



Compliant with Regulation (EU) No.  
327/2011

# Unit Heaters Atlas ECM

TECHNICAL MANUAL



## TABLE OF CONTENTS

### Introduction

---

Introduction p. 4

---

Main components p. 5

---

### Tables, limits, dimensions and configuration

---

Main performance and technical characteristics p. 7

---

Heating emission p. 10

---

Water side pressure drop p. 16

---

Operating limits p. 17

---

### Dimensions

---

Dimensions p. 18

---

### Configuration

---

Configuration p. 19

---

### JETSTREAM

---

JETSTREAM induction flow optimizer p. 20

---

### Accessories

---

Accessories p. 25

---

### Controls

---

Controls p. 33

---

## INTRODUCTION

Since **1950** Sabiana has been manufacturing **hot water, high temperature hot water and steam unit heaters** for heating industrial and commercial environments, with proprietary manufacturing technology and a wide range of solutions.

Both in Germany and in Italy, the most involved countries in the development of European manufacturing industry, above all the mechanical one, the **most common** heating system for industrial environments uses water unit heaters connected to a central heating system.

The excellent ratio of indoor comfort to system cost, continual improvements in efficiency of hot water production, using both condensing boilers and heat pumps, the use of specific solutions such as flow optimisers on the units, as well as flexible installation and easy adaptation to new production plant layouts even

after installation, mean that still today thousands of designers and businesses propose and adopt this heating solution.

**A further development** is proposed in this catalogue: every model is provided with an electronic motor controlled by a built-in inverter.

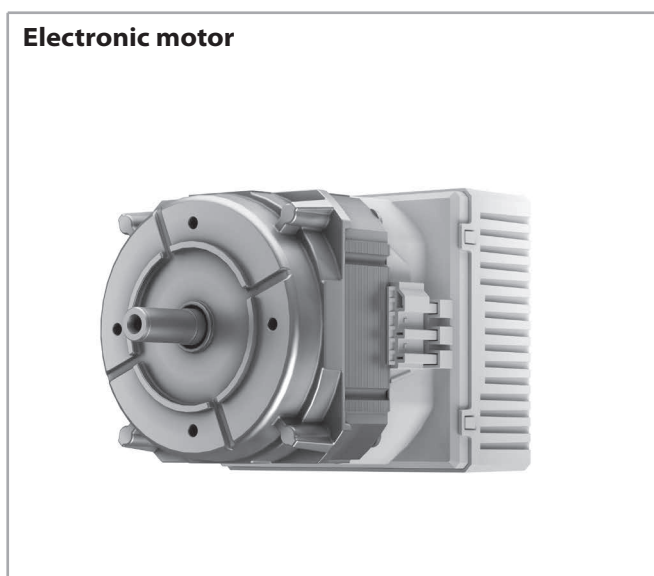
The ECM motors allow electric energy saving if compared to traditional asynchronous motors and they enable to **continuously adjust** the air flow and **control** the ambient temperature **with precision**, with further benefits in terms of very low noise.

All range is compliant with the **Regulation (EU) No. 327/2011** which requires **very low electric consumption ratings** in relation to performances provided.

**Sabiana** is the leading manufacturer of unit heaters, and competes worldwide providing the latest technology in environmental comfort.



**Electronic motor**



**Helicoidal fan**



## MAIN COMPONENTS

The Atlas ECM heater units are made in 6 sizes, each one with 1, 2 and 3 row coils (a total of 18 models) with heating emissions from 3,5 to 49 kW (with water at 85/75 °C)

They are not suitable for steam supply.

### Casing

The main casing is manufactured from galvanized pre-painted steel finished in a light grey colour (RAL 9002) and is assembled from three component parts. The steel is 1 mm thick and pre-painted before manufacture to prevent the material being subjected to oxidation. The component parts are held together by anti vibration screws that allow easy and fast access and maintenance of the unit and coil.

The use of steel with 200 g/m<sup>2</sup> (according to Euronorm 142 - 79) and pre-painting guarantees a perfect finish and superior protection against corrosion.

### Coil

The coil of Atlas ECM Sabiana unit heaters with steel tubes Ø 22 mm and aluminium fins has the following advantages compared with the copper-aluminium small diameter tube coils :

the material used for the steel tube, which is very thick (1 mm instead of 0,3 - 0,4 mm), makes the Sabiana coil extremely sturdy and long lasting.

The tube's large diameter reduces the water pressure drop: this means that reduced power pumps are installed and a very rapid heating capacity is provided.

The Sabiana coil for unit heaters uses a reduced number of tubes to give the same output: this gives a low resistance to the air flow and consequently an optimum leaving air temperature and a very long throw.

With a greater spacing between the fins as well as their thickness this facilitates cleaning and maintenance operations, which is essential to keep the unit heater efficient.

The steel tube coil is the ideal choice for installations where all tubes and equipment are made of steel because it avoids physical and chemical unbalance due to the interaction of different metals.

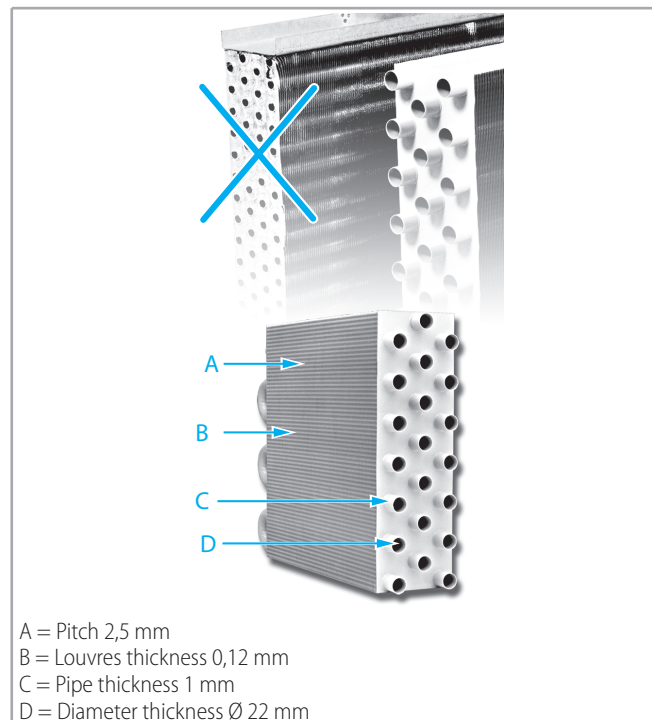
The special paint coating makes the coil long lasting and increases the thermal output.

The Sabiana coil can be used with hot water.

However, in order to meet any design or installation needs Sabiana can offer a complete set of unit heaters with copper tubes and aluminium fins.

This coil has the same features (tube diameter, fin pitch, etc.) of the steel coil but it is built with copper tube 0,7 mm thick of higher quality and with a higher mass than the coils normally used for unit heaters.

The wide range of products consists of 6 sizes available with 1, 2 or 3 rows.



### Electronic motor

Single phase permanent magnet brushless electronic motor, IP 44 protection and class B insulation. It is controlled with reconstructed current according to a sinusoidal wave.

The inverter board that controls the motor operation is powered by 230 Volt, single-phase and, with a switching system, it generates a three-phase frequency modulated, wave form power supply.

The electric power supply required for the machine is therefore single-phase with voltage of **200 - 240 V** and frequency of **50 - 60 Hz**.

### Helicoidal fan

The fan is made with glass reinforced plastic. Its rational high-capacity profile provides the maximum air volume with the minimum energy consumption.

The finger proof guard is painted with electroplating treatment, that ensures more protection against corrosion.

The air flow is uniformly distributed through the whole coil and consequently the unit is very quiet.

### Electric fan support

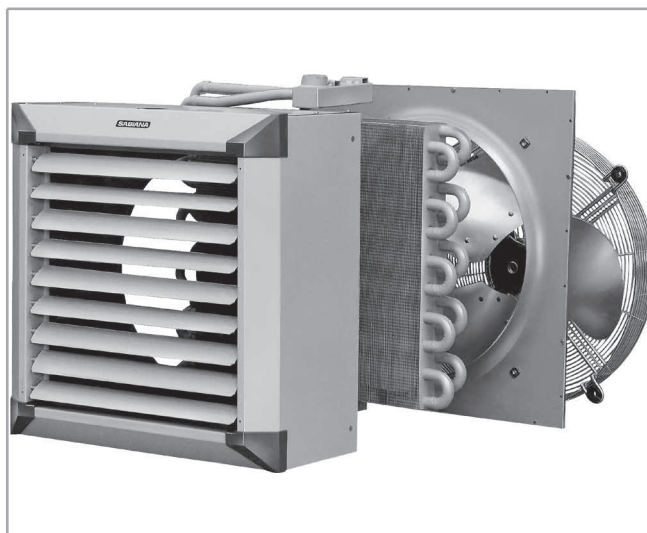
The finger proof guard also acts as the main support and fixing frame.

This frame, made from galvanized steel, is mounted onto the main casing via residually anti-vibration rubber mountings.

## Louvres

Louvres are made from a profiled prepainted steel sheet with a design that allows excellent direction of air flow. The adjustable louvres are held in place by spring loaded pivots which allow the rotation of every single louvre in the desired position without vibrations.

Fourway distribution is achieved by the addition of a second set of louvres to the front of the unit, generally for downward application.



## Interpretation of the identification code

### Example : AT-ECM42

AT-ECM	4	2	SX	SP
RANGE	SIZE	ROWS	COIL WITH TUBES OF	
"Atlas ECM"	4	2	STEEL	COPPER

## MAIN PERFORMANCE AND TECHNICAL CHARACTERISTICS

### Heating mode

Entering air temperature: 15 °C

MODEL	Inverter power	AT-ECM 11						AT-ECM 12						AT-ECM 13					
		1	2	4	6	8	10	1	2	4	6	8	10	1	2	4	6	8	10
Speed	rpm	513	609	820	1017	1224	1301	513	609	820	1017	1224	1301	513	609	820	1017	1224	1301
Air flow	m <sup>3</sup> /h	477	588	830	1057	1296	1385	440	540	765	975	1195	1275	418	516	728	927	1137	1215
WT = 85/75 °C Heating emission	kW	3,61	4,00	4,70	5,25	5,73	5,89	5,32	6,03	7,35	8,36	9,27	9,56	6,22	7,15	8,94	10,35	11,62	12,04
WT = 85/75 °C Leaving air temperature	°C	37	35	32	29	28	27	50	48	43	40	38	37	58	56	51	48	45	44
WT = 85/70 °C Heating emission	kW	3,12	3,45	4,04	4,50	4,89	5,03	4,65	5,25	6,36	7,22	7,97	8,22	5,50	6,28	7,80	8,98	10,04	10,39
WT = 85/70 °C Leaving air temperature	°C	34	32	29	27	26	26	46	43	39	37	35	34	53	51	46	43	41	40
WT = 80/60 °C Heating emission	kW	2,30	2,54	2,94	3,25	3,53	3,62	3,49	3,91	4,70	5,29	5,82	5,99	4,18	4,75	5,83	6,66	7,42	7,65
WT = 80/60 °C Leaving air temperature	°C	29	28	25	24	23	23	38	36	33	31	29	29	44	42	38	36	34	33
Motor power input	W	10,7	14,3	27,1	46,4	77,0	90,4	10,7	14,3	27,1	46,4	77,0	90,4	10,7	14,3	27,1	46,4	77,0	90,4
Sound power (Lw)	dB(A)	47,0	51,0	59,0	64,0	68,0	70,0	47,0	51,0	59,0	64,0	68,0	70,0	47,0	51,0	59,0	64,0	68,0	70,0
Sound pressure (Lp) <sup>(1)</sup>	dB(A)	25,0	29,0	37,0	42,0	46,0	48,0	25,0	29,0	37,0	42,0	46,0	48,0	25,0	29,0	37,0	42,0	46,0	48,0
Wall installation : Height	m	2,5 ÷ 3,5																	
Wall installation : Throw	m	4,0	4,5	5,0	5,5	6,0	6,5	4,0	4,5	5,0	5,0	5,5	6,0	4,0	4,5	4,5	5,0	5,5	6,0
Ceiling installation : Height	m	-	-	-	2,5	3,0	3,5	-	-	-	2,5	3,0	3,0	-	-	-	2,6	3,0	3,0
Ceiling installation : Influence area	m <sup>2</sup>	-	-	-	35	40	40	-	-	-	35	40	40	-	-	-	35	40	40

(1) The sound pressure levels dB(A) are measured at a distance of 5m, directional factor Q = 2, compliant with the EN 3744 standard.

WT Water temperature

Entering air temperature: 15 °C

MODEL	Inverter power	AT-ECM 21						AT-ECM 22						AT-ECM 23					
		1	2	4	6	8	10	1	2	4	6	8	10	1	2	4	6	8	10
Speed	rpm	518	617	812	1012	1225	1301	518	617	812	1012	1225	1301	518	617	812	1012	1225	1301
Air flow	m <sup>3</sup> /h	767	936	1274	1620	1989	2121	705	860	1175	1490	1830	1955	672	821	1117	1421	1745	1861
WT = 85/75 °C Heating emission	kW	5,58	6,14	7,11	7,91	8,65	8,87	8,34	9,39	11,18	12,67	14,03	14,48	9,82	11,23	13,66	14,31	15,56	18,31
WT = 85/75 °C Leaving air temperature	°C	36	34	31	29	28	27	50	47	43	40	37	37	58	55	51	50	48	44
WT = 85/70 °C Heating emission	kW	4,95	5,43	6,26	6,97	7,58	7,78	7,45	8,36	9,91	11,19	12,36	12,75	8,83	10,06	12,20	12,73	13,84	16,22
WT = 85/70 °C Leaving air temperature	°C	34	32	29	28	26	26	46	43	40	37	35	34	54	51	47	46	44	40
WT = 80/60 °C Heating emission	kW	3,81	4,16	4,77	5,29	5,74	5,89	5,80	6,48	7,62	8,57	9,45	9,74	6,95	7,88	9,48	9,88	10,68	12,44
WT = 80/60 °C Leaving air temperature	°C	29	28	26	25	23	23	39	37	34	32	30	30	45	43	40	39	37	35
Motor power input	W	15,2	21,7	42,9	77,0	132,8	158,1	15,2	21,7	42,9	77,0	132,8	158,1	15,2	21,7	42,9	77,0	132,8	158,1
Sound power (Lw)	dB(A)	48,5	53,0	61,0	66,5	70,5	72,5	48,5	53,0	61,0	66,5	70,5	72,5	48,5	53,0	61,0	66,5	70,5	72,5
Sound pressure (Lp) <sup>(1)</sup>	dB(A)	26,5	31,0	39,0	44,5	48,5	50,5	26,5	31,0	39,0	44,5	48,5	50,5	26,5	31,0	39,0	44,5	48,5	50,5
Wall installation : Height	m	2,5 ÷ 3,5																	
Wall installation : Throw	m	5,0	5,5	6,0	6,5	7,0	8,0	4,5	5,0	5,5	5,7	7,0	7,5	4,5	5,0	5,5	6,0	6,5	7,0
Ceiling installation : Height	m	-	-	-	3,0	3,5	4,0	-	-	-	3,0	3,5	3,5	-	-	-	3,0	3,0	3,5
Ceiling installation : Influence area	m <sup>2</sup>	-	-	-	45	45	50	-	-	-	45	45	45	-	-	-	40	40	40

(1) The sound pressure levels dB(A) are measured at a distance of 5m, directional factor Q = 2, compliant with the EN 3744 standard.

