Helios

Unit Heater

TECHNICAL LEAFLET

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The **Helios Sabiana** unit heaters, built with the same criteria of sturdiness and safety that define all Sabiana products, stand out for the splendid design of the casing, made using anodised aluminium bars and polished die-cast corners. They have the same big heart as the Atlas unit heaters: a coil that has been conceived, designed and manufactured specifically for heating industrial environments. The thickness of the pipes, standard in steel, the diameter (Ø 22 mm) and the excellent ratio between the flow-rate of air and the heat output guarantee long life and exceptional comfort.

Helios unit heaters are produced in **6 sizes** from **5 to 60 kW** and are available with a 1-row coil for steam and high temperature hot water installations, a 2-row coil for hot water installations and a 3-row coil for low temperature hot water installations.

The coil of Sabiana Helios unit heaters with steel tubes Ø 22 mm and aluminium fins has the following **advantages** compared with the copperaluminium 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 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 coil 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.

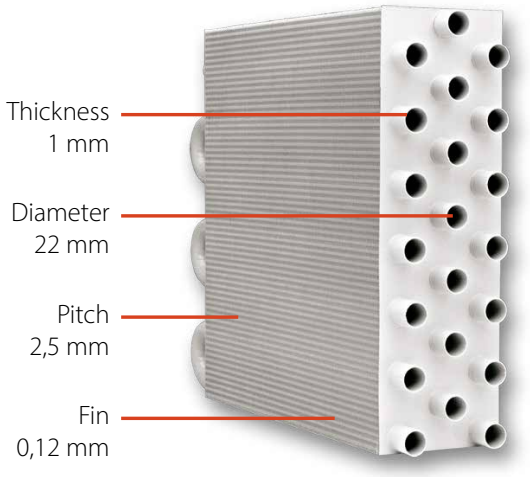
The steel tube coil is **the ideal choice for plants** where all tubes and equipment are made of steel because it avoids physical and chemical unbalance due to the interaction of different metals.

The special painting coat makes the coil long lasting and increases the thermal output.
The Sabiana coil can be used with hot water, high temperature hot water or steam, even with a high working pressure. As a matter of fact each coil 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 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 total weight which is double compared with the coils normally used for unit heaters.

Upon request, all sizes are available with the **innovative electronic motors** with extremely low energy consumption, controlled by an inverter board and identified by ECM.
The ECM motors allow to decrease electric consumption compared to traditional asynchronous motors and they enable to adjust the air flow continuously and control the ambient temperature with precision, with further benefits in terms of very low noise levels.

- The **main casing** is manufactured from 4 angular diecast aluminium components and lateral elements made of extruded, anodized aluminium in a silver colour.
- The **coil** is manufactured from the highest **quality steel or copper tube**. The fins are pressed from aluminium sheet and bonded onto the tubes facilitating the maximum transfer contact available.
- The **fan and motor assembly** consists of three components: the fan, the motor and the safety guard, which also acts as the main support. The standard motor is a hermetically sealed motor which is maintenance free. The motors are supplied as standard for a three phase 230/400V 50Hz supply, and they are available, according to the size, with 4/6 or 6/8 pole two speed (protection IP55) and with 4 or 6 pole one speed (protection IP44).

