

ATLAS - HELIOS Unit Heaters



Over the seventy years we have been producing industrial and commercial heating equipment, we have recognised the need to keep the design of our products abreast of the ever changing requirements throughout the industry both technically and aesthetically.

Such is the concept for the "Sabiana Unit Heaters". With the continuing improvement in building techniques and material insulation, it is necessary to provide heating equipment with a greater range, producing the air volumes required with the right heat output. Both the "Atlas" and "Helios" unit heaters have been designed to provide these requirements with the best appearance, in particular the "Helios" unit that with its almost futuristic polished aluminium and contoured design is rather special. This smart new concept in commercial heating units will accommodate all architects who are looking for something

new and different!

The "Atlas" and "Helios" units are designed to operate on hot water and steam systems. The model of unit that you would require will depend on the output you require, the leaving air temperature to suit the application, the mounting height and the heating medium. These factors dictate the size of unit, the number of rows in the heater battery and the speed of fan motor. So all factors should be considered when sizing up and selecting the respective model.

The "Atlas" range is available in 10 sizes from 960 m³/h up to over 12500 m³/h. The "Helios" range is available in 6 sizes up to 7400 m³/h and it provides the same performances and the Atlas unit, only the case is different.

Each size has a choice of one, two or three row heat exchangers and each of these combinations can have a 1400, 900 or 700 rpm motor which is provided suitable for



a three phase electrical supply.

The motor can easily be converted to accept a single phase and neutral supply by the introduction of a capacitor, this conversion is carried out by the installing engineer as for the

instruction on page 45.

All these various units can be used for horizontal or vertical discharge, and with the introduction of the various accessories or modifications the range can be adapted to accommodate virtually all applications.

ATLAS - HELIOS Construction



HELIOS

Atlas Casing

The main casing is manufactured from galvanized prepainted steel finished in dove grey, and is assembled from three component parts. The steel is 1 mm thick and being painted before manufacture prevents the material being subject to oxidation. The component parts are held together by snake proof screws and moulded corner selections to facilitate a strong robust box section. The adjustable louvres are held firm by spring loaded pivots. Fourway distribution is achieved by the addition of a second set of louvres to the front of the unit, generally for downward application.

Helios Casing

The main casing is manufactured from 4 angular diecast aluminium

components and lateral elements made of extruded, anodized aluminium in silver colour. The components parts are held together by snake proof screws, the adjustable louvres are held firm by spring loaded pivots. Fourway distribution is achieved by the addition of a second set of louvres to the front of the unit, generally for downward application.

Fan

The fan is of the helicoidal design with aluminium blades statically and dynamically balanced. It's rational high-capacity profile provides the maximum air minimum noise level and economical electrical consumption. The fan hub is secured on the motor shaft by means of flat and grub screw.



Fan/Motor Assembly

The fan and motor assembly is made up of three components: the fan, the motor and the finger proof guard, which also acts as the main support and fixing frame. This frame is mounted onto the main casing via residually anti-vibration rubber mountings. Return air clearance room necessary to avoid inefficient performance is only the same as that necessary to remove the Fan/Motor Assembly for routine maintenance.

Motor

The standard motor fitted is a hermetically sealed motor which is maintenance free. The motor is supplied as standard for a three phase 230/400 volt 50 Hz supply with the field coils connected in star formation. With the introduction of a suitably sized capacitor and the alteration of the field coils from star to delta (as per the sketch on page 45), the motor is then capable of operating on a single phase 230 volt 50 Hz supply.

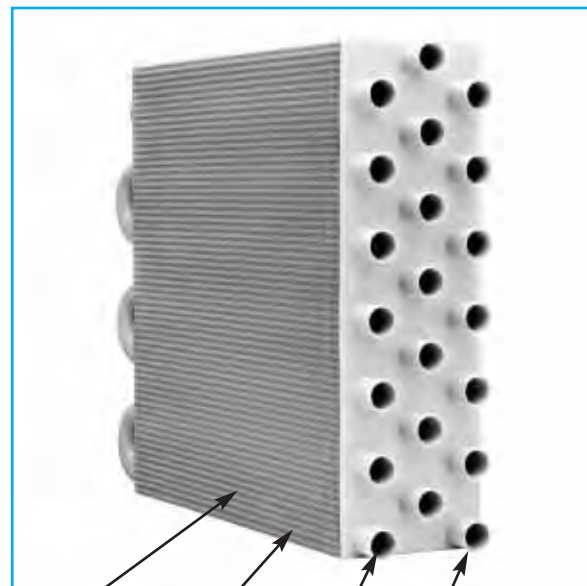
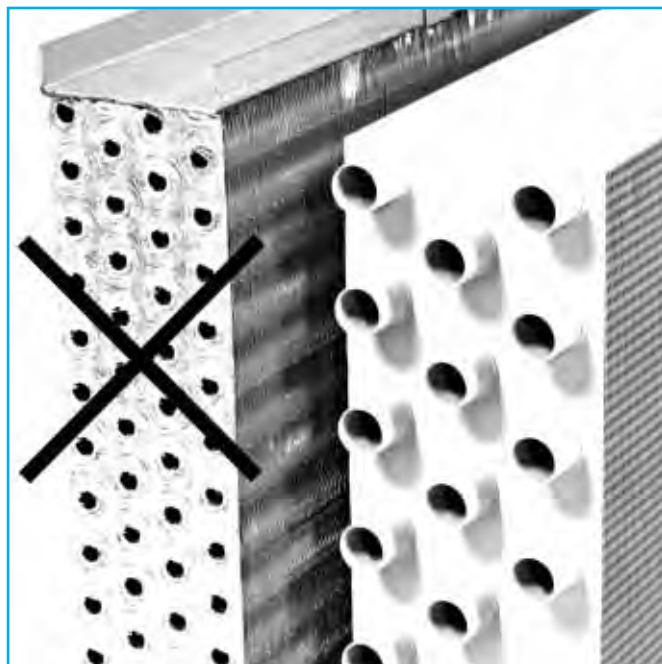
All motors are insulated to IP44 class B standard, but IP55 protection is available. Available also is our flameproof motor for use on three phase supply only. These motors comply to CEI class II2GExd IIBT4 specification (1 speed motors only). The number of poles in the motor determines the speed at which the motor runs:
4 pole motor runs at 1400 rpm
6 pole motor runs at 900 rpm
8 pole motor runs at 700 rpm

Motor protection

When high pressure steam is used on downflow systems the supply of steam should be isolated when the motor is not running and class H motor must be used. Failure to operate this system will result in the motor being "cooked".

Packaging

The units are packed into strong corrugated cardboard cartons with strengthened upper and lower side sections. These containers are clearly marked with the unit reference.



Fin 0,15 mm
Pitch 2,5 mm
Ø 22 mm
Thickness 1 mm

Heat exchanger Thanks to its heart Sabiana is a Leader in the Sales of Unit Heaters in Europe.

The battery of Sabiana Atlas and Helios unit heaters with steel tubes Ø 22 mm and aluminium fins has the following advantages compared with the copper-aluminium small diameter tube batteries used by most of our competitors. The material used for the steel tube, which is very thick (1 mm instead of 0,3 - 0,4 mm), makes the Sabiana battery extremely sturdy and long lasting.

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

The Sabiana battery for unit heaters uses a reduced number of tubes to give the same yield: this determines a low resistance to the air flow and consequently an optimum leaving air temperature and a very high throw.

The greater spacing between the fins as well as their thickness facilitate cleaning and maintenance operations, which is essential to keep the unit heater efficient.

The steel tube battery is the ideal choice for plants 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 painting coat makes the battery long lasting and increases the thermal output.

The Sabiana battery can be used with hot water and high temperature hot water with a working pressure up to 16 bar and with steam up to 10 bar. As a matter of fact each battery is submitted to two tests at 30 bars. However Sabiana in order to

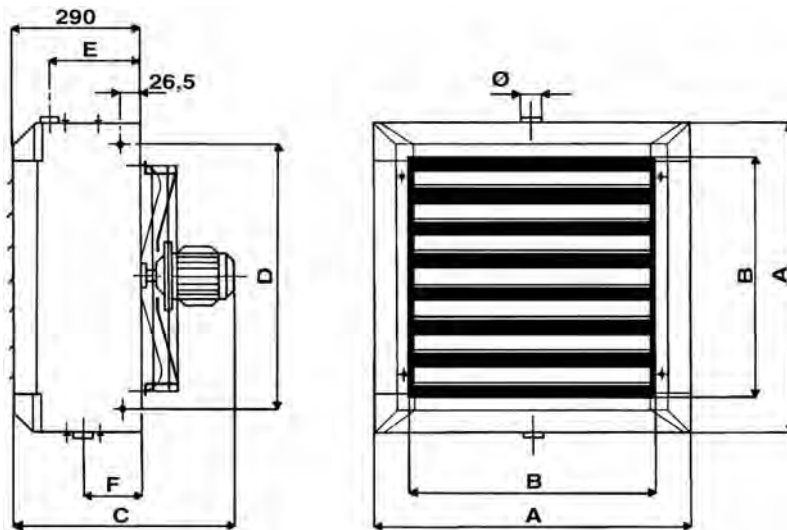
meet any design and installation need can offer a complete set of unit heaters with copper tubes and aluminium fins. This battery has the same features (tube diameter, fin pitch, etc.) of the steel battery but it is built with copper tube 0,7 mm thick, of higher quality and with a total weight which is double compared with the batteries normally used for unit heaters. The wide range of products includes 10 different sizes with 1, 2 or 3 rows each.

ATLAS identification code

Reference: 6A42 - SX

6	A	4	2	SX
MOTOR 6 POLE (900 r.p.m.)	RANGE ATLAS	SIZE	ROWS	BATTERY STEEL TUBE
		4	2	
				SP
				BATTERY COPPER TUBE

Dimension, weight and water content



SIZE	A	B	C	D	E	F	Ø
1	472	336	465	375	220	130	1 1/4"
2	526	390	465	429	220	130	1 1/4"
3	580	444	465	483	220	130	1 1/4"
4	634	498	488	537	220	130	1 1/4"
5	688	552	488	591	220	130	1 1/4"
6	742	606	513	645	220	130	1 1/4"
7	793	657	560	696	210	140	1 1/2"
8	900	764	575	803	210	140	1 1/2"
9	1010	874	595	913	210	140	1 1/2"
10	1117	980	640	1020	210	140	2"

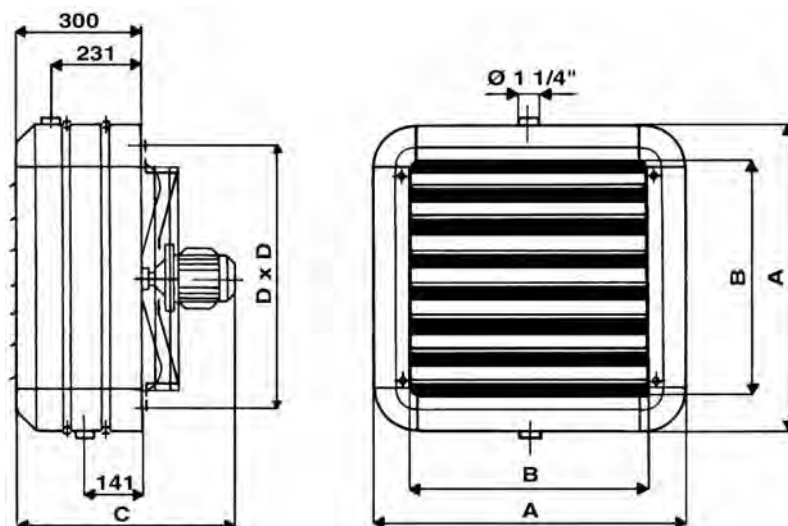
WEIGHT IN kg			WATER CONTENT LITRES		
1R	2R	3R	1R	2R	3R
19	22	24	1,3	2,6	3,9
22	25	27	1,6	3,2	4,8
26	30	33	1,9	3,8	5,7
30	34	38	2,3	4,6	6,9
33	40	44	3,0	6,0	9,0
38	46	51	3,5	7,0	10,5
46	55	61	4,3	8,2	12,3
55	66	73	5,8	11,1	16,6
65	79	88	7,6	14,5	21,8
79	95	106	9,6	18,2	27,3

HELIOS identification code

Reference: 6H53 - SX

6	H	5	3	SX
MOTOR 6 POLE (900 r.p.m.)	RANGE HELIOS	SIZE 5	ROWS 2	BATTERY STEEL TUBE
				SP
				BATTERY COPPER TUBE

Dimension, weight and water content



SIZE	A	B	C	D
1	486	330	477	406
2	540	384	477	460
3	594	438	477	514
4	648	492	500	568
5	702	546	500	622
6	756	600	525	676

WEIGHT IN kg			WATER CONTENT LITRES		
1R	2R	3R	1R	2R	3R
19	22	24	1,3	2,6	3,9
22	25	27	1,6	3,2	4,8
26	30	33	1,9	3,8	5,7
30	34	38	2,3	4,6	6,9
33	40	44	3,0	6,0	9,0
38	46	51	3,5	7,0	10,5

JANUS 05 Air Conditioner



JANUS 05

The Janus Air Conditioners are suitable for hot water and chilled water supply. They are not suitable for steam supply.

Motor

The standard motor fitted is a hermetically sealed motor which is maintenance free. The motor is 2 speeds, 3 phase, single voltage, 400V 50Hz, with klaxon thermal protection.

Heat exchanger

The heat exchanger (3 or 4 rows) is manufactured from the highest quality copper tube. The fins are pressed from aluminium sheet, bonded onto the tubes

facilitating the maximum transfer contact available.

Fan assembly

The fan and motor assembly is made up of three components: the fan, the motor and the finger proof guard, which also acts as the main support.

Casing: the main casing is manufactured from galvanized prepainted steel finished in dove grey and it is assembled from three component parts.

Condensate tray

The insulated condensate tray is fitted inside the casing under the battery.

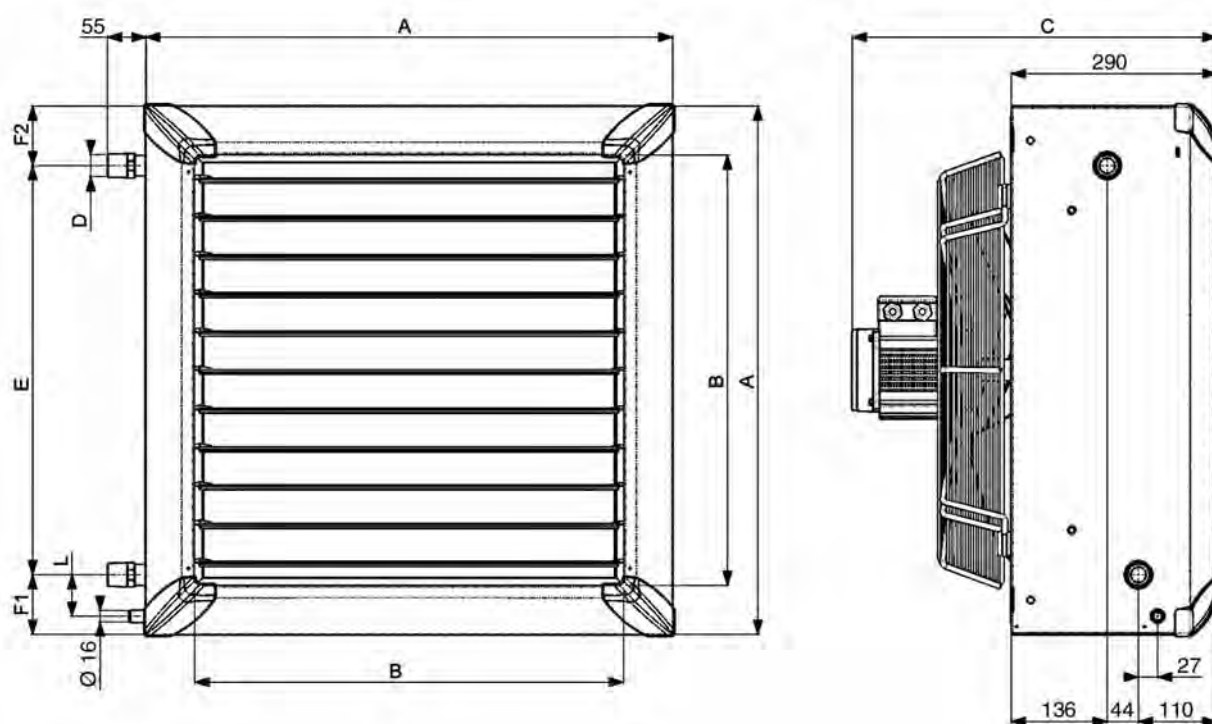


JANUS 05 identification code

Reference: 46F43

46	F	4	3
MOTOR 4-6 POLE (1350-950 r.p.m.)	RANGE JANUS	SIZE	ROWS
		4	3

Dimension, weight and water content



MODEL	A	B	C	D	E	F1	F2	L	WATER CONTENT lt	WEIGHT kg
46 F 23/24	526	390	475	1"	376	78	71	58	1.9	23
46 F 43/44	634	498	500	1"	476	76	83	58	2.9	30
68 F 63/64	742	606	525	1"	576	83	83	58	4.3	40
68 F 93/94	1010	874	650	1 1/2"	818	90	100	67	8.4	75

AIX stainless steel Unit Heater



AIX

The AIX unit heaters are suitable for low/high temperature hot water and steam system with pressure up to 20 bar.

Heat exchanger

The fins are pressed from aluminium sheet, bonded onto the AISI 304 stainless steel tubes facilitating the maximum transfer contact. The AIX units are supplied with flanged connections.

Motor

The standard motor fitted is hermetically sealed motor which is maintenance free. The motor is 2 speeds, 3

phase, single voltage, 400V 50Hz, with klixon thermal protection.

Casing

The main casing is manufactured from AISI 304 stainless steel, 1 mm thick. The adjustable louvres are held firm by spring loaded pivots and they are mounted in horizontal position on the front part of the unit.

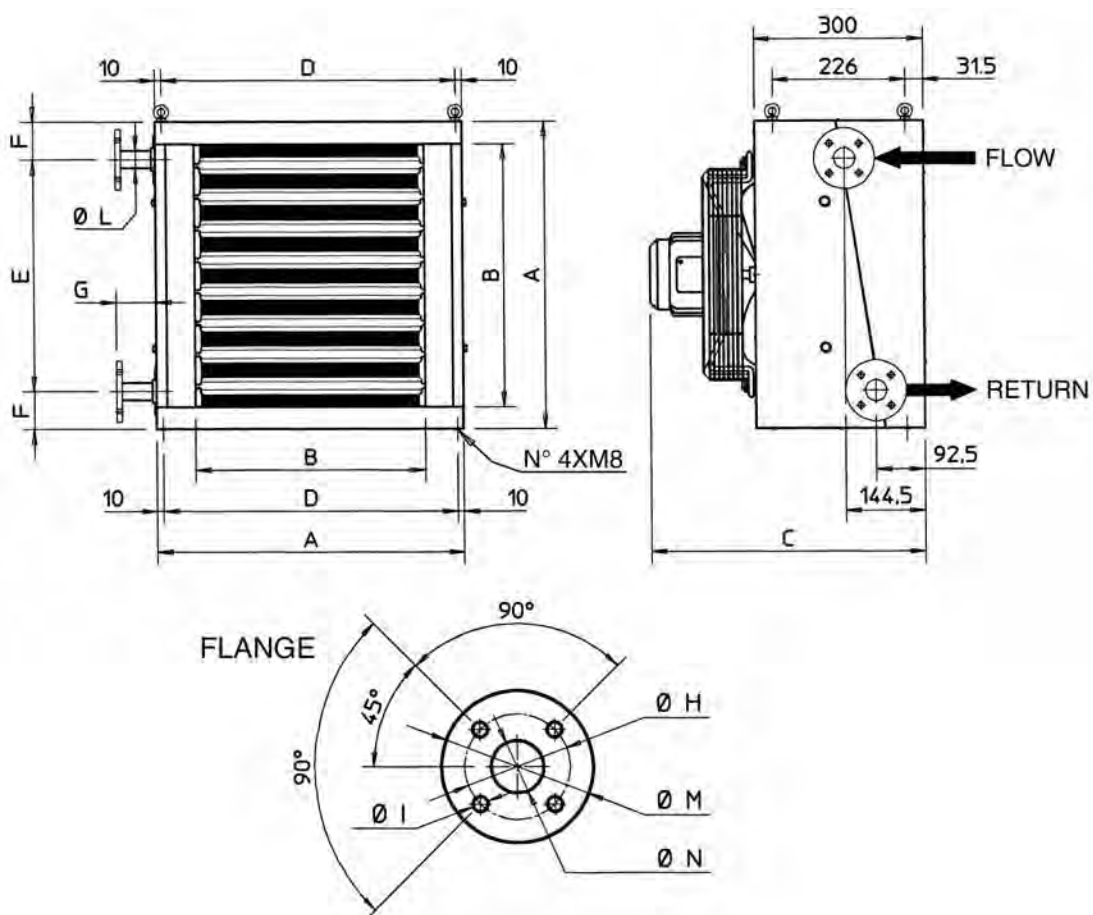


AIX identification code

Reference: 46I42

46	I	4	2
MOTOR 4-6 POLE (1350-950 r.p.m.)	RANGE AIX	SIZE 4	ROWS 2

Dimension, weight and water content



MODEL	A	B	C	D	E	F	G	ØH	ØI	ØL	ØM	ØN	Weight (kg)		Water content (lt)	
													1R	2R	1R	2R
46 I 21-22	526	393	468	506	330	98	66	65	14	1/2"	95	15	26	30	1,7	2,5
46 I 41-42	636	501	468	616	497	69.5	66	85	14	1"	115	25	33	38	2,9	4,2
46 I 61-62	743	609	468	723	588	44.5	56	100	18	1 1/4"	140	32	45	51	5,3	5,9
68 I 91-92	1011	877	576	991	832	89.5	87	110	18	1 1/2"	150	40	82	92	8,2	12

JETSTREAM Induction flow optimizer

Induction flow optimizer Jetstream Sabiana for Atlas and Helios unit heaters

The induction flow optimizer jestream allows the reduction of the mean leaving air temperature in the unit heaters (Sabiana series Atlas and Helios) and to increase the throw of the equipment with

considerable advantages both in terms of energy saving and environment comfort. The induction flow optimizer Jestream increase the air speed thanks to the special shape of its deflecting

louvres which allow the creation of various layers of hot air at the unit heaters outlets.

