Ae

Centifugal
hot water
heaters

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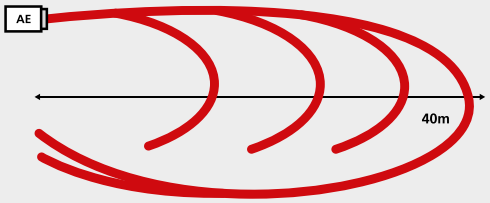
Ae

The Centrifugal heater is a superior technology providing a higher comfort and is really economical in operation. This nice finishing unit correctly used is incomparably quit.

The benefits of centifugal hot water heaters.

The aim in designing heating system is to obtain the desired constant temperature everywhere in the room while maintaining maximum comfort level. To achieve this, the centrifugal unit's heaters are preferred over the classical "propeller" heaters which require a high mixing rate, many units and expensive "high induction" grid. The centrifugal heaters do not have these constraints.

The device is selected depending on the power requirements! The amount air 'moved' which can reach up to 25 times its nominal air volume and its exceptional range ensure an excellent thermal delayering in the local. The centrifugal UH are characterized by their low power / airflow ratio. This is one of the reasons the unit generate a much lower noise level than axial devices. In order to obtain the quietest operation mode, PLC advises to oversize the heating capacity of the unit and to reduce the airflow with a speed controller, thereby reducing rotation speed of the fan.



Applications

The AEs are specifically designed for 'wide surface' applications where more comfort is appreciated. The exceptional range of these devices allows substantial cost savings considering the significant covered area by only one unit. In many applications, only one unit has to be installed on one side of the room. This results in substantial savings in piping, connection and installation costs. AEs are particularly well designed for sports halls, factories, car garages, show rooms, department stores, hobby stores, and have even been successfully installed in offices. The AE can be installed with ducting since it has an available pressure of + 100 Pa.

Fans

The AE can be equipped with AC fans (robust which have demonstrated their longevity) or TAC fans with high efficiency. The obvious advantages of the TAC fans convinced us to include them in the AE series.
Their 4 main advantages are as followings :

- EC motor : minimum 50% energy saves.
- Constant air flow regardless of the pressure drop, Constant pressure related to a 0/10 V signal.
- Easy installation: the required airflow = the obtain airflow, not need for a complex setup or other time wasting procedures.
- Lower noise level compared to traditional airflow controls.

High end construction

The structure is made out of omega shaped anodized aluminum profiles reinforced by polypropylene corners. The panels are double skin steel plates insulated with fireproofed treated EPS. The outside panels are pre-painted gray RAL 9002 color covered with a plastic protection (to remove after installation).The side panels are removable providing an easy access to the components for maintenance. The standard units are equipped with an inlet grid, M8 suspension nuts and double deflection outlet grid for airflow orientation and to maximize the airflow rate. The heat exchangers are finned aluminum and copper tube. The entire standard AE units are tested and equipped with direct drive PLC centrifugal fans.

Controls

Equipped with TAC motors:

The TAC3 control box allows to control the fan(s) with 3 operating modes:

- Constant Airflow mode (CA) : Ability to select 3 airflow instructions through digital inputs. Regardless the pressure drop, the airflow will stay constant.
- Link to signal mode (LS): the flow rate is controlled by a linearly related 0-10V signal (from a sensor, programmable controller PLC,…). This airflow setup is kept constant regardless the pressure drop. Possibility to activate a multiplier via a digital input.
- CPS mode : The fan airflow is automatically controlled by a pressure sensor in order to guarantee a constant pressure.

The TAC controller allows also to report (with potential free contacts) different alarms. The device can be order with a TAC5 controller (option) which enable the possibility equip the device with a Wifi or Ethernet module.

All parameters are introduced with a 4 buttons LCD display which makes the setup very simple and easy. All the operating values can also be viewed via this display.

Equipped with AC motors:

In order to improve your system, we hardly recommend to install a fan speed control system (ES).
This option provides effective solution for good control of the fan power and sound level at a competitive price. For bigger projects, one ES can be used for several AE, in this case the additional current rating must be taking into account in order the select the correct speed controller. The wiring diagram is joined to the speed controller.

Options available

The AEs can be delivered equipped with the following options:

- A 2-way mixing box (MK2) this device using a synchronized damper mixes fresh air with recycled air in desired proportion. This allows free-cooling in summer.
- A suspension kit (ST): this support system is designed to “carry” the AE.

Selection program

A selection software downloadable on our website helps the user to simulate the real working conditions of the device. This software calculates the thermal power, voltage, flows, range, noise levels, and prints a full specification selection sheet, with dimensions and options.