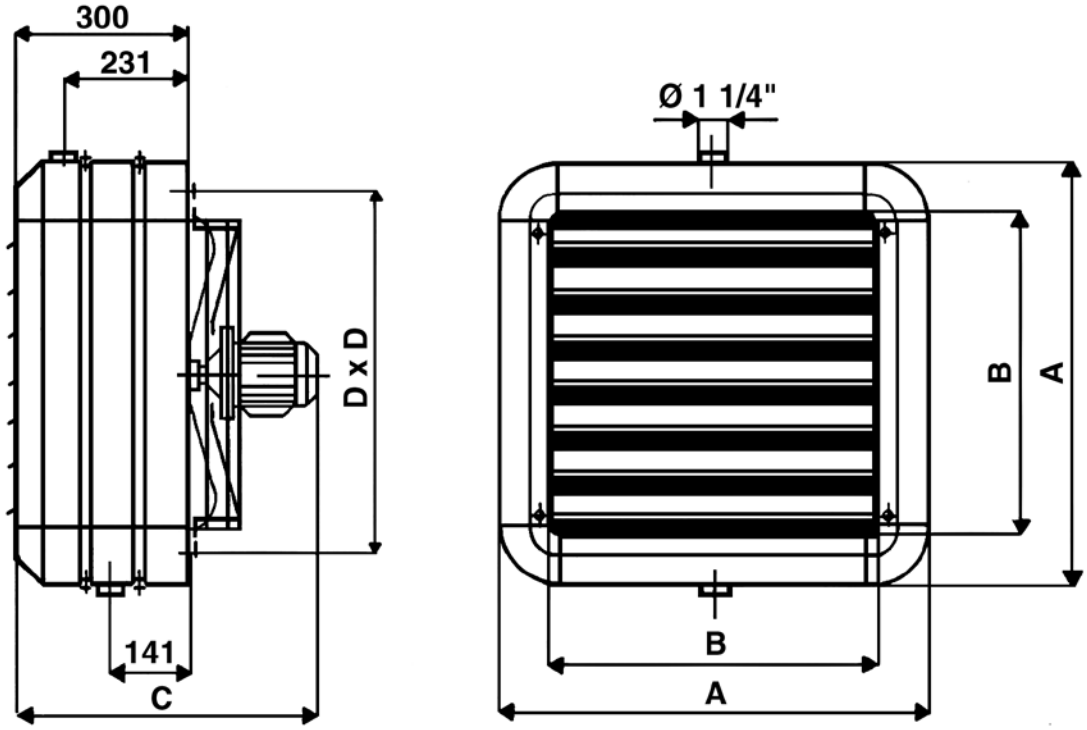


Helios identification code

Reference: 46H53 SX

46	H	5	3	SX	SP
Motor 4/6 pole (1350/1000 r.p.m.)	Range Helios	Size 5	Rows 3	Coli steel tube	Coil copper tube

DIMENSIONS, WEIGHT, 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

Size	Weight kg			Water content liters		
	1R	**2R**	**3R**	**1R**	**2R**	**3R**
1	19	22	24	1,3	2,6	3,9
2	22	25	27	1,6	3,2	4,8
3	26	30	33	1,9	3,8	5,7
4	30	34	38	2,3	4,6	6,9
5	33	40	44	3,0	6,0	9,0
6	38	46	51	3,5	7,0	10,5

4/6 pole models

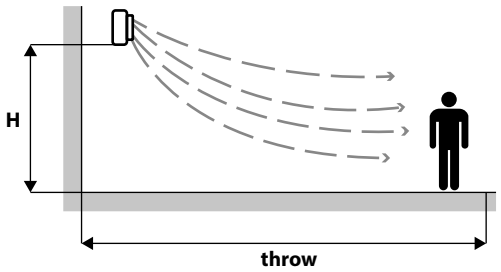
Water temperature 85-75°C
Drop 10°C - Δtm 65°C - Entering air temperature 15°C

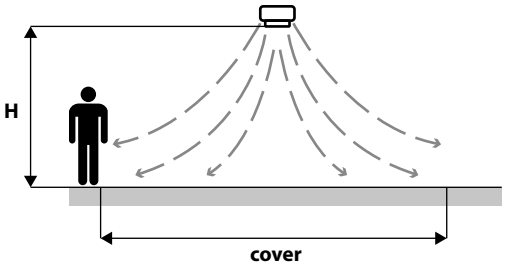
Size	Model	Motor spedd r.p.m.		Air flow m^3/h		Noise level at 5 m * dB(A)		Emission kW		Leaving air temp. °C	
		Poles									
		4	6	4	6	4	6	4	6	4	6
1	**46H11**	1350	1000	1415	1055	56	50	–	–	–	–
	46H12	1350	1000	1340	990	56	50	10,24	8,79	37,40	41,00
	46H13	1350	1000	1195	885	56	50	11,39	9,62	42,90	46,80
2	**46H21**	1350	1000	2190	1680	59	53	–	–	–	–
	46H22	1350	1000	2010	1570	59	53	13,95	12,36	35,30	38,00
	46H23	1350	1000	1875	1420	59	53	17,52	15,07	42,40	46,00
3	**46H31**	1350	1000	3325	2510	61	55	–	–	–	–
	46H32	1350	1000	2915	2255	61	55	20,85	18,44	35,90	38,90
	46H33	1350	1000	2610	2040	61	55	25,68	22,41	43,80	47,10
4	**46H41**	1350	1000	4415	3305	64	57	–	–	–	–
	46H42	1350	1000	3725	2745	64	57	27,86	24,06	36,90	40,60
	46H43	1350	1000	3210	2390	64	57	32,03	27,14	44,20	48,20
5	**46H51**	1350	1000	5770	4250	66	59	–	–	–	–
	46H52	1350	1000	4800	3500	66	59	34,89	29,94	36,30	40,00
	46H53	1350	1000	4325	3110	66	59	43,06	35,90	44,10	48,80
6	**46H61**	1350	1000	6590	5065	69	62	–	–	–	–
	46H62	1350	1000	5515	4160	69	62	41,76	36,36	37,20	40,60
	46H63	1350	1000	4900	3620	69	62	50,96	42,98	45,40	49,70