WT Water temperature

## Heating mode

### Entering air temperature: 15 °C

MODEL	Inverter power	AT-ECM 31						AT-ECM 32						AT-ECM 33					
		1	2	4	6	8	10	1	2	4	6	8	10	1	2	4	6	8	10
Speed	rpm	502	606	818	1016	1212	1300	502	606	818	1016	1212	1300	502	606	818	1016	1212	1300
Air flow	m <sup>3</sup> /h	1025	1287	1819	2317	2810	3032	935	1175	1665	2120	2570	2775	876	1100	1555	1980	2402	2592
WT = 85/75 °C Heating emission	kW	7,62	8,53	10,04	11,17	12,12	12,50	11,32	12,99	15,76	17,89	19,64	20,40	13,17	15,35	19,11	22,03	24,51	25,59
WT = 85/75 °C Leaving air temperature	°C	37	34	31	29	28	27	50	47	43	40	37	36	59	56	51	48	45	44
WT = 85/70 °C Heating emission	kW	6,86	7,66	9,00	9,98	10,84	11,15	10,27	11,75	14,20	16,08	17,66	18,29	11,98	13,93	17,30	19,90	22,10	23,04
WT = 85/70 °C Leaving air temperature	°C	35	32	29	28	26	26	47	44	40	37	35	34	55	52	48	44	42	41
WT = 80/60 °C Heating emission	kW	5,43	6,05	7,07	7,81	8,46	8,71	8,20	9,33	11,24	12,67	13,89	14,36	9,66	11,20	13,77	15,77	17,50	18,19
WT = 80/60 °C Leaving air temperature	°C	30	29	26	25	24	23	41	38	35	32	31	30	47	45	41	38	36	36
Motor power input	W	19,1	30,0	67,4	124,8	207,2	253,7	19,1	30,0	67,4	124,8	207,2	253,7	19,1	30,0	67,4	124,8	207,2	253,7
Sound power (Lw)	dB(A)	51,5	55,5	63,5	69,0	73,0	75,5	51,5	55,5	63,5	69,0	73,0	75,5	51,5	55,5	63,5	69,0	73,0	75,5
Sound pressure (Lp) <sup>(1)</sup>	dB(A)	29,5	33,5	41,5	47,0	51,0	53,5	29,5	33,5	41,5	47,0	51,0	53,5	29,5	33,5	41,5	47,0	51,0	53,5
Wall installation : Height	m	2,5 ÷ 3,5																	
Wall installation : Throw	m	6,5	7,5	8,5	10,0	11,0	12,0	6,5	7,0	8,0	9,0	10,0	10,5	6,0	7,0	8,0	8,5	9,5	10,0
Ceiling installation : Height	m	-	-	3,5	4,0	4,0	4,5	-	-	3,5	3,5	4,0	4,0	-	-	-	3,5	3,5	4,0
Ceiling installation : Influence area	m <sup>2</sup>	-	-	50	55	60	60	-	-	50	50	55	60	-	-	-	50	50	55

(1) The sound pressure levels dB(A) are measured at a distance of 5m, directional factor Q = 2, compliant with the EN 3744 standard.  
**WT** Water temperature

### Entering air temperature: 15 °C

MODEL	Inverter power	AT-ECM 41						AT-ECM 42						AT-ECM 43					
		1	2	4	6	8	10	1	2	4	6	8	10	1	2	4	6	8	10
Speed	rpm	518	613	810	1019	1218	1299	518	613	810	1019	1218	1299	518	613	810	1019	1218	1299
Air flow	m <sup>3</sup> /h	1460	1780	2445	3155	3830	4110	1235	1505	2070	2670	3240	3475	1073	1310	1799	2321	2816	3020
WT = 85/75 °C Heating emission	kW	10,44	11,52	13,34	14,93	16,20	16,66	15,01	16,88	20,17	23,09	25,37	26,23	16,61	19,04	23,39	27,22	30,46	31,69
WT = 85/75 °C Leaving air temperature	°C	36	34	31	29	27	27	51	48	44	40	38	37	60	58	53	49	47	46
WT = 85/70 °C Heating emission	kW	9,52	10,48	12,11	13,53	14,68	15,08	13,74	15,44	18,38	20,97	23,09	23,88	15,30	17,48	21,37	24,89	27,76	28,87
WT = 85/70 °C Leaving air temperature	°C	34	32	29	28	26	26	48	45	41	38	36	35	57	54	50	46	44	43
WT = 80/60 °C Heating emission	kW	7,67	8,42	9,71	10,82	11,70	12,04	11,15	12,51	14,87	16,89	18,53	19,15	12,55	14,27	17,38	20,14	22,42	23,26
WT = 80/60 °C Leaving air temperature	°C	30	29	27	25	24	24	41	39	36	34	32	31	49	47	43	40	38	38
Motor power input	W	21,0	32,0	65,0	119,0	192,0	253,0	21,0	32,0	65,0	119,0	192,0	253,0	21,0	32,0	65,0	119,0	192,0	253,0
Sound power (Lw)	dB(A)	53,5	58,5	66,5	72,5	77,0	79,0	53,5	58,5	66,5	72,5	77,0	79,0	53,5	58,5	66,5	72,5	77,0	79,0
Sound pressure (Lp) <sup>(1)</sup>	dB(A)	31,5	36,5	44,5	50,5	55,0	57,0	31,5	36,5	44,5	50,5	55,0	57,0	31,5	36,5	44,5	50,5	55,0	57,0
Wall installation : Height	m	3 ÷ 4,5																	
Wall installation : Throw	m	8,5	9,5	11,0	12,5	14,0	14,5	6,5	7,0	8,5	9,6	11,0	12,5	6,0	6,5	8,0	9,0	10,0	11,0
Ceiling installation : Height	m	-	-	4,0	4,5	5,0	5,0	-	-	3,5	4,0	4,0	4,5	-	-	-	3,5	4,0	4,0
Ceiling installation : Influence area	m <sup>2</sup>	-	-	60	65	70	70	-	-	50	55	60	65	-	-	-	50	55	60

(1) The sound pressure levels dB(A) are measured at a distance of 5m, directional factor Q = 2, compliant with the EN 3744 standard.  
**WT** Water temperature



## Heating mode

### Entering air temperature: 15 °C

MODEL	Inverter power	AT-ECM 51						AT-ECM 52						AT-ECM 53					
		1	2	4	6	8	10	1	2	4	6	8	10	1	2	4	6	8	10
Speed	rpm	519	612	821	1013	1224	1302	519	612	821	1013	1224	1302	519	612	821	1013	1224	1302
Air flow	m <sup>3</sup> /h	1790	2185	3060	3870	4755	5085	1545	1880	2635	3335	4100	4380	1379	1681	2355	2977	3658	3910
WT = 85/75 °C Heating emission	kW	13,09	14,45	16,91	18,77	20,45	21,01	18,99	21,35	25,80	29,19	32,34	33,37	21,35	24,42	30,38	34,96	39,34	40,84
WT = 85/75 °C Leaving air temperature	°C	36	34	31	29	28	27	51	48	44	41	38	37	60	58	53	49	46	46
WT = 85/70 °C Heating emission	kW	12,05	13,28	15,48	17,18	18,72	19,20	17,51	19,68	23,71	26,81	29,65	30,61	19,80	22,61	28,01	32,17	36,18	37,46
WT = 85/70 °C Leaving air temperature	°C	35	33	30	28	27	26	48	46	41	39	36	35	57	54	50	47	44	43
WT = 80/60 °C Heating emission	kW	9,83	10,81	12,62	13,94	15,17	15,54	14,42	16,16	19,38	21,86	24,16	24,90	16,41	18,67	23,05	26,38	29,62	30,63
WT = 80/60 °C Leaving air temperature	°C	31	29	27	26	24	24	42	40	37	34	32	32	50	48	44	41	39	38
Motor power input	W	59,0	104,0	156,0	219,0	265,0	265,0	59,0	104,0	156,0	219,0	265,0	265,0	59,0	104,0	156,0	219,0	265,0	265,0
Sound power (Lw)	dB(A)	56,5	61,5	69,0	74,5	79,5	82,0	56,5	61,5	69,0	74,5	79,5	82,0	56,5	61,5	69,0	74,5	79,5	82,0
Sound pressure (Lp) <sup>(1)</sup>	dB(A)	34,5	39,5	47,0	52,5	57,5	60,0	34,5	39,5	47,0	52,5	57,5	60,0	34,5	39,5	47,0	52,5	57,5	60,0
Wall installation : Height	m	3 ÷ 4,5																	
Wall installation : Throw	m	10,0	12,6	15,0	17,0	19,0	19,0	8,0	10,5	12,0	14,0	15,0	15,0	7,0	9,0	10,5	12,0	13,0	13,0
Ceiling installation : Height	m	-	-	5,0	5,5	6,0	6,0	-	-	4,5	5,0	5,0	5,0	-	-	4,0	4,5	5,0	5,0
Ceiling installation : Influence area	m <sup>2</sup>	-	-	80	80	85	85	-	-	70	75	80	80	-	-	65	70	75	75

(1) The sound pressure levels dB(A) are measured at a distance of 5m, directional factor Q = 2, compliant with the EN 3744 standard.  
**WT** Water temperature

### Entering air temperature: 15 °C

MODEL	Inverter power	AT-ECM 61						AT-ECM 62						AT-ECM 63					
		1	2	4	6	8	10	1	2	4	6	8	10	1	2	4	6	8	10
Speed	rpm	510	615	821	1016	1216	1301	510	615	821	1016	1216	1301	510	615	821	1016	1216	1301
Air flow	m <sup>3</sup> /h	1895	2380	3335	4235	5165	5555	1695	2130	2980	3790	4620	4970	1539	1936	2710	3444	4198	4517
WT = 85/75 °C Heating emission	kW	15,01	16,82	19,76	22,02	23,96	24,73	21,87	25,19	30,50	34,72	38,33	39,72	24,65	28,97	36,04	41,70	46,82	48,80
WT = 85/75 °C Leaving air temperature	°C	38	36	32	30	29	28	53	50	45	42	39	38	62	59	54	50	48	47
WT = 85/70 °C Heating emission	kW	13,86	15,55	18,24	20,29	22,09	22,78	20,32	23,35	28,20	32,06	35,41	36,70	23,00	26,93	33,44	38,64	43,28	45,10
WT = 85/70 °C Leaving air temperature	°C	36	34	31	29	28	27	50	47	43	40	37	37	59	56	51	48	45	44
WT = 80/60 °C Heating emission	kW	11,47	12,81	14,98	16,68	18,13	18,68	16,88	19,37	23,34	26,48	29,17	30,20	19,25	22,48	27,76	32,00	35,82	37,27
WT = 80/60 °C Leaving air temperature	°C	33	31	28	27	25	25	44	42	38	35	33	33	52	49	45	42	40	39
Motor power input	W	27,3	44,6	98,7	183,2	315,5	386,5	27,3	44,6	98,7	183,2	315,5	386,5	27,3	44,6	98,7	183,2	315,5	386,5
Sound power (Lw)	dB(A)	57,5	62,5	70,5	76,5	81,0	83,0	57,5	62,5	70,5	76,5	81,0	83,0	57,5	62,5	70,5	76,5	81,0	83,0
Sound pressure (Lp) <sup>(1)</sup>	dB(A)	35,5	40,5	48,5	54,5	59,0	61,0	35,5	40,5	48,5	54,5	59,0	61,0	35,5	40,5	48,5	54,5	59,0	61,0
Wall installation : Height	m	3 ÷ 5																	
Wall installation : Throw	m	11,0	14,0	17,0	20,0	22,0	22,0	9,0	11,5	13,5	16,0	17,0	17,0	8,0	9,5	11,5	13,5	14,5	14,5
Ceiling installation : Height	m	-	-	5,5	6,0	6,5	6,5	-	-	5,0	5,0	5,5	5,5	-	-	4,5	5,0	5,0	5,0
Ceiling installation : Influence area	m <sup>2</sup>	-	-	90	95	100	100	-	-	85	90	90	90	-	-	80	85	85	85

(1) The sound pressure levels dB(A) are measured at a distance of 5m, directional factor Q = 2, compliant with the EN 3744 standard.  
**WT** Water temperature

## HEATING EMISSION

### 1 row units - sizes 1-2-3

Entering air temperature: 15 °C

Model	Vdc	Qv m <sup>3</sup> /h	WT: 90 / 70 °C			WT: 90 / 75 °C			WT: 85 / 75 °C		
			Ph kW	Qw l/h	LAT °C	Ph kW	Qw l/h	LAT °C	Ph kW	Qw l/h	LAT °C
AT-ECM 11	10	1385	4,82	207	25,2	5,64	323	26,9	5,89	507	27,4
	8	1296	4,69	201	25,6	5,48	314	27,4	5,73	493	28,0
	6	1057	4,31	185	26,9	5,03	288	28,9	5,25	452	29,5
	4	830	3,89	167	28,7	4,51	259	30,9	4,70	405	31,6
	2	588	3,33	143	31,5	3,85	221	34,1	4,00	344	34,8
	1	477	3,02	130	33,4	3,48	199	36,2	3,61	311	37,0
AT-ECM 21	10	2121	7,59	326	25,5	8,63	495	26,9	8,87	763	27,2
	8	1989	7,40	318	25,9	8,42	483	27,4	8,65	744	27,7
	6	1620	6,81	293	27,3	7,73	443	29,0	7,91	680	29,3
	4	1274	6,13	264	29,1	6,94	398	30,9	7,11	611	31,3
	2	936	5,34	230	31,7	6,02	345	33,8	6,14	528	34,2
	1	767	4,86	209	33,5	5,48	314	35,8	5,58	480	36,2
AT-ECM 31	10	3032	11,04	475	25,7	12,33	707	26,9	12,50	1075	27,1
	8	2810	10,71	461	26,2	11,96	686	27,5	12,12	1042	27,6
	6	2317	9,88	425	27,5	11,01	631	28,9	11,17	961	29,1
	4	1819	8,91	383	29,3	9,91	568	30,9	10,04	863	31,1
	2	1287	7,61	327	32,3	8,43	483	34,2	8,53	733	34,4
	1	1025	6,83	294	34,5	7,56	433	36,6	7,62	655	36,7

