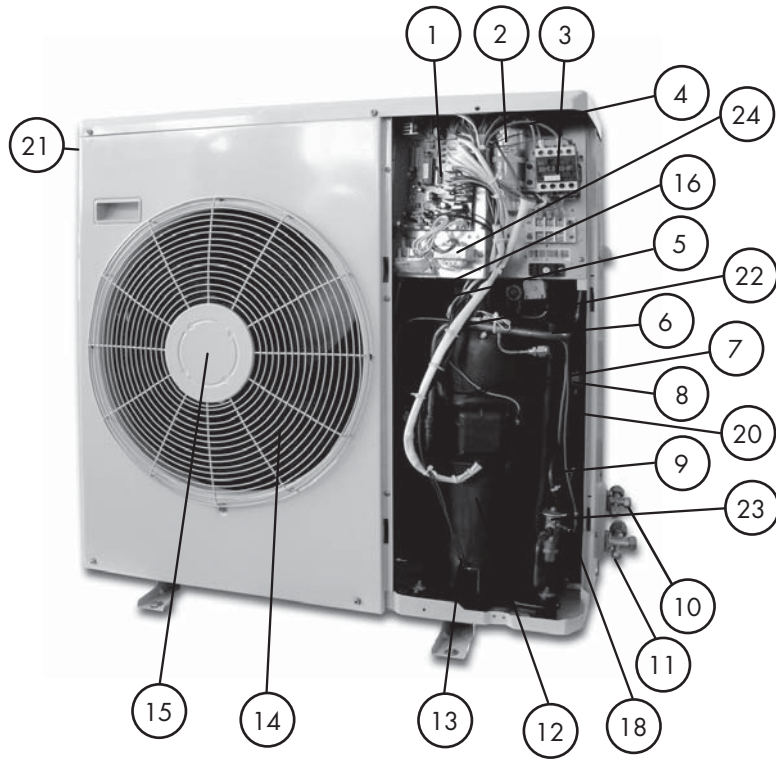
Indoor Unit (all models)



- | | |
|---------------------------------|-----------------------------|
| 1. A/C pressure gauge | 15. A/C water tank |
| 2. DHW electric heater | 16. 1-way electrical valve |
| 3. 3/4" check valve (DHW) | 17. 3-way electrical valve |
| 4. Electronic controller | 18. A/C outlet water sensor |
| 5. DHW heat exchanger | 19. A/C expansion tank |
| 6. DHW tank sensor | 20. DHW safety valve |
| 7. DHW tank | 21. A/C safety valve |
| 8. 1/2" check valve (DHW) | 22. 1-way electrical valve |
| 9. DHW pump (secondary circuit) | 23. 3-way electrical valve |
| 10. 1/2" check valve (DHW) | 24. A/C expansion tank |
| 11. DHW pump (primary circuit) | 25. Electrical box |
| 12. A/C inlet water sensor | |
| 13. A/C heat exchanger | |
| 14. 1" manual valve (A/C) | |

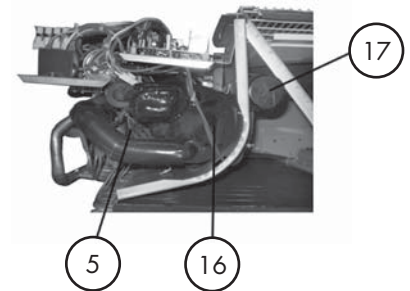
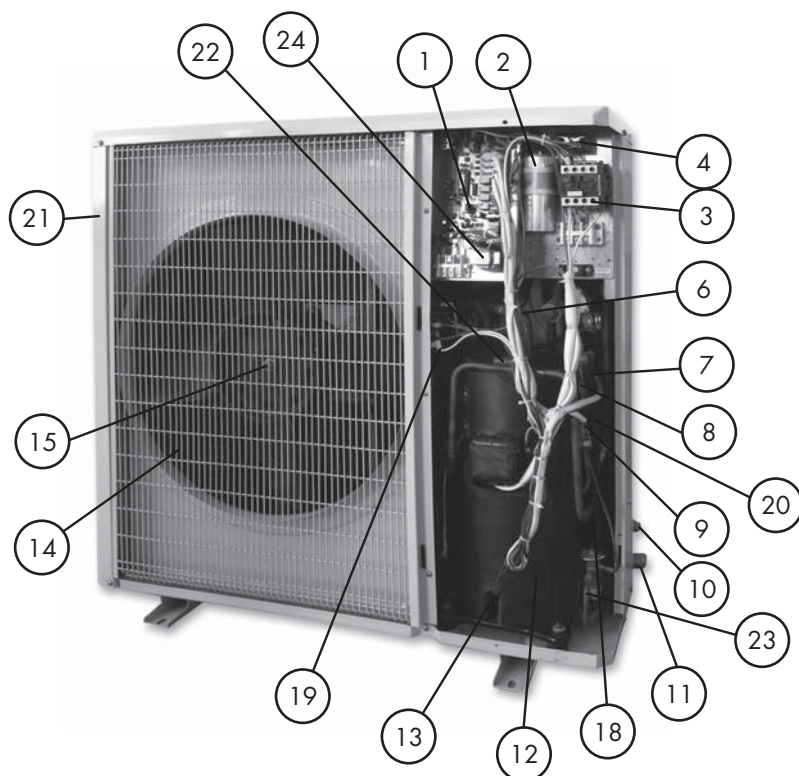
2. DESCRIPTION OF THE UNIT

3AEO-11E Outdoor Unit



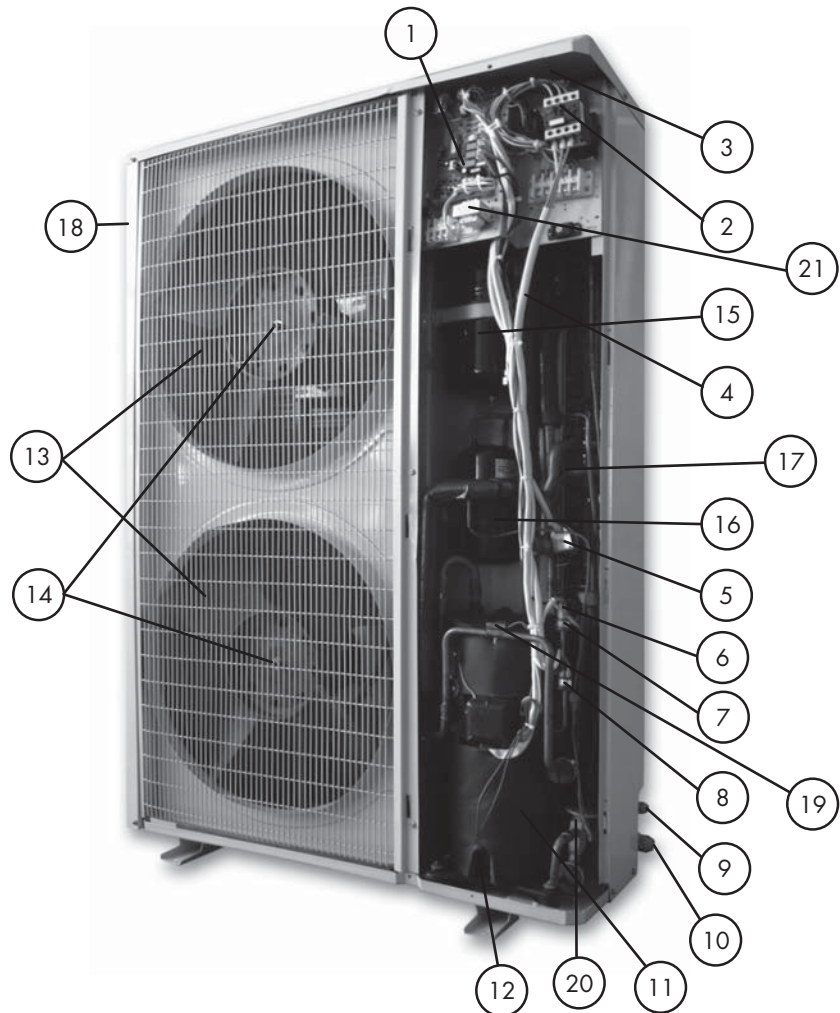
1. Outdoor PCB
2. Compressor capacitor
3. Compressor contactor
4. Fan motor capacitor
5. Low pressure switch
6. 4-way valve
7. Hot gas bypass valve
8. Hot gas bypass pressure switch
9. High pressure switch
10. 3/8" liquid service valve
11. 3/4" gas service valve (5/8" for 3AQUA-12E)
12. Compressor
13. Compressor crankcase heater
14. Outdoor fan
15. Outdoor fan motor
16. Suction accumulator
17. Compressor start-up capacitor
18. Liquid receiver
19. Soft starter (3AQUA-16E)
20. Defrost sensor
21. Outdoor air sensor
22. Discharge sensor
23. Expansion valve
24. Transformer