The depression created between the layes induces a lateral aspiration of ambient air

that mixes with then 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 centigrade decrease in temperature there is a 1.5% decrease in energy consumption.

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

a) energy saving:

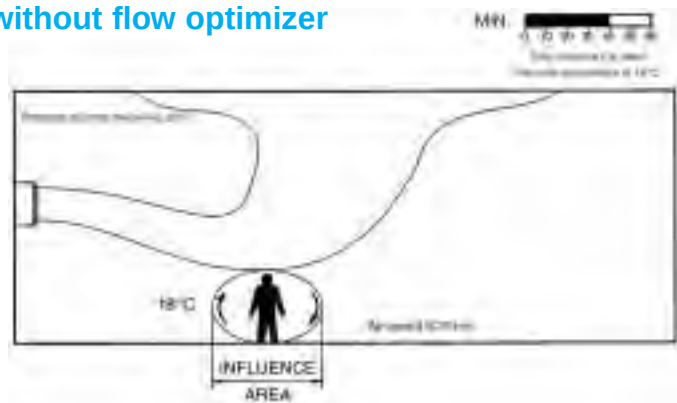
- reduced hot air stratification within the building
- reduced operating time of the units with the same ambient temperature.

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

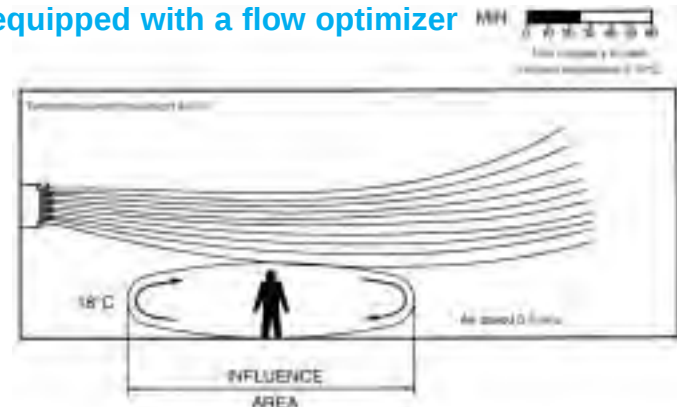
b) environment comfort advantage:

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

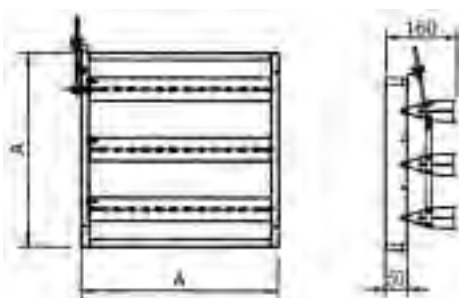
Air flow produced by a unit heater without flow optimizer



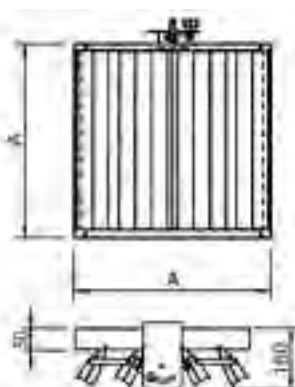
Air flow produced by a unit heater equipped with a flow optimizer



O (HORIZONTAL DISCHARGE)



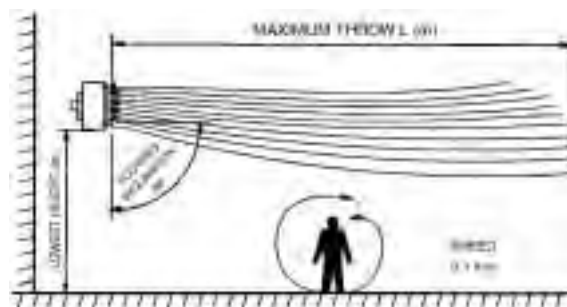
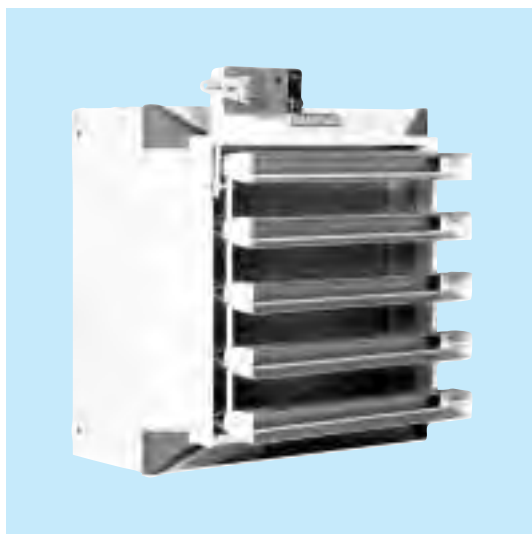
V (VERTICAL DISCHARGE)



MODEL		A
0 - 1	V - 1	368
0 - 2	V - 2	422
0 - 3	V - 3	476
0 - 4	V - 4	530
0 - 5	V - 5	584
0 - 6	V - 6	638
0 - 7	V - 7	793
0 - 8	V - 8	900
0 - 9	V - 9	1010
0 - 10	V - 10	1117

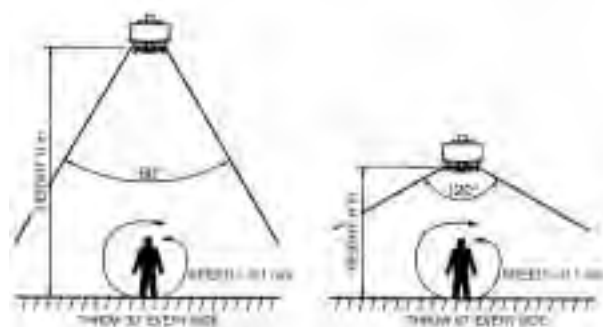
Mounting heights and air throw

a) Wall installation for horizontal discharge:



SABIANA UNIT HEATER SIZE	MAXIMUM THROW L (m) WITHOUT JETSTREAM			MAXIMUM THROW L (m) WITH JETSTREAM		
	4 POLE MOTOR	6 POLE MOTOR	8 POLE MOTOR	4 POLE MOTOR	6 POLE MOTOR	8 POLE MOTOR
1	8	5,5	-	13	9	-
2	11	7,5	-	16	13	-
3	14	10	-	19	15	-
4	16	12	-	21	15	-
5	20	15	-	26	18	-
6	25	18	-	31	23	-
7	-	24	18	-	29	23
8	-	26	20	-	32	25
9	-	28	21	-	34	26
10	-	30	22	-	37	28

b) Ceiling installation for vertical discharge:



SABIANA UNIT HEATER SIZE	INSTALLATION HEIGHT H (m)								
	WITHOUT JETSTREAM			WITH JETSTREAM AT 60°			WITH JETSTREAM AT 120°		
	4 POLE MOTOR	6 POLE MOTOR	8 POLE MOTOR	4 POLE MOTOR	6 POLE MOTOR	8 POLE MOTOR	4 POLE MOTOR	6 POLE MOTOR	8 POLE MOTOR
1	4	3	-	5,5	4	-	4	3	-
2	4,5	3,5	-	8	6,5	-	5	4	-
3	5	4	-	11	8	-	6,5	5,5	-
4	5,5	4,5	-	12	9	-	6,5	5,5	-
5	6	5	-	13	10	-	7	6	-
6	7	6	-	14	12	-	8	7	-
7	-	7	6	-	13	11	-	8	7
8	-	9	7	-	15	12	-	10	8
9	-	11	8	-	18	13	-	13	9
10	-	12	9	-	19	14	-	14	10

Versions



Remote switch

Four versions are available:

manual (all sizes) or motorized (sizes 1÷7 only),
for wall or ceiling installation.

The motorized version is supplied
with single phase motor that can be controlled
by the remote switch (sizes 1÷7 only).

HEATING EMISSION WT 85/75°C - 10°C DROP - EAT 15°C

1 HIGH SPEED

UNIT SIZE	MOTOR SPEED r.p.m.	MODEL REF.	LEAVING AIR VOLUME m³/h	NOISE LEVEL at 5 m. dB(A)	EMISSION		LEAVING AIR TEMP. °C	MOUNTING HEIGHTS			
					KCal/h	W		HORIZONTAL DISCHARGE		VERTICAL DISCHARGE	
								H m	THROW m	MAX H m	COVER m²
1	1400	4 A11	1670	56	–	–	–	2,5÷3,5	8	4	50
		4 A12	1560	56	9600	11170	38				
		4 A13	1450	56	11120	12940	44				
2	1400	4 A21	2370	59	–	–	–	3÷4	11	4,5	60
		4 A22	2200	59	13410	15600	38				
		4 A23	2100	59	15210	17700	42				
3	1400	4 A31	3400	61	–	–	–	3÷4	14	5	70
		4 A32	3300	61	20500	23850	38				
		4 A33	3200	61	23810	27700	43				
4	1400	4 A41	4250	64	–	–	–	3,5÷4,5	16	5,5	80
		4 A42	3980	64	26510	30840	40				
		4 A43	3800	64	30310	35260	45				
5	1400	4 A51	5600	66	–	–	–	4÷5	20	6	100
		4 A52	5500	66	34900	40600	39				
		4 A53	5400	66	39800	46310	43				
6	1400	4 A61	7400	69	–	–	–	4÷5,5	25	7	130
		4 A62	7200	69	44510	51780	38				
		4 A63	7000	69	51210	59380	43				
7	900	6 A71	5800	65	–	–	–	4÷5	24	7	120
		6 A72	5400	65	38000	44200	41				
		6 A73	5200	65	46000	53500	48				
8	900	6 A81	8500	67	–	–	–	4÷5,5	26	9	160
		6 A82	7600	67	54100	62900	42				
		6 A83	7000	67	62500	72700	48				
9	900	6 A91	10600	68	–	–	–	4÷6	28	11	200
		6 A92	10000	68	70000	81400	41				
		6 A93	9500	68	85000	98800	48				
10	900	6 A101	12500	71	–	–	–	4÷6	30	12	220
		6 A102	11900	71	84100	97800	42				
		6 A103	11400	71	102000	118600	47				

For "Helios" substitute ref. "A"
for "H" for sizes from 1 to 6
ie 4H42.

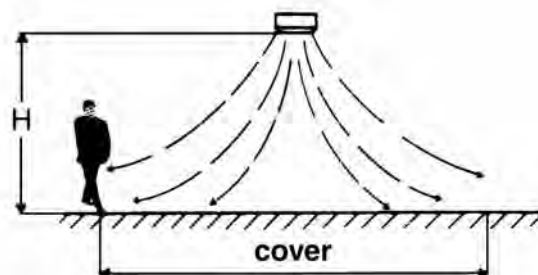
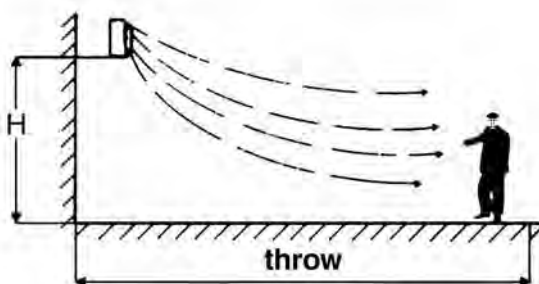
CORRECTION FACTORS

Water temperature °C

	E.A.T. °C										
		50/40	55/45	60/50	65/55	70/60	75/65	80/70	85/75	90/80	
For sizes 1 to 6 with 8 pole motor (700 r.p.m.), the performance data can be obtained multiplying the 4 pole motor (1400 r.p.m.) figures by the following correction factors:	-10	0,85	0,92	1,00	1,08	1,15	1,23	1,31	1,38	1,46	
	-5	0,77	0,85	0,92	1,00	1,08	1,15	1,23	1,31	1,38	
	0	0,69	0,77	0,85	0,92	1,00	1,08	1,15	1,23	1,31	
	+5	0,62	0,69	0,77	0,85	0,92	1,00	1,08	1,15	1,23	
	+10	0,54	0,62	0,69	0,77	0,85	0,92	1,00	1,08	1,15	
	+15	0,46	0,54	0,62	0,69	0,77	0,85	0,92	1,00	1,08	
KCal/h - Watt	x 0.65										
m³/h	x 0.50										
dB(A)	x 0.76										

UNIT SIZE	MOTOR SPEED	MODEL REF.	LEAVING AIR VOLUME	NOISE LEVEL at 5 m.	EMISSION		LEAVING AIR TEMP.	MOUNTING HEIGHTS			
					KCal/h	W		HORIZONTAL DISCHARGE		VERTICAL DISCHARGE	
								H m	THROW m	MAX H m	COVER m²
1	900	6 A11	1140	48	—	—	—	2,5÷3,5	5,5	3	36
		6 A12	1040	48	7310	8500	41				
		6 A13	960	48	8410	9790	48				
2	900	6 A21	1560	51	—	—	—	2,5÷3,5	7,5	3,5	45
		6 A22	1440	51	10210	11880	41				
		6 A23	1380	51	11510	13390	46				
3	900	6 A31	2230	52	—	—	—	2,5÷3,5	10	4	50
		6 A32	2170	52	15420	17940	42				
		6 A33	2100	52	17800	20710	47				
4	900	6 A41	2910	54	—	—	—	3÷4	12	4,5	60
		6 A42	2720	54	20020	23290	42				
		6 A43	2600	54	22890	26630	48				
5	900	6 A51	3630	56	—	—	—	3,5÷4,5	15	5	75
		6 A52	3560	56	26570	30910	43				
		6 A53	3500	56	30300	35250	48				
6	900	6 A61	4790	60	—	—	—	4÷5	18	6	110
		6 A62	4670	60	34720	40390	43				
		6 A63	4550	60	39910	46430	48				
7	700	8 A71	4400	60	—	—	—	3,5÷4	18	6	100
		8 A72	4100	60	31900	37100	44				
		8 A73	3800	60	37700	43800	52				
8	700	8 A81	6000	61	—	—	—	3,5÷4,5	20	7	130
		8 A82	5500	61	44900	52200	45				
		8 A83	5000	61	51300	59700	52				
9	700	8 A91	8000	62	—	—	—	3,5÷5	21	8	150
		8 A92	7500	62	58100	67600	44				
		8 A93	7000	62	69700	81100	52				
10	700	8 A101	9500	65	—	—	—	4÷5	22	9	160
		8 A102	8800	65	68100	79200	44				
		8 A103	8450	65	83700	97300	52				

MOUNTING HEIGHTS



UNIT SIZE	MOTOR SPEED r.p.m.	MODEL REF.	LEAVING AIR VOLUME m³/h	NOISE LEVEL at 5 m. dB(A)	EMISSION		LEAVING AIR TEMP. °C	MOUNTING HEIGHTS			
					KCal/h	W		HORIZONTAL DISCHARGE		VERTICAL DISCHARGE	
								H m	THROW m	MAX H m	COVER m²
1	1400	4 A11	1670	56	—	—	—	2,5÷3,5	8	4	50
		4 A12	1560	56	8770	10200	36				
		4 A13	1450	56	10160	11820	41				
2	1400	4 A21	2370	59	—	—	—	3÷4	11	4,5	60
		4 A22	2200	59	12240	14250	36				
		4 A23	2100	59	13900	16170	40				
3	1400	4 A31	3400	61	—	—	—	3÷4	14	5	70
		4 A32	3300	61	18730	21790	36				
		4 A33	3200	61	21750	25300	41				
4	1400	4 A41	4250	64	—	—	—	3,5÷4,5	16	5,5	80
		4 A42	3980	64	24210	28170	38				
		4 A43	3800	64	27690	32210	42				
5	1400	4 A51	5600	66	—	—	—	4÷5	20	6	100
		4 A52	5500	66	31880	37090	37				
		4 A53	5400	66	36360	42300	40				
6	1400	4 A61	7400	69	—	—	—	4÷5,5	25	7	130
		4 A62	7200	69	40660	47300	36				
		4 A63	7000	69	46780	54420	40				
7	900	6 A71	5800	65	—	—	—	4÷5	24	7	120
		6 A72	5400	65	34700	40300	39				
		6 A73	5200	65	42000	48800	45				
8	900	6 A81	8500	67	—	—	—	4÷5	26	9	160
		6 A82	7600	67	49400	57400	39				
		6 A83	7000	67	57100	66400	45				
9	900	6 A91	10600	68	—	—	—	4÷6	28	11	200
		6 A92	10000	68	64000	74400	39				
		6 A93	9500	68	77600	90200	45				
10	900	6 A101	12500	71	—	—	—	4÷6	30	12	220
		6 A102	11900	71	76800	89300	40				
		6 A103	11400	71	93200	108400	44				

For "Helios" substitute ref. "A"
for "H" for sizes from 1 to 6
ie 4H42.

CORRECTION FACTORS

Water temperature °C

For sizes 1 to 6 with
8 pole motor (700 r.p.m.),
the performance data
can be obtained multiplying
the 4 pole motor (1400 r.p.m.)
figures by the following
correction factors:

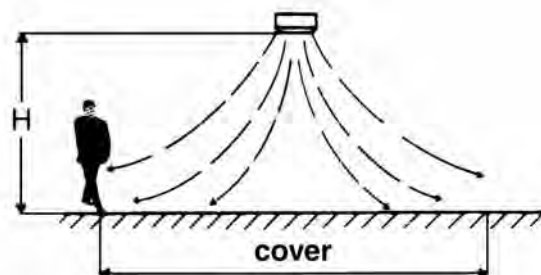
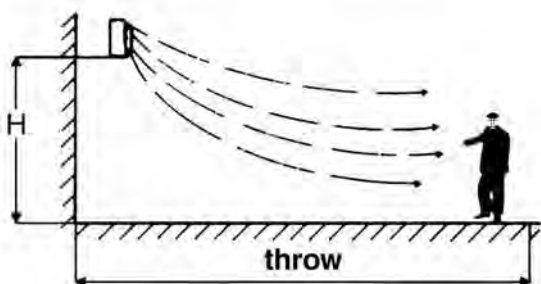
KCal/h - Watt x 0.65
m³/h x 0.50
dB(A) x 0.76

E.A.T. °C	50/35	55/40	60/45	65/50	70/55	75/60	80/65	85/70	90/75
-10	0,84	0,92	1,00	1,08	1,16	1,24	1,32	1,40	1,48
-5	0,76	0,84	0,92	1,00	1,08	1,16	1,24	1,32	1,40
0	0,67	0,76	0,84	0,92	1,00	1,08	1,16	1,24	1,32
+5	0,60	0,68	0,76	0,84	0,92	1,00	1,08	1,16	1,24
+10	0,52	0,60	0,68	0,76	0,84	0,92	1,00	1,08	1,16
+15	0,44	0,52	0,60	0,68	0,76	0,84	0,92	1,00	1,08
+20	0,36	0,44	0,52	0,60	0,68	0,76	0,84	0,92	1,00
+25	0,28	0,36	0,44	0,52	0,60	0,68	0,76	0,84	0,92

HEATING EMISSION WT 85/70°C - 15°C DROP - EAT 15°C

UNIT SIZE	MOTOR SPEED	MODEL REF.	LEAVING AIR VOLUME	NOISE LEVEL at 5 m.	EMISSION		LEAVING AIR TEMP.	MOUNTING HEIGHTS			
					KCal/h	W		HORIZONTAL DISCHARGE		VERTICAL DISCHARGE	
								H m	THROW m	MAX H m	COVER m²
1	900	6 A11	1140	48	—	—	—	2,5+3	5,5	3	36
		6 A12	1040	48	6670	7760	39				
		6 A13	960	48	7690	8940	45				
2	900	6 A21	1560	51	—	—	—	2,5+3,5	7,5	3,5	45
		6 A22	1440	51	9330	10850	39				
		6 A23	1380	51	10510	12230	44				
3	900	6 A31	2230	52	—	—	—	2,5+3,5	10	4	50
		6 A32	2170	52	14080	16380	39				
		6 A33	2100	52	16260	18920	44				
4	900	6 A41	2910	54	—	—	—	3+4	12	4,5	60
		6 A42	2720	54	18290	21280	40				
		6 A43	2600	54	20910	24330	45				
5	900	6 A51	3630	56	—	—	—	3,5+4,5	15	5	75
		6 A52	3560	56	24270	28240	40				
		6 A53	3500	56	27680	32200	45				
6	900	6 A61	4790	60	—	—	—	4+5	18	6	110
		6 A62	4670	60	31710	36890	40				
		6 A63	4550	60	36460	42410	45				
7	700	8 A71	4400	60	—	—	—	3,5+4	18	6	100
		8 A72	4100	60	29200	34000	41				
		8 A73	3800	60	34500	40100	49				
8	700	8 A81	6000	61	—	—	—	3,5+4,5	20	7	130
		8 A82	5500	61	41000	47600	42				
		8 A83	5000	61	46800	54400	49				
9	700	8 A91	8000	62	—	—	—	3,5+5	21	8	150
		8 A92	7500	62	53100	61800	41				
		8 A93	7000	62	63700	74100	49				
10	700	8 A101	9500	65	—	—	—	4+5	22	9	160
		8 A102	8800	65	62200	72300	41				
		8 A103	8450	65	76400	88900	49				

MOUNTING HEIGHTS



UNIT SIZE	MOTOR SPEED r.p.m.	MODEL REF.	LEAVING AIR VOLUME m³/h	NOISE LEVEL at 5 m. dB(A)	EMISSION		LEAVING AIR TEMP. °C	MOUNTING HEIGHTS			
					KCal/h	W		HORIZONTAL DISCHARGE		VERTICAL DISCHARGE	
								H m	THROW m	MAX H m	COVER m²
1	1400	4 A11	1670	56	—	—	—	2,5÷3,5	8	4	50
		4 A12	1560	56	8830	10280	36				
		4 A13	1450	56	10230	11900	42				
2	1400	4 A21	2370	59	—	—	—	3÷4	11	4,5	60
		4 A22	2200	59	12330	14350	36				
		4 A23	2100	59	14000	16280	40				
3	1400	4 A31	3400	61	—	—	—	3÷4	14	5	70
		4 A32	3300	61	18860	21940	36				
		4 A33	3200	61	21900	25480	41				
4	1400	4 A41	4250	64	—	—	—	3,5÷4,5	16	5,5	80
		4 A42	3980	64	24390	28370	38				
		4 A43	3800	64	27890	32440	43				
5	1400	4 A51	5600	66	—	—	—	4÷5	20	6	100
		4 A52	5500	66	32110	37360	37				
		4 A53	5400	66	36620	42600	41				
6	1400	4 A61	7400	69	—	—	—	4÷5,5	25	7	130
		4 A62	7200	69	40950	47640	36				
		4 A63	7000	69	47120	54810	40				
7	900	6 A71	5800	65	—	—	—	4÷5	24	7	120
		6 A72	5400	65	35000	40700	39				
		6 A73	5200	65	42300	49200	45				
8	900	6 A81	8500	67	—	—	—	4÷5,5	26	9	160
		6 A82	7600	67	49700	57800	39				
		6 A83	7000	67	57500	66900	45				
9	900	6 A91	10600	68	—	—	—	4÷6	28	11	200
		6 A92	10000	68	64400	74900	39				
		6 A93	9500	68	78200	90900	45				
10	900	6 A101	12500	71	—	—	—	4÷6	30	12	220
		6 A102	11900	71	77400	90000	40				
		6 A103	11400	71	93900	109200	44				

For "Helios" substitute ref. "A"
for "H" for sizes from 1 to 6
ie 4H42.