**WT:** Water temperature  
**Vdc:** Inverter power  
**Qv:** Air flow  
**Ph:** Heating emission  
**Qw:** Water flow rate  
**LAT:** Leaving air temperature

### Correction factors (for working conditions different from those shown in the table)

T <sub>air</sub>	ΔT <sub>water</sub> 20 °C					ΔT <sub>water</sub> 15 °C					ΔT <sub>water</sub> 10 °C				
	90/70	85/65	80/60	75/55	70/50	90/75	85/70	80/65	75/60	70/55	85/75	80/70	75/65	70/60	65/55
-5	1,40	1,30	1,20	1,10	1,00	1,40	1,30	1,20	1,10	1,00	1,40	1,30	1,20	1,10	1,00
0	1,30	1,20	1,10	1,00	0,88	1,30	1,20	1,10	1,00	0,90	1,30	1,20	1,10	1,00	0,91
5	1,20	1,10	1,00	0,88	0,76	1,20	1,10	1,00	0,90	0,80	1,20	1,10	1,00	0,91	0,82
10	1,10	1,00	0,88	0,76	0,64	1,10	1,00	0,90	0,80	0,70	1,10	1,00	0,92	0,85	0,77
15	1,00	0,88	0,76	0,64	0,52	1,00	0,90	0,80	0,70	0,60	1,00	0,91	0,82	0,72	0,62
20	0,90	0,78	0,66	0,54	0,42	0,90	0,80	0,70	0,60	0,50	0,91	0,82	0,72	0,62	0,53
25	0,78	0,66	0,54	0,43	0,32	0,80	0,70	0,60	0,60	0,40	0,82	0,72	0,62	0,53	0,45

## 1 row units - sizes 4-5-6

Entering air temperature: 15 °C

Model	Vdc	Qv m <sup>3</sup> /h	WT: 90 / 70 °C			WT: 90 / 75 °C			WT: 85 / 75 °C		
			Ph kW	Qw l/h	LAT °C	Ph kW	Qw l/h	LAT °C	Ph kW	Qw l/h	LAT °C
AT-ECM 41	10	4110	15,02	646	25,7	16,57	950	26,8	16,66	1433	26,9
	8	3830	14,62	629	26,2	16,11	924	27,3	16,20	1393	27,4
	6	3155	13,51	581	27,5	14,89	854	28,8	14,93	1284	28,8
	4	2445	12,12	521	29,5	13,32	763	30,9	13,34	1147	31,0
	2	1780	10,47	450	32,2	11,50	659	33,9	11,52	991	33,9
	1	1460	9,54	410	34,1	10,46	599	35,9	10,44	898	35,9
AT-ECM 51	10	5085	19,27	829	26,1	21,05	1207	27,1	21,01	1807	27,1
	8	4755	18,78	808	26,6	20,48	1174	27,6	20,45	1758	27,6
	6	3870	17,25	742	28,0	18,80	1078	29,2	18,77	1614	29,2
	4	3060	15,59	670	29,9	16,97	973	31,2	16,91	1454	31,2
	2	2185	13,35	574	32,9	14,53	833	34,4	14,45	1243	34,3
	1	1790	12,12	521	34,8	13,18	755	36,5	13,09	1126	36,4
AT-ECM 61	10	5555	22,95	987	27,1	24,90	1427	28,1	24,73	2127	28,0
	8	5165	22,31	959	27,6	24,18	1387	28,7	23,96	2061	28,6
	6	4235	20,52	882	29,2	22,16	1271	30,3	22,02	1894	30,2
	4	3335	18,41	792	31,1	19,92	1142	32,5	19,76	1699	32,3
	2	2380	15,73	676	34,3	16,98	974	35,9	16,82	1447	35,7
	1	1895	14,04	604	36,7	15,16	869	38,4	15,01	1291	38,2

**WT:** Water temperature  
**Vdc:** Inverter power  
**Qv:** Air flow  
**Ph:** Heating emission  
**Qw:** Water flow rate  
**LAT:** Leaving air temperature

### Correction factors (for working conditions different from those shown in the table)

T <sub>air</sub>	ΔT <sub>water</sub> 20 °C					ΔT <sub>water</sub> 15 °C					ΔT <sub>water</sub> 10 °C				
	90/70	85/65	80/60	75/55	70/50	90/75	85/70	80/65	75/60	70/55	85/75	80/70	75/65	70/60	65/55
-5	1,40	1,30	1,20	1,10	1,00	1,40	1,30	1,20	1,10	1,00	1,40	1,30	1,20	1,10	1,00
0	1,30	1,20	1,10	1,00	0,88	1,30	1,20	1,10	1,00	0,90	1,30	1,20	1,10	1,00	0,91
5	1,20	1,10	1,00	0,88	0,76	1,20	1,10	1,00	0,90	0,80	1,20	1,10	1,00	0,91	0,82
10	1,10	1,00	0,88	0,76	0,64	1,10	1,00	0,90	0,80	0,70	1,10	1,00	0,92	0,85	0,77
15	1,00	0,88	0,76	0,64	0,52	1,00	0,90	0,80	0,70	0,60	1,00	0,91	0,82	0,72	0,62
20	0,90	0,78	0,66	0,54	0,42	0,90	0,80	0,70	0,60	0,50	0,91	0,82	0,72	0,62	0,53
25	0,78	0,66	0,54	0,43	0,32	0,80	0,70	0,60	0,60	0,40	0,82	0,72	0,62	0,53	0,45

## 2 rows units - sizes 1-2-3

Entering air temperature: 15 °C

Model	Vdc	Qv m <sup>3</sup> /h	WT: 90 / 70 °C			WT: 90 / 75 °C			WT: 85 / 75 °C			WT: 60 / 55 °C		
			Ph kW	Qw l/h	LAT °C	Ph kW	Qw l/h	LAT °C	Ph kW	Qw l/h	LAT °C	Ph kW	Qw l/h	LAT °C
AT-ECM 12	10	1275	7,92	340	33,2	9,19	527	36,1	9,56	823	36,9	6,34	1091	29,5
	8	1195	7,67	330	33,8	8,92	511	36,8	9,27	797	37,7	6,14	1056	30,0
	6	975	6,96	299	35,9	8,06	462	39,2	8,36	719	40,1	5,54	952	31,6
	4	765	6,17	265	38,6	7,09	406	42,1	7,35	632	43,1	4,86	836	33,6
	2	540	5,10	219	42,6	5,84	335	46,6	6,03	519	47,7	3,98	685	36,6
	1	440	4,53	195	45,1	5,17	296	49,4	5,32	457	50,3	3,52	605	38,4
AT-ECM 22	10	1955	12,51	538	33,7	14,15	811	36,2	14,48	1246	36,7	9,56	1644	29,3
	8	1830	12,14	522	34,4	13,70	785	36,9	14,03	1206	37,4	9,26	1594	29,8
	6	1490	11,01	473	36,6	12,39	710	39,3	12,67	1090	39,9	8,35	1436	31,4
	4	1175	9,74	419	39,2	10,97	629	42,3	11,18	961	42,8	7,38	1269	33,4
	2	860	8,25	355	43,1	9,24	530	46,4	9,39	807	46,9	6,19	1064	36,0
	1	705	7,34	316	45,5	8,23	472	49,1	8,34	717	49,6	5,50	945	37,8
AT-ECM 32	10	2775	18,13	780	34,1	20,15	1155	36,2	20,40	1754	36,5	13,42	2309	29,2
	8	2570	17,50	753	34,9	19,43	1114	37,1	19,64	1689	37,4	12,95	2228	29,7
	6	2120	15,98	687	37,0	17,73	1016	39,5	17,89	1538	39,7	11,78	2027	31,3
	4	1665	14,13	608	39,8	15,63	896	42,5	15,76	1355	42,7	10,38	1785	33,2
	2	1175	11,71	504	44,2	12,92	740	47,2	12,99	1117	47,3	8,54	1470	36,3
	1	935	10,25	441	47,1	11,28	647	50,3	11,32	973	50,4	7,46	1283	38,3

**WT:** Water temperature  
**Vdc:** Inverter power  
**Qv:** Air flow  
**Ph:** Heating emission  
**Qw:** Water flow rate  
**LAT:** Leaving air temperature

### Correction factors (for working conditions different from those shown in the table)

T <sub>air</sub>	ΔT <sub>water</sub> 20 °C					ΔT <sub>water</sub> 15 °C					ΔT <sub>water</sub> 10 °C					ΔT <sub>water</sub> 5 °C				
	90/70	85/65	80/60	75/55	70/50	90/75	85/70	80/65	75/60	70/55	85/75	80/70	75/65	70/60	65/55	60/55	55/50	50/45	45/40	40/35
-5	1,40	1,30	1,20	1,10	1,00	1,40	1,30	1,20	1,10	1,00	1,40	1,30	1,20	1,10	1,00	1,60	1,45	1,30	1,15	1,00
0	1,30	1,20	1,10	1,00	0,88	1,30	1,20	1,10	1,00	0,90	1,30	1,20	1,10	1,00	0,91	1,45	1,30	1,15	1,00	0,86
5	1,20	1,10	1,00	0,88	0,76	1,20	1,10	1,00	0,90	0,80	1,20	1,10	1,00	0,91	0,82	1,30	1,15	1,00	0,86	0,72
10	1,10	1,00	0,88	0,76	0,64	1,10	1,00	0,90	0,80	0,70	1,10	1,00	0,92	0,85	0,77	1,15	1,00	0,86	0,72	0,58
15	1,00	0,88	0,76	0,64	0,52	1,00	0,90	0,80	0,70	0,60	1,00	0,91	0,82	0,72	0,62	1,00	0,86	0,72	0,58	0,44
20	0,90	0,78	0,66	0,54	0,42	0,90	0,80	0,70	0,60	0,50	0,91	0,82	0,72	0,62	0,53	0,86	0,72	0,58	0,44	0,30
25	0,78	0,66	0,54	0,43	0,32	0,80	0,70	0,60	0,60	0,40	0,82	0,72	0,62	0,53	0,45	0,72	0,58	0,44	0,30	0,18

## 2 rows units - sizes 4-5-6

Entering air temperature: 15 °C

Model	Vdc	Qv m <sup>3</sup> /h	WT: 90 / 70 °C			WT: 90 / 75 °C			WT: 85 / 75 °C			WT: 60 / 55 °C		
			Ph kW	Qw l/h	LAT °C	Ph kW	Qw l/h	LAT °C	Ph kW	Qw l/h	LAT °C	Ph kW	Qw l/h	LAT °C
AT-ECM 42	10	3475	23,84	1025	35,1	26,19	1502	37,0	26,23	2256	37,1	17,28	2972	29,5
	8	3240	23,08	992	35,8	25,31	1451	37,9	25,37	2181	37,9	16,70	2872	30,1
	6	2670	20,99	903	38,0	23,06	1322	40,3	23,09	1985	40,3	15,18	2611	31,6
	4	2070	18,45	793	41,1	20,16	1156	43,5	20,17	1735	43,5	13,28	2284	33,8
	2	1505	15,49	666	45,1	16,92	970	47,9	16,88	1452	47,8	11,10	1909	36,6
	1	1235	13,79	593	47,7	15,06	863	50,7	15,01	1291	50,5	9,87	1698	38,4
AT-ECM 52	10	4380	30,82	1325	35,6	33,50	1921	37,4	33,37	2870	37,3	21,94	3775	29,7
	8	4100	29,87	1285	36,3	32,44	1860	38,1	32,34	2781	38,1	21,25	3655	30,2
	6	3335	26,97	1160	38,7	29,31	1680	40,7	29,19	2510	40,6	19,19	3301	31,8
	4	2635	23,88	1027	41,5	25,93	1487	43,8	25,80	2219	43,6	16,94	2914	33,8
	2	1880	19,86	854	45,9	21,51	1233	48,5	21,35	1836	48,2	14,04	2414	36,8
	1	1545	17,72	762	48,5	19,15	1098	51,3	18,99	1633	51,0	12,46	2144	38,6
AT-ECM 62	10	4970	37,08	1595	36,8	40,07	2297	38,6	39,72	3416	38,4	26,13	4495	30,4
	8	4620	35,80	1540	37,7	38,69	2218	39,5	38,33	3296	39,3	25,19	4333	31,0
	6	3790	32,45	1396	40,0	35,02	2008	42,0	34,72	2986	41,8	22,78	3917	32,6
	4	2980	28,58	1229	43,1	30,82	1767	45,2	30,50	2623	44,9	20,06	3450	34,7
	2	2130	23,68	1018	47,5	25,49	1462	50,0	25,19	2166	49,6	16,54	2846	37,7
	1	1695	20,63	887	50,6	22,15	1270	53,2	21,87	1880	52,7	14,36	2470	39,8

**WT:** Water temperature  
**Vdc:** Inverter power  
**Qv:** Air flow  
**Ph:** Heating emission  
**Qw:** Water flow rate  
**LAT:** Leaving air temperature

### Correction factors (for working conditions different from those shown in the table)

T <sub>air</sub>	ΔT <sub>water</sub> 20 °C					ΔT <sub>water</sub> 15 °C					ΔT <sub>water</sub> 10 °C					ΔT <sub>water</sub> 5 °C				
	90/70	85/65	80/60	75/55	70/50	90/75	85/70	80/65	75/60	70/55	85/75	80/70	75/65	70/60	65/55	60/55	55/50	50/45	45/40	40/35
-5	1,40	1,30	1,20	1,10	1,00	1,40	1,30	1,20	1,10	1,00	1,40	1,30	1,20	1,10	1,00	1,60	1,45	1,30	1,15	1,00
0	1,30	1,20	1,10	1,00	0,88	1,30	1,20	1,10	1,00	0,90	1,30	1,20	1,10	1,00	0,91	1,45	1,30	1,15	1,00	0,86
5	1,20	1,10	1,00	0,88	0,76	1,20	1,10	1,00	0,90	0,80	1,20	1,10	1,00	0,91	0,82	1,30	1,15	1,00	0,86	0,72
10	1,10	1,00	0,88	0,76	0,64	1,10	1,00	0,90	0,80	0,70	1,10	1,00	0,92	0,85	0,77	1,15	1,00	0,86	0,72	0,58
15	1,00	0,88	0,76	0,64	0,52	1,00	0,90	0,80	0,70	0,60	1,00	0,91	0,82	0,72	0,62	1,00	0,86	0,72	0,58	0,44
20	0,90	0,78	0,66	0,54	0,42	0,90	0,80	0,70	0,60	0,50	0,91	0,82	0,72	0,62	0,53	0,86	0,72	0,58	0,44	0,30
25	0,78	0,66	0,54	0,43	0,32	0,80	0,70	0,60	0,60	0,40	0,82	0,72	0,62	0,53	0,45	0,72	0,58	0,44	0,30	0,18