3AEO-14E Outdoor Unit



2. DESCRIPTION OF THE UNIT

3AEO-19E Outdoor Unit



1. Outdoor electronics board
2. Compressor contactor
3. Fan motor condenser
4. Low pressure pressurestat
5. 4-way valve + coil
6. Injection valve + coil
7. Injection pressurestat (high pressure)
8. High pressure pressurestat
9. Liquid service valve
10. Gas service valve
11. Compressor
12. Compressor crankcase heater
13. Outdoor fan
14. Outdoor fan motor
15. Intake accumulator
16. Liquid separator
17. Defrost probe
18. Outdoor air temperature probe
19. Discharge probe
20. Expansion system
21. Transformer

3. TECHNICAL DATA

TECHNICAL SPECIFICATIONS			3AEO-11	3AEO-14	3AEO-19
Heating	Nominal Capacity	KW	10,30	13,60	18,60
	Nominal Consumption	KW	2,55	3,40	4,55
	COP	W/W	4,04	4,00	4,09
Cooling	Nominal Capacity	KW	10,60	14,00	19,20
	Nominal Consumption	KW	3,70	4,90	6,10
	EER	W/W	2,86	2,86	3,15
D.H.W.	Nominal Capacity	KW	9,00	12,50	17,30
	Nominal Consumption	KW	3,15	4,30	5,50
	COP	W/W	2,86	2,91	3,15
Electric Power Supply	V/Ph/Hz	230/1/50			400/3/50
Gas line	Inches	5/8"	3/4"		
Liquid line	Inches	3/8"			
Type of compressor		Scroll			
Type of refrigerant		R-410A			
Refrigerant load	Kg.	2,40	3,20	4,70	
Air conditioning accumulator volume	Litres	50			
DHW accumulator volume	Litres	90			
Maximum air conditioning pressure	Bar	3			
Air conditioning expansion vessels volume	Litres	6			
Maximum DHW pressure	Bar	7			
DHW expansion vessels volume	Litres	2			
Air conditioning Inlet/Outlet	mm	28			
Network water inlet	mm	15			
DHW outlet	mm	15			
DHW/Air conditioning safety valve	mm	15			
Drain valve	mm	15			
Dimensions (Height x Width x Depth)	Indoor Unit	mm	1360 x 590 x 590		
	Outdoor Unit	mm	860 x 870 x 325	960 x 970 x 345	1460 x 970 x 345
Package dimensions (Height x Width x Depth)	Indoor Unit	mm	1470 x 650 x 650		
	Outdoor Unit	mm	980 x 985 x 415	1080 x 1085 x 465	1590 x 1085 x 465
Net weight	Indoor Unit	Kg.	125	128	135
	Outdoor Unit	Kg.	75	100	130
Packaged weight	Indoor Unit	Kg.	140	143	150
	Outdoor Unit	Kg.	85	112	147
Sound pressure	Indoor Unit	dB(A)	28		
	Outdoor Unit	dB(A)	50	52	56
Maximum Tube Length	m	50			
Maximum Height Difference	m	30			

NOTES:

- Nominal capacity and power input based on the following conditions:
 - Heating: Inlet/Outlet water temp. 30°C/35°C. Wet/Dry air temp. 6°C/7°C.
 - Cooling: Inlet/Outlet water temp. 23°C/18°C. Dry air temp. 35°C.
 - DHW: Outlet water temp. 45°C. Wet/Dry air temp. 6°C/7°C.
- Refrigerant charge is valid up to 5 metres of refrigerant lines.
- Net weight of the indoor unit does not include that of the water in the tanks.
- Sound pressure measured at 5 metres of the unit

4. ELECTRICAL DATA

Electrical consumption

TECHNICAL SPECIFICATIONS		3AEO-11	3AEO-14	3AEO-19
Operating voltage	V/Ph/Hz	230/1/50	230/1/50	400/3/50
Minimum voltage	V	205	205	360
Maximum voltage	V	253	253	440
Consumption				
Nominal Cooling *	kW	3,70	4,90	6,10
	A	17,85	23,50	10,00
Nominal Heating **	kW	2,55	3,40	4,55
	A	12,20	16,40	7,50
Nominal DHW ***	kW	3,15	4,30	5,50
	A	15,20	20,50	9,05
Cooling Maximum	kW	4,50	6,00	7,60
	A	21,75	29,00	12,50
Heating Maximum	kW	4,60	5,50	7,00
	A	22,30	26,60	11,50
DHW Maximum	kW	4,60	5,50	7,00
	A	22,30	26,60	11,50

NOTES:

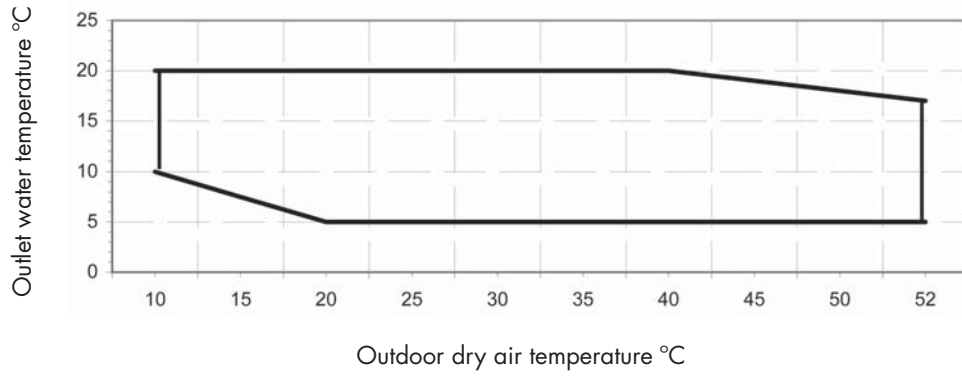
* Water input/output temp. of 23/18° C. Outdoor dry temp. of 35° C.

** Water input/output temp. of 30/35° C. Humid/dry air temperature of 6/7° C.

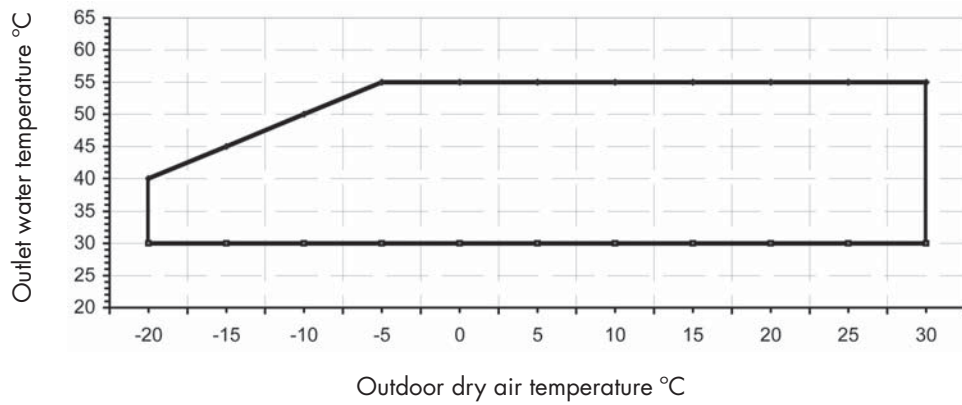
*** Water output temperature of 45° C. Humid/dry air temperature of 6/7° C.