For sizes 1 to 6 with
8 pole motor (700 r.p.m.),
the performance data
can be obtained multiplying
the 4 pole motor (1400 r.p.m.)
figures by the following
correction factors:

KCal/h - Watt x 0.65
m³/h x 0.50
dB(A) x 0.76

CORRECTION FACTORS

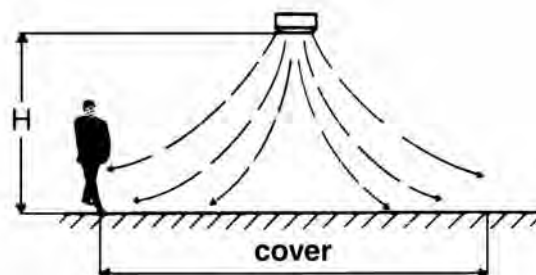
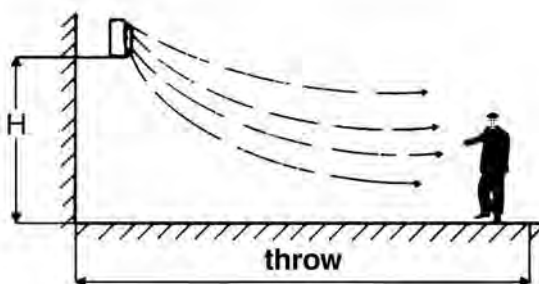
Water temperature °C

E.A.T. °C	60/40	70/50	80/60	85/65	90/70	95/75
-10	0,92	1,08	1,23	1,31	1,38	1,46
-5	0,85	1,00	1,15	1,23	1,31	1,38
0	0,77	0,92	1,08	1,15	1,23	1,31
+5	0,69	0,85	1,00	1,08	1,15	1,23
+10	0,62	0,77	0,92	1,00	1,08	1,15
+15	0,54	0,69	0,85	0,92	1,00	1,08
+20	0,46	0,62	0,77	0,85	0,92	1,00
+25	0,38	0,54	0,69	0,77	0,85	0,92

HEATING EMISSION WT 90/70°C - 20°C DROP - EAT 15°C

UNIT SIZE	MOTOR SPEED	MODEL REF.	LEAVING AIR VOLUME	NOISE LEVEL at 5 m.	EMISSION		LEAVING AIR TEMP.	MOUNTING HEIGHTS			
					KCal/h	W		HORIZONTAL DISCHARGE		VERTICAL DISCHARGE	
								H m	THROW m	MAX H m	COVER m²
1	900	6 A11	1140	48	—	—	—	2,5+3	5,5	3	36
		6 A12	1040	48	6720	7820	39				
		6 A13	960	48	7740	9010	45				
2	900	6 A21	1560	51	—	—	—	2,5+3,5	7,5	3,5	45
		6 A22	1440	51	9400	10930	39				
		6 A23	1380	51	10590	12320	44				
3	900	6 A31	2230	52	—	—	—	2,5+3,5	10	4	50
		6 A32	2170	52	14180	16500	39				
		6 A33	2100	52	16380	19060	44				
4	900	6 A41	2910	54	—	—	—	3+4	12	4,5	60
		6 A42	2720	54	18420	21430	40				
		6 A43	2600	54	21060	24500	46				
5	900	6 A51	3630	56	—	—	—	3,5+4,5	15	5	75
		6 A52	3560	56	24450	28440	41				
		6 A53	3500	56	27880	32430	45				
6	900	6 A61	4790	60	—	—	—	4+5	18	6	110
		6 A62	4670	60	31940	37160	41				
		6 A63	4550	60	36720	42720	45				
7	700	8 A71	4400	60	—	—	—	3,5+4	18	6	100
		8 A72	4100	60	29400	34200	42				
		8 A73	3800	60	34700	40400	49				
8	700	8 A81	6000	61	—	—	—	3,5+4,5	20	7	130
		8 A82	5500	61	41300	48000	42				
		8 A83	5000	61	47100	54800	49				
9	700	8 A91	8000	62	—	—	—	3,5+5	21	8	150
		8 A92	7500	62	53500	62200	41				
		8 A93	7000	62	64100	74600	49				
10	700	8 A101	9500	65	—	—	—	4+5	22	9	160
		8 A102	8800	65	62700	72900	41				
		8 A103	8450	65	77000	89500	49				

MOUNTING HEIGHTS



UNIT SIZE	MOTOR SPEED	MODEL REF.	LEAVING AIR VOLUME	NOISE LEVEL at 5 m.	EMISSION		LEAVING AIR TEMP.	MOUNTING HEIGHTS			
								HORIZONTAL DISCHARGE		VERTICAL DISCHARGE	
	r.p.m.				m³/h	dB(A)	KCal/h	W	°C	H m	THROW m
1	1400	4 A11	1670	56	9490	11040	36	2,5÷3,5	8	4	50
		4 A12	1560	56	13590	15810	48				
		4 A13	1450	56	—	—	—				
2	1400	4 A21	2370	59	13590	15810	36	3÷4	11	4,5	60
		4 A22	2200	59	18970	22070	47				
		4 A23	2100	59	—	—	—				
3	1400	4 A31	3400	61	19540	22730	36	3÷4	14	5	70
		4 A32	3300	61	29020	33760	48				
		4 A33	3200	61	—	—	—				
4	1400	4 A41	4250	64	26060	30310	38	3,5÷4,5	16	5,5	80
		4 A42	3980	64	37520	43650	50				
		4 A43	3800	64	—	—	—				
5	1400	4 A51	5600	66	33970	39520	37	4÷5	20	6	100
		4 A52	5500	66	49400	57480	49				
		4 A53	5400	66	—	—	—				
6	1400	4 A61	7400	69	42770	49750	36	4÷5,5	25	7	130
		4 A62	7200	69	63000	73290	48				
		4 A63	7000	69	—	—	—				
7	900	6 A71	5800	65	36900	42900	39	4÷5	24	7	120
		6 A72	5400	65	53900	62700	52				
		6 A73	5200	65	—	—	—				
8	900	6 A81	8500	67	53700	62400	39	4÷5,5	26	9	160
		6 A82	7600	67	76500	89000	52				
		6 A83	7000	67	—	—	—				
9	900	6 A91	10600	68	67400	78400	39	4÷6	28	11	200
		6 A92	10000	68	99100	115200	52				
		6 A93	9500	68	—	—	—				
10	900	6 A101	12500	71	83200	95400	40	4÷6	30	12	220
		6 A102	11900	71	119000	138400	54				
		6 A103	11400	71	—	—	—				

For "Helios" substitute ref. "A"
for "H" for sizes from 1 to 6
ie 4H42.

For sizes 1 to 6 with
8 pole motor (700 r.p.m.),
the performance data
can be obtained multiplying
the 4 pole motor (1400 r.p.m.)
figures by the following
correction factors:

KCal/h - Watt x 0.65
m³/h x 0.50
dB(A) x 0.76

CORRECTION FACTORS

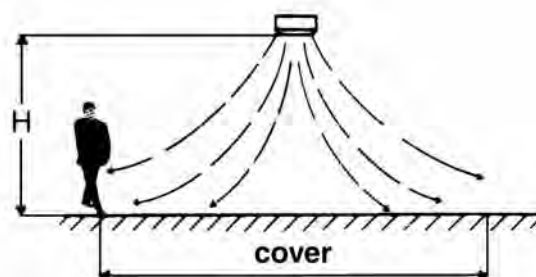
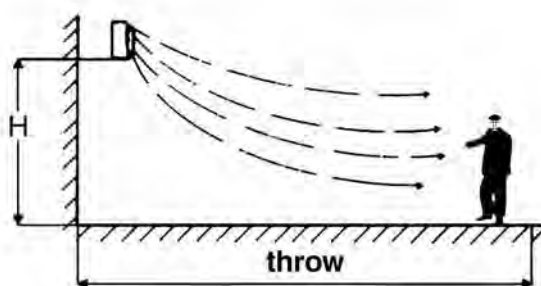
Water temperature °C

E.A.T. °C	110/80	120/90	130/100	140/110	150/120
-10	1,05	1,15	1,25	1,35	1,45
-5	1,00	1,10	1,20	1,30	1,40
0	0,95	1,05	1,15	1,25	1,35
+5	0,90	1,00	1,10	1,20	1,30
+10	0,85	0,95	1,05	1,15	1,25
+15	0,80	0,90	1,00	1,10	1,20
+20	0,75	0,85	0,95	1,05	1,15
+25	0,70	0,80	0,90	1,00	1,10

HEATING EMISSION WT 130/100°C - 30°C DROP - EAT 15°C

UNIT SIZE	MOTOR SPEED	MODEL REF.	LEAVING AIR VOLUME	NOISE LEVEL at 5 m.	EMISSION		LEAVING AIR TEMP.	MOUNTING HEIGHTS			
								HORIZONTAL DISCHARGE		VERTICAL DISCHARGE	
								H m	THROW m	MAX H m	COVER m²
1	900	6 A11	1140	48	7790	9060	40	2,5+3	5,5	3	36
		6 A12	1040	48	10340	12030	52				
		6 A13	960	48	—	—	—				
2	900	6 A21	1560	51	10870	12650	41	2,5+3,5	7,5	3,5	45
		6 A22	1440	51	14460	16820	52				
		6 A23	1380	51	—	—	—				
3	900	6 A31	2230	52	15570	18120	41	2,5+3,5	10	4	50
		6 A32	2170	52	21820	25390	53				
		6 A33	2100	52	—	—	—				
4	900	6 A41	2910	54	20320	23640	41	3+4	12	4,5	60
		6 A42	2720	54	28340	32970	54				
		6 A43	2600	54	—	—	—				
5	900	6 A51	3630	56	26160	30430	42	3,5+4,5	15	5	75
		6 A52	3560	56	37610	43760	54				
		6 A53	3500	56	—	—	—				
6	900	6 A61	4790	60	32840	38210	40	4+5	18	6	110
		6 A62	4670	60	49140	57170	54				
		6 A63	4550	60	—	—	—				
7	700	8 A71	4400	60	31300	36400	41	3,5+4	18	6	100
		8 A72	4100	60	45200	52600	56				
		8 A73	3800	60	—	—	—				
8	700	8 A81	6000	61	46200	53700	42	3,5+4,5	20	7	130
		8 A82	5500	61	63500	73800	56				
		8 A83	5000	61	—	—	—				
9	700	8 A91	8000	62	57300	66600	42	3,5+5	21	8	150
		8 A92	7500	62	82300	95700	56				
		8 A93	7000	62	—	—	—				
10	700	8 A101	9500	65	71600	83300	43	4+5	22	9	160
		8 A102	8800	65	96400	112100	56				
		8 A103	8450	65	—	—	—				

MOUNTING HEIGHTS



UNIT SIZE	MOTOR SPEED r.p.m.	MODEL REF.	LEAVING AIR VOLUME m³/h	NOISE LEVEL at 5 m. dB(A)	EMISSION		LEAVING AIR TEMP. °C	MOUNTING HEIGHTS			
					KCal/h	W		HORIZONTAL DISCHARGE		VERTICAL DISCHARGE	
								H m	THROW m	MAX H m	COVER m²
1	1400	4 A11	1670	56	10770	12530	39	2,5÷3,5	8	4	50
		4 A12	1560	56	–	–	–				
		4 A13	1450	56	–	–	–				
2	1400	4 A21	2370	59	15420	17940	39	3÷4	11	4,5	60
		4 A22	2200	59	–	–	–				
		4 A23	2100	59	–	–	–				
3	1400	4 A31	3400	61	22170	25800	39	3÷4	14	5	70
		4 A32	3300	61	–	–	–				
		4 A33	3200	61	–	–	–				
4	1400	4 A41	4250	64	29570	34400	41	3,5÷4,5	16	5,5	80
		4 A42	3980	64	–	–	–				
		4 A43	3800	64	–	–	–				
5	1400	4 A51	5600	66	38550	44850	40	4÷5	20	6	100
		4 A52	5500	66	–	–	–				
		4 A53	5400	66	–	–	–				
6	1400	4 A61	7400	69	48530	56460	39	4÷5,5	25	7	130
		4 A62	7200	69	–	–	–				
		4 A63	7000	69	–	–	–				
7	900	6 A71	5800	65	41800	48600	42	4÷5	24	7	120
		6 A72	5400	65	–	–	–				
		6 A73	5200	65	–	–	–				
8	900	6 A81	8500	67	60900	70800	42	4÷5,5	26	9	160
		6 A82	7600	67	–	–	–				
		6 A83	7000	67	–	–	–				
9	900	6 A91	10600	68	76400	88800	42	4÷6	28	11	200
		6 A92	10000	68	–	–	–				
		6 A93	9500	68	–	–	–				
10	900	6 A101	12500	71	94400	109800	43	4÷6	30	12	220
		6 A102	11900	71	–	–	–				
		6 A103	11400	71	–	–	–				

For "Helios" substitute ref. "A"
for "H" for sizes from 1 to 6
ie 4H42.

For sizes 1 to 6 with
8 pole motor (700 r.p.m.),
the performance data
can be obtained multiplying
the 4 pole motor (1400 r.p.m.)
figures by the following
correction factors:

KCal/h - Watt x 0.65
m³/h x 0.50
dB(A) x 0.76

CORRECTION FACTORS

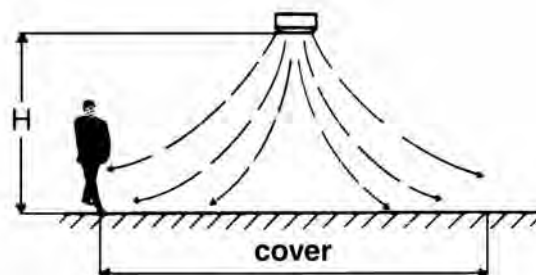
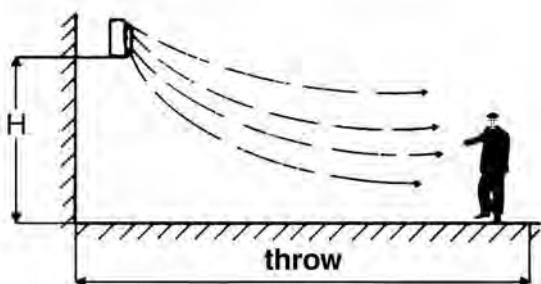
Water temperature °C

E.A.T. °C	140/90	150/100	160/110	170/120
-10	1,04	1,13	1,21	1,29
-5	1,00	1,08	1,17	1,25
0	0,96	1,04	1,13	1,21
+5	0,92	1,00	1,08	1,17
+10	0,88	0,96	1,04	1,13
+15	0,83	0,92	1,00	1,08
+20	0,79	0,88	0,96	1,04
+25	0,75	0,83	0,92	1,00

HEATING EMISSION WT 160/110°C - 50°C DROP - EAT 15°C

UNIT SIZE	MOTOR SPEED	MODEL REF.	LEAVING AIR VOLUME	NOISE LEVEL at 5 m.	EMISSION		LEAVING AIR TEMP.	MOUNTING HEIGHTS			
					KCal/h	W		HORIZONTAL DISCHARGE		VERTICAL DISCHARGE	
								H m	THROW m	MAX H m	COVER m²
1	900	6 A11	1140	48	8840	10290	44	2,5+3	5,5	3	36
		6 A12	1040	48	–	–	–				
		6 A13	960	48	–	–	–				
2	900	6 A21	1560	51	12340	14350	44	2,5+3,5	7,5	3,5	45
		6 A22	1440	51	–	–	–				
		6 A23	1380	51	–	–	–				
3	900	6 A31	2230	52	17670	20560	44	2,5+3,5	10	4	50
		6 A32	2170	52	–	–	–				
		6 A33	2100	52	–	–	–				
4	900	6 A41	2910	54	23060	26830	44	3+4	12	4,5	60
		6 A42	2720	54	–	–	–				
		6 A43	2600	54	–	–	–				
5	900	6 A51	3630	56	29680	34530	45	3,5+4,5	15	5	75
		6 A52	3560	56	–	–	–				
		6 A53	3500	56	–	–	–				
6	900	6 A61	4790	60	37270	43360	44	4+5	18	6	110
		6 A62	4670	60	–	–	–				
		6 A63	4550	60	–	–	–				
7	700	8 A71	4400	60	35500	41300	45	3,5+4	18	6	100
		8 A72	4100	60	–	–	–				
		8 A73	3800	60	–	–	–				
8	700	8 A81	6000	61	52400	60900	46	3,5+4,5	20	7	130
		8 A82	5500	61	–	–	–				
		8 A83	5000	61	–	–	–				
9	700	8 A91	8000	62	65000	75600	45	3,5+5	21	8	150
		8 A92	7500	62	–	–	–				
		8 A93	7000	62	–	–	–				
10	700	8 A101	9500	65	81200	94400	47	4+5	22	9	160
		8 A102	8800	65	–	–	–				
		8 A103	8450	65	–	–	–				

MOUNTING HEIGHTS



UNIT SIZE	MOTOR SPEED r.p.m.	MODEL REF.	LEAVING AIR VOLUME m³/h	NOISE LEVEL at 5 m. dB(A)	EMISSION		LEAVING AIR TEMP. °C	MOUNTING HEIGHTS			
								HORIZONTAL DISCHARGE		VERTICAL DISCHARGE	
								H m	THROW m	MAX H m	COVER m²
1	1400	4 A11	1670	56	9160	10660	35	2,5÷3,5	8	4	50
		4 A12	1560	56	–	–	–				
		4 A13	1450	56	–	–	–				
2	1400	4 A21	2370	59	13120	15270	36	3÷4	11	4,5	60
		4 A22	2200	59	–	–	–				
		4 A23	2100	59	–	–	–				
3	1400	4 A31	3400	61	18870	21960	36	3÷4	14	5	70
		4 A32	3300	61	–	–	–				
		4 A33	3200	61	–	–	–				
4	1400	4 A41	4250	64	25170	29280	37	3,5÷4,5	16	5,5	80
		4 A42	3980	64	–	–	–				
		4 A43	3800	64	–	–	–				
5	1400	4 A51	5600	66	32810	38170	37	4÷5	20	6	100
		4 A52	5500	66	–	–	–				
		4 A53	5400	66	–	–	–				
6	1400	4 A61	7400	69	41310	48060	36	4÷5,5	25	7	130
		4 A62	7200	69	–	–	–				
		4 A63	7000	69	–	–	–				
7	900	6 A71	5800	65	35600	41400	38	4÷5	24	7	120
		6 A72	5400	65	–	–	–				
		6 A73	5200	65	–	–	–				
8	900	6 A81	8500	67	51800	60200	38	4÷5,5	26	9	160
		6 A82	7600	67	–	–	–				
		6 A83	7000	67	–	–	–				
9	900	6 A91	10600	68	65000	75600	38	4÷6	28	11	200
		6 A92	10000	68	–	–	–				
		6 A93	9500	68	–	–	–				
10	900	6 A101	12500	71	80300	93400	39	4÷6	30	12	220
		6 A102	11900	71	–	–	–				
		6 A103	11400	71	–	–	–				

For "Helios" substitute ref. "A"
for "H" for sizes from 1 to 6
ie 4H42.