## 3 rows units - sizes 1-2-3

Entering air temperature: 15 °C

Model	Vdc	Qv m <sup>3</sup> /h	WT: 90 / 70 °C			WT: 90 / 75 °C			WT: 85 / 75 °C			WT: 60 / 55 °C		
			Ph kW	Qw l/h	LAT °C	Ph kW	Qw l/h	LAT °C	Ph kW	Qw l/h	LAT °C	Ph kW	Qw l/h	LAT °C
AT-ECM 13	10	1215	10,04	432	39,2	11,59	665	42,9	12,04	1035	44,0	7,96	1369	34,2
	8	1137	9,71	417	39,9	11,19	642	43,7	11,62	999	44,8	7,67	1320	34,7
	6	927	8,71	374	42,4	9,99	573	46,4	10,35	890	47,5	6,83	1175	36,5
	4	728	7,59	326	45,4	8,66	497	49,7	8,94	769	50,8	5,91	1017	38,7
	2	516	6,14	264	49,9	6,96	399	54,6	7,15	615	55,6	4,72	812	41,8
	1	418	5,38	232	52,5	6,08	349	57,3	6,22	535	58,3	4,10	705	43,6
AT-ECM 23	10	1861	15,94	685	40,0	17,94	1029	43,2	18,31	1575	43,8	12,08	2077	34,0
	8	1745	13,61	585	43,6	15,28	876	47,2	15,56	1338	47,7	10,25	1764	36,6
	6	1421	12,55	540	45,5	14,06	806	49,1	14,31	1230	49,7	9,43	1622	37,9
	4	1117	12,06	519	46,5	13,46	772	50,2	13,66	1175	50,7	9,02	1551	38,6
	2	821	9,98	429	50,6	11,09	636	54,6	11,23	966	55,1	7,40	1273	41,4
	1	672	8,76	377	53,2	9,73	558	57,5	9,82	844	57,9	6,46	1111	43,2
AT-ECM 33	10	2592	22,87	983	40,8	25,34	1453	43,6	25,59	2201	43,8	16,84	2897	34,0
	8	2402	21,99	946	41,8	24,34	1395	44,7	24,51	2108	44,9	16,15	2778	34,7
	6	1980	19,78	851	44,2	21,86	1253	47,3	22,03	1894	47,5	14,52	2497	36,4
	4	1555	17,25	742	47,4	19,00	1089	50,7	19,11	1644	51,0	12,57	2162	38,6
	2	1100	13,94	599	52,1	15,31	878	55,7	15,35	1320	55,8	10,10	1737	41,9
	1	876	12,01	516	55,1	13,15	754	58,9	13,17	1133	59,0	8,65	1488	43,9

**WT:** Water temperature  
**Vdc:** Inverter power  
**Qv:** Air flow  
**Ph:** Heating emission  
**Qw:** Water flow rate  
**LAT:** Leaving air temperature

### Correction factors (for working conditions different from those shown in the table)

T <sub>air</sub>	ΔT <sub>water</sub> 20 °C					ΔT <sub>water</sub> 15 °C					ΔT <sub>water</sub> 10 °C					ΔT <sub>water</sub> 5 °C				
	90/70	85/65	80/60	75/55	70/50	90/75	85/70	80/65	75/60	70/55	85/75	80/70	75/65	70/60	65/55	60/55	55/50	50/45	45/40	40/35
-5	1,40	1,30	1,20	1,10	1,00	1,40	1,30	1,20	1,10	1,00	1,40	1,30	1,20	1,10	1,00	1,60	1,45	1,30	1,15	1,00
0	1,30	1,20	1,10	1,00	0,88	1,30	1,20	1,10	1,00	0,90	1,30	1,20	1,10	1,00	0,91	1,45	1,30	1,15	1,00	0,86
5	1,20	1,10	1,00	0,88	0,76	1,20	1,10	1,00	0,90	0,80	1,20	1,10	1,00	0,91	0,82	1,30	1,15	1,00	0,86	0,72
10	1,10	1,00	0,88	0,76	0,64	1,10	1,00	0,90	0,80	0,70	1,10	1,00	0,92	0,85	0,77	1,15	1,00	0,86	0,72	0,58
15	1,00	0,88	0,76	0,64	0,52	1,00	0,90	0,80	0,70	0,60	1,00	0,91	0,82	0,72	0,62	1,00	0,86	0,72	0,58	0,44
20	0,90	0,78	0,66	0,54	0,42	0,90	0,80	0,70	0,60	0,50	0,91	0,82	0,72	0,62	0,53	0,86	0,72	0,58	0,44	0,30
25	0,78	0,66	0,54	0,43	0,32	0,80	0,70	0,60	0,60	0,40	0,82	0,72	0,62	0,53	0,45	0,72	0,58	0,44	0,30	0,20

### 3 rows units - sizes 4-5-6

Entering air temperature: 15 °C

Model	Vdc	Qv m <sup>3</sup> /h	WT: 90 / 70 °C			WT: 90 / 75 °C			WT: 85 / 75 °C			WT: 60 / 55 °C		
			Ph kW	Qw l/h	LAT °C	Ph kW	Qw l/h	LAT °C	Ph kW	Qw l/h	LAT °C	Ph kW	Qw l/h	LAT °C
AT-ECM 43	10	3020	28,96	1245	43,1	31,68	1817	45,7	31,69	2725	45,7	20,82	3582	35,2
	8	2816	27,84	1197	43,9	30,45	1746	46,6	30,46	2619	46,7	20,05	3448	35,8
	6	2321	24,98	1074	46,5	27,30	1565	49,4	27,22	2341	49,3	17,91	3081	37,6
	4	1799	21,50	924	49,9	23,44	1344	53,1	23,39	2011	53,0	15,36	2642	40,0
	2	1310	17,61	757	54,3	19,12	1096	57,7	19,04	1638	57,5	12,52	2153	42,9
	1	1073	15,45	664	57,0	16,74	960	60,6	16,61	1428	60,2	10,92	1878	44,7
AT-ECM 53	10	3910	37,79	1625	43,3	41,02	2352	45,7	40,84	3513	45,6	26,84	4617	35,1
	8	3658	36,47	1568	44,2	39,59	2270	46,6	39,34	3384	46,4	25,84	4445	35,7
	6	2977	32,53	1399	46,9	35,22	2019	49,6	34,96	3007	49,3	23,01	3958	37,6
	4	2355	28,30	1217	50,2	30,60	1755	53,0	30,38	2613	52,7	19,95	3432	39,8
	2	1681	22,88	984	54,8	24,69	1416	58,0	24,42	2100	57,5	16,05	2761	42,9
	1	1379	20,04	862	57,5	21,63	1240	60,8	21,35	1836	60,3	14,01	2411	44,7
AT-ECM 63	10	4517	45,72	1966	44,6	49,23	2823	46,9	48,80	4197	46,6	32,05	5513	35,7
	8	4198	43,85	1886	45,5	47,32	2713	48,0	46,82	4026	47,6	30,73	5285	36,4
	6	3444	39,16	1684	48,3	42,18	2418	50,8	41,70	3586	50,4	27,38	4709	38,2
	4	2710	33,93	1459	51,6	36,51	2093	54,4	36,04	3099	53,9	23,65	4069	40,5
	2	1936	27,40	1178	56,3	29,39	1685	59,3	28,97	2491	58,7	19,00	3268	43,7
	1	1539	23,37	1005	59,4	25,06	1437	62,6	24,65	2120	61,8	16,20	2786	45,8

**WT:** Water temperature  
**Vdc:** Inverter power  
**Qv:** Air flow  
**Ph:** Heating emission  
**Qw:** Water flow rate  
**LAT:** Leaving air temperature

### Correction factors (for working conditions different from those shown in the table)

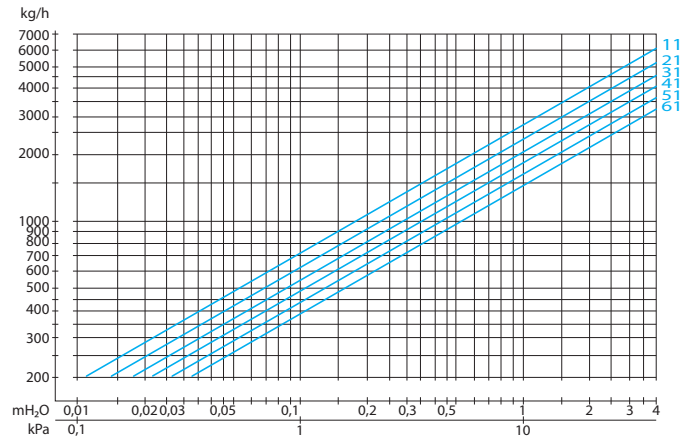
T <sub>air</sub>	ΔT <sub>water</sub> 20 °C					ΔT <sub>water</sub> 15 °C					ΔT <sub>water</sub> 10 °C					ΔT <sub>water</sub> 5 °C				
	90/70	85/65	80/60	75/55	70/50	90/75	85/70	80/65	75/60	70/55	85/75	80/70	75/65	70/60	65/55	60/55	55/50	50/45	45/40	40/35
-5	1,40	1,30	1,20	1,10	1,00	1,40	1,30	1,20	1,10	1,00	1,40	1,30	1,20	1,10	1,00	1,60	1,45	1,30	1,15	1,00
0	1,30	1,20	1,10	1,00	0,88	1,30	1,20	1,10	1,00	0,90	1,30	1,20	1,10	1,00	0,91	1,45	1,30	1,15	1,00	0,86
5	1,20	1,10	1,00	0,88	0,76	1,20	1,10	1,00	0,90	0,80	1,20	1,10	1,00	0,91	0,82	1,30	1,15	1,00	0,86	0,72
10	1,10	1,00	0,88	0,76	0,64	1,10	1,00	0,90	0,80	0,70	1,10	1,00	0,92	0,85	0,77	1,15	1,00	0,86	0,72	0,58
15	1,00	0,88	0,76	0,64	0,52	1,00	0,90	0,80	0,70	0,60	1,00	0,91	0,82	0,72	0,62	1,00	0,86	0,72	0,58	0,44
20	0,90	0,78	0,66	0,54	0,42	0,90	0,80	0,70	0,60	0,50	0,91	0,82	0,72	0,62	0,53	0,86	0,72	0,58	0,44	0,30
25	0,78	0,66	0,54	0,43	0,32	0,80	0,70	0,60	0,60	0,40	0,82	0,72	0,62	0,53	0,45	0,72	0,58	0,44	0,30	0,20

## WATER SIDE PRESSURE DROP

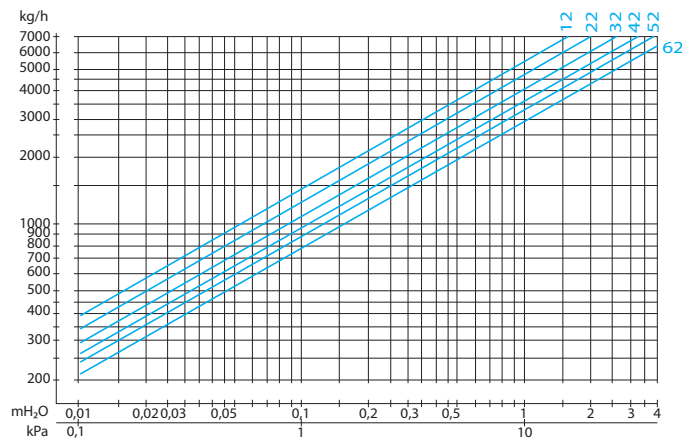
Pressure drops in m H<sub>2</sub>O of each **Atlas ECM** unit heater model according with the water flow rate in Kg/h at

the medium temperature of 80 °C can be read on the diagrams.

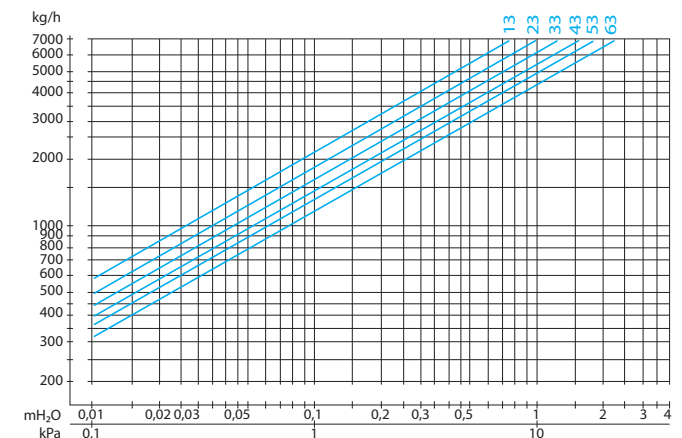
### 1 row



### 2 rows



### 3 rows



### Correction factors for different temperatures

°C	50	60	70	90	100	110	120	130	140	150
K	1,15	1,10	1,05	0,95	0,89	0,83	0,78	0,72	0,67	0,61





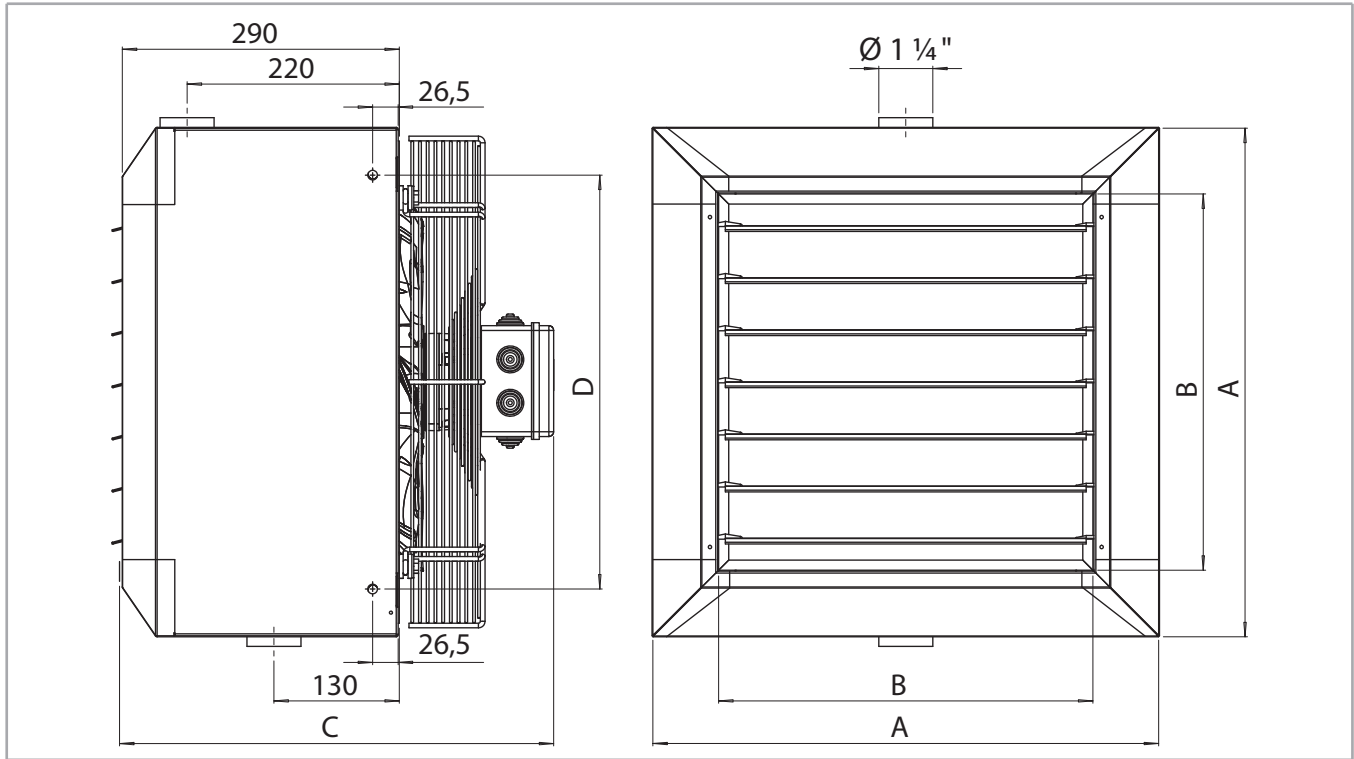
## OPERATING LIMITS

Description		UoM	Value
Water flow	Highest working pressure	bars	16
		kPa	1600
	Highest water inlet temperature	°C	+90

