

cec

Thermal economiser units – heat recovery unit with low running costs and minimum maintenance



It is a basic law of physics that hot air rises and in high roofed buildings this will cause a temperature gradient with hot air under the roof and cooler air at floor level. cec thermal economiser units will automatically recirculate high level hot air, reducing stratification and associated heat losses.



- Heat recovery unit
- Easy to install
- Low running costs
- Reliable in operation with minimum maintenance
- Extremely effective heat distribution
- White paint finish (RAL 9003). Other BS/RAL colours to special order

Construction

All units are based on a mild steel panel box structure onto which is resiliently mounted an axial fan assembly. The bottom outlet is fitted with double deflection louvres to define the required air distribution pattern.

Site requirements

To facilitate installation the units require suitable roof suspension points and electricity supply terminating in a local isolator.

Application

cec units will be effective in any high roofed building where temperature stratification will occur.

In general, cec thermal economisers are used to reduce the effects of air temperature stratification, thereby reducing operating costs. With ever improving insulation qualities for modern buildings, these units offer an ideal solution to maintaining effective warm air distribution.

Range

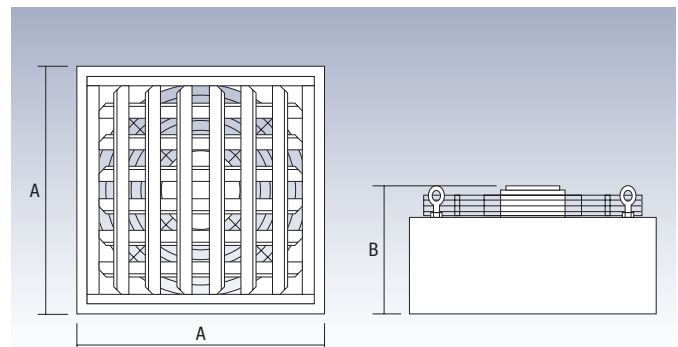
There are four units in the cec range, covering air volume flows from 0.590m³/s to 3.067m³/s.

Accessories/options

1. Manual speed control (1ph only).
2. Units available for 1ph or 3ph operation.

Dimensional data in mm

model	A	B
cec1250	500	365
cec2250	600	410
cec3750	655	410
cec6500	805	410



Specifications

model	Maximum throw for various temperature differentials				Air volume flow m³/s	Motor Watts	Amps				Weight kg
	5°C m	10°C m	15°C m	20°C m			1 phase Start	Run	3 phase Start	Run	
cec1250	9	7	5.5	5	0.590	40	0.9	0.53	0.6	0.3	15.5
cec2250	12	8	7	6	1.062	100	1.65	0.87	1	0.5	21.0
cec3750	18	12	9	8	1.770	370	6.3	2.7	4.6	1.3	24.0
cec6500	24	15	13	10	3.067	370	6.3	2.7	4.6	1.3	35.0

Noise levels

Noise levels are relatively low and, because the units are mounted at high level, they should not be obtrusive in normal industrial situations.

model	dBA	Linear						
		63Hz	125Hz	250Hz	500Hz	1kHz	2kHz	4kHz
cec1250	52	53	64	55	51	48	45	40
cec2250	59	53	65	59	59	54	51	43
cec3750	68	65	69	69	65	63	60	53
cec6500	71	67	72	71	69	65	62	56

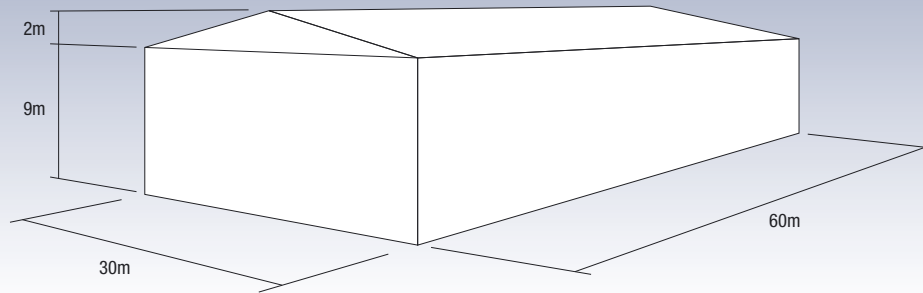
Note

Sound level values at distance of 5 metres. Free field conditions.

