Ecolite LSA

ECOLITE LSA

wall-mounted convector heaters with fan and integrated regulation

The ECOLITE LSA wall-mounted convector heater offers the perfect solution for efficient and cost-saving heating and cooling of your home. This heating unit comes equipped with an integrated thermostat to facilitate heating and cooling output regulation and further increase user comfort. Its modern, high-efficiency fan delivers adequate performance with low power consumption.

- **High heat output**
  The integrated fan, in combination with the fast temperature change response, produces sufficient heating output even in low-temperature systems.
- **Cooling in summer**
  Refreshing cooling on hot summer days.
- **Touch screen display**
  Simple and intuitive convector control.
- **Quiet operation**
  Quiet operation of the fan contributes to a cozy atmosphere in your home.
- **Easy installation**
  Installation is straightforward and the convector is compatible with heat pumps or other low-temperature systems.

LSA Fan-operated wall-mounted convector heaters

Fan-operated wall-mounted heaters are distinctive for their compact appearance. They operate as separate independent units, continuously scanning the ambient temperature and the temperature of the heating/cooling medium in the lamellar heat exchanger. All input data are analyzed by the control module, adjusting the convector function accordingly. It opens/closes the water flow and regulates the fan speed until the desired room temperature is reached. The mode and required parameters are set using a color touch screen, located on the top of the housing, next to the exhaust grill.

The cover is available in a range of RAL colours, but also in metallic options. Individual component colours can be combined (grille, side panel, front panel).

The Ecolite LSA is suitable for:
- Low-temperature heating
- Non-condensing cooling
- Compatible with heat-pump systems

Standard Equipment

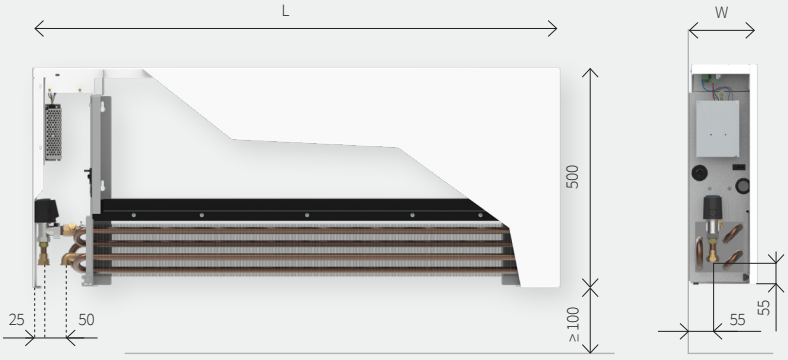
Cover	surface-treated steel sheet metal with an epoxy polyester powder coating
Grille	round or rectangular holes as per order specifications
Heat-exchanger	Al-Cu lamellar heat-exchanger with an air vent valve, 2 × G1/2" inner threads
Fan	modern high-efficiency 12 V DC fan
Control	integrated regulation
Mounting	wall brackets with connecting elements

Operating Conditions

Max. operating temp.	55 °C
Max. operating excess pressure	1 MPa (10 bar)
Protection	IP20
Ambient conditions	temperature T = +2 to +40 °C humidity Rh = 20 to 70%
Fan operating voltage	12 V DC