## Motor electrical data (max. absorption)

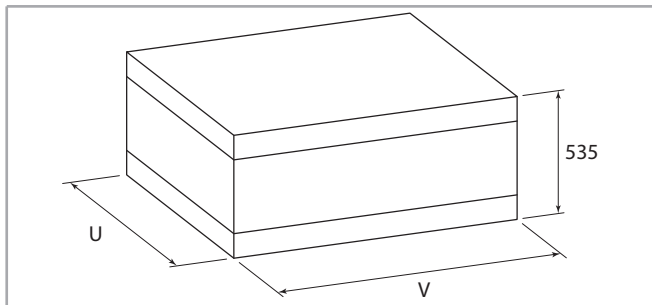
Model		AT-ECM 1	AT-ECM 2	AT-ECM 3	AT-ECM 4	AT-ECM 5	AT-ECM 6
Motor absorption	W	90	158	243	253	333	387
Current absorbed	A	0,72	1,16	1,77	1,84	2,29	2,59

## DIMENSIONS



Model		AT-ECM 1	AT-ECM 2	AT-ECM 3	AT-ECM 4	AT-ECM 5	AT-ECM 6
A	mm	472	526	580	634	688	742
B	mm	336	390	444	498	552	606
C	mm	495	495	500	500	510	510
D	mm	375	429	483	537	591	645

## Packed unit



Model		1	2	3	4	5	6
U	mm	515	570	625	680	730	790
V	mm	535	590	645	700	750	810

## Weight

Model		11	12	13	21	22	23	31	32	33	41	42	43	51	52	53	61	62	63
Weight with packaging	kg	21,0	24,0	26,0	24,5	27,5	29,5	28,5	32,5	35,5	33,0	37,0	41,0	36,0	43,0	47,0	41,5	49,5	54,5
Weight without packaging	kg	19,0	22,0	24,0	22,0	25,0	27,0	26,0	30,0	33,0	30,0	34,0	38,0	33,0	40,0	44,0	38,0	46,0	51,0

## Water content

Model		11	12	13	21	22	23	31	32	33	41	42	43	51	52	53	61	62	63
Water content	l	1,3	2,6	3,9	1,6	3,2	4,8	1,9	3,8	5,7	2,3	4,6	6,9	3,0	6,0	9,0	3,5	7,0	10,5

## CONFIGURATION

For this unit heaters configuration, the 1-10 Vdc signal, which controls the inverter, must be supplied by a controller with the following signal specifications.

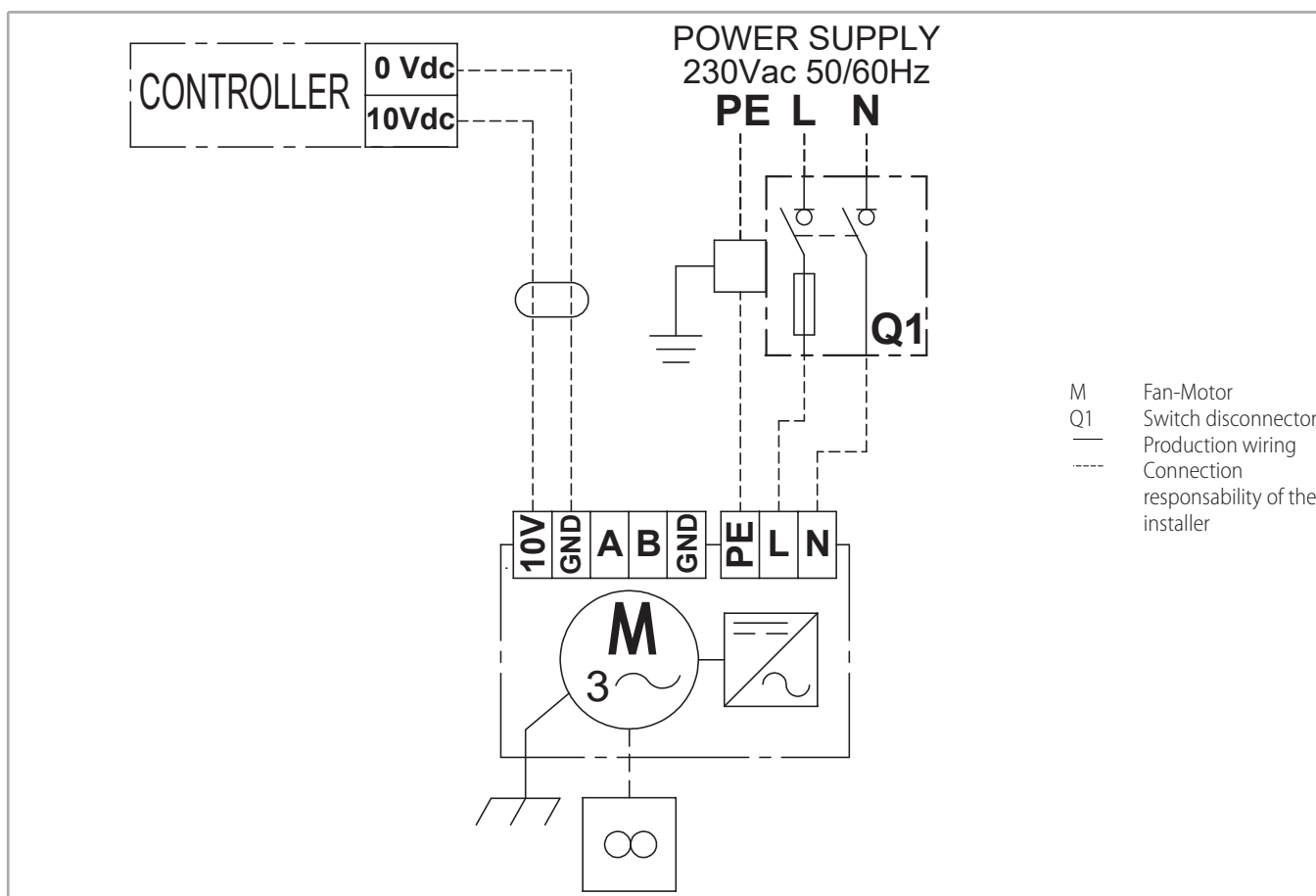
### Configuration for all sizes

#### Controller characteristics

- 0÷10 Vdc Circuit Input Impedance Value = 10 kOhm
- Maximum speed 10 Vdc
- Fan OFF with  $V < 1$  Vdc
- Fan ON with  $V > 1.2$  Vdc

⚠ The speed range to use depends from the type of operating mode:

- for the heating mode the range is included between 1.2 V (minimum speed) and 10 V (maximum speed)
- for the cooling mode the range is included between 1.2 V (minimum speed) and 4 V (maximum speed)



## JETSTREAM INDUCTION FLOW OPTIMIZER

### Main components

The **Jetstream** induction flow optimizer allows the reduction of the mean leaving air temperature from the Atlas ECM Sabiana unit heaters and to increase the throw of the equipment with considerable advantages both in terms of energy saving and environment comfort.

The **Jetstream** induction flow optimizers increase the air speed thanks to the special shape of its deflecting louvres which allow the creation of various streams of hot air at the unit heater outlet.

The depression created between the layers induces a lateral aspiration of ambient air that mixes with the air heated by the unit, thus reducing the leaving air temperature and increasing the throw.

The leaving air temperature from the units has a decisive influence on hot air stratification and consequently on energy saving: for each degree of decrease in ambient temperature there is a 1.5% decrease in energy consumption.

The use of **Jetstream** induction flow optimizer has the following advantages:

#### Energy saving:

- reduced hot air stratification within the building;
- reduced operating time of the units with the same ambient temperature.

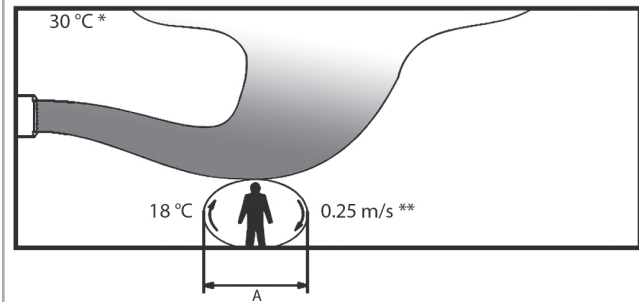
Energy saving varies between a minimum of 5% and a maximum of 15%, with maximum payback in two seasons.

#### Environmental comfort advantages:

- increased floor temperature uniformity with greater comfort area;
- possibility to install smaller and quieter units, due to the increase of the throw.

### Air flow produced by a unit heater WITHOUT induction flow optimizer

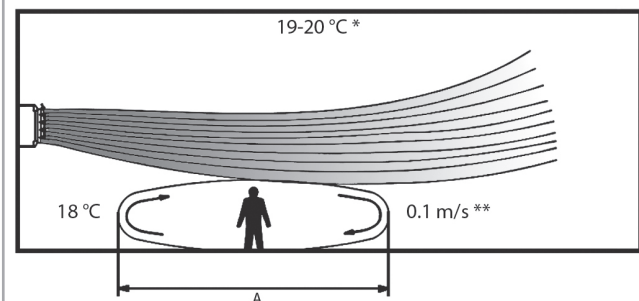
**Time necessary to reach the room temperature of 18 °C = 40 minutes**



A = influence area  
 \* = temperature under the ceiling  
 \*\* = air speed

### Air flow produced by a unit heater WITH induction flow optimizer

**Time necessary to reach the room temperature of 18 °C = 25 minutes**



A = influence area  
 \* = temperature under the ceiling  
 \*\* = air speed

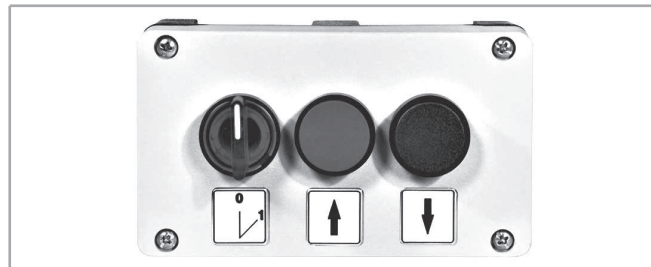
## Available versions

Four versions are available:

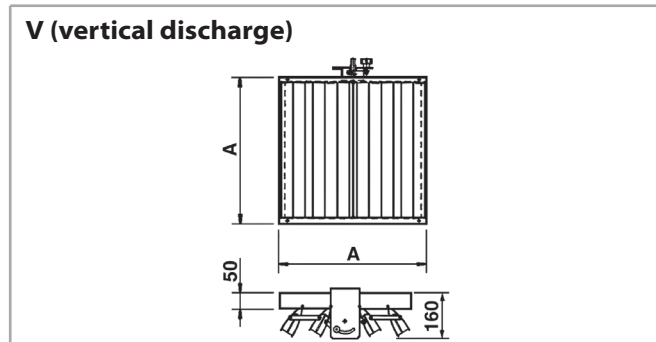
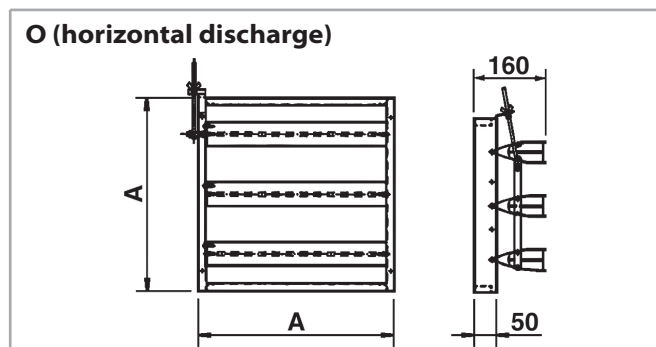
- Manual for horizontal discharge
- Manual for vertical discharge
- Motorized for horizontal discharge
- Motorized for vertical discharge

The **manually controlled** version provides the manual adjustment of the louvres and their locking with a special threaded rod.

The **motorized** version is supplied with an electric single phase servomotor, that can be controlled by the remote switch.