5. OPERATION RANGE

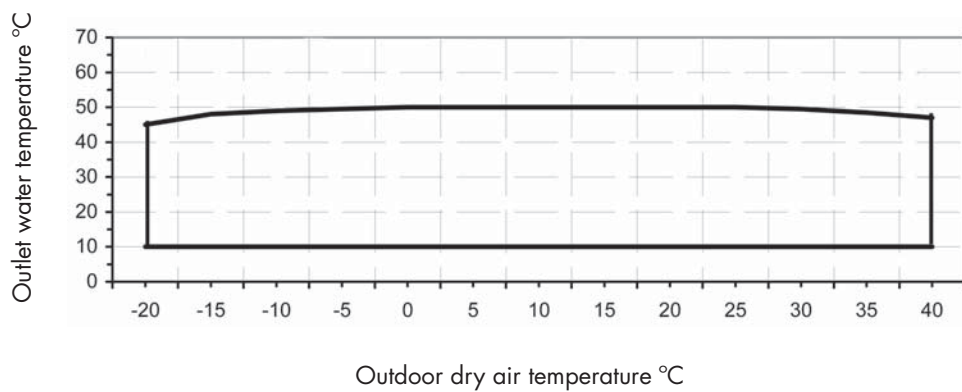
Cooling Mode



Heating Mode



D.H.W Mode



6. HEATING AND COOLING CAPACITIES

6.1 Cooling Capacities

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Outlet water temp. °C	Outdoor dry air temperature °C									
	10	15	20	25	30	35	40	45	52	
5	Capacity			9,21	8,62	7,95	7,19	6,51	5,97	5,21
	Power Input			2,98	3,09	3,23	3,42	3,70	4,05	4,27
	EER			3,09	2,79	2,46	2,10	1,76	1,47	1,22
7	Capacity		10,42	9,75	9,07	8,40	7,73	7,05	6,45	5,48
	Power Input		2,89	3,03	3,14	3,26	3,48	3,72	4,08	4,31
	EER		3,61	3,22	2,89	2,58	2,22	1,90	1,58	1,27
10	Capacity	11,59	11,09	10,51	9,84	9,21	8,50	7,68	7,00	6,20
	Power Input	2,84	2,94	3,04	3,15	3,27	3,51	3,69	4,05	4,27
	EER	4,08	3,77	3,46	3,12	2,82	2,42	2,08	1,73	1,45
12	Capacity	12,28	11,77	11,26	10,56	9,85	9,16	8,35	7,64	6,80
	Power Input	2,92	3,00	3,09	3,22	3,34	3,55	3,76	4,20	4,26
	EER	4,21	3,92	3,64	3,28	2,95	2,58	2,22	1,82	1,60
14	Capacity	12,85	12,31	11,73	11,00	10,35	9,70	8,85	8,17	7,23
	Power Input	2,92	3,03	3,12	3,23	3,35	3,58	3,77	4,11	4,32
	EER	4,40	4,06	3,76	3,41	3,09	2,71	2,35	1,99	1,67
16	Capacity	13,31	12,76	12,08	11,48	10,82	10,15	9,34	8,62	7,74
	Power Input	2,96	3,05	3,14	3,25	3,36	3,63	3,81	4,15	4,32
	EER	4,50	4,18	3,85	3,53	3,22	2,80	2,45	2,08	1,79
18	Capacity	13,88	13,29	12,62	11,95	11,27	10,60	9,88	9,16	
	Power Input	3,03	3,11	3,16	3,33	3,48	3,70	3,89	4,25	
	EER	4,58	4,27	3,99	3,59	3,24	2,86	2,54	2,16	
20	Capacity	14,44	13,83	13,16	12,49	11,81	11,14	10,47		
	Power Input	3,06	3,14	3,21	3,36	3,52	3,72	3,91		
	EER	4,72	4,40	4,10	3,72	3,36	2,99	2,68		

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Outlet water temp. °C	Outdoor dry air temperature °C									
	10	15	20	25	30	35	40	45	52	
5	Capacity			12,06	11,16	10,30	9,36	8,50	7,64	6,61
	Power Input			3,78	3,9	4,10	4,33	4,67	5,13	5,48
	EER			3,19	2,86	2,51	2,16	1,82	1,49	1,21
7	Capacity		13,58	12,84	11,97	11,10	10,15	9,28	8,41	7,20
	Power Input		3,67	3,80	3,92	4,12	4,38	4,69	5,15	5,5
	EER		3,70	3,38	3,05	2,69	2,32	1,98	1,63	1,31
10	Capacity	15,12	14,52	13,70	12,84	12,00	11,10	10,21	9,33	8,22
	Power Input	3,69	3,79	3,90	4,02	4,23	4,49	4,80	5,29	5,62
	EER	4,10	3,83	3,51	3,19	2,84	2,47	2,13	1,76	1,46
12	Capacity	15,96	15,33	14,49	13,61	12,72	11,85	10,92	10,04	8,90
	Power Input	3,73	3,83	3,92	4,06	4,28	4,57	4,88	5,36	5,69
	EER	4,28	4,00	3,70	3,35	2,97	2,59	2,24	1,87	1,56
14	Capacity	16,9	16,23	15,40	14,48	13,52	12,69	11,74	10,65	9,65
	Power Input	3,87	3,97	4,05	4,19	4,41	4,69	5,04	5,53	5,79
	EER	4,37	4,09	3,80	3,46	3,07	2,71	2,33	1,93	1,67
16	Capacity	17,52	16,83	15,98	15,03	14,05	13,27	12,33	11,38	10,26
	Power Input	3,98	4,06	4,14	4,27	4,52	4,80	5,15	5,64	5,96
	EER	4,40	4,15	3,86	3,52	3,11	2,76	2,39	2,02	1,72
18	Capacity	18,25	17,61	16,71	15,81	14,9	14,00	13,06	12,11	
	Power Input	4,10	4,17	4,24	4,41	4,63	4,90	5,27	5,77	
	EER	4,45	4,22	3,94	3,59	3,22	2,86	2,48	2,10	
20	Capacity	18,91	18,15	17,30	16,4	15,50	14,60	13,66		
	Power Input	4,21	4,28	4,34	4,50	4,73	5,02	5,42		
	EER	4,49	4,24	3,99	3,64	3,28	2,91	2,52		

NOTES:

Capacity in kW.

Power input in kW.

EER in kW / kW.

6. HEATING AND COOLING CAPACITIES

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Outlet water temp. °C		Outdoor dry air temperature °C								
		10	15	20	25	30	35	40	45	52
5	Capacidad			16,56	15,43	14,31	13,18	12,05	10,93	9,35
	KW			5,10	5,27	5,45	5,67	6,10	6,54	7,18
	EER			3,25	2,93	2,63	2,32	1,98	1,67	1,30
7	Capacidad		18,57	17,57	16,44	15,32	14,20	13,10	12,10	10,53
	KW		5,01	5,13	5,15	5,48	5,69	6,12	6,56	7,20
	EER		3,71	3,42	3,19	2,80	2,50	2,14	1,84	1,46
10	Capacidad	20,44	19,71	18,58	17,45	16,33	15,20	14,07	12,95	11,37
	KW	5,03	5,10	5,18	5,20	5,57	5,78	6,21	6,67	7,31
	EER	4,06	3,86	3,59	3,36	2,93	2,63	2,27	1,94	1,56
12	Capacidad	21,46	20,7	19,57	18,44	17,32	16,19	15,06	13,94	12,36
	KW	5,12	5,19	5,31	5,46	5,64	5,86	6,30	6,76	7,38
	EER	4,19	3,99	3,69	3,38	3,07	2,76	2,39	2,06	1,67
14	Capacidad	22,5	21,69	20,56	19,43	18,31	17,19	16,05	14,93	13,35
	KW	5,18	5,26	5,38	5,53	5,73	5,94	6,38	6,84	7,48
	EER	4,34	4,12	3,82	3,51	3,20	2,89	2,52	2,18	1,78
16	Capacidad	23,52	22,70	21,57	20,44	19,32	18,20	17,06	15,94	14,37
	KW	5,21	5,29	5,41	5,55	5,77	6,02	6,48	6,87	7,59
	EER	4,51	4,29	3,99	3,68	3,35	3,02	2,63	2,32	1,89
18	Capacidad	24,56	23,71	22,58	21,45	20,33	19,20	18,07	16,95	
	KW	5,34	5,42	5,55	5,69	5,88	6,10	6,56	7,02	
	EER	4,60	4,37	4,07	3,77	3,46	3,15	2,75	2,41	
20	Capacidad	25,42	24,7	23,58	22,46	21,32	20,10	19,06		
	KW	5,41	5,50	5,63	5,76	5,96	6,18	6,64		
	EER	4,70	4,49	4,19	3,90	3,58	3,15	2,87		

NOTES:

Capacity in kW.

Power input in kW.

EER in kW / kW.

6. HEATING AND COOLING CAPACITIES

6.2 Heating Capacities

3AEO-11

Outlet water temp. °C		Outdoor wet air temperature °C										
		-20	-15	-10	-5	0	6	10	15	18	20	25
30	Capacity	4,90	5,40	5,95	7,20	8,80	10,50	12,05	13,10	13,70	14,20	14,70
	Power Input	2,05	2,10	2,12	2,17	2,25	2,32	2,46	2,60	2,68	2,76	2,86
	COP	2,39	2,57	2,81	3,32	3,91	4,53	4,90	5,04	5,11	5,14	5,14
35	Capacity	4,75	5,30	5,80	7,10	8,57	10,30	11,94	12,8	13,54	13,80	14,30
	Power Input	2,30	2,35	2,39	2,43	2,49	2,55	2,60	2,68	2,77	2,81	2,90
	COP	2,07	2,26	2,43	2,92	3,44	4,04	4,59	4,78	4,89	4,91	4,93
40	Capacity	4,63	4,95	5,40	6,90	8,25	9,85	11,33	12,15	12,67	13,08	13,75
	Power Input	2,51	2,56	2,60	2,65	2,73	2,85	2,89	2,95	3,00	3,04	3,09
	COP	1,84	1,93	2,08	2,60	3,02	3,46	3,92	4,12	4,22	4,30	4,45
45	Capacity		4,74	5,08	6,30	7,70	9,40	10,6	11,53	12,35	12,67	13,20
	Power Input		2,83	2,88	2,93	3,01	3,15	3,20	3,25	3,30	3,39	3,46
	COP		1,67	1,76	2,15	2,56	2,98	3,31	3,55	3,74	3,74	3,82
50	Capacity			4,85	5,97	7,10	8,55	9,80	10,92	11,64	11,95	12,40
	Power Input			3,00	3,05	3,14	3,25	3,38	3,53	3,60	3,66	3,68
	COP			1,62	1,96	2,26	2,63	2,90	3,09	3,23	3,27	3,37
55	Capacity				4,95	6,20	7,62	8,96	9,90	10,71	11,02	11,50
	Power Input				3,15	3,25	3,36	3,62	3,78	3,85	3,87	3,89
	COP				1,57	1,91	2,27	2,48	2,62	2,78	2,85	2,96