For sizes 1 to 6 with
8 pole motor (700 r.p.m.),
the performance data
can be obtained multiplying
the 4 pole motor (1400 r.p.m.)
figures by the following
correction factors:

KCal/h - Watt x 0.65
m³/h x 0.50
dB(A) x 0.76

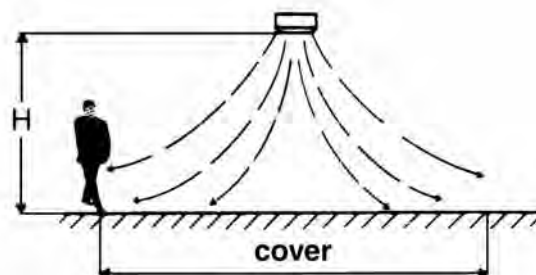
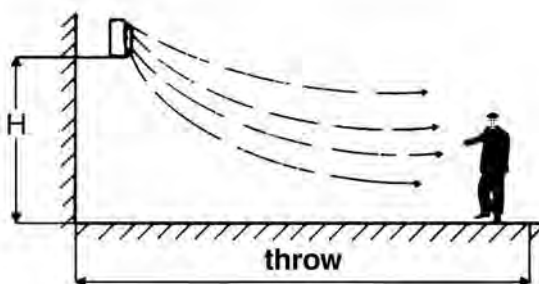
CORRECTION FACTORS

E.A.T. °C	Bar					
	0,1	0,3	0,5	1	2	3
-10	1,17	1,22	1,26	1,35	1,49	1,59
-5	1,11	1,17	1,21	1,30	1,44	1,54
0	1,06	1,11	1,16	1,25	1,39	1,49
+5	1,01	1,06	1,10	1,20	1,33	1,44
+10	0,96	1,01	1,05	1,15	1,28	1,39
+15	0,91	0,96	1,00	1,09	1,23	1,33
+20	0,85	0,91	0,95	1,04	1,18	1,26
+25	0,80	0,85	0,90	0,99	1,13	1,23

HEATING EMISSION STEAM 0.5 BAR - EAT 15°C

UNIT SIZE	MOTOR SPEED	MODEL REF.	LEAVING AIR VOLUME	NOISE LEVEL at 5 m.	EMISSION		LEAVING AIR TEMP.	MOUNTING HEIGHTS			
					KCal/h	W		HORIZONTAL DISCHARGE		VERTICAL DISCHARGE	
								H m	THROW m	MAX H m	COVER m²
1	900	6 A11	1140	48	7520	8750	39	2,5÷3	5,5	3	36
		6 A12	1040	48	–	–	–				
		6 A13	960	48	–	–	–				
2	900	6 A21	1560	51	10500	12210	40	2,5÷3,5	7,5	3,5	45
		6 A22	1440	51	–	–	–				
		6 A23	1380	51	–	–	–				
3	900	6 A31	2230	52	15040	17500	40	2,5÷3,5	10	4	50
		6 A32	2170	52	–	–	–				
		6 A33	2100	52	–	–	–				
4	900	6 A41	2910	54	19630	22840	40	3÷4	12	4,5	60
		6 A42	2720	54	–	–	–				
		6 A43	2600	54	–	–	–				
5	900	6 A51	3630	56	25260	29390	41	3,5÷4,5	15	5	75
		6 A52	3560	56	–	–	–				
		6 A53	3500	56	–	–	–				
6	900	6 A61	4790	60	31720	36900	40	4÷5	18	6	110
		6 A62	4670	60	–	–	–				
		6 A63	4550	60	–	–	–				
7	700	8 A71	4400	60	30200	35100	42	3,5÷4	18	6	100
		8 A72	4100	60	–	–	–				
		8 A73	3800	60	–	–	–				
8	700	8 A81	6000	61	44600	51800	42	3,5÷4,5	20	7	130
		8 A82	5500	61	–	–	–				
		8 A83	5000	61	–	–	–				
9	700	8 A91	8000	62	55300	64300	41	3,5÷5	21	8	150
		8 A92	7500	62	–	–	–				
		8 A93	7000	62	–	–	–				
10	700	8 A101	9500	65	69100	80400	42	4÷5	22	9	160
		8 A102	8800	65	–	–	–				
		8 A103	8450	65	–	–	–				

MOUNTING HEIGHTS



HEATING EMISSION STEAM 6 BAR - EAT 15°C

7 HIGH SPEED

UNIT SIZE	MOTOR SPEED	MODEL REF.	LEAVING AIR VOLUME	NOISE LEVEL at 5 m.	EMISSION		LEAVING AIR TEMP.	MOUNTING HEIGHTS			
								HORIZONTAL DISCHARGE		VERTICAL DISCHARGE	
	r.p.m.				m³/h	dB(A)	KCal/h	W	°C	H m	THROW m
1	1400	4 A11	1670	56	14220	16550	47	2,5÷3,5	8	4	50
		4 A12	1560	56	—	—	—				
		4 A13	1450	56	—	—	—				
2	1400	4 A21	2370	59	20370	23700	47	3÷4	11	4,5	60
		4 A22	2200	59	—	—	—				
		4 A23	2100	59	—	—	—				
3	1400	4 A31	3400	61	29290	34080	47	3÷4	14	5	70
		4 A32	3300	61	—	—	—				
		4 A33	3200	61	—	—	—				
4	1400	4 A41	4250	64	39060	45440	49	3,5÷4,5	16	5,5	80
		4 A42	3980	64	—	—	—				
		4 A43	3800	64	—	—	—				
5	1400	4 A51	5600	66	50920	59240	49	4÷5	20	6	100
		4 A52	5500	66	—	—	—				
		4 A53	5400	66	—	—	—				
6	1400	4 A61	7400	69	64110	74590	47	4÷5,5	25	7	130
		4 A62	7200	69	—	—	—				
		4 A63	7000	69	—	—	—				
7	900	6 A71	5800	65	54900	63800	52	4÷5	24	7	120
		6 A72	5400	65	—	—	—				
		6 A73	5200	65	—	—	—				
8	900	6 A81	8500	67	79600	92600	53	4÷5,5	26	9	160
		6 A82	7600	67	—	—	—				
		6 A83	7000	67	—	—	—				
9	900	6 A91	10600	68	100500	116900	52	4÷6	28	11	200
		6 A92	10000	68	—	—	—				
		6 A93	9500	68	—	—	—				
10	900	6 A101	12500	71	122000	141900	53	4÷6	30	12	220
		6 A102	11900	71	—	—	—				
		6 A103	11400	71	—	—	—				

For "Helios" substitute ref. "A"
for "H" for sizes from 1 to 6
ie 4H42.

For sizes 1 to 6 with
8 pole motor (700 r.p.m.),
the performance data
can be obtained multiplying
the 4 pole motor (1400 r.p.m.)
figures by the following
correction factors:

KCal/h - Watt x 0.65
m³/h x 0.50
dB(A) x 0.76

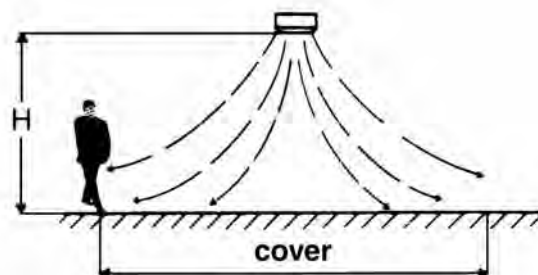
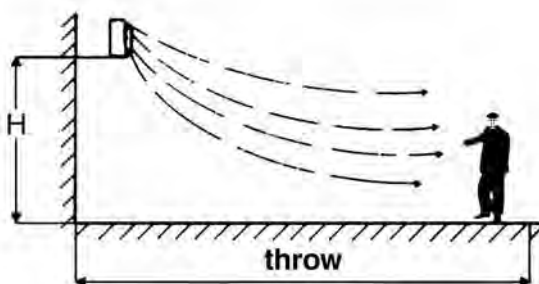
CORRECTION FACTORS

E.A.T. °C	Bar					
	4	5	6	7	8	10
-10	1,08	1,13	1,17	1,21	1,24	1,30
-5	1,05	1,09	1,13	1,17	1,21	1,26
0	1,01	1,06	1,10	1,14	1,17	1,23
+5	0,98	1,03	1,07	1,11	1,14	1,19
+10	0,95	0,99	1,03	1,07	1,11	1,16
+15	0,91	0,96	1,00	1,04	1,07	1,13
+20	0,88	0,93	0,97	1,01	1,04	1,09
+25	0,85	0,89	0,93	0,97	1,01	1,06

HEATING EMISSION STEAM 6 BAR - EAT 15°C

UNIT SIZE	MOTOR SPEED	MODEL REF.	LEAVING AIR VOLUME	NOISE LEVEL at 5 m.	EMISSION		LEAVING AIR TEMP.	MOUNTING HEIGHTS			
					KCal/h	W		HORIZONTAL DISCHARGE		VERTICAL DISCHARGE	
								H m	THROW m	MAX H m	COVER m²
1	900	6 A11	1140	48	11680	13590	53	2,5+3	5,5	3	36
		6 A12	1040	48	–	–	–				
		6 A13	960	48	–	–	–				
2	900	6 A21	1560	51	16300	18960	54	2,5+3,5	7,5	3,5	45
		6 A22	1440	51	–	–	–				
		6 A23	1380	51	–	–	–				
3	900	6 A31	2230	52	23350	27160	54	2,5+3,5	10	4	50
		6 A32	2170	52	–	–	–				
		6 A33	2100	52	–	–	–				
4	900	6 A41	2910	54	30470	35440	54	3+4	12	4,5	60
		6 A42	2720	54	–	–	–				
		6 A43	2600	54	–	–	–				
5	900	6 A51	3630	56	39210	45620	55	3,5+4,5	15	5	75
		6 A52	3560	56	–	–	–				
		6 A53	3500	56	–	–	–				
6	900	6 A61	4790	60	49240	57280	53	4+5	18	6	110
		6 A62	4670	60	–	–	–				
		6 A63	4550	60	–	–	–				
7	700	8 A71	4400	60	46000	53500	55	3,5+4	18	6	100
		8 A72	4100	60	–	–	–				
		8 A73	3800	60	–	–	–				
8	700	8 A81	6000	61	67600	78600	56	3,5+4,5	20	7	130
		8 A82	5500	61	–	–	–				
		8 A83	5000	61	–	–	–				
9	700	8 A91	8000	62	85000	98900	56	3,5+5	21	8	150
		8 A92	7500	62	–	–	–				
		8 A93	7000	62	–	–	–				
10	700	8 A101	9500	65	105000	122100	56	4+5	22	9	160
		8 A102	8800	65	–	–	–				
		8 A103	8450	65	–	–	–				

MOUNTING HEIGHTS



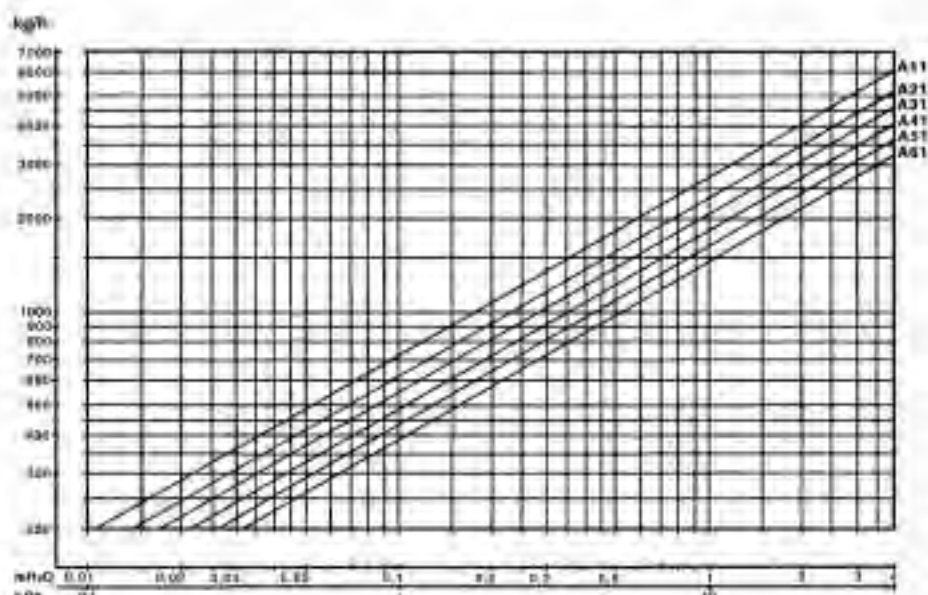
ATLAS & HELIOS size 1-6 heater battery resistance table

The following tables indicate the pressure drop in mVeg for each model for a mean water temperature of 80°C.

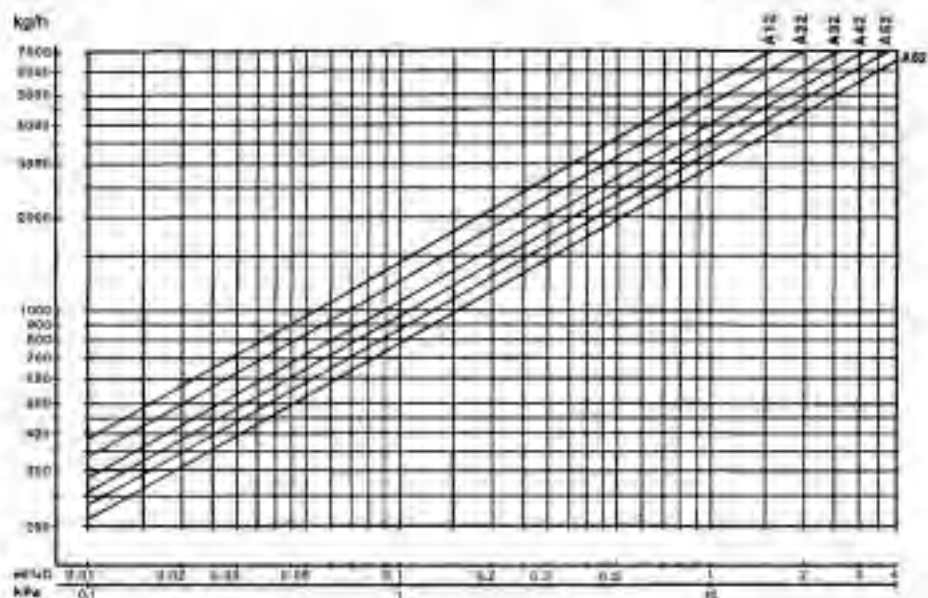
MEAN WATER TEMPERATURE °C	
CORRECTION FACTORS K	

°C	K
50	1.15
60	1.10
70	1.05
90	0.95
100	0.89
110	0.83
120	0.78
130	0.72
140	0.67
150	0.61

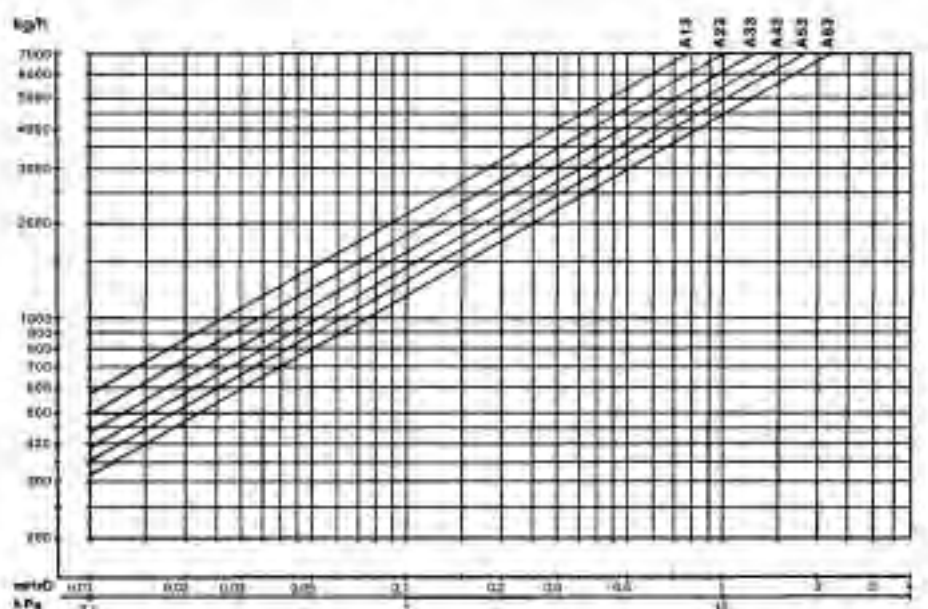
1 Row



2 Rows



3 Rows



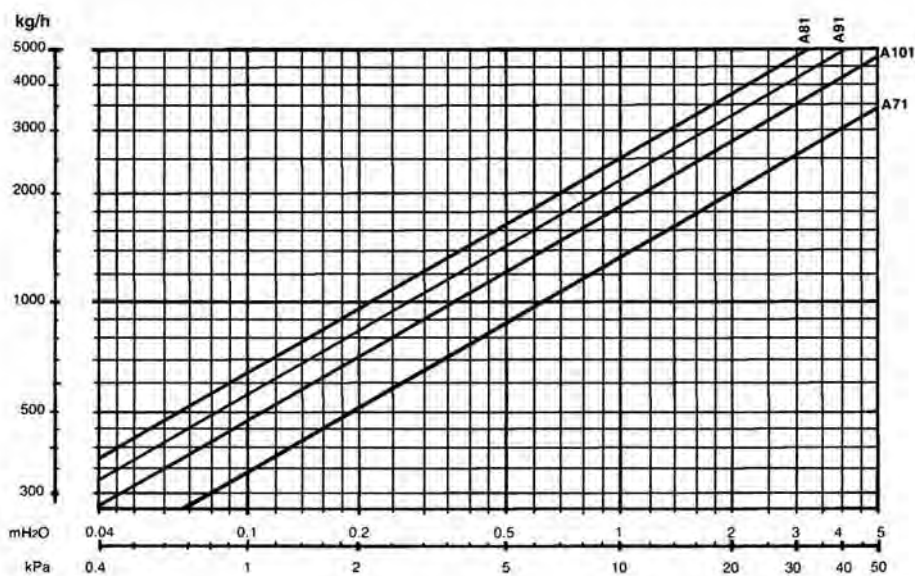
ATLAS & HELIOS size 7-10 heater battery resistance table

The following tables indicate the pressure drop in m/wg for each model for a mean water temperature of 80°C.

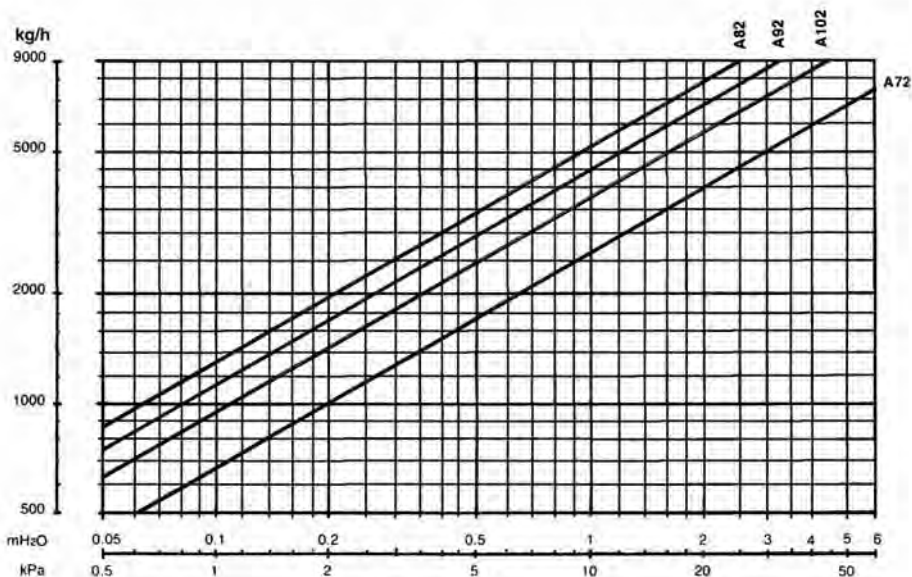
MEAN WATER TEMPERATURE °C
CORRECTION FACTORS K

°C	K
50	1.15
60	1.10
70	1.05
90	0.95
100	0.89
110	0.83
120	0.78
130	0.72
140	0.67
150	0.61

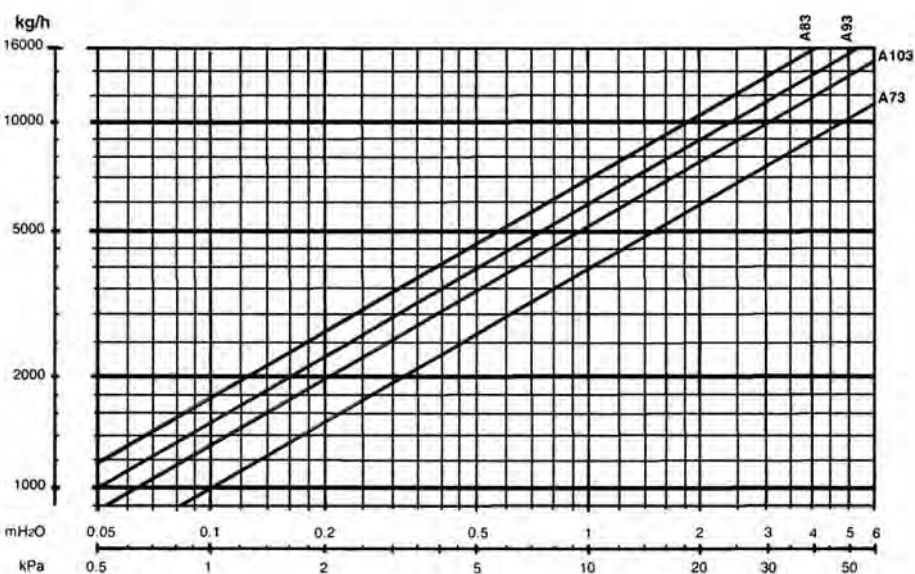
1 Row



2 Rows



3 Rows



HEATING EMISSION

MODEL		46 F 23		46 F 24		46 F 43		46 F 44		68 F 63		68 F 64		68 F 93		68 F 94	
Mounting height	m	2.5 ÷ 4				3 ÷ 4.5				3 ÷ 5				3.5 ÷ 5.5			
Speed	r.p.m.	1350	950	1350	950	1350	950	1350	950	900	700	900	700	900	700	900	700
Air flow	m³/h	2200	1500	2000	1400	3800	2500	3400	2150	4350	3600	4000	3150	8250	6250	7800	5950
Throw	m	11	7.5	10	7	16	12	14	10	18	14	17	13	26	20	24	18
Noise level at 5 m.	dB (A)	59	51	59	51	64	54	64	54	60	52	60	52	66	60	66	60
W.T. 45/40°C	kW	8.3	6.6	9.5	7.5	14.1	11.0	16.2	12.1	19.0	16.6	21.4	18.2	36.5	31.0	42.3	33.6
E.A.T. + 15°C	L.A.T. °C	27.1	29.0	30.4	32.3	26.9	29.0	30.3	32.7	28.7	29.9	32.2	33.6	29.2	30.6	32.3	34.2
W.T. 85/75°C	kW	20.4	16.1	23.3	18.5	34.5	26.9	39.7	29.6	46.3	40.3	52.0	44.0	89.5	75.9	103.6	82.0
E.A.T. + 15°C	L.A.T. °C	44.8	49.5	52.8	57.5	44.2	49.2	52.3	58.2	48.4	51.2	56.9	60.1	49.8	53.2	57.4	61.9
W.T. 90/70°C	kW	19.5	15.5	22.5	18.0	33.2	26.0	38.6	29.0	45.2	39.5	51.1	43.5	86.6	73.8	100.9	80.4
E.A.T. + 15°C	L.A.T. °C	43.5	48.2	51.5	56.3	43.1	48.2	51.3	57.3	47.6	50.4	56.2	59.6	48.7	52.1	56.3	61.0

Correction factors for different working conditions

E.A.T.	on 45/40°C FIGURES					on 85/75°C FIGURES					on 90/70°C FIGURES				
	Water temperature °C					Water temperature °C					Water temperature °C				
C°	40 35	45 40	50 45	55 50	60 55	70 60	75 65	80 70	85 75	90 80	70 50	80 60	85 65	90 70	95 75
-5	1.46	1.62	1.77	1.94	2.10	1.07	1.15	1.23	1.30	1.38	1.00	1.15	1.23	1.31	1.38
0	1.29	1.46	1.62	1.77	1.94	1.00	1.07	1.15	1.23	1.30	0.92	1.08	1.15	1.23	1.31
+5	1.13	1.29	1.46	1.62	1.77	0.92	1.00	1.07	1.15	1.23	0.85	1.00	1.08	1.15	1.23
+10	1.00	1.13	1.29	1.46	1.62	0.84	0.92	1.00	1.07	1.15	0.77	0.92	1.00	1.08	1.15
+15	0.81	1.00	1.13	1.29	1.46	0.76	0.84	0.92	1.00	1.07	0.69	0.85	0.92	1.00	1.08
+20	0.65	0.81	1.00	1.13	1.29	0.69	0.76	0.84	0.92	1.00	0.62	0.77	0.85	0.92	1.00
+25	0.49	0.65	0.81	1.00	1.13	0.62	0.69	0.76	0.84	0.92	0.54	0.69	0.77	0.85	0.92

COOLING EMISSION

MODEL		46 F 23	46 F 24	46 F 43	46 F 44	68 F 63	68 F 64	68 F 93	68 F 94
Mounting height	m	2.5 ÷ 4		3 ÷ 4.5		3 ÷ 5		3.5 ÷ 5.5	
Speed	r.p.m.	950	950	950	950	700	700	700	700
Air flow	m³/h	1500	1400	2500	2150	3600	3150	6250	5950
Throw	m	7.5	7	12	10	14	13	20	18
Noise level at 5 m.	dB(A)	51	51	54	54	52	52	60	60
W.T. 7/12°C E.A.T. + 28°C R.H. 55%	kW total	5.3	6.3	9.1	10.6	13.8	15.9	25.0	28.2
	kW sensible	3.6	4.2	6.2	6.9	9.2	10.2	16.9	18.4
	L.A.T. °C	19.9	17.9	19.8	17.5	19.4	17.2	19.1	17.0
W.T. 11/15°C E.A.T. + 28°C R.H. 55%	kW total	3.7	4.4	6.4	7.5	9.8	11.3	17.6	20.0
	kW sensible	3.1	3.5	5.2	5.8	7.7	8.5	14.2	15.4
	L.A.T. °C	21.1	19.6	21.1	19.2	20.8	19.0	20.5	18.8
W.T. 9/14°C E.A.T. + 28°C R.H. 55%	kW total	4.2	5.0	7.3	8.6	11.3	13.0	20.1	22.8
	kW sensible	3.3	3.7	5.5	6.1	8.2	9.1	15.1	16.4
	L.A.T. °C	20.7	19.0	20.7	18.7	20.3	18.3	20.1	18.2

For cooling, only low speed must be used.