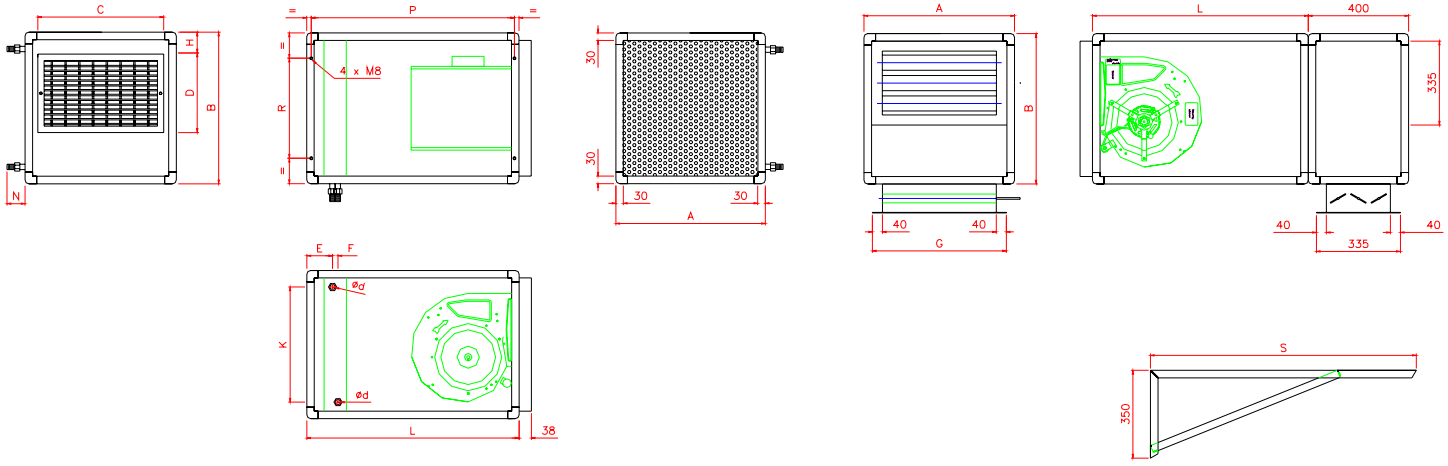
Technical characteristics

CID	Name	Airflow	Power (1)	Fan (2)			Weight (3)	Volume	Sound Level (4)	Range (5)
		[m³/h]	[kW]	[V]	[W]	[A]	[kg]	[L]	[dBA]	[m]
AE 2 rows: water 90/70 ° C										
830 061	AE 12-2 TAC	1600	13,0	230	392	2,41	35,1	0,7	55,8	38,0
830 065	AE 20-2 TAC	2720	23,5	230	565	3,39	45,8	1,1	54,5	36,0
830 069	AE 30-2 TAC	3700	33,3	230	802	4,69	55,4	1,7	58,3	39,5
830 073	AE 50-2 TAC	4400	44,9	230	980	5,64	72,9	2,6	58,1	41,6
830000	AE 12-2 AC	1000	9,9	230	172	0,91	34,9	0,7	40,5	28
830004	AE 20-2 AC	2010	19,7	230	365	2,03	47,2	1,1	43,8	30
830008	AE 30-2 AC	2770	28,1	230	509	2,56	56,9	1,7	48,7	32
830012	AE 40-2 AC	3370	38,1	230	824	3,97	74,2	2,6	51	37
830016	AE 60-2 AC	4990	48,4	230	1479	7,79	84,6	2,6	62,8	45
AE 4 rows: low temperature water: 70/50 ° C maximum										
830 063	AE 12-4 TAC	1380	13,8	230	341	2,12	37,3	1,3	53,7	36,0
830 067	AE 20-4 TAC	2520	25,7	230	561	3,37	52,2	2,2	56,8	34,4
830 071	AE 30-4 TAC	3550	38,5	230	852	4,96	63,4	3,1	54,5	32,6
830 075	AE 50-4 TAC	4400	51,4	230	1084	6,18	79,4	4,7	56,8	41,6
830002	AE 12-4 AC	870	10	230	156	0,85	37	1,3	39	26
830006	AE 20-4 AC	1770	20,2	230	339	1,85	53,7	2,2	44,1	27
830010	AE 30-4 AC	2530	30,5	230	480	2,44	64,8	3,1	45	28
830014	AE 40-4 AC	3240	41,3	230	765	3,69	80,6	4,7	46,7	35
830018	AE 60-4 AC	4630	53,3	230	1353	7,28	91,1	4,7	61,6	42

Never exceed 60°C as outlet air temperature. (1): Calorific capacity obtained with 90/70°C water and 12°C air temperature for 2 row AEs, and 70/50°C water and 12°C air temperature for 4 rows AEs. (2): Nominal values at 230V/50Hz, a speed control will affect this data (3):Water contents in liters (4): Sound pressure level obtained at 5 m from the microphone in anechoic environment as ISO2204 (5):Air throws are established for a residual air speed of 0,3m/s.

Dimensions

TYPE	A	B	C	D	E	F	G	H	K	L	N	M	P	R	Ø d
AE 12-2	400	400	330	190	85	22	335	36	245	500	55	612	464	200	1/2”
AE 12-4	400	400	330	190	95	65	335	36	244	600	55	712	564	200	3/4”
AE 20-2	500	500	400	250	85	22	435	52	348	600	55	712	564	300	1/2”
AE 20-4	500	500	500	250	95	65	435	52	342	860	55	972	824	400	3/4”
AE 30-2	600	600	500	310	79	35	535	87	439	600	55	712	564	400	3/4”
AE 30-4	600	600	500	310	95	65	535	87	441	860	55	972	824	660	3/4”
AE 40/50-2	860	600	500	310	92	35	795	87	441	860	57	826	824	660	1”
AE 40/50-4	860	600	500	310	100	65	795	87	441	860	57	972	824	660	1”
AE 60-2	860	600	500	310	92	35	795	33	441	860	57	826	824	660	1”
AE 60-4	860	600	500	310	100	65	795	33	441	860	57	972	824	660	1”



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