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Outlet water temp. °C		Outdoor wet air temperature °C										
		-20	-15	-10	-5	0	6	10	15	18	20	25
30	Capacity	6,53	7,07	7,75	8,98	10,88	13,82	15,50	16,73	17,27	17,82	18,22
	Power Input	2,58	2,67	2,72	2,79	2,92	3,11	3,30	3,47	3,58	3,65	3,68
	COP	2,53	2,65	2,85	3,22	3,73	4,44	4,70	4,82	4,82	4,88	4,95
35	Capacity	6,39	6,94	7,62	8,84	10,74	13,60	15,23	16,45	17,00	17,54	17,95
	Power Input	2,92	2,96	2,99	3,09	3,20	3,40	3,60	3,77	3,91	4,01	4,08
	COP	2,19	2,34	2,55	2,86	3,36	4,00	4,23	4,36	4,35	4,37	4,40
40	Capacity	6,26	6,80	7,48	8,57	10,47	13,33	14,82	16,05	16,59	17,27	17,68
	Power Input	3,13	3,27	3,32	3,38	3,49	3,68	3,88	4,05	4,14	4,23	4,30
	COP	2,00	2,08	2,25	2,54	3,00	3,62	3,82	3,96	4,01	4,08	4,11
45	Capacity		6,53	7,34	8,3	10,20	12,95	14,55	15,64	16,18	16,73	17,41
	Power Input		3,64	3,68	3,74	3,83	4,02	4,36	4,58	4,66	4,73	4,88
	COP		1,79	1,99	2,22	2,66	3,22	3,34	3,41	3,47	3,54	3,57
50	Capacity			6,66	7,30	9,38	11,70	13,19	14,42	14,82	15,23	15,64
	Power Input			3,83	3,90	3,95	4,14	4,43	4,60	4,68	4,79	4,90
	COP			1,74	1,87	2,37	2,83	2,98	3,13	3,17	3,18	3,19
55	Capacity				6,80	8,30	10,47	11,70	12,65	13,19	13,57	14,28
	Power Input				4,00	4,04	4,25	4,60	4,75	4,93	5,03	5,06
	COP				1,70	2,05	2,46	2,54	2,66	2,68	2,70	2,82

NOTES:

Capacity in kW.

Power input in kW.

COP in kW / kW.

6. HEATING AND COOLING CAPACITIES

3AEO-19

Outlet water temp. °C		Outdoor wet air temperature °C										
		-20	-15	-10	-5	0	6	10	15	18	20	25
30	Capacity	8,98	9,76	10,60	12,65	15,2	19,03	21,15	22,80	23,45	23,83	24,29
	Power Input	3,53	3,57	3,63	3,74	3,91	4,15	4,37	4,53	4,63	4,70	4,77
	COP	2,54	2,73	2,92	3,38	3,89	4,59	4,84	5,03	5,06	5,07	5,09
35	Capacity	8,93	9,59	10,54	12,37	14,95	18,60	20,31	22,23	22,88	23,25	23,81
	Power Input	3,88	3,96	4,03	4,10	4,28	4,55	4,74	4,94	5,03	5,10	5,21
	COP	2,30	2,42	2,62	3,02	3,49	4,09	4,28	4,50	4,55	4,56	4,57
40	Capacity	8,85	9,36	10,32	11,76	14,40	18,10	20,40	21,98	22,64	22,95	23,49
	Power Input	4,37	4,42	4,49	4,57	4,72	4,99	5,25	5,41	5,53	5,60	5,71
	COP	2,03	2,12	2,30	2,57	3,05	3,63	3,89	4,06	4,09	4,10	4,11
45	Capacity		8,82	9,97	11,40	13,95	17,60	19,75	21,30	22,19	22,45	22,90
	Power Input		4,81	4,88	4,95	5,05	5,32	5,66	5,84	5,95	6,00	6,11
	COP		1,83	2,04	2,30	2,76	3,31	3,49	3,65	3,73	3,74	3,75
50	Capacity			8,65	10,99	13,26	16,11	18,23	19,46	20,74	21,13	21,65
	Power Input			5,00	5,10	5,21	5,48	5,80	5,98	6,15	6,21	6,35
	COP			1,73	2,15	2,55	2,94	3,14	3,25	3,37	3,40	3,41
55	Capacity				8,43	11,85	14,38	16,28	17,63	18,93	19,38	19,96
	Power Input				5,15	5,30	5,60	5,92	6,15	6,41	6,54	6,72
	COP				1,64	2,24	2,57	2,75	2,87	2,95	2,96	2,97

NOTES:

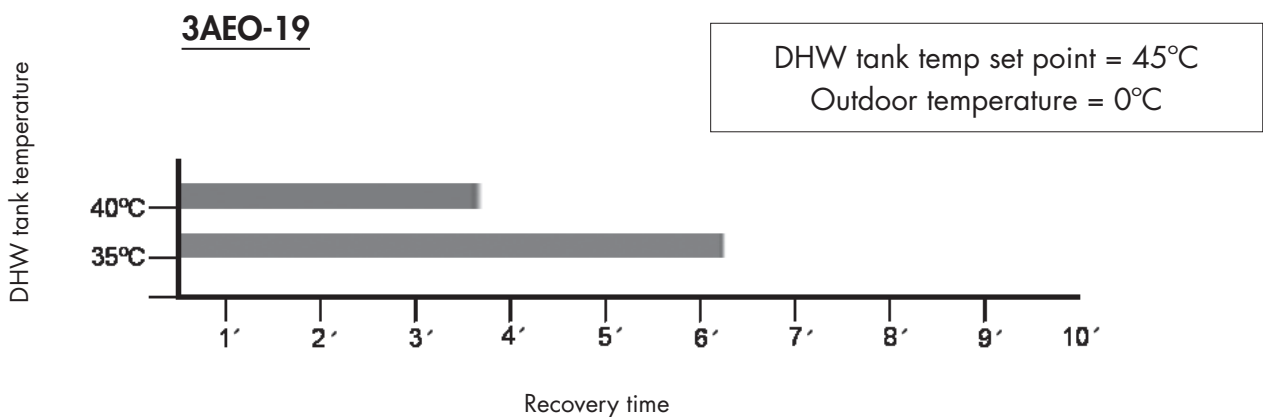
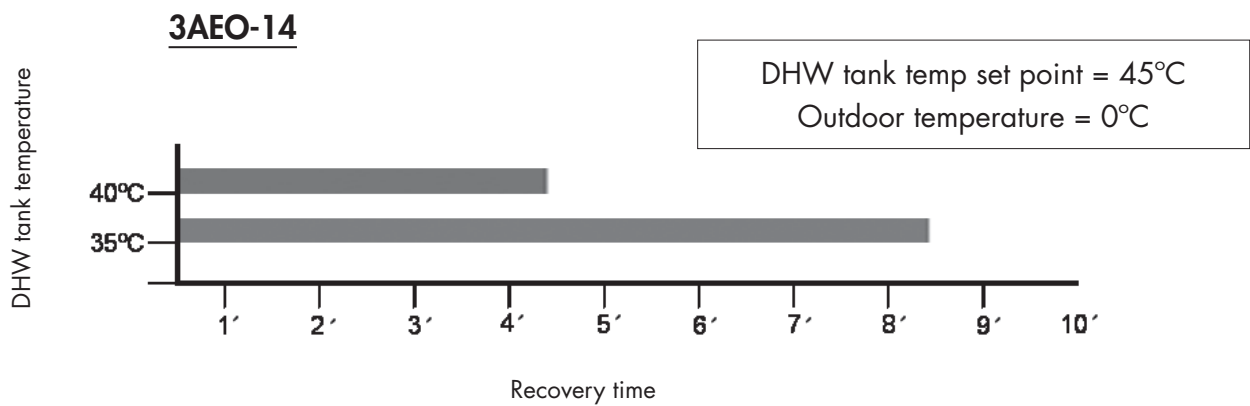
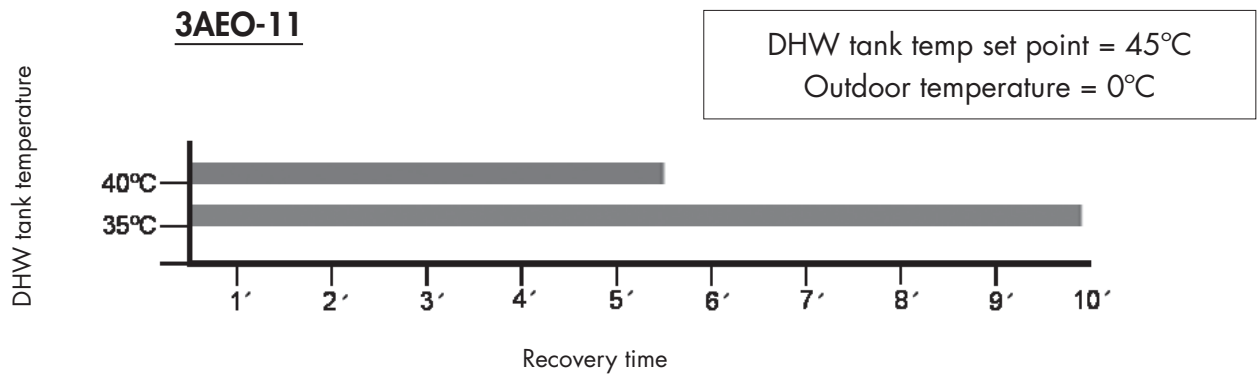
Capacity in kW.