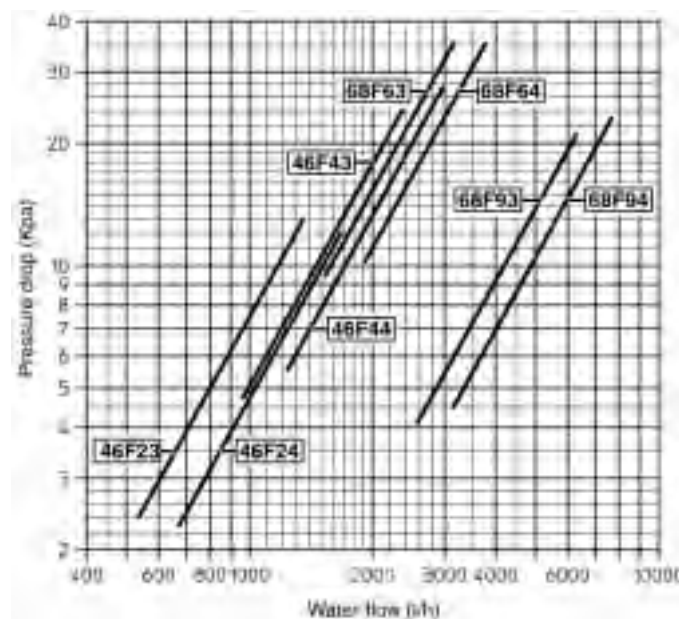
Correction factors (kW total) for different working conditions

E.A.T.	on 7/12°C FIGURES			on 11/15°C FIGURES		
	WATER TEMP. °C			WATER TEMP. °C		
	7	8	9	9	10	11
°C	12	13	14	13	14	15
+26	0.79	0.71	0.63	0.99	0.85	0.74
+27	0.89	0.80	0.71	1.14	1.00	0.85
+28	1.00	0.90	0.80	1.30	1.15	1.00
+29	1.11	1.00	0.88	1.46	1.31	1.16
+30	1.23	1.10	0.98	1.62	1.47	1.32

The air conditioners not only cool the air, but also feature a dehumidification function. When the appliance operates in climatic conditions where the dehumidification function prevails (for example, when first starting the appliance), some droplets of atomised condensate may be released by the appliance. This should be kept in mind during installation, so as to avoid causing disturbance to persons or objects.

The fluid should always be shut off when the fan stops.

JANUS 05 water side pressure drop (kPa)



TMW °C	40	50	60	70	80
K	0.86	0.82	0.78	0.74	0.70

The water pressure drop figures refer to a mean water temperature of 10°C; for different temperature, multiply the pressure drop figures by the correction factors K.

HEATING EMISSION

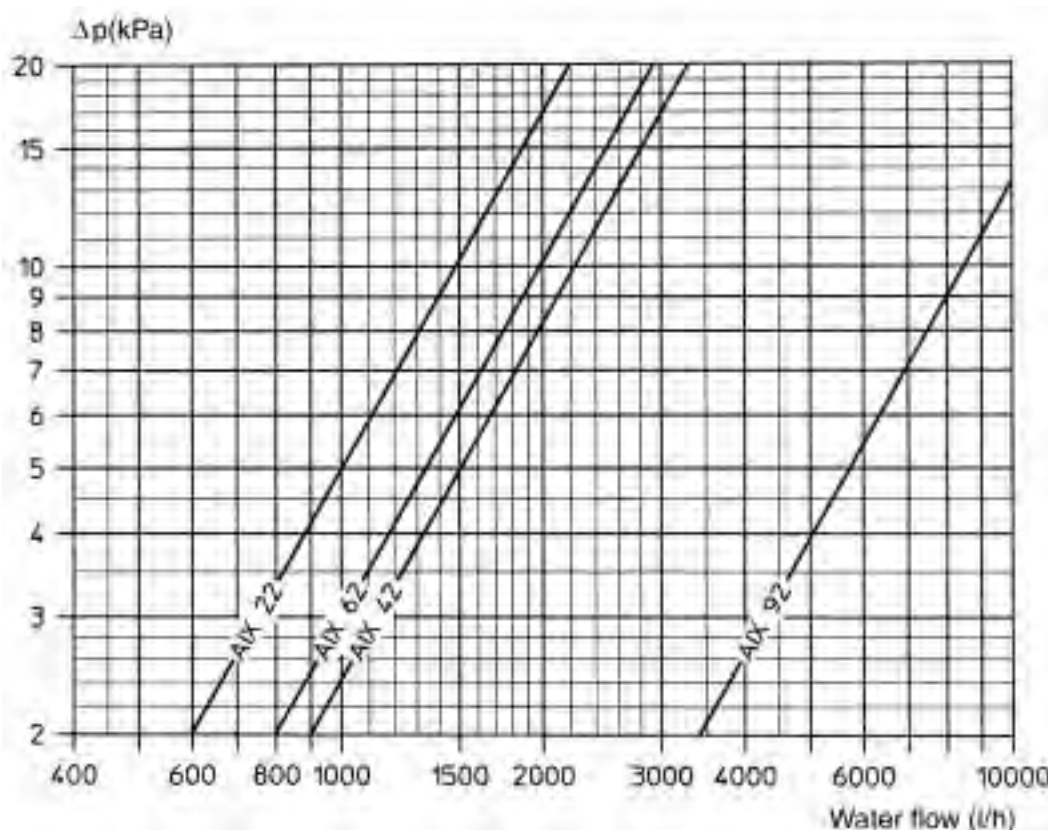
MODEL		46 I 21	46 I 41	46 I 61	68 I 91
Mounting height	m	2.5 ÷ 4	3 ÷ 4.5	3 ÷ 5	3.5 ÷ 5.5
Speed	r.p.m.	1350 950	1350 950	1350 950	900 700
Air flow	m ³ /h	2300 1500	3900 2600	6900 4400	10200 7600
Throw	m	11 7.5	16 12	25 18	28 21
Noise level at 5 m.	dB (A)	59 51	64 54	69 60	68 62
STEAM 3 bar	kW	14.3 11.9	23.4 19.8	37 31	68.4 60.5
E.A.T. + 15°C	L.A.T. °C	33.3 38.3	32.6 37.4	30.8 35.7	34.7 38.4
STEAM 6 bar	kW	16.5 13.8	27 22.9	42.7 35.9	79 70
E.A.T. + 15°C	L.A.T. °C	36.1 42	35.4 40.9	33.2 39	37.8 42.1

MODEL		46 I 22	46 I 42	46 I 62	68 I 92
Mounting height	m	2.5 ÷ 4	3 ÷ 4.5	3 ÷ 5	3.5 ÷ 5.5
Speed	r.p.m.	1350 950	1350 950	1350 950	900 700
Air flow	m ³ /h	2100 1400	3600 2400	6300 4100	9200 7000
Throw	m	11 7.5	16 12	25 18	28 21
Noise level at 5 m.	dB (A)	59 51	64 54	69 60	68 62
W.T. 85/75°C	kW	13 10.6	21.1 17.2	36.5 29.3	59.2 51.4
E.A.T. + 15°C	L.A.T. °C	33.2 37.3	32.2 36.1	32 36	33.9 36.6
W.T. 130/100°C	kW	18.9 15.4	30.2 24.7	53.3 43	84.1 74
E.A.T. + 15°C	L.A.T. °C	41.5 47.3	39.7 45.3	39.9 45.8	41.9 46.1

Correction factors for different working conditions

E.A.T.	on 85/75°C FIGURES					on 130/100°C FIGURES					on 6 bar STEAM FIGURES					
	WATER TEMPERATURE °C					WATER TEMPERATURE °C					BAR					
	70	75	80	85	90	110	120	130	140	150						
°C	60	65	70	75	80	80	90	100	110	120	1	2	3	4	5	6
-10	1.15	1.23	1.31	1.38	1.45	1.05	1.15	1.25	1.35	1.45	0.87	0.96	1.03	1.08	1.13	1.17
-5	1.07	1.15	1.23	1.30	1.38	1.00	1.10	1.20	1.30	1.40	0.84	0.93	1.00	1.052	1.09	1.13
0	1.00	1.07	1.15	1.23	1.30	0.95	1.05	1.15	1.25	1.35	0.81	0.90	0.96	1.01	1.06	1.10
+5	0.92	1.00	1.07	1.15	1.23	0.90	1.00	1.10	1.20	1.30	0.78	0.86	0.93	0.98	1.03	1.07
+10	0.84	0.92	1.00	1.07	1.15	0.85	0.95	1.05	1.15	1.25	0.74	0.83	0.90	0.95	0.99	1.03
+15	0.76	0.84	0.92	1.00	1.07	0.80	0.90	1.00	1.10	1.20	0.70	0.80	0.86	0.91	0.96	1
+20	0.69	0.76	0.84	0.92	1.00	0.75	0.85	0.95	1.05	1.15	0.67	0.76	0.81	0.88	0.93	0.97
+25	0.62	0.69	0.76	0.84	0.92	0.70	0.80	0.90	1.00	1.10	0.64	0.73	0.80	0.85	0.89	0.93

Water side pressure drop (kPa)



TMV °C	50	60	70	80	90	100	110	120	130	140	150
K	1,15	1,10	1,05	1	0,95	0,89	0,83	0,78	0,72	0,67	0,61

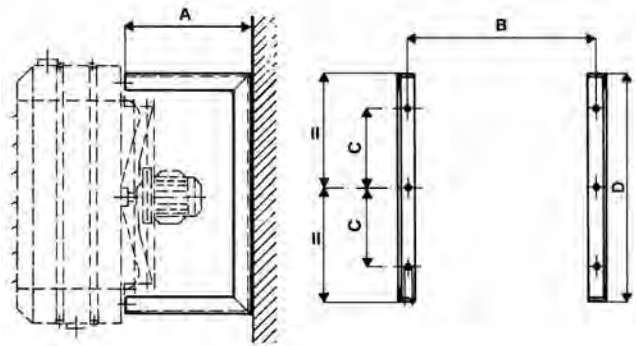
The water pressure drop figures refer to a mean water temperature of 80°C; for different temperatures, multiply the pressure drop figures by the correction factors K.

Accessories

“AMP” for Atlas and Janus, “HMP” for Helios

Wall bracket.

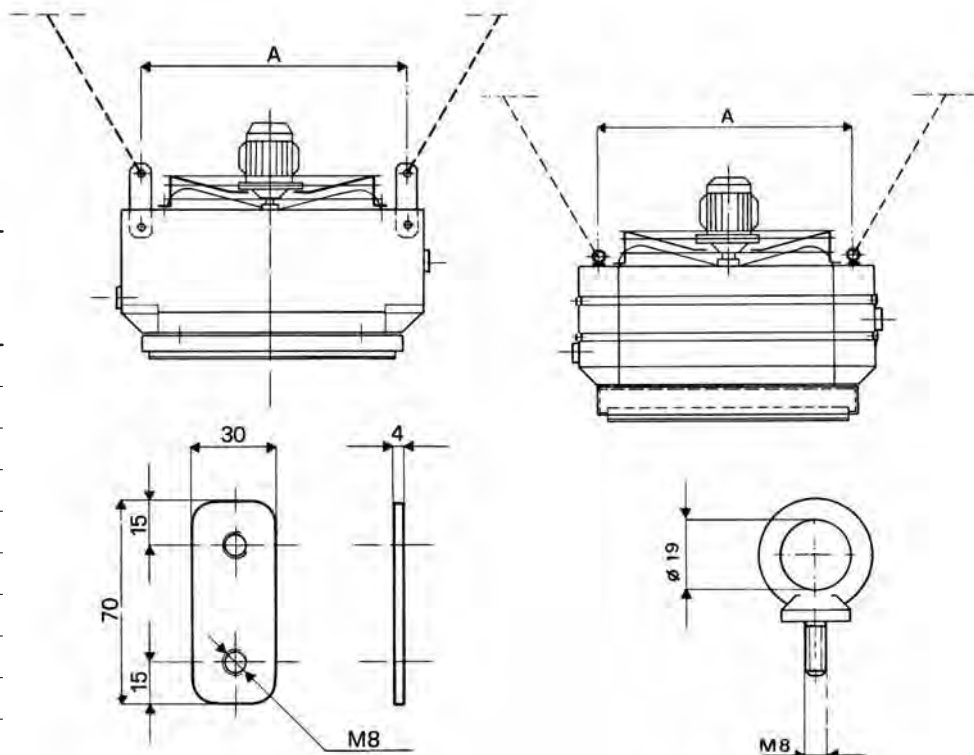
SIZE	ATLAS				HELIOS			
	A	B	C	D	A	B	C	D
1	340	442	157.5	405	315	406	157.5	436
2	340	496	184.5	459	315	460	184.5	490
3	340	550	211.5	513	315	514	211.5	544
4	390	604	238.5	567	365	568	238.5	598
5	390	658	265.5	621	365	622	265.5	652
6	390	712	292.5	675	365	676	292.5	706
7	520	763	318.0	726	-	-	-	-
8	520	870	371.5	833	-	-	-	-
9	520	980	426.5	943	-	-	-	-
10	520	1087	480.0	1050	-	-	-	-



“AS” for Atlas and Janus, “HS” for Helios

Suspension plate for ceiling installation

SIZE	A	
	ATLAS	HELIOS
1	375	406
2	429	460
3	483	514
4	537	568
5	591	622
6	645	676
7	696	-
8	803	-
9	913	-
10	1020	-

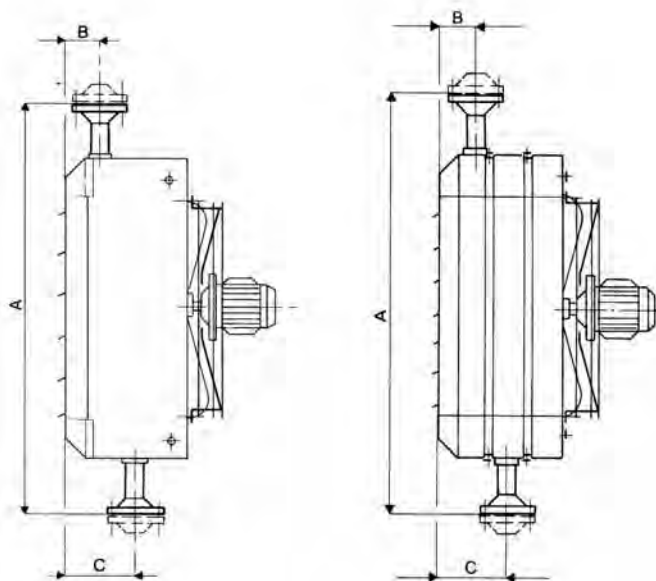


Accessories

“AF” for Atlas, “HF” for Helios Water > 140 °C - Steam > 3 bar Flanged connections

PN 16 flanges are fitted as standard however any flange can be fitted on request.

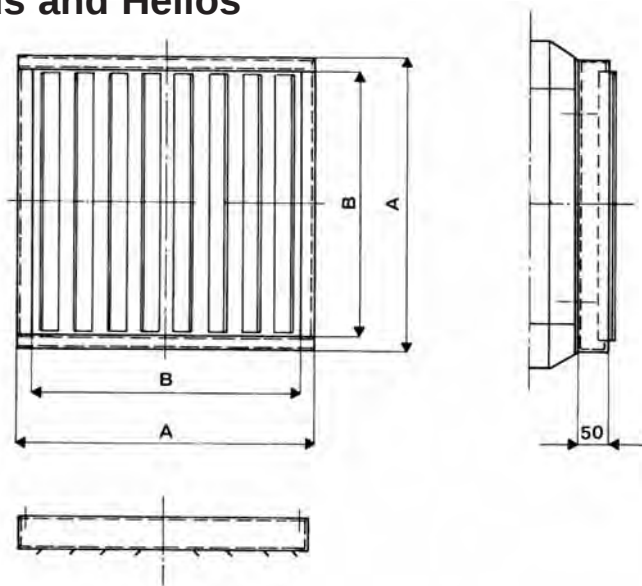
SIZE	DN	A	B	C
1	20	672	70	160
2	20	726	70	160
3	25	780	70	160
4	25	834	70	160
5	32	888	70	160
6	32	942	70	160
7	40	1050	80	150
8	40	1200	80	150
9	40	1300	80	150
10	50	1400	80	150



4 way diffuser “AD” for Atlas, Janus and Helios

To be used when discharging downflow to create a 4 way discharge pattern. For normal heights of installation.

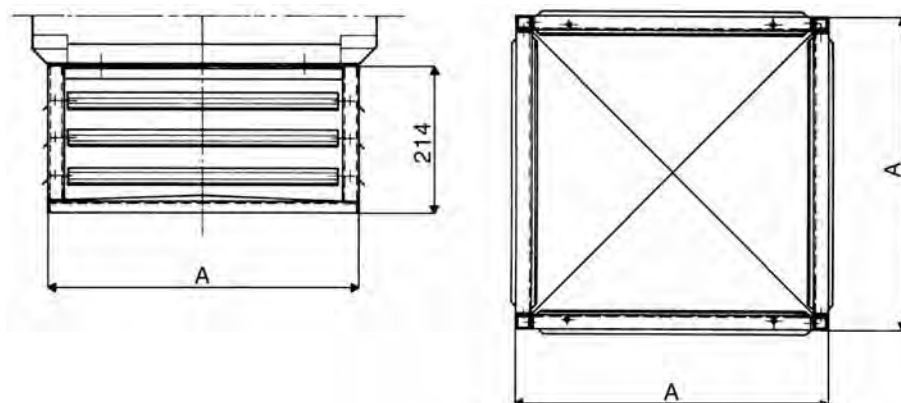
SIZE	A	B
1	372	336
2	426	390
3	480	444
4	534	498
5	588	552
6	642	606
7	693	657
8	800	764
9	910	874
10	1016	981



“AW4” for Atlas

To be used when discharging downflow to create a 4 way discharge pattern. For low heights of installation.

SIZE	A
1	376
2	430
3	484
4	538
5	592
6	646
7	-
8	-
9	-
10	-

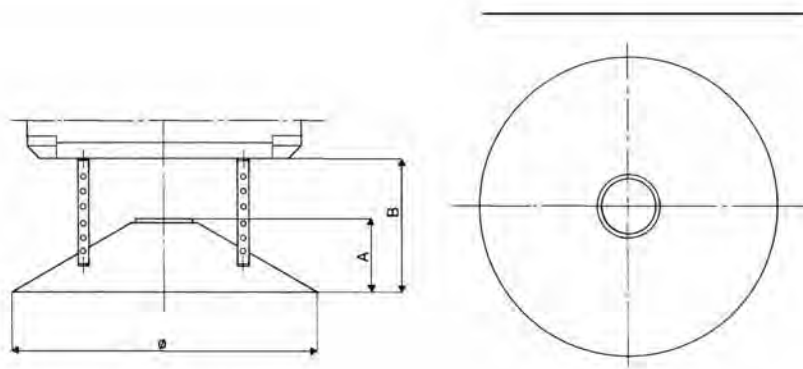


Accessories

“ACD” for Atlas

Cone diffuser
recommended for low-level
ceiling installations.