Convector Heater Options and Size Variations

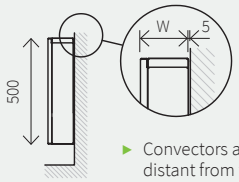
Standard valve connection V



* Electrothermal actuator not supplied with the heater

Convector heater size variations

Height H [mm]	500
Width W [mm]	122 152
Length L [mm]	800-2 000

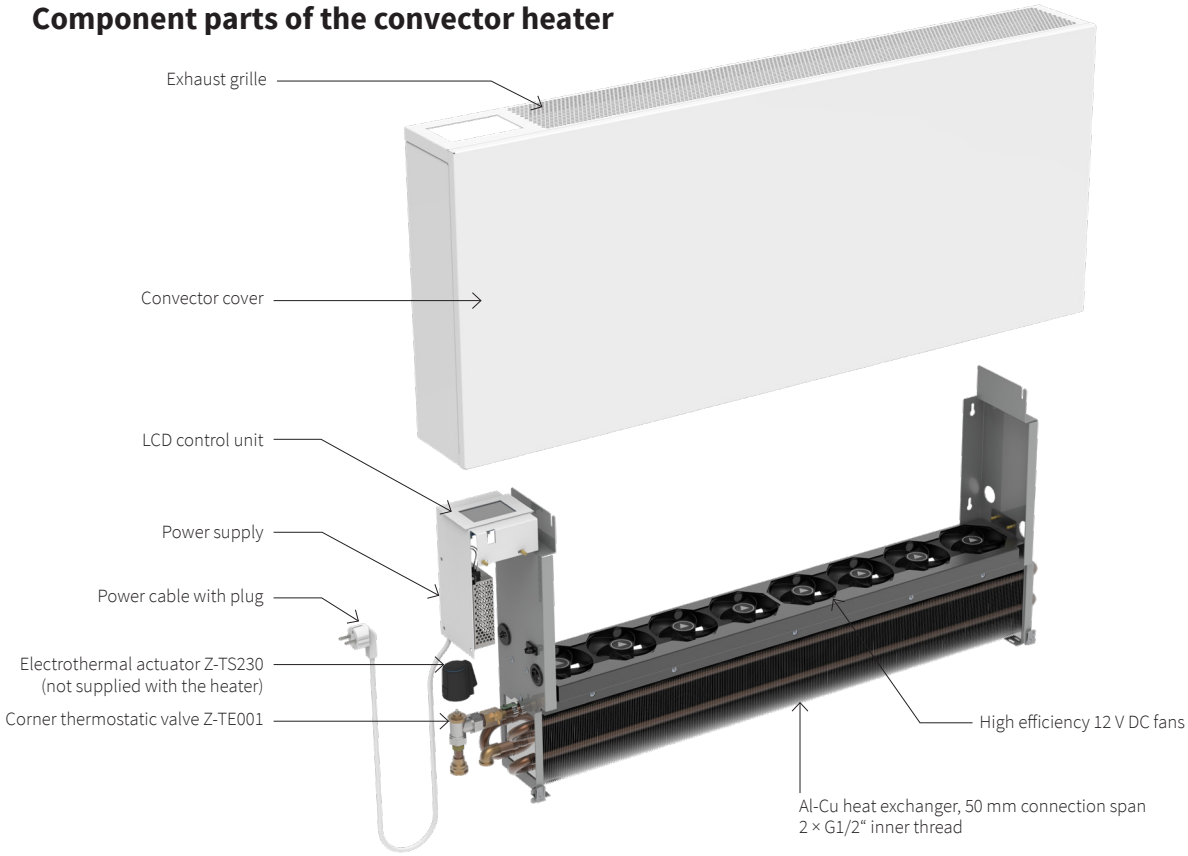


▸ Convectors are 5 mm distant from wallm

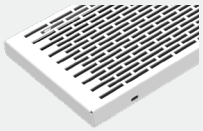
Energy saving

Fan convectors operate on safe voltage of 12 V DC. The fan motors have very low consumption of electric power. The speed is controlled continuou-sly via a PWM control signal.

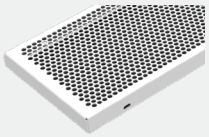
Component parts of the convector heater



Grilles



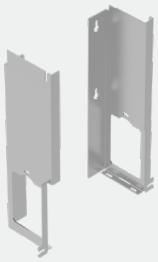
Grille R
- rectangular holes



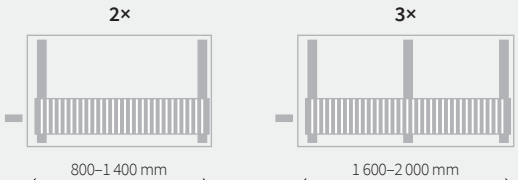
Grille C
- round holes

Brackets

W brackets
Wall brackets for attaching heat exchanger and convector cover are parts of the convector.



Number of brackets as per the body length



Coding

LSA	0500	0152	1200	C	01	R	1	V	L	W	
Model	**Height H [mm]**	**Width W [mm]**	**Length L [mm]**	**Material**	**Colour**	**Grille**	**Grille colour**	**Connection type**	**Connection side**	**Stands**	**Atypical**
LSA	0500	0122 0152	0800 1000 1200 1400 1600 1800 2000	**C** Sheet steel with surface finish and an epoxy polyester powder coating	As per RAL colour chart Structured colours Metallic paint colours	**R** Rectangular holes **C** Round holes	**1** Same as cover colour **9** Grille in different colour	**V** With corner thermostatic valve, bottom connection, 50 mm spacing	**L** Left side **R** Right side	**W** Brackets for wall mounting	Empty position for standard **A** In non-standard heater configu-rations

LSA - Fan-operated wall-mounted convectors heating output

LSA 0500 0122

45/40/20°C	Speed [-] / Heating output [W]				
Length [mm]	1	2	3	4	5
800	154	431	737	956	1109
1000	206	575	983	1274	1479
1200	257	719	1228	1593	1848
1400	308	863	1474	1911	2218
1600	360	1007	1720	2230	2588
1800	437	1222	2088	2708	3142
2000	488	1366	2334	3026	3512

Exponent n = 1,0168

LSA 0500 0152

45/40/20°C	Speed [-] / Heating output [W]				
Length [mm]	1	2	3	4	5
800	294	632	926	1177	1385
1000	442	948	1389	1766	2078
1200	589	1264	1852	2355	2770
1400	662	1422	2084	2649	3117
1600	809	1738	2547	3238	3809
1800	957	2054	3010	3826	4502
2000	1030	2212	3242	4121	4848