Power input in kW.

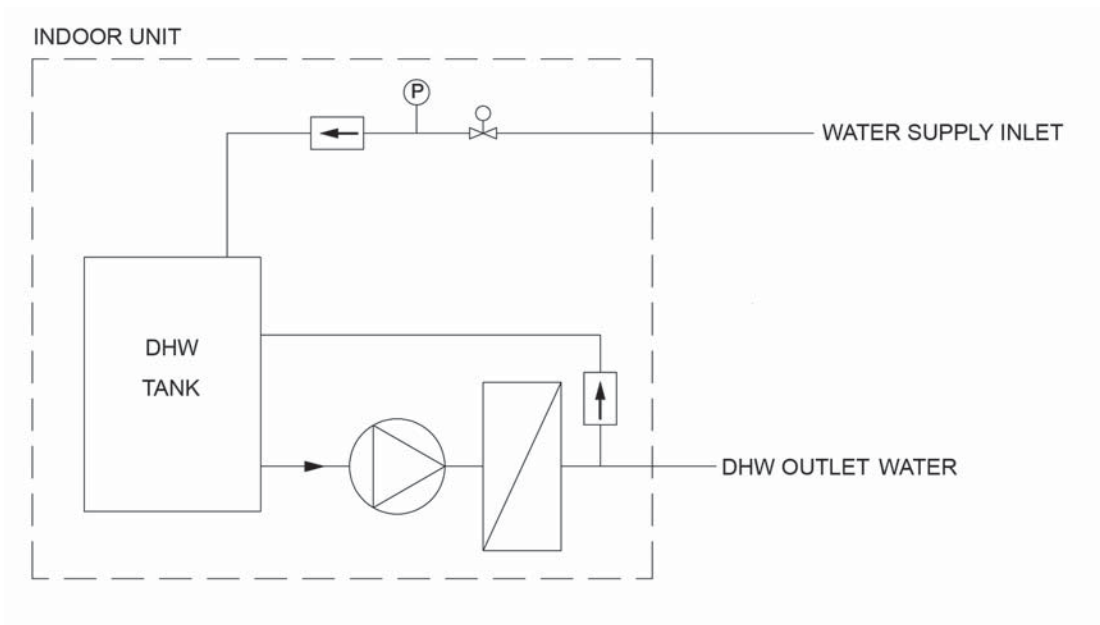
COP in kW / kW.

7. DHW RECOVERY TIME

The following graphs show the time required to reach the DHW tank temperature set point starting from different initial DHW tank temperatures.

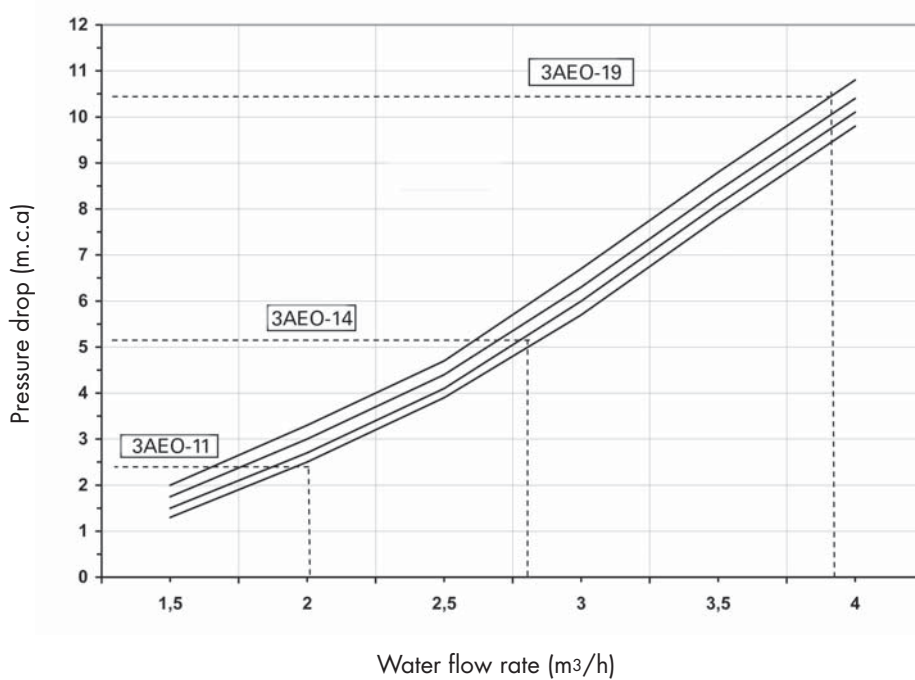


8. DHW CIRCUIT.



9. A/C HYDRAULIC CIRCUIT

Pressure drop in the Air Conditioning Hydraulic Circuit



1 m.c.a = 10 Kpa

This graph shows the pressure drop through the A/C hydraulic circuit (components inside the indoor unit).

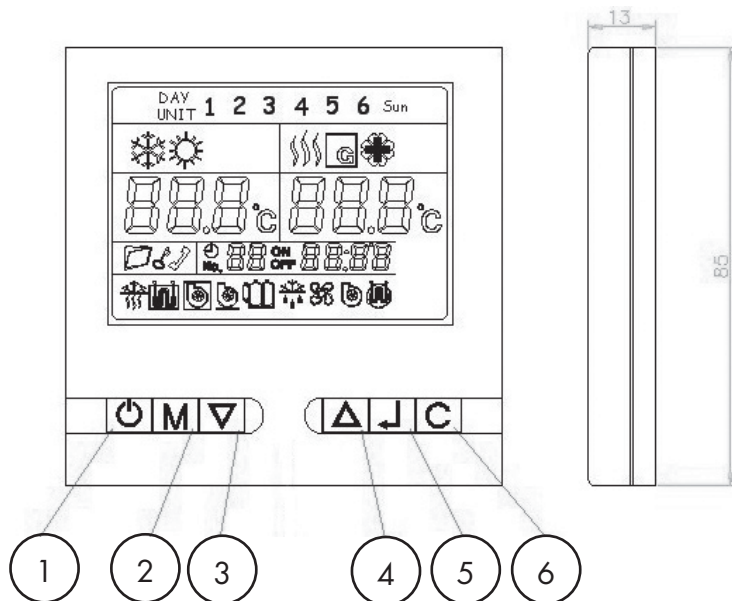
10. ELECTRONIC CONTROLLER

The unit is operated by an electronic controller, located on the top front of the indoor unit:



Description

The controller consists of a display, which shows the status of the unit, and 6 keys to select the operation mode, the set temperatures, etc.

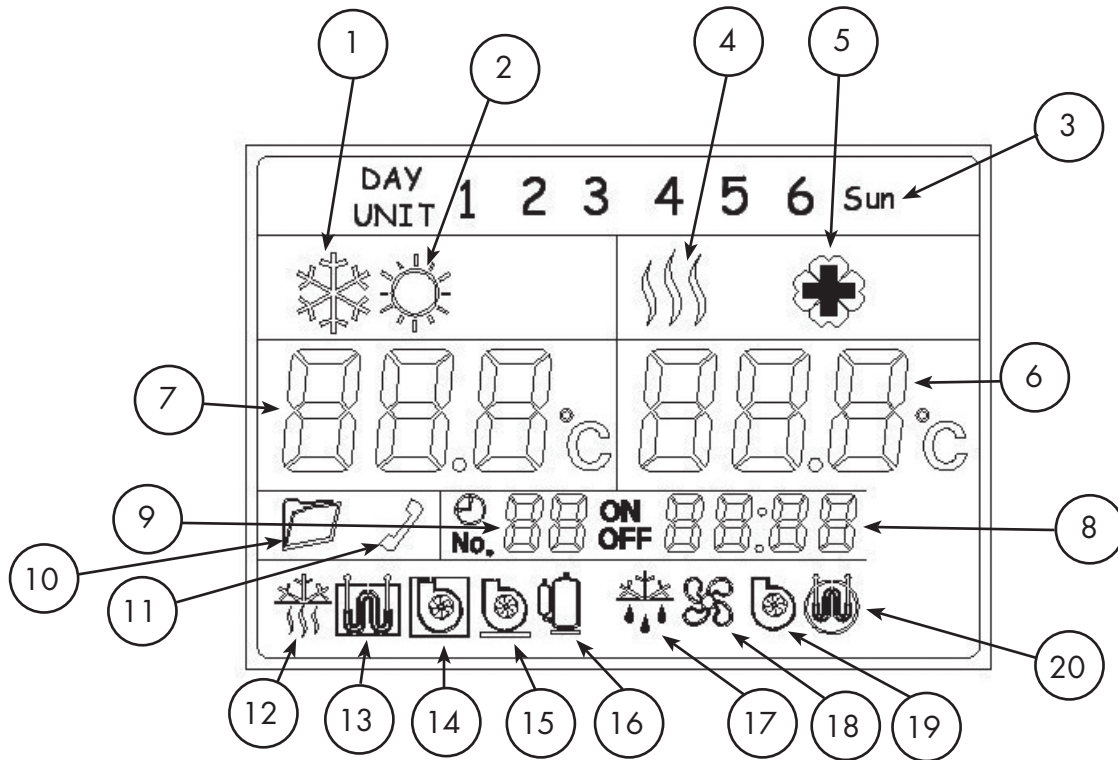


Keys:

1. On/Off (⏻)
2. Operation mode (M)
3. Down (▼)
4. Up (▲)
5. Enter (↵)
6. Clear (C)

10. ELECTRONIC CONTROLLER

Display:





The following information can be shown on the display::

1. Cooling operation mode.
2. Heating operation mode.
3. Day of the week.
4. DHW operation mode.
5. Anti-legionella.
6. DHW tank temperature.
7. A/C inlet water temperature (heating and cooling).
8. Clock.
9. Timer.
10. Programming mode.
11. Not available for this unit.
12. Antifreeze.
13. Not available for this unit.
14. A/C circuit water pump (to be installed outside the unit).
15. DHW pump (primary).
16. Compressor.
17. Defrost.
18. Outdoor fan.
19. DHW pump (secondary).
20. DHW electric heater.

10. ELECTRONIC CONTROLLER






Switching the unit on and off


To start the unit, press and hold the on/off key  for one second.

To stop the unit, press and hold the on/off key  for one second.






Selecting the operation mode


The following operation modes can be selected by pressing the key :

- Domestic hot water . The unit will only produce D.H.W.
- Cooling and Domestic hot water.  . The priority is to satisfy the demand for D.H.W., and when satisfied, the unit will continue to produce cold water for cooling.
- Heating and Domestic hot water  . The priority is to satisfy the demand for D.H.W., and when satisfied, the unit will continue to produce hot water for cooling.

When the unit is switched on by pressing the on/off key , the last operation mode used in the unit is applied.

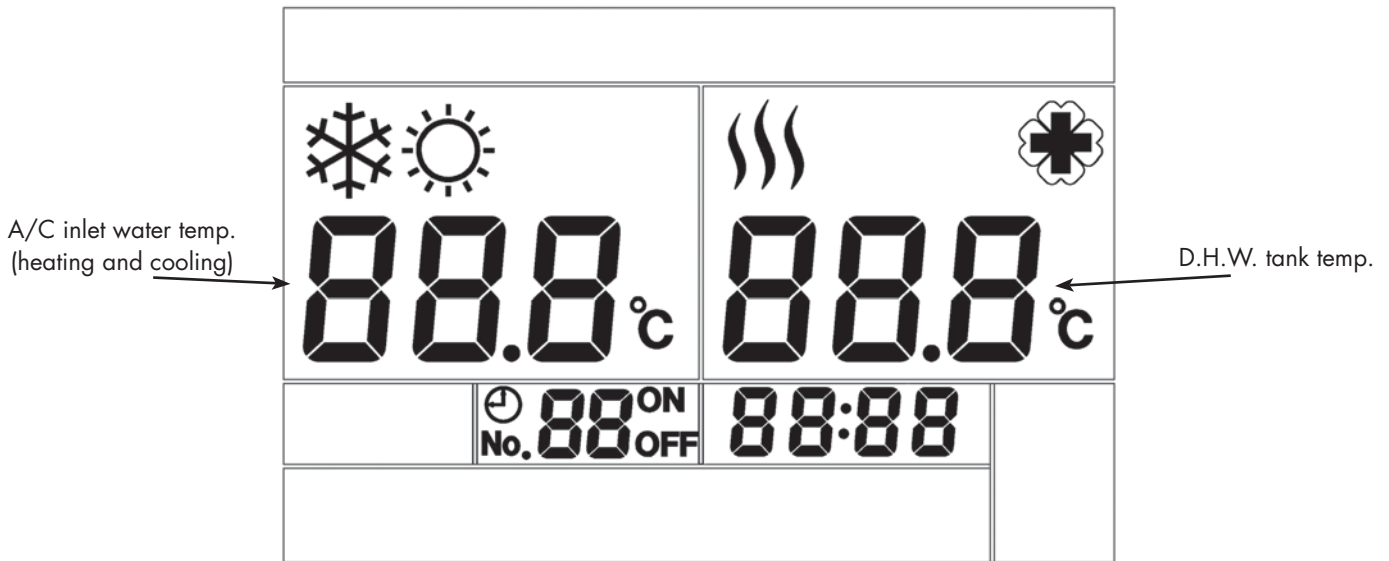
The following icons appear on the display depending on the selected operation mode.

OPERATION MODE	ICON
D.H.W	
Cooling + D.H.W.	 + 
Heating + D.H.W.	 + 

The  icon appears on the display when the D.H.W. heater is automatically connected to prevent the formation of any legionella.

10. ELECTRONIC CONTROLLER

Temperature display and modification



The heating and cooling inlet water temperature is shown on the left side of the display.

The D.H.W. temperature appears on the right side of the display.

The following table shows the pre-set temperatures and the temperature range. The temperature setpoint can be changed within the range shown in the table:

TEMPERATURE	MINIMUM	MAXIMUM	PRE-SET
D.H.W. tank	10°C	50°C	45°C
Heating inlet water	10°C	50°C	40°C
Cooling inlet water	10°C	25°C	12°C
Anti-legionella	60°C	70°C	65°C

To change the temperature setpoint, follow this process:

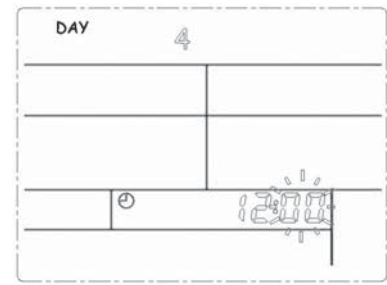
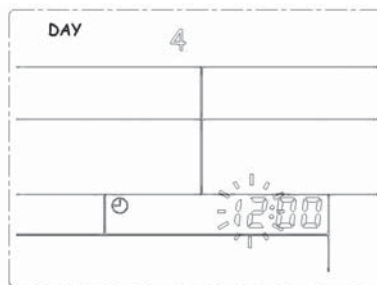
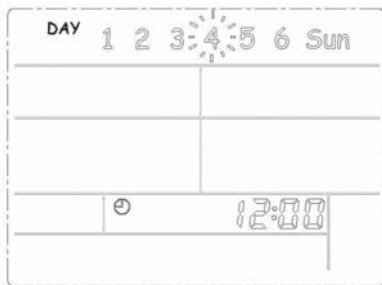
- Press and hold **(M)** and **(C)** simultaneously for 5 seconds until the digits on the left side of the screen start flashing (heating/cooling temperature).
- Select the operation mode by pressing the **(M)** key.
- Select the desired temperature using the **▲** and **▼** keys.
- Press the **(↵)** key to confirm the selected temperature.
- Press the **(C)** key to leave the temperature selection programming mode.

10. ELECTRONIC CONTROLLER

Clock and timer

To adjust the clock, follow this process:

- Press hold **(M)** for 6 seconds, until the day of the week starts flashing. For instance, "4" (Thursday).
- Press the **▲** or **▼** keys to select the day (from 1 to Sun).
- Press the **(↻)** key to confirm. Then, the hour digits start flashing.
- Press the **▲** or **▼** keys to select the hour (from 0 to 23)
- Press the **(↻)** key to confirm. Then, the minute digits start flashing.
- Press the **▲** or **▼** keys to select the minutes (from 0 to 59).
- Press the **(↻)** key to confirm.
- Press the **(C)** key to leave the clock programming mode at any stage. If the **(C)** key is pressed before finishing the process, the clock will keep the initial time setting.

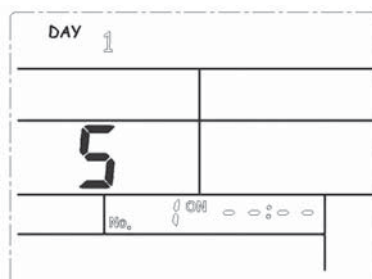


The timer can be used to program the time when the unit has to switch on and off. Six different time slots can be programmed. There are 3 slots to switch on (1, 3, 5) and 3 slots to switch off (2, 4, 6) available for each day of the week. A different programming for each day of the week is possible.