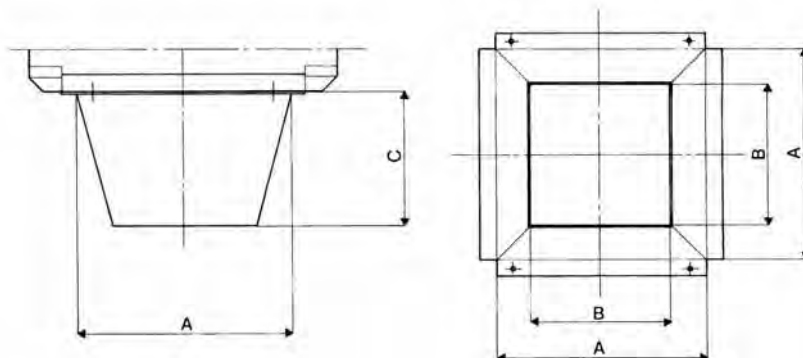
SIZE	A	B	Ø	Mounting heights m
1	150	250	760	2.5 - 3
2	150	250	760	3 - 3.5
3	190	300	890	3 - 4
4	190	300	890	3.5 - 4.5
5	230	350	1070	3.5 - 5
6	230	350	1070	4 - 5
7	-	-	-	-
8	-	-	-	-
9	-	-	-	-
10	-	-	-	-



“ATP” for Atlas

Blast nozzle high level
diffuser.
Recommended for high
ceiling installations.

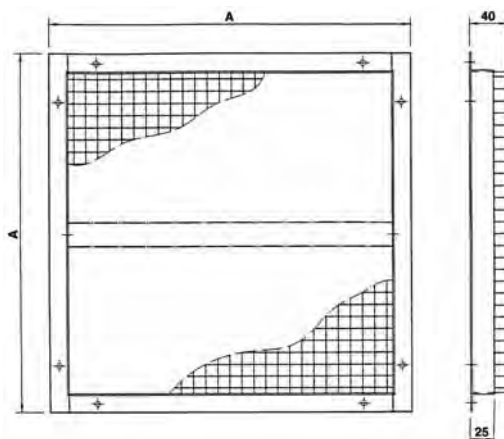
SIZE	A	B	C	Mounting heights m
1	336	250	250	3.5 - 4.5
2	390	250	250	4.5 - 5
3	444	300	300	5 - 5.5
4	498	300	300	6 - 6.5
5	552	350	350	6.5 - 7
6	606	350	350	7 - 8
7	657	450	450	7.5 - 8.5
8	764	450	450	9.5 - 10.5
9	874	600	600	11.5 - 12.5
10	981	600	600	12.5 - 13.5



“APP” for Atlas and Janus, “HPP” for Helios

Ball protection grid.

SIZE	A
1	372
2	426
3	480
4	534
5	588
6	642
7	697
8	804
9	914
10	1021



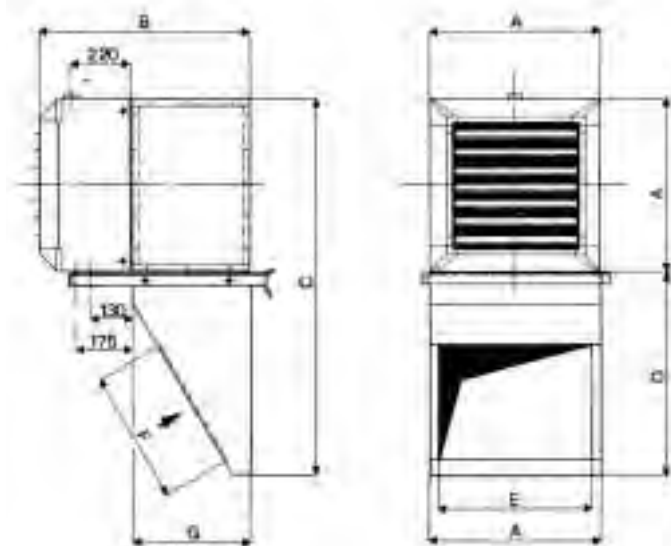
Accessories

“ARC” for Atlas and Janus

Simple intake hood fitted underneath.
Prepainted steel thickness 1 mm.

correction factors	
Air volume	K 0.90
Heat emission	K 0.95

SIZE	A	B	C	D	E	F	G
1	472	660	1072	600	422	410	370
2	526	660	1126	600	476	410	370
3	580	660	1180	600	530	510	370
4	634	760	1534	900	584	510	470
5	688	760	1588	900	638	610	470
6	742	760	1642	900	692	610	470
7	793	860	1793	1000	710	710	570
8	900	860	1900	1000	710	710	570
9	1010	960	2210	1200	910	910	670
10	1117	960	2317	1200	910	910	670

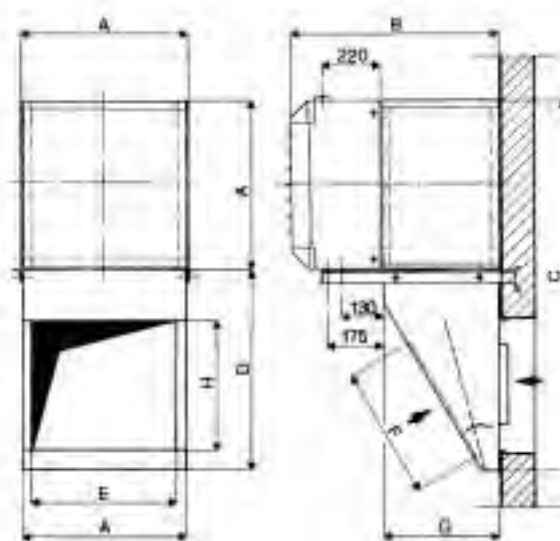


“AMC” for Atlas and Janus

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

correction factors	
Air volume	K 0.90
Heat emission	K 0.95

SIZE	A	B	C	D	E	F	G	H
1	472	660	1072	600	412	410	370	410
2	526	660	1126	600	466	410	370	410
3	580	660	1180	600	520	510	370	510
4	634	760	1534	900	574	510	470	510
5	688	760	1588	900	628	610	470	610
6	742	760	1642	900	682	610	470	610
7	793	860	1793	1000	710	710	570	710
8	900	860	1900	1000	710	710	570	710
9	1010	960	2210	1200	910	910	670	910
10	1117	960	2317	1200	910	910	670	910



Accessories

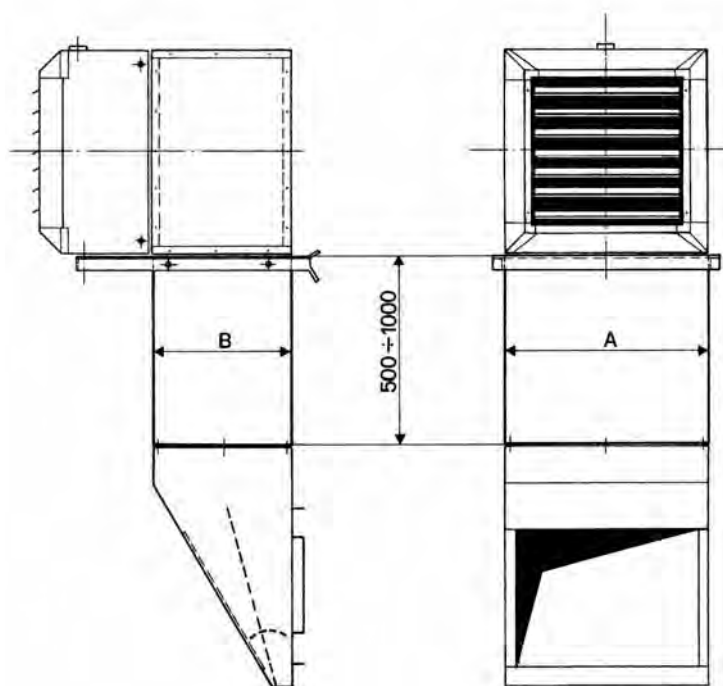
“AP” for Atlas and Janus

Intermediate section for
ARC and AMC air boxes.

Prepainted steel thickness 1 mm.

correction factors	
Air volume	K 0.96
Heat emission	K 0.97

SIZE	A	B
1	472	370
2	526	370
3	580	370
4	634	470
5	688	470
6	742	470
7	793	570
8	900	570
9	1010	670
10	1117	670



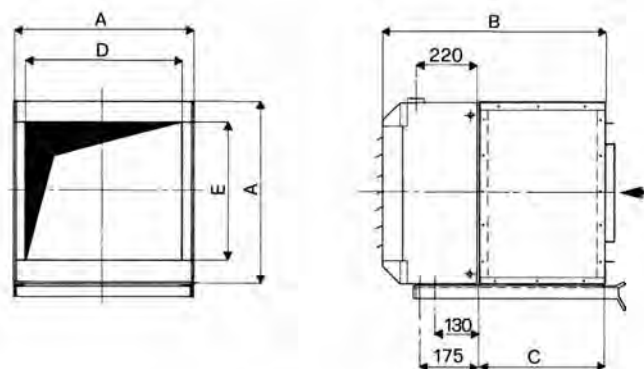
“AE” for Atlas and Janus

Fresh box.

Prepainted steel thickness 1 mm.

correction factors	
Air volume	K 0.95
Heat emission	K 0.97

SIZE	A	B	C	D	E
1	472	660	370	412	410
2	526	660	370	466	410
3	580	660	370	520	510
4	634	760	470	574	510
5	688	760	470	628	610
6	742	760	470	682	610
7	793	860	570	710	710
8	900	860	570	710	710
9	1010	960	670	910	910
10	1117	960	670	910	910



Accessories

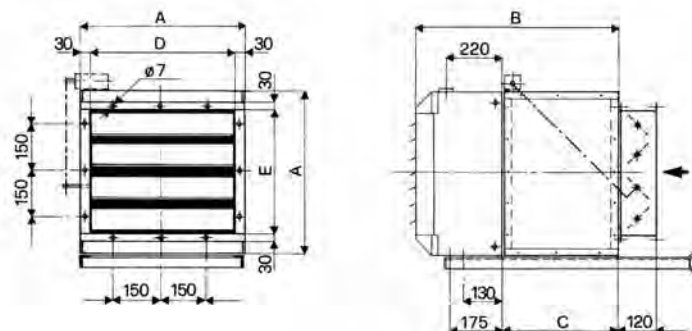
“AES” for Atlas and Janus

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

correction factors

Air volume	K 0.90
Heat emission	K 0.95

SIZE	A	B	C	D	E
1	472	660	370	412	410
2	526	660	370	466	410
3	580	660	370	520	510
4	634	760	470	574	510
5	688	760	470	628	610
6	742	760	470	682	610
7	793	860	570	710	710
8	900	860	570	710	710
9	1010	960	670	910	910
10	1117	960	670	910	910



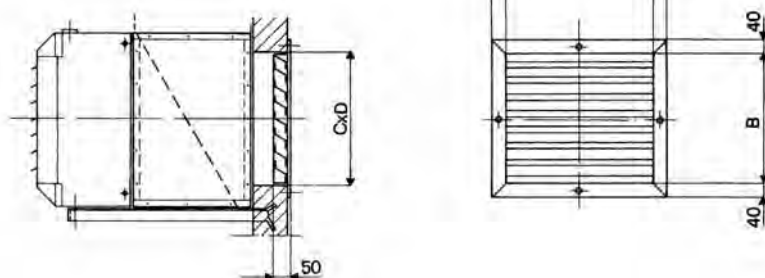
“AG” for Atlas and Janus

External air intake grille
suitable with AE-AES-AMC air boxes.
Prepainted steel thickness 1 mm.

correction factors

Air volume	K 0.97
Heat emission	K 0.97

SIZE	A	B	C	D
1	402	400	410	412
2	456	400	410	466
3	510	500	510	520
4	564	500	510	574
5	618	600	610	628
6	672	600	610	682
7	702	702	712	712
8	702	702	712	712
9	902	902	912	912
10	902	902	912	912



Accessories

“AM” for Atlas and Janus

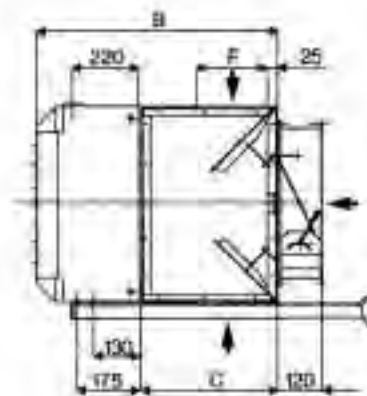
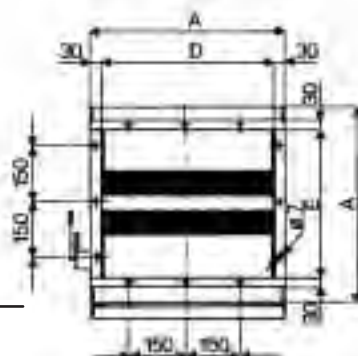
Internal/external air mixing
box manually controlled.

Prepainted steel thickness 1 mm.

correction factors

Air volume K 0.90

Heat emission K 0.95



SIZE	A	B	C	D	E	F
1	472	660	370	412	410	190
2	526	660	370	466	410	190
3	580	660	370	520	510	190
4	634	760	470	574	510	270
5	688	760	470	628	610	300
6	742	760	470	682	610	300
7	793	860	570	710	710	300
8	900	860	570	710	710	300
9	1010	960	670	910	910	350
10	1117	960	670	910	910	350

“AMS” for Atlas and Janus

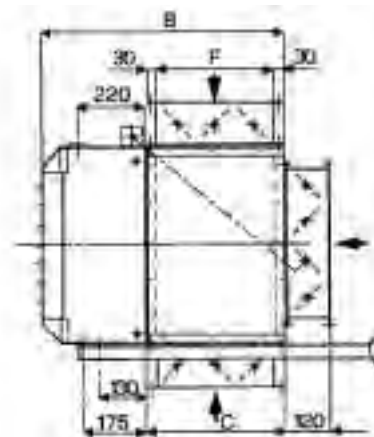
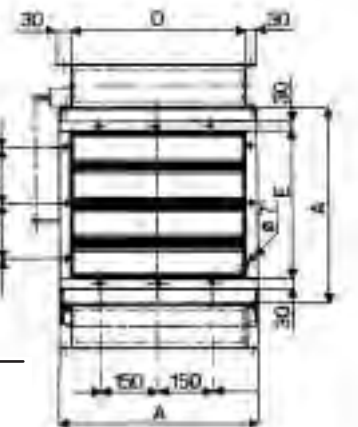
Internal/external air mixing
box, manually controlled (can be
motorized by customer).

Prepainted steel thickness 1 mm.

correction factors

Air volume K 0.90

Heat emission K 0.95



SIZE	A	B	C	D	E	F
1	472	660	370	412	410	310
2	526	660	370	466	410	310
3	580	660	370	520	510	310
4	634	760	470	574	510	410
5	688	760	470	628	610	410
6	742	760	470	682	610	410
7	793	860	570	710	710	510
8	900	860	570	710	710	510
9	1010	960	670	910	910	610
10	1117	960	670	910	910	610

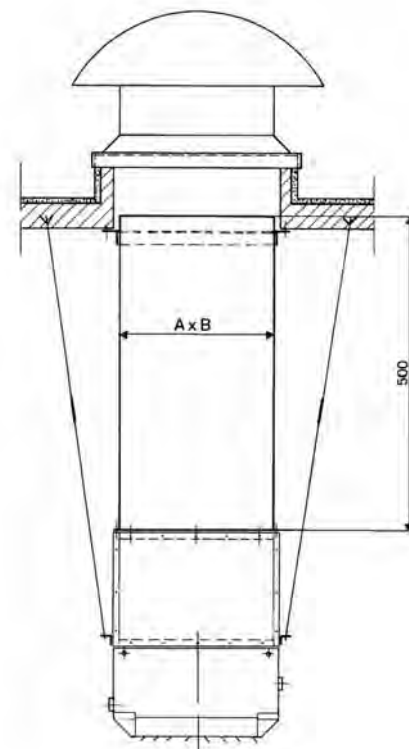
Accessories

“AC” for Atlas

Intermediate section for
AE-AES-AM-AMS air boxes.

correction factors	
Air volume	K 0.96
Heat emission	K 0.97

SIZE	A	B
1	412	410
2	466	410
3	520	510
4	574	510
5	628	610
6	682	610
7	710	710
8	710	710
9	910	910
10	910	910

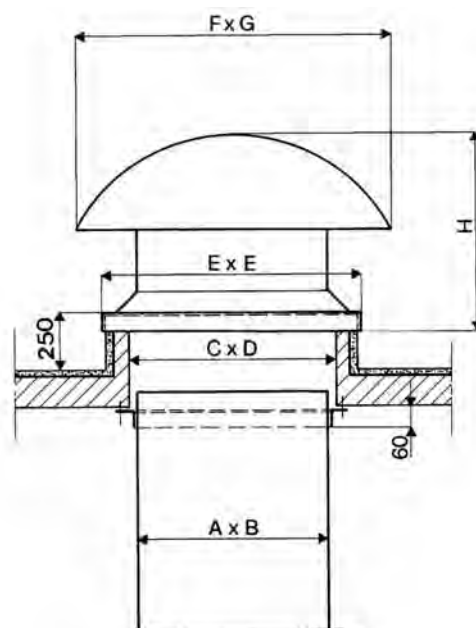


“AT” for Atlas

Roof-mounted air intake
suitable with
AE-AES-AM-AMS air boxes.

correction factors	
Air volume	K 0.97
Heat emission	K 0.97

SIZE	A	B	C	D	E	F	G	H
1	412	410	422	420	710	730	600	515
2	466	410	476	420	710	730	600	515
3	520	510	530	520	910	920	690	620
4	574	510	584	520	910	920	690	620
5	628	610	638	620	990	1220	920	670
6	682	610	692	620	990	1220	920	670
7	710	710	870	870	1210	1530	1170	800
8	710	710	870	870	1210	1530	1170	800
9	910	910	920	920	1210	1530	1170	800
10	910	910	920	920	1210	1530	1170	800



ATLAS STP - Door Curtain

Description

The ATLAS SABIANA STP door curtain unit is designed to provide a screen of warm air to restrict cold wind blowing into the area and to reduce the heated atmosphere inside the area from scaping out. Generally the unit is controlled by a door switch, operating the unit on opening and isolating on closing, sometimes with a short time delay to assist the main heating to resume the desired ambient temperature as quickly as possible. This

system is relatively cheap to install, maintain and run, and the savings are not only pure economy of heating, but comfort to personal reducing stopped production times. The unit is constructed in four main components. Main Casing, Heater Battery, Fan/motor assembly and Diffuser.

Heater Battery

Is manufactured from high quality steel or copper tube 22 mm of diameter to reduce resistance with mechanically bonded aluminium fins for high

efficient heat transfer. The batteries are available in one row, two rows or three rows.

Fan/Motor Assembly

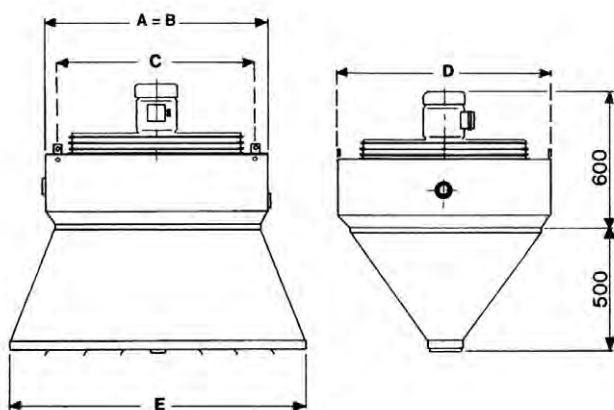
Is supplied as for unit heater range with finger proof guard as a standard feature. The hermetically sealed induction motor is sealed for life to give trouble free use. The fan consists of aluminium helicoid blades statically and dynamically balanced with a cast alloy hub, keyed into the motor shaft. The whole assembly is mounted onto the

casing with antivibration rubber mounting blocks.

Diffuser

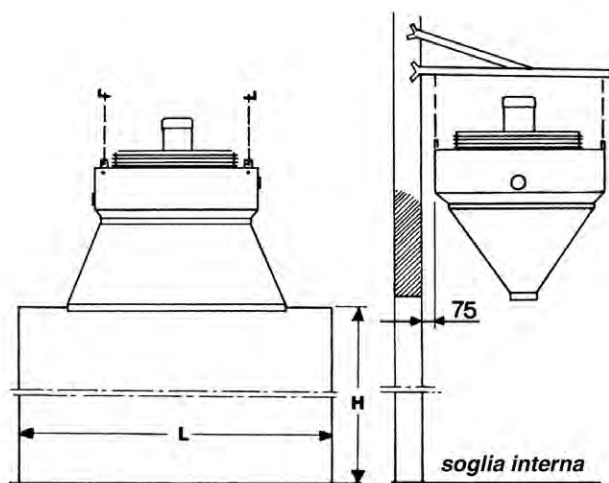
Is of the fishtail design produced from steel sheet. The discharge diffuser has manually adjustable louvres for individual requirements. The ATLAS SABIANA STP Door Curtain units are available in three sizes, three outputs of heater battery in each. Full design assistance is available enabling the best possible economy and efficiency to you requirements.