Exponent n = 1,0332

LSA - Fan-operated wall-mounted convectors cooling output

LSA 0500 0122

16/19/28°C	Speed [-] / Cooling output [W]				
Length [mm]	1	2	3	4	5
800	58	151	264	372	453
1000	77	201	352	497	605
1200	97	252	440	621	756
1400	116	302	527	745	907
1600	135	352	615	869	1058
1800	164	428	747	1055	1285
2000	183	478	835	1180	1436

LSA 0500 0152

16/19/28°C	Speed [-] / Cooling output [W]				
Length [mm]	1	2	3	4	5
800	118	253	371	472	555
1000	177	380	557	708	833
1200	236	507	743	944	1111
1400	265	570	836	1062	1250
1600	324	697	1021	1298	1527
1800	383	823	1207	1534	1805
2000	413	887	1300	1652	1944

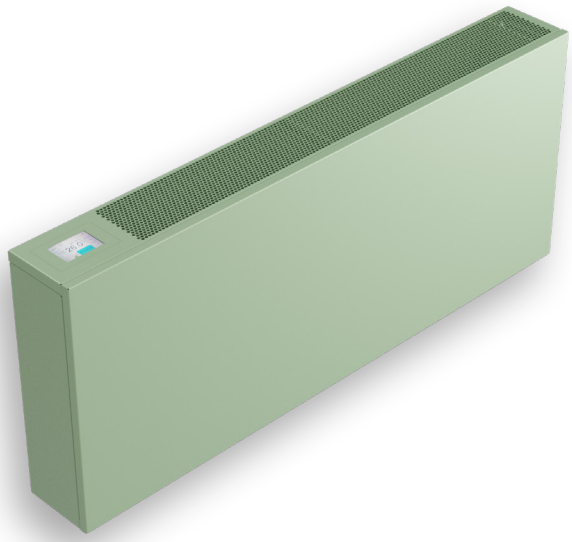
Acoustic power [dB(A)]

LSA 0500 0122

Length [mm]	Speed [-] / Acoustic power [dB(A)]				
	1	2	3	4	5
800	20	29	37	43	48
1000	20	30	38	44	49
1200	21	30	39	45	50
1400	21	31	39	46	51
1600	21	31	40	47	52
1800	22	32	40	47	53
2000	22	32	41	48	53

LSA 0500 0152

Length [mm]	Speed [-] / Acoustic power [dB(A)]				
	1	2	3	4	5
800	28	35	45	52	56
1000	28	36	47	54	58
1200	29	37	48	55	59
1400	30	38	48	56	61
1600	30	38	49	57	61
1800	30	39	50	58	62
2000	31	39	50	58	63



LSA - Heating output recalculation for another temperature gradient

Example
Heating output of the convector LSA 0500 0152 1400 or temperature gradient 35/30 °C
1. Output 45/40/20 ° C = 2084 W
2. Factor from the table for 35/30/20 ° C at 152 width : f = 0,545
3. Output 35/30/20 ° C = f x 2273 = 1136 W

Height [mm]	50/40 °C	45/35 °C	35/30 °C
0500 0122	1,226	0,887	0,550
0500 0152	1,230	0,885	0,545

Room temperature 20 °C

Heating water flow rate through exchanger

To reach the required heating output we determine the desired flow of heating water through the convector exchanger. We calculate it from heating output of the convector for the selected input and output temperatures of heating water.

M = 0,86 * Q / (T1-T2) [kg/h]

M [kg/h] mass rate of flow, heating water flowing through exchanger
Q [W] convector heating output

T1-T2 [°C] difference between input and output temperature
0,86 invariable for recalculation of units

Regulation

The display shows both the current and set room temperatures.
The convector unit operates based on the function in PROGRAM, MANUAL, BOOST 10 min, BOOST 20 min and STANDBY modes.

PROGRAM

The convector heater operates in automatic mode. It is possible to set up to 4 time segments that repeat each day. Each segment is defined by the set time and temperature values. As the system transitions from one segment to another, the room temperature requirement changes with the fans being automatically controlled to achieve the optimum comfort temperature as soon as possible.

MANUAL

The convector heater operates in manual mode, allowing the user to set both the required room temperature and fan speed. This is especially convenient in environments such as schools, theaters or reading rooms where the unit should be set to continuous operation ensuring constant output and acoustics.

BOOST 10 min, BOOST 20 min

The BOOST function is designed for a quick warm-up or quick cool-down of the interior after returning from vacation, for example. In this mode, the water flow is set to open and the fans to maximum speed. After the time limit has elapsed, the unit resumes its previous mode of operation.

STANDBY

The convector heater goes into standby mode. Only the frost-protection function remains active to allow water to flow through the heat exchanger if the ambient temperature drops below 7°C.

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