There are two types of programming "S" and "C". "S" type means that the programming is valid only for the current week. "C" type means that the programming will repeat every week.

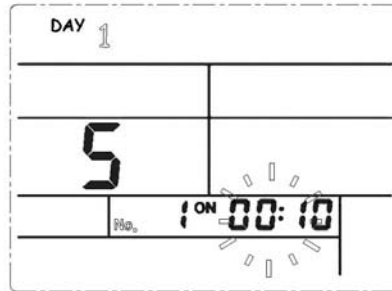


- Press and hold the **(M)** and **▲** keys simultaneously for 3 seconds to enter the timer programming mode. "S" shows on the display. Press **▼** key to change the selection.
- Press **(↻)** key to confirm the desired type of programming. Then, the following icons show on the screen.



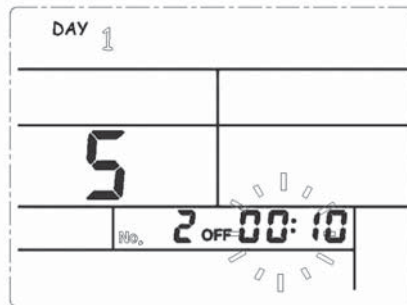
10. ELECTRONIC CONTROLLER

- To program slot 1 (the first switch on slot), press the **(M)** key, then the time digits start flashing.



- Press **▲** or **▼** keys to adjust the time. Time changes 10 minutes each time the key is pressed.

- Press the **(↻)** key to confirm. Then, the following digits appear on the display.



- Slot 2 (the first switch off slot) appears on the display and the time digits flash.

- Press **▲** or **▼** key to adjust the time.

- Press the **(↻)** key to confirm

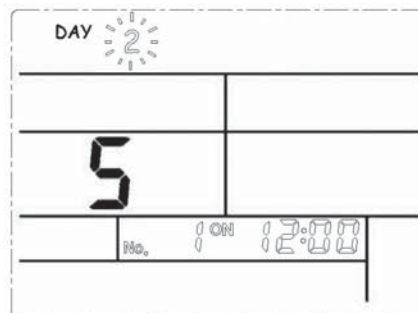
- Then slot 3 (the second switch on slot) appears on the display and the time digits flash.

- To program slots 3, 4, 5 and 6, repeat the previous process.

- Once all the time slots of DAY 1 have been confirmed, DAY 2 start flashing on the screen.

- Press the **(↻)** key to confirm.

- To program the time slots of DAY 2, repeat the previous process.




- If some day does not require timer programming, press the **(C)** key to skip from that day to the next one.

- To cancel the timer setting, press and hold the **(M)** and **▲** keys simultaneously for 3 seconds, then press and hold the **▲** and **(C)** keys simultaneously for 3 seconds. The current timer setting is cancelled.

10. ELECTRONIC CONTROLLER


Programming the anti-legionella function (anti-bacterial function)

- Press and hold **(M)** and **(C)** for 3 seconds to enter the temperature selection mode.
- Press and hold **(M)** until the anti-legionella function is reached ( icon on the display).
- Press the **▲** and **▼** keys to select the desired temperature (from 60°C to 70°C).
- Press the **(↵)** key to confirm.
- The digits which show the number of days start flashing.
- Press the **▲** or **▼** keys, to select the number of days (from 7 to 99). This is the interval between a anti-legionella cycle and the next one.
- Press the **(↵)** key to confirm. The word ON will be seen and the hour digits of the clock will start flashing.
- Select the desired hour of the starting time using the **▲** or **▼** keys.
- Press the **(↵)** key to confirm. The minute digits of the clock will start flashing.
- Select the desired minutes of the starting time using the **▲** and **▼** keys.
- Press the **(↵)** key to confirm. ON will be replaced by OFF. The minute digits of the clock will start flashing.
- Using the **▲** or **▼** keys, select the minutes of the cycle duration (from 10 to 99). This time will start to run once the selected temperature has been reached in the storage tank.
- Press the **(↵)** key to confirm.
- Press the **(C)** key to finalize. If **(C)** is pressed before finalizing the process, the previous settings will remain set.

ANTI-LEGIONELLA FUNCTION			
FUNCTION	MINIMUM	MAXIMUM	PRE-SET
D.H.W. tank temperature	60°C	70°C	65°C
Cycle duration time	00:10 min	01:40 min	00:10 min
Time between cycles	7 days	99 days	7 days

10. ELECTRONIC CONTROLLER

Error codes

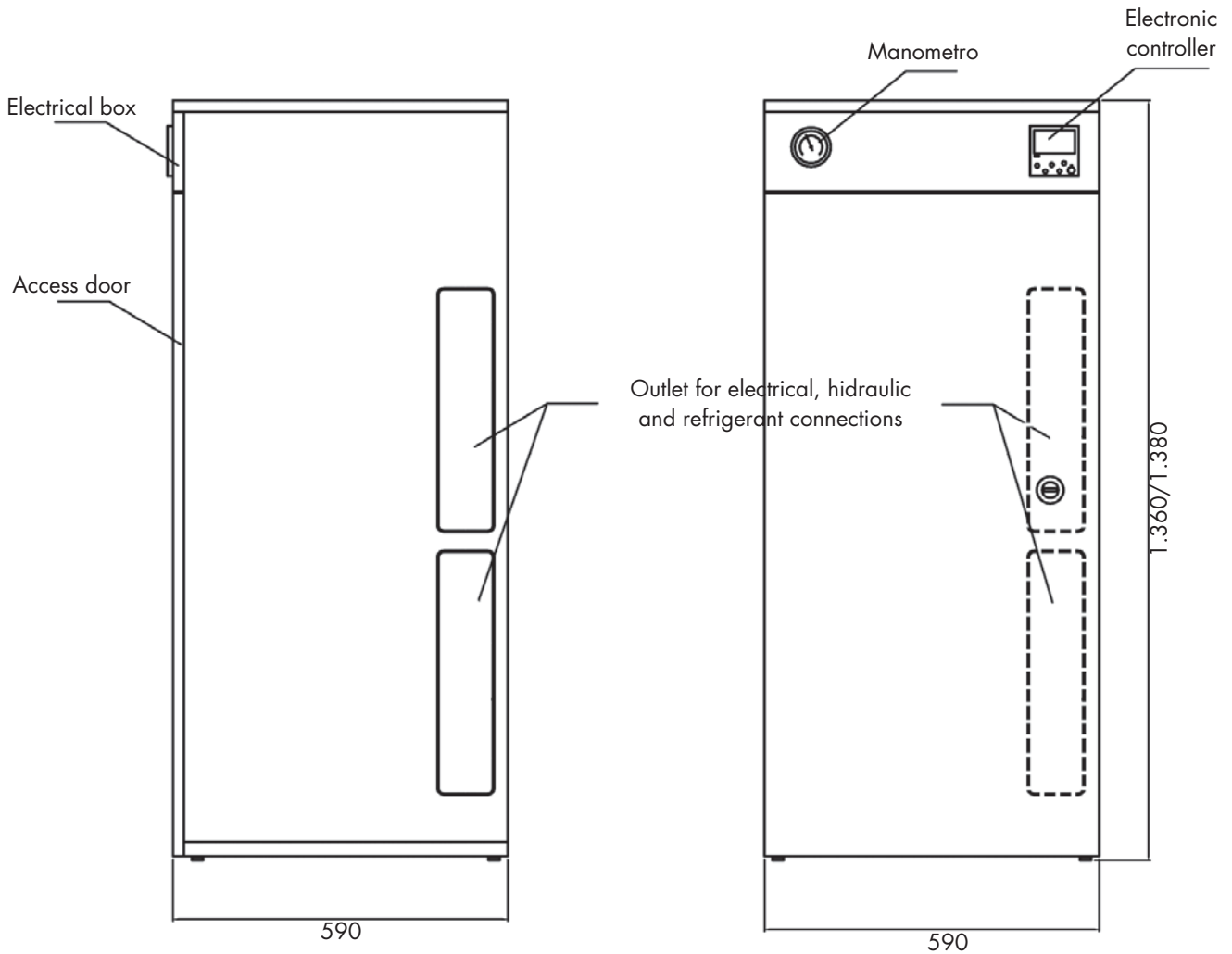
If any fault occurs while the unit is operating, one of the error codes shown in the following table can be seen on the display of the electronic controller. Press the  key to see the error code.

Also, the fault LED on the outdoor PCB flashes for a number of times and then is off for 5 seconds. Then the flashing starts again.