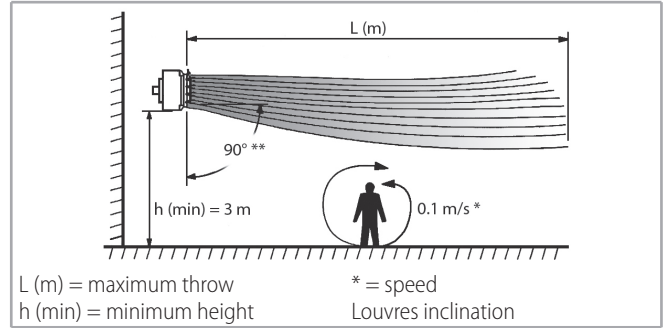
## Dimension and weight



Model		A mm	Peso kg
0-1	V-1	368	1,4
0-2	V-2	422	1,7
0-3	V-3	476	1,8
0-4	V-4	530	2,0
0-5	V-5	584	2,2
0-6	V-6	638	2,4

## Mounting heights and air throw

### Wall installation for horizontal discharge



MODEL		AT-ECM 11						AT-ECM 12						AT-ECM 13					
		1	2	4	6	8	10	1	2	4	6	8	10	1	2	4	6	8	10
Inverter power																			
Speed	rpm	513	609	820	1017	1224	1301	513	609	820	1017	1224	1301	513	609	820	1017	1224	1301
Air flow	m <sup>3</sup> /h	477	588	830	1057	1296	1385	440	540	765	975	1195	1275	418	516	728	927	1137	1215
Wall installation : Throw	m	4,0	4,5	5,0	5,5	6,0	6,5	4,0	4,5	5,0	5,0	5,5	6,0	4,0	4,5	4,5	5,0	5,5	6,0
L air throw with optimizer	m	6,5	7,0	8,0	8,5	9,5	10,5	6,0	7,0	8,0	8,0	9,0	9,5	6,0	7,0	7,0	8,0	8,5	9,5

MODEL		AT-ECM 21						AT-ECM 22						AT-ECM 23					
		1	2	4	6	8	10	1	2	4	6	8	10	1	2	4	6	8	10
Inverter power																			
Speed	rpm	518	617	812	1012	1225	1301	518	617	812	1012	1225	1301	518	617	812	1012	1225	1301
Air flow	m <sup>3</sup> /h	767	936	1274	1620	1989	2121	705	860	1175	1490	1830	1955	672	821	1117	1421	1745	1861
Wall installation : Throw	m	5,0	5,5	6,0	6,5	7,0	8,0	4,5	5,0	5,5	5,7	7,0	7,5	4,5	5,0	5,5	6,0	6,5	7,0
L air throw with optimizer	m	8,0	8,5	9,5	10,5	11,0	12,5	7,0	8,0	8,5	9,0	11,0	12,0	7,0	8,0	8,5	9,5	10,0	11,0

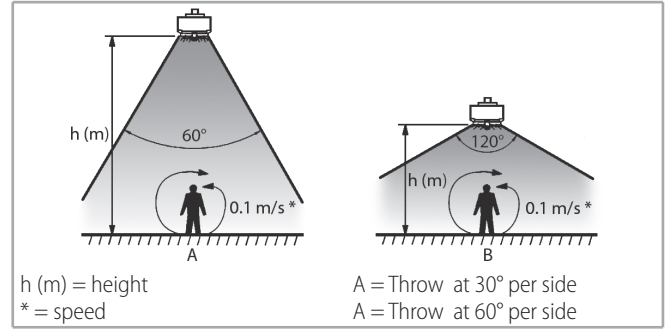
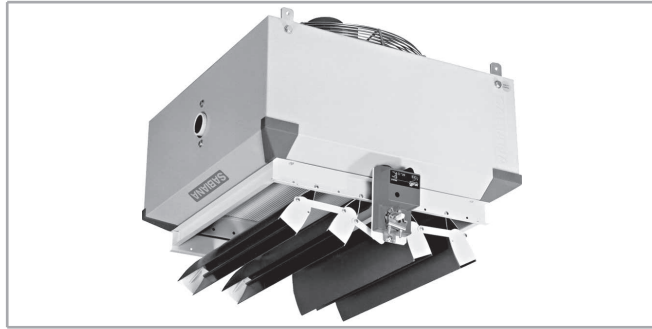
MODEL		AT-ECM 31						AT-ECM 32						AT-ECM 33					
		1	2	4	6	8	10	1	2	4	6	8	10	1	2	4	6	8	10
Inverter power																			
Speed	rpm	502	606	818	1016	1212	1300	502	606	818	1016	1212	1300	502	606	818	1016	1212	1300
Air flow	m <sup>3</sup> /h	1025	1287	1819	2317	2810	3032	935	1175	1665	2120	2570	2775	876	1100	1555	1980	2402	2592
Wall installation : Throw	m	6,5	7,5	8,5	10,0	11,0	12,0	6,5	7,0	8,0	9,0	10,0	10,5	6,0	7,0	8,0	8,5	9,5	10,0
L air throw with optimizer	m	8,5	10,0	11,0	13,5	14,5	16,0	8,5	9,0	10,5	12,0	13,5	14,0	8,0	9,0	10,5	11,0	12,5	13,5

MODEL		AT-ECM 41						AT-ECM 42						AT-ECM 43					
		1	2	4	6	8	10	1	2	4	6	8	10	1	2	4	6	8	10
Inverter power																			
Speed	rpm	518	613	810	1019	1218	1299	518	613	810	1019	1218	1299	518	613	810	1019	1218	1299
Air flow	m <sup>3</sup> /h	1460	1780	2445	3155	3830	4110	1235	1505	2070	2670	3240	3475	1073	1310	1799	2321	2816	3020
Wall installation : Throw	m	8,5	9,5	11,0	12,5	14,0	14,5	6,5	7,0	8,5	9,6	11,0	12,5	6,0	6,5	8,0	9,0	10,0	11,0
L air throw with optimizer	m	11,0	12,0	14,0	16,0	18,0	18,5	8,0	9,0	11,0	12,0	14,0	16,0	7,5	8,0	10,0	11,5	13,0	14,0

MODEL		AT-ECM 51						AT-ECM 52						AT-ECM 53					
		1	2	4	6	8	10	1	2	4	6	8	10	1	2	4	6	8	10
Inverter power																			
Speed	rpm	519	612	821	1013	1224	1302	519	612	821	1013	1224	1302	519	612	821	1013	1224	1302
Air flow	m <sup>3</sup> /h	1790	2185	3060	3870	4755	5085	1545	1880	2635	3335	4100	4380	1379	1681	2355	2977	3658	3910
Wall installation : Throw	m	10	12,6	15,0	17,0	19,0	19,0	8,0	10,5	12,0	14,0	15,0	15,0	7,0	9,0	10,5	12,0	13,0	13,0
L air throw with optimizer	m	11,0	15,0	18,0	21,0	24,0	24,0	8,5	12,0	14,5	16,5	18,0	18,0	7,0	10,0	12,0	14,5	15,5	15,5

MODEL		AT-ECM 61						AT-ECM 62						AT-ECM 63					
		1	2	4	6	8	10	1	2	4	6	8	10	1	2	4	6	8	10
Inverter power																			
Speed	rpm	510	615	821	1016	1216	1301	510	615	821	1016	1216	1301	510	615	821	1016	1216	1301
Air flow	m <sup>3</sup> /h	1895	2380	3335	4235	5165	5555	1695	2130	2980	3790	4620	4970	1539	1936	2710	3444	4198	4517
Wall installation : Throw	m	11,0	14,0	17,0	20,0	22,0	22,0	9,0	11,5	13,5	16,0	17,0	17,0	8,0	9,5	11,5	13,5	14,5	14,5
L air throw with optimizer	m	12,5	17,0	21,0	25,0	27,5	27,5	10,0	13,0	16,0	19,5	21,0	21,0	8,5	11,0	13,0	16,0	17,5	17,5

## Ceiling installation for vertical discharge



MODEL	AT-ECM 11						AT-ECM 12						AT-ECM 13						
	Inverter power	1	2	4	6	8	10	1	2	4	6	8	10	1	2	4	6	8	10
Speed	rpm	513	609	820	1017	1224	1301	513	609	820	1017	1224	1301	513	609	820	1017	1224	1301
Air flow	m <sup>3</sup> /h	477	588	830	1057	1296	1385	440	540	765	975	1195	1275	418	516	728	927	1137	1215
Ceiling installation : Height	m	-	-	-	2,5	3,0	3,5	-	-	-	2,5	3,0	3,0	-	-	-	2,6	3,0	3,0
Ceiling installation : Height h with optimizer at 60°	m	-	-	-	3	4	4,5	-	-	-	3	4	4	-	-	-	3	4	4
Ceiling installation : Height h with optimizer at 120°	m	-	-	-	2,5	3	3,5	-	-	-	2,5	3	3	-	-	-	2,6	3	3

MODEL	AT-ECM 21						AT-ECM 22						AT-ECM 23						
	Inverter power	1	2	4	6	8	10	1	2	4	6	8	10	1	2	4	6	8	10
Speed	rpm	518	617	812	1012	1225	1301	518	617	812	1012	1225	1301	518	617	812	1012	1225	1301
Air flow	m <sup>3</sup> /h	767	936	1274	1620	1989	2121	705	860	1175	1490	1830	1955	672	821	1117	1421	1745	1861
Ceiling installation : Height	m	-	-	-	3,0	3,5	4,0	-	-	-	3,0	3,5	3,5	-	-	-	3,0	3,0	3,5
Ceiling installation : Height h with optimizer at 60°	m	-	-	-	4,5	5,5	6,5	-	-	-	4,5	5,5	5,5	-	-	-	4,5	4,5	5,5
Ceiling installation : Height h with optimizer at 120°	m	-	-	-	3,2	3,7	4,3	-	-	-	3,2	3,7	3,7	-	-	-	3,2	3,2	3,7

MODEL	AT-ECM 31						AT-ECM 32						AT-ECM 33						
	Inverter power	1	2	4	6	8	10	1	2	4	6	8	10	1	2	4	6	8	10
Speed	rpm	502	606	818	1016	1212	1300	502	606	818	1016	1212	1300	502	606	818	1016	1212	1300
Air flow	m <sup>3</sup> /h	1025	1287	1819	2317	2810	3032	935	1175	1665	2120	2570	2775	876	1100	1555	1980	2402	2592
Ceiling installation : Height	m	-	-	3,5	4,0	4,0	4,5	-	-	3,5	3,5	4,0	4,0	-	-	-	3,5	3,5	4,0
Ceiling installation : Height h with optimizer at 60°	m	-	-	5,5	6,5	6,5	7,5	-	-	5,5	5,5	6,5	6,5	-	-	-	5,5	5,5	6,5
Ceiling installation : Height h with optimizer at 120°	m	-	-	4	5	5	5,5	-	-	4	4	5	5	-	-	-	4	4	5

MODEL	AT-ECM 41						AT-ECM 42						AT-ECM 43						
	Inverter power	1	2	4	6	8	10	1	2	4	6	8	10	1	2	4	6	8	10
Speed	rpm	518	613	810	1019	1218	1299	518	613	810	1019	1218	1299	518	613	810	1019	1218	1299
Air flow	m <sup>3</sup> /h	1460	1780	2445	3155	3830	4110	1235	1505	2070	2670	3240	3475	1073	1310	1799	2321	2816	3020
Ceiling installation : Height	m	-	-	4,0	4,5	5,0	5,0	-	-	3,5	4,0	4,0	4,5	-	-	-	3,5	4,0	4,0
Ceiling installation : Height h with optimizer at 60°	m	-	-	7	8	9	9	-	-	6	7	7	8	-	-	-	6	7	7
Ceiling installation : Height h with optimizer at 120°	m	-	-	4,5	5	6	6	-	-	4	4,5	4,5	4	-	-	-	4	4,5	4,5



MODEL		AT-ECM 51						AT-ECM 52						AT-ECM 53						
Inverter power		1	2	4	6	8	10	1	2	4	6	8	10	1	2	4	6	8	10	
Speed	rpm	519	612	821	1013	1224	1302	519	612	821	1013	1224	1302	519	612	821	1013	1224	1302	
Air flow	m <sup>3</sup> /h	1790	2185	3060	3870	4755	5085	1545	1880	2635	3335	4100	4380	1379	1681	2355	2977	3658	3910	
Ceiling installation : Height		m	-	-	5,0	5,5	6,0	6,0	-	-	4,5	5,0	5,0	5,0	-	-	4,0	4,5	5,0	5,0
Ceiling installation : Height h with optimizer at 60°		m	-	-	9	9,5	10,5	10,5	-	-	8	9	9	9	-	-	7,2	8,1	9	9
Ceiling installation : Height h with optimizer at 120°		m	-	-	5,5	6,5	7	7	-	-	5	5,5	5,5	5,5	-	-	4,5	5	5,5	5,5

MODEL		AT-ECM 61						AT-ECM 62						AT-ECM 63						
Inverter power		1	2	4	6	8	10	1	2	4	6	8	10	1	2	4	6	8	10	
Speed	rpm	510	615	821	1016	1216	1301	510	615	821	1016	1216	1301	510	615	821	1016	1216	1301	
Air flow	m <sup>3</sup> /h	1895	2380	3335	4235	5165	5555	1695	2130	2980	3790	4620	4970	1539	1936	2710	3444	4198	4517	
Ceiling installation : Height		m	-	-	5,5	6,0	6,5	6,5	-	-	5,0	5,0	5,5	5,5	-	-	4,5	5,0	5,0	5,0
Ceiling installation : Height h with optimizer at 60°		m	-	-	9,5	10,5	11,5	11,5	-	-	9	9	9,5	9,5	-	-	8	9	9	9
Ceiling installation : Height h with optimizer at 120°		m	-	-	6	6,5	7,5	7,5	-	-	5,5	5,5	6	6	-	-	5	5,5	5,5	5,5



## ACCESSORIES

### Valves

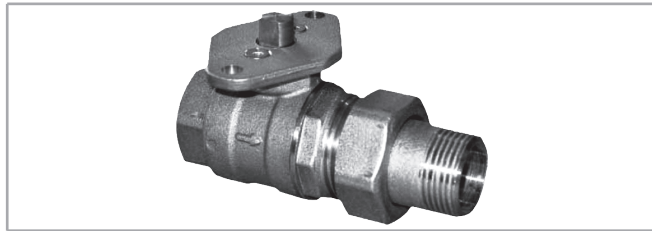
#### 2 way water valves

Components:

- one 2 way valve
- one ON-OFF 230 V actuator

Model	DN	Kvs m <sup>3</sup> /h	Actuator V	NOT FITTED	
				Code	ID
1-2-3-4-5-6	1"	50,0	230V	9008111	VA2V - 1"
1-2-3-4-5-6	3/4"	30,0	230V	9008110	VA2V - 3/4"

Heating	
Min. entering water temperature	15 °C
Max. entering water temperature	90 °C