Dimension, Weight, Water contents



SIZE	DIMENSIONS				ROWS	WEIGHT (kg)	WATER CONTENTS (l)
	A=B	C	D	E			
7	793	696	793	1000	1	62	4.3
					2	70	8.2
					3	76	12.3
8	900	803	900	1200	1	75	5.8
					2	86	11.1
					3	93	16.6
9	1010	913	1010	1400	1	90	7.6
					2	104	14.5
					3	113	21.8

Dimension, Weight, Water contents



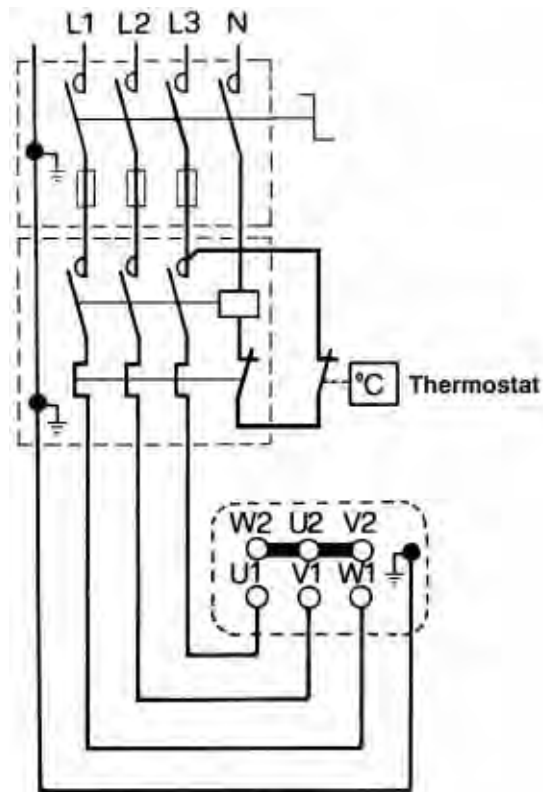
SIZE	MOTOR POLE	DOOR HEIGHT (m)	DOOR WIDTH (m)
7	6	3.0 ÷ 4.0	1.5
8	6	3.5 ÷ 4.5	2.0
9	6	4.5 ÷ 5.5	2.5
7	8	2.5 ÷ 3.0	1.5
8	8	3.0 ÷ 3.5	1.8
9	8	3.5 ÷ 4.5	2.0

TECHNICAL DATA

Electric motor 3 phase 400V 50Hz								
SIZE		6 POLE (900 RPM)			8 POLE (700 RPM)			
		W	Noise level dB (A)		W	Noise level dB (A)		
7		550	68		250	62		
8		750	69		370	63		
9		1100	70		550	64		
6 POLE (900 RPM)				8 POLE (700 RPM)				
	SIZE	1 ROW	2 ROWS	3 ROWS	1 ROW	2 ROWS	3 ROWS	
AIR FLOW m³/h	7	5000	4600	4400	3700	3500	3200	
	8	7300	6500	6000	5100	4700	4200	
	9	9000	8500	8100	6800	6400	6000	
Heating Emission and L.A.T. (E.A.T. +15°C)	Water +85/+70°C	7	—	38.4 Kw 43 °C	46.5 Kw 52 °C	—	32.5 Kw 44 °C	38.4 Kw 53 °C
		8	—	52.5 Kw 41 °C	60.7 Kw 48 °C	—	43.6 Kw 44 °C	50.0 Kw 53 °C
		9	—	70.7 Kw 42 °C	85.7 Kw 50 °C	—	58.7 Kw 44 °C	70.4 Kw 53 °C
	Water +140/+100°C	7	41,3 Kw 41 °C	60.5 Kw 56 °C	—	35.1 Kw 46 °C	50.7 Kw 61 °C	—
		8	57.9 Kw 40 °C	82.6 Kw 55 °C	—	49.8 Kw 46 °C	68.6 Kw 61 °C	—
		9	75.6 Kw 41 °C	111.3 Kw 56 °C	—	64.3 Kw 46 °C	92.3 Kw 61 °C	—
	Steam 0.5 bar	7	39.3 Kw 40 °C	—	—	33.4 Kw 42 °C	—	—
		8	55.0 Kw 40 °C	—	—	47.3 Kw 42 °C	—	—
		9	71.8 Kw 41 °C	—	—	61.0 Kw 43 °C	—	—

ATLAS-HELIOS one speed - Three phase - 230/400V motor

The standard motor fitted on the Atlas and Helios ranges is a hermetically sealed motor which is maintenance free.
 The motor is supplied as standard for a three phase 230/400V 50Hz supply.
 All motors are insulated to IP44 class B protection.



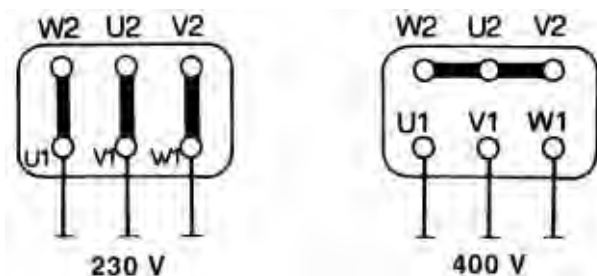
1 SPEED
 3 PH - 230-400 V - 50 Hz

UNIT SIZE	4 POLE MOTOR (1400 r.p.m.)				
	MOTOR REF.	MEC SIZE	W	AMPS	
				at 230 V	at 400 V
1	4 AH12	63	150	1,10	0,60
2	4 AH12	63	150	1,10	0,60
3	4 AH3	63	250	1,70	1,00
4	4 AH3	63	250	1,70	1,00
5	4 AH4	71	400	2,20	1,30
6	4 AH5	71	480	2,60	1,50

UNIT SIZE	6 POLE MOTOR (900 r.p.m.)				
	MOTOR REF.	MEC SIZE	W	AMPS	
				at 230 V	at 400 V
1	6 AH12	63	50	0,70	0,40
2	6 AH12	63	50	0,70	0,40
3	6 AH3	63	90	1,00	0,58
4	6 AH3	63	90	1,00	0,58
5	6 AH4	63	120	1,20	0,58
6	6 AH5	71	185	1,50	0,86
7	80/6	80	370	2,30	1,30
8	80/6	80	550	3,00	1,70
9	90-S/6	90	735	4,10	2,40
10	90-L/6	90	1100	6,00	3,50

UNIT SIZE	8 POLE MOTOR (700 r.p.m.)				
	MOTOR REF.	MEC SIZE	W	AMPS	
				at 230 V	at 400 V
7	80/8	80	185	1,85	0,85
8	80-S/8	80	250	2,40	1,60
9	90-S/8	90	370	2,90	1,70
10	90-L/8	90	550	3,60	2,10

Motor connection



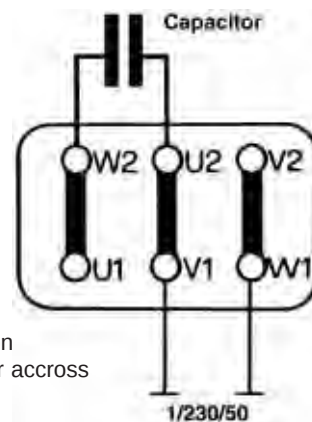
Every motor has to be protected with a suitable protector calibrated at a current of 1,10 - 1,15 times the current indicated on the plate.

Single phase supply

One speed three phase 230/400V motors on page 44 can operate on single phase 230V 50Hz supply with the introduction of a suitable sized capacitor.

UNIT SIZE	6 POLE MOTOR			
	MOTOR REF.	CAPACITOR		AMPS
		CAP. μF	TEN. VN	
1	6 AH12	8	450	0.7
2	6 AH12	8	450	0.7
3	6 AH3	12.5	450	1.0
4	6 AH3	12.5	450	1.0
5	6 AH4	16	450	1.2
6	6 AH5	20	450	1.6
7	80/6	30	450	2.6
8	80/6	40	450	3.5
9	not available	-	-	-
10	not available	-	-	-

UNIT SIZE	8 POLE MOTOR			
	MOTOR REF.	CAPACITOR		AMPS
		CAP. μF	TEN. VN	
7	80/6	16	450	2.2
8	80-S/8	20	450	2.8
9	not available	-	-	-
10	not available	-	-	-



UNIT SIZE	4 POLE MOTOR			
	MOTOR REF.	CAPACITOR		AMPS
		CAP. μF	TEN. VN	
1	4 AH12	16	450	1.3
2	4 AH12	16	450	1.3
3	4 AH3	20	450	1.8
4	4 AH3	20	450	1.8
5	4 AH4	30	450	2.6
6	4 AH5	40	450	3

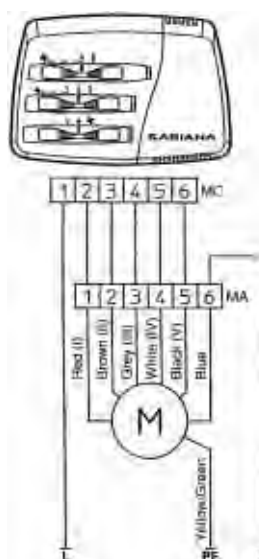
Five speed single phase 230V 50Hz motor

On request the unit heaters from size 1 to 6 can be supplied with 5 speed 1 PH - 230V - 50Hz motors.

UNIT SIZE	MOTOR CODE	AMPS				
		1 ^a SPEED	2 ^a SPEED	3 ^a SPEED	4 ^a SPEED	5 ^a SPEED
		700 r.p.m.	800 r.p.m.	1000 r.p.m.	1200 r.p.m.	1400 r.p.m.
1	3052050	0.38	0.50	0.57	0.70	0.84
2	3052051	0.50	0.60	0.70	0.80	1.00
3	3052052	0.75	0.92	1.07	1.24	1.45
4	3052053	0.78	0.98	1.09	1.27	1.55
5	3052054	1.25	1.45	1.70	2.00	2.85
6	3052055	1.30	1.50	1.72	2.00	2.85

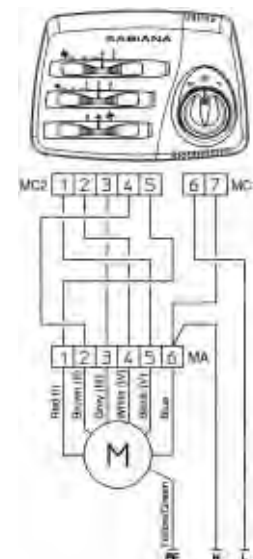
5 SPEED CONTROL

Code 9007604
MA = Unit terminal
MC = Control terminal
M = Motor



5 SPEED CONTROL WITH THERMOSTAT

Code 9007616
MA = Unit terminal
MC = Control terminal
M = Motor

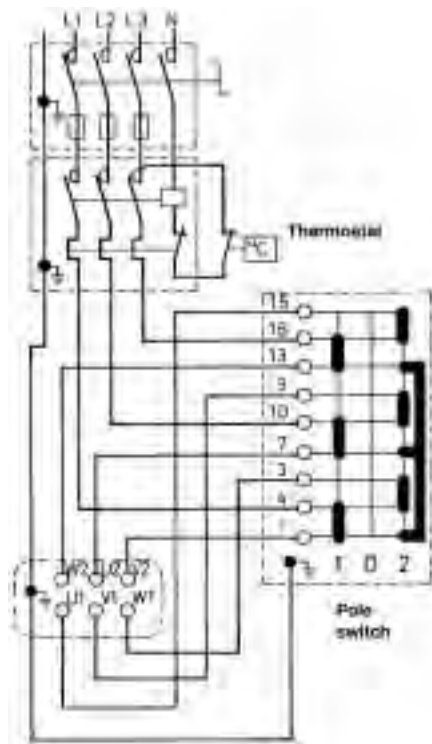


One control must be provided for each motor.

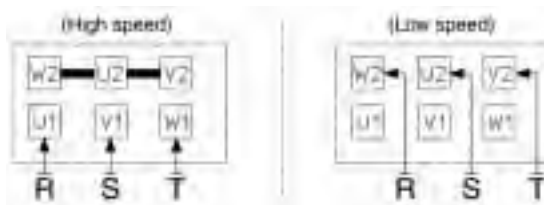
Two speed - Three phase - 400 V

Two speed motor

On request the unit heaters from size 1 to 6 can be supplied with 4-8 pole Dahlander motors, 1400-700 r.p.m., 3 PH - 400V - 50Hz.



UNIT SIZE	MOTOR REF.	MEC SIZE	W		AMPS 400 V	
			4 POLES	8 POLES	4 POLES	8 POLES
1	48 AH12	63	150	25	0,80	0,25
2	48 AH12	63	150	25	0,80	0,25
3	48 AH3	71	250	30	0,90	0,30
4	48 AH3	71	250	30	0,90	0,30
5	48 AH4	71	400	50	1,30	0,35
6	48 AH5	71	480	70	1,80	0,50

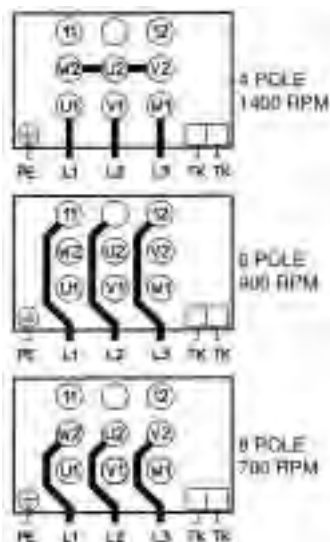


Every motor has to be protected with a suitable protector calibrated at a current of 1,10 - 1,15 times the current indicated on the plate.

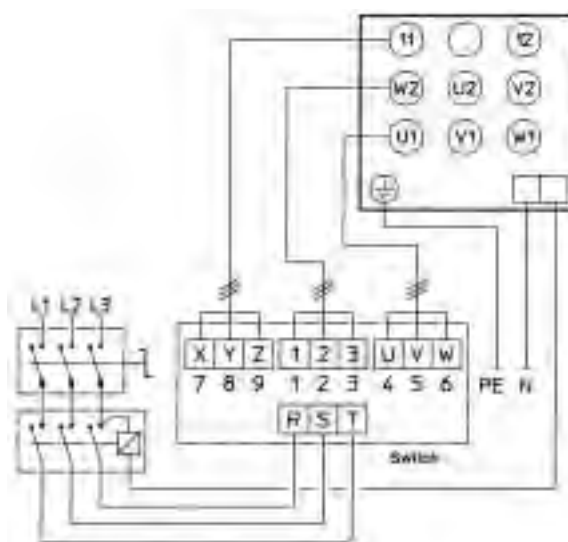
Three speed motor 4/6/8 poles with two wiring - Single voltage - 3 phase

On request the unit heaters from size 1 to 6 can be supplied with 3 speed two wiring motors, single voltage, 3 phase, 4/6/8 pole, 400V - 50Hz

Connection to the motor without switch



Connection to the motor with 4/6/8 pole switch for wall mounting

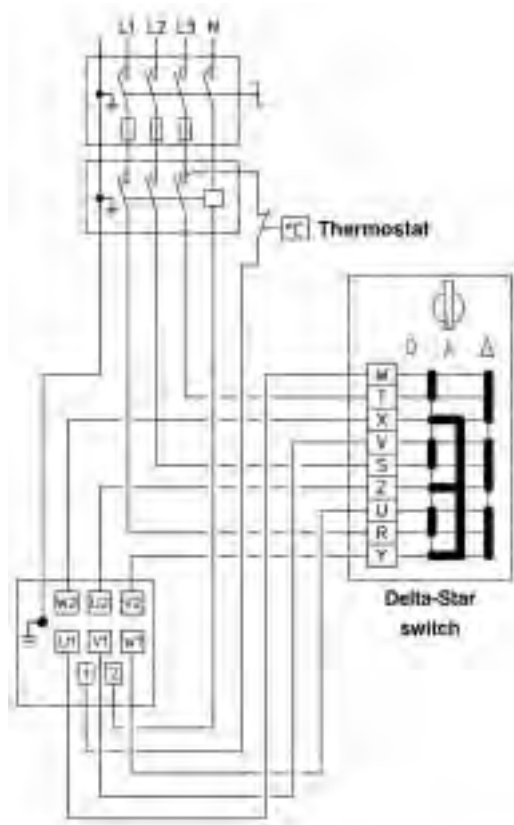


UNIT SIZE	MOTOR REF.	MEC SIZE	SPEED RPM			kW			AMPS		
			4 POLES	6 POLES	8 POLES	4 POLES	6 POLES	8 POLES	4 POLES	6 POLES	8 POLES
1-2	468 K AH12	71	1400	900	700	0,15	0,05	0,025	0,7	0,4	0,3
3-4	468 K AH34	71	1400	900	700	0,25	0,09	0,05	0,9	0,6	0,4
5-6	468 K AH56	71	1400	900	700	0,48	0,18	0,075	1,3	0,8	0,5

Two speed Delta-Star - three phase motor with klixon thermal protection

On request the unit heaters can be supplied with 4 pole or 6 pole sliding motors. These motors are 2 speed, 3 phase, single voltage, 400V-50Hz with klixon thermal protection. With these motors it is possible to reduce the speed changing the connection from delta to star.

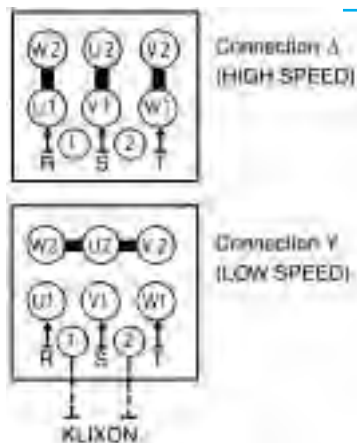
The JANUS and AIX ranges are supplied with this motor execution.



UNIT SIZE	MOTORE REF.	SLIDING 4/6 POLE MOTOR					
		SPEED r.p.m.		W		A	
		Δ	Y	Δ	Y	Δ	Y
1	46 SKAH1	1300	900	110	45	0,40	0,23
2	46 SKAH2	1300	950	130	50	0,60	0,30
3	46 SKAH3	1350	950	250	100	0,85	0,55
4	46 SKAH3	1350	950	250	100	0,85	0,55
5	46 SKAH4	1350	950	350	150	1,10	0,75
6	46 SKAH5	1350	950	350	150	1,10	0,75

UNIT SIZE	MOTORE REF.	SLIDING 6/8 POLE MOTOR					
		SPEED r.p.m.		W		A	
		Δ	Y	Δ	Y	Δ	Y
1	68 SKAH12	900	700	50	25	0,35	0,15
2	68 SKAH12	900	700	50	25	0,35	0,15
3	68 SKAH3	900	700	80	35	0,50	0,22
4	68 SKAH3	900	700	80	35	0,50	0,22
5	68 SKAH4	900	700	120	60	0,65	0,35
6	68 SKAH5/1	900	700	160	75	0,75	0,40
7	FCV 80/68SK	900	700	400	200	1,40	0,90
8	FCV 80L/68SK	900	700	550	250	1,80	1,10
9	FCV 90/68SK	900	700	750	370	2,50	1,50
10	FCV 90L/68SK	900	700	1100	550	3,80	2,30

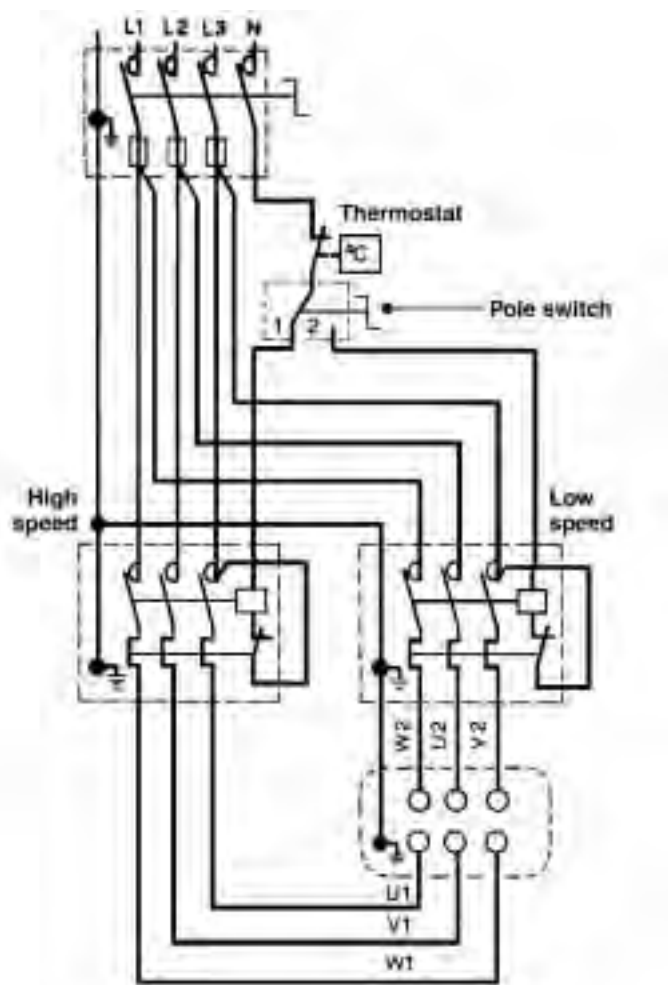
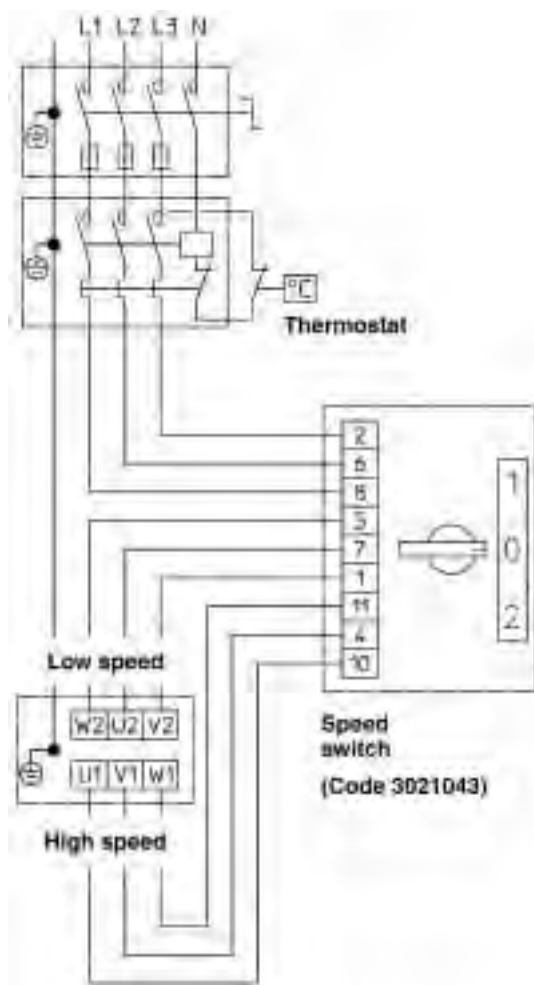
JANUS and AIX motors



AIX	JANUS 05	MOTOR REF.	SPEED r.p.m.		W		A	
			Δ	Y	Δ	Y	Δ	Y
46 I 21	46 F 23	46 SK	1300	900	110	45	0.40	0.23
46 I 22	46 F 24	AH1						
46 I 41	46 F 43	46 SK	1300	950	130	50	0.60	0.30
46 I 42	46 F 44	AH2						
-	68 F 63	68 SK	900	700	160	75	0.75	0.40
-	68 F 64	AH5/1						
46 I 61	-	46 SK	1350	950	350	150	1.10	0.75
46 I 62	-	AH 5						
68 I 91	-	FCV	900	700	750	370	2.50	1.50
68 I 92	-	90/68 SK						
-	68 F 93	FCV	900	700	370	190	1.20	0.75
-	68 F 94	90/SK - 6/8						

Two speed - three phase - 400V two wiring motors

On request the unit heaters can be supplied with 2 wiring 3 PH - 400V - 50Hz motors:
 4-6 pole (1400-900 r.p.m.) for size 1 to 6 or
 6-8 pole (900-700 r.p.m.) for all sizes.
 Actually with this execution
 the unit heater has two separate motors
 with two different speeds.