CEC thermal economiser units

Sizing guide

1. Calculate 1/3 of the total building volume.
2. Apply 5 air movements per hour to this volume to obtain the quantity of air to be handled and divide by 3600 to convert to m³/s.
3. When sizing units, a maximum distance of 15m between each one is recommended, but maximum throw and noise levels must also be taken into consideration. Divide the figure obtained in '2' by the air volume flow of the appropriate cec model to determine the number required.

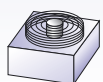
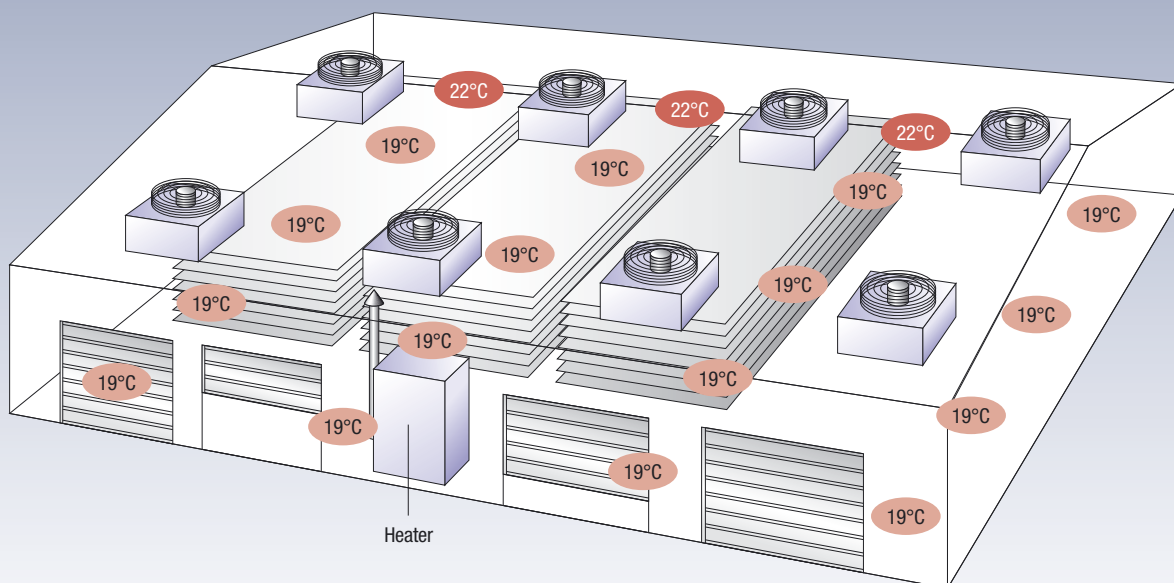


Example

1. $\frac{60 \times 30 \times 10}{3}$ (mean height) = 6000m³
2. $\frac{6000 \times 5}{3600}$ = 8.333m³/s
3. If cec2250 is to be used: $\frac{8.333}{1.062}$ = 8 units

Heat re-distribution using cec units

This illustrates the heat re-distribution in a building with cec units installed.



cec unit installed at high level

22°C Temperature at high level

19°C Temperature at floor level

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Our experienced sales engineers provide expert advice on all aspects of design and application, with after sales service and spares availability guaranteed by our network of regional service engineers and spares stockists strategically located throughout the UK.

powrmatic offers customers the most comprehensive range of heating and ventilation solutions available in Europe. Whatever your requirements, powrmatic has the capability to provide a total solution from a single source with products proven in some of the world's most prestigious and demanding applications.

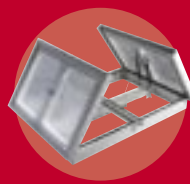
pgv

Glass louvred ventilator. Both functional and attractive. Specifically designed for modern building requirements.



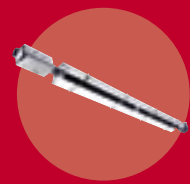
tfv

Twin flap natural ventilator. Suitable for smoke venting & featuring very low air leakage when closed.



prt

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Cabinet heaters

Indirect gas or oil fired floor standing air heaters for multiple use.



pv

Powered roof extract. Heavy duty high performance unit.



bsl

Fixed solar shading system, providing attractive yet low cost solutions to reducing heat gains.



Gas unit heaters

A quality range of suspended gas fired unit heaters.



Flue & chimney

Flue systems for domestic, commercial and industrial applications.



cec

Heat-recovering thermal economiser providing excellent heat distribution for high-roofed buildings.



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