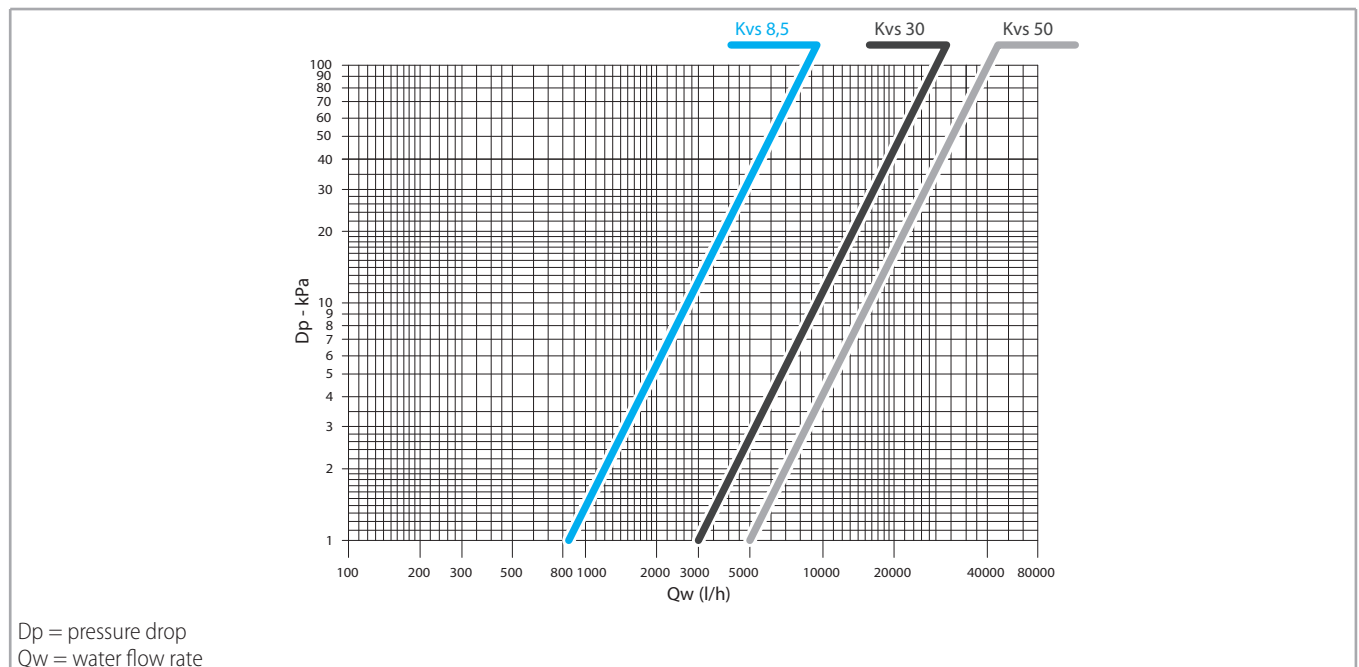
#### 3 way water valves

Components:

- one 3 way valve
- one ON-OFF 230 V actuator

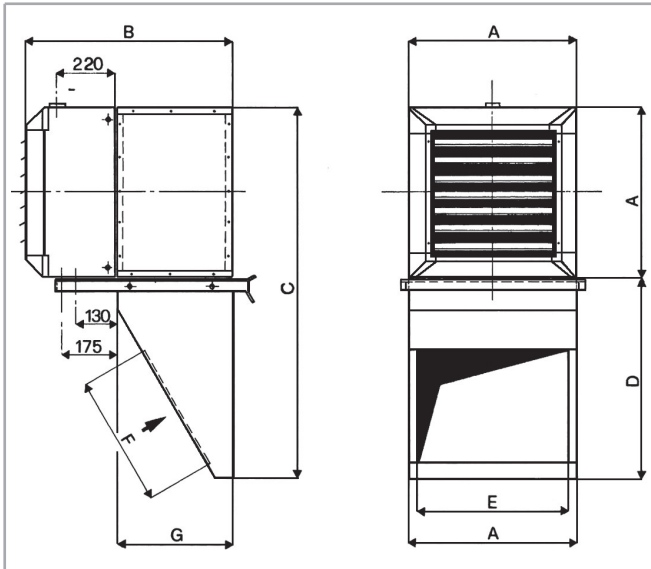
Model	DN	Kvs m <sup>3</sup> /h	Actuator V	NOT FITTED	
				Code	ID
1-2-3-4-5-6	3/4"	8,5	230V	9008112	VA3V - 3/4"

Heating	
Min. entering water temperature	15 °C
Max. entering water temperature	90 °C



## ARC air box

Simple intake hood fitted underneath.  
Wall bracket included.  
Prepainted steel thickness 1 mm.



Model	Code	ID
1	9007451	ARC-1
2	9007452	ARC-2
3	9007453	ARC-3
4	9007454	ARC-4
5	9007455	ARC-5
6	9007456	ARC-6

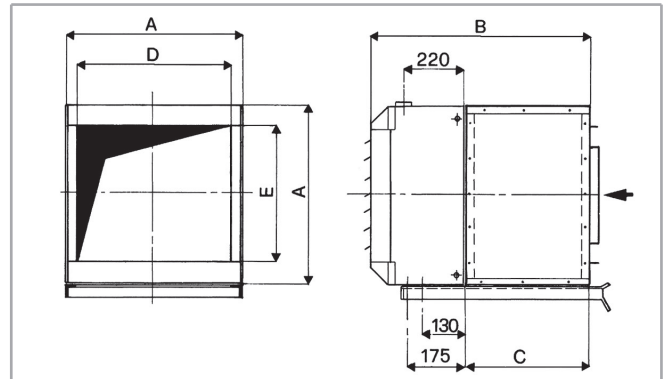
Model	A	B	C	D	E	F	G	Peso
	mm	mm	mm	mm	mm	mm	mm	kg
1	472	660	1072	600	422	410	370	17,6
2	526	660	1126	600	476	410	370	18,7
3	580	660	1180	600	530	510	370	19,8
4	634	760	1534	900	584	510	470	30,8
5	688	760	1588	900	638	610	470	33,0
6	742	760	1642	900	692	610	470	35,2

### K correction factors

Air flow	K	0,90
Heat emission	K	0,95

## AE air box

Fresh air box.  
Prepainted steel thickness 1 mm.



Model	Code	ID
1	9007471	AE-1
2	9007472	AE-2
3	9007473	AE-3
4	9007474	AE-4
5	9007475	AE-5
6	9007476	AE-6

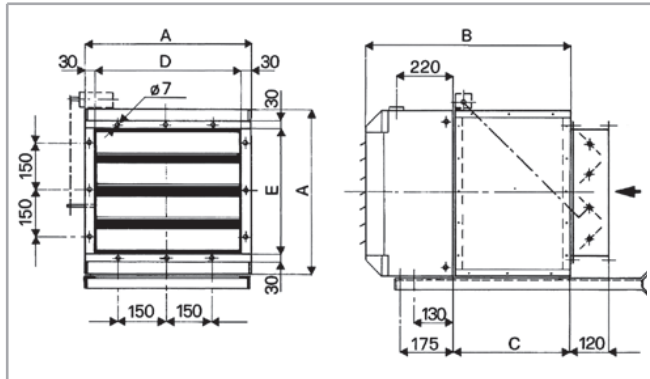
Model	A	B	C	D	E	Peso
	mm	mm	mm	mm	mm	kg
1	472	660	370	412	410	8,8
2	526	660	370	466	410	9,9
3	580	660	370	520	510	11,0
4	634	760	470	574	510	14,3
5	688	760	470	628	610	15,4
6	742	760	470	682	610	16,5

### K correction factors

Air flow	K	0,95
Heat emission	K	0,97

### AES air box

Fresh air box with manually operated damper (can be motorized by the customer).  
Prepainted steel thickness 1 mm.



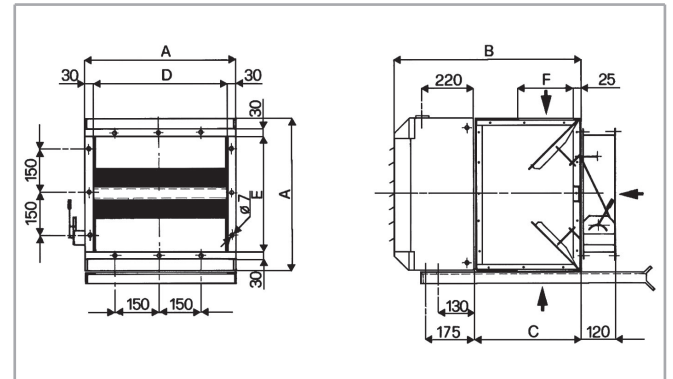
Model	Code	ID
1	9007481	AES-1
2	9007482	AES-2
3	9007483	AES-3
4	9007484	AES-4
5	9007485	AES-5
6	9007486	AES-6

Model	A mm	B mm	C mm	D mm	E mm	Peso kg
1	472	660	370	412	410	16,5
2	526	660	370	466	410	16,5
3	580	660	370	520	510	18,7
4	634	760	470	574	510	24,2
5	688	760	470	628	610	26,4
6	742	760	470	682	610	28,6

K correction factors		
Air flow	K	0,90
Heat emission	K	0,95

### AM air box

Internal/external air mixing box manually controlled.  
Prepainted steel thickness 1 mm.



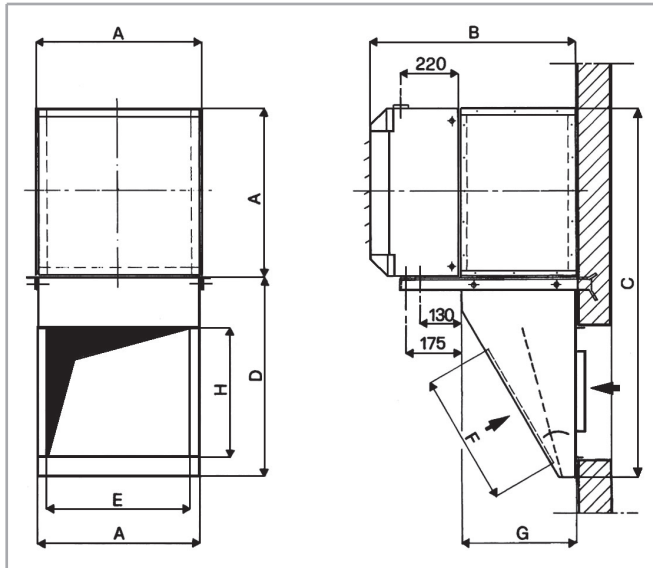
Model	Code	ID
1	9007491	AM-1
2	9007492	AM-2
3	9007493	AM-3
4	9007494	AM-4
5	9007495	AM-5
6	9007496	AM-6

Model	A mm	B mm	C mm	D mm	E mm	F mm	Peso kg
1	472	660	370	412	410	190	12,1
2	526	660	370	466	410	190	13,2
3	580	660	370	520	510	190	15,4
4	634	760	470	574	510	270	18,7
5	688	760	470	628	610	300	19,8
6	742	760	470	682	610	300	22,0

K correction factors		
Air flow	K	0,90
Heat emission	K	0,95

### AMC air box

Double intake hood with internal/external air mixing, manually controlled damper. Wall bracket included. Prepainted steel thickness 1 mm.



Model	Code	ID
1	9007461	AMC-1
2	9007462	AMC-2
3	9007463	AMC-3
4	9007464	AMC-4
5	9007465	AMC-5
6	9007466	AMC-6

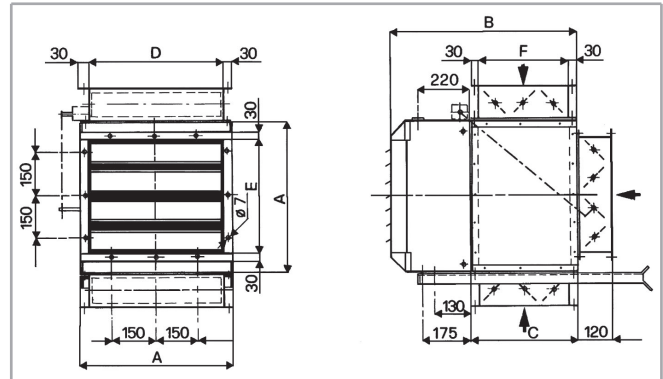
Model	A	B	C	D	E	F	G	H	Peso
	mm	mm	mm	mm	mm	mm	mm	mm	kg
1	472	660	1072	600	412	410	370	410	18,7
2	526	660	1126	600	466	410	370	410	19,8
3	580	660	1180	600	520	510	370	510	20,9
4	634	760	1534	900	574	510	470	510	31,9
5	688	760	1588	900	628	610	470	610	34,1
6	742	760	1642	900	682	610	470	610	36,3

**K correction factors**

Air flow	K	0,90
Heat emission	K	0,95

### AMS air box

Internal/external air mixing box, manually controlled (can be motorized by customer). Prepainted steel thickness 1 mm.



Model	Code	ID
1	9007501	AMS-1
2	9007502	AMS-2
3	9007503	AMS-3
4	9007504	AMS-4
5	9007505	AMS-5
6	9007506	AMS-6

Model	A	B	C	D	E	F	Peso
	mm	mm	mm	mm	mm	mm	kg
1	472	660	370	412	410	310	22,0
2	526	660	370	466	410	310	23,1
3	580	660	370	520	510	310	25,3
4	634	760	470	574	510	410	33,0
5	688	760	470	628	610	410	35,2
6	742	760	470	682	610	410	37,4

**K correction factors**

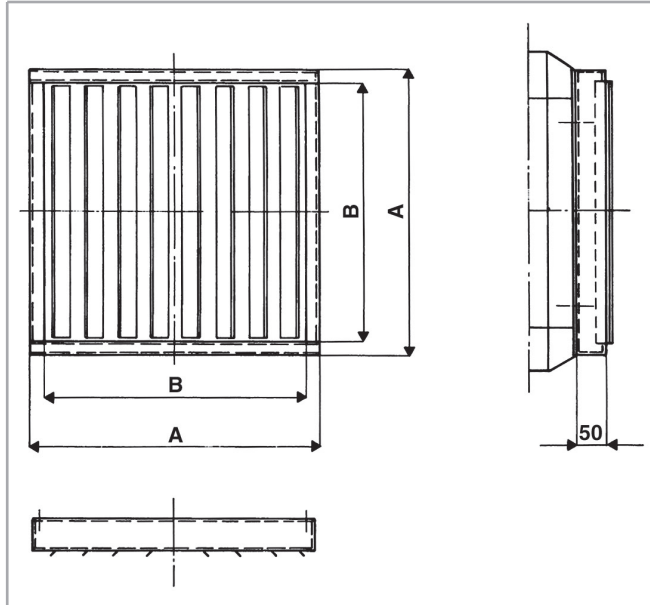
Air flow	K	0,90
Heat emission	K	0,95

### AD accessory - Supplementary diffuser

4 way diffuser.

To be used with unit heaters for vertical discharge, placed at standard heights.

For normal heights of installation.