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

Size	Poles	Mounting heights			
		horizontal discharge		vertical discharge	
		height m	**throw** m	**height** max m	**cover** m^2
1	4	2,5÷3,5	7,5	3,5	50
	6	2,5÷3	5	3	36
2	4	3÷4	10	4	60
	6	2,5÷3,5	7	3,5	45
3	4	3÷4	13,5	5	70
	6	2,5÷3,5	10	4	50
4	4	3,5÷4,5	16	5,5	75
	6	3÷4	12	4,5	55
5	4	4÷5	18	6	90
	6	3,5÷4,5	13	5	70
6	4	4÷5,5	22	7	120
	6	4÷5	16	6	100

Mounting heights





6/8 pole models

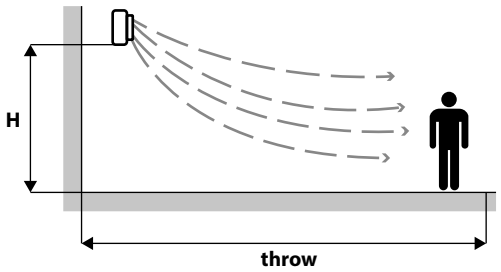
Water temperature 85-75°C
Drop 10°C - Δtm 65°C - Entering air temperature 15°C

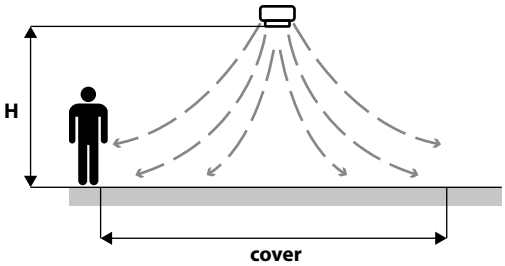
Size	Model	Motor speed r.p.m.		Air flow m^3/h		Noise level at 5 m * dB(A)		Emission kW		Leaving air temp. °C	
		Poles									
		6	8	6	8	6	8	6	8	6	8
1	**68H11**	900	750	970	860	48	44	–	–	–	–
	68H12	900	750	935	830	48	44	8,54	8,01	41,70	43,20
	68H13	900	750	835	740	48	44	9,29	8,65	47,50	49,20
2	**68H21**	900	750	1495	1170	50	46	–	–	–	–
	68H22	900	750	1410	1100	50	46	11,70	10,26	39,30	42,30
	68H23	900	750	1290	1025	50	46	14,23	12,41	47,30	50,40
3	**68H31**	900	750	2100	1620	52	48	–	–	–	–
	68H32	900	750	1880	1470	52	48	16,83	14,74	41,20	44,30
	68H33	900	750	1735	1320	52	48	20,39	17,28	49,40	53,30
4	**68H41**	900	750	2795	2195	54	50	–	–	–	–
	68H42	900	750	2345	1755	54	50	22,14	18,91	42,60	46,50
	68H43	900	750	2010	1535	54	50	24,47	20,70	50,60	54,40
5	**68H51**	900	750	3685	2865	56	51	–	–	–	–
	68H52	900	750	3050	2335	56	51	27,87	24,17	41,70	45,30
	68H53	900	750	2785	2100	56	51	33,58	27,27	50,30	54,40
6	**68H61**	900	750	4445	3550	59	54	–	–	–	–
	68H62	900	750	3710	2960	59	54	34,33	30,37	42,10	45,00
	68H63	900	750	3270	2610	59	54	40,43	35,19	51,20	54,40

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

Size	Poles	Mounting heights			
		horizontal discharge		vertical discharge	
		height m	**throw** m	**height** max m	**cover** m^2
1	6	2,5÷3	5	3	36
	8	2,5÷3	4,5	–	–
2	6	2,5÷3,5	7	3,5	45
	8	2,5÷3,5	5,5	–	–
3	6	2,5÷3,5	10	4	50
	8	2,5÷3,5	7	–	–
4	6	3÷4	12	4,5	55
	8	3÷4	8	–	–
5	6	3,5÷4,5	13	5	70
	8	3,5÷4,5	9,5	–	–
6	6	4÷5	16	6	100
	8	4÷5	12	–	–

