

ECOSUN

RADIANT HEATING PANELS

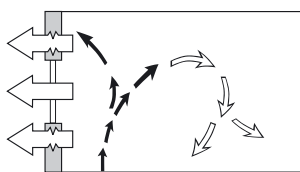


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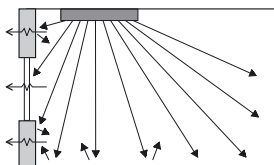
I. PRINCIPLE OF HEATING

Graphic description of the principle of heating is on the pictures No.1 and No.2

Picture No.1
Convection heating
ECOFLEX



Picture No.2
Radiant heating
ECOSUN



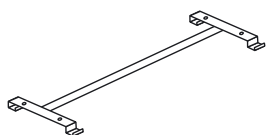
While convector (by convection heating) warms especially the air which transfers its heat by flowing over the surface of the objects which is to be heated (walls, furniture), then radiant heating panels transfer heat especially by radiating. Radiate flow after falling on the objects (walls, furniture, floor) is partly reflected (approx. 15 %), but main part (approx. 85 %) is absorbed by objects on which is fallen. There is the radiating energy changed to the heating energy (objects are warming up) and by rising temperature of the object on the level, when the temperature of the object is higher than temperature of the air, the heat is transferred by convection – the air is warming up from the warmer objects.

From above mentioned principle ensue following advantages of such system:

- the flow is radiated from the surface of the heating panel, main part of its spectrum you can find within the board of wave lengths higher than $5 \mu\text{m}$ and this flow is substantially absorbed by human body and this is the similar principle of warming as warming of objects
- it is possible to ensure optimum comfort level at the air temperature $18-19 \text{ }^\circ\text{C}$ by radiating from the objects which have been warmed up to $20-22 \text{ }^\circ\text{C}$
- between the floor and the ceiling (vertical profile) you can receive much more even temperature, the difference is here $1-2 \text{ }^\circ\text{C}$ while by convection heating it is $1 \text{ }^\circ\text{C}$ on each $30-50 \text{ cm}$ of height
- the lower turbulence of the air in the room causes lower turbulence of dust particles and this way is reduced possibility of various illnesses, for example asthma, the inflammation of mucous membrane and so on
- the possibility that the condensation of the walls surface can rise is reduced thanks to higher temperature of the walls, the air humidity stays nearly the same
- for the radiant flow with wavelengths higher than $3 \mu\text{m}$ the glass is not penetrated by heat and that is why losses of the radiating are almost zero
- the panels do not require any maintenance
- the energy saving is (to compare with convection heating) $18-24 \%$ at least

SUMMARY OF ECOSUN RADIANT HEATING PANELS

LOW TEMPERATURE RADIANT HEATING PANELS



Type	Dimensions	Weight (kg)	Input (W)	Voltage (V)	IP covering	Recommended clear height	Application
	(mm)					(m)	
E 100 K	500×320×35	2,5	100	230	IP 20	possible vertical position	warming of churches benches, tables in offices and administrative, desks in supermarkets
E 200 K	750×320×35	3,7	200				
E 270 K	1000×320×35	5,2	270				
E 330 K	1250×320×35	6,6	330				
E 400 K	1500×320×35	7,9	400				
E 300 U	592×592×30	5,0	300	230	IP 44	2,5-3,0	universal panel for dwelling and no dwelling spaces, possible assembling to ceiling and into suspended cassetts ceilings
E 600 U	1192×592×30	10,1	600				
E 700 U		10,5	700				
E 300 c 600/VT	574×574×35	4,6	300	230	IP 20	2,5-3,0	only into suspending cassetts ceilings as completely sink or half sink cassetts
E 600 c 600/VT	574×1174×35	9,4	600				
E 700 IKP	1192×592×30	10,6	700	230	IP 54	under local conditions	industrial and agricultural objects, workshops, greenhouses, breeding of animals, ambient adequate product IP
E 700 IN		IP 65					
E 700 IN-2		EExell T3					
FIXATION FRAME							ECOSUN 700 IKP, 700 IN, 700 IN-2

HIGH TEMPERATURE RADIANT HEATING PANELS



Type	Dimensions	Weight (kg)	Input (W)	Voltage (V)	IP covering	Recommended clear height	Application
	(mm)					(m)	
E S09	1500×150×60	8,5	900	230	IP X4	under local conditions full-area 5,0-8,0 zonal 3,5-4,5	Industrial and agricultural objects, gyms, workshops, halls, saunas, breeding of animals, ambient adequate product IP.
E S12			1200	N			
E S18	1500×250×60	13,5	1800	230/400			
E S24			2400	2N			
E S30	1500×350×60	18,0	3000	230/400			
E S36			3600	3N			



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