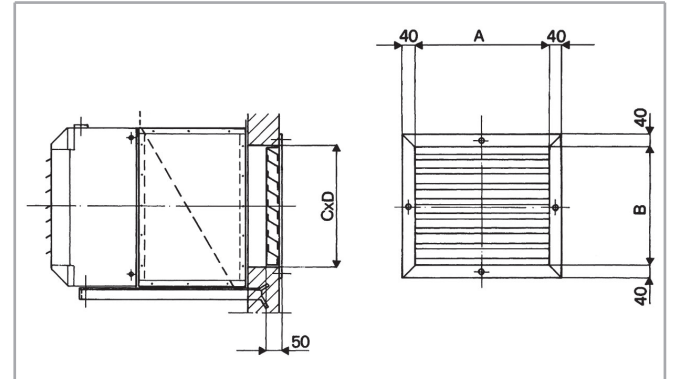
Model	Code	ID
1	9007381	AD-1
2	9007382	AD-2
3	9007383	AD-3
4	9007384	AD-4
5	9007385	AD-5
6	9007386	AD-6

Model	A mm	B mm	Peso kg
1	372	336	1,2
2	426	390	1,3
3	480	444	1,5
4	534	498	1,8
5	588	552	1,9
6	642	606	2,1

### AG accessory - Rainproof grid

External air intake grille suitable with air boxes.

Prepainted steel thickness 1 mm.



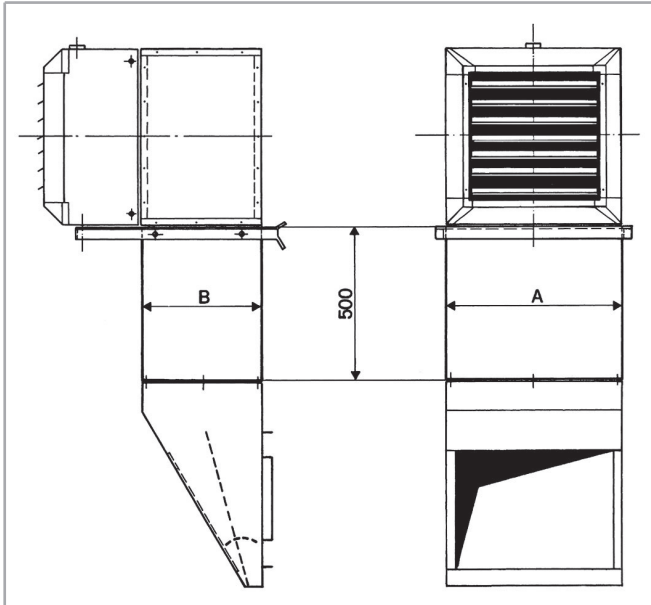
Model	Code	ID
1	9007511	AG-1
2	9007512	AG-2
3	9007513	AG-3
4	9007514	AG-4
5	9007515	AG-5
6	9007516	AG-6

Model	A mm	B mm	C mm	D mm	Peso kg
1	402	400	410	412	3,9
2	456	400	410	466	4,6
3	510	500	510	520	5,4
4	564	500	510	574	6,2
5	618	600	610	628	6,9
6	672	600	610	682	7,7

K correction factors		
Air flow	K	0,97
Heat emission	K	0,97

### AP accessory

Intermediate section for ARC and AMC air boxes.  
Prepainted steel thickness 1 mm.



Model	Code	ID
1	9007521	AP-1
2	9007522	AP-2
3	9007523	AP-3
4	9007524	AP-4
5	9007525	AP-5
6	9007526	AP-6

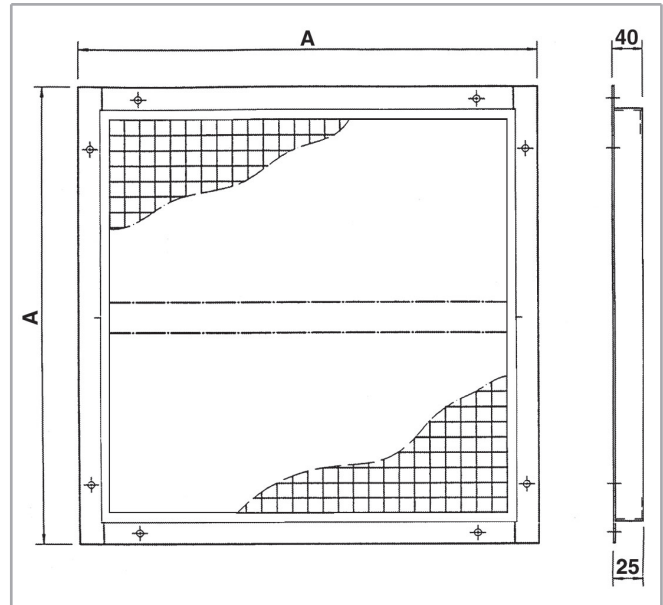
Model	A mm	B mm	Peso kg
1	472	370	9,9
2	526	370	9,9
3	580	370	11,0
4	634	470	12,1
5	688	470	13,2
6	742	470	13,2

#### K correction factors

Air flow	K	0,96
Heat emission	K	0,97

### APP accessory - Ball protection grid

Ball protection grid.

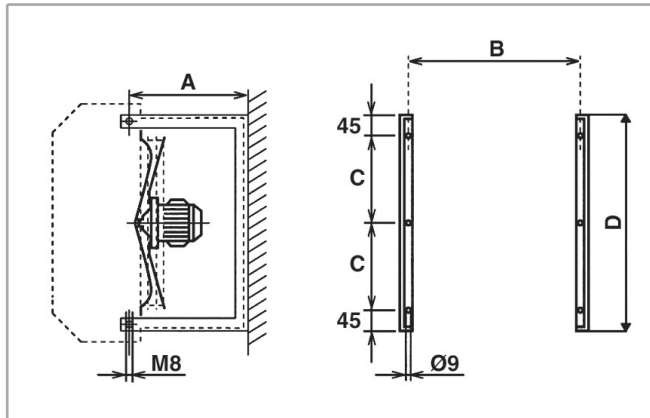


Model	Code	ID
1	9007821	APP-1
2	9007822	APP-2
3	9007823	APP-3
4	9007824	APP-4
5	9007825	APP-5
6	9007826	APP-6

Model	A mm	Peso kg
1	372	2,8
2	426	3,4
3	480	4,2
4	534	5,1
5	588	6,1
6	642	7,0

### AMP accessory

Wall brackets.  
Horizontal air discharge.

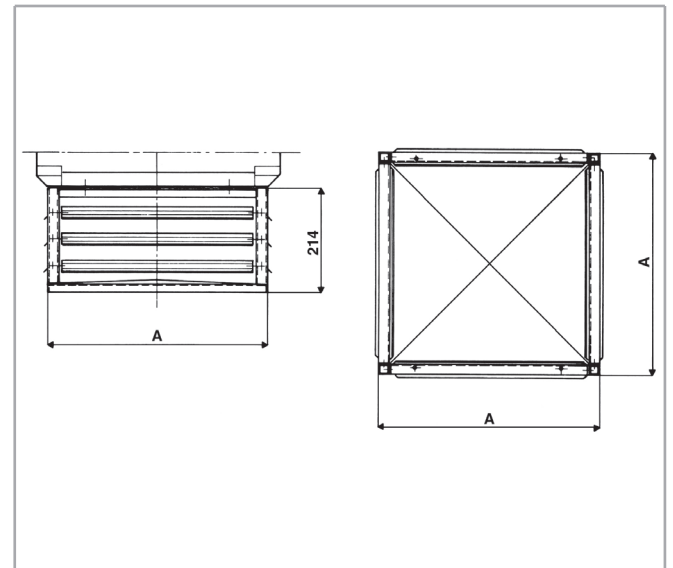


Model	Code	ID
1	6007101	AMP-1
2	6007102	AMP-2
3	6007103	AMP-3
4	6007104	AMP-4
5	6007105	AMP-5
6	6007106	AMP-6

Model	A mm	B mm	C mm	D mm
1	340	442	157,5	405
2	340	496	184,5	459
3	340	550	211,5	513
4	390	604	238,5	567
5	390	658	265,5	621
6	390	712	292,5	675

### AW4 accessory - 4 way diffuser

4 direction louvres.  
To be used with unit heaters for vertical discharge, placed at low heights to direct the flux towards 4 different directions.

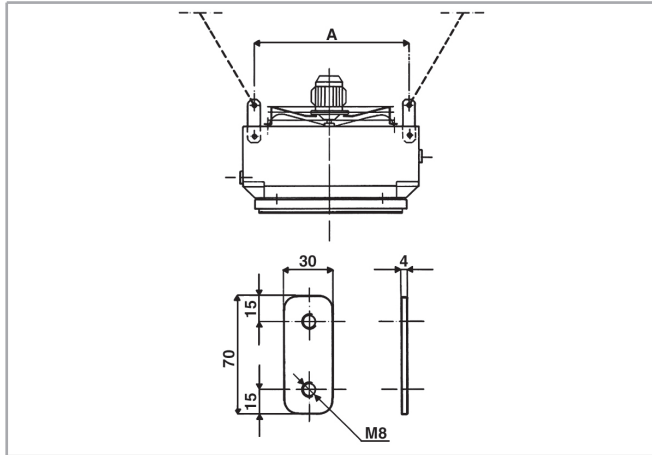


Model	Code	ID
1	9007411	AW4-1
2	9007412	AW4-2
3	9007413	AW4-3
4	9007414	AW4-4
5	9007415	AW4-5
6	9007416	AW4-6

Model	A mm	Peso kg
1	376	2,4
2	430	3,0
3	484	3,4
4	538	4,1
5	592	4,6
6	646	5,3

### AS accessory - Suspension brackets kit

Suspension brackets for ceiling unit heater.  
Vertical air discharge.



Model	Code	ID
1-2-3-4-5-6	9007380	AS

Model	A mm
1	375
2	429
3	483
4	537
5	591
6	645



## CONTROLS

### WM-UH-ECM control board

Model	Code	ID
1-2-3-4-5-6	9008134	WM-UH-ECM



- Recessed or wall control panel
- Plastic casing with transparent cover
- Opening to the electrical terminal board connection
- T-MB mounted with possibility of remote control
- Air temperature probe included
- Defaulted control of until 12 unit heaters

The main characteristics are:

- Selection of the operation mode among: summer/winter/ventilation only
- Configuration of temperature set
- Manual setting of the fan speed switch, progressive at 0,5 Volt steps or automatic
- Weekly operation program
- Night mode setting activable by an external free voltage DO (Digital Output)
- Management of the antifreeze mode in accordance with the detected room temperature, activable by a free voltage DO (Digital Output)

Fan speed control

- The speed range to choose depends from the selected operating mode:
- Heating - the fan works at a minimum - maximum motor range and it uses the complete one 1 - 10 V
- Cooling - the fan works only at a minimum speed range included between 1 - 4 V
- The regulation board can be set for the room temperature control by means of:
  - Fan ON/OFF control
  - Valve ON/OFF control and continuous ventilation
  - Simultaneous control of the valve and fan.

Control mode:

- Relay to manage the water valve actuator on On/Off mode
- Management of the free voltage of the 230 V winding of an external remote control switch for the power supply to the fan motor range

- 0-10 V signal for the fan motors control with inverter board

- Max. number of connectable unit heaters: 12

Contact In 1 to set as:

- Remote ON/OFF control
- Seasonal switch

Contact In 2 to set as:

- Nightly mode activation (set reduction and fan speed setting at 3 V)
- Antifreeze mode activation (it opens the water valve and starts the fan at the minimum speed)

### LC-P220

Model	Code	ID
1-2-3-4-5-6	9008135	LC-P220



0-10 V / 230 V signal generator

The output signal value can be adjusted by means of the frontal handle, the % range shows the set voltage value. Note:

- The electronic motor starts at a minimum voltage value of 1 V. Below this value it stops.
- By the cooling mode the value to set can not overcome 4 V.

### NTC remote probe 10K IP55 for WM-UH-ECM control board

Model	Code	ID
1-2-3-4-5-6	9008136	NTC-10K-WM



Air probe to control at a distance for WM-UH-ECM control board.

### WM-S-ECM control

Model	Code	ID
1-2-3-4-5-6	9066644	WM-S-ECM



0-10V control with display designed to be mounted on the wall or to be installed on a 503 wall box.

- ON/OFF switch
- Manual 3 speed switch or automatic continuous speed control.
- Manual Summer/Winter switch.
- Summer/Winter/Fan/Auto mode push button.
- Electronic room thermostat for fan control (ON-OFF).
- Electronic room thermostat for valve control (ON-OFF) (the fan keeps working).
- Simultaneous thermostatic control of the valves and fan.
- It allows to control the low temperature cut-out thermostat NTC.

Control power absorption: 1,2 VA

Dimensions: 132x87x23,6 mm



IONet, the association of the world's first class certification bodies, is the largest provider of management System Certification in the world. IONet is composed of more than 30 bodies and counts over 150 subsidiaries all over the globe.

CERTIFICATO N. 0545/8  
 CERTIFICATE No. 0545/8

SI CERTIFICA CHE IL SISTEMA DI GESTIONE PER LA QUALITÀ DI  
 WE HEREBY CERTIFY THAT THE QUALITY MANAGEMENT SYSTEM OPERATED BY

**SABIANA S.p.A.**

**Sede e Unità Operativa**  
 Via Piave, 53 - 20011 Corbetta (MI) – Italia  
 Direzione e uffici amministrativi, progettazione, produzione  
 di apparecchiature per il riscaldamento e il condizionamento dell'aria  
 (aerotermi, termostrisce radianti, unità trattamento aria) e canne fumarie.

**Unità Operativa**  
 Via Virgilio, 2 - 20013 Magenta (MI) – Italia  
 Produzione di ventilconvettori, magazzino e logistica.

È CONFORME ALLA NORMA / IS IN COMPLIANCE WITH THE STANDARD

**UNI EN ISO 9001:2015**

Sistema di Gestione per la Qualità / Quality Management System

PER LE SEGUENTI ATTIVITÀ / FOR THE FOLLOWING ACTIVITIES

**EA: 18**

Progettazione, produzione e assistenza di apparecchiature per il riscaldamento  
 e il condizionamento dell'aria (aerotermi, termostrisce radianti,  
 ventilconvettori e unità trattamento aria) e canne fumarie.

*Design, production and service of heating and air conditioning equipment  
 (unit heaters, radiant panels, fan coil units and air handling units) and chimneys.*

Riferirsi alla documentazione del Sistema di Gestione per la Qualità aziendale per l'applicabilità dei requisiti della norma di riferimento.  
 Refer to the documentation of the Quality Management System for details of application to reference standard requirements.

Il presente certificato è soggetto al rispetto del documento ICIM "Regolamento per la certificazione dei sistemi di gestione" e al relativo Schema specifico.  
 The use and the validity of this certificate shall satisfy the requirements of the ICIM document "Rules for the certification of company management systems" and specific Scheme.

Per informazioni puntuali e aggiornate circa eventuali variazioni intervenute nello stato della certificazione di cui al presente certificato,  
 si prega di contattare il n° telefonico +39 02 725341 o indirizzo e-mail info@icim.it.

For timely and updated information about any changes in the certification status referred to in this certificate,  
 please contact the number +39 02 725341 or email address info@icim.it.

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 Rappresentante Direzione / Management Representative  
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