SIZE	4/6 POLE			6/8 POLE		
	MOTOR REF.	W		MOTOR REF.	W	
		4 POLES	6 POLES		6 POLES	8 POLES
1 ÷ 6	46 AH12345	480	180	68 AH12345	180	90
7				80/68 - DA	370	185
8				90/68 - DA	550	250
9				90/68 - DA	750	370
10				100-L/68 - DA	1100	550

BSA Multi-function automatic control panel for two speed Delta-Star motors, 4/6 or 6/8 poles

Description

Wall mounting plastic container complete with transparent door.

The front panel includes:

- control switch
- timer / by-pass switch
- signal lights
- auxiliary protection fuse carrier
- timer compartment cover (accessory)

Versions

- BSA-B without timer
- BSA-A with manual daily timer
- BSA-D with digital weekly timer

The basic version, BSA-B, is supplied without a timer, yet is ready to be fitted with this accessory if required. Simply remove the timer cover, insert the timer chosen and connect it internally to the pre-installed wiring inside the control panel.

Technical specifications

Visual installation

Index of protection IP 54

Operating voltage 3 x 400V 50Hz

Control voltage 1 x 230V

Rated operating current 9 A 400V (AC3)

Application

Multi-position, multi-function switch for automatically controlling the speed of Sabiana unit heaters with two-speed, 400V three-phase motors.

Description

The control panel is supplied without a timer. The timer can be fitted after installation, by inserting it in the panel and connecting it electrically using the special pre-wired connector.

Electromechanical daily timers and digital weekly timers are available.

Operation

- **Control switch on "0"**: disconnects power to the unit heaters and thus the unit heaters are off
- **Control switch on "fan"**: continuous operation of the unit heater at low speed
- **Control switch on "FAN"**: continuous operation of the unit heater at high speed
- **Control switch on "AUTO"** (only for devices with timer, BSA-A and BSA-D): enables the automatic switching of the unit heater speed according to the status of an external 1- or 2-step thermostat. The timer can be combined with two different thermostats, with separate settings for night-time or daytime operation. **Using thermostats with changeover contacts allows automatic switching from low - high fan speed with the "day" thermostat, and low speed - fan off with the "night" thermostat.** Using two-step thermostats allows the speed of the unit heater to be switched automatically from high to low and to off when reaching the set temperature.
- **Function switch on "day"**: by-passes the timer and forces the connection to the "day" thermostat
- **Function switch on "night"**: by-passes the timer and forces the connection to the "night" thermostat

Anti-freeze function

The control is fitted for connection to an external room thermostat that is suitably set to a minimum required value. When the thermostat with anti-freeze function is connected, the control panel switches on the unit heater at low speed, even if the Control switch is on OFF.

Motor thermal overload devices

The Sabiana unit heater motors are fitted with internal TK thermal overload devices. The thermal overload device must be connected to the control panel, so that the latter automatically cuts off power to the unit heater if the overload is activated. If the control panel is connected to a series of unit heaters, the TK overload devices on each motor must be connected together in series, and then connected to the corresponding terminals on the control panel.

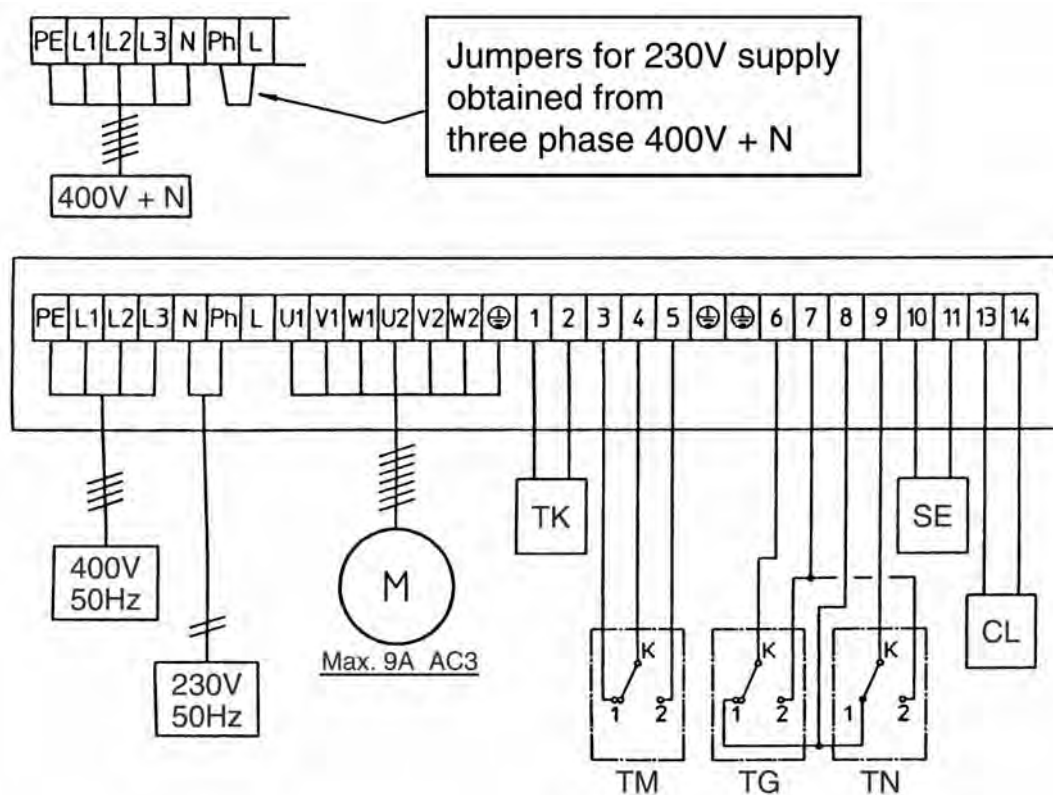
Important

This device is not suitable for outdoor use or for the control of single-phase motors.

BSA Dimension



BSA Electric connection



LEGEND

M = Motor
TK = Safety thermostat
TM = Anti-frost thermostat

TG = Day thermostat
TN = Night thermostat
SE = Possible external switch
CL = Extra connections

BS 2S Manual two-position switch for two speed Delta-Star motors, 4/6 or 6/8 poles

Description:

Wall mounted plastic case, containing:

- 1 manual switch (1-0-2) for manually selecting the unit heater fan speed.
- 1 four pole control contactor.
- 1 voltage-free auxiliary contact used to control or lockout of external appliances.
- Terminal block for the connection of the unit heaters, motor overload devices and external thermostat.

Technical specifications

Visual installation

Index of protection IP 54

Operating voltage 3 x 400V 50Hz

Control voltage 1 x 230V

Rated operating current 9A 400V (AC3)

Applications:

Switch for controlling the fan speed on one or more Sabiana unit heaters. The control can be connected to an external room thermostat.

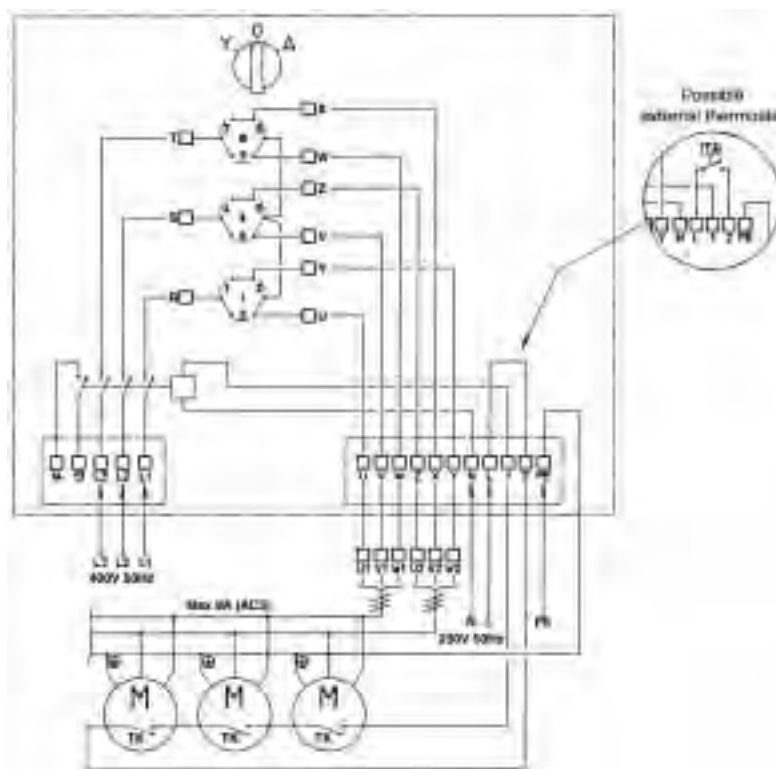
Motor thermal overload devices

The Sabiana unit heater motors are fitted with internal TK thermal overload devices. The thermal overload device must be connected to the control panel, so that the latter automatically cuts off power to the unit heater if the overload is activated. If the control panel is connected to a series of unit heaters, the TK overload devices on each motor must be connected together in series, and then connected to the corresponding terminals on the control panel.

Important

This device is not suitable for outdoor use or for the control of single-phase motors.

BS 2S Dimension and Electric connection



LEGEND

Y = Low speed
Δ = High speed
M = Motor

TA = Room thermostat
TK = Safety thermostat
(Klixon)

BS 2-ST Manual two-position switch with thermostat for two speed Delta-Star motors, 4/6 or 6/8 poles

Description:

Wall mounted plastic case, containing:

- 1 manual switch (1-0-2) for manually selecting the unit heater fan speed.
- 1 four pole control contactor.
- 1 voltage-free auxiliary contact used to control or lockout of external appliances.
- 1 room thermostat
- Terminal block for the connection of the unit heaters, motor overload devices and external thermostat.

Technical specifications

Visual installation

Index of protection IP 54

Operating voltage 3 x 400V 50Hz

Control voltage 1 x 230V

Rated operating current 9A 400V (AC3)

Applications:

Switch for controlling the fan speed on one or more Sabiana unit heaters, with built-in temperature control. Depending on the set room temperature, the control stops or starts the unit heaters at the speed selected on the speed switch. The bulb of the thermostat is positioned outside of the panel casing.

Motor thermal overload devices

The Sabiana unit heater motors are fitted with internal TK thermal overload devices. The thermal overload device must be connected to the control panel, so that the latter automatically cuts off power to the unit heater if the overload is activated. If the control panel is connected to a series of unit heaters, the TK overload devices on each motor must be connected together in series, and then connected to the corresponding terminals on the control panel.

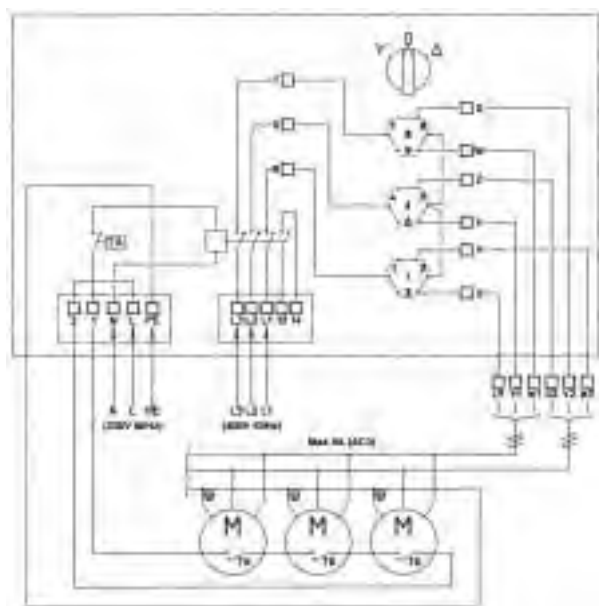
Installation

Check that the position chosen for the installation of the panel does not affect the correct operation of the room thermostat. Avoid fastening the control panel to cold walls, in areas affected by cold/hot air currents or at an unusual height.

Important

This device is not suitable for outdoor use or for the control of single-phase motors.

BS 2-ST Dimension and Electric connection



LEGEND

Y = Low speed
Δ = High speed
M = Motor

TA = Room thermostat
TK = Safety thermostat
 (Klixon)

BS 3-ST (Janus 05 only), Manual three-position switch with thermostat for two speed Delta-Star motors, 4/6 or 6/8 poles

Description:

Wall mounted plastic case, containing:

- 1 manual switch for manually selecting the unit heater fan speed as follows:
in Summer 1 speed selection, low speed only (0-1) - in Winter 2 speed selections (0-1-2)
- 1 four pole control contactor.
- 1 voltage-free auxiliary contact used to control or lockout of external appliances.
- 1 room thermostat
- Terminal block for the connection of the unit heaters, motor overload devices and external thermostat.

Technical specifications

Visual installation

Index of protection IP 54

Operating voltage 3 x 400V 50Hz

Control voltage 1 x 230V

Rated operating current 9A 400V (AC3)

Applications:

Switch for controlling the fan speed on one or more Sabiana unit heaters, with built-in temperature control. Depending on the set room temperature, the control stops or starts the unit heaters at the speed selected on the speed switch. The bulb of the thermostat is positioned outside of the panel casing.

Motor thermal overload devices

The Sabiana unit heater motors are fitted with internal TK thermal overload devices. The thermal overload device must be connected to the control panel, so that the latter automatically cuts off power to the unit heater if the overload is activated. If the control panel is connected to a series of unit heaters, the TK overload devices on each motor must be connected together in series, and then connected to the corresponding terminals on the control panel.

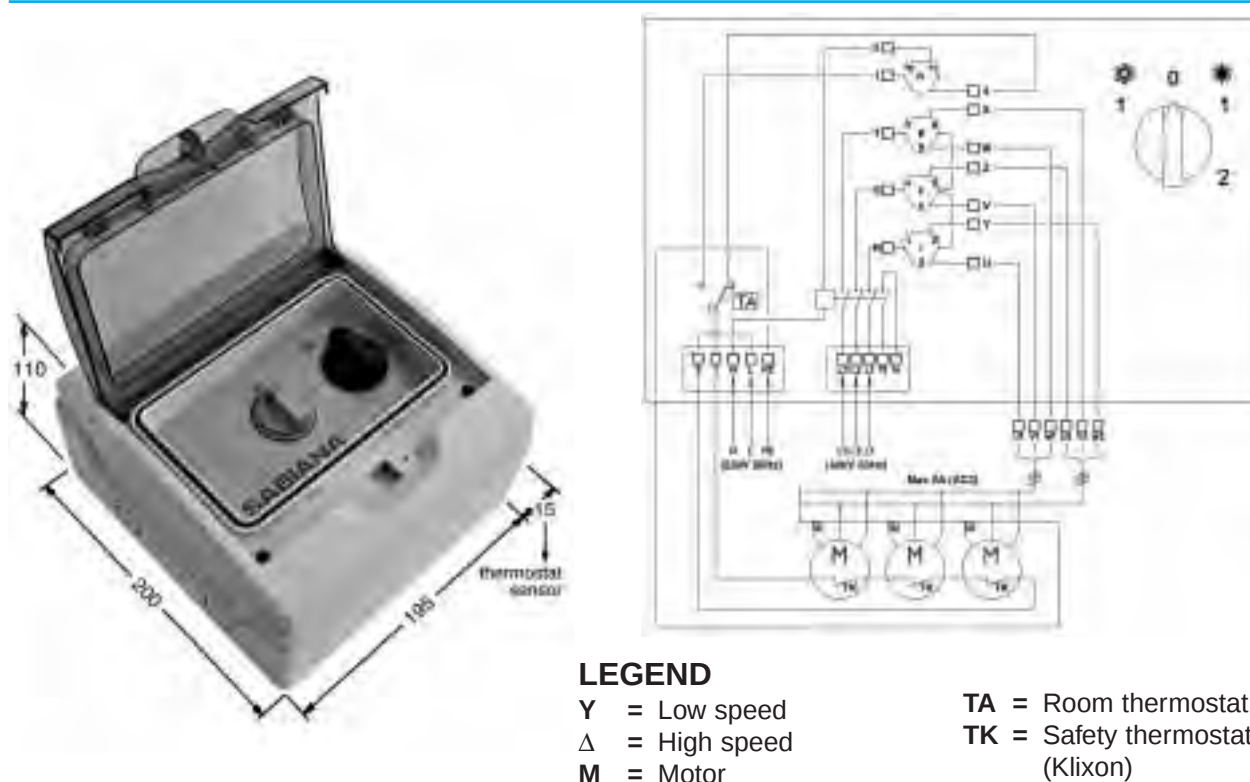
Installation

Check that the position chosen for the installation of the panel does not affect the correct operation of the room thermostat. Avoid fastening the control panel to cold walls, in areas affected by cold/hot air currents or at an unusual height.

Important

This device is not suitable for outdoor use or for the control of single-phase motors.

BS 3-ST Dimension and Electric connection



LEGEND

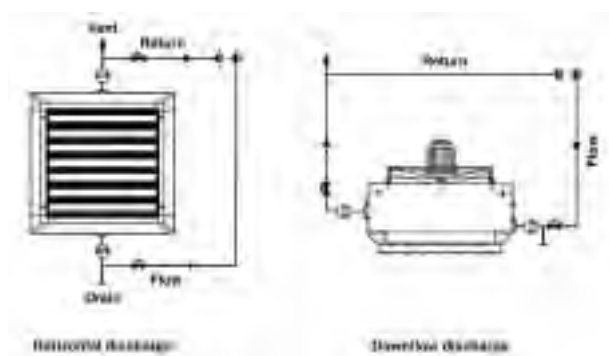
Y = Low speed
Δ = High speed
M = Motor

TA = Room thermostat
TK = Safety thermostat (Klixon)

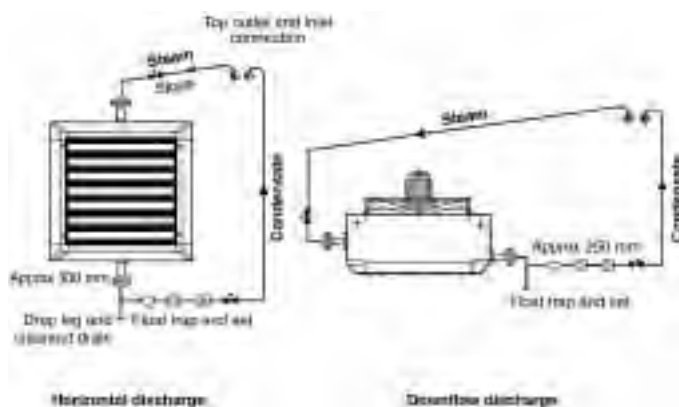
ATLAS - HELIOS

recommended installation details for pipe connections

Hot water connections

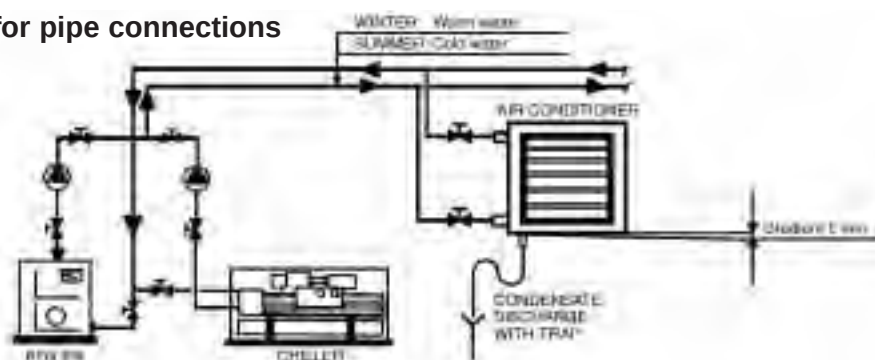


Steam connections

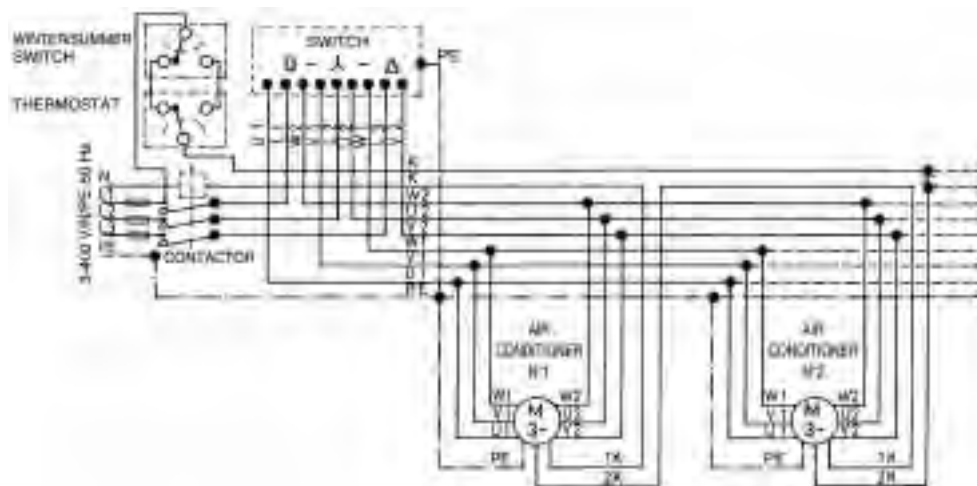
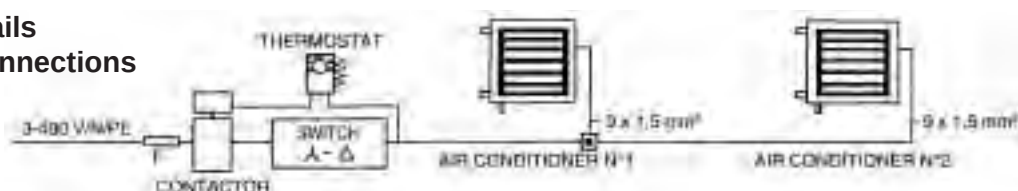


JANUS Air Conditioner

Installation details for pipe connections



Installation details for electrical connections



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