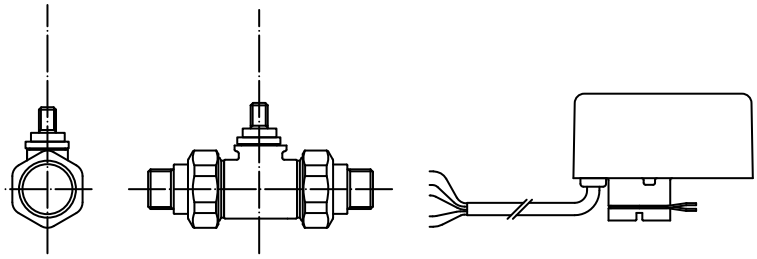
Mounting heights





VA2V **2 way valve**

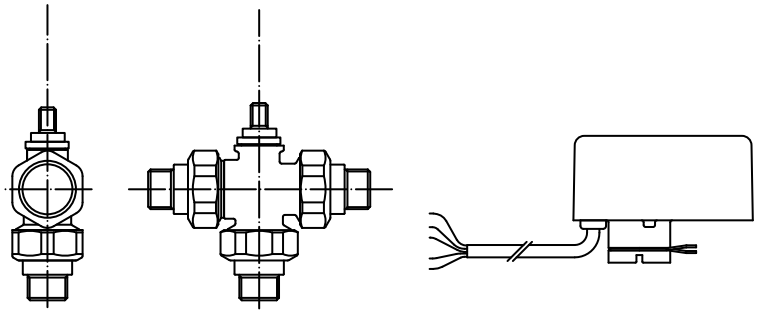
Composed by:
- one 2-way valve
- one ON-OFF 230V actuator



2 way valve Actuator

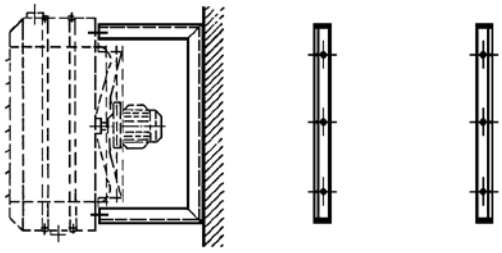
VA3V **3 way valve**

Composed by:
- one 3-way valve
- one ON-OFF 230V actuator

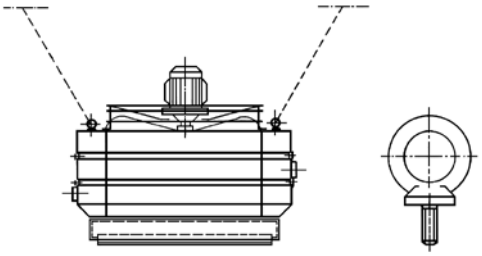


3 way valve Actuator

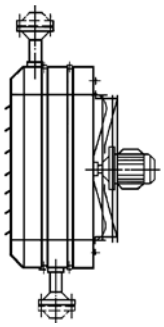
HMP **Wall bracket**



HS **Suspension plate for ceiling installation**

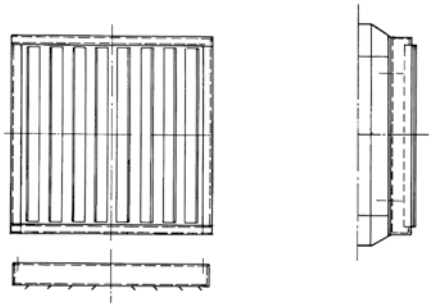


HF **Flanged connections PN16 UNI 2282**



AD **4 way diffuser**

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



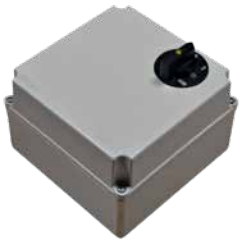
Controls and special motors

- **Two speed Delta-Star motors, 4/6 or 6/8 poles, three phase, IP 55, with klixon thermic protection**

DSS
Delta-Star switch
for two speed Delta-Star motors, 4/6 or 6/8 poles

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

- **BS 2S** without thermostat
- **BS 2-ST** with thermostat



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

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

- **IP 55 motor protection**
- **Capacitor for single phase motor (not mounted)**

09/2021

SABIANA
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ARBONIA

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