

Espar AIRTRONIC

How an Espar Airtronic air heater works

Switching on

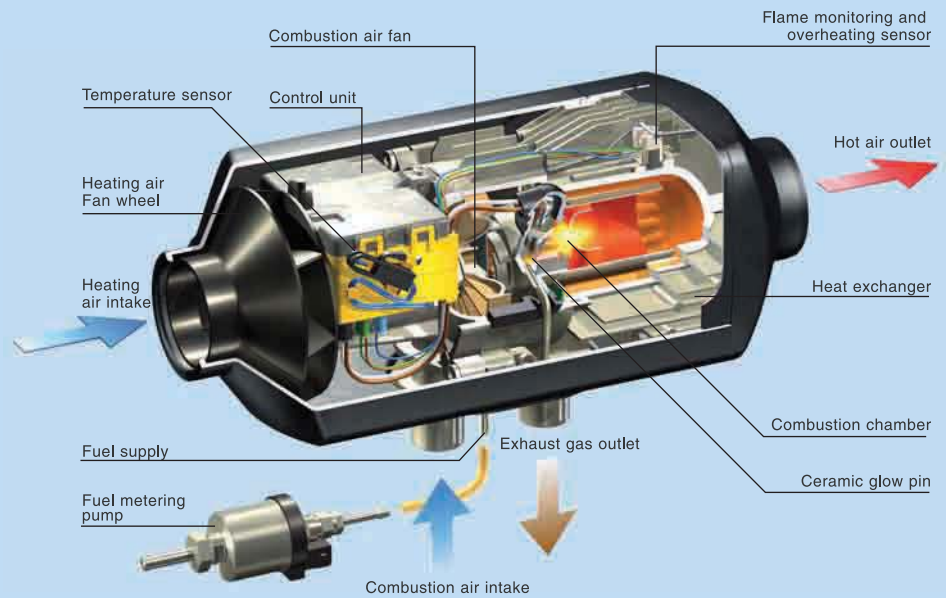
When the heater is turned on, the control element indicator light is illuminated. The glow pin is activated and the fan runs at a slow speed. The request for combustible fuel starts after about 60 seconds and the fuel/air mixture is ignited in the combustion chamber. As soon as a flame has formed, the glow pin is turned off on a time delay: The heating device is in control operation.

Heating

While the heater is in operation, the current temperature is measured continuously. If the temperature is higher than the selected value, the heating current is precisely adjusted to the heating requirement (by adjusting the fan speed and the amount of fuel consumed). If the temperature is too high even at the lowest control level, the heating function turns off automatically.

Switching off

When the heater is finally turned off, the control light goes out and fuel supply stops. The glow pin is re-energized for an afterglow period to burn off any combustible residue. The fan continues running for 4 more minutes to facilitate cooling.



Technical data AIRTRONIC



Diesel design		AIRTRONIC D2				AIRTRONIC D4				AIRTRONIC D5				D8LC	
Voltage	Volts	12/24				12/24				12/24				12/24	
Control/heat levels		Power	high	medium	low	Power	high	medium	low	Power	high	medium	low	High	Low
Heating Output	BTU/hr	7,500	6,150	4,100	2,900	13,650	10,200	6,800	3,400	18,800	16,400	9,200	4,100	27,300	11,900
Air flow volume	cfm	48	40	27	19	85	69	50	30	135	133	87	60	151	146
Electrical power consumption	Amps (12V DC)	2.8	1.9	1.0	0.67	3.3	2.0	1.1	0.6	7.1	6.7	2.5	1.3	9.6	9.6
Fuel consumption	gal/h(l/h)	0.07 - 0.026 (0.28 - 0.10)				0.13 - 0.034 (0.51 - 0.13)				0.17 - 0.04 (0.66 - 0.15)				0.26 (1.0)	0.11 (0.4)
Dimensions LxWxH	inches (mm)	12.2" x 4.5" x 4.8" (310 x 115 x 122)				14.6" x 5.5" x 5.9" (371 x 140 x 150)				20.75" x 7" x 7.75" (525 x 179 x 194)				25.5" x 10.25" x 9.75" (653 x 260 x 250)	
Weight	lbs (kg)	6 (2.7)				9.9 (4.5)				17.6 (8)				44 (20)	