ERROR CODE	FAULT	FLICKERS ON THE OUTDOOR PCB
En	Communication between indoor PCB and electronic controller	25
E9	DHW tank sensor	8
E1	A/C outlet water sensor	7
P3	A/C inlet water sensor	6
PB	Antifreeze	4
E5	Communication between indoor PCB and outdoor PCB / Indoor EEPROM memory	2
PD	Flow switch	3
PA	Missing phase/wrong phase connection (only for 3 phase models)	1
P2	Discharge sensor	16
E2	Suction sensor	15
P1	Outdoor coil pipe sensor	14
P7	Outdoor air sensor	5
E4	High pressure switch	9
P9	Low pressure switch	12
E3	Discharge temperature (115°C)	11

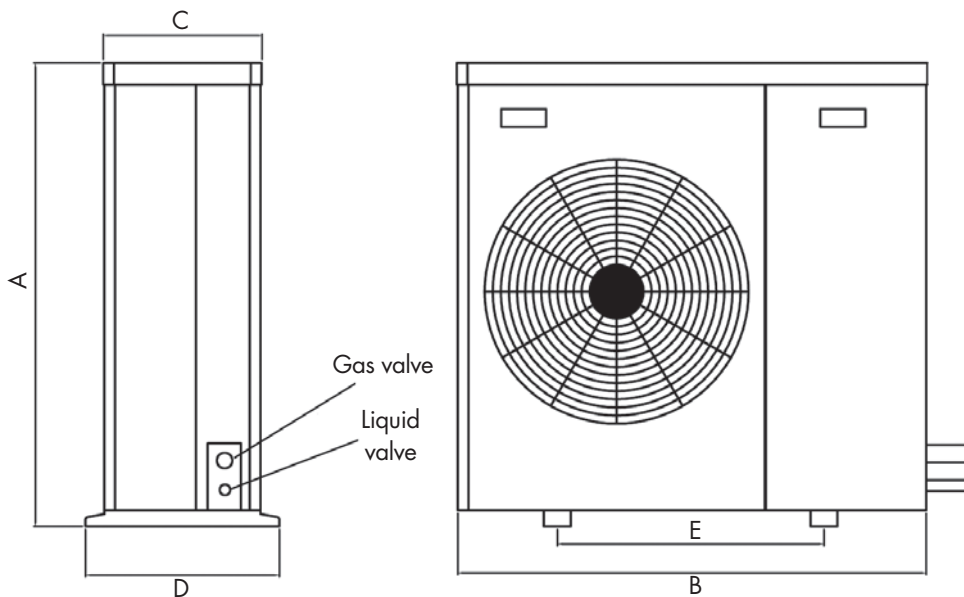
11. DIMENSIONS

Indoor unit (all models)



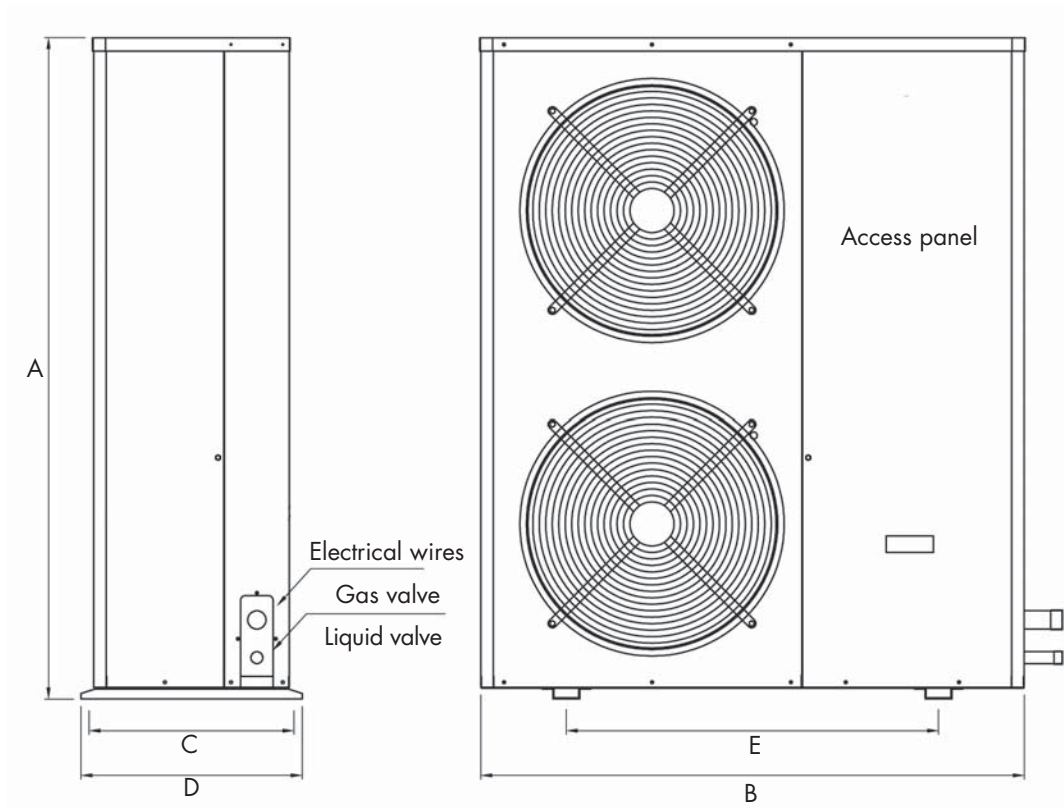
NOTE:
Dimensions in mm.

Outdoor unit 3AEO-11E / 3AEO-14E



11. DIMENSIONS

Outdoor unit 3AEO-19E

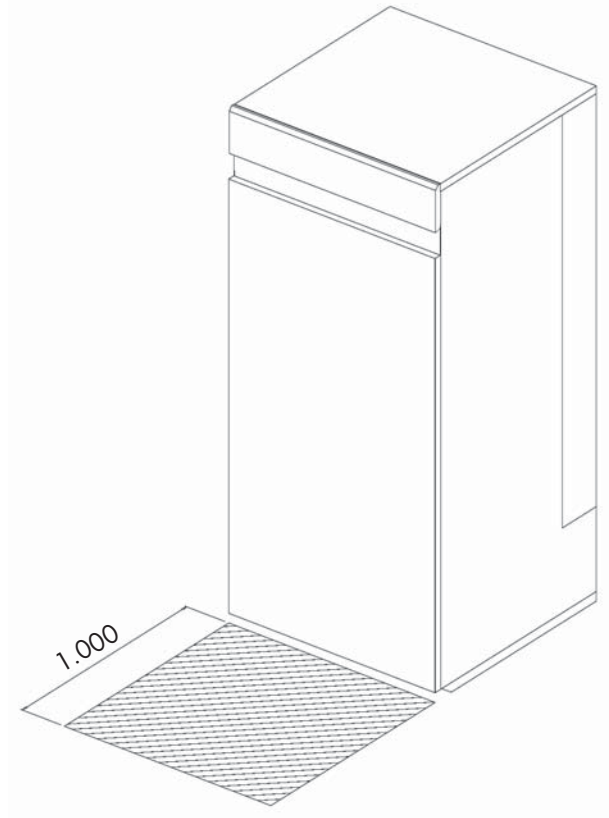


MODEL	DIMENSIONS (mm)				
	A	B	C	D	E
3AEO - 11E	860	870	325	365	500
3AEO - 14E	960	970	345	415	640
3AEO - 19E	1.460	970	345	415	640

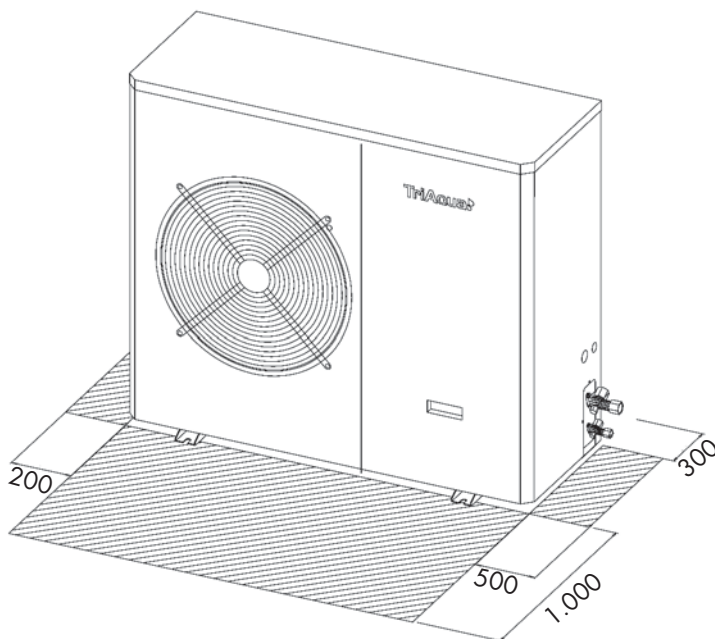
12. SERVICE SPACE

Figures below show the minimum space required to allow proper service and maintenance tasks on the units.

Indoor unit (all models)



Outdoor unit (all models)



NOTE:
Dimensions in mm.

TriAqua!

□ I-MTD-0001-11

Specifications subject to change by the manufacturer without prior notice.