Special technical features

- Electronic speed control with soft adjustment, which reduces noise and power consumption
- Fully electronic control by microprocessor
- Permanent functional monitoring
- Fan feature for summer time operation possible
- Diagnostic system

How an Espar Hydronic water heater works

Switching on

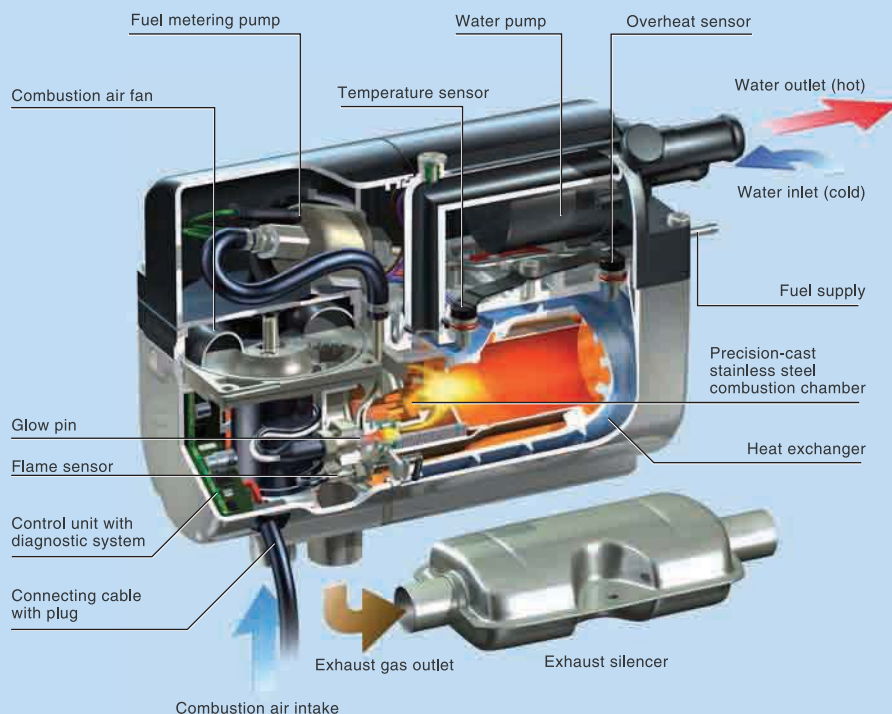
When the heater is turned on, the control element indicator light is illuminated. With water circulating and the glow pin activated, the combustion air fan, glow pin and fuel metering pump combine to activate combustion. As soon as a stable flame has formed the glow pin is turned off.

Heating

Depending on the heating requirement, the heating device controls output in three levels, "High", "Low" and "Off". If the heat requirement in the "Low" level is too low, the heating device is turned off automatically. The water pump continues running during this "Control pause".

Switching off

When the heater is finally turned off, the control light goes out and fuel supply stops. The glow pin is re-energized for an afterglow period to burn off any combustible residue. The fan and water pump continue running for 3 more minutes to facilitate cooling. Then the heating device and water pump switch off.



Technical data HYDRONIC



Diesel-Design	HYDRONIC 4/5	HYDRONIC - M Series			HYDRONIC			
	Compact	M8	M10	M12	16	24	30	35
Voltage (Volts)	12V DC (24V DC available)	12V DC (24V DC available)			24V DC			
Control/heat levels Heat Output (BTU/hr)	8,200 - 14,700 / 8,200 - 17,100	5,120 - 27,300	5,120 - 32,450	4,100 - 42,000	54,630	82,000	102,000	120,000
Electrical power consumption (Amps)	1.9 - 4 / 1.9 - 4.2	2.6 - 4.6	2.6 - 6.2	2.4 - 8.4	2.1	3.33	3.95	5
Fuel consumption (gal/h)	.14 / .16	.05 - .24	.05 - .32	.04 - .40	.48	.61	.76	.88
Dimensions LxWxH - inches (mm)	8.6" x 3.4" x 6.2" (250 x 86 x 160)	13" x 5.4" x 8.6" (330 x 138 x 214)			24" x 9" x 8.8" (600 x 230 x 220)			
Weight - lbs. (kg)	6.4 (2.9)	14 (6.4)			40 (18)			
Special technical features	<ul style="list-style-type: none"> • Modern stainless steel fine casting technology (high precision, reliability and long service life) • Multiple safety systems • Fully automatic heating sequences • Diagnostic system 							